HA20RTJ - HA20RTJ O - HA20RTJ PRO -
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Operator's manual

HA20RTJ - HA20RTJ O - HA20RTJ PRO -
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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® !

1 - User responsibility

1.1 - OWNER'S RESPONSIBILITY

The owner (or hirer) has the obligation :

- 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.

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..
- To 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.

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.

2.1.2 - Falling Hazards

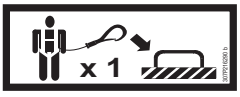
To enter or exit from the platform :

- 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 it's 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.

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.

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

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.

2.1.5 - Explosion / Fire Hazards

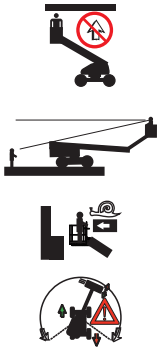
Always wear protective clothing and eye wear when working with batteries and power sources/systems.

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.

- 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.

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 Enable foot pedal and/or release the trigger when any movement has ceased

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

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).

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 :
Tick 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 :	

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 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.

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 performace 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.

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

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

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		

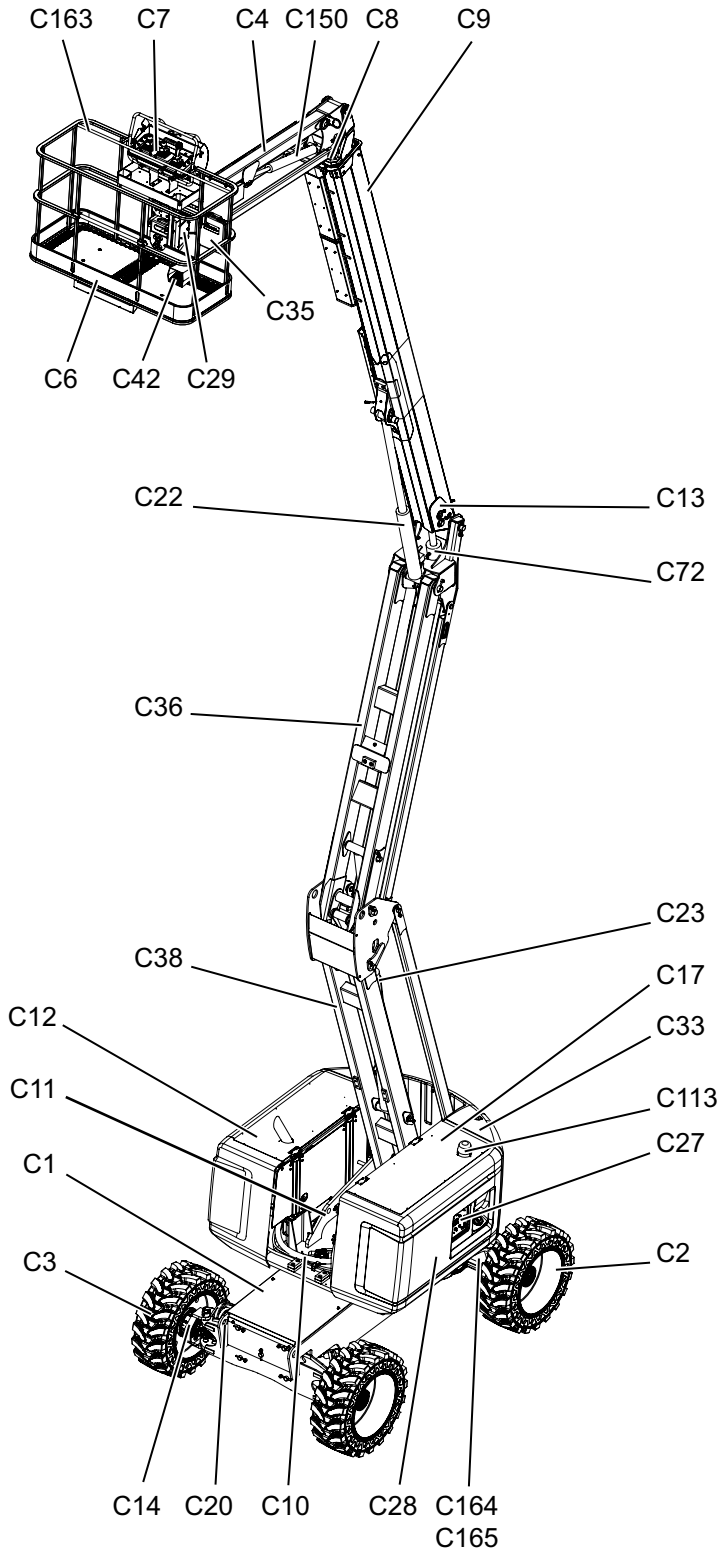
2 - Models description

Regulations	Models
ANSI and CSA standards	HA61RTJO
	HA61RTJ PRO
CE, AS and EAC standards	HA20RTJ
	HA20RTJO
	HA20RTJ PRO

3 - Primary machine components

3.1 - LAYOUT

HA20RTJ - HA20RTJO - HA20RTJPRO - HA61RTJO - HA61RTJPRO



B - Familiarization

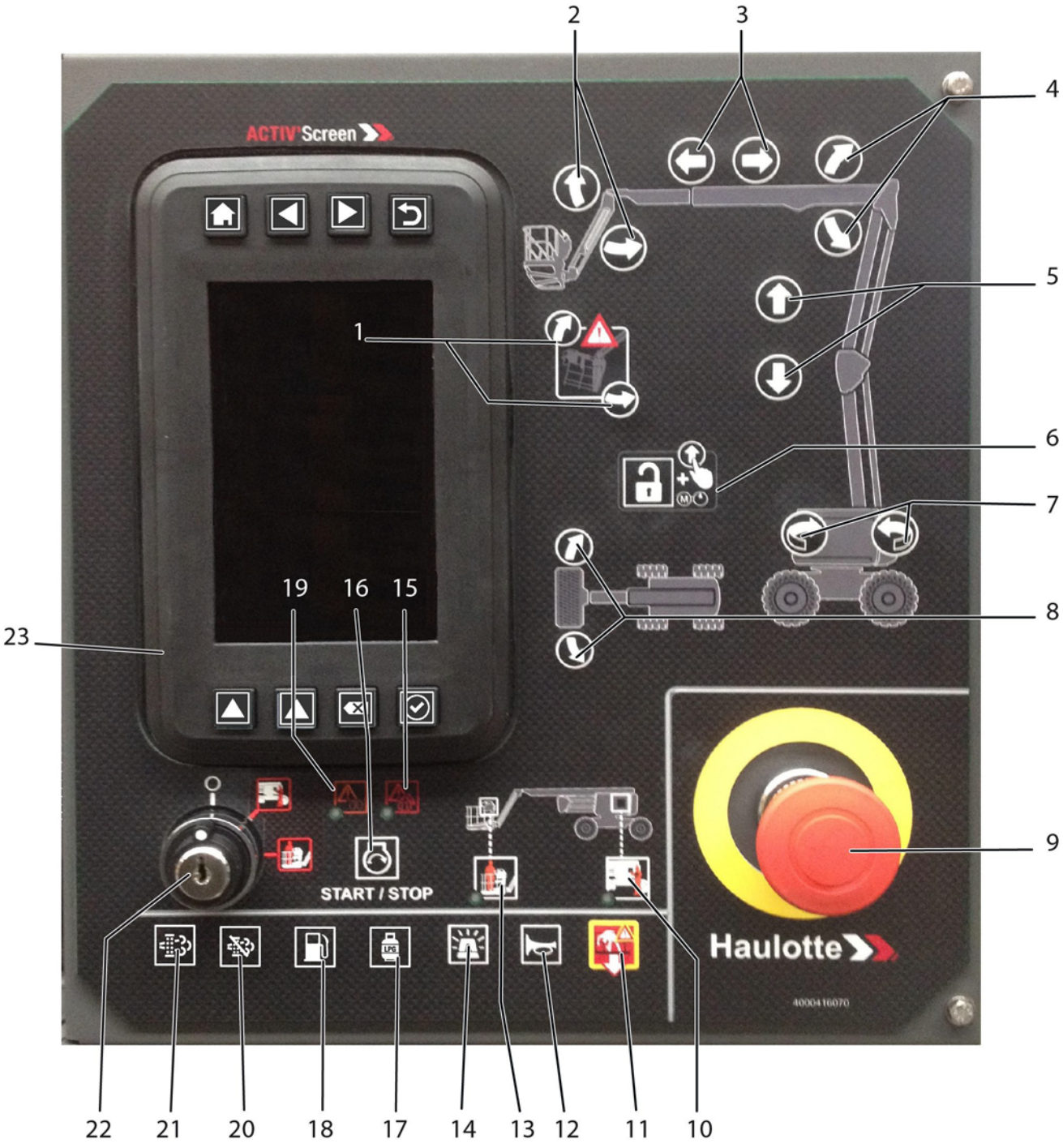
Marking	Description	Marking	Description
C1	Chassis	C23	Arm lifting cylinder
C2	Steering wheel	C27	Ground control box + Universal plug
C3	Rear drive wheel (and steer wheel if 4WS)	C28	Tilt sensor
C4	Jib	C29	Platform rotation cylinder
C6	Platform	C33	Counterweight
C7	Platform control box	C35	Document holder
C8	Input jib leveling cylinder	C36	Top arm
C9	Upper boom	C38	Bottom arm
C10	Slew ring	C42	'Enable Switch' pedal
C11	Turntable assembly	C72	Output jib compensation cylinder
C12	Left side compartment (engine, pump and starter battery)	C113	Beacon light
C13	Arm/Boom link piece	C150	Jib lifting cylinder
C14	Hydraulic drive motor and reducer	C163	Hand (grab) rail
C17	Right side compartment	C164	Front steering axle (For HA20RTJ only)
C20	Tie-down (and/or lifting) points	C165	Front steering and oscillating axle (For HA20RTJ O / HA20RTJ PRO / HA61RTJ O / HA61RTJ PRO only)
C22	Boom lift cylinder		

Universal plug

3.2 - GROUND CONTROL BOX

3.2.1 - Layout

General view



Controls and indicators

Marking	Name	Description	Function
1		Platform upgrade control	By pressing on  : Tilt the platform towards the front of the machine By pressing on  : Tilt the platform towards the back of the machine
2	SA620U SA620D	Jib raising / lowering switch(1)	By pressing on  : Jib raising By pressing on  : Jib lowering
3	SA530O SA530I	Boom telescoping switch	By pressing on  : Boom extending By pressing on  : Boom retracting
4	SA520U SA520D	Boom raising / lowering switch	By pressing on  : Boom raising By pressing on  : Boom lowering
5	SA420U SA420D	Arm raising / lowering switch	By pressing on  : Arm raising By pressing on  : Arm lowering
6	SB800	'Enable Switch' selector / 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 SA250R	Turntable rotation switch	By pressing on  : Counter clockwise (CCW) rotation By pressing on  : Clockwise (CW) rotation
8	SA750L SA750R	Platform rotation switch	By pressing on  : Clockwise (CW) rotation 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, ground control box selected	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	Alarm icon  : • When machine is turned on, both (15) and (19) will light up Is blinking if overriding is active : • If there is a fault, an error code will be displayed on the Activ' Screen • Or Hydraulic oil temperature icon is active on the Activ' Screen • Or Engine pressure icon is active on the Activ' Screen • Or Engine stop icon is active on the Activ' Screen • Or Overload machine status is active on the Activ' 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  : • When machine is turned on, icon (19) and (15) will be lit Is blinking if overriding is active : • Engine warning icon will be displayed on the Activ' Screen • Or Tilt machine status will be displayed on the Activ' 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
			 : De-energizes control system
22	SA900	Control box activation key switch	 : 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

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

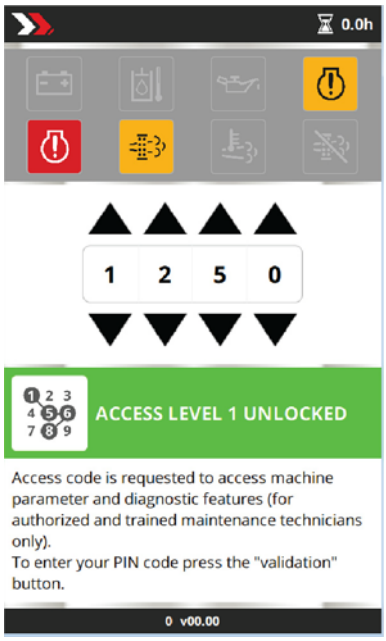
Icon	Description	Function	Icon	Description	Function
HAULOTTE Activ'Screen 2					
					
Navigation buttons - Above Activ'Screen display					
	Home Button	Allows return to the home screen at any time		Up Navigation	Permits scrolling up through the screen (if present)
	Left navigation	Permits navigation 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

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
Machine power up (Start-up screen)					
					
					

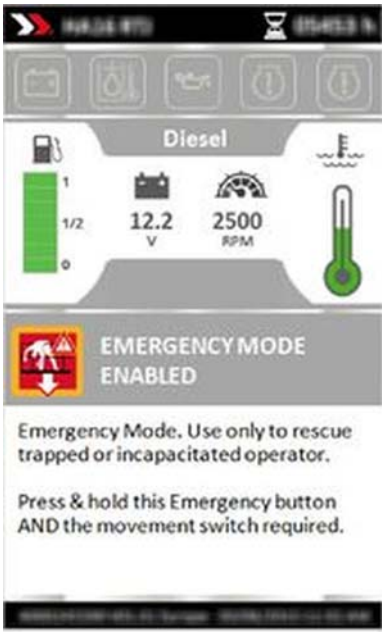
Controls and indicators

<table>
<tr><th>Icon</th><th>Description</th><th>Function</th><th>Icon</th><th>Description</th><th>Function</th></tr>
<tr><td rowspan="3"> 
</td><td rowspan="3"></td><td rowspan="3">Access code
(Will be visible - depending on the machine)</td><td> 
</td><td colspan="2">Access code not yet entered</td></tr>
<tr><td> 
</td><td colspan="2">Access code entered is correct (Level 1, 2 or 3 depending on authorization of technician)</td></tr>
<tr><td> 
</td><td colspan="2">Access code entered is incorrect</td></tr>
<tr><td rowspan="4"> 
</td><td rowspan="4"></td><td rowspan="4">Access code NIV 1
(Will be visible - depending on the machine)</td><td colspan="2">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.</td></tr>
<tr><td> 
</td><td>Operator PIN code not yet entered</td></tr>
<tr><td> 
</td><td>Operator PIN code entered is correct</td></tr>
<tr><td> 
</td><td>Operator PIN code entered is incorrect</td></tr>
</table>

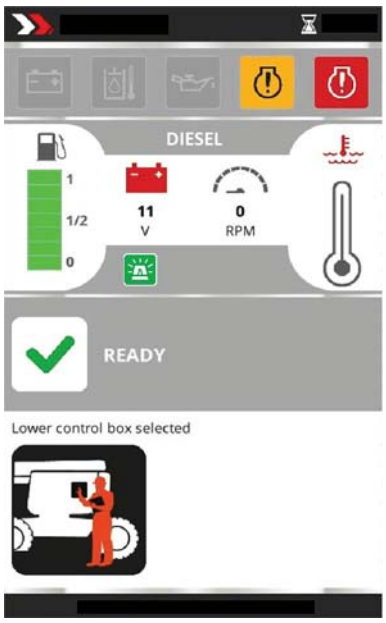
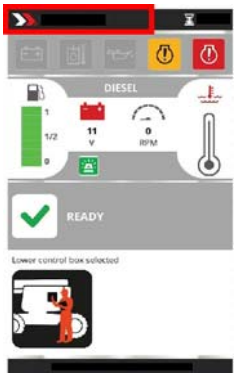
Controls and indicators

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®.		
				Operator PIN code not yet entered	
				Operator PIN code entered is correct	
				Operator PIN code entered is incorrect	

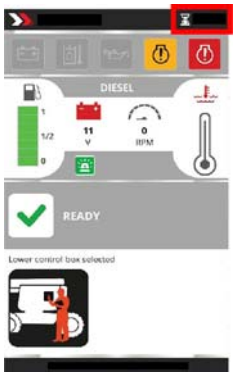
Controls and indicators

Icon	Description	Function	Icon	Description	Function
		Emergency mode		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 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.	
				The Emergency mode is out of service/non-functional	
				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.	

