

TELESCOPIC MACHINES, 28 - 43 M

Operator's manual

TELESCOPIC MACHINES, 28 - 43 M

H28TJ+ (HB86TJ+)

H43TPX (HB135JRT)

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

1 - Operator's manual

As stated on the delivery slip, this manual is one of the documents in the on-board document holder provided upon delivery of your HAULOTTE® machine.

The operator manual is a translation of the original instructions.

Safe operation of this product can only be assured if you follow the operating instructions contained in this manual.

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

- Compliance with safety instruction (machine, use, environment)
- Use of the equipment within the 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 characteristics. Only the tables of technical characteristics should be used to study the suitability of the equipment for the intended use.

2 - After Sales Service

Our HAULOTTE Services® After Sales Service is at your disposal throughout your machine's service life to ensure optimal 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..
- HAULOTTE® must be informed in the event of an incident that either involves one of these products or has caused bodily injury or significant deterioration of property (personal property or the product); contact HAULOTTE Services® immediately (See : HAULOTTE Services® contact details)

3 - Compliance

We would like to remind you that HAULOTTE® complies with the provisions of any applicable directives applicable to this type of machine.

HAULOTTE advises you that NO modifications carried out without the written permission of HAULOTTE® will void the HAULOTTE warranty..

HAULOTTE® cannot be held liable for any changes to the technical specifications contained in this manual.

HAULOTTE® reserves the right to alter technical specifications and to make improvements or modifications to the machine without modifying this manual.



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 options not require any particular precautions other than those associated with the installation itself (static test).

Otherwise, it is essential to follow the manufacturer's recommendations 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 label compliance.**

4 - HAULOTTE Services® contact details

HAULOTTE Services® contact details

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A - Safety precautions

1 - Recommendations

1.1 - OPERATOR'S MANUAL

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



The operator manual does not replace the basic training required for all worksite equipment operators.

HAULOTTE® has compiled this manual to assist in safe and efficient operation of the products covered by the manual.

This manual must be kept on the machine (or in the cab in its storage case. The manual must be available to all operators and must be kept in good condition. Additional copies can be ordered from HAULOTTE Services®.

1.2 - SYMBOLS USED

Symbols are used to alert the operator to safety precautions or to highlight practical information.

Legend

Symbol	Meaning
	Danger : Risk of injury or death (work safety)
	Caution : Risk of material damage (work quality)
	Prohibition relating to work safety and quality
	Reminder : No identified risk, but a reminder of the need for common sense, good practice or pre-action prerequisites
	Cross-reference to another part of the manual (see section or sheet)
	Cross-reference to another manual (see manual)
	Cross-reference to repairs (contact HAULOTTE Services®)
N.B. :	Additional technical information

A - Safety precautions

1.3 - LABEL COLORS

The potential dangers and any specific regulations are indicated around the product by labels and identification plates.



The labels must be kept in good condition. Additional labels can be obtained from HAULOTTE Services®.

Familiarize yourself with the labels and their respective color codes.

Label color code

Labels	Color	Meaning
	Red	Potentially fatal danger
	Orange	Risk of serious injury
	Yellow	Risk of material damage and/or minor injury
	Other	Additional technical information
	Green	Maintenance operation or information

Label color code-For Russia and the Ukraine only

Labels	Color	Meaning
	Red	Prohibitions - Danger
	Yellow	Warning : Risk of material damage and/or minor injury
	Blue	Precaution
	Blue	Information
	Other	Additional technical information

A - Safety precautions

2 - Pre-operation instructions

2.1 - GENERAL INSTRUCTIONS



- The employer has the obligation to issue a driving permit to the operator.
- The employer is obliged to inform the operator of the local regulations.



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 maximum value in the technical characteristics (Section G 1-Main characteristics). Consult the Beaufort scale (Section A 3.2.4-Risk of uncontrolled movement and overturning).
- Close to power lines. Respect the safety distance (Section A 3.2.3-Risk of electrocution).
- At ambient temperatures higher than 45 °C(113 °F) and lower than -15 °C(5 °F) . Consult HAULOTTE® if it is necessary to work outside this range.
- In an explosive atmosphere.
- During storms (risk of lightning).
- In the presence of strong electromagnetic fields (radar, etc ...).

N.B.:-You are advised to use the machine under "NORMAL" climatic conditions.. If you need to use the machine in climatic conditions likely to cause deterioration (humidity, temperatures outside the recommended ranges, salinity, corrosiveness, atmospheric pressure), contact HAULOTTE Services®. Reduce intervals between servicing.

N.B.:-Whilst the machine is not in use, care must be taken to ensure that if the machine is not locked in a secure location, that the unit key switch is removed to prevent unauthorised use of the machine.

2.2 - SPECIFIC INSTRUCTIONS



Do not operate the product in the following situations :

- If the load in the platform exceeds the maximum load authorized. Check the maximum value in the technical characteristics (Section G 1-Main characteristics).
- If the ground slope is greater than the permissible limit. Check the maximum value in the technical characteristics (Section G 1-Main characteristics).
- In a non-ventilated area as the exhaust gases are toxic.
- At night unless the machine is equipped with the optional light.
- If the number of persons exceeds the permissible limit. Check the maximum value in the technical characteristics (Section G 1-Main characteristics).
- If the side force is greater than the permissible force. Check the maximum value in the technical characteristics (Section G 1-Main characteristics).

A - Safety precautions

3 - Operation instructions



It is preferable to operate the machine on flat, consolidated ground (tarmac, concrete, etc.).

3.1 - PROHIBITIONS



- Never use a faulty machine (hydraulic leaks, worn tires, malfunction).
- Never operate the machine controls suddenly.
- Never place the machine against a structure to hold that structure in place.
- Never use the machine to tow other machines or to drag materials.
- Never expose the batteries or electrical components to water (pressure cleaner, rain).
- Never disable the safety devices.
- Do not make contact with a fixed or mobile obstacle. The contact can cause premature deterioration of the structure and lead to the corruption of certain safety elements.
- Do not climb onto the covers.
- Never use the machine with only an operator in the platform. A second person competent in the operation of emergency retrieval, should be present on the ground in case of an emergency.
- Never use the machine when the platform is cluttered.
- Never increase the surface area of the platform by using floor extensions or accessories not authorized by HAULOTTE®.
- Never leave the hydraulic cylinders fully extended or retracted before switching off the machine, or during an extended stop period.



- Never use the machine with material or objects hanging from the guardrail or the boom.
- Never use the machine with elements that can increase the wind force (panels).
- Never increase the working height by using attachments (ladder).
- Never use the guardrail as a means of access for climbing in or out of the platform. The basket can be easily accessed in its low position. For machines fitted with : Steps have been provided for this purpose where required.
- Never climb on the guardrail.
- Never use the machine without fully lowering the sliding midrail or without closing the platform entry gate.
- Never use the machine as a crane, material lift or elevator.
- Never use the machine for any other purpose than to transport people, their tools and material to the desired place.
- Never drive fast in narrow or cluttered areas. Keep speed under control in bends.
- Never tow the machine over extended distances (it must be transported on a trailer). In case of a machine failure, it is possible to tow it to load it onto a trailer ( Section F 3Towing).

A - Safety precautions

3.2 - POTENTIAL RISKS

3.2.1 - Risk of command system disturbance

Risk of disrupted movement. Maintain clearance from high voltage lines or magnetic fields.

3.2.2 - Risk of falling

When in the platform, respect the following instructions :

- Carry individual protection equipment adapted to the work conditions and local rules.
- Avoid contact with fixed or mobile obstacles (other machines).
- Ensure that the adjustable midrail is closed (low position and against the guardrails).
- Ensure that the gate is closed and locked (For machines fitted with).
- Hold on securely to the guardrails during elevation and driving.
- Do not sit, stand, or climb on the platform guard rails.
- Ensure that guard rails are correctly installed and locked.
- Always keep your feet firmly on the floor of the platform.
- Remove any trace of oil or grease from the steps, floor, handrail and the guardrails.
- Keep the floor of the platform free of debris.
- Do not leave the platform until it is fully in its stowed position.
- Do not climb on to the platform if the machine is not in the stowed position.

To climb up or climb down from the platform :

- The machine must be completely stowed.
- Face the machine to access the entry opening to the platform
- Keep 3 support points between the steps and the guardrail



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A - Safety precautions

3.2.3 - Risk of electrocution

The machine is not electrically insulated and does not offer any insulation protection.



The risks of electrocution are high in the following situations :

- Close to live power lines, consider the movement of the machine and the sway of the electric power lines particularly in windy conditions.
- In the event that you were to make accidental contact with a high voltage line, wait for the power to the line to be switched off before operating the machine.
- During storms.

Never use the machine as a welding earth.

Maintain a minimum safe distance with regard to power lines and electrical devices.

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

Minimum safety distance

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.:- This table is applicable, except when the local regulations are more strict.

3.2.4 - Risk of uncontrolled movement and overturning

When in the platform, respect the following instructions :



- Before operating the machine on any indoor or outdoor surface (premises, bridge, truck, etc.), check that the surface is capable of supporting the combined machine weight and platform capacity. Check the maximum value in the technical characteristics ( Section G 1-Main characteristics).
- 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.
- Always ensure that the chassis is never driven any closer than 1 m(3 ft3 in) m to holes, bumps, tilts, obstructions, debris and ground coverings that may hide holes and other dangers.
- During motion direction reversal from the platform or ground control box, the joysticks or switches must be stopped in neutral position before reversing the direction of motion.
- Taking note of the overall load dimensions and weight, place the loads in the centre of the platform or distribute them in a uniform manner.
- If the tilt alarm sounds when the platform is raised, lower platform completely, then reposition machine onto level ground before raising platform.

A - Safety precautions



- Do not drive the machine on slopes or tilts beyond the design limits. Check the maximum value in the technical characteristics( Section G 1-Main characteristics).
 - Do not travel down slopes at high speed.
 - Do not use the machine (elevation and travel) on an incline greater than that permitted by the slope sensor.
 - Do not drive in reverse (direction opposite the field of vision).
 - Never use the machine in winds exceeding the permissible limit.
 - Do not increase the surface area exposed to wind. The greater the surface area exposed, the more unstable the machine becomes.
-
- While driving, always place the arrow above the rear axle, in the direction of movement.
 - While driving on a slope, always orient the machine in the direction of the slope.
 - Do not pull or push objects with the boom.

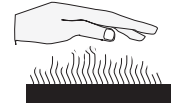
N.B.:-The Beaufort scale measures the wind force with a graduation system. A wind speed range at 10 m(32 ft9 in) above flat, clear land is associated with each degree.

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 branches in constant movement. Flags move slightly.	3,4 - 5,4	12 - 19	7,46 - 11,8
4	Nice breeze	Dust and loose papers fly. Small branches bend.	5,5 - 7,9	20 - 28	12,43 - 17,4
5	Nice breeze	Small trees sway. Crested wavelets form on inland waters.	8,0 - 10,7	29 - 38	18,02 - 23,6
6	Cool wind	Large branches shake. Power lines and chimneys 'sing'. It is difficult to use an umbrella.	10,8 - 13,8	39 - 49	24,23 - 30,45
7	Strong cool wind	All trees shake. Walking against the wind becomes difficult.	13,9 - 17,1	50 - 61	31 - 37,9
8	Squall	Some branches break. Generally we cannot walk against the wind.	17,2 - 20,7	62 - 74	38,53 - 45,98
9	Strong squall	The wind causes slight damage to buildings. Tiles and chimney stacks are blown off.	20,8 - 24,4	75 - 88	46,60 - 54,68

A - Safety precautions

3.2.5 - Risk of burns and explosion



For any intervention on the power sources, wear glasses and protective clothes (acid spray).

N.B.:-Acid is neutralised with sodium bicarbonate and water.



- Do not work in an explosive or flammable atmosphere (spark, flame, etc.).
- Do not touch the hot parts of the hydraulic power source (engine, filters, etc.).
- Do not bridge the battery terminals with metallic objects.
- Do not service the battery close to a spark, naked flame, glowing tobacco (emissions of gas).



- Do not fill up the fuel tank, when the engine is running and/or close to a naked (open) flame.

3.2.6 - Risk of crushing and collision

When in the platform, respect the following instructions :

- During operation, keep all the parts of the body inside the platform.
- To position the machine close to obstacles, use the raise controls (arm, boom, etc.) instead of the drive controls.
- Ensure there are no obstacles (structure) in the work area.
- When driving, position the platform so as to provide the best visibility possible.
- Always obtain assistance from a guide on the ground when manoeuvring.
- All the personnel in the platform or on the within the vicinity of the machine must wear Personal Protection Equipment (safety helmet, etc.).
- When lifting or lowering the basket and during driving, the operator must check that the area above, below and to each side of the machine are clear.
- When moving the machine, ensure that the machine operating areas is free of persons and obstacles.



Do not operate other machines (crane, platform, etc.) in the work area.

Take account of the distance, reduced visibility and blind spots during use of the machine.

B - Intervenor's responsibility

1 - Owner's (or hirer's) responsibility

The owner (or hirer) has the obligation to inform operators of the instructions contained in the Operator Manual.

The owner (or hirer) has the obligation to renew all manuals or labels that are either missing or in bad condition. Additional copies can be ordered from HAULOTTE Services®.

The owner (or hirer) is responsible for applying the local regulations regarding operation of the machine.

2 - Employer's responsibility

The employer has the obligation to issue a driving permit to the operator.

N.B.:-In accordance with the regulation in the country where the machine is operating, the user must be authorized to drive by the doctor of Labour Ministry.



Forbid anyone from operating the machine who is :

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

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.

4 - Operator's responsibility

The operator must read and understand the contents of this manual and the labels affixed on the machine.

The operator must inform the owner (or hirer) if the manual or any labels are missing or in poor condition, and of any malfunction of the machine.

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 how to operate the machine in an emergency as a component of their formal operator training.

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

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B - Intervenor's responsibility

5 - Inspection and maintenance

The inspection and maintenance table below, identifies the role and the responsibilities of each party in periodical machine maintenance..



If the machine is operated in a hostile environment or intensively, increase the frequency of maintenance.

Inspections and maintenance

Type of intervention	Frequency	Person-in-charge	Intervenor	Reference document
Pre-delivery inspection	Before each delivery of sold, hired or resold equipment	Owner (or hirer)	Qualified HAULOTTE Services® technician	Operator's manual
Pre-operation inspection	Before operation or when the operator changes	Operator	Operator	Operator's manual
Periodical preventive maintenance	At the specified intervals (250 hours or 1 year)	Owner (or hirer)	On-site technician or qualified HAULOTTE Services® technician	Maintenance book
Periodical visit	2 times a year or at the latest 6 months after the last periodic visit, and according to the local regulations	Owner (or hirer)	Organization or technician approved by the employer or by the intermediary of HAULOTTE Services® in accordance with the HAULOTTE Services® contract	Maintenance book

C - Machine layout

1 - Identification

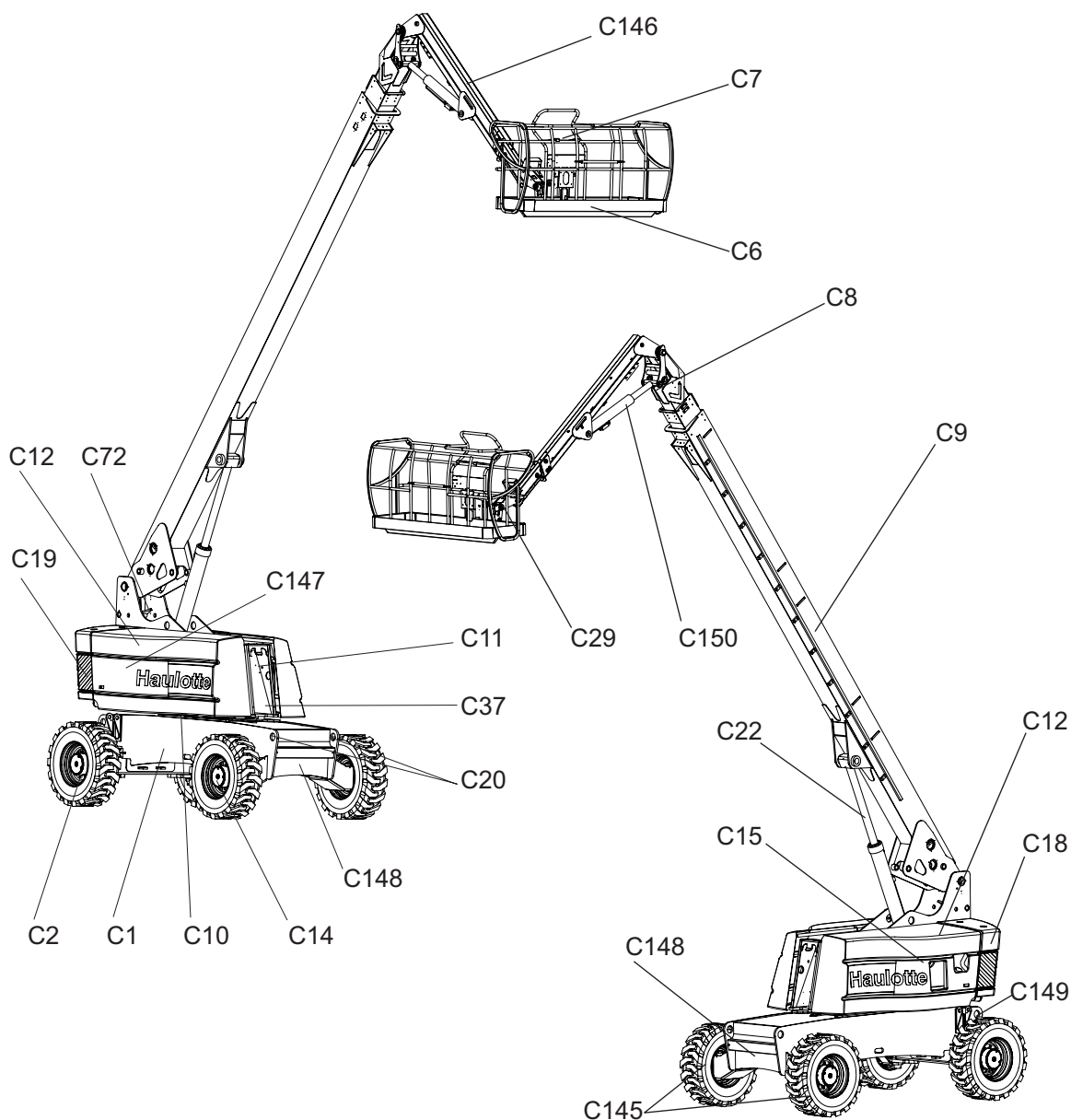
The manufacturers identification plate fixed on the chassis bears all pertinent information to identify the machine (Please see machine configuration).



For any request for information, intervention or spare parts, specify the type and serial number of the machine.

