

HA16RTJ - HA16RTJO - HA16RTJ PRO - HA46RTJO - HA46RTJ PRO

Operator's manual

HA16RTJ - HA16RTJO -
HA16RTJ PRO - HA46RTJO -
HA46RTJ PRO

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USA / GB



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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 mechanical device primarily designed and manufactured with the intent to position people with the necessary tools and material to overhead elevated temporary workplaces. 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.

The operator shall ensure that frequent inspections were conducted by the owners and the operator may only operate 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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A - Foreword

2 - Safety

2.1 - SAFETY INSTRUCTIONS

2.1.1 - Misuse Hazards

- Do not use the machine for any other purpose than to position people, their tools and material to the overhead/elevated temporary work places.
- 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 boom or 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.



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.



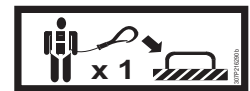
Before commencing operation :

- 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.
- Clear the platform floor free of debris.



When in the platform :

- Occupants must wear a fall arrest harness with energy absorber, in accordance with applicable governmental regulations. Attach the lanyard to the designated fall arrest anchor provided in the platform.
- 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.
- Work only within the platform guardrails area and do not lean over guardrails to perform work.
- 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. Check the load bearing capacity of the supporting ground.
- Remain vigilant of driving direction reversal at the platform. 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.
- 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.
- Place the loads uniformly distributed on the platform floor.
- 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.
- 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.
- Do not use the machine with material or objects hanging from the guardrail or the boom.
- 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 exceed the slope limit for each operation.  Section B 4.1 - Technical specifications.

Slope :

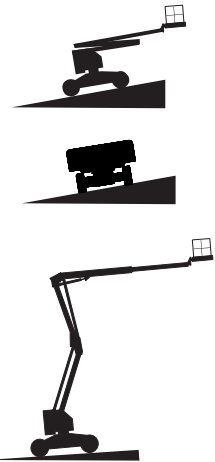
- Driving in transport position on an upward or downward slope.

Sideslope :

- Driving in stowed position across a slope.

Rated slope :

- Operating with platform elevated.



- If the tilt alarm sounds when uphill with the platform raised, follow the sequence :
 - Retract upper boom.
 - Lower the arm.
 - Lower the upper boom.
- If the tilt alarm sounds when downhill with the platform raised, follow the sequence :
 - Lower the upper boom.
 - Lower the arm.
 - Retract upper boom.
- While driving, always place the boom above the rear axle, in the direction of movement.
- **While driving on a slope:**
 - Always orientate the machine in the direction of the slope.
 - Always place the boom in fully retracted and in stowed position.
 - 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.

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.

A- Foreword

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 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.

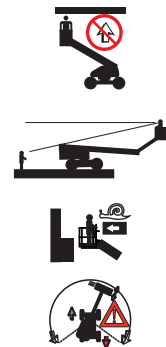
- Do not start the engine if you smell or detect liquid propane gas (LPG), gasoline, diesel fuel or other explosive substances.
- Do not work on or operate a machine in an explosive or flammable atmosphere / environment.
- Do not touch hot components.
- Do not bridge the battery terminals with metallic objects.
- Do not service the battery in proximity of spark, open flame, lit cigarettes.
- Do not fill up the fuel tank, when the engine is running and/or near a flame.



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, it is recommended using the upper boom and or arms movement control functions to position, rather than 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).
- Be aware of the boom position and tail swing when rotating the turret (turntable).
- 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 and slewing.



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- Be aware of driving direction.
 - When turret is slewed/rotated 180°, the platform is now facing the rear of the machine.
 - 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 fall arrest harness with energy absorber, in accordance with applicable governmental regulations. Attach the lanyard to the designated fall arrest anchor provided in the platform.
- 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.

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A- Foreword

2.1.7 - Uncontrolled movement Hazards

Do not use a damaged or malfunctioning machine.

Be aware of uncontrolled movement and always respect the following :

- 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).
- Never tow the machine over extended distances.
- In case of a machine breakdown, it is possible to tow short distance to load it onto a trailer.
- Never leave the hydraulic cylinders fully extended before switching off the machine, or when stationary for an extended period of time.
- Retract the boom and lower the arms to the stowed position.
- Rotate the turntable so that the boom is between the non-steering wheels.
- Select a safe parking location, on a firm level surface, clear of obstruction and traffic.
- Ensure all compartments are closed and secured.
- Chock the wheels.
- Operator must remove the foot from the Foot Switch and/or release the trigger when any movement has ceased

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.

HAULOTTE Group - EUROPE Product Safety Department Address : La Péronnière - BP 9 - 42152 L'Horme - France Tel : +33 (0)4 77 29 24 24 Email : ProductSafety@haulotte.com	HAULOTTE Group - Australia, India and Asia Product Safety Department Address : No.26 Changi North Way - Singapore 498812 - Singapore Tel : +65 6546 0123 Email : ProductSafety@haulotte.com	HAULOTTE Group - North & South America Product Safety Department Address : 3409 Chandler Creek Rd. - Virginia Beach, VA 23453 - United States Tel : +1 757 689 2146 Email : ProductSafety@haulotte.com
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A- Foreword

5 - Compliance

5.1 - PRODUCT INFORMATION

Without the written permission from Haulotte, modifying a HAULOTTE® product is a Safety concern. Any modification may violate Haulotte design parameters, government regulations and industry standards.

If you desire a modification to the product, submit a request in writing to HAULOTTE®.

With the utmost care to ensure enhanced reliability and greater safety of the HAULOTTE® products, it is pertinent that when a "Service or Safety Bulletin" is issued, action is taken immediately. Once the bulletin has been addressed, make sure that the completed form is submitted to HAULOTTE®.

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 - 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.

Use the HAULOTTE® Product Status Notification form to report scrapped, stolen, missing or recovered machine(s).

A- Foreword

5.1.2 - Owner information update form

Owner information update form

Complete this form and mail or fax it to :

HAULOTTE® subsidiary Name :

Address 1 :

Fax :

Address 2 :

e.mail address :

Address 3 :

Product information :

Model :

Machine serial number :

Owner / Servicing information :

Do not include leased or rented units in this form

Current product owner 1 :

Current product owner 2 :

Name :

Name :

Company :

Company :

Address 1 :

Address 1 :

Address 2 :

Address 2 :

Country :

Country :

Phone :

Phone :

Date of ownership :

Date of ownership :

Signature :

Signature :

Date :

Date :

Company stamp is mandatory :

Company stamp is mandatory :

Check here if the machine has been permanently removed from service (scrapped). The manufacturer's nameplate must be removed and returned to HAULOTTE Group when the unit is removed from service.

Reason for removal :

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.

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
	Body crushing hazard		Foot crushing hazard		High pressure fluid ejection 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		
	Flames prohibited		Maintain safe clearance from high voltage electrically charged conductors as described in manual - Do not use in thunderstorms		Overload
	Refer to operator manual		Safety belt		Use appropriate lanyard attached to dedicated anchor point.
	Wheel pressure		Enable switch		Use safety prop before attempting any maintenance work
	Tow point		Tie down point		Lift point
	Keep away from hot surfaces		Wear protective equipment		

B- Familiarization

2 - Models description

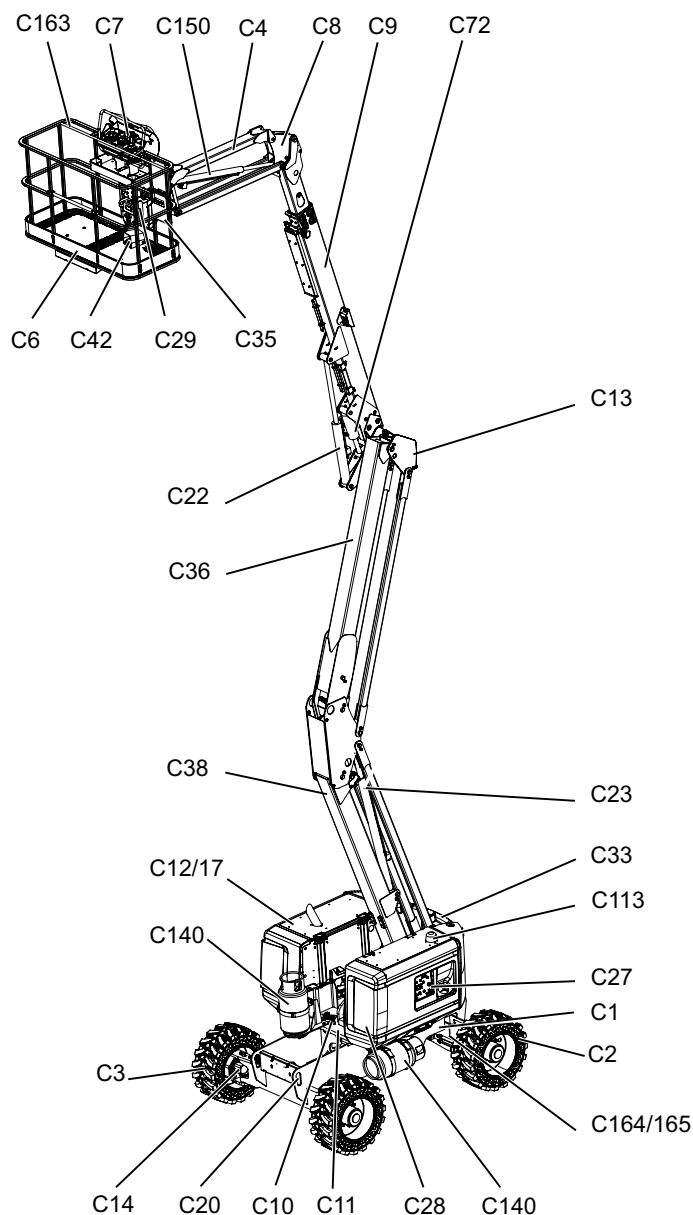
Regulations	Models
ANSI and CSA standards	HA46RTJO
	HA46RTJ PRO
CE, AS and EAC standards	HA16RTJ
	HA16RTJO
	HA16RTJ PRO

B- Familiarization

3 - Primary machine components

3.1 - DESCRIPTION

HA16RTJ - HA16RTJ O - HA16RTJ PRO - HA46RTJ O - HA46RTJ PRO



B- Familiarization

Marking	Description	Marking	Description
C1	Chassis	C23	Arm lifting cylinder
C2	Front driven steering axle	C27	Ground control box + Universal plug
C3	Rear drive wheel (and steer wheel if 4WS)	C28	Tilt sensor
C4	Jib	C29	Platform rotation cylinder
C6	Platform	C33	Counterweight
C7	Platform control box	C35	Document holder
C8	Input jib leveling cylinder	C36	Top arm
C9	Upper boom	C38	Bottom arm
C10	Slew ring	C42	Foot Switch
C11	Turntable assembly	C72	Output jib compensation cylinder
C12	Right side compartment	C113	Beacon light
C13	Arm/Boom link piece	C140	Propane bottles - (For ANSI / CSA standard only)
C14	Hydraulic drive motor and reducer	C150	Jib lifting cylinder
C17	Left side compartment (engine, pump and starter battery)	C163	Handrail
C20	Tie-down (and/or lifting) points	C164	Front steering axle
C22	Boom lift cylinder	C165	Front steering and oscillating axle (For HA16RTJO / HA16RTJPRO / HA46RTJO / HA46RTJPRO only)

Universal plug

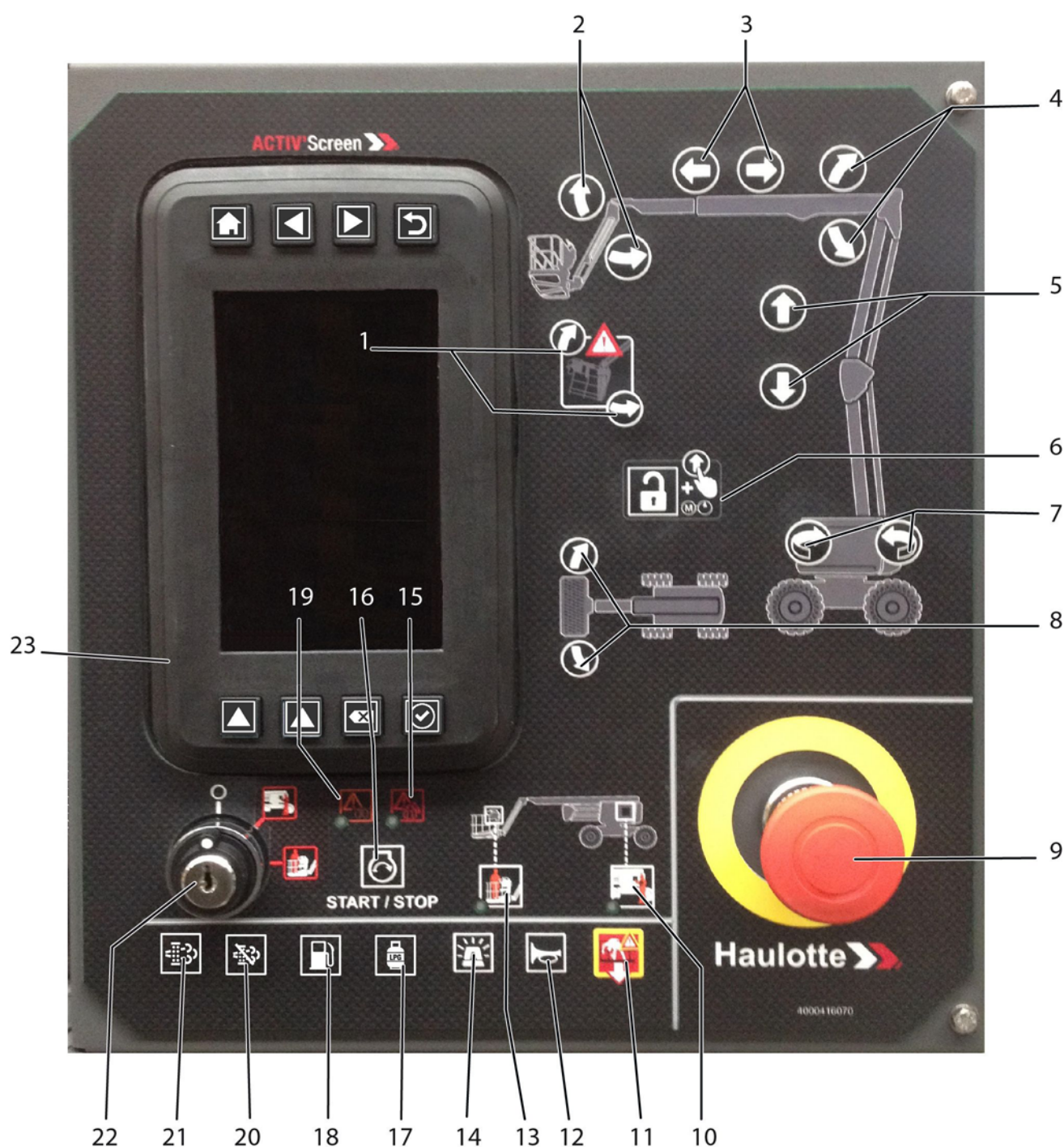


B- Familiarization

3.2 - GROUND CONTROL BOX

3.2.1 - Layout

General view



B- Familiarization

Controls and indicators

Marking	Name	Description	Function
1	SA720U	Platform upgrade control	By pressing on  : Tilt the platform towards the front of the machine
	SA720D		By pressing on  : Tilt the platform towards the back of the machine
2	SA620U	Jib lifting / lowering switch ¹	By pressing on  : Jib lifting
	SA620D		By pressing on  : Jib lowering
3	SA530O	Boom telescoping switch	By pressing on  : Boom extend
	SA530I		By pressing on  : Boom in
4	SA520U	Boom raising switch	By pressing on  : Boom raising
	SA520D		By pressing on  : Boom lowering
5	SA420U	Arm lifting switch	By pressing on  : Arm raises
	SA420D		By pressing on  : Arm lowers
6	SB800	Enable Switch / Back-up unit selector	By pressing on  : • Validation of controls when engine started • automatic switching of emergency electropump if the engine is stopped
7	SA250L	Turntable rotation switch	By pressing on  : Counter clockwise (CCW) rotation
	SA250R		By pressing on  : Clockwise (CW) rotation
8	SA750L	Platform rotation switch	By pressing on  : Clockwise (CW) rotation
	SA750R		By pressing on  : Counter clockwise (CCW) rotation
9	SB801	E-stop button	Pulled out : Ground control box energized Pushed in (activated) : De-energizes control system
10	HL905	Indicator of the ground control box selection	LED lights up - ground control box icon

B- Familiarization

Marking	Name	Description	Function
11	SA801	"Overriding system" control	By pressing on  : This should be used ONLY when normal operation from the ground box is unavailable - use in emergency ONLY
12	SB807	Horn button	By pressing on  : Horn activation
13	HL906	Indicator of the platform control box selection	LED lights up - platform control box icon
14	SA903	Beacon light on/off	By pressing on  : Beacon light ON / OFF
15	HL909	Overload indicator / Fault	Alarm icon  : • Is ON at power up of the machine, at the same time as the icon (19) - Is blinking if overriding is active : • An active or detected failure is displayed on on-board screen • Or Hydraulic oil temperature icon is active on on-board screen • Or Engine pressure icon is active on on-board screen • Or Engine stop icon is active on on-board screen • Or Overload machine status is active on on-board screen
16	SA303	Engine start-up selector	By pressing on  : Engine start / stop
17	SA300	Propane Gas supply ²	By pressing on  : Propane Gas supply selection
18	SA305	Petrol/Gasoline or diesel supply ³	By pressing on  : Fuel supply selection
19	HL908	Engine warning indicator / Engine pre-heating	Alarm icon  : • Is ON at power up of the machine at the same time as the icon (15) - Is blinking if overriding is active Warning icon is ON if : • Engine warning icon is active on on-board screen • Or Tilt machine status is active on on-board screen • Or Engine is pre-heating
20	SA600F	DPF regeneration inhibited ⁴	By pressing on  : Refusal of the request for regeneration
21	SA600D	DPF regeneration required ⁵	By pressing on  : Regeneration start-up

B- Familiarization

Marking	Name	Description	Function
22	SA900	Control box activation key switch	 : De-energizes control system
			 : Platform control box energized
			 : Ground control box energized
23		Activ'Screen 2	

1. For machines fitted with
2. For machines fitted with
3. For machines fitted with
4. For machines fitted with
5. For machines fitted with

B- Familiarization

3.2.2 - HAULOTTE Activ'Screen 2

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 2

Icon	Description	Function	Icon	Description	Function
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HAULOTTE Activ'Screen 2



Navigation buttons - Above Activ'Screen display

	Home Button	Allows return to the home screen at any time		Up Navigation	Permits scrolling up through the screen (if present)
	Left navigation	Permits navigation to screens to the left (if present)		Down Navigation	Permits allows scrolling down through the screen and onto the following screen (if present)
	Right Navigation	Permits navigation to screens to the right of the current screen (if present)		Cancel Button	Used to refuse or cancel a selection within the menu
	Back button	Returns the user to the previous screen		Validation Button	Used to confirm selection within the menus

B- Familiarization

On initial start-up of the machine or after 3 day of inactivity, the following screens are displayed in order.