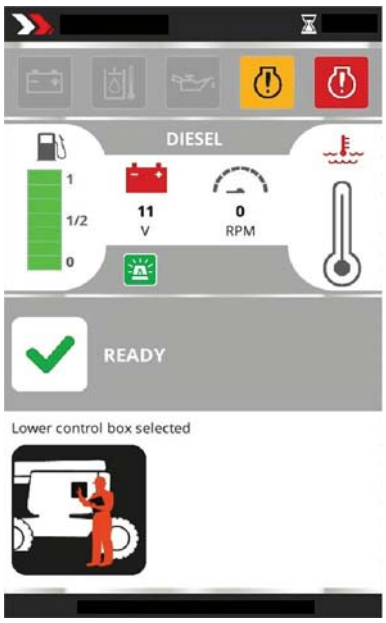
Controls and indicators

Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) **(Will be visible - depending on the machine)**					
					
	Machine model zone			Machine Model	• Machine model display

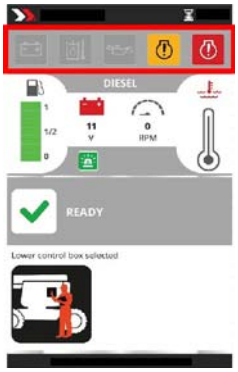
B - Familiarization

	Hour meter/next maintenance zone		Hourmeter	• The timer flashes if the engine is switched on and the hourmeter increases.
			Maintenance use	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.

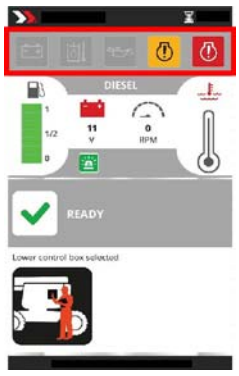
Controls and indicators

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

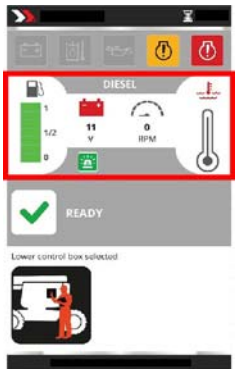
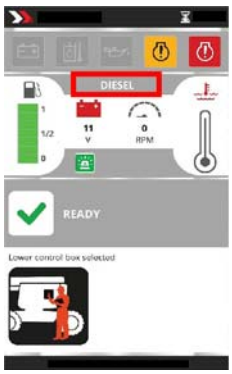
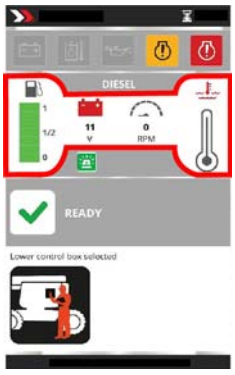
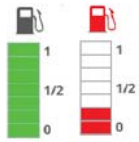
B - Familiarization

	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.

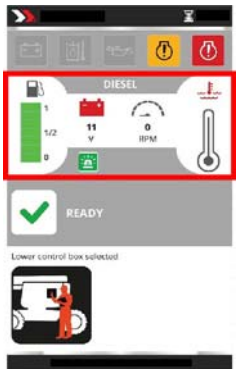
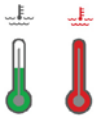
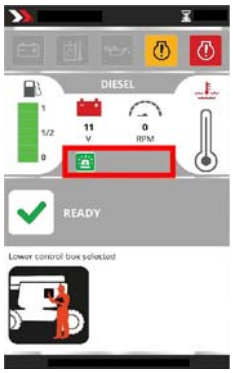
Controls and indicators

Icon	Description	Function	Icon	Description	Function
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.
				Engine decontamination fault (If fitted)	• Engine decontamination system fault. In this case, you must contact HAULOTTE Services® as soon as possible.
				DPF regeneration required (If fitted)	• Permanently lighted if the particle filter requires regeneration with a high clogging level
				DPF regeneration inhibited (If fitted)	• Light stays on if regeneration is inhibited
				Regeneration DPF in progress (If fitted)	• Light stays on during regeneration

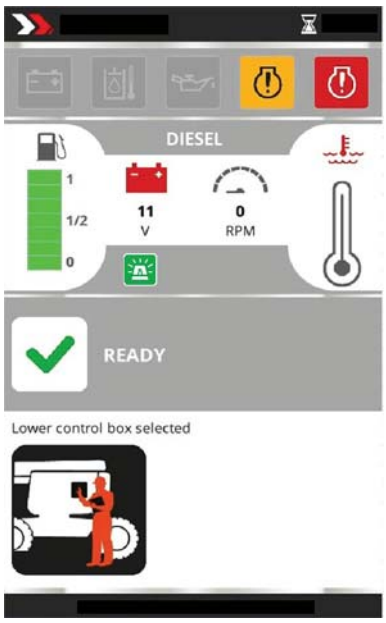
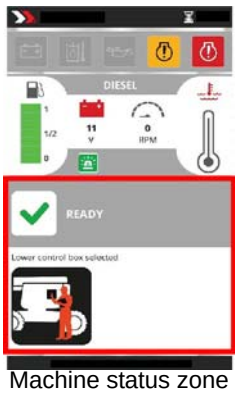
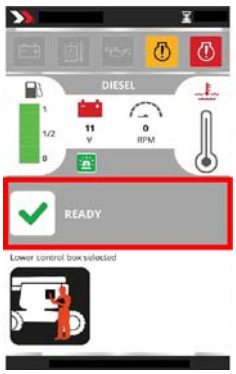
Controls and indicators

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

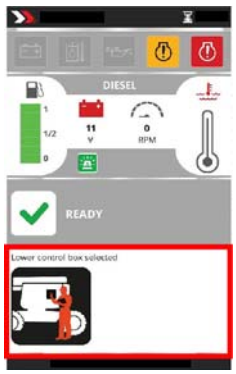
Controls and indicators

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

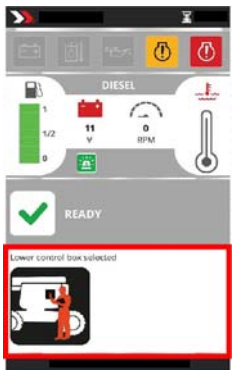
Controls and indicators

Icon	Description	Function	Icon	Description	Function
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.

Controls and indicators

Icon	Description	Function	Icon	Description	Function
Home screen (dashboard) (Will be visible - depending on the machine)					
				Layout	
				Platform control selected	Selector switch is in platform control box position
				Ground control selected	Selector switch is in ground control box position
				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	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.

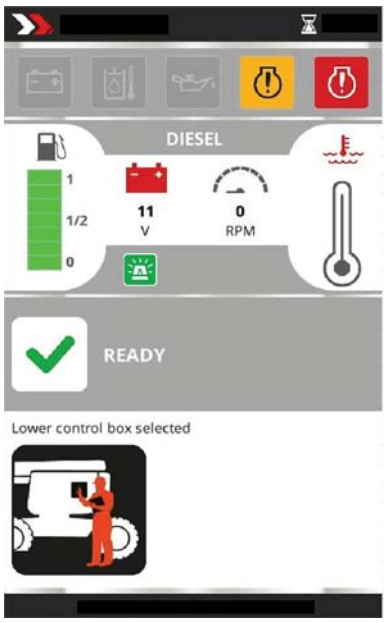
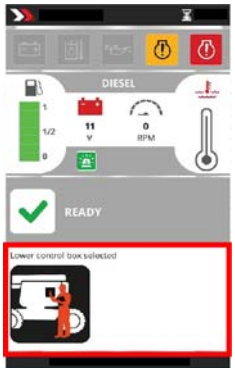
Controls and indicators

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

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
				DPF regeneration required	• Permanently lighted if the particle filter requires regeneration with a high clogging level

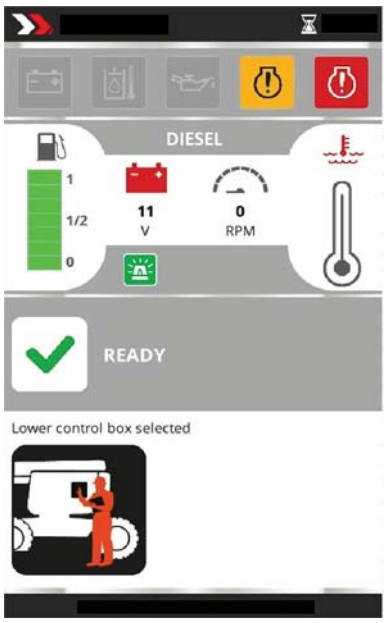
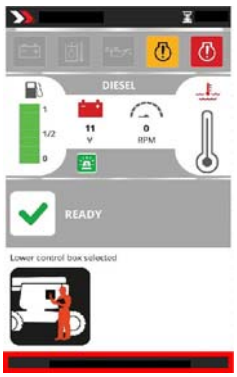
Controls and indicators

Icon	Description	Function	Icon	Description	Function
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®

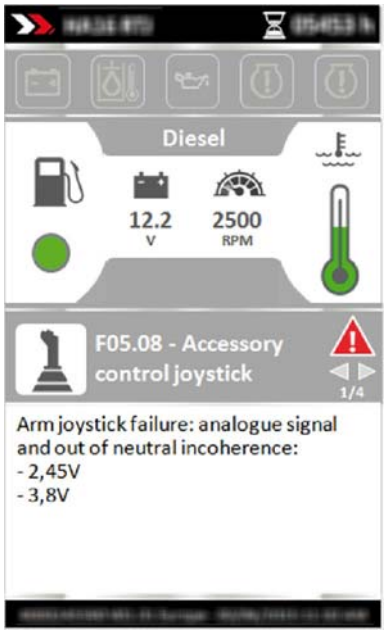
Controls and indicators

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  position to take control. • 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 control (6)  must be pressed and held.

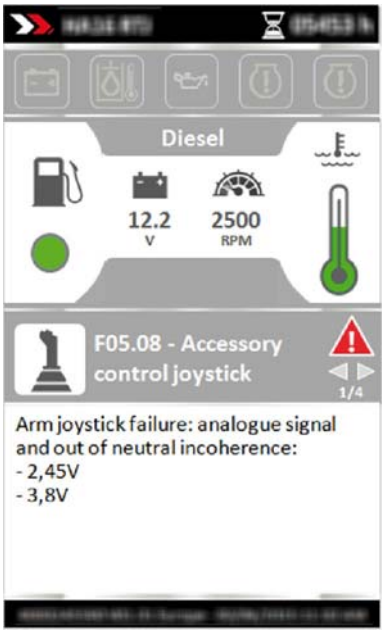
Controls and indicators

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

Controls and indicators

Icon	Description	Function	Icon	Description	Function
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

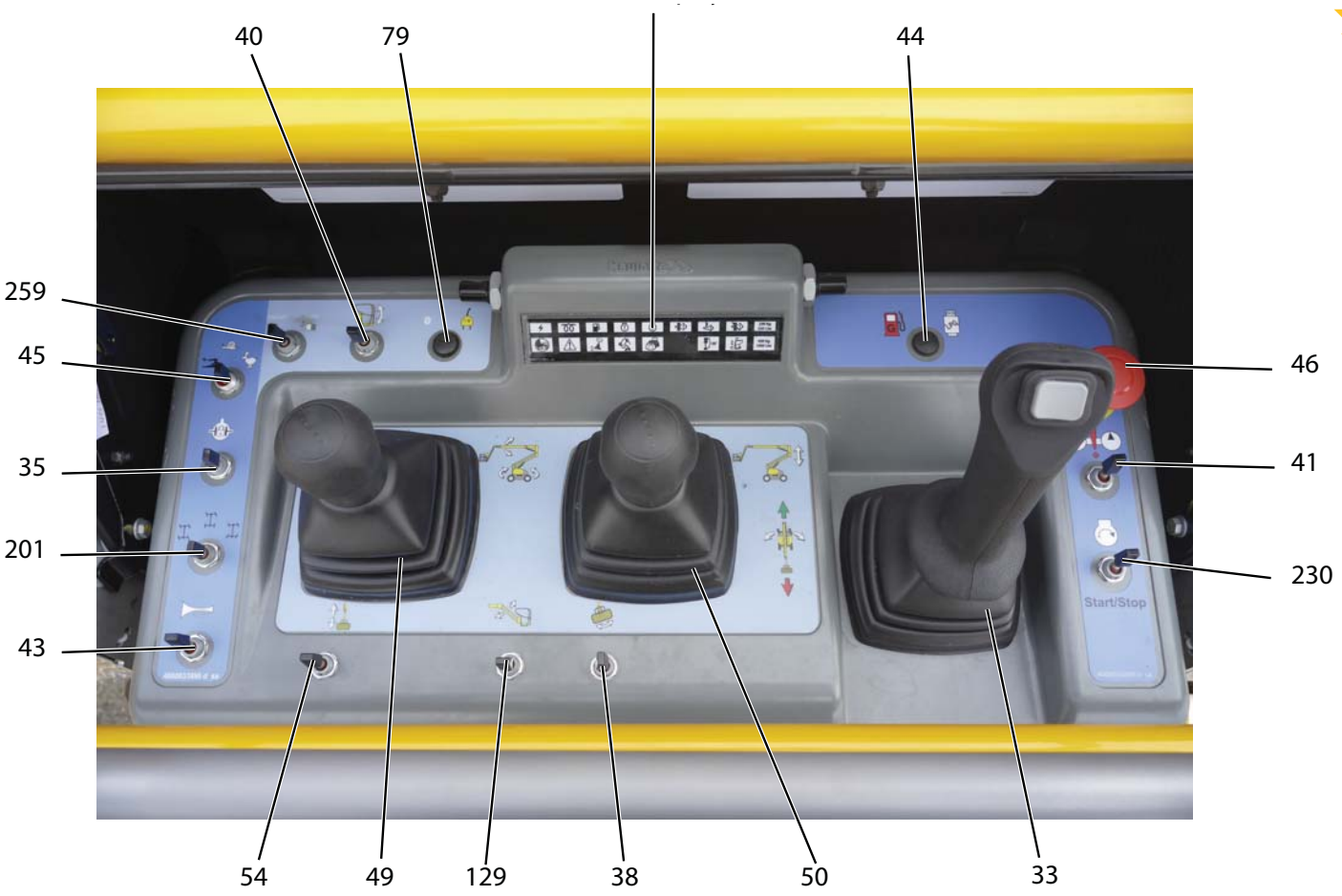
Controls and indicators

Icon	Description	Function	Icon	Description	Function
Machine fault (Will be visible - depending on the machine)					
					