2 - Main components

H28TJ+ (HB86TJ+) - Major Component Location Diagram



C

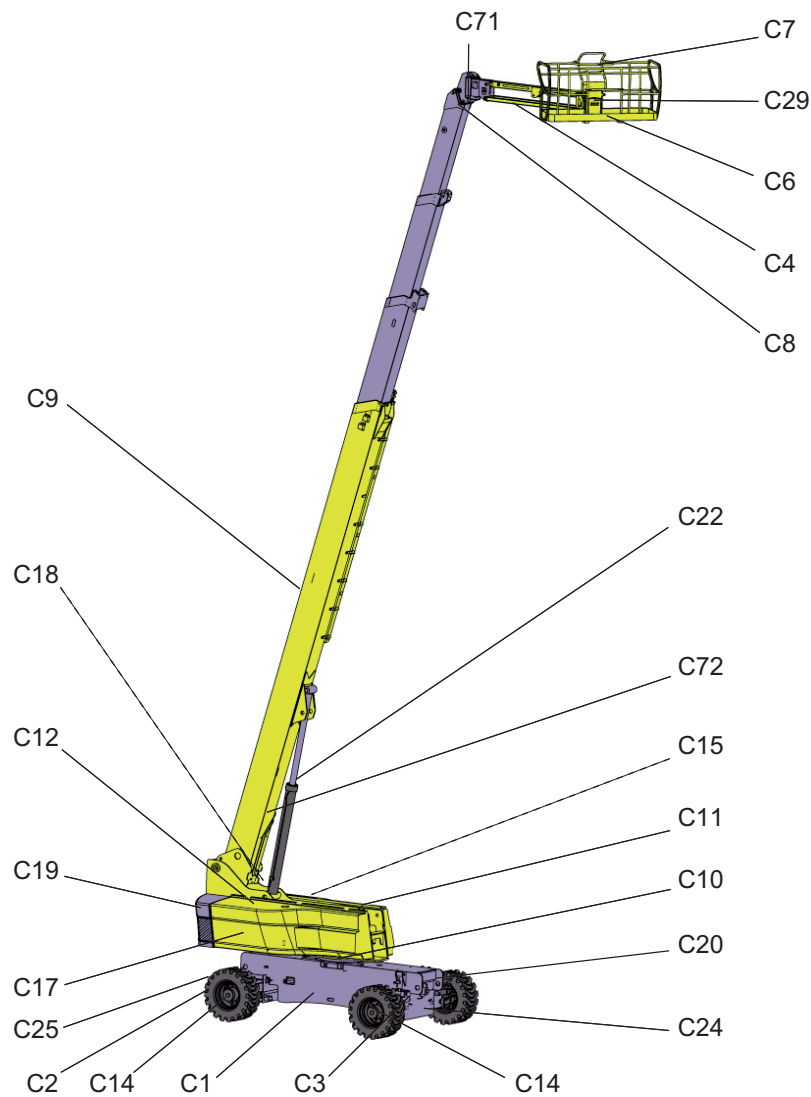
- Machine layout

H28TJ+ (HB86TJ+) - Description of the components

Marking	Description
C1	Chassis
C2	Front driven steering axle
C6	Platform
C7	Platform control box
C8	Level compensation cylinder
C9	Telescopic boom
C10	Slew ring
C11	Turntable assembly
C12	Side cover
C14	Hydraulic drive motor and reducer
C15	Right side cover (hydraulic oil tank and fuel tank)
C18	Right counterweight
C19	Left counterweight
C20	Tie-down (and/or lifting) points
C22	Boom lift cylinder
C29	Platform rotation cylinder
C72	Level compensation cylinder
C145	Rear drive wheel
C146	Telescopic jib
C147	Left compartment (engine and pump)
C148	Fixed axle
C149	Swing axle
C150	Jib lifting cylinder

C - Machine layout

H43TPX (HB135JRT) - Major Component Location Diagram



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- Machine layout

H43TPX (HB135JRT) - Description of the components

Marking	Description
C1	Chassis
C2	Front driven steering axle
C3	Rear drive and/or steer wheel
C4	Jib
C6	Platform
C7	Platform control box
C8	Level compensation cylinder
C9	Telescopic boom
C10	Slew ring
C11	Turntable assembly
C12	Side cover
C14	Hydraulic drive motor and reducer
C15	Right side cover (hydraulic oil tank and fuel tank)
C17	Left side cover (engine, pump and starter battery)
C18	Right counterweight
C19	Left counterweight
C20	Tie-down (and/or lifting) points
C22	Boom lift cylinder
C24	Extendable fixed axle
C25	Extendable swing axle
C29	Platform rotation cylinder
C71	Jib rotation cylinder
C72	Level compensation cylinder

C - Machine layout

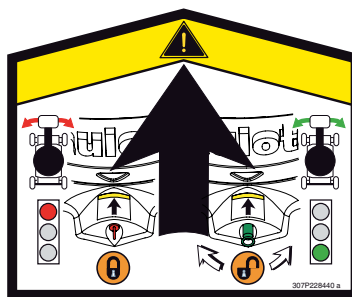
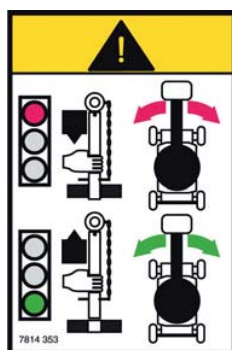
3 - Safety devices

3.1 - TURNTABLE ROTATION PIN

The turntable rotation pin allows turntable locking during machine transportation



After each transportation, remove the turntable rotation locking pin.



Turntable rotation locking pin (Please see machine configuration)



Turntable rotation locking pin (Please see machine configuration)



C - Machine layout

Turntable rotation locking pin (Please see machine configuration)



Turntable rotation locking pin (Please see machine configuration)



Turntable rotation locking pin (Please see machine configuration)



Turntable rotation locking pin (Please see machine configuration)



C - Machine layout

3.2 - SLIDING (OR SWINGING) INTERMEDIATE GUARDRAIL



The illustrations in this paragraph do not necessarily correspond to the range of products designated in the manual.

The platform is comprised of guardrails and a sliding mid-rail facilitating platform access.



Do not restrain the sliding midrail to the guard rail.



3.3 - ANCHORAGE POINT (PLEASE SEE MACHINE CONFIGURATION)



The illustrations in this paragraph do not necessarily correspond to the range of products designated in the manual.

The machine is equipped with harness anchorage points which accept a single harness per anchorage point. The anchorage points are identified by the presence of the Anchorage point label.



If the local regulation imposes the wearing of a harness, use the approved anchorage points.



C

- Machine layout

3.4 - ENGINE COMPARTMENT LOCK

For machines fitted with :

To avoid any risk of the engine compartment opening during machine transport or use, the engine compartment is fitted with a spring catch. It allows you to block the motor compartment in its open position during a maintenance operation.



Before pivoting the motor tank, you must loosen the security screw that connects the tank to the turntable.

Do not forget to return the screw to its initial position after the intervention.

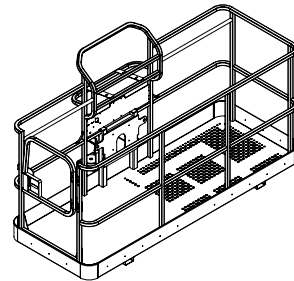
3.5 - SAFETY GATE

For machines fitted with :

The platform is fitted with a gate facilitating access to the platform..



Ensure that there is no obstacle preventing the gate from closing ..



C - Machine layout

4 - Labels

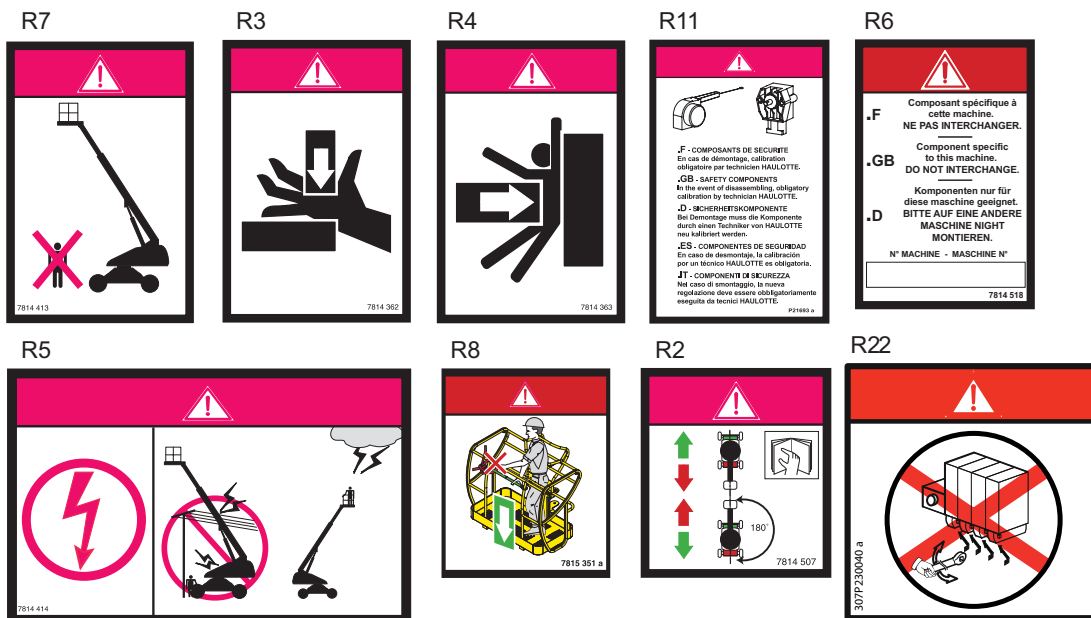
4.1 - CLASSIFICATION PLAN

4.1.1 - Red labels

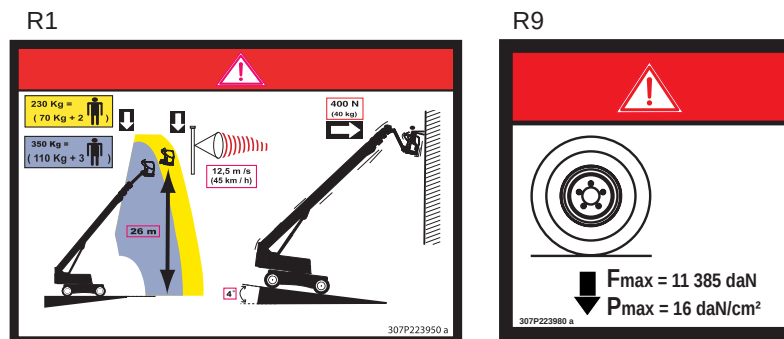


The red labels indicate a potentially fatal danger.

Common labels

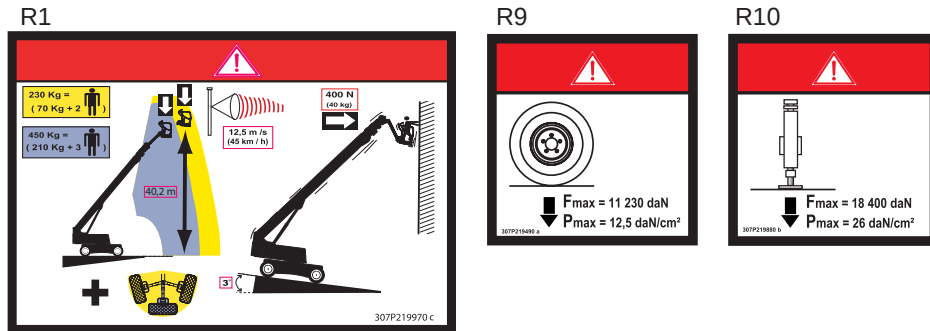


Specific labels H28TJ+ (HB86TJ+)



C - Machine layout

Specific labels H43TPX (HB135JRT)



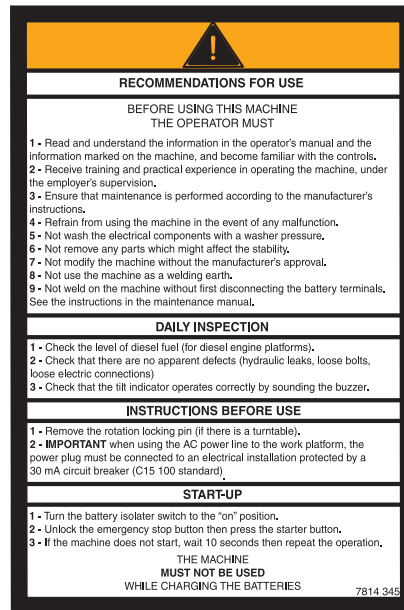
4.1.2 - Orange labels



The orange labels indicate a risk of serious injury.

Common labels - CE

O1



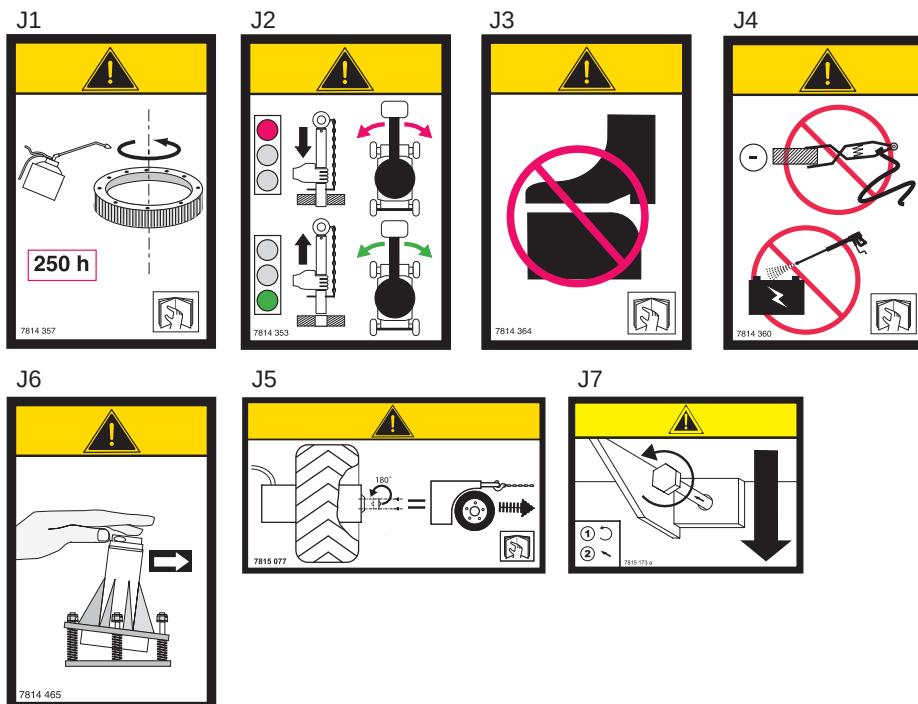
C - Machine layout

4.1.3 - Yellow labels



The yellow labels indicate a risk of material damage and/or minor injury.

Common labels



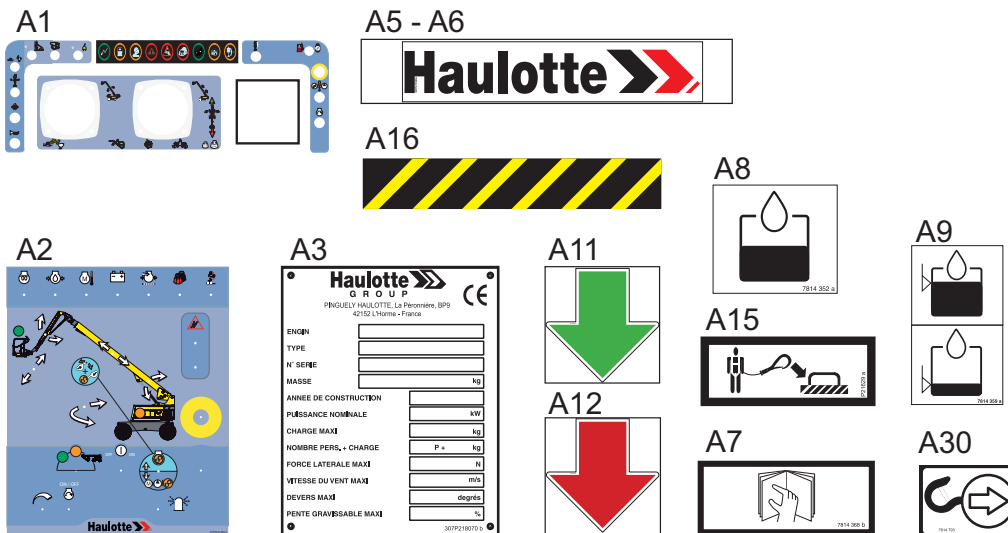
C - Machine layout

4.1.4 - Other labels

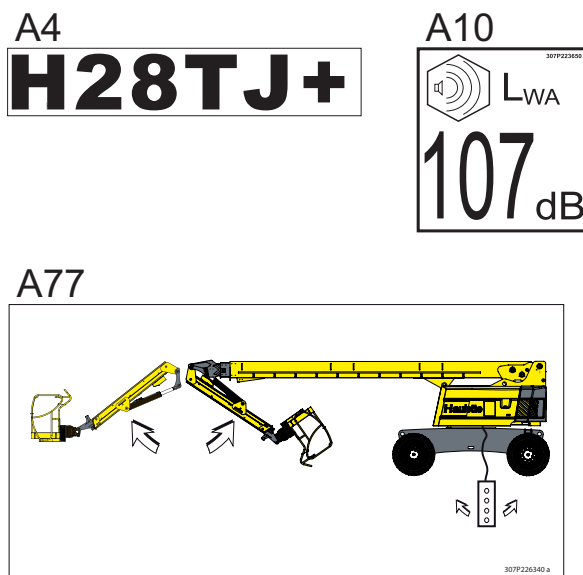


The other labels provide additional technical information.