Controls and indicators

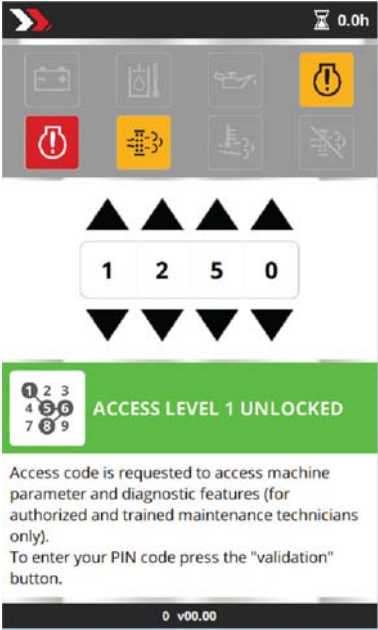
Icon	Description	Function	Icon	Description	Function
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Machine power up (Start-up screen)



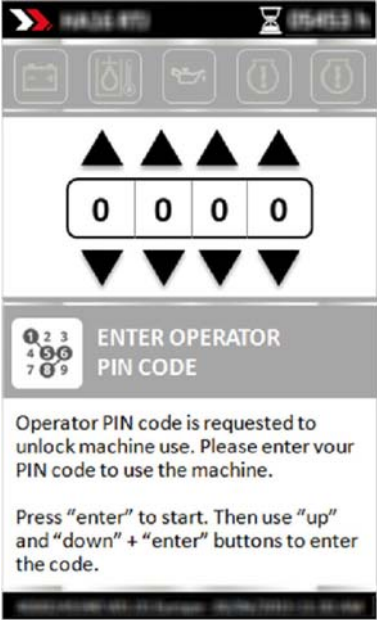
B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
		Access code (Will be visible - depending on the machine)		Access code not yet entered	
				Access code entered is correct (Level 1, 2 or 3 depending on authorization of technician)	
				Access code entered is incorrect	
		Access code NIV 1 (Will be visible - depending on the machine)	The machine can be personalized with a user identification code. Personalization is only possible with level 1 access. Machine properties display : Soft version, machine serial number, adjustment parameters. Possible change of parameters : Language, fault display format, brightness setting, time, and some options availables.		
				Operator PIN code not yet entered	
				Operator PIN code entered is correct	
				Operator PIN code entered is incorrect	

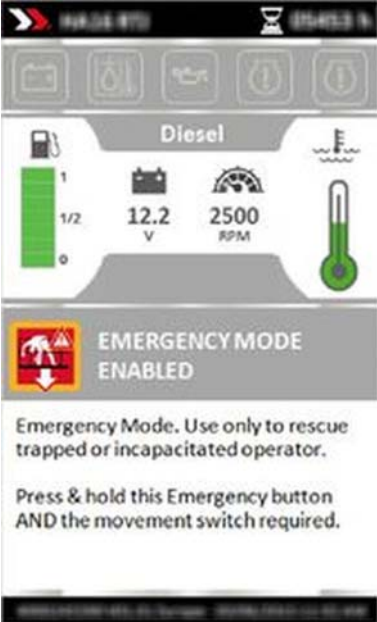
B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
		Operator PIN code (Will be visible - depending on the machine)	The machine can be personalized with a user identification code. Personalization is only possible with level 2 access. Contact HAULOTTE Services®.		
				ONBOARD DIAGNOSTIC ACCESS	Operator PIN code not yet entered
				ACCESS LEVEL 2 UNLOCKED	Operator PIN code entered is correct
				WRONG ACCESS CODE	Operator PIN code entered is incorrect

B- Familiarization

Controls and indicators

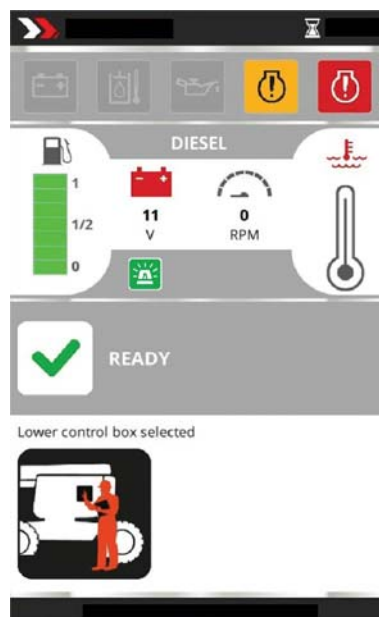
Icon	Description	Function	Icon	Description	Function
		Emergency mode		EMERGENCY MODE ENABLED	Emergency mode is activated when : • The E-Stop at platform control box is pushed in (de-energized). • The machine is in overload state. • Ground control box is selected/energized. • The emergency overriding button is activated.
				EMERGENCY MODE NOT ACTIVE	Emergency mode is deactivated when : • The E-Stop at platform control box is pulled out (energized). • The machine is NOT in overload state. • Ground control box is NOT selected/energized.
				EMERGENCY MODE NOT ACTIVE	The Emergency mode is out of service/ non-functional
				EMERGENCY EVENT HAS OCCURED	Emergency mode has been used and activation of its function saved in the memory of the machine. A HAULOTTE® certified technician is required to reset the Emergency Mode system.

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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Home screen (dashboard)
(Will be visible - depending on the machine)



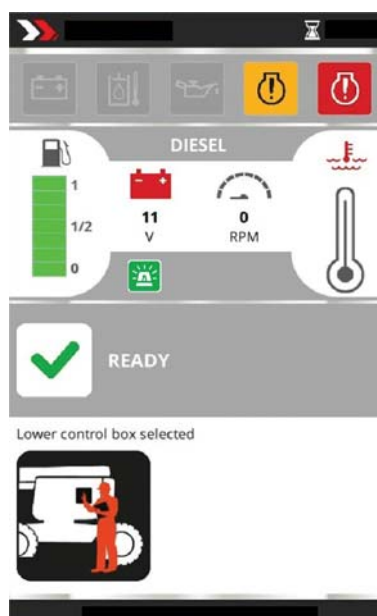
	Machine model zone		Machine Model	Machine model display
	Hour meter/next maintenance zone	 	Hourmeter Maintenance use	- The timer flashes if the engine is switched on and the hourmeter increases. - The Maintenance Tool icon and the number of hours remaining until the next maintenance are displayed for 5 seconds when the machine is started up. - Maintenance Tool icon blinks; if maintenance is due. - The maintenance tool icon turns RED when the next scheduled maintenance must be carried out in under 25 hours.

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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Home screen (dashboard)
(Will be visible - depending on the machine)



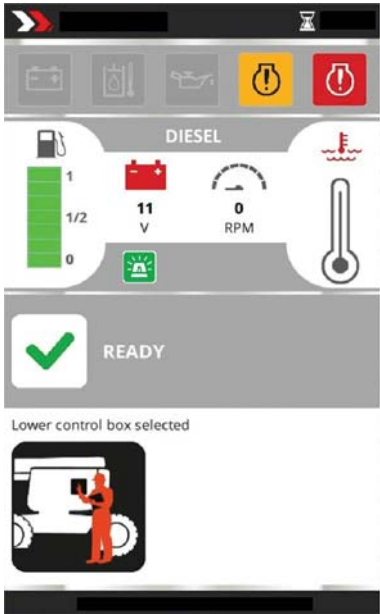
	Warning icons zone		Battery State	- Icon is ON if there is no charge output detected from the alternator - Icon is flashing if a failure code for the alternator is detected (code F09.10)
			Hydraulic oil temperature	Icon is ON when the temperature in the hydraulic reservoir has exceeded the maximum required temperature. Stop using the machine and allow the oil to cool down.
			Engine oil pressure	Icon is ON if engine oil pressure is lower than required limit while engine is running. The Engine must be switched OFF immediately to avoid damaging the motor.
			Engine oil level	The engine oil level is under the acceptable limit for correct engine operation. Top up the oil level.
			Stop motor	- Icon is ON if an engine failure is detected (coolant, pressure, alternator etc) - Or if the Engine shuts down after 3 seconds of running. - Or after 1 second when engine fails to start.

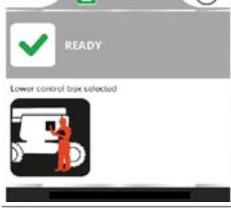
B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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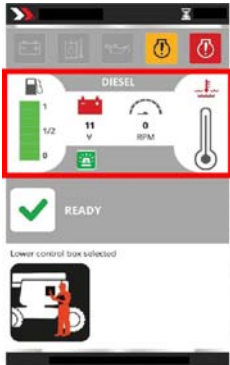
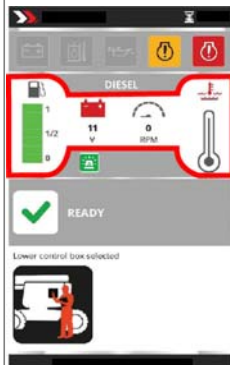
Home screen (dashboard)
(Will be visible - depending on the machine)



	Warning icons zone		Engine warning	• Icon is ON if Engine warning is detected. Or one of the engine maintenance schedules has been exceeded.
	Warning icons zone		Engine decontamination fault (If fitted)	• Engine decontamination system fault. In this case, you must contact HAULOTTE Services® as soon as possible.

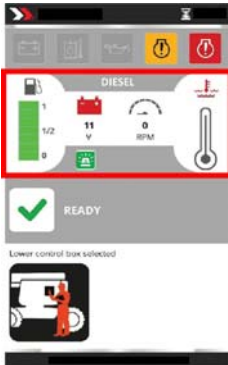
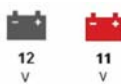
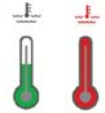
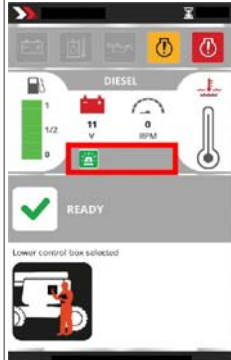
B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
	Functional information zone			Power mode used	• Diesel • GPL / LPG • Electrical
				Bargraph	
				Digital Gauge - Fuel reserve indicator (ON/OFF)	The indicator changes from GREEN to RED when the fuel level is low and indicator is activated
				Analog Gauge - Fuel level gauge	The fuel level indicator switches from GREEN to RED when the fuel level is low

B- Familiarization

Controls and indicators

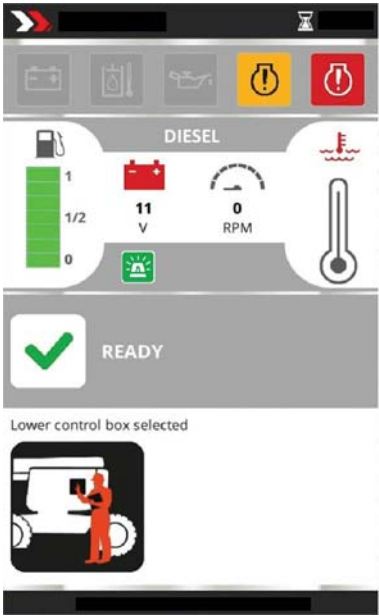
Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
	Functional information zone		Charge Battery	Displays the machine battery voltage. The indicator switches to RED if the voltage is low.	
			Engine Speed (rpm)	Engine speed display	
			Temperature motor	Displays Engine coolant temperature. The indicator switches from GREEN to RED when the engine overheats	
			Additional functions		
			Beacon	• The icon is ON when the flashing light is switched on	
			Working light	• The icon is ON when the work light is switched on	
			Activ' Lighting System	• The icon is ON when the Activ' Lighting System is switched on in auto or manual mode	
			Stop Emission System	• The icon is ON if the system is active on the machine	

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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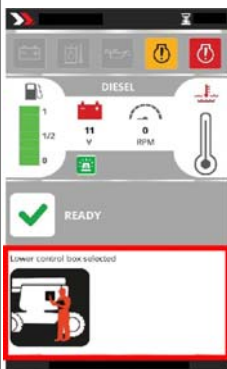
Home screen (dashboard)
(Will be visible - depending on the machine)



	Machine status zone		Pictogram and title	• Displays the pictogram and machine status
			Ready	Machine ready, displayed when no failures and no other machine state icons is active
			Alarm	Alarm icon is flashing slowly If there is either an active or detected machine failure, or if the machine is in an overload or tilt is active. When the Alarm symbol is displayed, there will also be a symbol displayed to show either the type of machine state, or machine failure that corresponds.

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
			Layout		
	Platform control selected			Platform control selected	Selector switch is in platform control box position
	Ground control selected			Ground control selected	Selector switch is in ground control box position
	Tilt			Tilt	The machine is elevated , and is on a slope greater than the permitted slope. Depending on the machine configuration, machine raise and extend functions may be slowed or prevented.
	Overload			Overload	The platform is overloaded. Remove the excessive load to or below the rated capacity, to restore functions. In case of an emergency, to rescue the operator in platform, use the Overriding system.

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
				Layout	
				Pre-heating	Engine's automatic preheat system is active. The time to pre-heat will vary according to engine and ambient temperature. Wait before starting the machine
				Radius limitation	Icon is ON if the range limit is active or faulty
				Machine is charging	The machine is charging by the engine

B- Familiarization

Controls and indicators

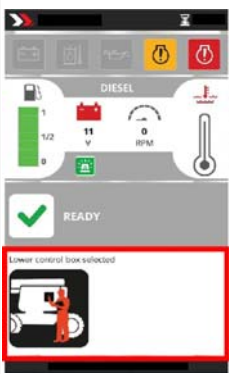
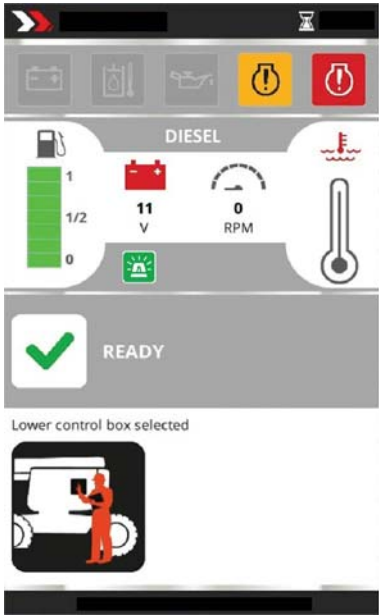
Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
				Low fuel level	Fuel level is low. Refill the fuel tank to the marked level. Attention: Lack of fuel may damage the motor/engine and will not be covered under warranty.
				Stop Emission System	Icon is ON when the function cuts the engine
				Activ' Lighting System	The function is off. To switch it on, go to the 'Settings' menu

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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Home screen (dashboard)
(Will be visible - depending on the machine)



Layout

	Diagnostic in progress	The HaulotteDiag console is connected to the machine
	Screen software obsolete	Screen software update essential Contact HAULOTTE Services®

B- Familiarization

Controls and indicators

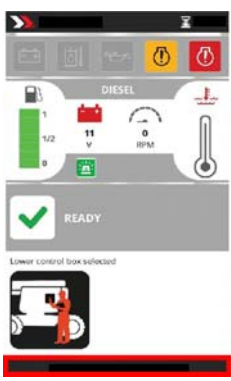
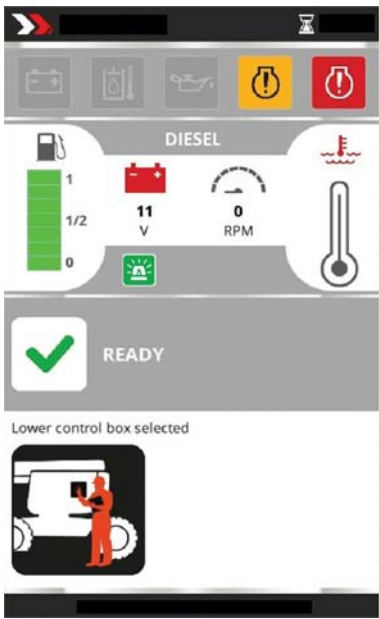
Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
	F12.01 bus CAN fault	CAN network fault between the screen and the rest of the machine			
	Activ' Shield Bar disable	The secondary safety system is switched off			
	Activ' Shield Bar triggered	The secondary safety system is triggered. An operator may be trapped on the platform : • In this situation, supervisor(s) at ground level must turn the control box key selector (22) to the ground control box  • The platform box controls are now de-energized. • Check that the E-Stop button (9) at ground is not pressed in. • To safely activate movements from the ground control box, the Enable Switch (6)  must be pressed and held.			

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
------	-------------	----------	------	-------------	----------

Home screen (dashboard)
(Will be visible - depending on the machine)



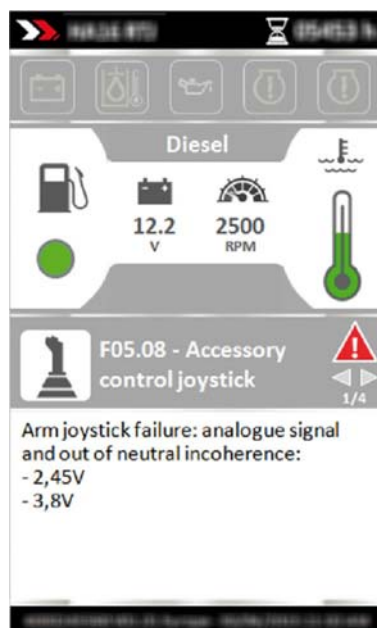
General information zone		Machine software version and code	• Displays the reference and version of the software installed on the machine
		Machine date and time	• Displays the date and time of the machine ECU

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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Machine fault
(Will be visible - depending on the machine)



Machine fault icons

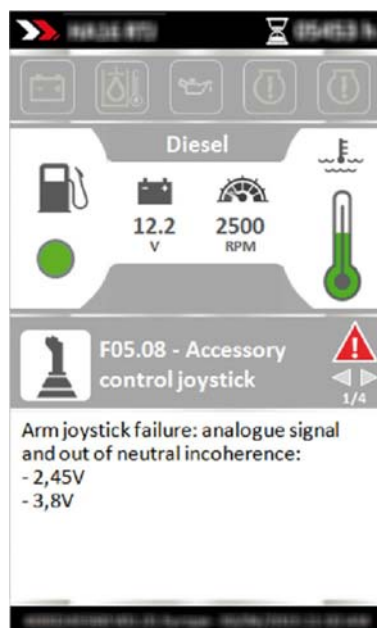
	Failure code F01.xx	Fault - Variator		Failure code F09.xx	Fault - IC Engine
	Failure code F02.xx	Fault - power contactor		Failure code F10.xx	Fault - Functions
	Failure code F03.xx	Fault - command relay		Failure code F11.xx	Fault - machine safety
	Failure code F04.xx	Fault - electro-valve		Failure code F12.xx	Fault - electronic control unit ECU

B- Familiarization

Controls and indicators

Icon	Description	Function	Icon	Description	Function
------	-------------	----------	------	-------------	----------

Machine fault
(Will be visible - depending on the machine)