Machine fault icons					
	Failure code F05.xx	Fault - joystick		Failure code F13.xx	Fault - Switches
	Failure code F06.xx	Fault - weight management system		Failure code F14.xx	Fault - Driving pump
	Failure code F07.xx	Fault - limit switch or sensor		Failure code F15.xx	Fault - data communication system CAN
	Failure code F08.xx	Fault - electrical circuit		Failure code F16.xx	Fault - Electric motor

3.3 - PLATFORM CONTROL BOX

3.3.1 - Layout

General view



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

B - Familiarization

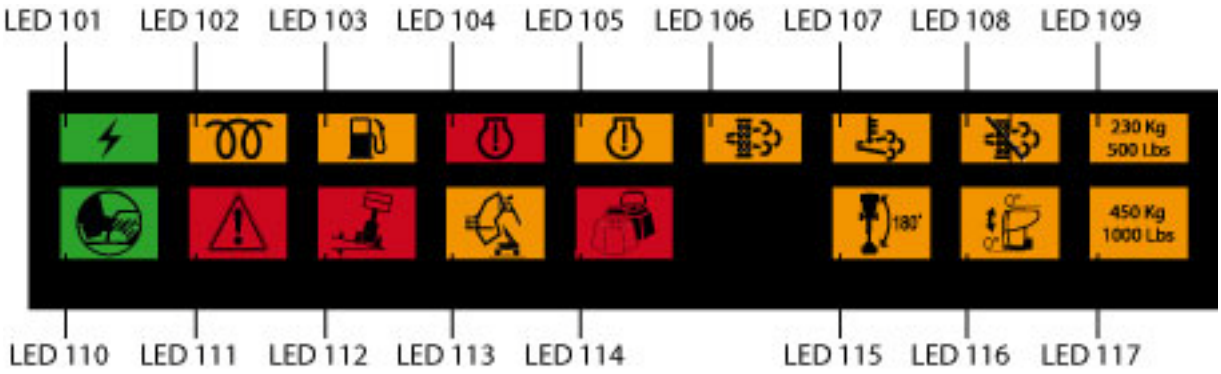
Marking	Name	Description	Function
40	SA721	Platform leveling switch	Move upwards : Raise platform
			Move downwards : Platform lowers
41	SA800	Auxiliary power switch	Toggle and hold : Back-up unit activated
			Release : Back-up unit deactivated
43	SA907	Horn button	Push the horn selector down to sound 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
201	SA101	Steering mode selector(4)	All 4 wheels steer
			Front 2 wheels steer
			Crab mode

Marking	Name	Description	Function
230	SA303	Engine start-up / stop selector	Move backwards : Starts or Stops the engine (depending on the engine's operating (ON/OFF) mode

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

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 pedal switch
LED 111	HL801		Fault
LED 112	HL800		Tilt

B - Familiarization

Marking	Name	Symbol	Function
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 pedal switch :** • Illuminated when foot pedal activated
	**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 level(1)
	**DPF regeneration in progress, high temperature in the exhaust system (HEST) : (2)**
	**DPF regeneration inhibited(3)**

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

3.4 - DPF (DIESEL PARTICLE FILTER) (IF EQUIPPED)

- The DPF (Diesel Particle Filter) system is designed to remove diesel particulate matter or soot from the exhaust gas of a diesel engine.
- The filter regeneration removes the accumulation of soot from the filter before filter clogs. This is done automatically by increasing the temperature in the filter itself in order to burn the soot.

DPF state	Ground control box							Machine behaviour
	Platform control box	LED 106	LED 108	LED 107	LED 111	LED 104	LED 105	
	Soot loading level							
DPF is out of repair	Level 5	Blinking			Blinking	On	On	• Sounding alarm. • Only low speed. • Movements are slowed down.
• Regeneration needed. • Automatic regeneration not available. • Parked regeneration not available. • Regeneration to be done by Kubota dealer. • Engine derating.	Level 4	Blinking			Blinking	On	On	• Sounding alarm. • Idle speed set to 1500 rpm.
• Regeneration needed. • Automatic regeneration disabled. • Parked regeneration available. • Engine derating.	Level 3	Blinking			Blinking	On	Off	• Sounding alarm. • Idle speed set to 1500 rpm.

B - Familiarization

DPF state	Ground control box							Machine behaviour
	Platform control box	LED 106	LED 108	LED 107	LED 111	LED 104	LED 105	
	Soot loading level							
• Regeneration needed. • Automatic regeneration available. • Parked regeneration available. • No engine derating.	Level 2	Blinking			Blinking	Off	Off	• Sounding alarm. • Idle speed set to 1500 rpm.
• Regeneration needed. • Automatic regeneration available. • Parked regeneration not available. • No engine derating.	Level 1	Off			Off	Off	Off	
• Regeneration not needed. • Automatic regeneration available. • Parked regeneration not available.	Level 0	Off			Off	Off	Off	
DPF regeneration is inhibited			On					Inhibition is reset at machine power off
DPF regeneration is active (parked or automatic)				On				
DPF parked regeneration is initiated				Blinking				

4 different ways of regeneration are possible.

3.4.1 - Automatic regeneration

The automatic regeneration occurs during normal machine usage without any interruption.

When automatic regeneration is on-going : :

1. icon lights up on ground control box.
2. DPF disable icon HL302 / LED107 on the platform control box display lights up.

3.4.2 - Manual regeneration

The machine cannot be used during the manual regeneration cycle.

1. Park the machine in a safe stowed position outside location and away from other equipment.
2. Check that the fuel level icon on the ground control box doesn't light-up.
3. Put the engine hood in closed position.
4. Press the regeneration button on the ground control box and hold for 5 seconds.
5. When regeneration is initiated, the regeneration icon on the ground control box starts blinking.
6. Engine speed increases to 2300 rpm.
7. The regeneration cycle will take approximately 15 min.
8. When regeneration is complete, all engine lights LPG on the ground control box are turned off. Engine speed is automatically decreased to idle speed (1500 rpm).

3.4.3 - To inhibit regeneration

To inhibit regeneration (indoors or in explosive atmosphere), press button on ground control box and hold for 5 seconds. The regeneration is inhibited until cancellation. To activate regeneration, press the button again during 5 seconds. When the regeneration is inhibited, at ground control box and at platform control box display light up.

3.4.4 - To stop manual regeneration

Use this function only in case of emergency.
Regeneration process can be stopped by :

- Press the inhibition button  and hold for 5 seconds.

Or

- Press the launching regeneration button  and hold for 5 seconds.

Or

- Initiate any function movement.

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	HA20RTJ		HA20RTJ O - HA61RTJ O	
Characteristics - Dimensions	**SI**	**Imp.**	**SI**	**Imp.**
Maximum working height	20,60 m	67 ft 7 in	20,60 m	67 ft 7 in
Maximum platform height	18,60 m	61 ft 0 in	18,60 m	61 ft 0 in
Maximum horizontal reach	12,10 m	39 ft 8 in	12,10 m	39 ft 8 in
Maximum outreach above the ground	11,60 m	38 ft 1 in	11,60 m	38 ft 1 in
Maximum platform height before driving speed restriction	6 m	19 ft 8 in	6 m	19 ft 8 in
Maximum boom articulation point height	8,10 m	26 ft 7 in	8,10 m	26 ft 7 in
Maximum load capacity	230 kg	500 lbs	230 kg	500 lbs
Jib working range	140° (+60°/ -80°)			
Basket rotation angle	180° (+ 90° / -90°)			
Boom rotation angle	75°			
Turntable rotation	355° non continuous			
Maximum number of occupants allowed	2			
Maximum wind speed allowed	60 km/h	37 mph	60 km/h	37 mph
Gradeability	45%			
Sideslope	25%			
Maximum rated slope allowed	5°			
Manual force	400 N - 90 lbf			
Maximum load on wheel	4 950 kgf	10,913 lbf	4 960 kgf	10,935 lbf
Outside turning radius	4,50 m	14 ft 9 in	4,50 m	14 ft 9 in
Inside turning radius	2,40 m	7 ft 10 in	2,40 m	7 ft 10 in
Maximum ground pressure of wheel on paved ground(1)	12,9 kgf/cm²	183.5 psi	15,3 kgf/cm²	218 psi
Total weight	9 300 kg	20,502 lbs	9 500 kg	20,944 lbs
Drive speed : • Slow speed (Machine elevated) • Medium speed(Machine elevated) • High speed (Machine folded/stowed)	1,2 km/h 2,5 km/h 5,0 km/h	0.75 mph 1.55 mph 3.11 mph	1,2 km/h 2,5 km/h 5,0 km/h	0.75 mph 1.55 mph 3.11 mph
Maximum freewheel speed during towed operation	5,0 km/h	3.11 mph	5,0 km/h	3.11 mph
Engine - Tier III				
Engine type	Kubota V2403 - M - E3 - 36,5 kW - 48,9 hp			
Engine power	36,5 kW - 48,9 hp			
Power consumption	29,4 kW - 39,4 hp			
CO emission	1 g/kWh - 0,75 hph			
HC + NO emission	6,44 g/kWh - 4,8 hph			
Particles emission	0,43 g/kWh - 0,32 hph			
Av fuel consumption	4,5 l/h - 1.19 gal/h			

B - Familiarization

Machine	HA20RTJ		HA20RTJ O - HA61RTJ O	
Fuel type	Diesel Fuel Only			
Engine - Tier IV				
Engine type	Kubota V2403 - CR - TI - E4B - 48,6 kW - 65,2 hp			
Engine power	48,6 kW - 65,2 hp			
CO emission	0,6 g/kWh - 0,44 g/hph			
HC + NO emission	3,7 g/kWh - 2,75 g/hph			
Particles emission	0,2 g/kWh - 0,14 g/hph			
Av fuel consumption	5 l/h - 1.32 gal/h			
Fuel type	Diesel Fuel Only			
Engine - Tier IV DPF				
Engine type	Kubota V2403 CR - 37,4 kW - 50,2 hp			
Engine power	37,4 kW - 50,2 hp			
CO emission	0,07 g/kWh - 0,05 g/hph			
HC + NO emission	2,73 g/kWh - 2,03 g/hph			
Particles emission	0,02 g/kWh - 0,01 g/hph			
Av fuel consumption	4 l/h - 1,05 gal/h			
Fuel type	Diesel Fuel Only			
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 800A			
Battery amperage	830 A			
Battery voltage	12 V			
Battery capacity	100 Ah			
Hydraulic tank capacity	140 L	37 gal US	140 L	37 gal US
Fuel tank capacity	80 L	21 gal US	80 L	21 gal US

(1.) The pressure values are given for standard machines without Option

Machine	HA20RTJ PRO - HA61RTJ PRO	
Characteristics - Dimensions	**SI**	**Imp.**
Maximum working height	20,60 m	67 ft 7 in
Maximum platform height	18,60 m	61 ft 0 in
Maximum horizontal reach	12,10 m	39 ft 8 in
Maximum outreach above the ground	11,60 m	38 ft 1 in
Maximum platform height before driving speed restriction	6 m	19 ft 8 in
Maximum boom articulation point height	8,10 m	26 ft 7 in
Maximum load capacity	230 kg	500 lbs
Jib working range	140° (+60°/ -80°)	
Basket rotation angle	180° (+ 90° / -90°)	
Boom rotation angle	75°	
Turntable rotation	360° Continuous	
Maximum number of occupants allowed	2	
Maximum wind speed allowed	60 km/h	37 mph
Gradeability	45%	
Sideslope	25%	
Maximum rated slope allowed	5°	
Manual force	400 N - 90 lbf	
Maximum load on wheel	4 950 kg	11,128 lbs
Outside turning radius - 4WS	3,75 m	12 ft 4 in
Inside turning radius - 4WS	1,75 m	5 ft 9 in
Outside turning radius - 2WS	4,50 m	14 ft 9 in
Inside turning radius - 2WS	2,40 m	7 ft 10 in
Maximum ground pressure of wheel on paved ground(1)	12,9 kg/cm²	2,70 lb/ft²
Total weight	9 600 kg	21,168 lbs
Total weight - With sand tires	9 800 kg	21,605 lbs
Drive speed (4WS) : • Slow speed (Machine elevated) • Medium speed(Machine elevated) • High speed (Machine folded/stowed)	 1,2 km/h 2,5 km/h 5,0 km/h	 0.75 mph 1.55 mph 3.11 mph
Drive speed (2WS) : • Slow speed (Machine elevated) • Medium speed(Machine elevated) • High speed (Machine folded/stowed)	 1,2 km/h 2,5 km/h 5,0 km/h	 0.75 mph 1.55 mph 3.11 mph
Maximum freewheel speed during towed operation	5,0 km/h	3.11 mph
Engine - Tier III		
Engine type	Kubota V2403 - M - E3 - 36,5 kW - 48,9 hp	
Engine power	36,5 kW - 48,9 hp	
Power consumption	29,4 kW - 39,4 hp	
CO emission	1 g/kWh - 0,75 hph	
HC + NO emission	6,44 g/kWh - 4,8 hph	
Particles emission	0,43 g/kWh - 0,32 hph	
Av fuel consumption	4,5 l/h - 1.19 gal/h	
Fuel type	Diesel Fuel Only	
Engine - Tier IV		
Engine type	Kubota V2403 - CR - TI - E4B - 48,6 kW - 65,2 hp	
Engine power	48,6 kW - 65,2 hp	
CO emission	0,6 g/kWh - 0,44 g/hph	
HC + NO emission	3,7 g/kWh - 2,75 g/hph	
Particles emission	0,2 g/kWh - 0,14 g/hph	
Av fuel consumption	5 l/h - 1.32 gal/h	
Fuel type	Diesel Fuel Only	
Engine - Tier IV DPF		
Engine type	Kubota V2403 CR - 37,4 kW - 50,2 hp	