Common labels

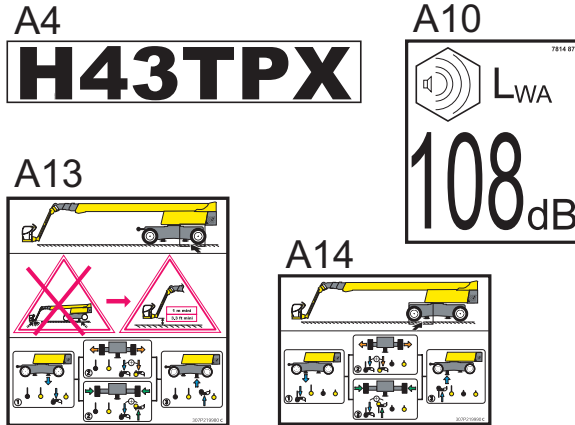


Specific labels : H28TJ+ (HB86TJ+)

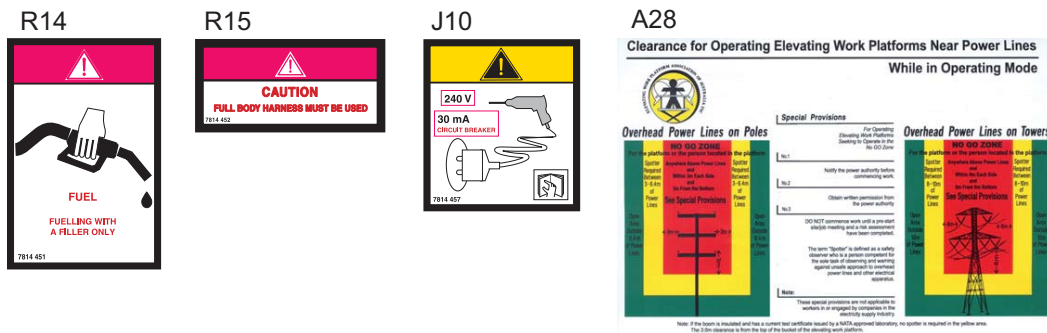


C - Machine layout

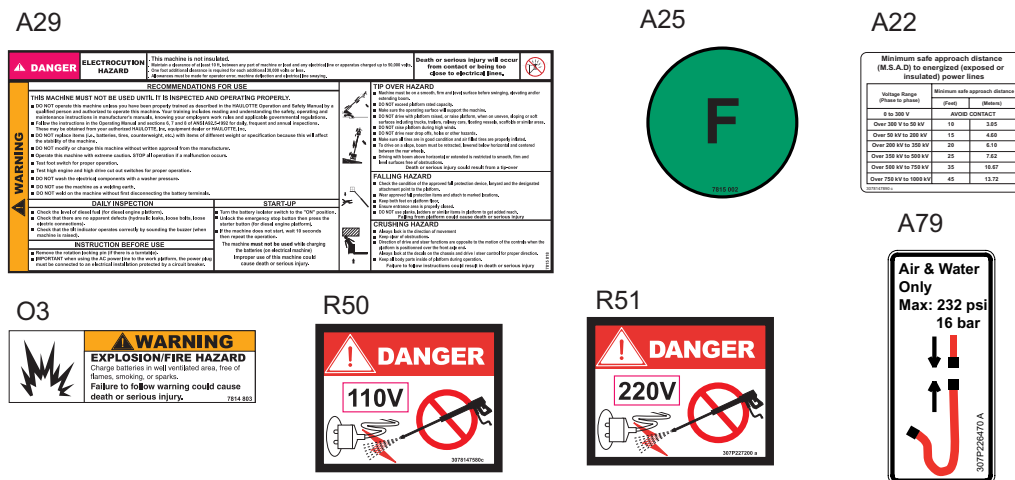
Specific labels : H43TPX (HB135JRT)



Specific labels AS



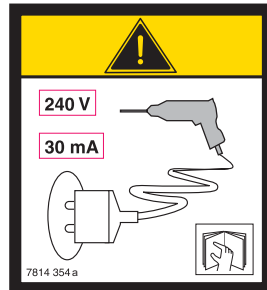
Specific labels ANSI



C - Machine layout

Specific labels, optional

J10



A8



4.1.5 - Green labels



Green labels indicate maintenance, operations or information (CSA standard).

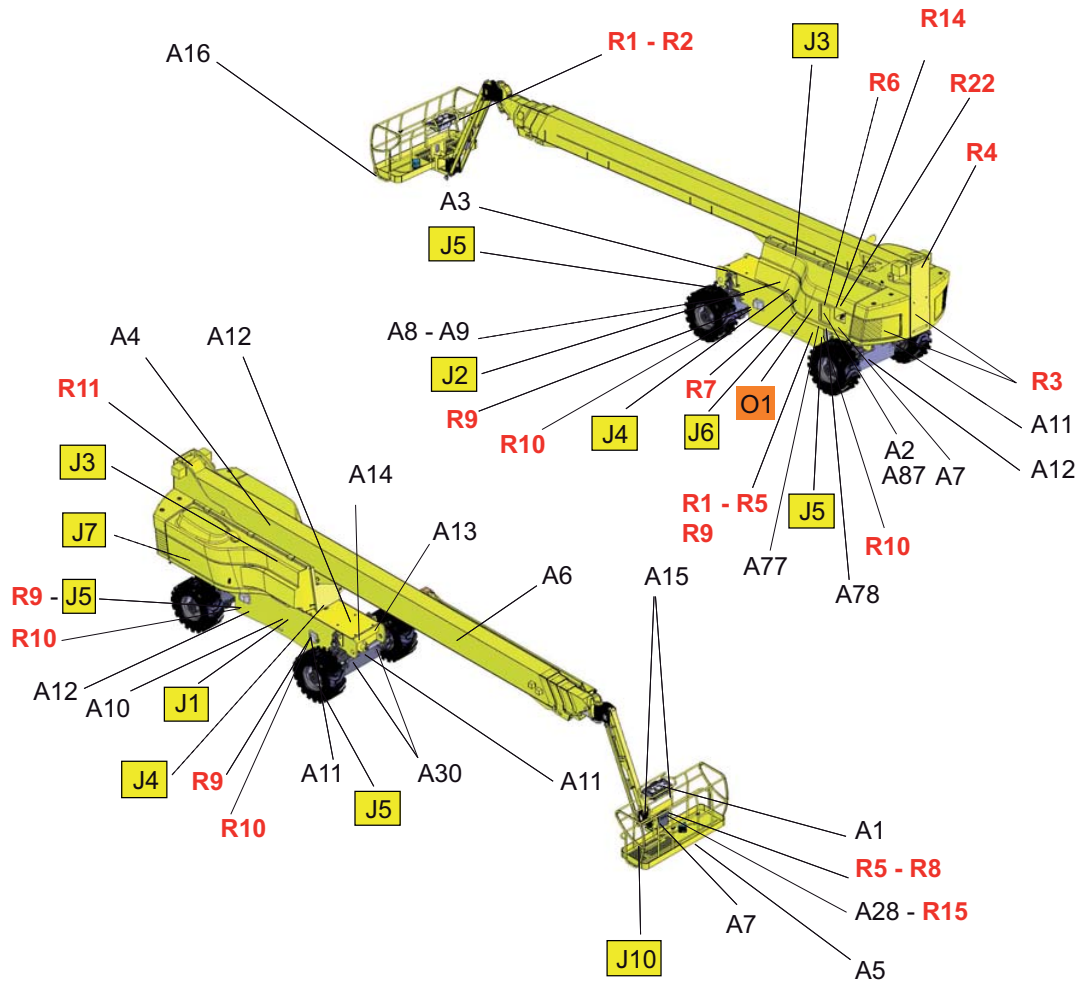
4.1.6 - Blue labels

N.B.:-The blue labels indicate information or a precaution to be taken in case of danger.

C - Machine layout

4.2 - IDENTIFICATION

Locations - Standards CE and AS



C - Machine layout

Label descriptions - Standards CE and AS

Color	Marking	Description	Quantity	H28TJ+ (HB86TJ+)	H43TPX (HB135JRT)
Red	R1	Height of the floor and load	2	307P223950	307P219970
Red	R2	Travel direction	1	3078145070	3078145070
Red	R3	Risk of crushed hands	2	3078143620	3078143620
Red	R4	Risk of body crushing	2	3078143630	3078143630
Red	R5	Danger of electrocution	2	For CE standard only : 3078144140	For CE standard only : 3078144140
Red	R6	Do not interchange	1	3078145180	3078145180
Red	R7	Do not park in the work area	2	3078144130	3078144130
Red	R8	Close the sliding mid-rail	1	3078153510	3078153510
Red	R9	Wheel load	4	307P223980	307P219490
Red	R10	Maximum effort on the stabilizers	4		307P219880
Red	R11	Calibration after dismantling	1	307P216930	307P216930
Red	R14	Fuel filling-up	1	For AS standard only : 3078144510	For AS standard only : 3078144510
Red	R15	Harness use	1	For AS standard only : 3078144520	For AS standard only : 3078144520
Red	R22	Prohibited use of the PVG	1	307P230040	307P230040
Orange	O1	Operation instructions	1	In french (CE standard) : 3078143420	In french (CE standard) : 3078143420
				In english (Standards CE and AS) : 3078144560	In english (Standards CE and AS) : 3078144560
				In german (CE standard) : 3078143440	In german (CE standard) : 3078143440
				In spanish (CE standard) : 3078143430	In spanish (CE standard) : 3078143430
				In italian (CE standard) : 3078143460	In italian (CE standard) : 3078143460
				In dutch (CE standard) : 3078143470	In dutch (CE standard) : 3078143470
				In danish (CE standard) : 3078144940	In danish (CE standard) : 3078144940
				In finish (CE standard) : 3078145540	In finish (CE standard) : 3078145540
				In portuguese (CE standard) : 3078145830	In portuguese (CE standard) : 3078145830
				In swedish (CE standard) : 3078145940	In swedish (CE standard) : 3078145940
Yellow	J1	Greasing the turntable rotation gear	1	3078143570	3078143570
Yellow	J2	Remove the blocking pin before rotating	1	3078143530	3078143530
Yellow	J3	Do not place your foot on the cover	2	3078143640	3078143640
Yellow	J4	Do not use the machine as a welding earth	2	3078143600	3078143600

C

- Machine layout

Color	Marking	Description	Quantity	H28TJ+ (HB86TJ+)	H43TPX (HB135JRT)
Yellow	J5	Brake release	4	3078150770	3078150770
Yellow	J6	Verification of tilt operation	1	3078144650	3078144650
Yellow	J7	Revolving cradle	1	3078151730	3078151730
Yellow	J10	Socket	1	For CE standard only : 3078143540	For CE standard only : 3078143540
Yellow	J10	Socket	1	For AS standard only : 3078144570	For AS standard only : 3078144570
Other	A1-1	Central platform control box	1	307P223390	307P219430
Other	A1-2	Left platform control box	1	307P219440	307P219440
Other	A1-3	Right platform control box	1	307P223410	307P219450
Other	A1-4	Upper central platform control box	1	307P223400	307P219470
Other	A2	Ground control box	1	307P223380	307P218380
Other	A3	Identification plate	1	307P218070	307P218070
Other	A4	Machine name logo	1	307P223930	307P219950
Other	A5	Small format HAULOTTE® logo	1	307P217080	307P217080
Other	A6	Large format HAULOTTE® logo	1	307P217220	307P217220
Other	A7	Read the operation manual	2	3078143680	3078143680
Other	A8	Hydraulic oil	1	3078143520	3078143520
Other	A8	Biodegradable oil	1	3078148890	3078148890
Other	A9	Upper and lower oil level	1	3078143590	3078143590
Other	A10	Noise emission level	1	307P223650	3078148740
Other	A11	Front green drive direction arrow	4	3078143930	3078143930
Other	A12	Rear red drive direction arrow	4	3078143940	3078143940
Other	A13	Swing axle extension/retraction	1		307P219980
Other	A14	Fixed axle extension/retraction	1		307P219990
Other	A15	Harness anchor point location	2	307P216290	307P216290
Other	A16	Yellow and black adhesive tape	1	2421808660	2421808660
Other	A28	Risks of electrocution	1	For AS standard only : 307P226440	For AS standard only : 307P226440
Other	A30	Machine tie down points	4	3078147930	3078147930
Other	A77	Putting in transport position	1	For CE standard only : 307P226340	
Other	A78-1	Right transport positioning box	1	307P226280	
Other	A78-2	Left transport positioning box	1	307P226290	
Other	A78-3	Dead Man	1	307P224810	
Other	A87	Emergency control panel	1	For Italy only : 307P232500	

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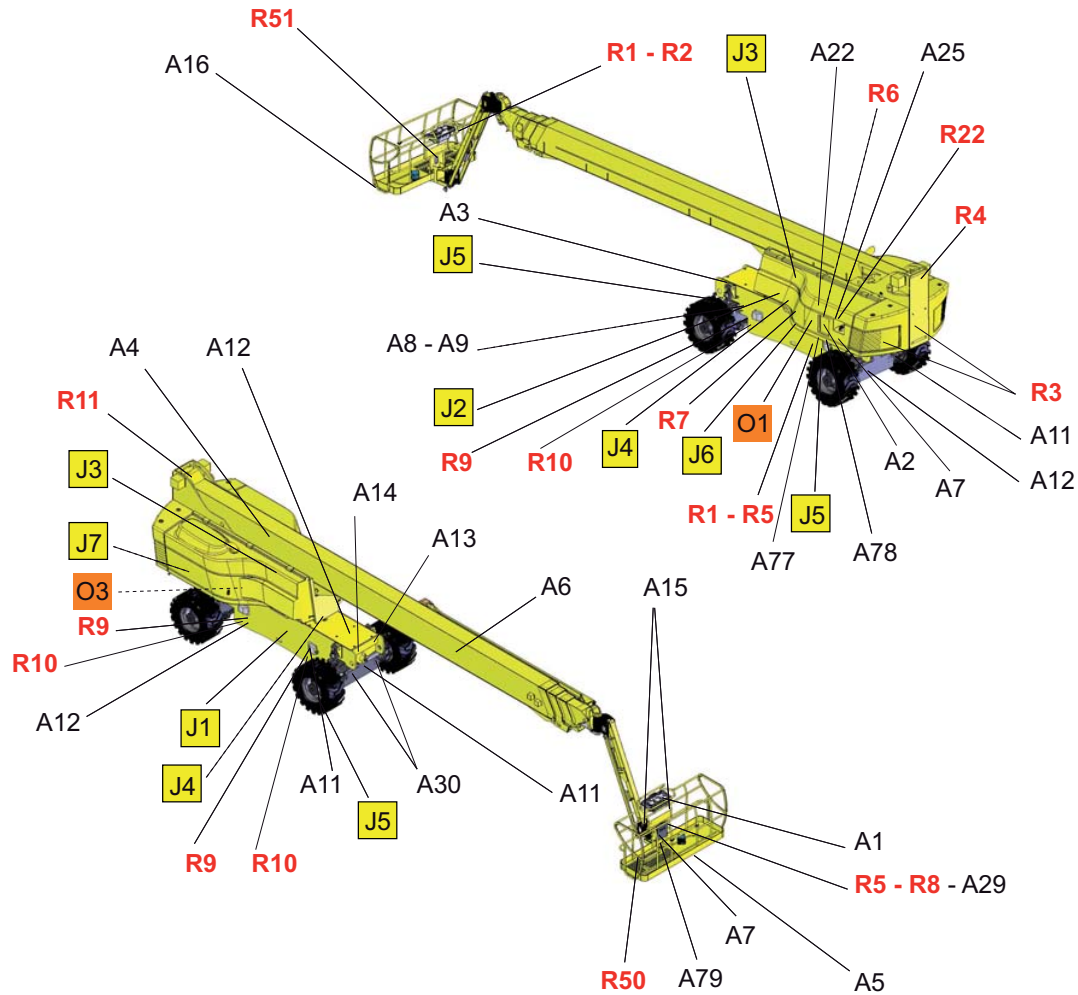
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C - Machine layout

Locations-Standards ANSI and CSA



C - Machine layout

Label descriptions-Standards ANSI and CSA

Color	Marking	Description	Quantity	H28TJ+ (HB86TJ+)	H43TPX (HB135JRT)
Red	R1	Height of the floor and load	2	307P224020	307P222010
Red	R2	Travel direction	1	3078147300	3078147300
Red	R3	Risk of crushed hands	2	3078147240	3078147240
Red	R4	Risk of body crushing	2	3078147260	3078147260
Red	R5	Danger of electrocution	2	3078147460	3078147460
Red	R6	Do not interchange	1	3078147320	3078147320
Red	R7	Do not park in the work area	2	3078147430	3078147430
Red	R8	Close the sliding mid-rail	1	3078153630	3078153630
Red	R9	Wheel load	4	307P223990	307P219500
Red	R10	Maximum effort on the stabilizers	1		307P219890
Red	R11	Calibration after dismantling	1	307P218880	307P218880
Red	R22	Prohibited use of the PVG	1	307P230040	307P230040
Red	R50	Socket - 110V	1	3078147580	3078147580
Red	R51	Socket - 220V	1		307P227200
Orange	O1	Operation instructions	1	3078147050	3078147050
Orange	O3	Risks of explosion	1	3078148030	3078148030
Yellow	J1	Greasing the turntable rotation gear	1	3078147190	3078147190
Yellow	J2	Remove the blocking pin before rotating	1	3078147700	3078147700
Yellow	J3	Do not place your foot on the cover	2	3078147270	3078147270
Yellow	J4	Do not use the machine as a welding earth	2	3078147220	3078147220
Yellow	J5	Brake release	4		3078150780
Yellow	J6	Verification of tilt operation	1	3078147090	3078147090
Yellow	J7	Revolving cradle	1	307P215290	307P215290
Other	A1-1	Central platform control box	1	307P223390	307P219430
Other	A1-2	Left platform control box	1	307P219440	307P219440
Other	A1-3	Right platform control box	1	307P223410	307P219450
Other	A1-4	Upper central platform control box	1	307P223400	307P219470
Other	A2	Ground control box	1	307P223380	307P218380
Other	A3	Identification plate	1	307P218170	307P218170
Other	A4	Machine name logo	1	307P224010	
Other	A5	Small format HAULOTTE® logo	1	307P217080	307P217080
Other	A6	Large format HAULOTTE® logo	1	307P217220	307P217220
Other	A7	Read the operation manual	2	3078147290	3078147290
Other	A8	Hydraulic oil	1	3078147140	3078147140
Other	A8	Biodegradable oil	1	3078148920	3078148920
Other	A9	Upper and lower oil level	1	3078147210	3078147210
Other	A11	Front green drive direction arrow	4	3078143930	3078143930
Other	A12	Rear red drive direction arrow	4	3078143940	3078143940
Other	A13	Swing axle extension/retraction	1		307P215380
Other	A14	Fixed axle extension/retraction	1		307P215370
Other	A15	Harness anchor point location	2	3078147950	3078147950
Other	A16	Yellow and black adhesive tape	1	2421808660	2421808660
Other	A22	Voltage table	1	3078147890	3078147890
Other	A25	Fuel tank cap	1	3078150020	3078150020
Other	A27	Permissible load	1		307P222020
Other	A29	Summary safety instructions	1	3078150180	3078150180
Other	A30	Machine tie down points	4	3078147930	3078147930
Other	A77	Putting in transport position	1	307P226350	
Other	A78-1	Right transport positioning box	1	307P226300	
Other	A78-2	Left transport positioning box	1	307P226310	
Other	A78-3	Dead Man	1	307P224810	
Other	A79	Air line	1		307P226470