B- Familiarization



Notes

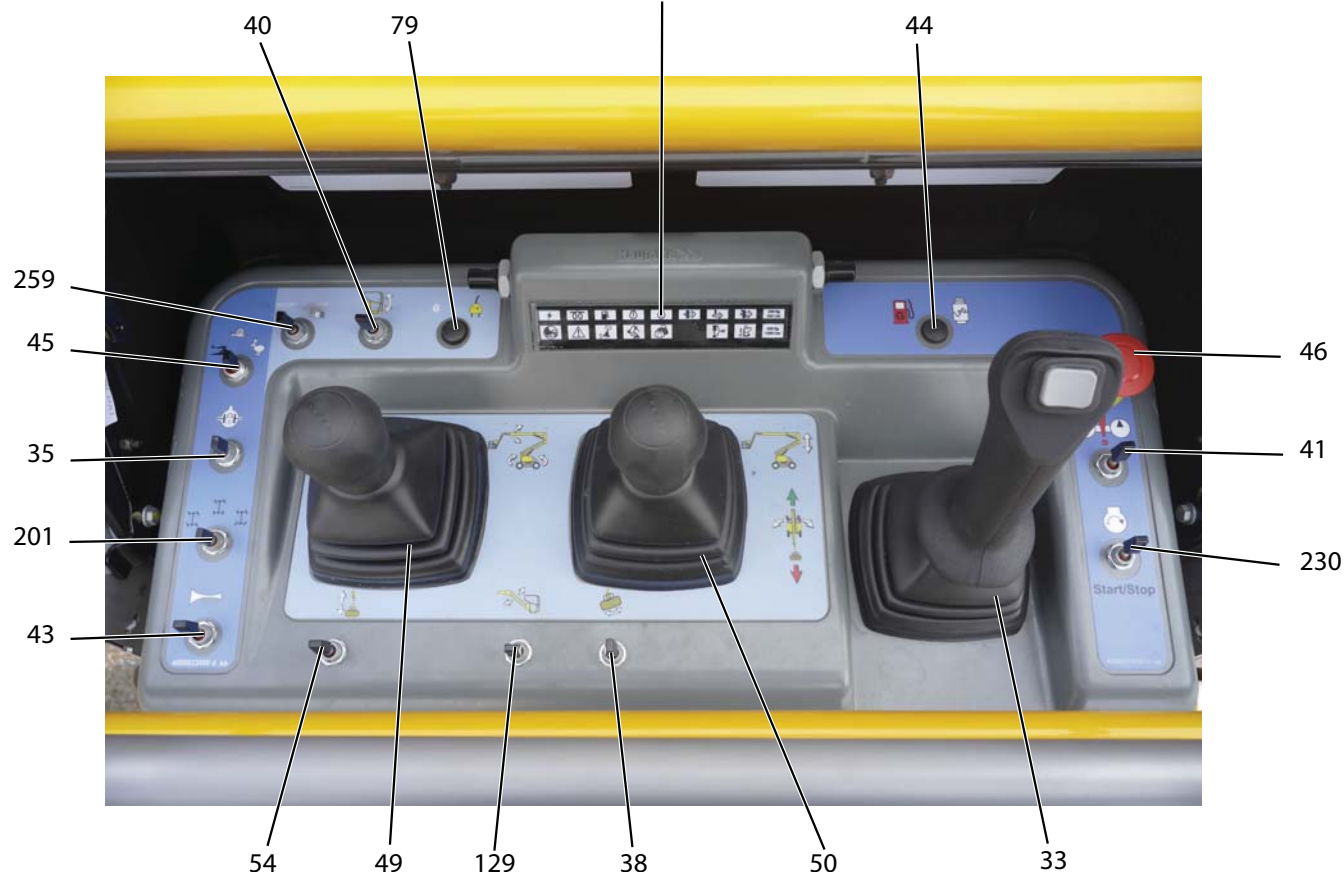
B- Familiarization

3.3 - PLATFORM CONTROL BOX

3.3.1 - Layout

General view

Affichage pupitre de commandes haut (Led 101 - 117)
Platform control box display (Led's 101 - 117)



B- Familiarization

Controls and indicators

Marking	Name	Description	Function
33	SM902	Drive joystick	Move forward : Forward drive
			Move backwards : Reverse drive
		Steering rocker switch	Press right side of button : Steer right - According to selected mode (201)
			Press left side of button : Steer left - According to selected mode (201)
35	SA100	Differential lock selector	Toggle left and hold(Activated) : Maximum drive torque (on difficult or sloping ground)
			Release (deactivated) : Standard torque
38	SA751	Platform rotation switch	Move to the right : Counter clockwise (CCW) rotation
			Move to the left : Clockwise (CW) rotation
40	SA721	Platform leveling switch	Move upwards : Raise platform
			Move downwards : Platform lowers
41	SA800	Auxiliary power switch	Toggle and hold : Back-up unit activated
			Release : Back-up unit deactivated
43	SA907	Horn button	Push the horn selector down to sound the horn
			The horn stops when the selector switch is released
44	SA304	Fuel selector ¹	Push switch to the right for LPG (liquid propane gas supply)
			Push switch to the left for gasoline (petrol) or diesel fuel supply
45	SA110	Drive speed selector	 High-speed drive
			 Medium speed drive
			 Low-speed drive
46	SB802	E-stop button	Pulled out : Platform control box energized
			Pressed in : De-energizes control system (Engine stopped)
49	SM900	Turntable rotation joystick	Move to the right : Counter clockwise (CCW) rotation
			Move to the left : Clockwise (CW) rotation
		Boom lift joystick	Move forward : Raise boom
			Move backwards : Lower boom
50	SM901	Arm lift joystick	Move forward : Arm raises
			Move backwards : Arm lowers
54	SA531	Boom telescoping switch	Hold upwards : Boom retracts
			Move downwards and hold : Boom extends
79	SA906	Generator selector ²	Move to the left : Generator deactivated
			Move to the right : Generator activated
129	SA621	Jib raising / lowering switch ³	Hold upwards : Lifting
			Move downwards and hold : Lowering

B- Familiarization

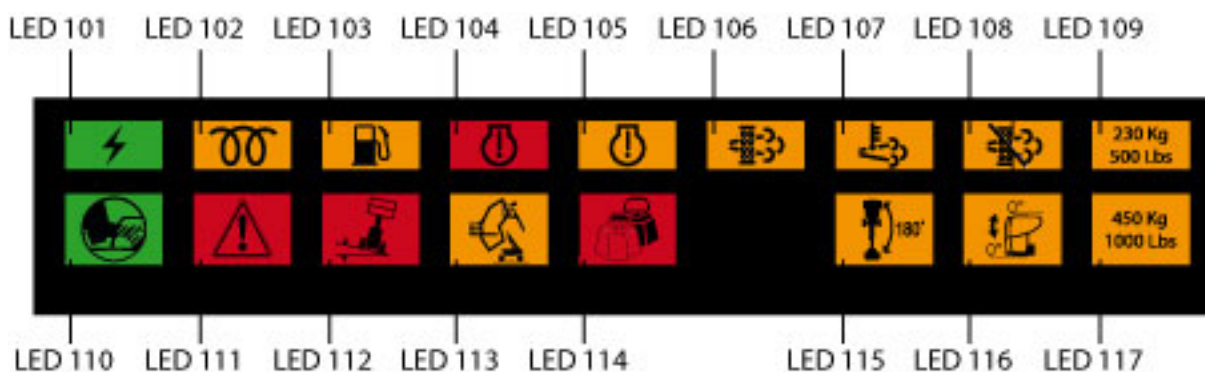
Marking	Name	Description	Function
201	SA101	Steering mode selector ⁴	All 4 wheels steer
			Front 2 wheels steer
			Crab mode
230	SA303	Engine start-up / stop selector	Move backwards : Starts or Stops the engine (depending on the engine's operating (ON/OFF) mode
259	SA907B	Activ' Lighting System selector	 ON / OFF
			 Automatic lighting

1. For machines fitted with
2. For machines fitted with
3. For machines fitted with
4. For machines fitted with

B- Familiarization

3.3.2 - Display Panel (LED'S 101 - 117)

Platform control box display



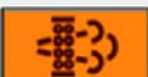
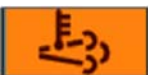
Marking	Name	Symbol	Function
LED 101	HL900		Power ON
LED 102	HL300		Combustion engine pre-heating
LED 103	HL307		Low fuel level
LED 104	HL305		Engine warning
LED 105	HL304		Engine shutdown
LED 106	HL301		Not used
LED 107	HL302		Not used
LED 108	HL303		Not used
LED 109 ¹	HL805		Not used
LED 110	HL807		Foot Switch / Stop Emission System
LED 111	HL801		Fault

B- Familiarization

Marking	Name	Symbol	Function
LED 112	HL800		Tilt
LED 113	HL804		Not used
LED 114	HL802		Overload
LED 115	HL250		Not used
LED 116	HL720		Platform leveling
LED 117 ²	HL806		Not used

1. If machine equipped with dual load
2. If machine equipped with dual load

B- Familiarization

Symbol	Description
	Machine switched on : • Rapid flashing : Machine is ON, but platform control box is not active but the ground control box is ON. Also flashes with either E-stop pressed in • Illuminated : Machine is turned on and platform control panel is active.
	Foot Switch : • Illuminated when Foot Switch activated • Blinks after 90 s of inactivity
	Faults : • Rapid flashing : If a fault is active (current fault)
	Overload (If machine equipped with weighing system) : • Rapid flashing : Faulty weighing / overload system • Illuminated when overloaded
	Tilt sensor (if fitted) : • Permanently on in case of tilting, machine folded or unfolded
	Platform levelling +/- 10° : • Illuminated if the angle of the platform reaches +/- 10° in relation to the horizontal and movement control
	Low fuel level
	Combustion engine pre-heating : • Illuminated while engine is pre-heating • Off if engine started and if post-heating
	Engine warning : • Lighted in case of minor engine fault (e.g. water in the diesel, clogged air filter, etc.) • Lighted or flashing in case of fault managed by the engine ECU
	Engine shutdown : • Lighted in case of major engine fault (e.g. engine overheating, oil pressure, alternator fault, etc.) • Lighted in case of faults managed by the engine ECU
	DPF regeneration required : • Permanently lighted if the particle filter requires regeneration with a high clogging level¹
	DPF regeneration in progress, high temperature in the exhaust system (HEST) : ²
	DPF regeneration inhibited³

1. If engine equipped with Particulate Filter Regeneration
2. If engine equipped with Particulate Filter Regeneration
3. If engine equipped with Particulate Filter Regeneration

B- Familiarization

4 - Performance Specifications

4.1 - TECHNICAL CHARACTERISTICS

For USA : The design standard used for manufacturing the machine depends on its date of manufacture.

This changes certain technical features :

- Maximum wind speed allowed.
- Maximum tilt allowed.
- Manual force.

The standard reference written on the manufacturer's plate identifies the features of the machine : ANSI A92.5, ANSI A92.6 or ANSI A92.20

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

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

Machine	HA16RTJ		HA16RTJ O - HA46RTJ O	
Characteristics - Dimensions	SI	Imp.	SI	Imp.
Maximum working height	16 m	52 ft 6 in	16 m	52 ft 6 in
Maximum platform height	14 m	45 ft 11 in	14 m	45 ft 11 in
Maximum horizontal reach	8,30 m	27 ft 3 in	8,30 m	27 ft 3 in
Maximum outreach above the ground	7,80 m	25 ft 7 in	7,80 m	25 ft 7 in
Maximum platform height before driving speed restriction	5,20 m	17 ft 5 in	5,20 m	17 ft 5 in
Maximum boom articulation point height	7,60 m	24 ft 11 in	7,60 m	24 ft 11 in
Platform rotation	165° (+ 75° / - 90°)			
Jib working range	140° (+60° / -80°)			
Boom rotation angle	75°			
Turntable rotation	355°			
Total weight	6200 kg	13,668 lbs	6450 kg	14,222 lbs
Maximum platform capacity	230 kg	500 lb	230 kg	500 lb
Maximum number of occupants allowed	2			
Maximum wind speed allowed	60 km/h	37 mph	60 km/h	37 mph
Manual force	400 N - 90 lbf			
Gradeability - Forwards drive	40%			
Gradeability - Reverse drive	45%			
Sideslope	25%			
Maximum rated slope allowed	5°			
Maximum load on wheel	3090 daN	6,812 lbs	3265 daN	7,340 lbs
Maximum ground pressure of wheel on paved ground	11,44 daN/cm ²	2,38 lb/ft ²	13,2 daN/cm ²	2,70 lb/ft ²
Drive speed :				
• Micro-speed	• 0,7 km/h	• 0.4 mph	• 0,5 km/h	• 0.3 mph
• Slow speed	• 1,3 km/h	• 0.8 mph	• 1,3 km/h	• 0.8 mph
• Medium speed	• 2,6 km/h	• 1.6 mph	• 2,6 km/h	• 1.6 mph
• High speed	• 5,2 km/h	• 3.2 mph	• 5,2 km/h	• 3.2 mph
Maximum freewheel speed during towed operation	5,2 km/h	3.2 mph	5,2 km/h	3.2 mph
Engine - Tier III				
Engine type	Kubota V1505 E2B - 26,5 kW - 35.54 hp			
Engine power	26,5 kW - 35.54 hp			
CO emission	1,14 g/kWh			
HC + NO emission	5,065 g/kWh			
Particles emission	0,311 g/kWh			

B- Familiarization

Machine	HA16RTJ		HA16RTJ O - HA46RTJ O	
Av fuel consumption ¹	3 l/h - 0.79 gal/h			
Fuel type	Diesel			
Engine - Tier IV / Stage V				
Engine type	Kubota V1505 E4B / Kubota V1505 E5B			
Engine power	18,5 kW - 24.8 hp			
CO emission	1,4 g/kWh			
HC + NO emission	5,8 g/kWh			
Particles emission	0,21 g/kWh			
Av fuel consumption ²	2,4 l/h - 0.63 gal/h			
Fuel type	Diesel			
Engine - Dual Fuel (Petrol / Propane Gas)				
Engine type	Kubota WG 1605 - GL - E03- 38 kW - 51 hp			
CO emission	5,3 g/kWh			
HC + NO emission	0,3 g/kWh			
Av fuel consumption ³	Petrol : 3,6 l/h - 0.95 gal/h Gas : 4,3 l/h - 1.13 gal/h			
Fuel type	Petrol/Propane Gas (liquified)			
Specifications - Performance				
Operating temperature	- 15° C / + 35° C (- 59° F / + 95° F)			
Storage temperature	- 30° C / + 45° C (-22° F / + 113° F)			
Energy storage				
Type of battery	12 V 100 Ah 830A			
Battery amperage	830 A			
Battery voltage	12 V			
Battery capacity	100 Ah			
Hydraulic tank capacity	76 L	21 gal US	76 L	21 gal US
Fuel tank capacity	62 L	16 gal US	62 L	16 gal US
Propane bottles	30lb DOT LP gas cylinder			

1. Estimated consumption
2. Estimated consumption
3. Estimated consumption

B- Familiarization

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

Machine	HA16RTJ PRO - HA46RTJ PRO	
Characteristics - Dimensions	SI	Imp.
Maximum working height	16 m	52 ft 6 in
Maximum platform height	14 m	45 ft 11 in
Maximum horizontal reach	8,30 m	27 ft 3 in
Maximum outreach above the ground	7,80 m	25 ft 7 in
Maximum platform height before driving speed restriction	5,20 m	17 ft 5 in
Maximum boom articulation point height	7,60 m	24 ft 11 in
Platform rotation	165° (+ 75° / - 90°)	
Jib working range	140° (+60°/ -80°)	
Boom rotation angle	75°	
Turntable rotation	360° Continuous	
Total weight	6650 kg	14,663 lbs
Maximum platform capacity	230 kg	500 lb
Maximum number of occupants allowed	2	
Maximum wind speed allowed	60 km/h	37 mph
Manual force	400 N - 90 lbf	
Gradeability - Forwards drive	40%	
Gradeability - Reverse drive	45%	
Sideslope	25%	
Maximum rated slope allowed	5°	
Maximum load on wheel	3265 daN	7,340 lbs
Maximum ground pressure of wheel on paved ground	13,2 daN/cm²	2,70 lb/ft²
Drive speed :		
• Micro-speed	• 0,5 km/h	• 0.3 mph
• Slow speed	• 1,3 km/h	• 0.8 mph
• Medium speed	• 2,6 km/h	• 1.6 mph
• High speed	• 5,2 km/h	• 3.2 mph
Maximum freewheel speed during towed operation	5,2 km/h	3.2 mph
Engine - Tier III		
Engine type	Kubota V1505 E2B - 26,5 kW - 35.54 hp	
Engine power	26,5 kW - 35.54 hp	
CO emission	1,14 g/kWh	
HC + NO emission	5,065 g/kWh	
Particles emission	0,311 g/kWh	
Av fuel consumption ¹	3 l/h - 0.79 gal/h	
Fuel type	Diesel	
Engine - Tier IV / Stage V		
Engine type	Kubota V1505 E4B / Kubota V1505 E5B	
Engine power	18,5 kW - 24.8 hp	
CO emission	1,4 g/kWh	
HC + NO emission	5,8 g/kWh	
Particles emission	0,21 g/kWh	
Av fuel consumption ²	2,4 l/h - 0.63 gal/h	
Fuel type	Diesel	
Engine - Dual Fuel (Petrol / Propane Gas)		
Engine type	Kubota WG 1605 - GL - E03- 38 kW - 51 hp	
CO emission	5,3 g/kWh	
HC + NO emission	0,3 g/kWh	
Av fuel consumption ³	Petrol : 3,6 l/h - 0.95 gal/h Gas : 4,3 l/h - 1.13 gal/h	
Fuel type	Petrol/Propane Gas (liquified)	

B- Familiarization

Machine	HA16RTJ PRO - HA46RTJ PRO	
Specifications - Performance		
Operating temperature	- 15° C / + 35° C (- 59° F / + 95° F)	
Storage temperature	- 30° C / + 45° C (-22° F / + 113° F)	
Energy storage		
Type of battery	12 V 100 Ah 830A	
Battery amperage	830 A	
Battery voltage	12 V	
Battery capacity	100 Ah	
Hydraulic tank capacity	76 L	21 gal US
Fuel tank capacity	62L	16 gal US
Propane bottles	30lb DOT LP gas cylinder	

1. Estimated consumption
2. Estimated consumption
3. Estimated consumption

B- Familiarization

ANSI A92.5 standard

Machine	HA46RTJ O		HA46RTJ PRO	
Characteristics - Dimensions	SI	Imp.	SI	Imp.
Maximum working height	16 m	52 ft 6 in	16 m	52 ft 6 in
Maximum platform height	14 m	45 ft 11 in	14 m	45 ft 11 in
Maximum horizontal reach	8,30 m	27 ft 3 in	8,30 m	27 ft 3 in
Maximum outreach above the ground	7,80 m	25 ft 7 in	7,80 m	25 ft 7 in
Maximum platform height before driving speed restriction	5,20 m	17 ft 5 in	5,20 m	17 ft 5 in
Maximum boom articulation point height	7,60 m	24 ft 11 in	7,60 m	24 ft 11 in
Turntable rotation	355 °		360° Continuous	
Jib working range	140° (+60°/ -80°)			
Basket rotation angle	Right 90° Left 90°			
Boom rotation angle	75°			
Total weight	6600 kg	14,553 lbs	6650 kg	14,663 lbs
Maximum platform capacity	230 kg	500 lb	230 kg	500 lb
Maximum number of occupants allowed	2			
Maximum wind speed allowed	60 km/h	37 mph	60 km/h	37 mph
Manual force	667 N - 150 lbf			
Gradeability - Forwards drive	40%			
Gradeability - Reverse drive	45%			
Sideslope	25%			
Maximum rated slope allowed	0°			
Maximum load on wheel	3300 daN	7,418 lbs	3265 daN	7,340 lbs
Maximum ground pressure of wheel on paved ground	13,17 daN/cm²	2,75 lb/ft²	13,17 daN/cm²	2,75 lb/ft²
Drive speed (4WS) :				
• Micro-speed	• 0,5 km/h	• 0.3 mph	• 0,5 km/h	• 0.3 mph
• Slow speed	• 1,3 km/h	• 0.8 mph	• 1,3 km/h	• 0.8 mph
• Medium speed	• 2,6 km/h	• 1.6 mph	• 2,6 km/h	• 1.6 mph
• High speed	• 5,2 km/h	• 3.2 mph	• 5,2 km/h	• 3.2 mph
Maximum freewheel speed during towed operation	5,2 km/h	3.2 mph	5,2 km/h	3.2 mph
Engine - Tier III				
Engine type	Kubota V1505 E2B - 26,5 kW - 35.54 hp			
Engine power	26,5 kW - 35.54 hp			
CO emission	1,14 g/kWh			
HC + NO emission	5,065 g/kWh			
Particles emission	0,311 g/kWh			
Av fuel consumption ¹	3 l/h - 0.79 gal/h			
Fuel type	Diesel			
Engine - Tier IV				
Engine type	Kubota V1505 E4B - 18,5 kW - 24.8 hp			
Engine power	18,5 kW - 24.8 hp			
CO emission	1,4 g/kWh			
HC + NO emission	5,8 g/kWh			
Particles emission	0,21 g/kWh			
Av fuel consumption ²	3 l/h - 0.8 gal/h			
Fuel type	Diesel			
Engine - Dual Fuel (Petrol / Propane Gas)				
Engine type	Kubota WG 1605 - GL - E03- 38 kW - 51 hp			
CO emission	5,3 g/kWh			
HC + NO emission	0,3 g/kWh			
Av fuel consumption ³	Petrol : 3,6 l/h - 0.95 gal/h Gas : 4,3 l/h - 1.13 gal/h			