B - Familiarization

Machine	HA20RTJ PRO - HA61RTJ PRO	
Engine power	37,4 kW - 50,2 hp	
CO emission	0,07 g/kWh - 0,05 g/hph	
HC + NO emission	2,73 g/kWh - 2,03 g/hph	
Particles emission	0,02 g/kWh - 0,01 g/hph	
Av fuel consumption	4 l/h - 1,05 gal/h	
Fuel type	Diesel Fuel Only	
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 800A	
Battery amperage	830 A	
Battery voltage	12 V	
Battery capacity	100 Ah	
Hydraulic tank capacity	140 L	37 gal US
Fuel tank capacity	80 L	21 gal US

(1.) The pressure values are given for standard machines without Option

ANSI A92.5 standard

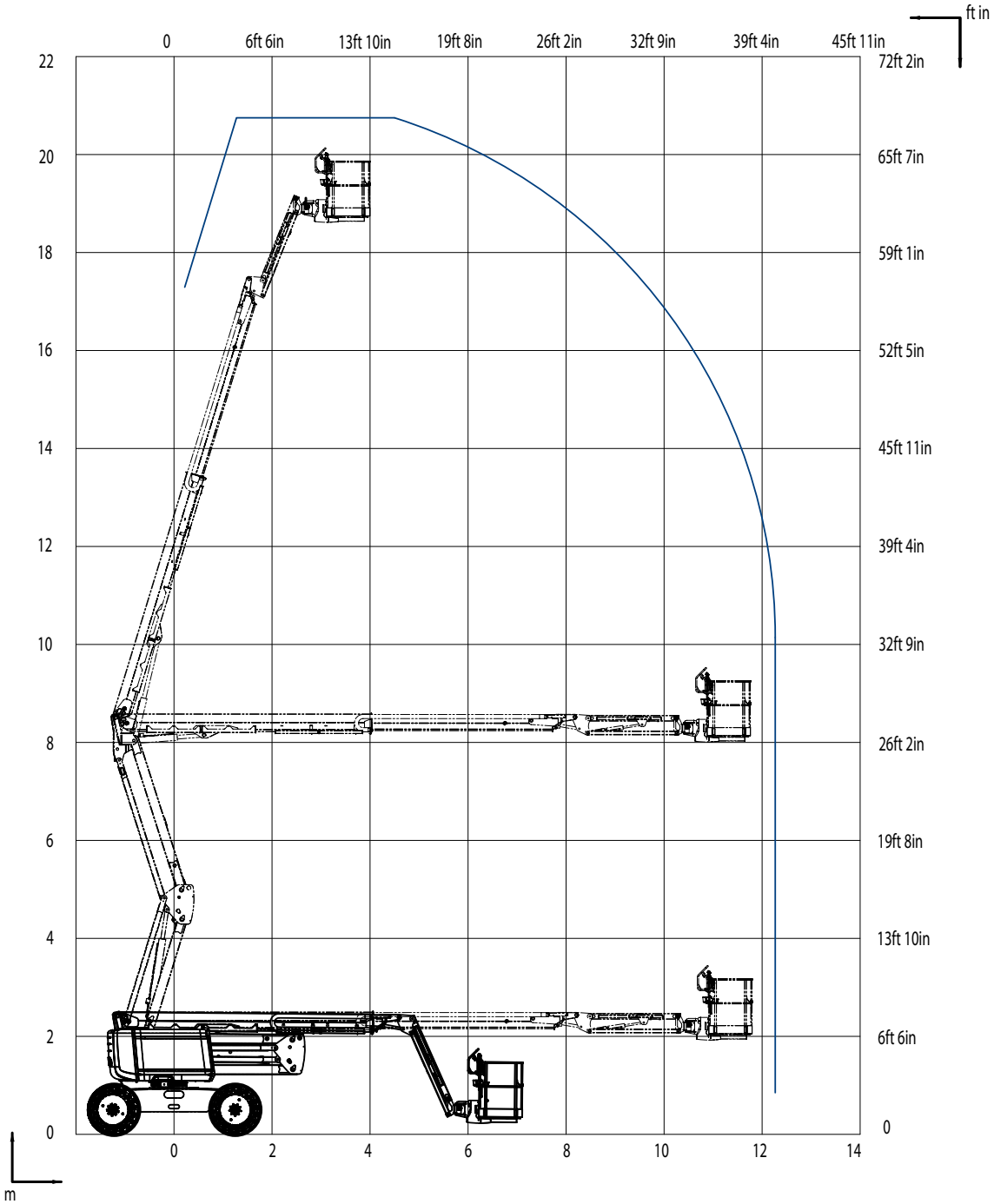
Machine	HA20RTJ O - HA61RTJ O		HA20RTJ PRO - HA61RTJ PRO	
Characteristics - Dimensions	**SI**	**Imp.**	**SI**	**Imp.**
Maximum working height	20,60 m	67 ft 7 in	20,60 m	67 ft 7 in
Maximum platform height	18,60 m	61 ft 0 in	18,60 m	61 ft 0 in
Maximum horizontal reach	12,10 m	39 ft 8 in	12,10 m	39 ft 8 in
Maximum outreach above the ground	11,60 m	38 ft 1 in	11,60 m	38 ft 1 in
Maximum platform height before driving speed restriction	6 m	19 ft 8 in	6 m	19 ft 8 in
Maximum boom articulation point height	8,10 m	26 ft 7 in	8,10 m	26 ft 7 in
Maximum load capacity	230 kg	500 lbs	230 kg	500 lbs
Jib working range	140° (+60°/ -80°)			
Basket rotation angle	180° (+ 90° / -90°)			
Boom rotation angle	75°			
Turntable rotation	360° Continuous			
Maximum number of occupants allowed	2			
Maximum wind speed allowed	60 km/h		37 mph	
Gradeability	45%			
Sideslope	25%			
Maximum rated slope allowed	0°			
Manual force	667 N - 150 lbf			
Maximum load on wheel	4 960 kg	11,150 lbs	4 950 kg	11,128 lbs
Outside turning radius - 4WS	N/A		3,75 m	12 ft 4 in
Inside turning radius - 4WS	N/A		1,75 m	5 ft 9 in
Outside turning radius - 2WS	4,50 m	14 ft 9 in	4,50 m	14 ft 9 in
Inside turning radius - 2WS	2,40 m	7 ft 10 in	2,40 m	7 ft 10 in
Maximum ground pressure of wheel on paved ground(1)	15,3 kg/cm²	5 940 kg	12,9 kg/cm²	2,70 lb/ft²
Total weight	9 500 kg	20,948 lbs	9 600 kg	21,168 lbs
Total weight - With sand tires			9 800 kg	21,605 lbs
Drive speed (4WS) : • Slow speed (Machine elevated) • Medium speed(Machine elevated) • High speed (Machine folded/stowed)	N/A		1,2 km/h 2,5 km/h 5,0 km/h	0.75 mph 1.55 mph 3.11 mph
Drive speed (2WS) : • Slow speed (Machine elevated) • Medium speed(Machine elevated) • High speed (Machine folded/stowed)	1,2 km/h 2,5 km/h 5,0 km/h	0.75 mph 1.55 mph 3.11 mph	1,2 km/h 2,5 km/h 5,0 km/h	0.75 mph 1.55 mph 3.11 mph
Maximum freewheel speed during towed operation	5,0 km/h	3.11 mph	5,0 km/h	3.11 mph
Engine - Tier III				
Engine type	Kubota V2403 - M - E3 - 36,5 kW - 48,9 hp			
Engine power	36,5 kW - 48,9 hp			
Power consumption	29,4 kW - 39,4 hp			
CO emission	1 g/kWh - 0,75 hph			
HC + NO emission	6,44 g/kWh - 4,8 hph			
Particles emission	0,43 g/kWh - 0,32 hph			
Av fuel consumption	4,5 l/h - 1.19 gal/h			
Fuel type	Diesel Fuel Only			
Engine - Tier IV				
Engine type	Kubota V2403 - CR - TI - E4B - 48,6 kW - 65,2 hp			
Engine power	48,6 kW - 65,2 hp			
HC + NO emission	3,7 g/kWh - 2,75 g/hph			
Particles emission	0,2 g/kWh - 0,14 g/hph			
Av fuel consumption	5 l/h - 1.32 gal/h			
Fuel type	Diesel Fuel Only			
Engine - Tier IV DPF				
Engine type	Kubota V2403 CR - 37,4 kW - 50,2 hp			
Engine power	37,4 kW - 50,2 hp			

Machine	HA20RTJ O - HA61RTJ O		HA20RTJ PRO - HA61RTJ PRO	
CO emission	0,07 g/kWh - 0,05 g/hph			
HC + NO emission	2,73 g/kWh - 2,03 g/hph			
Particles emission	0,02 g/kWh - 0,01 g/hph			
Av fuel consumption	4 l/h - 1,05 gal/h			
Fuel type	Diesel Fuel Only			
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 800A			
Battery amperage	830 A			
Battery voltage	12 V			
Battery capacity	100 Ah			
Hydraulic tank capacity	140 L	37 gal US	140 L	37 gal US
Fuel tank capacity	80 L	21 gal US	80 L	21 gal US

(1.) The pressure values are given for standard machines without Option

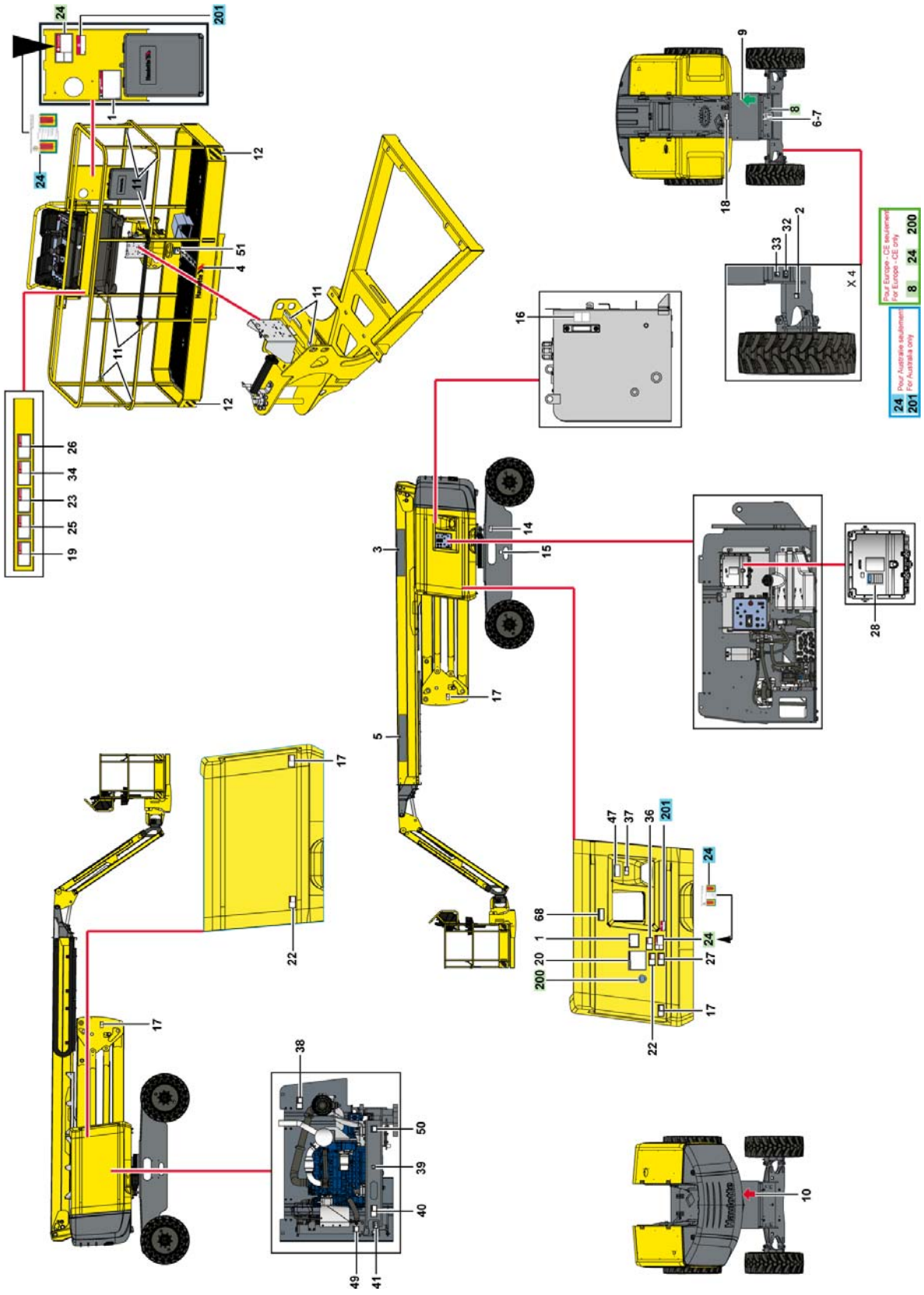
4.2 - WORKING AREA / RANGE OF MOTION

HA20RTJ - HA20RTJ O - HA20RTJ PRO - HA61RTJ O - HA61RTJ PRO



5 - Decals and markings locations

CE and AS standards



CE and AS standards

Marking	Color	Description	Quantity	HA20RTJ	HA20RTJO	HA20RTJ PRO
1	Red	Height of the floor and load	2	4000701800		
2	Blue	Maximum Pressure per Tire - Floor Loading	4	4000506620	4000359590	
3	Other	Commercial name-Bright machine	1	4000359400	4000359420	4000359440
3	Other	Commercial name-Dark machine	1	4000475740	4000475750	4000475760
4	Other	500 x 100 Decal HAULOTTE®Bright machine	1	307P217080		
4	Other	500 x 100 Decal HAULOTTE®Dark machine	1	307P224740		
4	Other	500 x 100 Decal HAULOTTE®Red machine	1	307P220360		
5	Other	1860 x 280 Decal HAULOTTE®Bright machine	1	4000365570		
5	Other	1860 x 280 Decal HAULOTTE®Dark machine	1	4000390040		
5	Other	1860 x 280 Decal HAULOTTE®Red machine	1	4000390030		
6	Other	Identification plates	1	307P218070		
8	Other	Noise emission level101 Db	1	CE standard only : 4000012860		
9	Other	Control of movements - GREEN directional arrow	1	3078143930		
10	Other	Control of movements - RED directional arrow	1	3078143940		
11	Other	Lanyard attachment points - Harness attachment compulsory	9	307P216290		
12	Other	Material risk - Yellow and black adhesive tape	4	4000421700		
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	1	4000024890		
19	Other	Read the operation manual	1	4000025140		