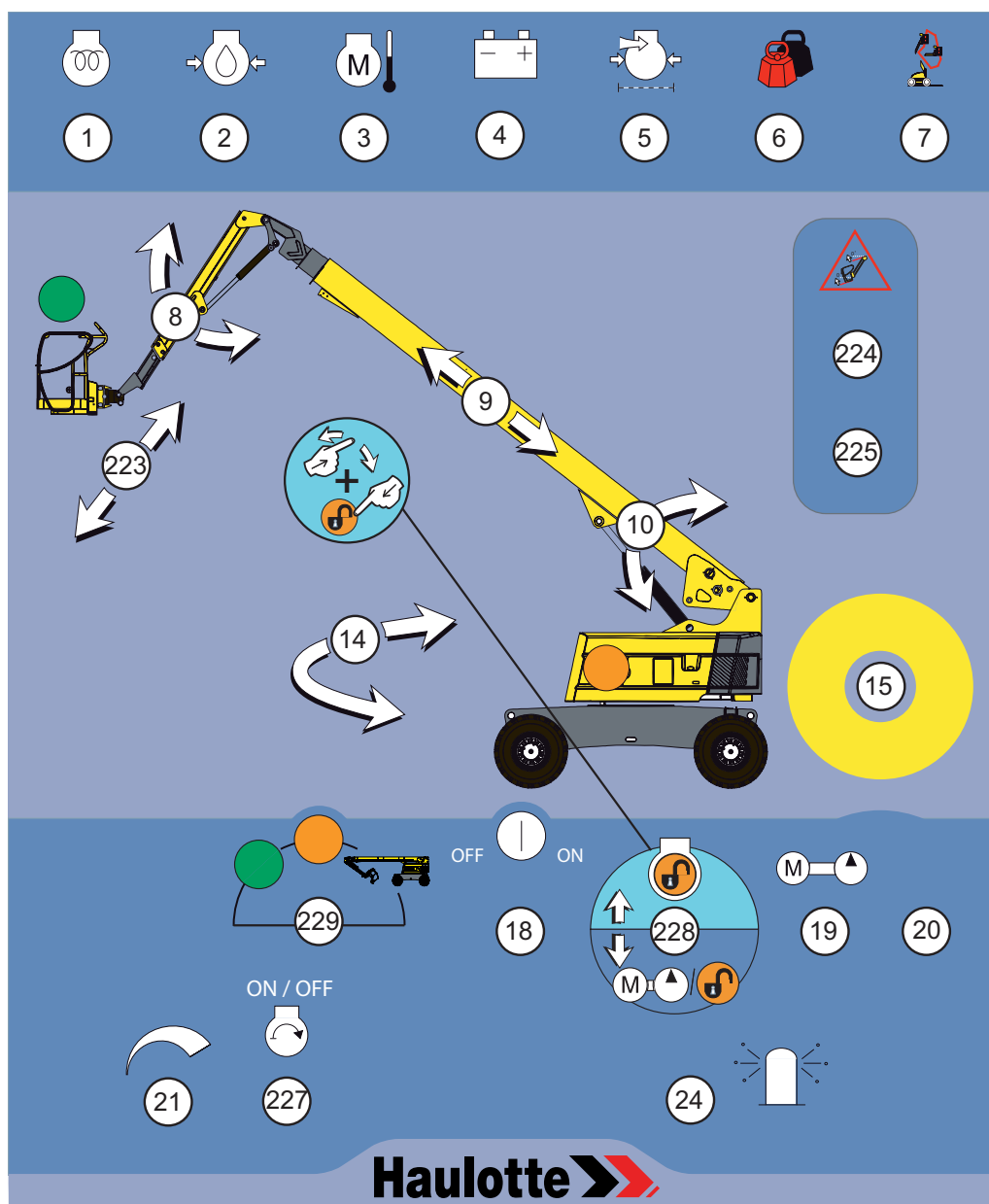
C - Machine layout

5 - Control boxes

N.B.:- The functions are described for the entire range. Refer to the machine model to identify the controls and functions indicators.

5.1 - GROUND CONTROL BOX - EMERGENCY CONTROL PANEL

H28TJ+ (HB86TJ+) - General view



C - Machine layout

H28TJ+ (HB86TJ+) - Controls and indicators

Marking	Description	Function
1	Electric pre-heating indicator	On : Engine in pre-heating mode Off : Engine pre-heated, starting possible
2	Engine oil pressure light	Low engine oil pressure ⁽¹⁾
3	Engine temperature indicator	High engine oil temperature ^(1.)
4	Battery charge indicator	Low battery charge ^(1.)
5	Air filter clogging indicator	Clogged air filter ^(1.)
6	Platform overload indicator	Platform overload
7	Radius limitation indicator	Close to radius limitation : • The indicator flashes • Movement is slowed down Radius limitation reached : • The indicator flashes continuously • An automatic movement is performed to return to the authorized radius limitation
8	Jib lifting / lowering selector	Move upwards : Jib lifting Move downwards : Jib lowering
9	Boom telescoping selector	Move to the left : To telescope out Move to the right : To telescope in
10	Boom raising selector	Move upwards : Boom raising Move downwards : Boom descent
14	Turntable rotation selector	Move to the left : Counter clockwise (CCW) rotation Move to the right : Clockwise rotation
15	Emergency stop button	Pulled out (activated) : Ground control box energized Pushed down (deactivated) : De-energizes control system
18	ON/OFF selector	ON : Energizes control system OFF : De-energizes control system
19	Back-up unit selector	Press in and hold : Back-up unit activated Release : Back-up unit deactivated
20	Hour meter	Total machine running hours
21	Engine acceleration selector	Move to the right : Engine speed increases Move to the left : Engine idle speed
24	Beacon light on/off	Move to the right : Beacon light on Move to the left : Beacon light off
223	Jib telescoping selector switch	Hold upwards : To telescope in Press down and hold : To telescope out
224	Cage/Jib compensation resetting indicator	On : Cage/Jib compensation resetting compulsory
225	Cage/Jib compensation resetting selector switch	Press down and hold : Automatic cage/jib compensation resetting
227	Motor ON/OFF impulsion switch	Starting or stopping the motor (depending on the machine's operating status) by pushing the switch downwards
228	'Enable Switch' selector / Back-up unit selector ⁽²⁾	Move upwards : Movement validation Move downwards : Back-up unit activated Movement validation
229	Control box energizing key selector	Left : Platform control box energized Center : Ground control box energized Right : Transport position activation

(1.) Perform the required maintenance (see the machine maintenance book)

(2.) For machines fitted with

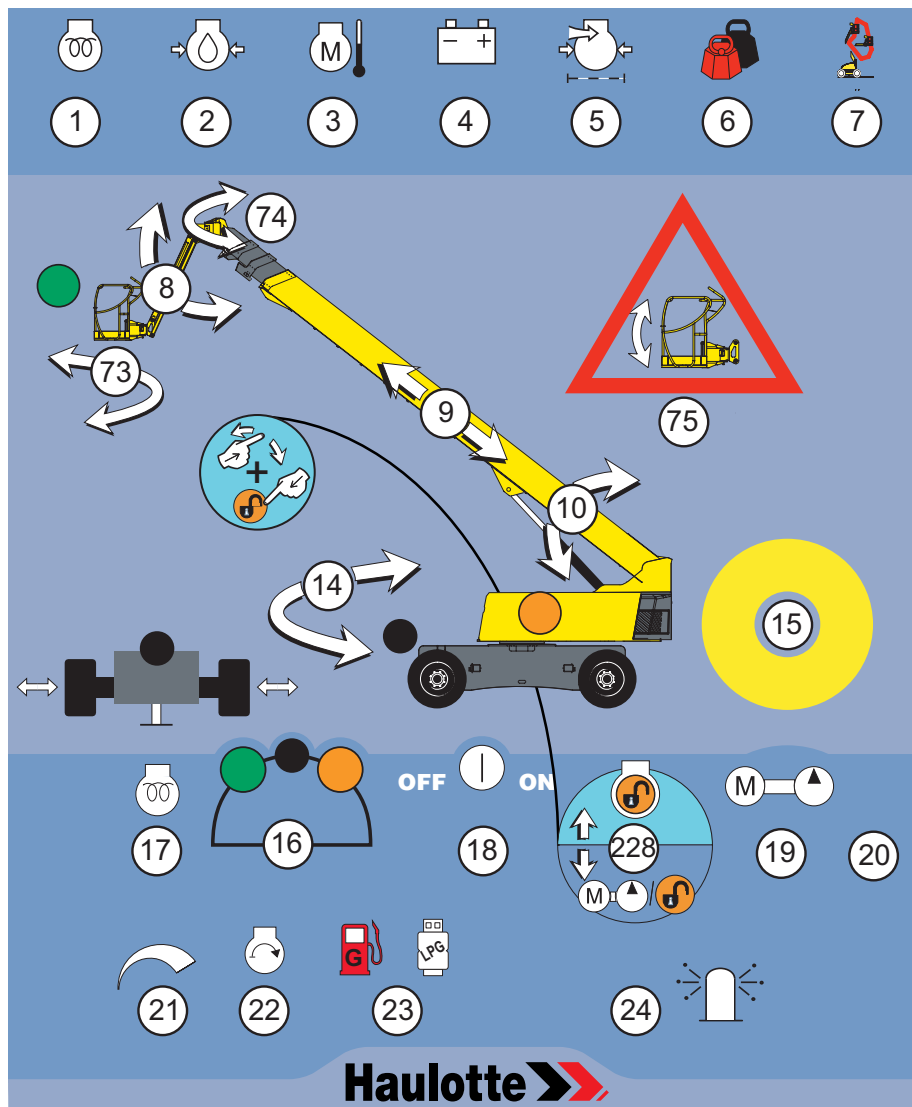
C - Machine layout

Photo H28TJ+ (HB86TJ+)



C - Machine layout

H43TPX (HB135JRT) - General view



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C - Machine layout

H43TPX (HB135JRT) - Controls and indicators

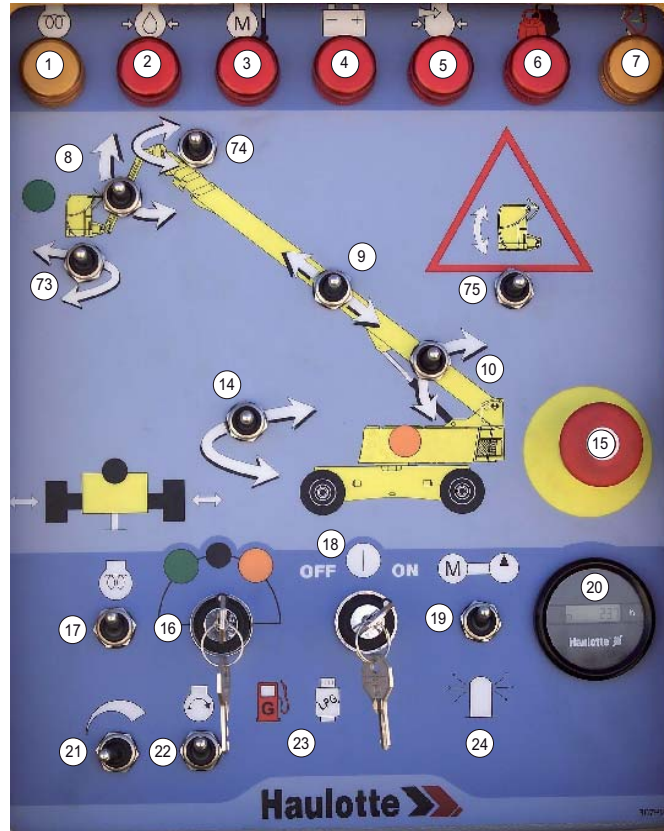
Marking	Description	Function
1	Electric pre-heating indicator	On : Engine in pre-heating mode Off : Engine pre-heated, starting possible
2	Engine oil pressure light	Low engine oil pressure ⁽¹⁾
3	Engine temperature indicator	High engine oil temperature ^{((1.))}
4	Battery charge indicator	Low battery charge ^{((1.))}
5	Air filter clogging indicator	Clogged air filter ^{((1.))}
6	Platform overload indicator	Platform overload
7	Radius limitation indicator	Close to radius limitation : • The indicator flashes • Movement is slowed down Radius limitation reached : • The indicator flashes continuously • An automatic movement is performed to return to the authorized radius limitation
8	Jib lifting / lowering selector	Move upwards : Jib lifting Move downwards : Jib lowering
9	Boom telescoping selector	Move to the left : To telescope out Move to the right : To telescope in
10	Boom raising selector	Move upwards : Boom raising Move downwards : Boom descent
14	Turntable rotation selector	Move to the left : Counter clockwise (CCW) rotation Move to the right : Clockwise rotation
15	Emergency stop button	Pulled out (activated) : Ground control box energized Pushed down (deactivated) : De-energizes control system
16	Control box energizing key selector	Left : Platform control box energized Center : Axle control box activated Right : Ground control box energized
17	Engine pre-heating selector	Move downwards : Engine pre-heating
18	ON/OFF selector	ON : Energizes control system OFF : De-energizes control system
19	Back-up unit selector	Press in and hold : Back-up unit activated Release : Back-up unit deactivated
20	Hour meter	Total machine running hours
21	Engine acceleration selector	Move to the right : Engine speed increases Move to the left : Engine idle speed
22	Engine start-up selector	Starting the engine
23	Petrol/Gas selector ⁽²⁾	LPG : Gas supply G : Petrol or Optional diesel power supply
24	Beacon light on/off	Move to the right : Beacon light on Move to the left : Beacon light off
73	Platform rotation selector	Move to the left : Clockwise rotation Move to the right : Counter clockwise (CCW) rotation
74	Jib rotation selector	Move to the left : Clockwise rotation Move to the right : Counter clockwise (CCW) rotation
75	Platform leveling selector	Move upwards : Lifting of platform Move downwards : Lowering of platform
228	'Enable Switch' selector / Back-up unit selector ^{((2.))}	Move upwards : Movement validation Move downwards : Back-up unit activated Movement validation

(1.) Perform the required maintenance (see the machine maintenance book)

(2.) For machines fitted with

C - Machine layout

Photo H43TPX (HB135JRT)



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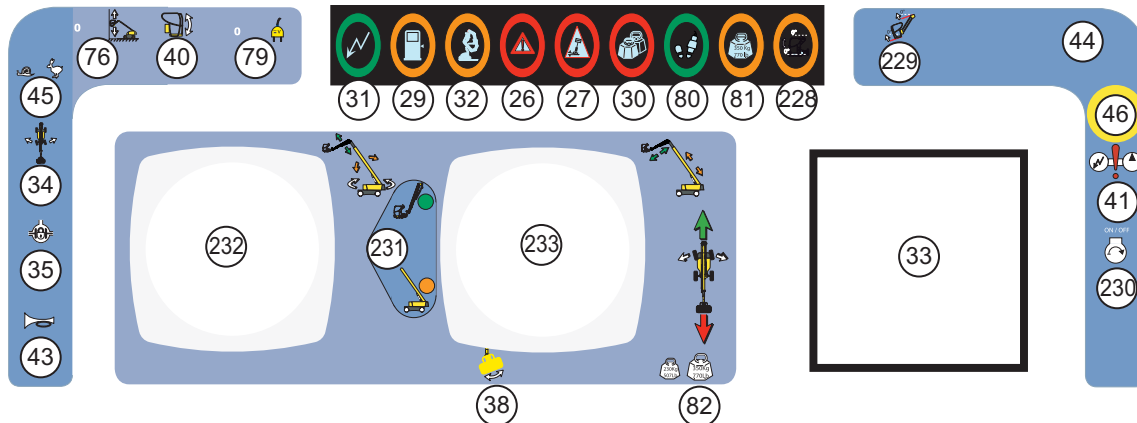
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C - Machine layout

5.2 - PLATFORM CONTROL BOX

H28TJ+ (HB86TJ+) - General view



H28TJ+ (HB86TJ+) - Controls and indicators

Marking	Description	Function
26	Fault indicator	Operation malfunction ⁽¹⁾
27	Tilt indicator	Machine on excessive slope
29	Fuel level indicator	Low fuel level
30	Platform overload indicator	Platform overload
31	Power ON indicator	On : Machine switched on Off : Machine switched off
32	Radius limitation indicator	Close to radius limitation : • The indicator flashes • Movement is slowed down Radius limitation reached : • The indicator flashes continuously • Control of a movement ensuring that the machine is maintained within the stability limits
33	Drive joystick	Move forward : Forward drive Move backward : Reverse drive
	Front axle steering selector	Press right side of button : Right-hand steering Press left side of button : Left-hand steering
34	Not used	
35	Differential lock selector	Press in and hold (activated) : Maximum drive torque (on difficult or sloping ground) Release (deactivated) : Standard torque
38	Platform rotation selector	Move to the right : Counter clockwise (CCW) rotation Move to the left : Clockwise rotation
40	Platform leveling selector	Move upwards : Lifting of platform Move downwards : Lowering of platform
41	Back-up unit selector	Press in and hold : Back-up unit activated Release : Back-up unit deactivated
43	Horn selector	Horn
44	Not used	
45	Drive speed selector	 High-speed driving  Low-speed driving

C - Machine layout

Marking	Description	Function
46	Emergency stop button	Pulled out (activated) : Ground control box energized Pushed down (deactivated) : De-energizes control system
76	Not used	
79	Generator selector (option)	Move to the left : Generator deactivated Move to the right : Generator activated
80	'Enable Switch' pedal indicator	On : Pedal pressed Off : Pedal released
81	350 kg(770 lb) load selection indicator	On : 350 kg(770 lb) load selected Off : 230 kg(500 lb) load selected
82	230 kg(500 lb) or 350 kg(770 lb) load selector	Move to the left : 230 kg(500 lb) load selected Move to the right : 350 kg(770 lb) load selected
228	Not used	
229	Cage/Jib compensation resetting push-button	Pressed down (activated) : Automatic cage/jib compensation resetting
230	Engine start/stop push-button	Start or stop the engine (depending on the machine's operating status) by pressing the push-button
231	Boom/Jib selector switch	Move upwards : Jib selection Move downwards : Boom selection
232	Turntable rotation joystick joystickBoom raising or Jib lifting	Move to the right : Counter clockwise (CCW) rotation
		Move to the left : Clockwise rotation
		Move forward : Boom raising or Jib lifting
		Move backward : Boom descent or Jib lowering
233	joystickBoom telescoping or Jib	Move forward : Telescope in Upper boom or Telescope in Jib
		Move backward : Telescope out Upper boom or Telescope out Jib

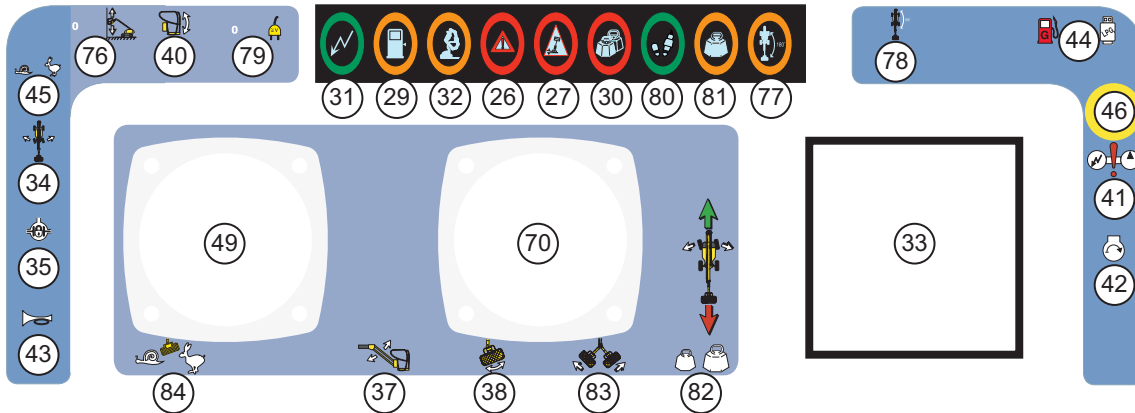
(1.) Perform the required maintenance (see the machine maintenance book)