B- Familiarization

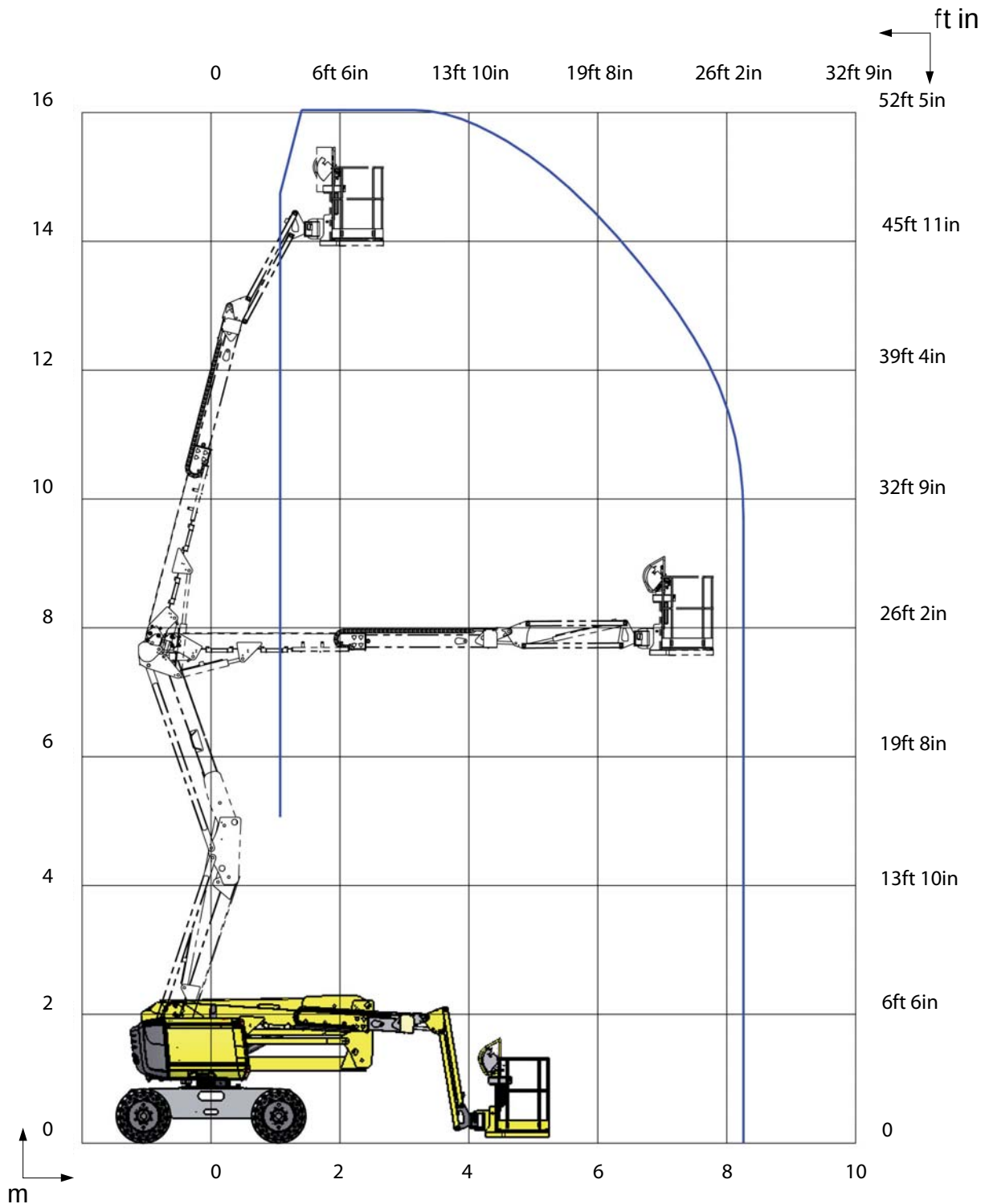
Machine	HA46RTJ O		HA46RTJ PRO	
Fuel type	Petrol/Propane Gas (liquified)			
Specifications - Performance				
Operating temperature	- 15° C / + 35° C (- 59° F / + 95° F)			
Storage temperature	- 30° C / + 45° C (-22° F / + 113° F)			
Energy storage				
Type of battery	12 V 100 Ah 830A			
Battery amperage	830 A			
Battery voltage	12 V			
Battery capacity	100 Ah			
Hydraulic tank capacity	76 L	21 gal US	76 L	21 gal US
Fuel tank capacity	62 L	16 gal US	62 L	16 gal US
Propane bottles	30lb DOT LP gas cylinder			

1. Estimated consumption
2. Estimated consumption
3. Estimated consumption

B- Familiarization

4.2 - WORKING AREA / RANGE OF MOTION

HA16RTJ - HA16RTJ O - HA16RTJ PRO - HA46RTJ O - HA46RTJ PRO



B- Familiarization



Notes

Lined area for taking notes.

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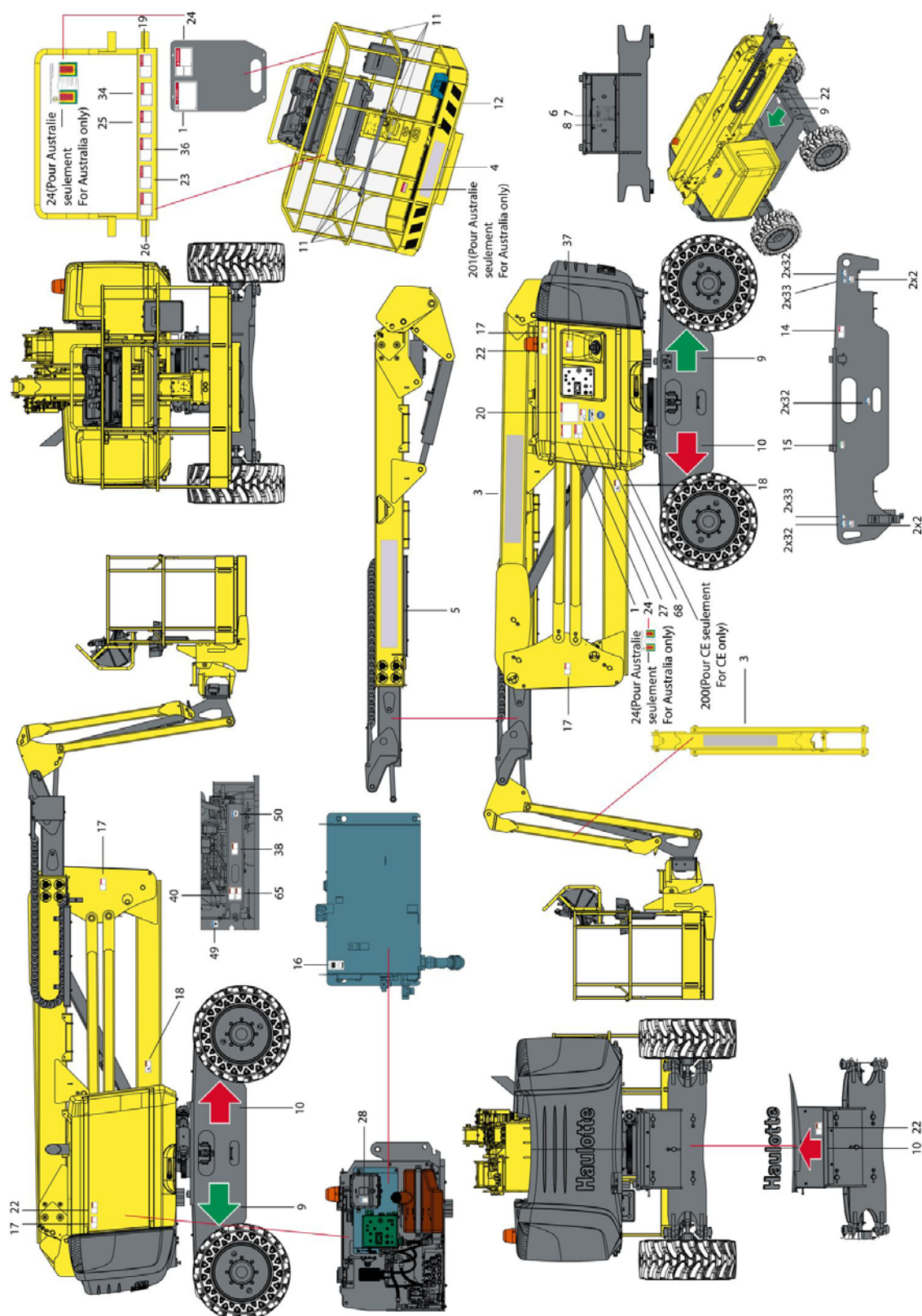
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B- Familiarization

5 - Decals and markings locations

CE and AS standards



B- Familiarization

CE and AS standards

Marking	Color	Description	Quantity	HA16RTJ	HA16RTJO	HA16RTJ PRO
1	Red	Height of the floor and load	2	4000761720		
2	Blue	Maximum Pressure per Tire - Floor Loading- 850 x 340 wheel	4	4000201400	4000243440	
2	Blue	Maximum Pressure per Tire - Floor Loading- 1025 x 365 wheel	4		4000506600	
3	Other	Commercial name-Bright machine-Horizontal	1	4000138100	4000101940	For CE only : 4000138120 For AS only : 4000101120
3	Other	Commercial name-Dark machine-Horizontal	1	4000138220	4000138200	4000138240
3	Other	Commercial name-Bright machine-Vertical	1	4000138090	4000138130	4000138110
3	Other	Commercial name-Dark machine-Vertical	1	4000138210	4000138190	4000138230
4	Other	Small format HAULOTTE® logo-Bright machine	1	307P217080		
4	Other	Small format HAULOTTE® logo-Dark machine	1	307P220350		
4	Other	Small format HAULOTTE® logo-Red machine	1	307P220360		
5	Other	Large format HAULOTTE® logo-Bright machine	1	307P217230		
5	Other	Large format HAULOTTE® logo-Dark machine	1	307P224930		
5	Other	Large format HAULOTTE® logo-Red machine	1	307P224920		
6	Other	Identification plates	1	4000700160		
8	Other	Noise emission level	1	For CE only : 3078148700		
9	Other	Control of movements - GREEN directional arrow	3	3078143930		
10	Other	Control of movements - RED directional arrow	3	3078143940		
11	Other	Lanyard attachment points - Harness attachment compulsory	9	307P216290		
12	Other	Material risk - Yellow and black adhesive tape	1	2421808660		
14	Red	Risk of crushing - Spindle	1	4000027080		
15	Other	Crown greasing	1	4000025160		
16	Other	Max and min oil level	1	307P221060		
17	Red	Risk of crushing - Do not park	4	4000024800		
18	Orange	Hand crushing hazard - Risk of crushed hands	2	4000024890		
19	Other	Read the operation manual	1	4000025140		

B- Familiarization

Marking	Color	Description	Quantity	HA16RTJ	HA16RTJO	HA16RTJ PRO
20	Red	Operation instructions	1	In german (CE standard) : 307P222730 In english (CE and AS standards) : 307P222740 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 dutch (CE standard) : 307P222790 In hungarian (CE standard) : 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) : 4000359900 In polish (CE standard) : 4000359860 In portuguese (CE standard) : 307P222810 In romanian (CE standard) : 4000359870 In slovakian (CE standard) : 4000359880 In slovenian (CE standard) : 4000359890 In swedish (CE standard) : 307P222820 In greek (CE standard) : 4000561810 In chinese (CE standard) : 4000698920		
22	Orange	Risk of crushing - Do not place foot	4	4000027090		
23	Red	Risk of crushing - Driving direction	1	4000024690		
24	Red	Danger of electrocution	2	For CE only : 4000025070 For AS only : 4000227500		
25	Red	Risk of crushing - Closing drop rail	1	4000025080		
26	Red	Danger of electrocution - Ground for welding	1	4000027100		
27	Other	Tilt verification	1	4000027110		
28	Other	Do not interchange	1	4000504670		
32	Blue	Towing anchorage point	6	4000027310		
33	Blue	Lifting anchorage point	4	4000027330		
34	Red	Electrocution Hazard - Water projection	1	4000025130		
36	Red	Risk of crushing - Emergency lowering	1	4000027460		
37	Red	Risks of explosion	1	4000027370		
38	Orange	Hand crushing hazard - Heat burns	1	4000027450		
40	Orange	Hand crushing hazard-Snapping up	1	4000027430		
49	Blue	Battery +	1	4000071960		
50	Blue	Battery -	1	4000071970		
65	Orange	Wear protective equipment	1	4000027440		
68	Other	Transport height	1	4000417540		
200	Other	Made in Europe	1	For CE only : 4000137690		
201	Red	Wearing of a safety harness is essential	1	AS standard only : 4000275670		
Not illustrated	Not illustrated	Option — Working area / Range of motion	1	4000361800		

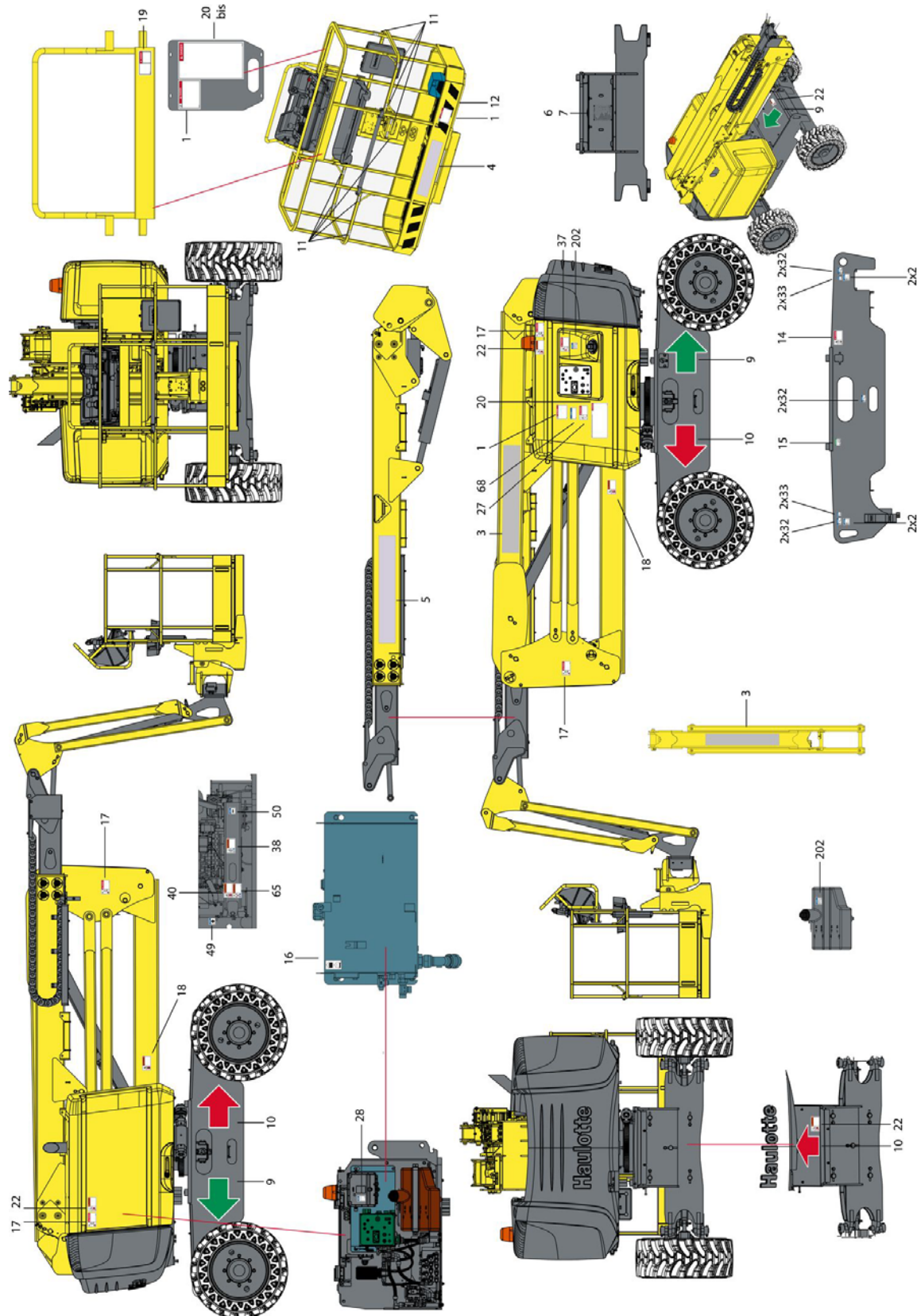
B- Familiarization



Notes

B- Familiarization

ANSI and CSA standards



B- Familiarization

ANSI and CSA standards

Marking	Color	Description	Quantity	HA46RTJ	HA46RTJO	HA46RTJ PRO
1	Red	Height of the floor and load	3	ANSI A92.5 standard : In english : 4000101090 In french : 4000101100 In spanish : 4000101110 ANSI A92.20 and CSA B454.6 standards : 4000761720		
2	Blue	Maximum Pressure per Tire - Floor Loading- 850 x 340 wheel	4	4000201400	4000243450	
2	Blue	Maximum Pressure per Tire - Floor Loading- 1025 x 365 wheel	4		4000506600	
3	Other	Commercial name-Bright machine-Horizontal	1	4000138160	4000138140	4000138180
3	Other	Commercial name-Dark machine-Horizontal	1	4000138280	4000138260	4000138300
3	Other	Commercial name-Bright machine-Vertical	1	4000138150	4000138130	4000138170
3	Other	Commercial name-Dark machine-Vertical	1	4000138270	4000138250	4000138290
4	Other	Small format HAULOTTE® logo-Bright machine	1	307P217080		
4	Other	Small format HAULOTTE® logo-Dark machine	1	307P220350		
4	Other	Small format HAULOTTE® logo-Red machine	1	307P220360		
5	Other	Large format HAULOTTE® logo-Bright machine	1	307P217230		
5	Other	Large format HAULOTTE® logo-Dark machine	1	307P224740		
5	Other	Large format HAULOTTE® logo-Red machine	1	307P220360		
6	Other	Identification plates	1	4000700170		
9	Other	Control of movements - GREEN directional arrow	3	3078143930		
10	Other	Control of movements - RED directional arrow	3	3078143940		
11	Other	Lanyard attachment points - Harness attachment compulsory	9	307P216290		
12	Other	Material risk - Yellow and black adhesive tape	1	2421808660		
14	Red	Risk of crushing - Spindle	1	In english : 4000024830 In french : 4000068080 In spanish : 4000086510		
15	Other	Crown greasing	1	4000025160		
16	Other	Max and min oil level	1	307P221060		
17	Red	Risk of crushing - Do not park	4	In english : 4000024640 In french : 4000067680 In spanish : 4000086460		
18	Orange	Hand crushing hazard - Risk of crushed hands	1	In english : 4000024770 In french : 4000067710 In spanish : 4000086490		
19	Other	Read the operation manual	1	4000025140		