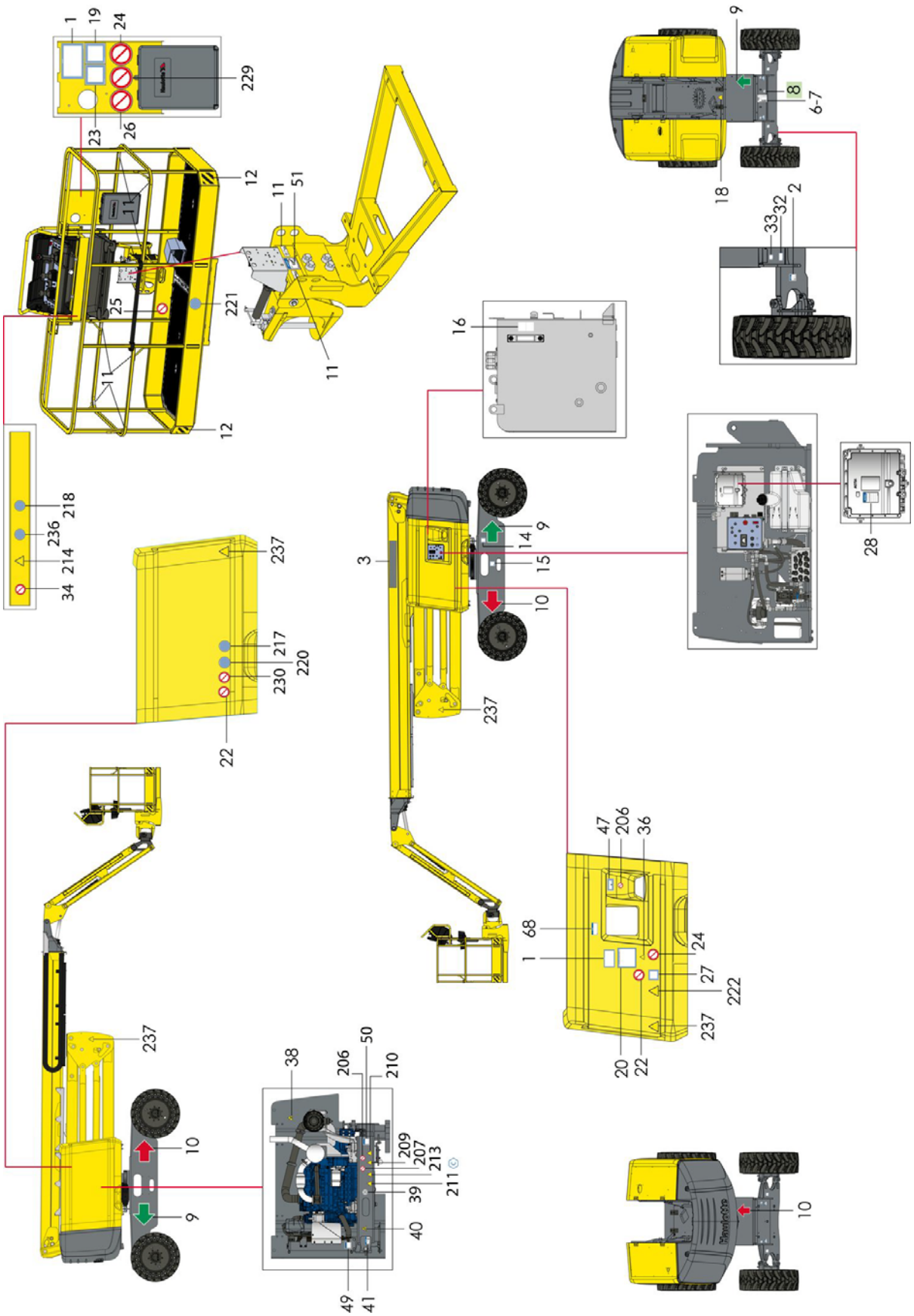
B - Familiarization

20	Red	Operation instructions	1	In german (CE standard) : 307P222730 In english (CE and AS standards) : 307P222740 In chineese (CE standard) : 4000698920 In korean (CE and AS standards) : 4000618590 In croatian (CE standard) : 4000360810 In danish (CE standard) : 307P222760 In spanish (CE standard) : 307P222770 In estonian (CE standard) : 4000360870 In finnish (CE standard) : 307P222780 In french (CE standard) : 3078149030 In greek (CE standard) : 4000561810 In dutch (CE standard) : 307P222790 In hungarian (CE standard) : 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 Russian (CE standard) : 4000359920 In slovakian (CE standard) : 4000359880 In slovenian (CE standard) : 4000359890 In swedish (CE standard) : 307P222820 In ukrainian (CE standard) : 4000359910
22	Orange	Risk of crushing - Do not place foot	2	4000027090
23	Red	Risk of crushing - Driving direction	1	4000024690
24	Red	Danger of electrocution	2	CE standard only : 4000025070 AS standard only : 4000227500
25	Red	Risk of crushing - Closing drop rail	1	4000025080
26	Red	Danger of electrocution - Platform - Ground for welding	1	4000027100
27	Other	Tilt verification	1	4000027110
28	Other	Do not interchange	1	4000504670
32	Blue	Towing anchorage point	4	4000027310
33	Blue	Lifting anchorage point	4	4000027330
34	Red	Electrocution Hazard - Water projection	1	4000025130
36	Red	Risk of crushing - Platform	1	4000027460
37	Red	Risks of explosion	1	4000027370
38	Orange	Hand crushing hazard - Heat burns	1	4000027450
39	Other	Oil CJ 4 (if fitted)	1	4000019700
40	Orange	Hand crushing hazard - Snapping up	1	4000027430
41	Yellow	Revolving cradle	1	3078151730
47	Blue	Information - Explanation - LOW SULFUR - For Tier IV only	1	307P232480

B - Familiarization

49	Blue	Battery +	1	4000071960
50	Blue	Battery -	1	4000071970
51	Yellow	Socket - 240 V	1	4000027120
68	Other	Transport height	1	4000417480
200	Other	Made in Europe	1	CE standard only : 4000137690
201	Red	Wearing of a safety harness is essential	2	AS standard only : 3078144520

EAC standard



B - Familiarization

EAC standard

Marking	Color	Description	Quantity	HA20RTJ	HA20RTJO	HA20RTJ PRO
1	Red	Height of the floor and load	2	4000423800		
2	Blue	Maximum Pressure per Tire - Floor Loading	4	4000506620	4000359590	
3	Other	Commercial name-Bright machine	1	4000359400	4000359420	4000359440
3	Other	Commercial name-Dark machine	1	4000475740	4000475750	4000475760
6	Other	Identification plates	1	For Russia : 4000278870 For Ukraine : 307P227830		
8	Other	Noise emission level 101 Db	1	4000012860		
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	4	4000421700		
14	Red	Risk of crushing - Spindle	1	307P227810		
15	Other	Crown greasing	1	307P227020		
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	2	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 - Platform - 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	4	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		
38	Orange	Hand crushing hazard - Heat burns	1	4000200810		
39	Other	Oil CJ 4 (if fitted)	1	4000318680		

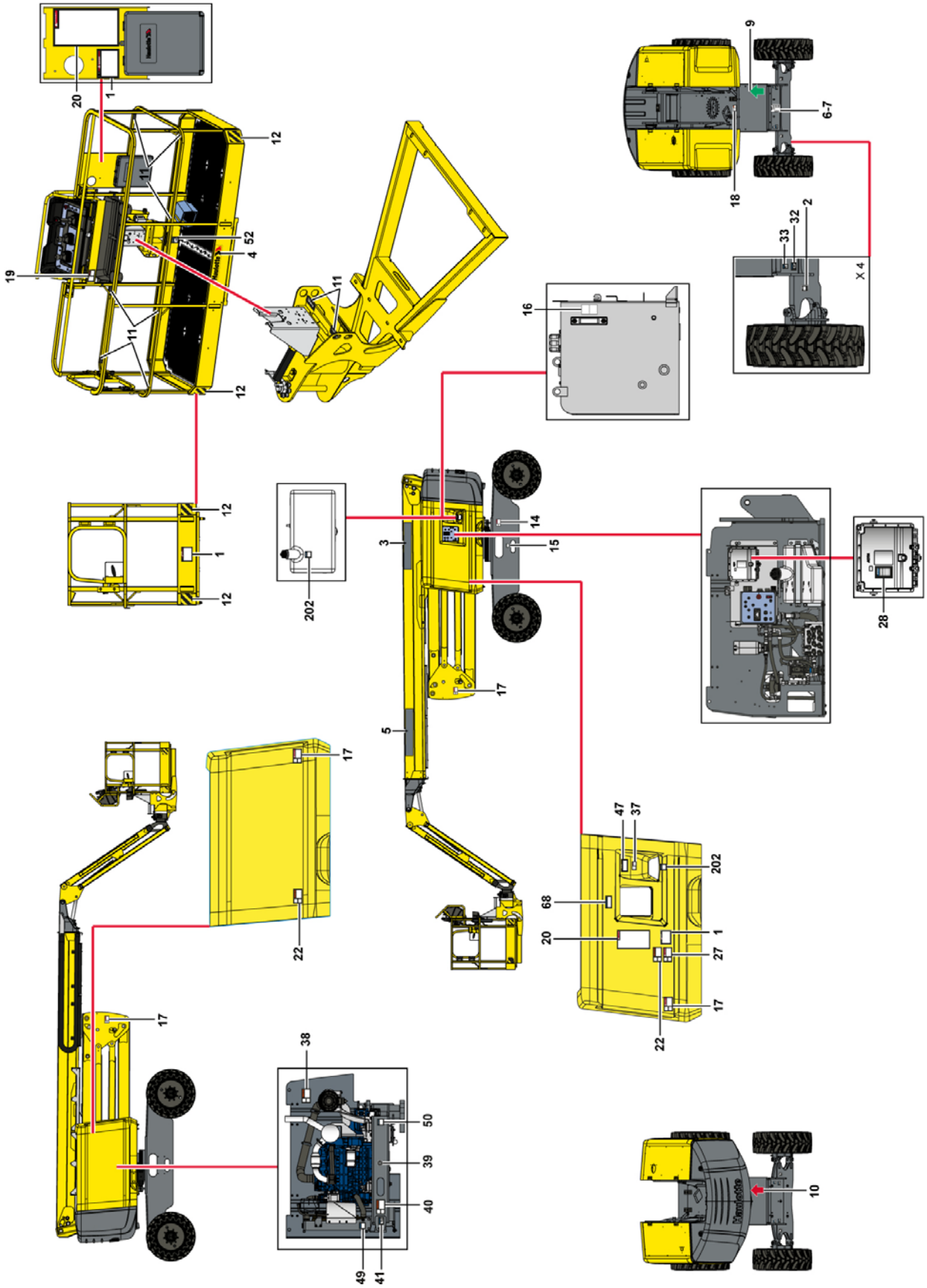
B - Familiarization

40	Orange	Hand crushing hazard - Snapping up	1	307P226940
41	Yellow	Revolving cradle	1	307P215290
47	Blue	Information - Explanation - LOW SULFUR - For Tier IV only	1	For Russia : 4000416640 For Ukraine : 4000416650
49	Blue	Battery +	1	4000071960
50	Blue	Battery -	1	4000071970
51	Yellow	Socket - 240 V	1	4000027120
68	Other	Transport height	1	4000417480
206	Other	Flames prohibited	2	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	1	307P226930
217	Other	Caution glasses	1	307P227460
218	Blue	Caution helmet compulsory	1	307P226680
220	Other	hand protection compulsory	1	307P227490
221	Other	Obligatory routing	1	307P227510
222	Other	Danger unstable side	1	307P227680
229	Other	Do not travel down slopes in high speed	1	307P226990
230	Other	No admittance	1	307P227560
236	Blue	Caution glasses	1	307P226670
237	Yellow	Risk of crushing	4	307P227670

B - Familiarization

Notes

ANSI and CSA standards



ANSI and CSA standards

Marking	Color	Description	Quantity	HA61RTJO	HA61RTJ PRO
1	Red	Height of the floor and load	3	ANSI A92.5 standard : In english : 4000424360 In french : 4000424370 In spanish : 4000424380 ANSI A92.20 and CSA B54.6 standards : 4000701800	
2	Blue	Maximum Pressure per Tire - Floor Loading	4	4000359590	
3	Other	Commercial name	1	4000359460	4000359480
4	Other	500 x 100 Decal HAULOTTE®Bright machine	1	307P217080	
4	Other	500 x 100 Decal HAULOTTE®Dark machine	1	307P224740	
4	Other	500 x 100 Decal HAULOTTE®Red machine	1	307P220360	
5	Other	1860 x 280 Decal HAULOTTE®Bright machine	1	4000365570	
5	Other	1860 x 280 Decal HAULOTTE®Dark machine	1	4000390040	
5	Other	1860 x 280 Decal HAULOTTE®Red machine	1	4000390030	
6	Other	Identification plates	1	In english : 307P218170 In french : 307P218170 In spanish : 307P217170	
9	Other	Control of movements - GREEN directional arrow	1	3078143930	
10	Other	Control of movements - RED directional arrow	1	3078143940	
11	Other	Lanyard attachment points - Harness attachment compulsory	9	307P216290	
12	Other	Material risk - Yellow and black adhesive tape	4	4000421700	
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 : 4000067110 In spanish : 4000086490	
19	Other	Read the operation manual	1	4000025140	
20	Red	Operation instructions	2	In english : 4000027570 In french : 4000068880 In spanish : 4000086640	

22	Orange	Risk of crushing - Do not place foot	2	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	4	4000027310
33	Blue	Lifting anchorage point	4	4000027330
37	Red	Explosion hazard	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
39	Blue	Engine oil - CJ-4	1	4000019700
40	Orange	Hand crushing hazard - Snapping up	1	In english : 4000025020 In french : 4000068100 In spanish : 4000086530
41	Yellow	Revolving cradle	1	3078151730
47	Blue	Information - Explanation - LOW SULFUR - For Tier IV only	1	307P232480
49	Blue	Battery +	1	4000071960
50	Blue	Battery -	1	4000071970
52	Blue	Socket - 110 V	1	4000027590
68	Other	Transport height	1	4000417480
202	Other	Diesel Fuel Only	2	4000201430

1 - Recommendations

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

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

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

2 - Working area assessment

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.