Photo H28TJ+ (HB86TJ+)



C - Machine layout

H43TPX (HB135JRT) - General view



H43TPX (HB135JRT) - Controls and indicators

Marking	Description	Function
26	Fault indicator	Operation malfunction ⁽¹⁾
27	Tilt indicator	Machine on excessive slope
29	Fuel level indicator	Low fuel level
30	Platform overload indicator	Platform overload
31	Power ON indicator	On : Machine switched on Off : Machine switched off
32	Radius limitation indicator	Close to radius limitation : • The indicator flashes • Movement is slowed down Radius limitation reached : • The indicator flashes continuously • Control of a movement ensuring that the machine is maintained within the stability limits
33	Drive joystick	Move forward : Forward drive Move backward : Reverse drive
	Front axle steering selector	Press right side of button : Right-hand steering Press left side of button : Left-hand steering
34	Rear axle steering selector	Move to the right : Right-hand steering Move to the left : Left-hand steering
35	Differential lock selector	Press in and hold (activated) : Maximum drive torque (on difficult or sloping ground) Release (deactivated) : Standard torque
37	Jib lifting / lowering selector	Move upwards : Jib lifting Move downwards : Jib lowering
38	Platform rotation selector	Move to the right : Counter clockwise (CCW) rotation Move to the left : Clockwise rotation
40	Platform leveling selector	Move upwards : Lifting of platform Move downwards : Lowering of platform
41	Back-up unit selector	Press in and hold : Back-up unit activated Release : Back-up unit deactivated
42	Engine start-up selector	Starting the engine
43	Horn selector	Horn
44	Petrol/Gas selector ⁽²⁾	LPG : Gas supply G : Petrol or Optional diesel power supply

C - Machine layout

Marking	Description	Function
45	Drive speed selector	 High-speed driving
		 Low-speed driving
46	Emergency stop button	Pulled out (activated) : Ground control box energized Pushed down (deactivated) : De-energizes control system
49	Turntable rotation joystick	Move to the right : Counter clockwise (CCW) rotation Move to the left : Clockwise rotation
	Boom lift joystick	Move upwards : Boom raising Move downwards : Boom descent
		Move forward : Boom extend Move backward : Boom in
70	Telescoping joystick	
76	Not used	
77	Not used	
78	Not used	
79	Generator selector (option)	Move to the left : Generator deactivated Move to the right : Generator activated
80	'Enable Switch' pedal indicator	On : Pedal pressed Off : Pedal released
81	450 kg(1000 lb) load selection indicator	On : 450 kg(1000 lb) load selected Off : 230 kg(500 lb) load selected
82	230 kg(500 lb) or 450 kg(1000 lb) load selector	Move to the left : 230 kg(500 lb) load selected Move to the right : 450 kg(1000 lb) load selected
83	Jib rotation selector	Move to the left : Clockwise rotation Move to the right : Counter clockwise (CCW) rotation
84	Platform movement speed selector	 High-speed movement
		 Low-speed movement

(1.) Perform the required maintenance (see the machine maintenance book)
(2.) For machines fitted with

Photo H43TPX (HB135JRT)

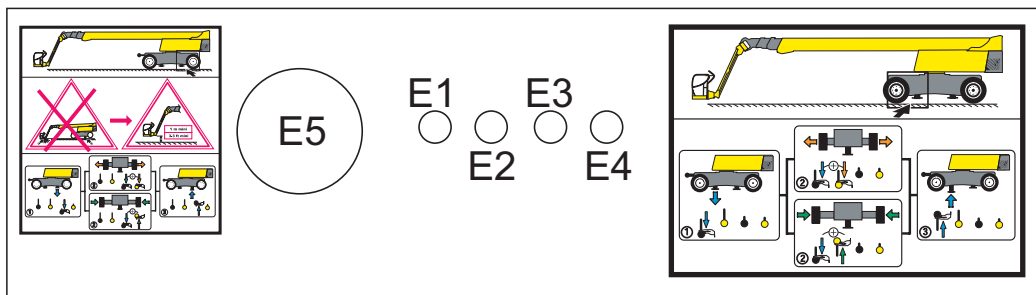


C - Machine layout

5.3 - AXLE EXTENSION CONTROL BOX

For H43TPX (HB135JRT) only :

General view



Controls and indicators

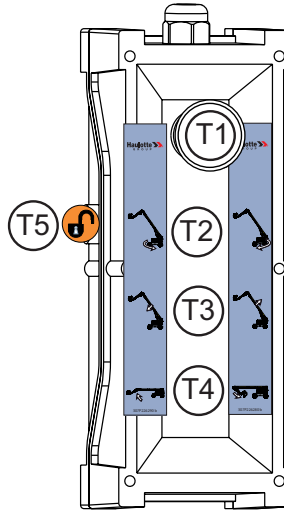
Marking	Function
E1	Cylinder lifting/lowering and chassis lifting/lowering on fixed axle
E2	Fixed axle extension/retraction
E3	Cylinder lifting/lowering and chassis lifting/lowering on swing axle
E4	Swing axle extension/retraction
E5	Emergency stop button

C - Machine layout

5.4 - TRANSPORT POSITIONING BOX

For H28TJ+ (HB86TJ+) only :

General view



Controls and indicators

Marking	Description	Function
T1	Emergency stop button	Pulled out (activated) : Switching on the box Pushed down (deactivated) : De-energizes control system
T2	Turntable rotation selector	Move to the left : Clockwise rotation Move to the right : Counter clockwise (CCW) rotation
T3	Boom raising selector	Move to the left : Boom descent Move to the right : Boom raising
T4	Jib in working/transport position selector	Move to the left : Placing in working configuration Move to the right : Placing in transport configuration
T5	'Enable Switch' button	Press in and hold : movement validation Release : Movement stopped

C - Machine layout

D - Operating principle

1 - Description

Hydraulic energy for machine movement is provided by a pump unit.

The controls and the starting of the thermal engine are powered by battery.

To protect the user and the machine, safety systems prevent the operation of the machine beyond its capacities.  Section G Technical characteristics

These safety measures immobilize the machine and neutralize the movement which can go to the cut engine.  Special procedure - Lowering for repairs - Principle



Poor knowledge of the characteristics and operation of the machine can lead the operator to think that a normal safety operation is a malfunction.

2 - Safety devices

2.1 - ACTIVATION OF CONTROLS

The controls must be validated by a 'Enable Switch' system to activate the different movements.

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

- Joystick handle.
- Pedal. For H28TPX (HB86TJ+) : see indicator (80) on the upper control box.
- Validation button.

2.2 - MOVEMENT SPEED

For H43TPX (HB135JRT) only :

The movement speed of the following elements is regulated by the movement speed selector switch :

- Jib lifting/rotation.
- Platform rotation/compensation.

The movement speed depends on the user's choices and the environment.

N.B.:- Joystick proportionality must be used to adjust the speed of the other movements.

D - Operating principle

2.3 - LENGTH AND ANGLE SENSORS

For reasons of stability and work area management, the boom is equipped with length and angle sensors.

These length and angle sensors transmit data allowing the calculator to manage automatic operation of combined movements.

2.4 - ON-BOARD ELECTRONICS

The machines are equipped with a specific calculator configured for the machine's functionalities.



Do not interchange the calculator between machines to avoid losing the machine's parameters, settings and calibrations.

2.5 - DETECTION OF INTERNAL FAULT

N.B.: - The presence of this device depends on the machine configuration.



The defect indicator flashes to indicate an internal malfunction.

The machine switches to downgraded mode.

Certain movements can be limited or forbidden to preserve the operator's safety.

The number of times the indicator flashes indicates the type of fault (see the machine maintenance book).

To continue, you must :

- Retract the telescope.
- Lower the boom.

N.B.: - If the emergency stop button is activated during the boom telescope movement (H28TJ+ (HB86TJ+) only), the machine switches to DOWNGRADED MODE when restarted.

You must :

- Place barriers around the perimeter of the work area
- Stow the machine.
- Switch the machine off.
- Start the machine to reinitialize the system.

2.6 - AUTOMATIC ENGINE CUT-OUT

The engine automatically cuts out in the following conditions (Please see machine configuration) :

- The alternator is not functioning.
- Engine temperature is too high.
- Oil pressure is too low.
- The exit of the working area  Special procedure - Lowering for repairs - Principle.
- A machine malfunction is detected.

D - Operating principle

2.7 - LOAD LIMITING IN THE PLATFORM (IF FITTED)

If the platform load exceeds the maximum authorized load, no movement is possible from the platform control box.

The platform overload indicator and the buzzer warn the operator that the overload condition exists.

To return the machine to normal operation remove some weight from the platform.



2.8 - CHASSIS TILT

If the machine is located on a slope greater than the permissible slope, the platform control box's fault indicator and the buzzer warn the operator.

Driving and certain movements are cut off (If the machine is unfolded).

Only movements allowing the machine to be stowed are allowed :

- Telescope in.
- Lifting or lowering the boom to return to horizontal position.
- Lowering the jib until it is below horizontal position.

N.B.:-The tilt detector is active only from the height of 2 m(6 ft 7 in). .

2.9 - RADIUS LIMITATION

N.B.:-The presence of this device depends on the machine configuration.

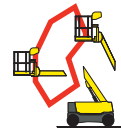
The radius limit indicator flashes to indicate that a controlled movement has occurred to maintain the machine within the stability limit.

Movement is slowed down.

Driving and other additional movements are forbidden.

The radius limit indicator is ON continuously if the operator requests a movement that causes the machine to exceed the radius limit. The movement is not performed.

The important exit of the working area causes a cut engine  Special procedure - Lowering for repairs - Principle.



2.10 - AXLE EXTENSION

For H43TPX (HB135JRT) only :

Axle extension improves machine stability.

If the axles are retracted, the machine's capacities are reduced.

Only the following movements are possible :

- Turntable rotation if the boom is in horizontal position.
- Boom raising if the turntable is aligned with the axis.

If the axles are extended, all movements are possible.

Axle extension is possible if the machine is completely stowed, the jib below horizontal position and the turntable aligned with the axis.

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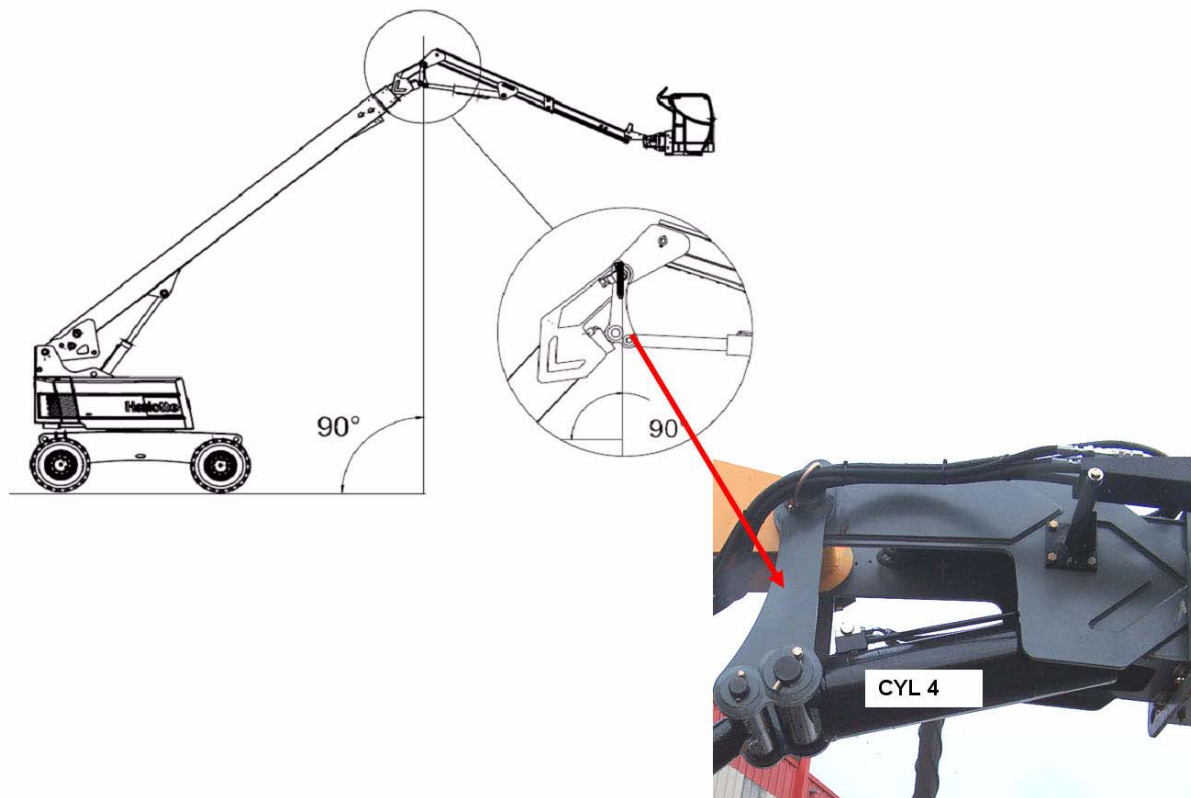
D - Operating principle

2.11 - JIB LINK PIECE RESETTING

For H28TJ+ (HB86TJ+) only :

A hydraulic system maintains the jib link piece perpendicular to the rolling frame.

The eventual fault is checked by the sensor who will send informations to the module and will correct automatically the shifting thanks to CYL. 4 (slave compensation cylinder of the link part).



The automatic link part reset must be done together with the jib movement ($< 2^\circ$).

- Negative shifting of the link part : reset during jib lifting.
- Positive shifting of the link part : reset during jib descent.

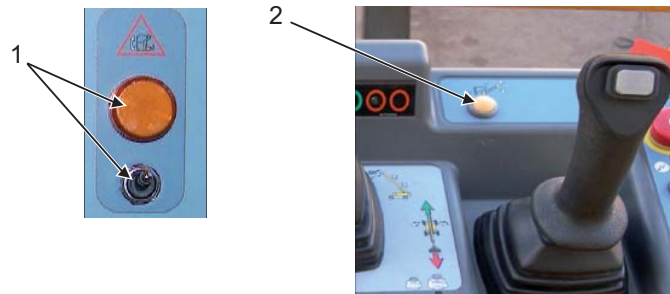
Extinction of the compensation indicator announces the end of automatic reset.

If the jib part exceeds the acceptable limit of the defect of perpendicularity ($> 2,5^\circ$), movements are bloque and the compensation indicator flickers.

A manual reset will be then possible from the 2 control boxes, in order to put back the machine in normal conditions (extinction of the fault indicator).

If the deviation is too great ($> 7^\circ$), the compensation indicator is permanently on. In this case reset will only be possible after the intervention of a qualified technical equipped with the OPTIMIZER console..

D - Operating principle



Marking	Description
1	Cage/Jib compensation resetting indicator Cage/Jib compensation resetting selector switch
2	Cage/Jib compensation resetting push-button

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D - Operating principle

E - Driving

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1 - Recommendations

The manager of the company responsible for the commissioning of the machine must ensure that 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 in compliance with this Operator Manual. All managers who are responsible for persons operating the machine, must be familiar with the 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.
- Presentation and the operating principle of the machine.

2 - Checks before use

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

Any repairs required must be performed before the machine is used, its correct operation depends on it.



Find all the function indicators and controls in  Section C 5 - Control boxes

2.1 - VISUAL INSPECTIONS

2.1.1 - General mechanical functions

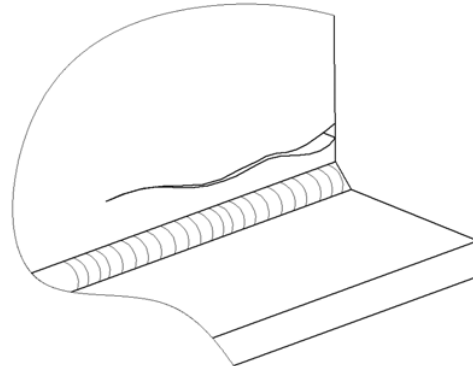
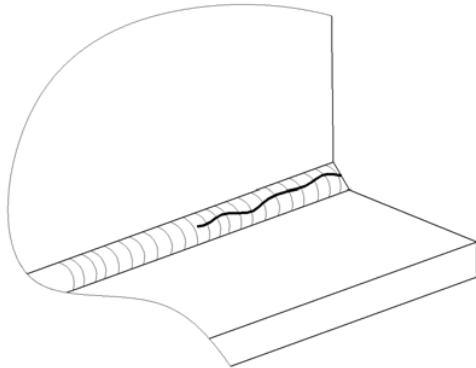
For all the following checks, ensure that the machine is switched off.

Check the following points :

- The presence of the identification plate, labels and operator manual :
 - Their state of cleanliness and visibility.
 - Clean or replace if necessary.
- Visual state of the machine :
 - Absence of leaks (battery acid, hydraulic oil, etc.). Absence of foreign objects on all surfaces. Call the staff in charge of the maintenance if necessary.
 - No missing or loose parts (bolts, nuts, connectors, cables, etc.). Refer to the "tightening torques" table quoted in the Maintenance Book.
 - Absence of cracks, broken parts, damaged paint. No deformations or other anomalies on the structure's parts.

E - Driving

Example



- Cylinders' state :
 - No leaks. Refer to the Maintenance book.
 - No rust and abrasions on the cylinder rod.
 - Absence of foreign objects on all surfaces.
- Steering system's state : wheels, reducers, brakes and tires :
 - No cracks, distortions, damaged paint or other faults
 - No missing or loose bolts. Refer to the "tightening torques" table quoted in the Maintenance Book.
 - Condition of the tyres (cuts, excessive wear, etc.).
- Status of the control boxes :
 - No damage.
 - Back to neutral for all joysticks, selectors, etc..
 - Presence and readability of the control box labels.
- Movement, safety limit switches :
 - No damage.
 - No missing or loose bolts. Refer to the "tightening torques" table quoted in the Maintenance Book.
 - Absence of foreign objects on all surfaces.
- The state and connection of the electric wires and cables :
 - No damage, wear marks or other faults.
 - No contact between connectors.
- State of the hydraulic unit and pump :
 - No leaks.
 - No missing or loose parts (bolts, nuts, connectors, cables, etc.).
 - Hydraulic oil filter. Refer to the Maintenance book.