B- Familiarization

Marking	Color	Description	Quantity	HA46RTJ	HA46RTJO	HA46RTJ PRO
20	Red	Operation instructions	1	In english : 4000027580 In french : 4000083200 In spanish : 4000086650		
20bis	Red	Operation instructions-Vertical	1	In english : 4000027570 In french : 4000068880 In spanish : 4000086640		
22	Orange	Risk of crushing - Do not place foot	4	In english : 4000024840 In french : 4000068180 In spanish : 4000086610		
27	Other	Tilt verification	1	In english : 4000024860 In french : 4000068090 In spanish : 4000086520		
28	Other	Do not interchange	1	4000504670		
32	Blue	Towing anchorage point	6	4000027310		
33	Blue	Lifting anchorage point	4	4000027330		
37	Red	Risks of explosion	1	In english : 4000025010 In french : 4000068130 In spanish : 4000086560		
38	Orange	Hand crushing hazard - Heat burns	1	In english : 4000025040 In french : 4000068110 In spanish : 4000086540		
40	Orange	Hand crushing hazard-Snapping up	1	In english : 4000025020 In french : 4000068100 In spanish : 4000086530		
49	Blue	Battery +	1	4000071960		
50	Blue	Battery -	1	4000071970		
65	Orange	Wear protective equipment	1	In english : 4000025030 In french : 4000068120 In spanish : 4000086550		
68	Other	Transport height	1	4000417540		
202	Other	Diesel Fuel Only	2	4000201430		
Not illustrated	Not illustrated	Option — Working area / Range of motion	1	4000361800		

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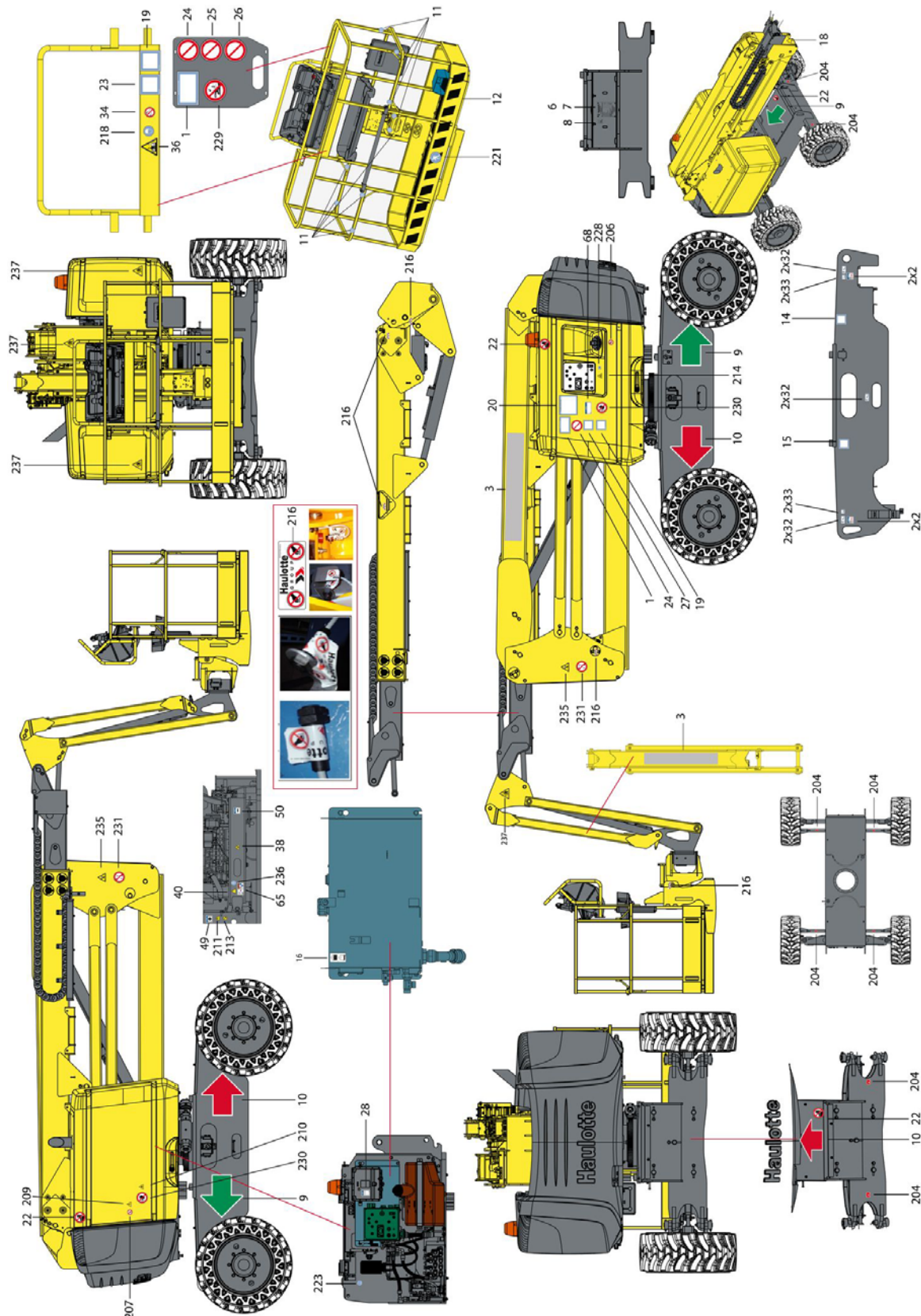
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B- Familiarization

EAC standard



B- Familiarization

EAC standard

Marking	Color	Description	Quantity	HA16RTJ	HA16RTJO	HA16RTJ PRO
1	Red	Height of the floor and load	2	4000270060		
2	Blue	Maximum Pressure per Tire - Floor Loading- 850 x 340 wheel	4	4000201400	4000243440	
2	Blue	Maximum Pressure per Tire - Floor Loading- 1025 x 365 wheel	4		4000506600	
3	Other	Commercial name-Bright machine-Horizontal	1	4000138100	4000101940	4000101120
3	Other	Commercial name-Dark machine-Horizontal	1	4000138220	4000138200	4000138240
3	Other	Commercial name-Bright machine-Vertical	1	4000138090	4000138130	4000138110
3	Other	Commercial name-Dark machine-Vertical	1	4000138210	4000138190	4000138230
6	Other	Identification plates	1	For Russia : 4000278870 For Ukraine : 307P227830		
8	Other	Noise emission level	1	3078148700		
9	Other	Control of movements - GREEN directional arrow	3	3078143930		
10	Other	Control of movements - RED directional arrow	3	3078143940		
11	Other	Lanyard attachment points - Harness attachment compulsory	9	307P226710		
12	Other	Material risk - Yellow and black adhesive tape	1	2421808660		
14	Red	Risk of crushing - Spindle	1	307P227810		
15	Other	Crown greasing	1	307P227060		
16	Other	Max and min oil level	1	307P221060		
18	Orange	Hand crushing hazard - Risk of crushed hands	1	307P227660		
19	Other	Read the operation manual	1	For Russia : 307P227190 For Ukraine : 307P227840		
20	Red	Operation instructions	1	For Russia : 4000359920 For Ukraine : 4000359910		
22	Orange	Risk of crushing - Do not place foot	4	307P227010		
23	Red	Risk of crushing - Driving direction	1	307P227040		
24	Red	Danger of electrocution	2	307P226960		
25	Red	Risk of crushing - Closing drop rail	1	307P226950		
26	Red	Danger of electrocution - Ground for welding	1	307P226970		
27	Other	Tilt verification	1	For Russia : 307P227060 For Ukraine : 307P227870		
28	Other	Do not interchange	1	4000504670		
32	Blue	Towing anchorage point	6	4000135970		
33	Blue	Lifting anchorage point	4	4000135960		
34	Red	Electrocution Hazard - Water projection	1	307P226780		
36	Red	Risk of crushing - Emergency lowering	1	4000014290		

B- Familiarization

Marking	Color	Description	Quantity	HA16RTJ	HA16RTJO	HA16RTJ PRO
38	Orange	Hand crushing hazard - Heat burns	1		4000200810	
40	Orange	Hand crushing hazard-Snapping up	1		307P226940	
49	Blue	Battery +	1		4000071960	
50	Blue	Battery -	1		4000071970	
65	Orange	Wear protective equipment	1		4000027440	
68	Other	Transport height	1		4000417540	
204	Other	Lubrication point	9		307P219370	
206	Other	Flames prohibited	1		307P226750	
207	Other	Smoking forbidden	1		307P226760	
209	Other	Battery danger	1		307P226790	
210	Other	Fire Hazard	1		307P226800	
211	Other	Electrical danger	1		307P226810	
213	Other	Corrosion hazard	1		307P226830	
214	Other	Danger unstable side H41	1		307P226930	
216	Other	Tamper-proof	For Russia : • For HA16RTJ 307P227450 x 8. • For HA16RTJO 307P227451 x 10. • For HA16RTJPRO 307P227452 x 10. For Ukraine : • For HA16RTJ 307P227453 x 8. • For HA16RTJO 307P227454 x 10. • For HA16RTJPRO 307P227455 x 10.			
218	Other	Caution helmet compulsory	1		307P226680	
221	Other	Obligatory routing	1		307P227510	
223	Other	Plug 12 V	1		307P227700	
225	Other	Cold weather oil	1		307P223700	
228	Other	Horn	1		4000014830	
229	Other	Do not travel down slopes in high speed	1		307P226990	
230	Other	No admittance	2		307P227560	
231	Other	Do not park in the work area	2		307P227000	
235	Other	Risk of crushing	2		4000014270	
236	Other	Caution glasses	1		307P226670	
237	Yellow	Lateral crushing of the body	4		307P227670	
Not illustrated	Not illustrated	Option — Working area / Range of motion	1		4000361800	

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.

A

B

C

D

E

F

G

H

I

C- Pre-operation inspection

2 - Working area assessment

To ensure safety during operation, the following should be considered :

- Segregate other site traffic (delivery vehicles, dumpers, etc) from the work area.
- Check the work area for localized features, e.g. manholes, service ducts, potholes, etc.
- Check ground covers (temporary and permanent) are strong enough to withstand the applied pressure.
- Check ground covers are secured and monitor them. Take similar action for permanent covers.
- Check the load bearing capacity (distributed load and point loading) when working inside a building, or on a structure.
- Check the load bearing capacity (distributed load and point loading) of the supporting ground.
- Provide supervision to ensure safe systems of work are appropriate and being used.
- Check for overhead crushing and contact hazards.
- Check weather conditions have not altered ground conditions (e.g. heavy or prolonged rain).
- Establish limits for safe operation (e.g. maximum wind speed). Remember conditions can change internally (e.g. if roller doors are opened).
- Comply with permit to work systems where sites have them (e.g. chemical plants).
- Provide a rescue plan for all risks, including falls and crush hazards. Ensure personnel understand and are appropriately trained in the rescuing procedures. Site based personnel trained in operation of functions and in the emergency lowering systems from the ground control box should be present. Ensure that access to the ground controls is available.
- Assess other alternative work methods or equipment before operating near a steep slope. If the machine must be placed near an edge or steep slope, ensure barriers are available to support the weight of the machine. Take into consideration the machine's stopping distance. If this is not possible, evaluate and establish the placement of machine and sequence of operations so that the aerial work platform can operate in a safe manner (e.g. machine is in line with the edge rather than towards the edge).

Extra care must be taken if aerial work platforms are used to manoeuvre up through several levels of steelwork. There is a risk of the operator being trapped should the basket strike the steelwork.

This risk increases with the number of steelwork levels and if material is piled up on lower level reducing the spacing between levels.

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.



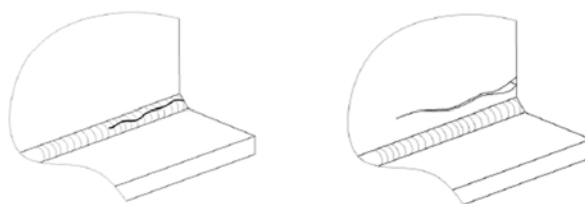
- **Never use a defective or a malfunctioning aerial work platform.**
- **If any item on the check list is marked "No" during the inspection; machine must be tagged and placed out of service.**
- **Do not operate the machine until all identified items are corrected and it has been declared safe for operation.**

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		

C- Pre-operation inspection

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

	Page or associated procedure	Daily	OK	NOK	Corrected	Comments
Chassis assembly : Wheel, reducer, steering, wheel pivot						
Check state of tires/tyres and inflations						
Thermal engines						
Check engine fuel level (Top up the oil if necessary)						
Check engine oil level (Top up the oil if necessary)						
No leaks from engine components (engine, hoses, radiator)						
Check the condition of the battery						
Check the cooling circuit level (Top up the oil if necessary)						
Check the condition of the circuit LPG (If equipped)						
Check the operation of the lock on the engine casing						
Turntable						
Test the operation of the turntable locking system						
Hydraulic : oils, filters and hoses						
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						
Platform						
Test the automatic closure and locking of access basket						
Check that the harness anchor points are not cracked or damaged						

C- Pre-operation inspection

Haulotte	Page or associated procedure	Daily	OK	NOK	Corrected	Comments
General						
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						
Safety devices						
Test the operation of the upper and lower control boxes: manipulators, switches, buttons, horn, emergency stops, screens and lights						
Test the operation 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 axle locking system						
Test the operation of the loading control system (visual alarm on the control box)						
Test the operation of the Activ Shield Bar (If equipped)						

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 (overriding system) is available on ground control box when primary power source fails. 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.

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 (9) at the ground control box.
2	Set the key switch (22) at ground box to the  position
3	The indicator (10) lights up on ground control box
4	Start the engine by pressing the engine start-up selector (16) .
5	Push in the E-stop button (9) .
6	Check that the engine stops running.
7	Check no movements are functional.

Platform control box E-stop button

Step	Action
1	Pull the E-Stop button (9) at the ground control box.
2	Set the key switch (22) at ground box to the  position
3	The indicator (13) lights up on ground display panel
4	Pull out the E-Stop button (46) at platform box.
5	Start the engine from platform using Start/Stop switch (230) .
6	Push in E-Stop button (46) at platform.
7	Check that the engine stops running.
8	Check no movements are functional.

C- Pre-operation inspection

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 :

- Joystick trigger at platform box (if fitted).
- Foot pedal (enable switch) in the platform.
- Enable switch at ground box.

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 - Indicators/LED's test

From the ground control box

Step	Action
1	Pull the E-Stop button (46) at the platform control box.
2	Set the key switch (22) at ground box to the  position
3	Check that the indicators (10, 13, 15, 19) and the ACTIV'SCREEN (22) light up.
4	Check that the LED's on the display are all turned off after 1 sec.

From the platform control box

Step	Action
1	Pull the E-Stop button (9) at the ground control box.
2	Set the key switch (22) at ground box to the  position
3	First push in the E-Stop button (46) at platform box, then pull out.
4	Check that the LED's (101 - 117) light up on the platform display panel.
5	Check that the LED's (101 - 117) on the display are all turned off after 1 sec.

C- Pre-operation inspection

4.3.2 - Buzzers test

From the ground control box

Step	Action
1	Pull both E-Stop buttons (9) at ground box and (46) at platform box.
2	Set the key switch (22) at ground box to the  position.
3	Buzzers at ground and platform should beep.

4.4 - AUTOMATIC ENGINE CUT-OUT

The engine automatically cuts out in the following conditions :

- The alternator is not functioning.
- Engine temperature is too high.
- Oil pressure is too low.
- The E-stop(s) is (are) pushed in.
- The machine is switched off.
- The machine has been inactive for 90 s.

4.5 - OVERLOAD SENSING SYSTEM

If the platform load exceeds the maximum allowed load, no movement is possible from the 2 control boxes.

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.

Daily check that the LED's illuminate when the machine is switched on :

- Verify that the Overload system is active : Refer to Indicator (15) at ground control box and LED (114) at platform control box display.
- Verify that the buzzers are functioning : Refer to Buzzers test.

A periodic inspection of this device must be performed according to the recommendation in Maintenance Schedule.

C- Pre-operation inspection

4.6 - OSCILLATING AXLES (IF EQUIPPED)

To improve the driving capability on rough terrain, the front axle is equipped with an oscillating mechanism. When the extending structure is retracted and is in the stowed position, oscillating mechanism is unlocked to adapt itself to the features of ground operation. When the extending structure is out of the stowed position, a safety device locks the oscillating mechanism to reduce overturning hazard.

A visual inspection must be performed to ensure the absence of leaks from the oscillating cylinder and associated plumbing connections including the hydraulic hoses.

A periodic inspection of this device must be conducted according to the recommendation in the maintenance schedule.

4.7 - 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, DRIVE function is disabled.

All the lifting movements are cut. Only the lowering movements are authorized.

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

To restore DRIVE function, perform the following steps before repositioning on level ground :

Machine on slope with the platform uphill

Step	Action
1	Retract the boom.
2	Lower the bottom arm.
3	Lower the upper boom

Machine on slope with the platform downhill

Step	Action
1	Lower the upper boom.
2	Lower the top arm.
3	Retract the boom.

C- Pre-operation inspection

To check the tilt sensor at ground level

Step	Action
1	Open the right hand compartment cover (Component location diagrams) and locate the tilt sensor (C28).
2	Pull both E-Stop buttons; (9) at ground box and (46) at platform box.
3	Set the key switch (22) at ground box to the  position
4	Start the engine by pressing the engine start-up selector (16) START / STOP. To stow the machine :
5	- Retract the boom using the command (3) by pressing and holding the button  - Lower the boom using the boom raising (4) by pressing and holding the button  - Lower the arm using the arm raising (5) by pressing and holding the button 
	Raise the boom to more than 10 degrees above horizontal using the control boom raising (4) by
6	pressing and holding the button 
7	Raise the boom to more than 10 degrees above horizontal using the raise/lower switch (10).
8	While manually tilting the sensor (C28), move it towards the front and hold.
9	Check that the audible beep sounds.

4.8 - TRAVEL SPEED LIMITATION

The machine has a selector of 3 driving speeds - low, medium and high.

All driving speeds are authorised when extending structure of the machine is in stowed position (transport configuration). Drive speed is proportional to the movement of the drive joystick (33). Adjust position of Jib to enhance field of vision during driving.

Whatever the position of the drive speed selector switch (45) on the platform control box, the drive speed is limited when the machine is unfolded.

Daily check that the speed is limited to less than 1 km/h (0.6 mph) when :

- The boom is raised by more than 10° above horizontal.
- The boom is telescoped/extended more than 400 mm (16 in.).
- The arm is raised by more than 2 m (6 ft 7 in) above horizontal.