3 - Inspection and Functional test

3.1 - DAILY INSPECTION

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

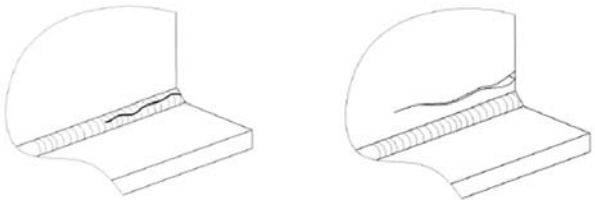
- **Never use a defective or a malfunctioning aerial work platform.**
- **If any item on the check list is marked "No" during the inspection; machine must be tagged and placed out of service.**
- **Do not operate the machine until all identified items are corrected and it has been declared safe for operation.**

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

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

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

Sample of broken welds



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

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

Use the detailed program below.

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

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

C - Pre-operation inspection

Haulotte	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						
General						

C - Pre-operation inspection

Haulotte	Page or associated procedure	Daily	OK	NOK	Corrected	Comments
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)						

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.

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 button 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 ACTIV'SCREEN (23) are lit.
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 E-Stop button (9) at ground 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.

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.
- E-Stop(s) are pushed in.
- The machine is switched off.

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.

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

The slope warning device alerts the operator that the machine is positioned on a slope exceeding the rated slope. A buzzer sounds at both control positions.

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 / retracting 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 when machine is on slope with the platform uphill, perform the following steps before repositioning on level ground :

Step	Action
1	Retract the boom.
2	Lower the arm.
3	Lower the telescoping boom.

To check the tilt sensor at ground level, perform the following steps :

Step	Action
1	Open the right hand compartment cover (Component location diagrams) and locate the tilt sensor (C28). Tilt sensor is located on the base plate of turret on the right hand side of the ground control box.
2	Pull out 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) .
5	Manually tilt the sensor (C28) and hold.
6	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.

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 - OPERATION FROM THE GROUND CONTROL BOX

The ground control box is designed for maintenance and emergency rescue operations only.

- Turning ON / OFF is performed with engine start-up selector (16) after the control box activation key switch (22) is turned to the ground control box position.
- 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.***

- An "Enable 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 enable switch is re-pressed, the function movement does not restart. A function movement can only be selected when the corresponding function switch is in neutral position.
- All controls operating a movement, return automatically to neutral when released.
- At power up, all controls must be in their neutral position (not activated).

D - Operation instructions

- 'Enable Switch' selector / Back-up unit selector (6) :
  - With engine running, the selector (6) functions as an "enable switch" only.
  - With engine stopped, the selector (6) functions as the "enable switch" and activates the back-up unit (emergency pump).
- Overriding system : Refer to Section D 4.2To rescue operator in platform.
- The status of the controls is tested automatically when the machine is switched on.
- Pressing engine start-up selector (16) starts or stops the engine.
- 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.
  - Hydraulic oil overheating.
  - Movements option.
- 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.

1.3 - 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 switch (22) at the ground control box to platform control box position  .
  - 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.***

- An 'Enable switch' foot pedal (C42) is present and should be activated and maintained to authorize one or more movements. If "Enable switch" foot pedal is kept engaged without selecting a function movement for more than 8 seconds ; Enable switch is automatically de-activated.

N.B.-:-IT IS RECOMMENDED THAT OPERATOR REMOVES THE FOOT FROM THE 'ENABLE SWITCH' FOOT PEDAL WHENEVER A MOVEMENT HAS CEASED.

- The release of 'Enable switch' foot pedal while performing a movement stops that function movement and all other movements are inactive. The stop of movements is progressive. If the "Enable switch" is pressed again quickly within 0,5 s the movement restarts. If the "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.
- At power up, all switches and joysticks must be in their neutral position.
- Pressing the 'Enable switch' foot pedal (C42) restarts the machine when its engine has been stopped by the Stop Emission System after 90 s of inactivity.
- For petrol / gas 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.

- 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

1.4 - OPERATION OF OVERRIDING SYSTEM FROM GROUND CONTROL BOX

Please refer to paragraph D.4.2 To rescue operator in platform.

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.
- 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.

N.B.-:-THIS OPERATION TURNS OFF THE POWER SUPPLY TO MACHINE 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.

2.3 - BOOM AND ARM CONTROLS

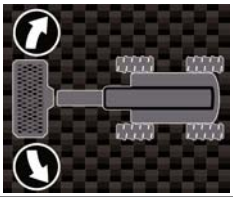
Platform leveling is available, regardless of the work height. Even at low movement speeds, use the controls with caution.

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

Ground box controls (emergency station)

Control		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.
Turntable rotation		Press the turntable rotation control (7) for a clockwise rotation . Press the turntable rotation control (7) for an counterclockwise rotation .

D - Operation instructions

Control		Action
Platform rotation		Press the platform rotation control (8) for a clockwise rotation .
		Press the platform rotation control (8) for an counterclockwise rotation .

3 - Platform control box

3.1 - TO START AND STOP THE MACHINE

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.

To stop the engine :

- Push the starter selector switch (230) downwards.

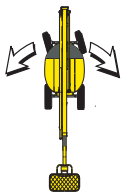
3.2 - DRIVE AND STEER CONTROL

To activate drive and steer functions, press the 'Enable switch' foot pedal 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.

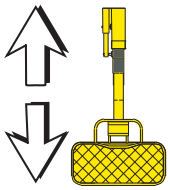
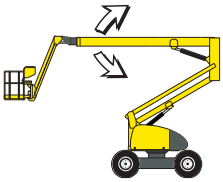
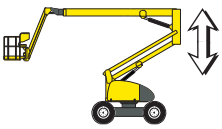
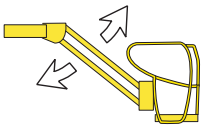
N.B.-:-ON UNEVEN TERRAIN, LOWER THE BOOM TO IMPROVE THE DRIVE PERFORMANCE.

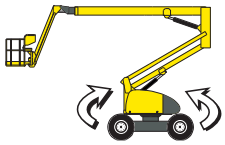
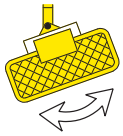
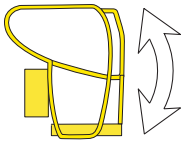
Control		Action
Steering		Press thumb/rocker switch on joystick (33) to the right to steer right. Press thumb/rocker switch on joystick (33) to the left to steer left.
Driving		Move joystick (33) forwards for the machine to travel in the forward direction. Pull joystick (33) backwards for the machine 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 low-speed driving (short distance, final approach, unloading from lorries/trucks).

3.3 - BOOM AND ARM CONTROLS

Activate the desired control and the 'Enable switch' foot pedal simultaneously to perform that selected function.

'Enable Switch' foot pedal

Control		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.

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

3.4 - ADDITIONAL CONTROLS

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

4 - Emergency procedure

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 MAINTENANCE 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 switches (3) and (4) at ground box or switch (54) and joystick (49) at platform 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.

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 personel at ground level needs to obtain rapid and direct access to operating functions.

HAULOTTE® provides a ground control emergency system that should be used to safely bring the operator into such a position that appropriate medical attention could be provided.

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.

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.

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.

- Raise the jib to maintain ground clearance when driving the machine onto a loading ramp.
- 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.

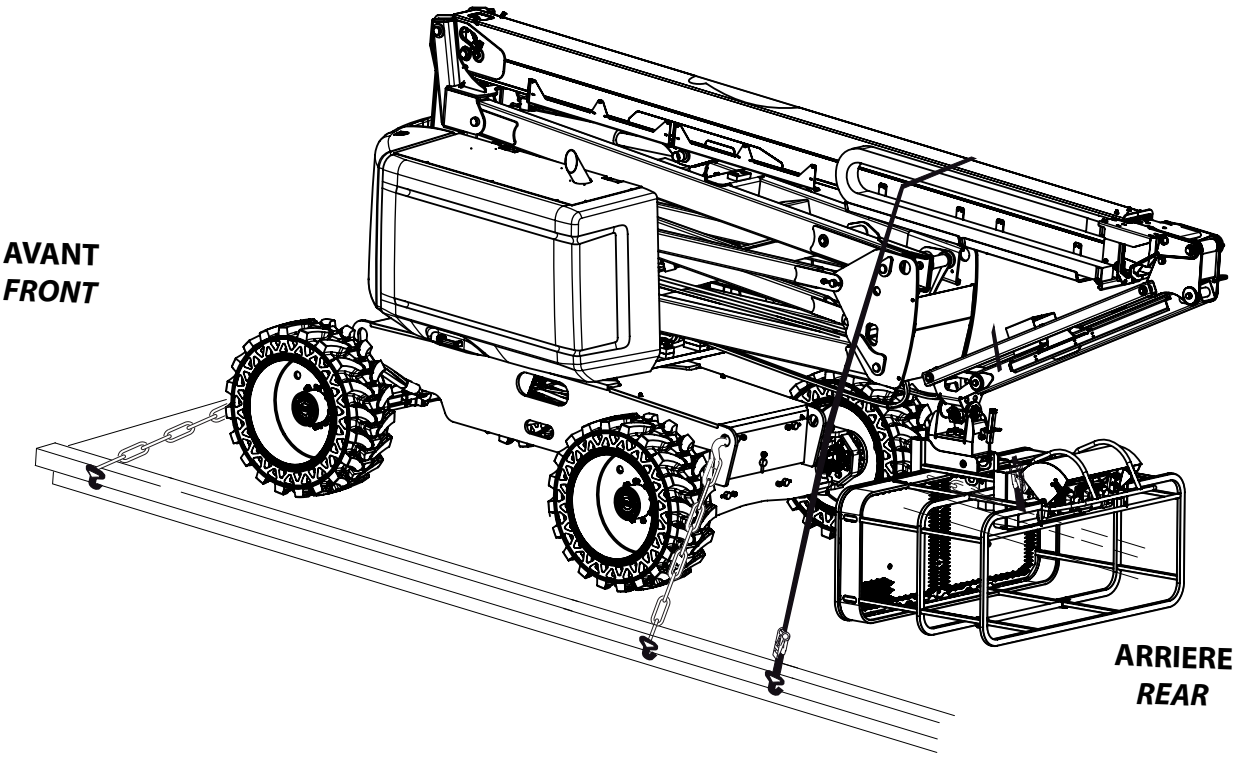
A wrong move can lead to machine tipping over and may cause serious injuries and material damage.

5.2 - MACHINE LAYOUT

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.

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 a drawbar to avoid any risk of accident :

- Do not exceed the maximum speed (machine unfolded) (Refer to Section B 4.1 - Technical specifications).
- Do not exceed a grade of 45%.

5.4.1 - Disengaging the drive hubs

- Use an 11 spanner to undo and remove the 2 screws from the plate.

- Remove the plate, turn it over and install it in place with the 2 screws removed previously.

N.B.-:-THE PLATE BOSS WILL PUSH THE SPRING IN. THE DRIVE HUBS ARE NOW DISENGAGED.

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.

Machine is now in the normal driving mode.

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.

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.

Turn the control box activation key switch (22) at the ground control box to the extreme left  to shut OFF the power.

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.

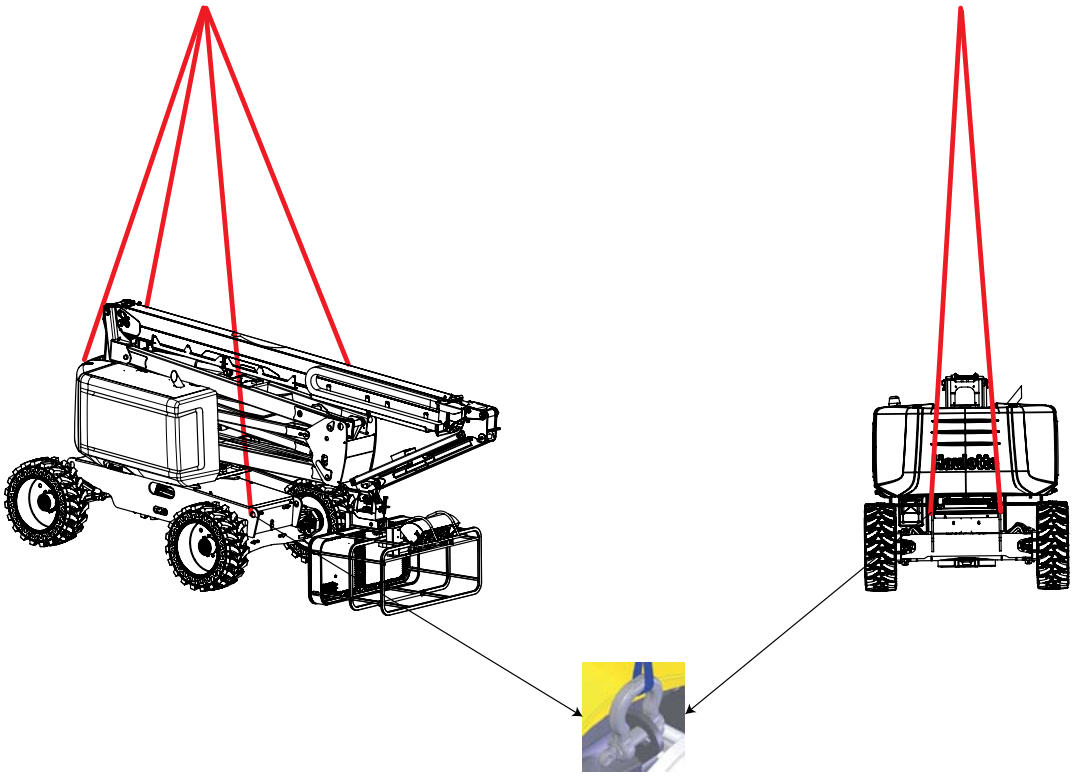
5.6 - LIFTING OPERATION

During loading / unloading operation with an overhead crane, it is important to respect the following :

- Put the machine in stowed position, boom and arm fully retracted and lowered.
- Platform must be 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 operating condition and match the technical specifications. Lifting devices must be 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)

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.

Engine oil viscosity		
EMA LGR-1 / API CH-4 Viscosity grade	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.