E - Driving

- State of the structure's parts : Boom, jib, platform :
 - No cracks, damaged paint.
 - No distortion in metal components or visible damage.
 - Absence of foreign objects at the ends of boom/attachments.
 - Presence and check the original position of the platform control box sliding bar.
- State of the rotation systems : Turntable rotation, Turntable rotation selector in platform, Jib orientation (For machines fitted with).
 - No excessive clearance : Refer to the Maintenance book.
 - No missing or loose bolts.
 - Absence of foreign objects on all surfaces.
 - Greasing the turntable rotation gear Turntable and Platform.
- Condition of the pulley system :
 - No excessive clearance : Refer to the Maintenance book.
 - No missing or loose bolts.
 - Absence of foreign objects on all surfaces.
 - Grease the extension system if necessary.
- State of the tanks :
 - No leaks.
 - No missing or loose parts (bolts, nuts, connectors, cables, etc.). Top up the oil level, if necessary (Machine in transport position).
- Sufficient fuel level.

2.1.2 - Environment

 Section A -Safety precautions.

Check the following points :

- Wind speed ( Section G 1-Main characteristics).
- The permissible ground pressure and loading on the machine supporting surface ( Section G 1-Main characteristics).
- The maximum permissible load in the platform ( Section G 1-Main characteristics).
- The maximum permissible lateral force allowed at the platform ( Section G 1-Main characteristics).

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E - Driving

2.2 - FUNCTIONAL TESTS

2.2.1 - Safety features

Features to be tested :

- Operation of the upper and lower emergency stop buttons.
- Operation of the tilt sensor.
- Visual and audible alarms.
- Platform load management system (Where fitted).
- Boom control system.

For functional test procedures refer to ( Section E 3.1-Test procedure).

2.2.2 - Ground control box controls (emergency station)

Refer to the corresponding operations to test the controls in the order mentioned ( Section E 3.2-Operation from ground position).

H28TJ+ (HB86TJ+)

Step	Control
1	ON/OFF selector(18)
2	Engine acceleration selector(21)
3	Movements : • Jib lifting/lowering(8) • Jib telescope extension/retraction(223) • Lifting / lowering of boom(10) • Boom telescope out/in(9) • Turntable rotation(14)
4	Beacon light on/off(24)
5	Control box energizing key selector(226)

H43TPX (HB135JRT)

Step	Control
1	ON/OFF selector(18)
2	Engine pre-heating selector(17)
3	Engine acceleration selector(21)
4	Movements : • Lifting / lowering of boom(10) • Turntable rotation(14) • Boom telescope out/in(9) • Jib rotation(74) • Jib lifting/lowering(8) • Platform rotation(73) • Platform leveling(75)
5	Beacon light on/off(24)
6	Control box energizing key selector(16)

E - Driving

2.2.3 - Platform control box controls (driving station)

Refer to the corresponding operations to test the controls in the order mentioned ( Section E 3.3-Operations from the platform).

H28TJ+ (HB86TJ+)

Step	Control
1	Driving and steering 33
2	Platform rotation selector 38
3	Boom/Jib selector switch 231
4	Movements : • Lifting / lowering of boom 232 • Boom telescope out/in 233 • Jib lifting/lowering 232 • Jib telescope extension/retraction 233 • Turntable rotation 232 • Platform leveling 40
5	Drive speed selector 45
6	Differential lock selector 35
7	Horn selector 43
8	230 kg(500 lb) or 350 kg(770 lb) load selector 82

H43TPX (HB135JRT)

Step	Control
1	Driving and steering 33
2	Rear axle steering selector 34
3	Platform rotation selector 38
4	Movements : • Lifting / lowering of boom 49 • Boom telescope out/in 70 • Jib lifting/lowering 37 • Jib rotation 83 • Turntable rotation 49 • Platform leveling 40
5	Drive speed selector 45
6	Platform movement speed selector 84
7	Differential lock selector 35
8	Horn selector 43
9	230 kg(500 lb) or 450 kg(1000 lb) load selector 82

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E - Driving

2.2.4 - Axle control box controls

For H43TPX (HB135JRT) only :

Refer to the corresponding operations to test the controls in the order mentioned ( Section E 3.4-Operations from the axles).

Tests from the axle control box H43TPX (HB135JRT)

Step	Control
1	Cylinder lifting/lowering and chassis lifting/lowering on fixed axle E1
2	Fixed axle extension/retraction E2
3	Cylinder lifting/lowering and chassis lifting/lowering on swing axle E3
4	Swing axle extension/retraction E4
5	Emergency stop button E5

2.2.5 - Transport positioning box control

For H28TJ+ (HB86TJ+) only :

Refer to the corresponding operations to test the controls in the order mentioned ( Section E 3.5-Operation from the transport positioning box).

Test from the transport positioning box H28TJ+ (HB86TJ+)

Step	Control
1	Emergency stop button
2	Right turntable rotation Left turntable rotation
3	Boom lifting Boom descent
4	Jib in transport position Jib in working position

E - Driving

2.3 - PERIODICAL CHECKS

The machine must be inspected on a regular basis at intervals in accordance with the requirements set forth in the Country of use but no less than once per year. The purpose of the inspection is to detect any defect which could lead to an accident during routine use of the machine.

These inspections must be carried out by a competent company or person whose selection is under the responsibility of the manager (Company employee or other).

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 company safety committee at all times.

N.B.:-  Section H Intervention register

2.4 - REPAIRS AND ADJUSTMENTS

Extensive repairs, interventions or adjustments on the safety systems or elements must be performed by a HAULOTTE Services® employee or a HAULOTTE Services®-approved employee with HAULOTTE Services® training, using original spare parts only.

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

HAULOTTE Services® will not take responsibility for any consequential outcomes resulting from inferior services/repairs carried out by others.

HAULOTTE advises you that NO modifications carried out without the written permission of HAULOTTE® will void the HAULOTTE warranty..

2.5 - INSPECTION / TESTING REQUIREMENTS

Intervention to be made after :

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

Perform a fitness for function inspection, a condition inspection and static and dynamic tests (Consult the After-Sales Service HAULOTTE Services®).

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E - Driving

3 - Operation

N.B.:- The functions are described for the entire range. Refer to the machine model to identify the controls and functions indicators.



Find all the function indicators and controls in  Section C 5 - Control boxes

N.B.:- Using unsuitable fuel may cause diminished performance, difficulties starting, excessive pollution and premature wear. To establish the type of fuel suitable for the engine fitted on your HAULOTTE® machine, please refer to the engine manufacturer's manual. The engine may not be covered by the warranty in case of damage caused by using unsuitable fuel.

3.1 - TEST PROCEDURE

3.1.1 - Emergency stop button operation

H28TJ+ (HB86TJ+) - Ground control box emergency stop button

Step	Action
1	Pull the emergency stop buttons(15,46).
2	Set the ON/OFF (18) selector switch to ON.
3	Turn the control box activation selector key (229) to the centre to activate the ground control box. The indicators light up.
4	Push the emergency stop button (15). The indicators go out.

H43TPX (HB135JRT) - Ground control box emergency stop button

Step	Action
1	Pull the emergency stop buttons(15, 46, E5).
2	Set the ON/OFF (18) selector switch to ON.
3	Turn the key on the control box activation selector switch (16) to the right to energize the ground control box. The indicators light up.
4	Push the emergency stop button (15). The indicators go out.

H28TJ+ (HB86TJ+) - Platform control box emergency stop button

Step	Action
1	Pull the emergency stop buttons(15, 46).
2	Set the ON/OFF (18) selector switch to ON.
3	Turn the key on the control box activation selector switch (226) to the left to energize the platform control box. The indicators light up.
4	Push the emergency stop button (46). The indicators go out.

H43TPX (HB135JRT) - Platform control box emergency stop button

Step	Action
1	Pull the emergency stop buttons(15, 46, E5).
2	Set the ON/OFF (18) selector switch to ON.
3	Turn the key on the control box activation selector switch (16) to the left to energize the platform control box. The indicators light up.
4	Push the emergency stop button (46). The indicators go out.

E - Driving

H43TPX (HB135JRT) - Axle control box emergency stop button

Step	Action
1	Pull the emergency stop buttons(15, 46, E5).
2	Set the ON/OFF (18) selector switch to ON.
3	Turn the control box activation selector switch (16) to the centre to activate the axle control box. The indicators light up.
4	Push the emergency stop button (E5). The indicators go out.

H28TJ+ (HB86TJ+) - Transport positioning box emergency stop push-button

Step	Action
1	Pull the emergency stop push-button (T1).
2	Set the ON/OFF (18) selector switch to ON.
3	Turn the key on the control box activation selector switch (229) to the right to energize the transport position. The indicators light up.
4	Push the emergency stop button (T1). The indicators go out.

3.1.2 - Tilt sensor switch operation



Machine unfolded, the slope sensor gives an audible signal telling the operator that the machine should not be deployed. In this case, fully lower the platform and reposition the machine on level ground before raising the platform again.

For H28TJ+ (HB86TJ+) :

1. Pull the emergency stop push-buttons on the upper and lower control boxes (15, 46).
2. Set the selector ON/OFF of the ground control box to ON.
3. Set the control box activation selector switch (229) to the ground control box.
4. Locate the tilt sensor next to the ground control box.
5. Manually tilt and maintain the tilt sensor towards the front for a few seconds ( Section C 2-Main components) :
6. For machines fitted with : The slope sensor prevents lifting and driving movements.

For H43TPX (HB135JRT) :

7. Pull the emergency stop push-buttons on the platform and ground control boxes and on the axle extension control box (15, 46, E5).
8. Set the selector ON/OFF of the ground control box to ON.
9. Set the control box activation selector switch (16) to the ground control box.
10. Locate the tilt sensor next to the ground control box.
11. Manually tilt and maintain the tilt sensor towards the front for a few seconds ( Section C 2-Main components) :
12. For machines fitted with : The slope sensor prevents lifting and driving movements.

E - Driving

3.1.3 - Visual and sound alarms

For H28TJ+ (HB86TJ+) :

1. Pull the emergency stop buttons (15, 46).
2. Set the ON/OFF (18) selector switch to ON. All of the ground control box indicators light up and a sound signal (beep) is emitted.

For H43TPX (HB135JRT) :

3. Pull the emergency stop buttons (15, 46, E5).
4. Set the ON/OFF (18) selector switch to ON. All of the ground control box indicators light up and a sound signal (beep) is emitted.

3.1.4 - Weighing system

For H28TJ+ (HB86TJ+) :

1. Pull the emergency stop buttons (15, 46).
2. Set the ON/OFF (18) selector switch to ON. The platform overload indicators (6, 30) on the platform and ground control boxes and the buzzer warn the operator.

For H43TPX (HB135JRT) :

3. Pull the emergency stop buttons (15, 46, E5).
4. Set the ON/OFF (18) selector switch to ON. The platform overload indicators (6, 30) on the platform and ground control boxes and the buzzer warn the operator.

3.1.5 - Boom control system

For H28TJ+ (HB86TJ+) :

Extend the telescope from the ground control box, with the machine folded, the turntable aligned with the axis, the load selector switch at position 230 kg(500 lb) and the cage empty.

Telescope extension must stop as soon as the 5eme red stop is visible and before the 6eme red stop on the right side of the telescope is visible.

If telescope extension continues once the 6eme red stop is visible, stop telescope extension immediately.

Contact HAULOTTE Services® to repair the system.



Place barriers around the perimeter of the work area. Never use a faulty machine

For H43TPX (HB135JRT) :

Extend the telescope from the platform ground box, with the machine folded and the load selector switch set to 230 kg(500 lb).

Telescope extension must stop as soon as the 1er red stop on the right side of the telescope is visible.

If telescope extension continues once the 1er red stop is visible, stop telescope extension immediately.

Contact HAULOTTE Services® to repair the system.



Place barriers around the perimeter of the work area. Never use a faulty machine

E - Driving

3.2 - OPERATION FROM GROUND POSITION



Ground control box is an auxiliary to be used only in case of emergency.

3.2.1 - Machine start-up

1. Pull the emergency stop button 15 : This will de-activate the state of emergency stop button located in platform.
2. Set the ON/OFF (18) selector switch to ON.
3. Turn the key on the control box activation selector switch (16 / 226) to the right to energize the ground control box. The following indicators light up :
 - Electrical pre-heating 1.
 - Low engine oil pressure 2.
 - Engine temperature 3.
 - Battery charge 4.

N.B.:-For H43TPX (HB135JRT) only- Cold machine, press the engine pre-heating selector 17.

4. The clogged air filter indicator (5) is switched off.
5. Press on the starter selector (22 / 227). The engine starts. The indicators go out.
6. Let the engine heat up.

N.B.:-If the engine does not start, switch off the ignition (emergency stop button pushed in). Repeat the start-up procedure. Other possibility, use the key starter of the vehicle. The button does not need to be kept pressed, an impulse is enough to start or stop the engine. A slight shift on starting corresponds to the pre-heating of the engine

1. Pull the emergency stop button 15 : This will de-activate the state of emergency stop button located in platform.
2. Set the ON/OFF (18) selector switch to ON.
3. Turn the key on the control box activation selector switch (16 / 226) to the right to energize the ground control box. The following indicators light up :
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N.B.:-If the engine does not start, switch off the ignition (emergency stop button pushed in). Repeat the start-up procedure. Other possibility, use the key starter of the vehicle. The button does not need to be kept pressed, an impulse is enough to start or stop the engine. A slight shift on starting corresponds to the pre-heating of the engine

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E - Driving

3.2.2 - Machine shutdown

- Turn the key of the control box activation selector (72) to the center.
- The machine is shut down. The power to the machine is switched off, all the indicators on the lower console are off.

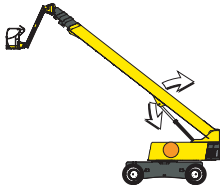
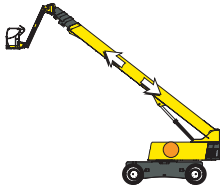
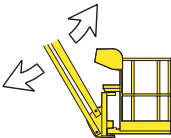
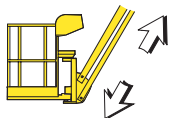
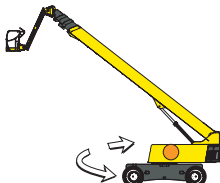
3.2.3 - Movement control



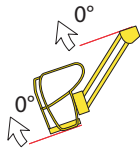
Bucket compensation is possible regardless of the work height. Even at low movement speeds, use the controls with caution.

N.B.:-For machines fitted with : Hold the selector (228) upwards to validate movement. The release of the selector causes all movement to stop.

H28TJ+ (HB86TJ+) - Ground control box controls (emergency station)

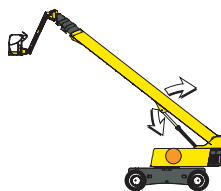
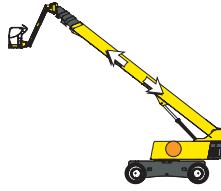
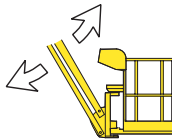
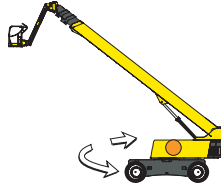
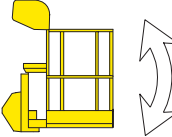
Control	Action
 Lifting / lowering of boom	Push the boom raising selector switch (10) upwards to lift the boom.
	Push the boom raising selector switch (10) downwards to lower the boom.
 Boom telescope out/in	Push the boom telescoping selector switch (9) to the left to extend the telescope.
	Push the boom telescoping selector switch (9) to the right to retract the telescope.
 Jib lifting/lowering	Push the jib selector switch (8) upwards to lift the jib.
	Push the jib selector switch (8) downwards to lower the jib.
 Jib telescope extension/retraction	Push the jib telescoping selector switch (223) downwards to extend the telescope.
	Push the jib telescoping selector switch (223) upwards to retract the telescope.
 Turntable rotation	Push the turntable rotation selector switch (14) to the left for a clockwise rotation.
	Push the turntable rotation switch (14) to the right for an anticlockwise rotation.

E - Driving

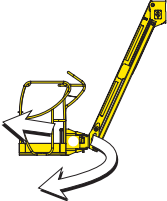
Control	Action
Automatic cage/jib compensation resetting	 Push the compensation resetting selector switch (225) downwards to automatically reset the cage/jib compensation.

N.B.:- For machines fitted with : Hold the selector (228) upwards to validate movement. The release of the selector causes all movement to stop.

H43TPX (HB135JRT) - Ground control box controls (emergency station)

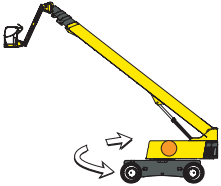
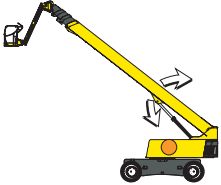
Control	Action
Lifting / lowering of boom	 Push the boom raising selector switch (10) upwards to lift the boom. Push the boom raising selector switch (10) downwards to lower the boom.
Boom telescope out/in	 Push the boom telescoping selector switch (9) to the left to extend the telescope. Push the boom telescoping selector switch (9) to the right to retract the telescope.
Jib lifting/lowering	 Push the jib selector switch (8) upwards to lift the jib. Push the jib selector switch (8) downwards to lower the jib.
Turntable rotation	 Push the turntable rotation selector switch (14) to the left for a clockwise rotation. Push the turntable rotation switch (14) to the right for an anticlockwise rotation.
Platform leveling	 Push the platform levelling selector switch (75) upwards to lift the platform. Push the platform levelling selector switch (75) downwards to lower the platform.

E - Driving

Control		Action
Jib rotation		Push the jib rotation selector switch (74) to the left for a clockwise rotation.
		Push the jib rotation selector switch (74) to the right for an anticlockwise rotation.
Platform rotation		Push the platform rotation selector (73) to the left for a clockwise rotation.
		Push the platform rotation selector (73) to the right for an anticlockwise rotation.

N.B.:- The release of the selector causes all movement to stop.

H28TJ+ (HB86TJ+) - Transport positioning box controls

Control		Action
Turntable rotation		Push the turntable selector (T2) to the right for a clockwise rotation.
		Push the turntable selector (T2) to the left for an anticlockwise rotation.
Lifting / lowering of boom		Push the boom raising selector (T3) to the right to lift the boom.
		Push the boom raising selector (T3) to the left to lower the boom.
Jib in working/ transport position		Push the selector (T4) to the right to place the machine in working configuration.
		Push the selector (T4) to the left to place the machine in transport configuration.

E - Driving

3.2.4 - Other controls

- Switching from the ground control box to the platform control box :



The emergency stop button (15) must be pulled out.

- Turn the key on the control box activation selector switch (16 / 226) to the left to energize the platform control box. The ground control box controls are de-energized.

- Switching from the platform control box to the ground control box :



The emergency stop button (15) must be pulled out.

- Turn the key on the control box activation selector switch (16) to the right to energize the ground control box. The platform control box controls are de-energized.

- For H28TJ+ (HB86TJ+) only :

- Switching from the platform or ground control box to the transport positioning box :



The emergency stop button (15) must be pulled out.

- Turn the key on the control box activation selector switch (229) to the right to energize the transport position. The platform and ground control box controls are deactivated.

- For H28TJ+ (HB86TJ+) only :

- Switching from the transport positioning box to the platform or ground control box :



The emergency stop button (15) must be pulled out.