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 Federal, State and local codes and regulations.
- Become familiar with the proper use of all controls and emergency systems.

1.2 - MAJOR DESCRIPTION

All the machines are equipped with :

- Platform control box.
- Ground control box (Auxiliary power and overriding system).
- Stop Emission System.

1.3 - OPERATION FROM THE GROUND CONTROL BOX

- Turning "ON" and "OFF" of the machine is performed with the Control box activation key switch (22).
- Activation of a desired control box is achieved by turning the Control box activation key switch (22) to the desired position  .
- The ground control box is energized and is active ONLY when :
 - The E-stop buttons on both ground and platform control boxes are not pressed in (Deactivated).
 - To switch ON the machine, turn the Control box activation key switch (22) at the ground control box on ground control box position .
- An E-Stop button at each control box stops all movements when pressed in; including shutting off an engine (if equipped).

N.B.-:-DO NOT TURN OFF THE POWER SUPPLY OF THE MACHINE USING THE E-STOP BUTTON (USE ONLY IN CASE OF EMERGENCY). TURN OFF THE POWER SUPPLY OF THE MACHINE USING THE

CONTROL BOX ACTIVATION KEY SWITCH 22 TO  POSITION.

D- Operation instructions

- An Enable /Foot Switch (6) is present that should be activated and maintained to authorize one or more movements. "If Enable Switch (6) is kept engaged without selecting a function movement for more than 8 seconds ; Enable Switch is automatically de-activated"
- The release of control box enable switch while performing a movement stops all the movements. The function movement is progressively slowed down. If the Foot Switch is repressed, the function movement does not restart. The function movement can only be selected when the corresponding function switch or joystick is returned to neutral position.
- All controls and joystick operating a movement, return automatically to neutral when released.
- At power up, all switches and joysticks must be in their neutral position.
- Enable Switch / Back-up unit selector (6) :
 - With engine running, the control switch functions as an Enable Switch only.
 - With engine stopped, the control function as the Enable Switch and allows the back-up unit (emergency pump) functioning.
- Overriding system : Refer to  Section D 4.2 - To rescue operator in platform. .
- The status of the controls is tested automatically when the machine is switched on. A control will be active only after it has been detected to be in neutral position. The flashing light control (14) is not controlled :
- A control (16) provides the start and stop of the engine.
- A buzzer beeps in the following conditions :
 - When power is switched on.
 - Overload (if fitted).
 - When machine is on a slope greater than the rated slope.
 - Hydraulic oil overheating.
 - Movements option.
- Indicators : Indicators (10), (13), (15) and (19) are checked when the machine is powered on

For petrol / gas machines :

- For desired type of fuel; activate button (18)  for petrol or (17)  for propane gas

D- Operation instructions

1.4 - OPERATION FROM THE PLATFORM CONTROL BOX

- The platform control box is energized only when :
 - The E-stop buttons on both ground and platform control boxes are not pressed in.
 - To switch ON the machine, turn the Control box activation key selector (22) at the ground control box on ground control box position .
 - Platform control box is energized by turning the control box energizing selector switch (229) at the ground control box to the left.
 - Overriding system not activated.
- 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 at each control box stops all movements when pressed in; including shutting off an engine (if equipped).

N.B.:-DO NOT TURN OFF THE POWER SUPPLY OF THE MACHINE USING THE E-STOP BUTTON(USE ONLY IN CASE OF EMERGENCY). TURN OFF THE POWER SUPPLY OF THE MACHINE USING THE

CONTROL BOX ACTIVATION KEY SWITCH (22) TO  POSITION.

- A Foot Switch (C42) is present that should be activated and maintained to authorize one or more movements. "If Foot Switch is kept engaged without selecting a function movement for more than 8 s seconds ; Enable switch is automatically de-activated".
- The release of foot pedal switch while performing a movement, stops that function movement and all other movements are inactive. The stop of movements is progressive. If the Foot Switch is pressed again quickly within 0,5 s the movement restarts. If the Foot Switch and / or Enable Switch is not pressed again quickly enough within + 0,5 s the movement will not 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.
- Pressing the Foot Switch (C42) restarts the machine when its engine has been stopped by the Stop Emission System after 90 s of inactivity.
- At power up, all switches and joysticks must be in their neutral position.

For the US destined machines :

- The fuel selection (petrol or liquid propane gas) is done by turning the switch (44) to the desired position.
- The status of the switches is tested automatically when the machine is switched on and checked at every starting. A switch will be activated only after it has been detected in neutral position.

D - Operation instructions

- A buzzer beeps in the following conditions :
 - When power is switched on.
 - When platform is overloaded (if fitted).
 - When machine is on a slope greater than the rated slope.
- Emergency pump. ( Section D 4.1 In case of engine power failure)
- Indicators - All indicators (LEDs 101 - 117) are checked when the machine is powered on

D - Operation instructions

2 - Ground control box

2.1 - TO START AND STOP THE MACHINE - DIESEL ENGINE

- Check that the E-stop buttons (9) at ground control box and (46) at platform control box are not pressed in.
- Turn the control box selector (22) to position  to energize the ground control box. The LED display panel comes on.
- Push the starter selector (16) upwards. The engine starts. The indicators go out.
- Let the engine heat up.

To shut-down the machine from the ground control box :

- Push the starter selector (16) upwards. The engine stops.

- Turn the key activation selector switch (22) in position .
- The machine is now switched off.

N.B.: -THIS OPERATION TURNS THE MACHINE OFF AND IT IS REQUIRED TO PREVENT BATTERY DISCHARGE.

2.2 - TO START AND STOP THE MACHINE - PETROL / GAS (PROPANE) ENGINE

- Open the gas bottle valve (C140)
- At the ground control box, check that the E-stop button (9) is not pressed in.
- Turn the control box selector (22) to position  to energize the ground control box.
- Press the propane gas control (17) for liquid gasoline supply.
- Press the starter selector (16) to start the engine.
- Let the engine heat up.

To shut-down the machine from the ground control box :

- Press the starter selector (16) to stop the engine.

- Turn the activation selector key switch (22) to off position .
- Power supply is now switched off.
- Close the gas bottle valve (C140).

N.B.: -THIS OPERATION TURNS OFF THE POWER SUPPLY TO MACHINE AND IT IS REQUIRED TO PREVENT BATTERY DISCHARGE.



If the gas bottle is empty, the engine stops. Press switch (18) for gasoline supply. Restart the engine.

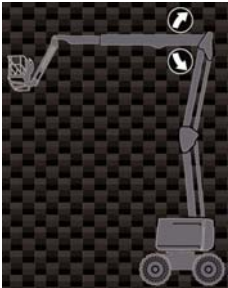
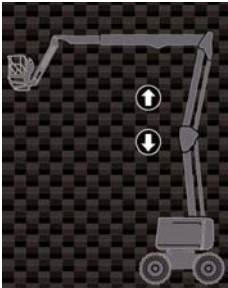
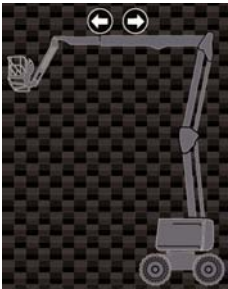
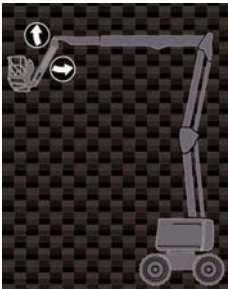
D- Operation instructions

2.3 - BOOM AND ARM CONTROLS

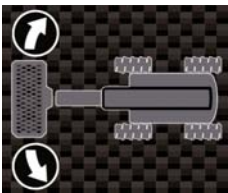
Platform leveling is available, regardless of the work height. Even at low movement speeds, use the controls with caution.

N.B.-:-RELEASING THE ENABLE SWITCH (6) WILL STOP ALL MOVEMENTS.

Ground box controls (emergency station)

Command	Action
Raising / lowering of boom 	Press the boom raising control (4) to raise  the boom. Press the boom lowering control (4) to lower  the boom.
Raising / lowering of arm 	Press the arm raising control (5) upwards  to raise the arm Press the arm lowering control (5) downwards  to lower the arm
Boom telescoping extend / retract 	Press the boom telescoping control (3) to extend  the boom. Press the boom retracting control (3) to retract  the boom.
Jib raising / lowering (If applicable) 	Press the jib raising control (2) to raise  the jib. Press the jib lowering control (2) to lower  the jib.

D - Operation instructions

Command	Action
Turntable rotation	 Press the turntable rotation control (7) for a clockwise rotation  .
	Press the turntable rotation control (7) for an counterclockwise rotation  .
Platform rotation	 Press the platform rotation control (8) for a clockwise rotation  .
	Press the platform rotation control (8) for an counterclockwise rotation  .

2.4 - ADDITIONAL CONTROLS

- Press the beacon light control (14)  to turn ON or OFF be beacon light.

D - Operation instructions

3 - Platform control box

3.1 - TO START AND STOP THE MACHINE

3.1.1 - To start the machine

At the ground control box :

- Check that the E-stop button (9) is not pressed in.
- Turn the control box key selector (22) on position  to energize the machine and activate the platform control box

At the platform control box :

- Check that the E-stop button (46) is not pressed in.
- Push the starter selector switch (230) downwards. During pre-heating, the indicator (102) comes ON on the display panel of the platform control box. Pre-heating begins and the engine starts.
- Allow the engine to heat up and initialize.

3.1.2 - If engine manually stopped

- Push the starter selector switch (230) downwards.

3.1.3 - If engine is stopped by Stop Emission System

- The Stop Emission System automatically stops the engine after 90 s of inactivity.
- Release (if still pressed) and press the 'Enable switch' foot pedal (C42) to restart the engine.

3.1.4 - To stop the engine

- Push engine start switch (230) upwards again and engine will stop running.

D - Operation instructions

3.2 - TO START AND STOP THE MACHINE - PETROL / GAS (PROPANE) ENGINE

To start the machine :

At the ground control box :

- Open the gas bottle valve.
- Check that the E-stop button (9) is not pressed in.
- Turn the control box key selector (22) on position  to energize the machine and activate the platform control box

At the platform control box :

- Open the gas bottle valve.
- Check that the E-stop button (46) is not pressed in.
- Turn the petrol/liquid propane gas selector (44) into LPG position
- Push the starter selector switch (230) upwards. During pre-heating LED (102) at platform display panel and LED (5) at ground display panel will light up. Pre-heating begins and the engine starts.
- Allow the engine to heat up and initialize.

To stop the engine :

- Push engine start switch (230) upwards.
- Close the gas bottle valve



If the gas bottle is empty, the engine stops. Turn the petrol/liquid propane gas selector (44) into G position. Restart the engine.

D- Operation instructions

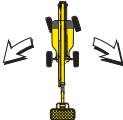
3.3 - DRIVE AND STEER CONTROL

To activate drive and steer function, press the Foot Switch and simultaneously operate the joystick (33) for the desired function.

Before driving, locate the green / red orientation arrows on the chassis and platform controls.

Move the drive control joystick (33) in the direction matching the directional arrows.

N.B.-:ON UNEVEN TERRAIN, LOWER THE BOOM TO IMPROVE THE DRIVE PERFORMANCE.

Command		Action
Steering		Press thumb/rocker switch on joystick (33) to the right to steer right.
		Press thumb/rocker switch on joystick (33) to the left to steer left.
Driving		Move joystick (33) forwards for the machine to travel in the forward direction.
		Pull joystick (33) backwards for the machine to travel in the reverse direction.
Drive speed		Position the drive speed selector switch (45) on  for high-speed driving.
		Position the driving speed selector (45) on  for medium speed driving (crossing uneven ground, slope).
		Position the driving speed selector (45) on  for low-speed driving (short distance, final approach, unloading from lorries/trucks).

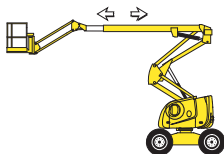
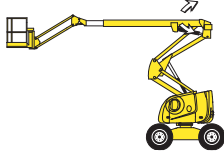
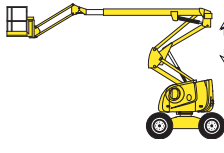
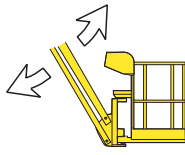
D- Operation instructions

3.4 - BOOM AND ARM CONTROLS

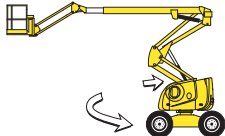
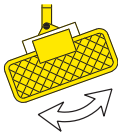
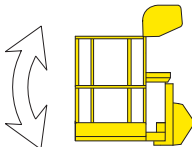
Activate the desired control and the Foot Switch simultaneously to perform that selected function.

Foot Switch



Command	Action
Boom telescoping extend / retract 	Push the boom telescoping switch (54) upwards to retract the boom.
	Push the boom telescoping switch (54) downwards to extend the boom.
Boom raising / lowering 	Move the boom/turntable joystick (49) forward to raise the boom.
	Move the boom/turntable joystick (49) backwards to lower the boom.
Arm raising / lowering 	Push the arm joystick (50) forwards to raise the arm.
	Push the arm joystick (50) backwards to lower the arm.
Jib raising / lowering 	Push the jib switch (129) upwards to raise the jib.
	Push the jib switch (129) downwards to lower the jib.

D- Operation instructions

Command	Action
	Move the boom/turntable joystick (49) to the left for a clockwise (CW) rotation.
Turntable rotation	 Move the boom/turntable joystick (49) to the right for a counter clockwise (CCW) rotation.
	Move the platform rotation switch (38) to the right for a counter clockwise (CCW) rotation.
Platform rotation	 Move the platform rotation switch (38) to the left for a clockwise (CW) rotation.
	Move the platform levelling switch (40) upwards to raise the platform to the front of the machine.
Platform leveling	 Move the platform levelling switch (40) downwards to tilt the platform to the rear of the machine.

3.5 - ADDITIONAL CONTROLS

- Horn : Push the horn selector (43) to the right to sound the horn. The horn stops when the selector switch is released.

3.5.1 - Stop Emission System

The machine is equipped with the innovative Stop Emission System that automatically stops the engine after 90 s of inactivity. Engine can be restarted by pressing the 'enable switch' foot pedal (C42).



If the machine is equipped with arctic option, Stop Emission System is deactivated. The Stop Emission System can be reactivated at any time by a HAULOTTE Services® technician.

3.5.2 - Activ' Lighting System

Refer to  Section B 3.3 - Platform control box.

This option means that the operator will be able to safely load (or unload) the machine onto the truck.

Located on the turntable, boom and platform, the Activ' Lighting System system lights up the controls and surrounding areas of the machine. Users can then safely move the machine.

D - Operation instructions

4 - Rescue and emergency procedures

4.1 - IN CASE OF POWER LOSS

In case of loss of the main power source, the secondary (back-up) power unit, powered by the starting battery, allows movements to be controlled from both the ground and platform control boxes.

As the electric pump has limited power, it is advisable to reach the ground in the most direct manner possible.

The use of the electric pump is exclusively reserved for lowering the boom in emergency situations only. It is recommended to first retract the boom before lowering the boom. Performing other operations can lead to the deterioration of the electric pump.

N.B.: -TEST THE OPERATION OF EMERGENCY SYSTEM ATLEAST ONCE A MONTH. REFER TO THE SERVICE MANUAL.

Depending on the control box in use, push and hold the back-up/auxiliary power switch (6) at ground box or switch (41) at platform box. Retract the boom and lower it by using controls (3), (4) and (4) at ground control box or switch (54) and joystick (49) at platform control box.

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.
- Allowance must be made for the possibility of boom deflection when egressing from the platform.
- 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.
- Do not leave platform without taking into account the allowance for possibility of boom deflection when exiting platform.
- 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 THE BOOM. INSTEAD WAIT FOR ASSISTANCE FOR A SAFE EXIT.

D- Operation instructions

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.



The system allows occupant(s) to be lowered to the ground level, even if an overload is detected.

Procedure :

- Turn the ground control box key control (22) to the ground control box  position.
- The platform box controls are now de-energized.
- Check that the E-Stop button (9) at ground is not pressed in.
- To lower the platform, hold down the Enable Switch (6)  and simultaneously activate the desired control function.

4.2.1 - Operation of overriding system from ground control box

N.B.-:-A SAFETY DEVICE DOES NOT ALLOW NORMAL MOVEMENT FROM THE GROUND CONTROL BOX, USE THE OVERRIDING SYSTEM.



Operation of the "overriding system" switch must be an exception and not a normal emergency operation.

Procedure :

- Press and hold the "overriding" system control (11) .
- Press simultaneously the telescoping boom control (3) to retract the boom .
- Press the boom raising control (4) to raise  or lower  the boom.
- Press the arm raising control (5) to raise  or lower  the arm.

N.B.-:-ONCE RESCUE OPERATIONS ARE COMPLETE, WRITE AN INCIDENT REPORT. OVERRIDING SYSTEM MUST BE RESET BY A HAULOTTE SERVICES® TECHNICIAN.

D - Operation instructions

4.3 - NO POWER AVAILABLE

In case of loss of the main power and the secondary power unit not functioning, do not attempt to activate any function movement using hydraulic manifold unless trained and authorized by HAULOTTE Services®. All safety functions are no longer active and several hazards may occur. Improper use of the equipment will result in death or serious injuries.



If the operator cannot be lowered by any of the above mentioned methods, contact HAULOTTE Services® immediately.

A

B

C

D

E

F

G

H

I

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.

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.

To climb the slope, select low driving speed.

If the slope is too steep, use a winch in addition to the low speed drive.

- Lower the boom.
- Ensure that the jib is raised as necessary to give ground clearance when driving the machine onto the loading ramp.
- Drive onto the truck bed slowly.
- Secure the machine to the tie down points provided (Section D-Machine layout).
- Lock the turntable with the rotation stop pin located under the turntable before transporting (Section D-Machine layout).
- The platform/basket must be chocked and the boom strapped to prevent bouncing up and down, thus preventing possible material damage during transporting.
- Do not use excessive downward force when securing boom section.

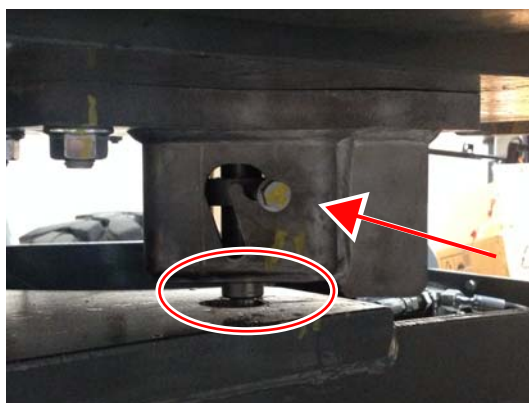


A wrong move can lead to machine tipping over and may cause serious injuries and material damage.