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

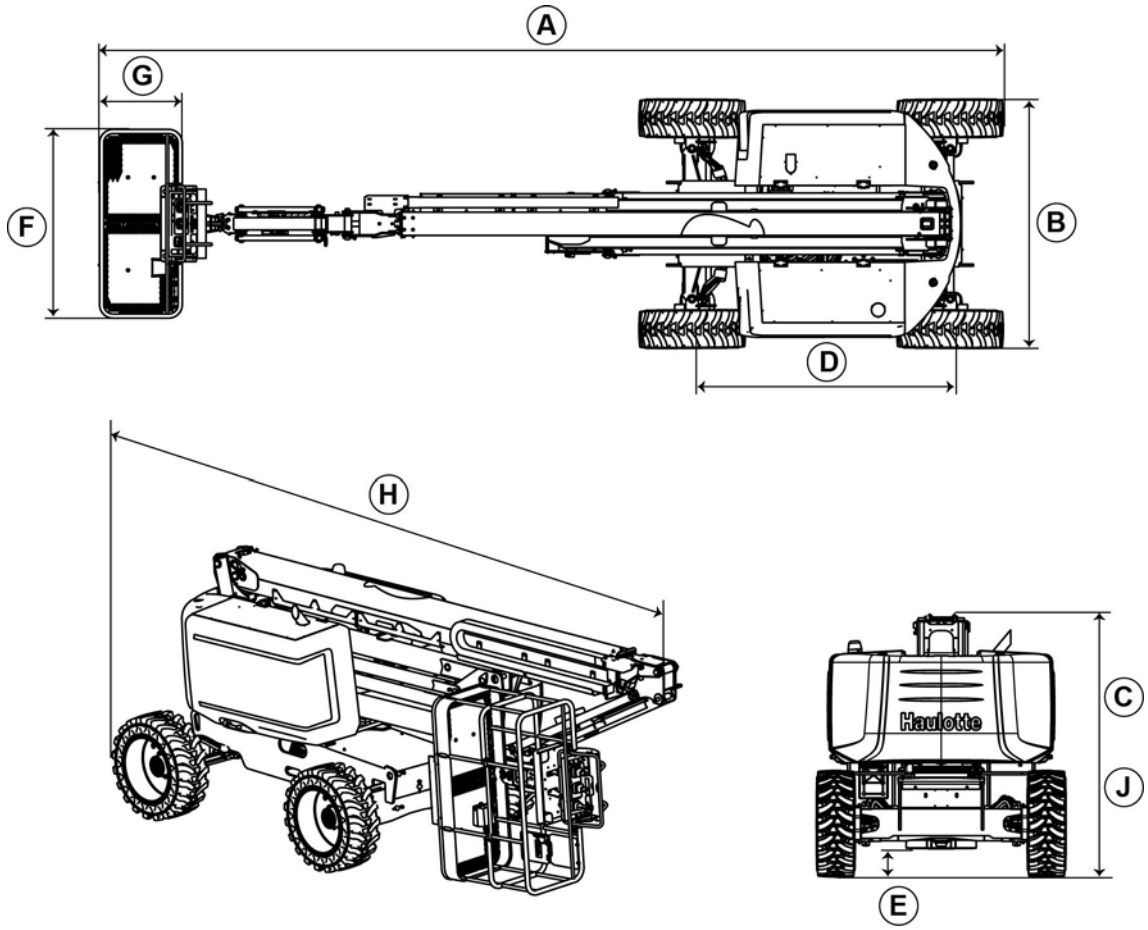
- Turn the power on by turning the ON/OFF seclector key switch (18) to the right.
- When the start / stop selector switch (230) at platform control box or (228) at ground control box is activated, the orange LED (5) at ground control display panel and LED (102) at platform control display panel flashes, indicating that the engine is in automatic pre-heating mode.
- Upon the extinction of this light (3 s to 15 s) at ground control box, the engine starts.

Notes

Notes

1 - Machine dimensions

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



Machine		HA20RTJ		HA20RTJ O - HA61RTJ O	
Marking	**Specifications - Dimensions**	**SI**	**Imp.**	**SI**	**Imp.**
A	Overall length of machine	8,80 m	28 ft 10 in	8,80 m	28 ft 10 in
B	Overall width of machine	2,44 m	8 ft	2,44 m	8 ft
B	Overall width of machine - With sand tires	2,5 m	8 ft 2 in	2,5 m	8 ft 2 in
C	Overall height of machine	2,47 m	8 ft 1 in	2,47 m	8 ft 1 in
D	Wheel base	2,50 m	8 ft 2 in	2,50 m	8 ft 2 in
E	Ground clearance	38 cm	15 in	38 cm	15 in
F X G	Platform dimensions - Standard	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
F X G	Platform dimensions - Option	2,44 x 0,915 m	8 ft x 3 ft	2,44 x 0,915 m	8 ft x 3 ft
H	Storage length	6,50 m	21 ft 4 in	6,50 m	21 ft 4 in
J	Storage height	2,93 m	9 ft 7 in	2,93 m	9 ft 7 in

Machine		HA20RTJ PRO - HA61RTJ PRO	
Marking	**Specifications - Dimensions**	**SI**	**Imp.**
A	Overall length of machine	8,80 m	28 ft 10 in
B	Overall width of machine	2,44 m	8 ft 0 in
B	Overall width of machine - With sand tires	2,5 m	8 ft 2 in
C	Overall height of machine	2,51 m	8 ft 3 in
D	Wheel base	2,50 m	8 ft 2 in
E	Ground clearance	42 cm	15 in
F X G	Platform dimensions - Standard	1,8 x 0,8 m	5 ft 11 in x 2 ft 7 in
F X G	Platform dimensions - Option	2,44 x 0,915 m	8 ft x 3 ft
H	Storage length	6,50 m	21 ft 4 in
J	Storage height	2,93 m	9 ft 7 in

2 - Major component masses

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

Component	HA20RTJ	HA20RTJ O - HA61RTJ O	HA20RTJ PRO - HA61RTJ PRO
Frame assembly mass	2 860 kg - 6,306 lbs	2 860 kg - 6,306 lbs	2 960 kg - 6,525 lbs
• Mass of each wheel 850 x 340	187kg +/- 4 kg (412 lb +/- 9 lb)		NA
• Mass of each wheel 1025 x 365	NA		290 kg +/- 6 kg (639 lb +/- 13 lb)
Turret assembly mass	900 kg - 1985 lbs		
• Counterweight mass - Turntable	2 560 kg - 5,645 lbs	2 760 kg - 6,086 lbs	2 560 kg - 5,645 lbs
• Engine compartment mass	400 kg - 882 lbs		
• Battery mass	20 kg - 44 lbs		
Boom assembly mass	750 kg - 1654 lbs		
Arm assembly mass	1 650 kg - 3,638 lbs		
Jib assembly mass	150 kg - 331 lbs		
Platform assembly mass	200 kg - 441 lbs		
Machine mass	9 300 kg - 20,502 lbs	9 500 kg - 20,944 lbs	9 600 kg - 21,168 lbs
Machine mass - With sand tires			9 800 kg - 21,605 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/s²(98,4 in/s²)
Vibrations whole body	Vibration transmitted by this MEWP to the whole body does not exceed 0,5 m/s²(19,6 in/s²)

4 - Wheel/Tire assembly

4.1 - TECHNICAL SPECIFICATIONS

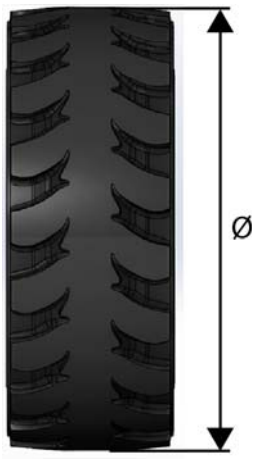
Component	Standard wheel HA20RTJ	Standard wheel HA20RTJ O	Standard wheel HA20RTJ PRO
Reference number	4000278720		4000075640
	4000278730		4000075650
Type	Solid Tire (Curred - on)		
Wheel mass	187 kg +/- 4 kg (412 lbs +/- 9 lbs)		290 kg +/- 6 kg (639 lbs+/- 13 lbs)
Size	Solideal 850 x 340		Solideal 1025 x 365
Torque	320 Nm (236 ft lbs)		

4.2 - INSPECTION AND MAINTENANCE

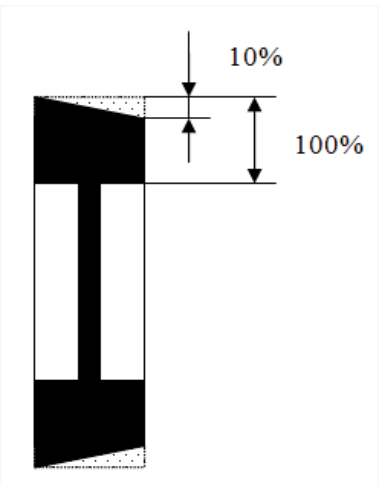
The tire and rim are bonded together, both must be replaced if either is damaged.

Wheels replacement must be made in the following cases :

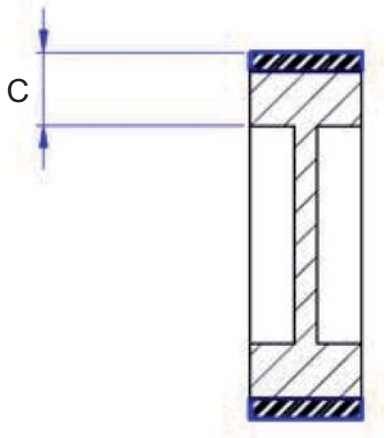
- Deformation or cracks on the rim.
- De-bonding between the interface of the steel and the rubber.
- Uniform wear to the wearing line :
- 850 x 340 wheel : Ø 789 mm / 32 in
- 1025 x 365 wheel : Ø 962 / 38 in



- Non-linear wearing of the tread profile (> 10%)



- Linear wear of the thread profile (> 25 %)



	Standard wheel HA20RTJ	Standard wheel HA20RTJ O	Standard wheel HA20RTJ PRO
New tire	C = 185 mm / 8 in		C = 168 mm/ 7 in
Defective tire(Linear wear of the tread profile > 25 %)	C = 140 mm / 6 in		C = 126 mm / 5 in

- 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) 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.
- 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, observing the axle track pattern check for correct installation.

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.

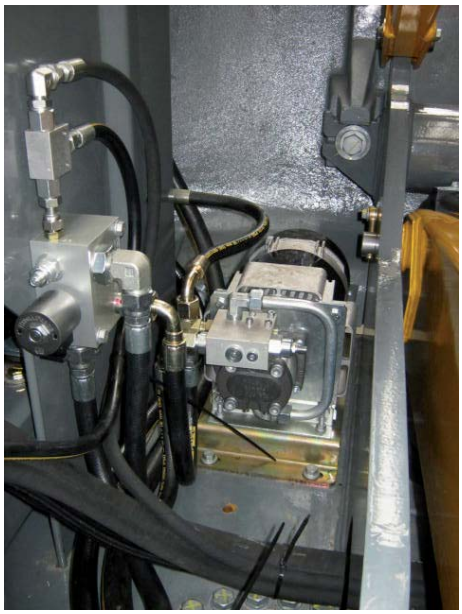
Do not expose the on-board generator to direct contact with a water beam or a high pressure cleaner.

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.

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 m² (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

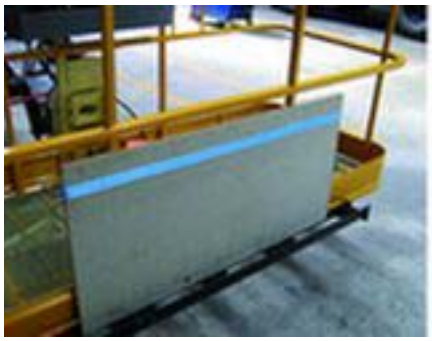
- **Check that the tray has no cracks or other damage.**
- **Check that the cradle is correctly installed and secured to the platform.**
- **Check that the information decal is present on the cradle and is legible.**
- **Check that the strap is not twisted or torn.**