- Turn the key on the control box activation selector switch (229) to the left to energize the platform and ground control box controls. The transport positioning box controls are deactivated.

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E - Driving

Putting in transport position :

From the platform control box

Machine stowed (boom retracted and in horizontal position)

- Push the jib selector switch (37) downwards to lower the jib below its horizontal position.
- Push the platform rotation selector switch (38) to the left to align the platform with the boom axis.

From the ground control box

Machine stowed (boom retracted and in horizontal position)

- Push the jib selector switch (8) downwards to lower the jib below its horizontal position.
- Push the platform rotation selector switch (73) to the left to align the platform with the boom axis.
- Engine speed increases :
- Turn the engine speed selector switch (21) to the right to switch to increase speed.
- Turn the engine speed selector switch (21) to the left to switch to idling speed.

N.B.:-Accelerating the engine speed increases the speed of movements from the ground control box.

For the machines equipped with beacon lights :

- Push the beacon light selector switch (24) to the right to switch on the beacon light.
- Push the beacon light selector switch (24) to the left to switch off the beacon light.

E - Driving

3.3 - OPERATIONS FROM THE PLATFORM

3.3.1 - Machine start-up

1. Pull the emergency stop button 46.
2. Press on the starter selector (42 / 230). The engine starts. The power-up indicator (31) lights up.
3. Let the engine heat up.

N.B.: - If the engine does not start, switch off the ignition (emergency stop button pushed in). Repeat the start-up procedure.

3.3.2 - Machine shutdown

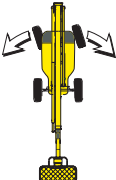
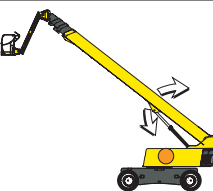
Press the emergency stop button (46).

3.3.3 - Movement control

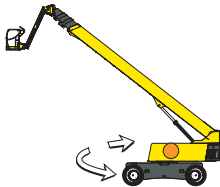
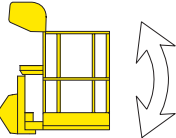
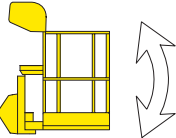
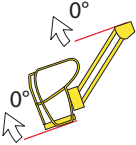
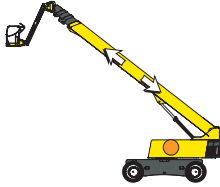
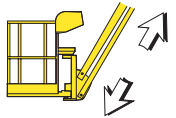


Activate the controls and the 'Enable Switch' system simultaneously to perform the various movements.

Platform control box controls (driving station) H28TJ+ (HB86TJ+)

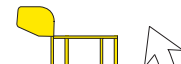
Control	Action
 Driving	Push the drive joystick (33) forwards to move the machine forwards.
	Push the drive joystick (33) backwards to reverse the machine.
 Front-axle steering	Push the front-axle steering selector switch (33) to the right to steer to the right.
	Push the front-axle steering selector switch (33) to the left to steer to the left.
 Lifting / lowering of boom	Push the boom/jib selector switch (231) downwards to perform boom movements. Push the boom raising joystick (232) forwards to lift the boom.
	Push the boom raising joystick (232) backwards to lower the boom.
 Jib lifting/lowering	Push the boom/jib selector switch (231) upwards to perform jib movements. Push the jib lifting joystick (232) upwards to lift the jib.
	Push the jib lifting joystick (232) backwards to lower the jib.

E - Driving

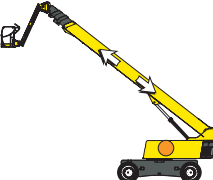
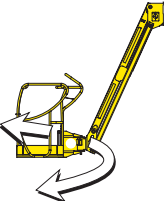
Control	Action	
Turntable rotation		Push the turntable rotation joystick (232) to the left for a clockwise rotation.
		Push the turntable rotation joystick (232) to the right for an anticlockwise rotation.
Platform rotation		Push the platform rotation selector (38) to the right for an anticlockwise rotation.
		Push the platform rotation selector (38) to the left for a clockwise rotation.
Platform leveling		Push the platform levelling selector switch (40) upwards to lift the platform.
		Push the platform levelling selector switch (40) downwards to lower the platform.
Automatic cage/jib compensation resetting		Press the compensation setting push-button (229) to automatically reset the cage/jib compensation.
Drive speed (minimum)		Set the drive speed selector switch (45) to  for high-speed driving (long distance driving, tarmac, concrete).
		Set the driving speed selector (45) to  for low-speed driving (short distance, final approach, unloading from lorries).
Boom telescope out/in		Push the boom/jib selector switch (231) downwards to perform boom movements. Push the boom telescoping joystick (233) forwards to retract the telescope.
		Push the boom telescoping joystick (233) backwards to extend the telescope.
Jib telescope extension/retraction		Push the boom/jib selector switch (231) upwards to perform jib movements. Push the jib telescoping joystick (233) forwards to retract the telescope.
		Push the jib telescoping joystick (233) backwards to extend the telescope.

E - Driving

Platform control box controls (driving station) H43TPX (HB135JRT)

Control	Action
Driving	 Push the drive joystick (33) forwards to move the machine forwards.
	 Push the drive joystick (33) backwards to reverse the machine.
Front-axe steering	 Push the front-axe steering selector switch (33) to the right to steer to the right.
	 Push the front-axe steering selector switch (33) to the left to steer to the left.
Lifting / lowering of boom	 Push the boom raising joystick (49) upwards to lift the boom.
	 Push the boom raising joystick (49) downwards to lower the boom.
Jib lifting/lowering	 Push the jib selector switch (37) upwards to lift the jib.
	 Push the jib selector switch (37) downwards to lower the jib.
Turntable rotation	 Push the turntable rotation joystick (49) to the left for a clockwise rotation.
	 Push the turntable rotation joystick (49) to the right for an anticlockwise rotation.
Platform rotation	 Push the platform rotation selector (38) to the right for an anticlockwise rotation.
	 Push the platform rotation selector (38) to the left for a clockwise rotation.
Platform leveling	 Push the platform levelling selector switch (40) upwards to lift the platform.
	 Push the platform levelling selector switch (40) downwards to lower the platform.

E - Driving

Control		Action
Drive speed (minimum)		Set the drive speed selector switch (45) to  for high-speed driving (long distance driving, tarmac, concrete).
		Set the driving speed selector (45) to  for low-speed driving (short distance, final approach, unloading from lorries).
Platform movement speed		Set the platform movement speed selector switch (84) to  for high-speed movement.
		Set the platform movement speed selector switch (84) to  for low-speed movement.
Boom telescope out/in		Push the boom telescoping joystick (70) upwards to extend the telescope.
		Push the boom telescoping joystick (70) downwards to retract the telescope.
Jib rotation		Push the jib rotation selector switch (83) to the left for a clockwise rotation.
		Push the jib rotation selector switch (83) to the right for an anticlockwise rotation.

N.B.:- The release of the selectors and (or) joysticks causes all movement to stop.

E - Driving

3.3.4 - Other controls

- Horn : Push the horn selector (43) to the right to sound the horn.

N.B.:- *The horn stops when the selector switch is released.*

For H28TJ+ (HB86TJ+) : :

- 350 kg(770 lb) or 230 kg(500 lb) load selector :
- Push the load selector switch (82) to the right for a platform load of 350 kg(770 lb).
- Push the load selector switch (82) to the left for a platform load of 230 kg(500 lb).

For H43TPX (HB135JRT) : :

- 450 kg(1000 lb) or 230 kg(500 lb) load selector :
- Push the load selector switch (82) to the right for a platform load of 450 kg(1000 lb).
- Push the load selector switch (82) to the left for a platform load of 230 kg(500 lb).

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E - Driving

3.4 - OPERATIONS FROM THE AXLES

3.4.1 - Prepare the machine



Prepare the machine before any axle extension or retraction operation.

1. Localise the 3 control consoles :

	Platform control box	
	Ground control box	
	Axle extension control box (Back of the machine)	

Check that the emergency stop button on each has been deactivated.	
--	--

2. Go to the bottom console and start the machine.



E - Driving

3. Lift the pendulum about 1 m.



4. Set the control box activation selector switch (16) to the centre to activate the axle control box.



N.B.:- The platform and ground control box controls are de-activated in this position.

5. Go to the back of the machine, facing the axle extension console.

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E - Driving

3.4.2 - Rear axle extension - Extension of the front axle



• If the two outrigger cylinders are extended, the axle extension controls are de-activated.

• Always extend the axles before using the machine.

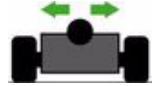
1. Lower lever (E1) or (E3).

• The cylinder is lowered.

• The chassis is lifted.

• The wheels no longer touch the ground.

2. Keep lever (E1) or (E3) lowered and lower lever (E2) or (E4) to extend the axle.



While the axle is being extended, the buzzer sounds and driving is deactivated. The buzzer stops when the axle is totally extended and the cylinder completely raised.

Once the axle is fully extended :

3. 1 to 2 s after the buzzer stops, release lever (E2) or (E4).

4. Lift lever (E1) or (E3).

• The cylinder is raised.

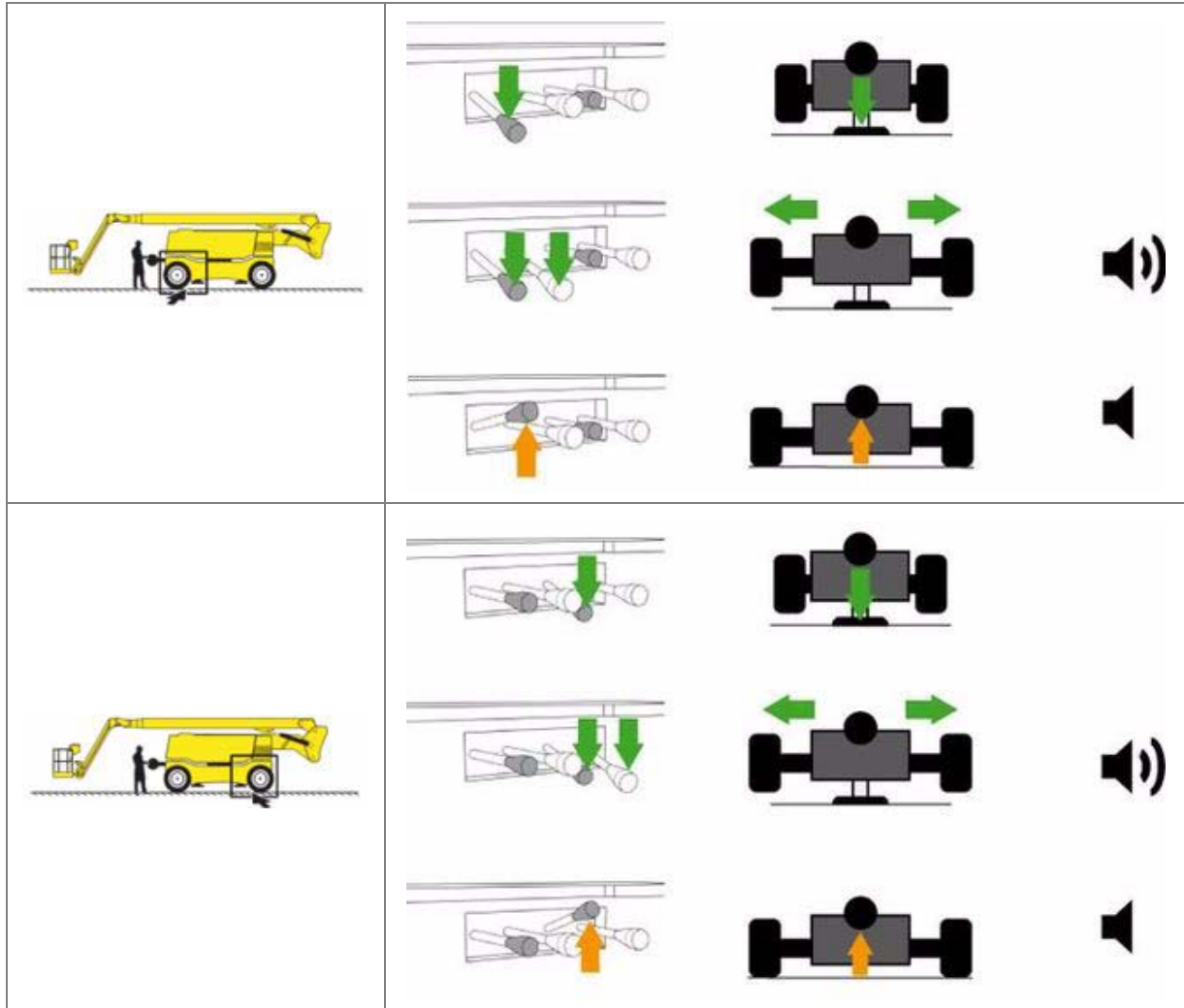
• The chassis is lowered.

• The wheels touch the ground.



If the buzzer sounds during the movement, the axles are either not fully extended or not fully retracted.

E - Driving



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3.4.3 - Retraction of the front axle - Retraction of the rear axle



If the two outrigger cylinders are extended, the axle retraction controls are de-activated.



1. Lower lever (E3) or (E1).

- The cylinder is lowered.
- The chassis is lifted.
- The wheels no longer touch the ground.

2. Keep lever (E3) or (E1) lowered and lift lever (E4) or (E2) to retract the axle.



While the axle is being retracted, the buzzer sounds and driving is deactivated. The buzzer stops when the axle is totally retracted and the cylinder completely lowered.

Once the axle is totally retracted :

3. 1 to 2 s after the buzzer stops, release lever (E2) or (E4).

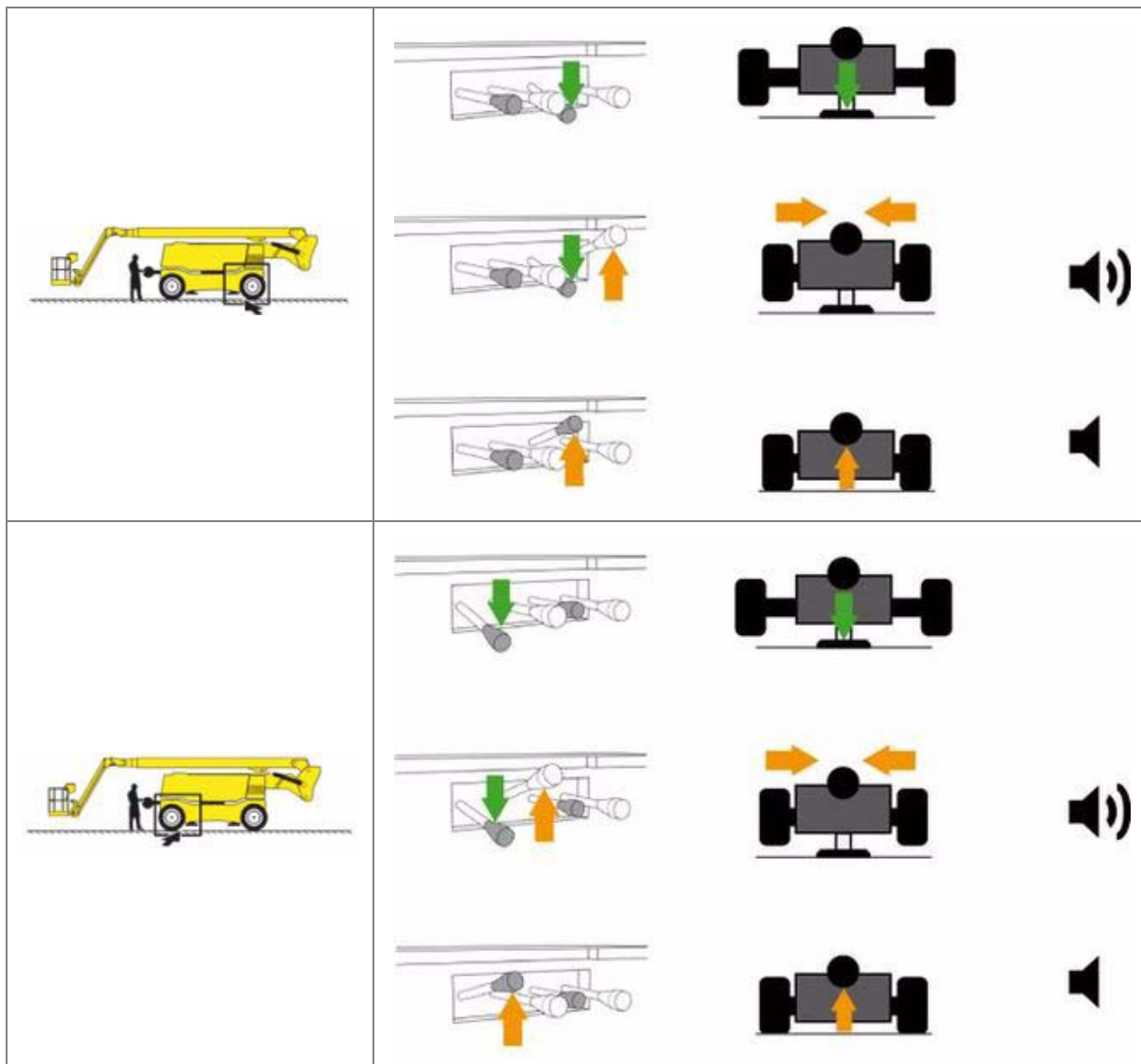
4. Lift lever (E3) or (E1).

- The cylinder is raised.
- The chassis is lowered.
- The wheels touch the ground.



If the buzzer sounds during the movement, the axles are either not fully extended or not fully retracted.

E - Driving



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3.5 - OPERATIONS FROM THE TRANSPORT POSITIONING BOX

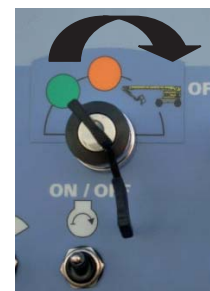
For H28TJ+ (HB86TJ+) only :

3.5.1 - Placing in transport configuration

- Remove the mounting case from its casing.



- Turn the key on the control box activation selector switch (229) to the right to energize the transport position.



- Pull the emergency stop push-button (T1).
- Press on the starter selector 227.
- Actuate the selectors (T2, T3, T4) to place the machine in transport configuration.
- Press and hold the selector (T5) to perform the movements.



3.5.2 - Placing in working configuration

Push in the opposite direction.

N.B.:- To avoid any risk of material deterioration, the machine is equipped with a system that deactivates movements when the cage touches the ground.

N.B.:- In working configuration, the machine can be started from either the platform control box or the ground control box if the emergency stop button (T1) is pushed in.

F

- Special procedure



Find all the function indicators and controls in  Section C 5 - Control boxes

1 - Emergency lowering

1.1 - PRINCIPLE

N.B.:- During rescue and emergency maintenance manoeuvres from the ground, it is essential to ensure that there are no obstacles under the platform (wall, beam, electricity line, etc.).

Emergency lowering is implemented if the operator using the console on the platform needs to be rescued and cannot operate the controls himself even if the machine is operating normally. This situation may arise if the operator is taken ill, is injured or if the control console is inaccessible.