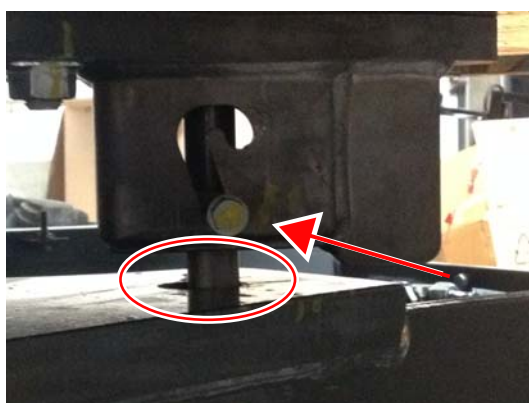
D- Operation instructions

5.2 - MACHINE LAYOUT - HA16RTJ - HA16RTJO - HA16RTJ PRO - HA46RTJO - HA46RTJ PRO

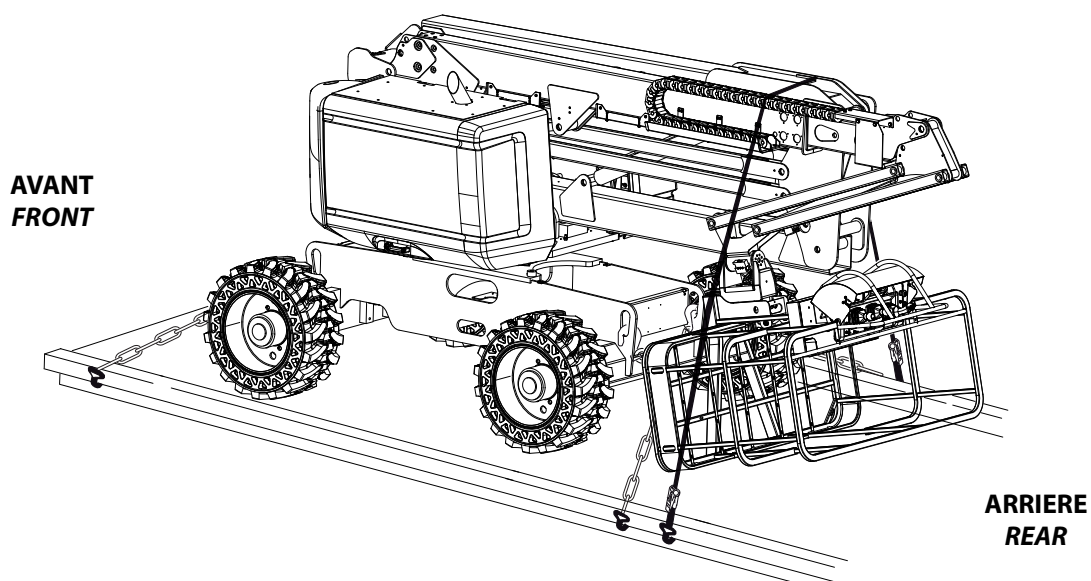
Turntable rotation enabled



Turntable rotation disabled



Machine stowing



N.B.:-SECURE TURNTABLE WITH THE TURNTABLE LOCKING PIN BEFORE TRAVELING LONG DISTANCES OR HAULING MACHINE ON A TRUCK.

D- Operation instructions

5.3 - UNLOADING

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

- Remove the turntable rotation locking pin (Section D-Machine layout).
- Remove the tie downs.
- Select low drive speed at the platform control box.
- Start the machine from platform control box.



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 jib a few centimetres (inches) using 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.
- Ensure boom is in the stowed position and the turntable is locked, prior to towing.
- The platform must be empty.

To tow a broken-down machine, disconnect the wheel drive hubs.

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%.

5.4.1 - Disengaging the drive hubs

Unscrew the central nut (1) until the nut is at the limit.



When drive hubs are disengaged, the machine is in free wheel mode and the brake system no longer functions.

5.4.2 - Re-engaging the drive hubs

- To return machine to normal operation and braking, reverse the steps performed in disengaging the drive hubs.



Carry out a few driving movements. The drive hubs are now re-engaged.

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.

Machine must be parked in a protected/designated area with the boom in a stowed configuration, however the boom can be raised but must not be extended. Make sure there is no load in the platform.

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.

At the ground control box, set the key control box activation (22) to the  to shut OFF the machine.

Ensure that the turntable rotation locking pin is removed and stored properly.

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



Storing of the machine with an obstacle under the boom structure is forbidden.



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 - 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 :

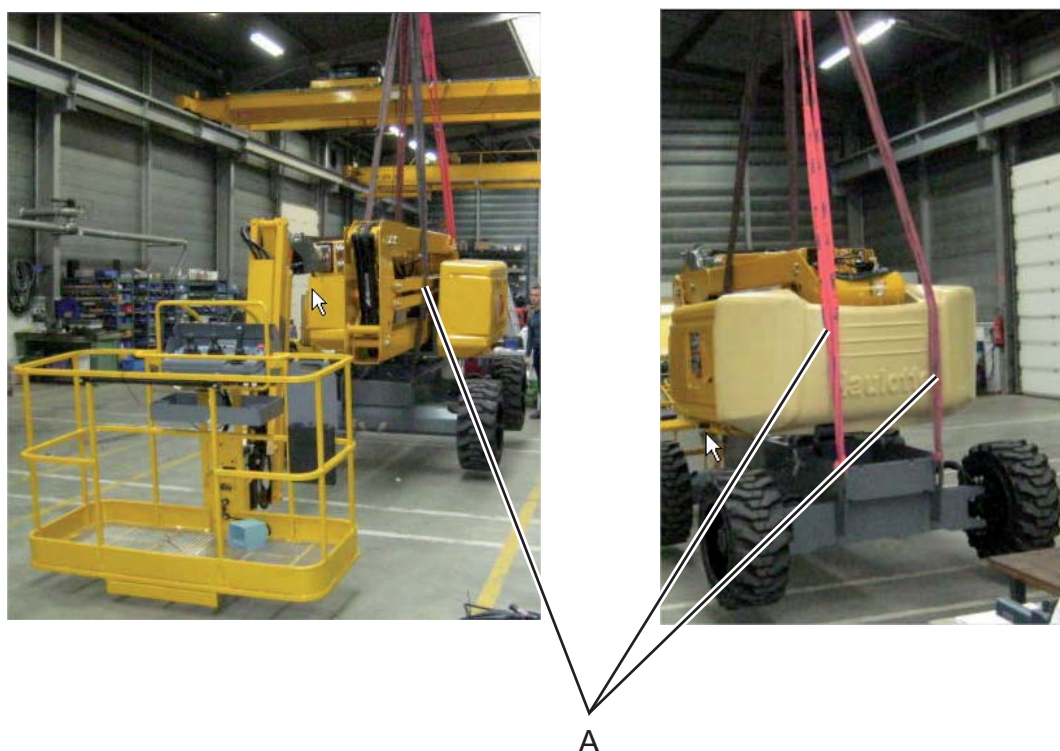
- Put the machine in stowed position, boom and arm fully retracted and lowered.
- Ensure the platform is empty.
- Rotate the turret and the jib to the configuration in the photos below.
- Lock the turret with turret locking pin.
- Verify that lifting accessories are in good operation and match the technical 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
A	4	4	5 m (16 ft 5 in)	3000 daN (6744 lbf)

D - Operation instructions

6 - Cold Weather Recommendations

In cold weather conditions, allow engine to run for at least 5 min to warm up ; before operating any function thereby preventing any damage to the hydraulic system.

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

Attempting to start engine when temperature is in the negative range, may require the use of a booster battery.

If engine fails to start, do not crank for an extended time. Allow starter to "cool off" for a few minutes before attempting again. If engine fails after several attempts, refer to the engine maintenance manual.

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

6.1 - ENGINE OIL

The correct SAE viscosity grade of oil is determined by the minimum ambient temperature during cold engine start-up, and the maximum ambient temperature during engine operation.

Generally, use the highest viscosity oil that is available to meet the requirement for the temperature at start-up.

EMA LGR-1 / API CH-4 Viscosity grade	Engine oil viscosity	
	Ambient temperature	
	Minimum	Maximum
SAE 0W20	-40°C (-40°F)	10°C (50°F)
SAE 0W30	-40°C (-40°F)	30°C (86°F)
SAE 0W40	-40°C (-40°F)	40°C (104°F)
SAE 5W30	-30°C (-22°F)	30°C (86°F)
SAE 5W40	-30°C (-22°F)	40°C (104°F)
SAE 10W30	-20°C (-4°F)	40°C (104°F)
SAE 15W40	-10°C (14°F)	50°C (122°F)

N.B.-:FOR ADDITIONAL ENGINE OIL RECOMMENDATIONS, REFER TO THE ENGINE MANUAL PROVIDED WITH THE MACHINE.

D- Operation instructions

6.2 - 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.

6.3 - PREHEATING OPERATION

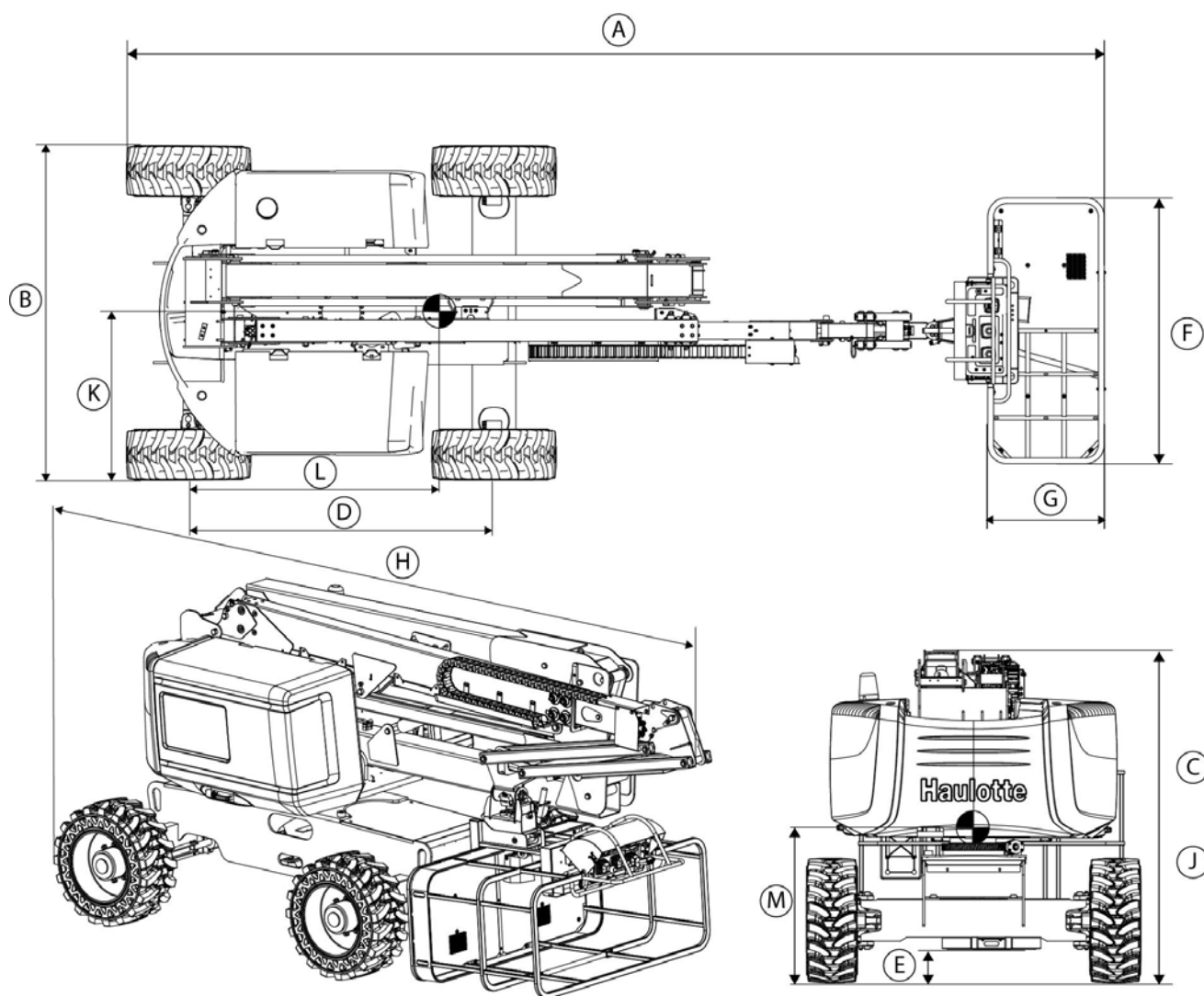
- Activate a control box by turning Control box activation key control (22)  to the desired position  or .
- The ground control box indicators (10) , (13) , (15) , and (19)  light up. The engine is in pre-heating mode.
- Upon the extinction of the LEDs, the engine is ready to start.
- Press the engine start button (16) , to start the engine.

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

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

Machine		HA16RTJ		HA16RTJ O — HA46RTJ O	
Marking	Specifications - Dimensions	SI	Imp.	SI	Imp.
A	Overall length of machine	6,75 m	22 ft 2 in	6,75 m	22 ft 2 in
B	Overall width of machine	2,30 m	7 ft 7 in	2,30 m	7 ft 7 in
C	Overall height of machine	2,30 m	7 ft 7 in	2,30 m	7 ft 7 in
D	Wheel base	2,10 m	6 ft 11 in	2,10 m	6 ft 11 in
E	Ground clearance	38 cm	15 in	38 cm	15 in
F X G	Platform dimensions	1,8 x 0,8 m	5 ft 11 in x 2 ft 7 in	1,8 x 0,8 m	5 ft 11 in x 2 ft 7 in
H	Storage length	5,05 m	16 ft 7 in	5,05 m	16 ft 7 in
J	Storage height	2,40 m	7 ft 10 in	2,40 m	7 ft 10 in
K	Center of gravity - Y	1,15 m	3 ft 9 in	1,15 m	3 ft 9 in
L	Center of gravity - X	1,23 m	4 ft	1,23 m	4 ft
M	Center of gravity - Z	1,18 m	3 ft 10 in	1,18 m	3 ft 10 in
	Outside turning radius - 2WS	4,5 m	14 ft 9 in	4,5 m	14 ft 9 in
	Inside turning radius - 2WS	2,4 m	7 ft 10 in	2,4 m	7 ft 10 in

Machine		HA16RTJ PRO — HA46RTJ PRO	
Marking	Specifications - Dimensions	SI	Imp.
A	Overall length of machine	6,75 m	22 ft 2 in
B	Overall width of machine	2,30 m	7 ft 7 in
C	Overall height of machine	2,30 m	7 ft 7 in
D	Wheel base	2,10 m	6 ft 11 in
E	Ground clearance	38 cm	15 in
F X G	Platform dimensions	1,8 x 0,8 m	5 ft 11 in x 2 ft 7 in
H	Storage length	5,05 m	16 ft 7 in
J	Storage height	2,40 m	7 ft 10 in
K	Center of gravity - Y	1,15 m	3 ft 9 in
L	Center of gravity - X	1,23 m	4 ft
M	Center of gravity - Z	1,18 m	3 ft 10 in
	Outside turning radius - 4WS	3,75 m	12 ft 4 in
	Inside turning radius - 4WS	1,75 m	5 ft 9 in

E- General Specifications

2 - Major component masses

N.B.-:MASSES MEASURED WITH EMPTY TANKS.

Component	HA16RTJ	HA16RTJ O - HA46RTJ O	HA16RTJ PRO - HA46RTJ PRO
Frame assembly mass	1950 kg - 4,300 lbs	2150 kg - 4,741 lbs	2 300 kg - 5,072 lbs
• Mass of each wheel	182 kg +/- 4 kg (401 lbs +/- 9 lbs)		
Turret assembly mass		760 kg - 1,676 lbs	
• Counterweight mass - Turntable	1365 kg - 3,010 lbs		1465 kg - 3,230 lbs
• Engine compartment mass		255 kg - 562 lbs	
• Battery mass		21 kg - 46 lbs	
Boom assembly mass		420 kg - 926 lbs	
Arm assembly mass		860 kg - 1,896 lbs	
Jib assembly mass		100 kg - 221 lbs	
Platform assembly mass		200 kg - 441 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	80 dBA
Guaranteed sound power level	104 dBA
Vibrations hand/arm	Vibration transmitted by this MEWP to the hand-arm does not exceed 2,5 m/s ² (98,4 in/s ²)
Vibrations whole body	Vibration transmitted by this MEWP to the whole body does not exceed 0,5 m/s ² (19,6 in/s ²)

E- General Specifications

4 - Wheel/Tire assembly

4.1 - TECHNICAL SPECIFICATIONS

Component	Standard wheel
Reference number	"solideal 850 x 340"
Type	Solid Tyre (Curred - on)
Wheel mass	182 kg +/- 4 kg (401 lbs +/- 9 lbs)
Size	850 mm +/- 4 mm (34 in/ 1 in)
Torque	320 Nm (236 lbs ft)

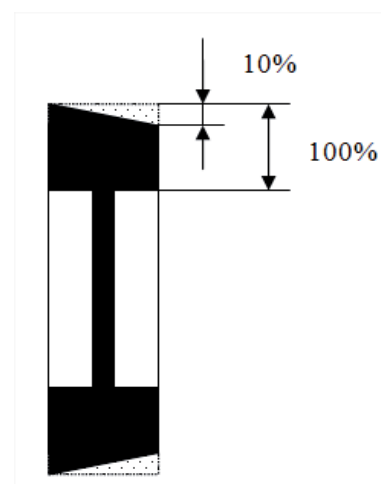
4.2 - INSPECTION AND MAINTENANCE



The tire and rim are bonded together, both must be replaced if either is damaged.

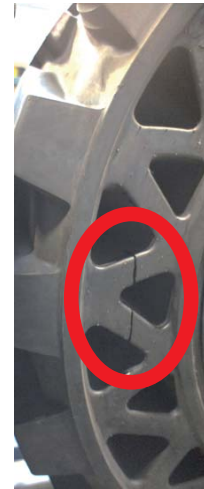
Wheels replacement must be made in the following cases :

- Deformation or cracks on the rim.
- De-bonding between the interface of the steel and the rubber.
- Uniform wear to the wearing line :
 - 850 x 340 wheel : Ø 782 mm / 34 in
 - 1025 x 365 wheel (Optional) : Ø 962 mm / 41 in
- Non-linear wearing of the tread profile (> 10%)



E- General Specifications

- 1 wheel stud is completely torn.
- 2 successive wheel studs are partially torn.
- 2 aperture holes are cut.



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.
- Never replace a solid (rigid) (Solid Tyre) tire with a foam-filled or a pneumatic (air-filled) tire.

Procedure of replacement :

- Loosen the wheel nuts on the wheel to be removed.
- Raise the machine using a jack or a hoist.
- Remove the wheel nuts.
- Remove the wheel.
- Install the new wheel.
- Check for correct wheel nut tightening sequence.
- Lower the machine to the ground.
- Tighten the wheel nuts to the recommended torque. Refer to maintenance and repair manuals.

N.B.-:IF A WHEEL HAS BEEN REPLACED, WHILE OBSERVING THE AXLE TRACK PATTERN CHECK FOR CORRECT INSTALLATION.

E- General Specifications

5 - Options

5.1 - ON-BOARD GENERATOR

5.1.1 - Principle

The on-board generator supplies voltage (220 V or 110 V depending; on the option) in the basket to connect a power tool.



Check that the maximum power of the tool doesn't exceed that of the generator.



Do not expose the on-board generator to direct contact with a water beam or a high pressure cleaner.