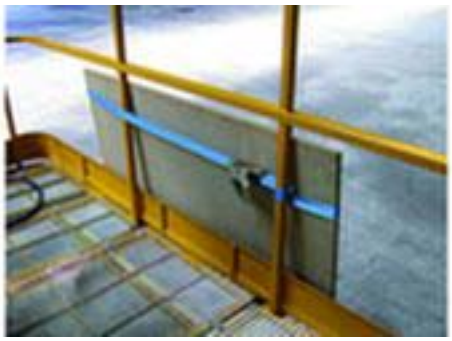
5.2.5 - Operation

- 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

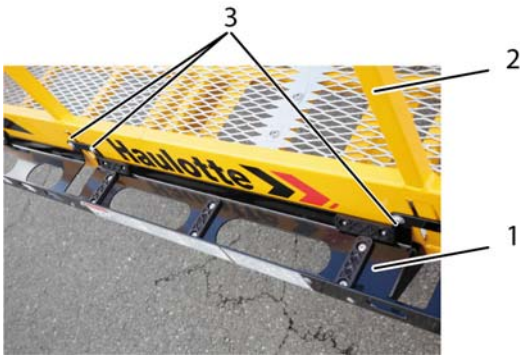
Strapping example(s) - Small panel





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

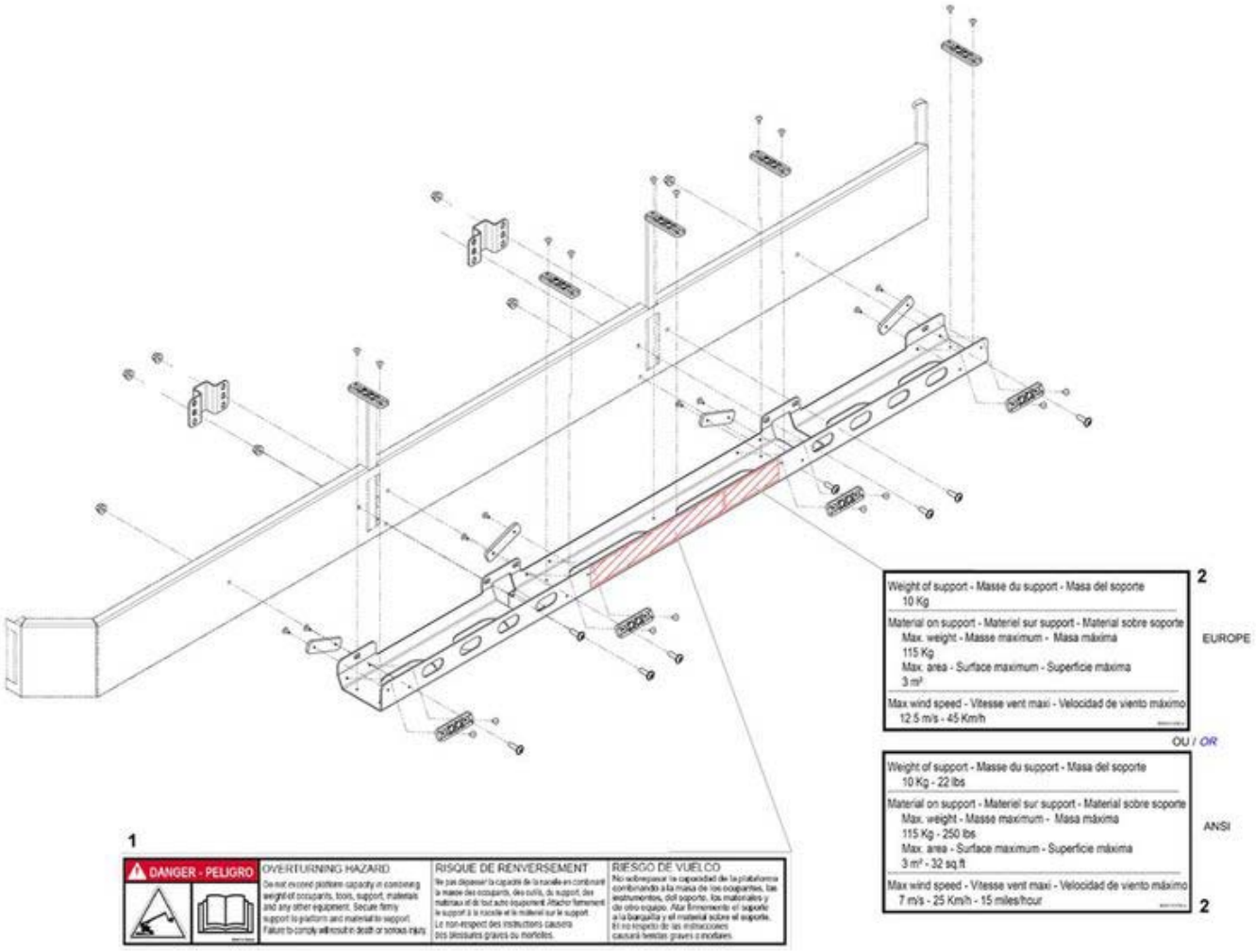
- Fix the tray (1) to the platform (2) using screws and bolts (3)
- Install plastic protection (5) on the handrail and attach it using collars (4)

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.

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

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

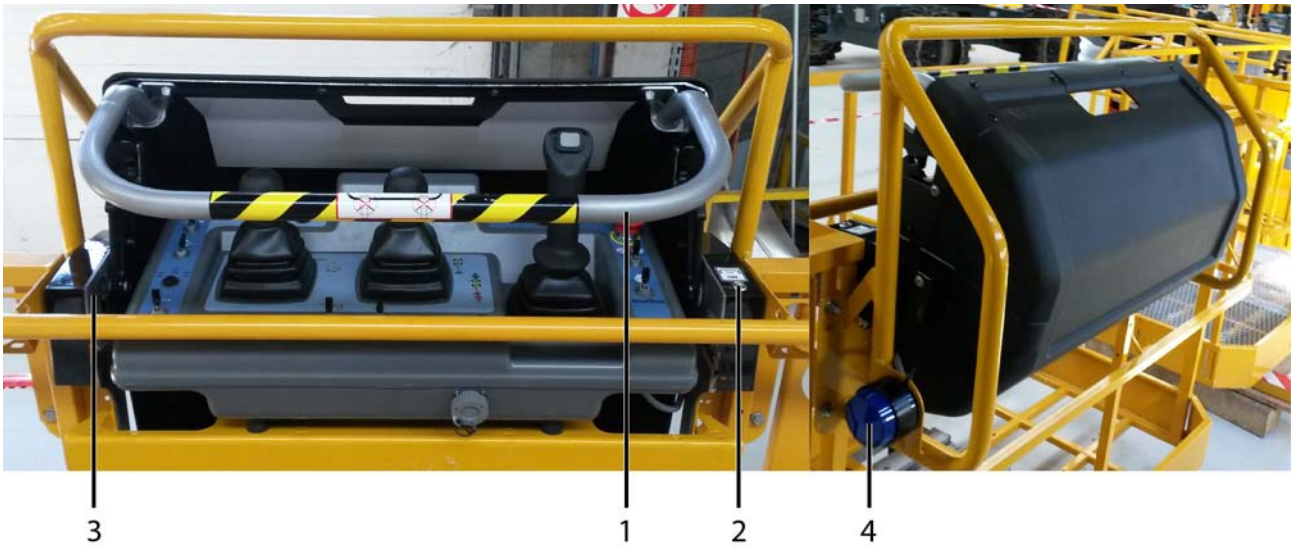
5.3.1 - Description

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, 'Enable switch' foot pedal 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

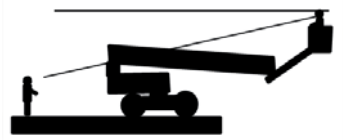
5.3.3 - Safety precautions

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

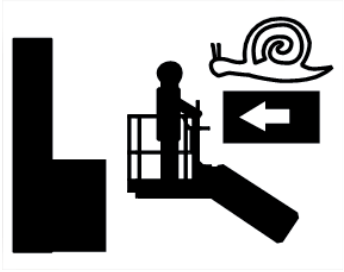
Do not use the Activ' Shield Bar as a handhold. This could result in an inadvertent triggering of the Activ' Shield Bar.

- 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.



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 'ENABLE SWITCH' FOOT PEDAL TO RESET THE SYSTEM

5.3.5 - Operation

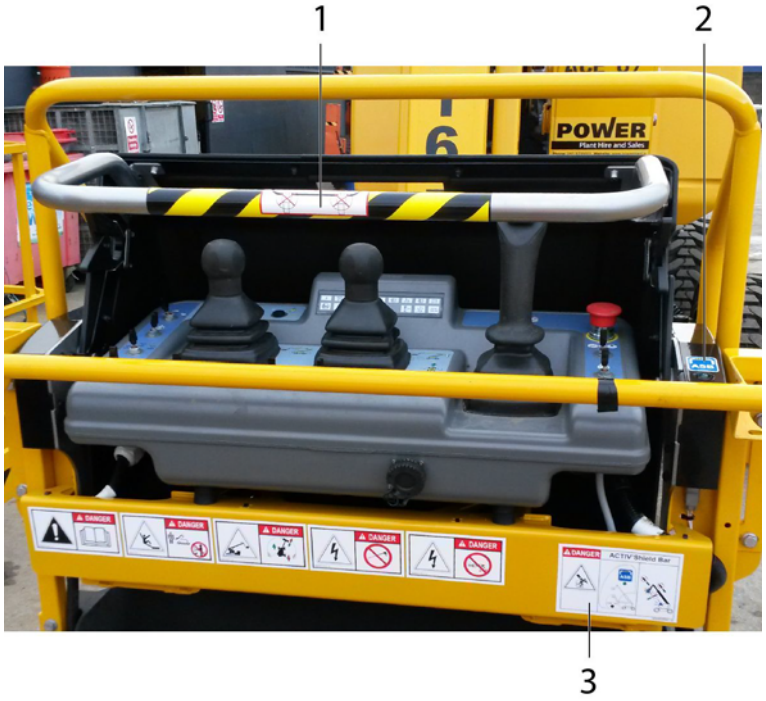
If the Activ' Shield Bar is pushed forward, all movements are stopped. The horn sounds and the warning blue light flashes. Only movements to move away from the entrapment are authorised.

To re-set the Activ' Shield Bar, release the activation bar, the 'Enable switch' foot pedal and controls. Then, re-press the 'Enable switch' foot pedal.

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

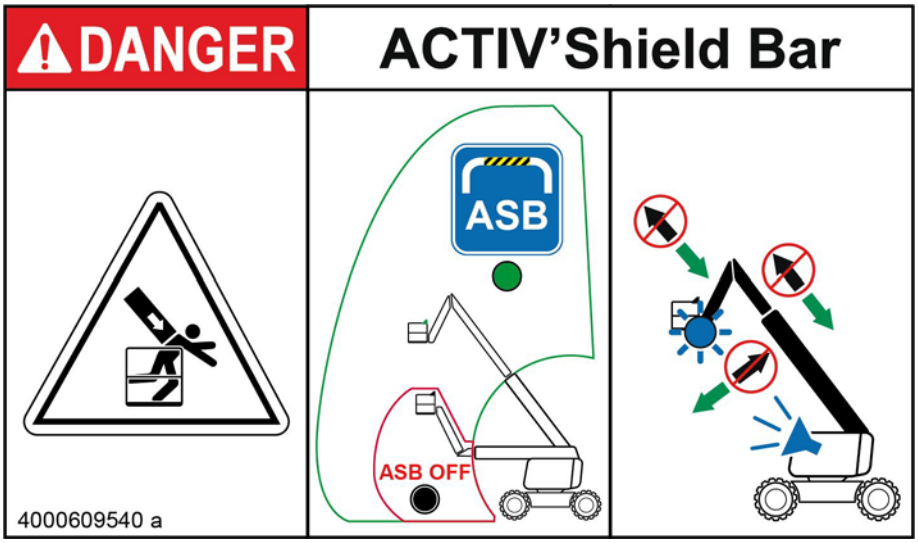
5.3.6 - Specific decals

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



5.4 - SWING GATE

5.4.1 - Description

"SWING GATE" consists of a laterally mounted pivoting ½ gate with closing latch, which enables a better access to platform. Spring loaded hinges and a latching mechanism allows the gate to swing inwards only.

Swing gate

5.4.2 - Characteristics

Width of the gate : 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.

Notes

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.

2 - Maintenance Schedule

This section provides the necessary information needed to place the machine in safe operation. According to the current regulations, this machine has been designed for a minimum service life of 10 years. 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 mechanicalprocedures.

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

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

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.

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.

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.

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.

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.

2 - Subsidiary contact information

	HAULOTTE FRANCE PARC DES LUMIERES 601 RUE NICEPHORE NIEPCE 69800 SAINT-PRIEST **TECHNICAL Department:** **+33 (0)820 200 089** **SPARE PARTS : +33 (0)820 205 344** FAX : +33 (0)4 72 88 01 43 E-mail : haulottefrance@haulotte.com www.haulotte.fr		HAULOTTE ITALIA VIA LOMBARDIA 15 20098 SAN GIULIANO MILANESE (MI) **TEL: +39 02 98 97 01** FAX: +39 02 9897 01 25 E-mail : haulotteitalia@haulotte.com www.haulotte.it		HAULOTTE INDIA Unit No. 1205, 12th foor,Bhumiraj Costarica, Plot No. 1&2, Sector 18, Palm Beach Road, Sanpada, Navi Mumbai- 400 705 Maharashtra, INDIA Tel. : +91 22 66739531 to 35 E-mail : sray@haulotte.com www.haulotte.in
	HAULOTTE HUBARBEITSBÜHNEN GmbH Ehrenkirchener Strasse 2 D-79427 ESCHBACH **TEL : +49 (0) 7634 50 67 - 0** FAX : +49 (0) 7634 50 67 - 119 E.mail : haulotte@de.haulotte.com www.haulotte.de		HAULOTTE VOSTOK 61A, RYABINOVAYA STREET Bldg. 3 121471 MOSCOW RUSSIA **TEL/FAX : +7 495 221 53 02 / 03** E.mail : info@haulottevostok.ru www.haulotte-international.com		HAULOTTE DO BRASIL AV. Tucunaré, 790 CEP: 06460-020 – TAMBORE BARUERI – SAO PAULO – BRASIL **TEL : +55 11 4196 4300** FAX : +55 11 4196 4316 E.mail : haulotte@haulotte.com.br www.haulotte.com.br
	HAULOTTE IBERICA C/ARGENTINA N° 13 - P.I. LA GARENA 28806 ALCALA DE HENARES MADRID **TEL : +34 902 886 455** TEL SAT : +34 902 886 444 FAX : +34 911 341 844 E.mail : iberica@haulotte.com www.haulotte.es		HAULOTTE POLSKA Sp. Z.o.o. UL. GRANICZNA 22 05-090 RASZYN - JANKI **TEL : +48 22 720 08 80** FAX : +48 22 720 35 06 E-mail : haulottepolska@haulotte.com www.haulotte.pl		HAULOTTE MÉXICO, Sa de Cv Calle 9 Este, Lote 18, Civac, Jiutepec, Morelos CP 62500 Cuernavaca México **TEL : +52 77 7321 7923** FAX : +52 77 7516 8234 E-mail : haulotte.mexico@haulotte.com www.haulotte-international.com
	HAULOTTE PORTUGAL ESTRADA NACIONAL NUM. 10 KM. 140 - LETRA K 2695 - 066 BOBADELA LRS **TEL : + 351 21 995 98 10** FAX : + 351 21 995 98 19 E.mail : haulotteportugal@haulotte.com www.haulotte.es		HAULOTTE SINGAPORE Pte Ltd. No.26 CHANGI NORTH WAY, SINGAPORE 498812 **Parts and service Hotline:** **+65 6546 6150** FAX : +65 6536 3969 E-mail: haulotteasia@haulotte.com www.haulotte.sg		HAULOTTE MIDDLE EAST FZE PO BOX 293881 Dubaï Airport Free Zone DUBAÏ United Arab Emirates **TEL : +971 (0)4 299 77 35** FAX : +971 (0) 4 299 60 28 E-mail : haulottemiddle- east@haulotte.com www.haulotte-international.com
	HAULOTTE SCANDINAVIA AB Taljegårdsgatan 12 431 53 Mölndal SWEDEN **TEL : +46 31 744 32 90** **FAX : +46 31 744 32 99** E-mail : info@se.haulotte.com spares@se.haulotte.com www.haulotte.se		HAULOTTE TRADING (SHANGHAI) Co. Ltd. #7 WORKSHOP No 191 HUA JIN ROAD MIN HANG DISTRICT SHANGHAI 201108 CHINA **TEL : +86 21 6442 6610** FAX : +86 21 6442 6619 E-mail : haulotteshanghai@haulotte.com www.haulotte.cn		HAULOTTE ARGENTINA Ruta Panamericana Km. 34,300 (Ramal A Escobar) 1615 Gran Bourg (Provincia de Buenos Aires) Argentina **TEL.: +54 33 27 445991** FAX. +54 33 27 452191 E-mail : haulotteargentina@haulotte.com www.haulotte-international.com
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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