5.1.2 - Procedure

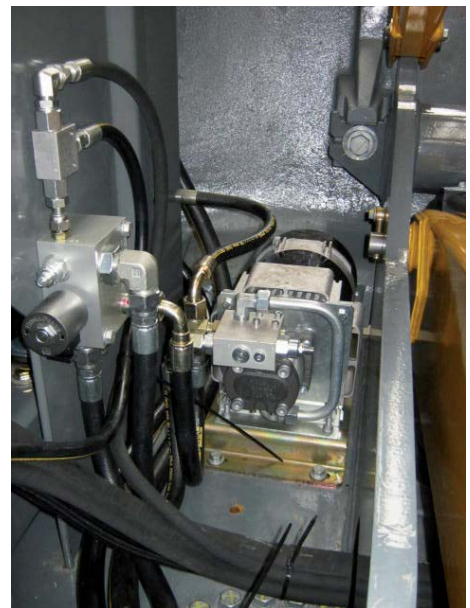
Put into service :

1. Start the machine. Heat the engine for 15 mn before any operation.
2. From the platform control box, move the generator selector switch ((79)) to the right to activate the generator
3. Connect the tool to the socket.
4. You can change the tool at any time.

N.B.-:WHEN USING THE ON-BOARD GENERATOR, YOU CANNOT MAKE ANY MACHINE MOVEMENTS. TO MAKE A MOVEMENT, YOU MUST SWITCH OFF THE ON-BOARD GENERATOR.

Power off :

5. Disconnect the tool from the socket.
6. From the platform control box, activate the selector switch (79) to the right to activate generator.
7. Machine movements are once again functional.



E- General Specifications

5.2 - GLAZIER'S KIT

5.2.1 - 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).

N.B.: - THIS TRAY CAN BE USED ONLY WITH A SIDE ENTRY PLATFORM.

5.2.2 - Characteristics

Component	Characteristics
Maximum capacity	115 kg (220 lbs)
Weight of attachment	10 kg (22 lbs)
Maximum load surface	3 m ² (32 sq.ft)
Maximum allowable height of the panel	1,20 m (3 ft 11 in)
Maximum allowed wind	CE / AS : 12,5 ms - 45 km/h - 28 mph ANSI / CSA: 7 ms - 25 km/h - 15 mph

5.2.3 - 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.
- Do not overload the attachment and ensure that the equipment is correctly attached by means of a strap (not supplied).
- Do not exceed the maximum allowable platform capacity. The combined weight of the attachment, the panel(s), 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.
- Check that the position of the panel is not reducing visibility during maneuvers in the work environment. Do not transport panels whose height exceeds the authorized limit.
- When maneuvering, ensure that a safe distance is maintained between the panel and the obstacles in the work environment.
- Do not use the machine if the wind speed exceeds the allowable limit with the attachment.

5.2.4 - Pre-operation inspection



- Check that the tray has no cracks or other damage.
- Check that the cradle is correctly installed and secured to the platform.
- Check that the information decal is present on the cradle and is legible.
- Check that the strap is not twisted or torn.

E- General Specifications

5.2.5 - Operation

- Load the panel onto the tray on platform.
- Secure the panel tray on the guardrail by means of a strap (not supplied) with the correct strength and dimensions.

Strapping example(s) - Large panel



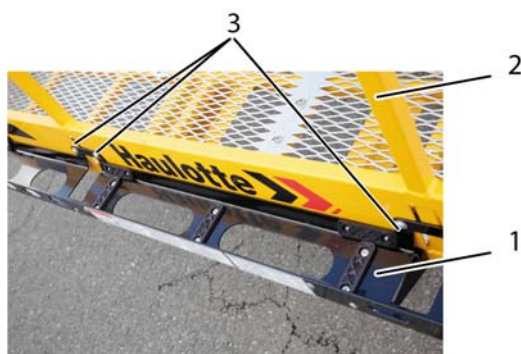
Strapping example(s) - Small panel



E- General Specifications

5.2.6 - Assembly / Dis-assembly

Tray



Marking	Description
1	Tray (Panel carrier)
2	Platform
3	Screws and nuts
4	Collars COLSON
5	Plastic protection

- Fix the tray (1) to the platform (2) using screws and bolts (3)
- Install plastic protection (5) on the handrail and attach it using collars (4)

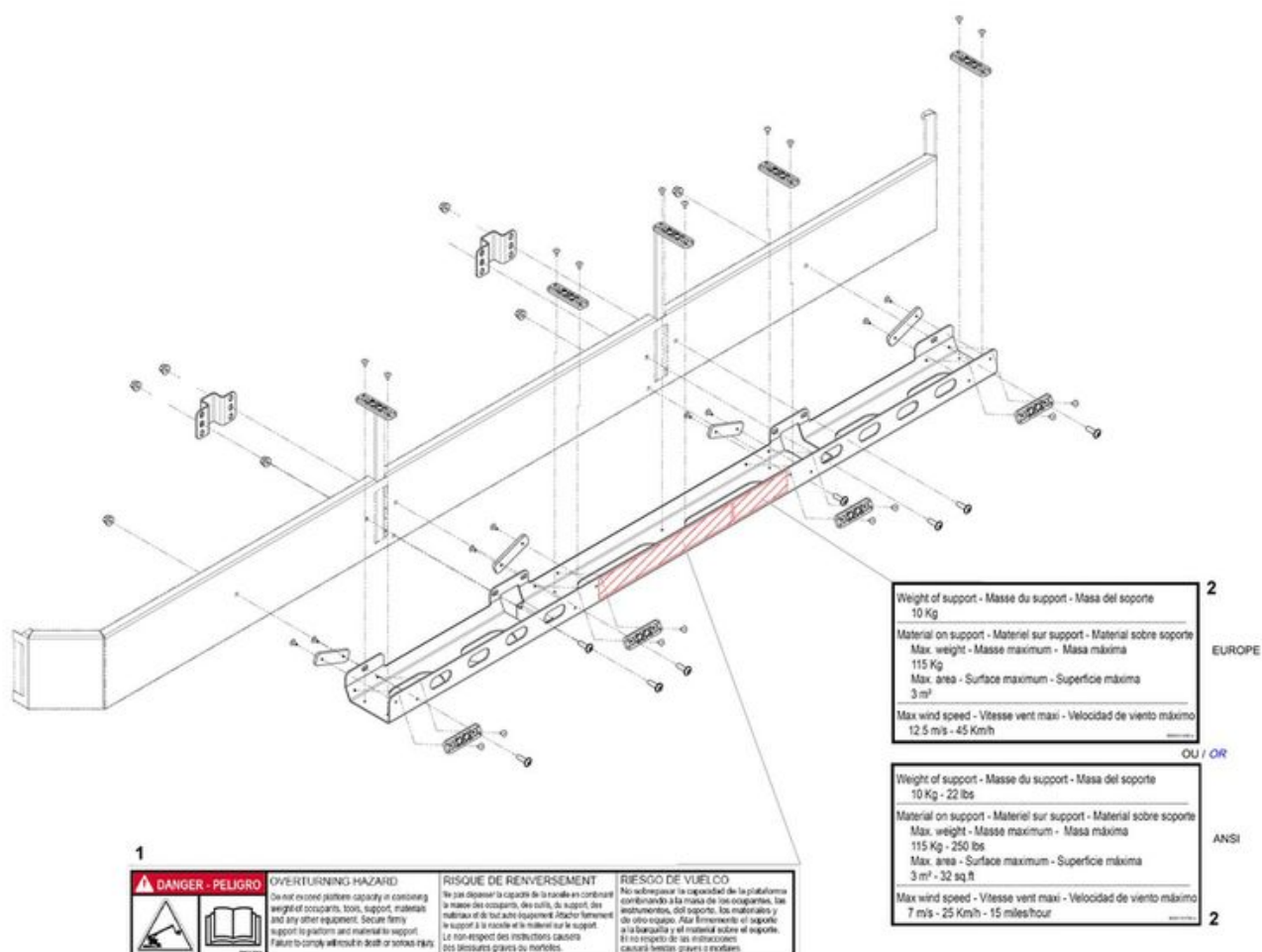
N.B.-:-TORQUE REQUIREMENTS : 22 Nm (15 FT LBS)

- Pre-operation test : Place a load of 176 kg (390 lbs) on the carrier and carry out an inspection. Refer to the chapter on pre-operation inspection.

E- General Specifications

5.2.7 - Specific decals

Location of the decals



Marking	Description	Quantity	Part number
1	Risk of overturning	1	40000131830
2	Equipment characteristics	1	CE / AS : 4000131630 ANSI / CSA: 4000131730

E- General Specifications

5.3 - ACTIV' SHIELD BAR - SECONDARY GUARDING SYSTEM (IF FITTED)

5.3.1 - Description



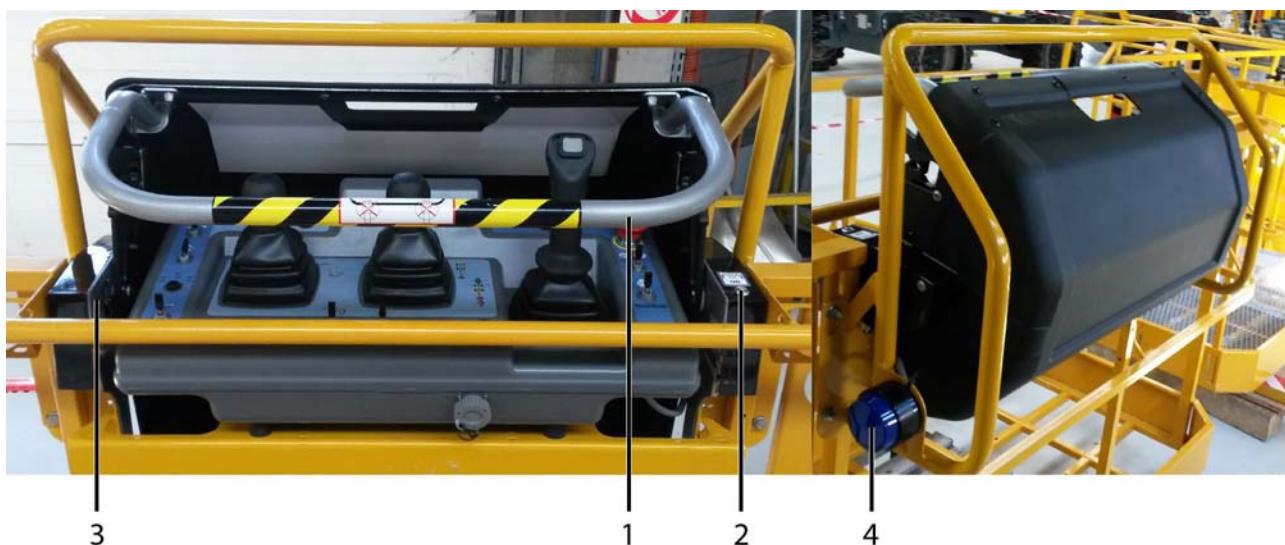
General Specification Activ' Shield Bar :

- The Activ' Shield Bar is a device designed to reduce the risk of entrapment against the control panel when the platform is in confined spaces.
- This device is complementary to the existing operator protection including the enable switch system (Trigger of joystick, Foot Switch and Enable Switch on ground control box).
- The Activ' Shield Bar is active when the platform is elevated (boom or arm) and creep speed is automatically engaged. It is not enabled when stationary or in the transport position, when drive, turret rotation and jib raise are possible.
- The green indicator light of the Activ' Shield Bar is illuminated indicating the device is active :
- Light flashing : Machine stationary in Activ' Shield Bar zone (The platform is elevated and the Activ' Shield Bar will be active during movements).
- Light on : Activ' Shield Bar is active.



This system does not relieve the operator from the responsibilities of learning and practicing the principles of safe use and operation of the machine as provided by the manufacturer's instructions, employer's safety rules and worksite regulations

5.3.2 - Characteristics



Marking	Description
1	Activation bar
2	Green indicator light
3	Sensor
4	Blue flashing light

E- General Specifications

5.3.3 - Safety precautions

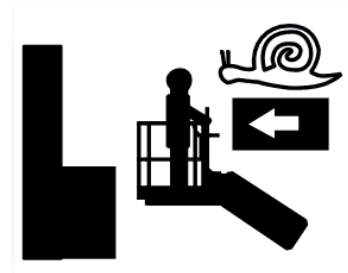
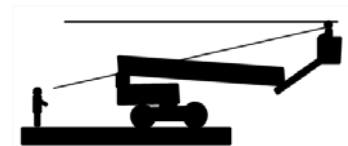


It is mandatory to ensure that the **Activ' Shield Bar** is functional at each start-up of the machine



Do not use the **Activ' Shield Bar as a handhold. This could result in an inadvertent triggering of the **Activ' Shield Bar**.**

- Check the work area for overhead clearances, obstructions or other possible hazards.
- When driving, position the platform so as to provide the best visibility possible and avoid any blind spots.
- Always ensure that the chassis is never driven any closer than 1 m (3 ft3 in) from holes, bumps, tilts, obstructions, debris and ground coverings that may hide dangers.
- During operation, keep all the parts of the body inside the platform.
- To position the machine close to obstacles, it is recommended to use boom movements (arm, boom, etc.) instead of the drive movements.
- Do not drive fast in narrow or cluttered areas. Keep speed under control while making turns or sharp bends.



E- General Specifications

5.3.4 - Pre-operation inspection



- If any item on the checklist is marked NO during the inspection; machine must be tagged and locked out and placed out of service.
- DO NOT operate the machine until all identified items are corrected and it has been declared safe for operation.

Description	Yes	No
Perform all specified machine functional tests		
• All machine functional tests result positive		
Start the machine from platform control box		
Switch off (pushed in) all E-Stop buttons		
• Check absence of warning signal		
• Check that the light indicator is not activated when the machine is in stowed position		
To ensure Activ' Shield Bar device is functioning correctly, perform the following :		
When stowed :		
• Check that the green indicator light is not illuminated		
When boom or arm is raised above 15° :		
• Check that the green indicator light is blinking-With platform stationary.		
• Check that the green indicator light is illuminated-With platform in motion.		
Simultaneously make a movement and push forward the activation bar to trigger the system :		
• Check that all movements stop.		
• Check that the horn and the blue flashing light are activated.		

N.B.-:-PRESS THE FOOT SWITCH TO RESET THE SYSTEM

5.3.5 - Operation

If the Activ' Shield Bar is pushed forward, all movements are stopped. The horn sounds and the warning blue light flashes. Only movements to move away from the entrapment are authorised.

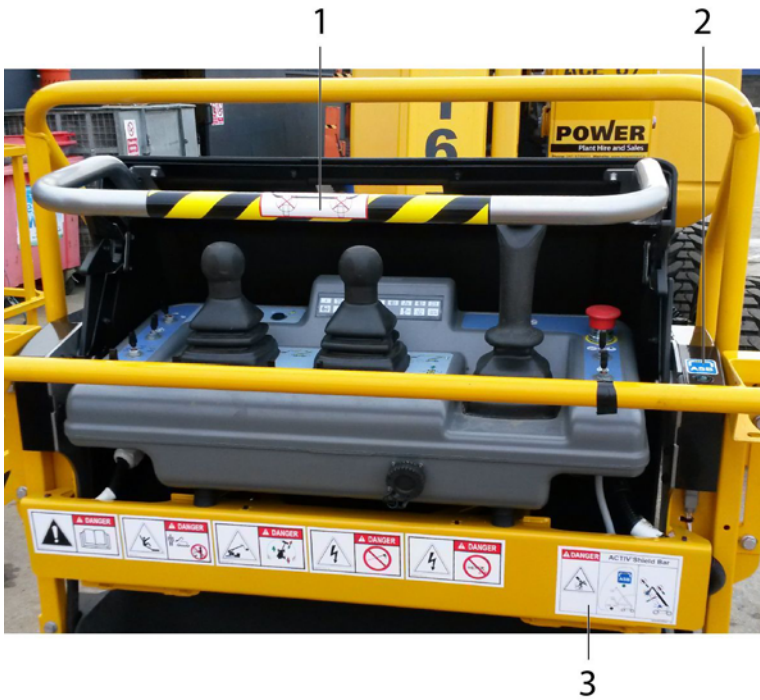
To re-set the Activ' Shield Bar, release the activation bar, the Foot Switch and controls. Then, re-press the Foot Switch.

Care must be taken during all operations to prevent collision and entrapment against structures.

E- General Specifications

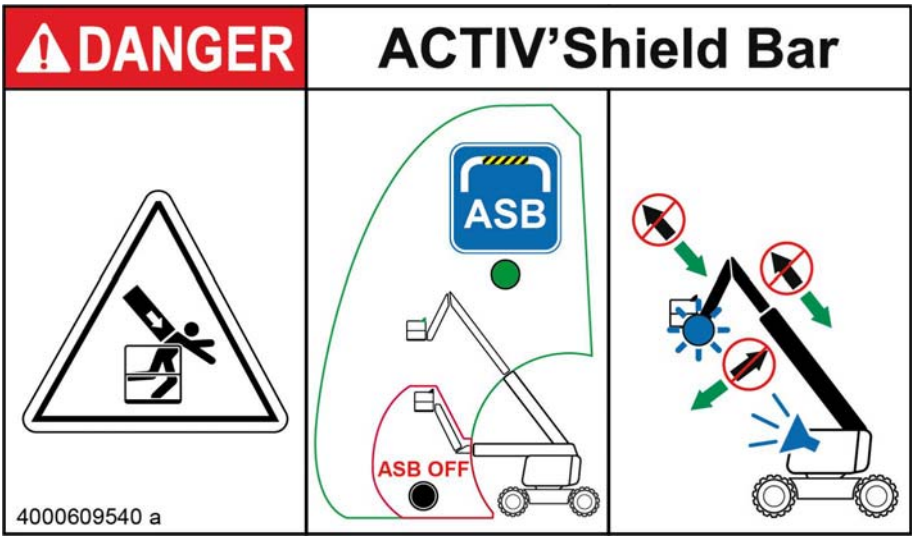
5.3.6 - Specific decals

Location of the decals



Marking	Description	Quantity	Part number
1	Do not lean on the bar	1	4000206690
2	Activ' Shield Bar controls	1	4000596720
3	Activ' Shield Bar instructions	1	4000609540

Activ' Shield Bar instructions



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



E- General Specifications

5.4.2 - Characteristics

Width of the gate : 500 mm / 19.68 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.

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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 governmental regulations.

To ensure that your equipment continues to perform to the factory set performance levels, it is important that you regularly maintain your equipment and avoid making any modifications that are not approved by HAULOTTE®. 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 HAULOTTE Services®	Periodic inspection
Before rent	Owner (or renter)	Competent technician or qualified technician HAULOTTE Services®	Daily inspection
Before use or every change of user	User	User	
Annually (1 year)	Owner (or renter)	Competent technician or qualified technician HAULOTTE Services®	Periodic inspection
5 years	Owner (or renter)	Qualified technician HAULOTTE Services®	Reinforced inspection
10 years	Owner (or renter)	Qualified technician HAULOTTE Services®	Major inspection

F - Maintenance

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.

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.

F - Maintenance

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.

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.

With the utmost care to ensure enhanced reliability and greater safety of the HAULOTTE® products, it is pertinent that when a "Service or Safety Bulletin" is issued, action is taken immediately. Once the bulletin has been addressed, make sure that the completed form is submitted to HAULOTTE®.

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.

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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G- Other information

2.1 - CALIFORNIA WARNING

For the engine powered machines destined to the US market (Standards ANSI and CSA)

CALIFORNIA



Proposition 65 Warning

Operating, servicing and maintaining a passenger vehicle or off-road vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.

For more information go to  www.P65Warnings.ca.gov/passenger-vehicle

CALIFORNIA



Proposition 65 Warning

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- ✓ Always start and operate the engine in a well-ventilated area
- ✓ If in an enclosed area, vent the exhaust to the outside
- ✓ Do not modify or tamper with the exhaust system
- ✓ Do not idle the engine except as necessary

For more information go to  www.P65Warnings.ca.gov/diesel

Notes

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