A ground operator trained in using the emergency controls and in possession of the starter key can use the ground control box with the main power source to lower the platform operator.



If the machine is stuck or hooked in surrounding structures or equipment, it is essential to release the operators before intervening on the machine.

1.2 - PROCEDURE



Section A 2-Pre-operation instructions

For H28TJ+ (HB86TJ+) only :

1. Turn the control box activation selector key (16 / 226) to the centre to activate the ground control box. The platform control box controls are de-energized.
2. Lower the platform from the ground control box.

For H43TPX (HB135JRT) only :

3. Turn the key on the control box activation selector switch (16 / 226) to the right to energize the ground control box. The platform control box controls are de-energized.
4. Lower the platform from the ground control box.

N.B.:- Activating the emergency controls listed above deactivates the controls of the console on the platform.

1.3 - EXTRAORDINARY PROCEDURE

In the context of emergency lowering, it is possible that the emergency stop located on the platform is activated or that safety mechanisms such as the overload limiter are preventing the machine from operating normally.

During an exceptional procedure, for machines which are not fitted with the manual rescue control as described in the "emergency lowering" paragraph, activating the lower console deactivates the emergency pushbutton located on the platform.

N.B.:- During these exceptional manoeuvres, movements are slowed down for safety reasons.

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- Special procedure

2 - Lowering for repairs

2.1 - PRINCIPLE

The lowering for repairs function allows the operator to be lowered to the ground in case of failure of the main power source.

The electric pump, powered by the starting battery, allows movements to be controlled from both the ground and platform control boxes.

In the event of exit of abacus exceptional and important causing a cut engine, the emergency power unit in particular makes it possible to return in the working area authorized and to thus find all the functionalities of the machine, including the primary source of energy (thermal engine).

As the electric pump only has limited autonomy, it is advisable to come back to the ground in the most direct manner possible.



The use of the electric pump is exclusively reserved for the lowering for repairs function.

Performing other operations can lead to the deterioration of the electric pump.

2.2 - PROCEDURE

Depending on the control box used, push and hold the back-up hydraulic power system selector switch (19) downwards or (41) upwards) and lower the platform.

Movements to be preferably used to return to the ground, using the least battery energy :

1. Boom telescope in.
2. Boom descent.

N.B.:-Use jib and turntable rotation movements to clear any obstacles, if necessary.

N.B.:-The machine may perform a movement itself in addition to the requested movement in order to maintain the machine within the stability area limits. This movement will be either a telescope retraction movement or a boom lowering movement.



If the operator in the platform has to exit the platform when elevated, he must exit onto a sturdy, safe structure, the transfer must respect the following recommendations :

- The operator must secure himself by using 2 straps. One lanyard is attached to the platform, the other to the structure onto which he wishes to exit.
- The operator must exit the platform via the standard access point.
- The operator must not detach the strap connected to the platform until transfer is complete or while the transfer still presents a danger.



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

F

- Special procedure

3 - Towing

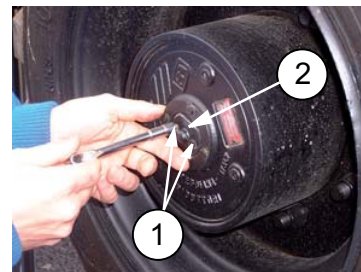
In case of a machine failure, it is possible to tow it to load it onto a trailer.

3.1 - DISSENGAGING THE DRIVE HUBS



Perform these operations on flat, horizontal ground. Failing that, block the wheels to immobilize the machine. During an operation of disengaging the drive hubs, the machine is in free wheels, the brake system no longer functions.

1. Loosen and remove the 2 fastening screws (1).
2. Remove the clutch stop (2).
3. Turn the clutch stop so that its domed part is towards the interior of the wheel gears.
4. Attach the clutch stop.



3.2 - TOWING

The machine can be towed.



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



Do not exceed 5 km/h (3,10 mph) .

3.3 - REENGAGING THE DRIVE HUBS

After repairing the machine, reengage the wheel drive hubs.

1. Loosen and remove the 2 fastening screws (1).
2. Remove the clutch stop (2).
3. Turn the clutch stop so that its domed part is towards the exterior of the wheel gears.
4. Attach the clutch stop.
5. Check the wheel gear oil level.

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- Special procedure

4 - Loading and unloading

N.B.:-When driving up an incline or ramp, during loading or unloading HAULOTTE® recommends positioning the counterweight at the rear.



Raise the platform sufficiently to avoid contact with the ground.



To avoid any risk of tipping over, the boom must be maintained in the longitudinal axis of the chassis.



Section F 4.2 Putting in transport position.

4.1 - PRINCIPLE



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

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

As the ramp slope generally exceeds slope authorized for driving, the boom must be lowered to authorize driving.

In this case, the buzzer is not activated and driving is authorised.



To climb the slope, select low driving speed .

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



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

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

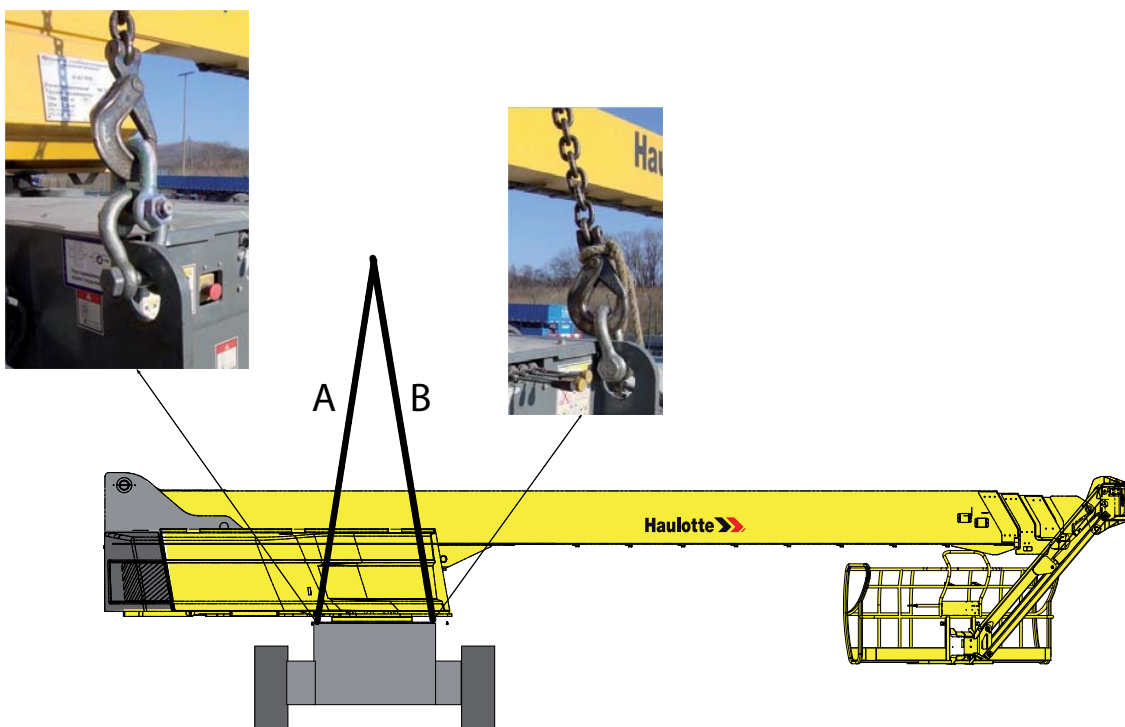
F - Special procedure

4.1.1 - Loading by lifting

Ensure that :

- The machine is completely stowed.
- The platform must be empty.
- The lifting equipment ie. slings, shackles, hooks, lifting beam etc. are in good condition and of sufficient capacity.
- The personnel performing the lift is authorised to complete the lift.
- The turret is oriented at 90 ° and the jib at 180 ° as represented below :

Procedure for the use of slings-H43TPX



Number of shackles	Number of slings	Length A	Length B	Maximum load per sling and shackle
6	4	5 m (16 ft 5 in)	5 m (16 ft 5 in)	10 000 DaN (22482 lbf)

F

- Special procedure

4.2 - PUTTING IN TRANSPORT POSITION

For H43TPX (HB135JRT) only :

The machine must be fully stowed (boom retracted and in horizontal position).

From the platform control box :

1. Check the platform is completely empty.
2. Lower the jib to below horizontal position.
3. Rotate the jib to the left up to the mechanical stop (83).
4. Turn the platform to the left to align it with the boom axis (38).
5. Secure the machine to the anchorage points provided for this purpose.
6. Block the turntable with the rotation stop pin located under the turntable.

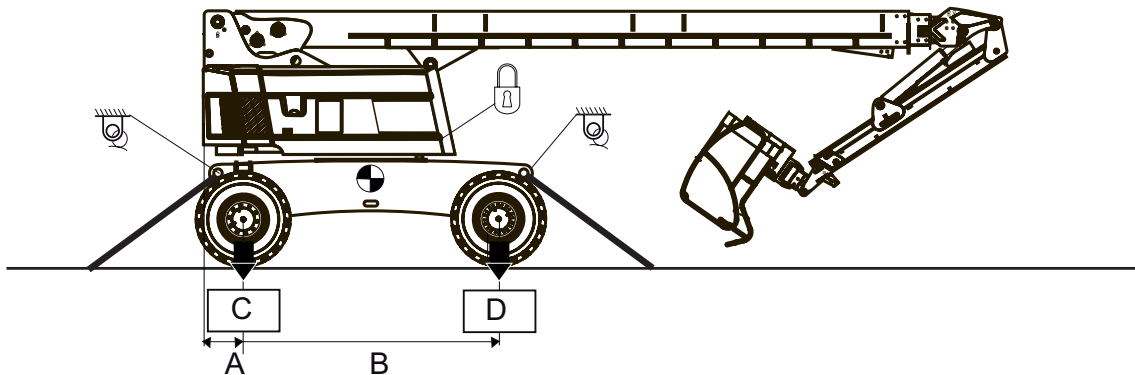
From the ground control box :

7. Check the platform is completely empty.
8. Lower the jib to below horizontal position.
9. Rotate the jib to the left up to the mechanical stop (14).
10. Turn the platform to the left to align it with the boom axis (8).
11. Secure the machine to the anchorage points provided for this purpose.
12. Block the turntable with the rotation stop pin located under the turntable.

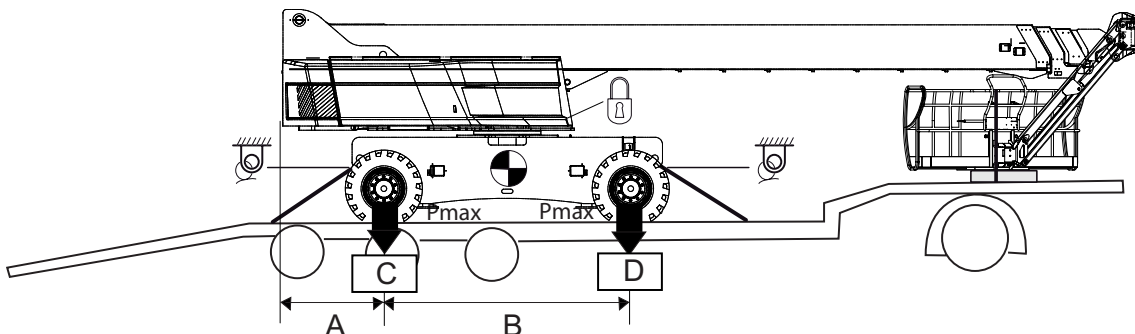


Do not transport the machine if the turntable is not locked.

For H28TJ+ (HB86TJ+)



For H43TPX (HB135JRT)



F

- Special procedure

Loading characteristics

Marking	Description	H28TJ+ (HB86TJ+)	H43TPX (HB135JRT)
A	Rear drift ^(1.)  Section G 1Main characteristics)	0,55 m(1 ft10 in)	1,58 m(5 ft2 in)
B	Wheelbase ^(1.)	3 m(9 ft10 in)	3,50 m(11 ft6 in)
C	Front axle load ^(1.)	8580 kg(18919 lb)	10400 kg(22932 lb)
D	Rear axle load ^(1.)	8750 kg(19294 lb)	10200 kg(22491 lb)
	Anchorage point		
	Turntable rotation locking		

(1.) Check the technical data in the technical characteristics

4.3 - UNLOADING



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

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

1. Unlock the turntable rotation locking pin.
2. Remove the tie downs.
3. Start the machine.

4.4 - WARNING



Upon starting a machine that has been secured then transported, the safety system may detect a false overload forbidding all movement from the platform control box.

To reinstate the system, lift the jib a few centimetres from the ground control box.

To unload the machine, select low driving speed .



Do not travel down the ramp at a fast speed.

4.5 - STORAGE



The machine must always be powered up when it is unfolded so that the security systems are active.

This means that the machine must be parked in stowed position.

The boom may be raised but it cannot be telescoped.

We strongly advise you not to store or immobilize the machine unfolded to avoid jeopardising the safety of people and property.

F

- Special procedure

5 - Detection of internal fault

5.1 - PRINCIPLE

The machine is equipped with an on-board defect detection system.

The number of times the defect indicator flashes indicates the type of fault to the operator.

According to the type of fault, the machine switches in DOWNGRADED MODE; certain movements can be limited or forbidden by the system to maintain the operator's safety.

If a fault is detected, the fault indicator and the radius limit indicators light up.

If the start-up indicator flashes, contact HAULOTTE Services® immediately.

5.2 - PROCEDURE

1. Note the number of flashes emitted by the fault indicator 26.
2. Note any other LED's that may be lit and the situation of the machine when the defect appears.
3. Use the telescope retraction (70) and the boom raising (49) controls.
4. Stow the machine.
5. Switch the machine off.

N.B.: - If the emergency stop is activated during telescope retraction and boom lift controls, on restarting, the machine switches to DOWNGRADED MODE. Stow the machine completely. Switch the machine off.



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

Perform the required maintenance (see the machine maintenance book).

G - Technical characteristics

1 - Main characteristics



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 not require any particular precautions other than those associated with the installation itself (static test).

Otherwise, it is essential to follow the manufacturer's recommendations 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 label compliance.

HAULOTTE® has a continuous improvement policy in place for its product range ; Given this policy, The Company reserves the right to modify their product technical characteristics without notice.

The hand and feet vibration and noise level values indicated in the technical characteristics tables are obtained in the following conditions :

- The maximum quadratic mean value weighted as an acceleration frequency and the total value of the vibrations to which the hand-arm system is exposed have been measured on the products by simulating a cycle representative of normal use. The values meet the requirements of the 2006/42/CE machine directive.
- For electric machines, the sound power level is measured at the drive station under the conditions described by the 2006/42/CE machine directive.
- For machines equipped with internal combustion engines, the noise level guarantees (LWA displayed on the product) and is measured in accordance with the method and the conditions described in Appendix III, Part B, Method 1 and 0 of the 2000/14/CE European directive.

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G - Technical characteristics

For H28TJ+ (HB86TJ+) - Technical characteristics

Machine	H28TJ+		HB86TJ+	
Characteristics	Metric	Imperial	Metric	Imperial
Maximum work height	27,5 m	(90 ft3 in)	27,5 m	(90 ft3 in)
Maximum platform height	25,5 m	(83 ft8 in)	25,5 m	(83 ft8 in)
Maximum working offset	230 kg : 22.45 m	507 lbs : 73 ft 8 in	230 kg : 22.45 m	507 lbs : 73 ft 8 in
	350 kg : 20.95 m	772 lbs : 68 ft 9 in	350 kg : 20.95 m	772 lbs : 68 ft 9 in
Transport length	9,45 m	(31 ft0 in)	9,45 m	(31 ft0 in)
Platform length	1,80 / 2,44 m	5 ft 11 in / 8 ft 0 in	1,80 / 2,44 m	5 ft 11 in / 8 ft 0 in
Length of machine in stowed position	12,40 m	(39 ft4 in)	12,40 m	(39 ft4 in)
Platform width	0,80 m	(2 ft7 in)	0,80 m	(2 ft7 in)
Overall width of machine	2,49 m	(8 ft2 in)	2,49 m	(8 ft2 in)
Machine height	2,95 m	(9 ft8 in)	2,95 m	(9 ft8 in)
Transport height	2,95 m	(9 ft8 in)	2,95 m	(9 ft8 in)
Wheelbase	3 m	(9 ft10 in)	3 m	(9 ft10 in)
Maximum ground clearance	0,52 m	(1 ft8 in)	0,52 m	(1 ft8 in)
Maximum wind speed allowed	45 km/h	(28 mph)	45 km/h	(28 mph)
Maximum load capacity	230 - 350 kg	(500 - 770 lb)	230 - 350 kg	(500 - 770 lb)
Maximum number of people on the platform	If 230 kg (507 lbs) : 2			
	If 350 kg (772 lbs) : 3			
Platform rotation angle	180 °-			
	+90° / - 90°			
Jib working range	135 °-			
	+70° / - 65°			
Turntable rotation	Continuous		Continuous	
Dumping CE - AS	4 °			
Rated slope ANSI - CSA	0 °			
Slope warning ANSI - CSA	5 °			
Rear drift	(NA ft)	(0 ft0 in)	(NA ft)	(0 ft0 in)
Drive speed (minimum)	0,5 km/h	(0,3 mph)	0,5 km/h	(0,3 mph)
Drive speed (maximum)	5,3 km/h	(3,3 mph)	5,3 km/h	(3,3 mph)
Platform elevation time (when empty)	120 s			
Platform lowering time (when empty)	128 s			
Maximum climbable slope	40 %			
Inner turning radius (with axles retracted)	(18 ft in)		(18 ft in)	
Outer turning radius (with axles retracted)	(24 ft5 in)		(24 ft5 in)	
Steer wheels	2			
Drive wheels	4			
Differential lock	Hydraulics			
Tyre size	385-45-28			
Engine	Perkins			
Reference	804D-33T			
Power source	55 kW	(74 Hp)	55 kW	(74 Hp)
Hydraulic oil tank capacity	140 l	(37 gal US)	140 l	(37 gal US)
Fuel tank capacity	140 l	(37 gal US)	140 l	(37 gal US)
Weight	17300 kg	(38,147 lb)	17300 kg	(38,147 lb)
Wheel nut torque	57 daN.m	(420 lbf.ft)	57 daN.m	(420 lbf.ft)
Slew ring torque	21,5 daN.m	(158 lbf.ft)	21,5 daN.m	(158 lbf.ft)
Maximum ground pressure on hard ground	16 daN/cm²	3,28 lbf/sq.ft	16 daN/cm²	3,28 lbf/sq.ft

G - Technical characteristics

Machine Characteristics	H28TJ+		HB86TJ+	
	Metric	Imperial	Metric	Imperial
Maximum ground pressure on soft ground	7,5 daN/cm²	1,54 lbf/sq.ft	7,5 daN/cm²	1,54 lbf/sq.ft
Sound level at 10 m(32 ft9 in)	< 74dB (A)			
Noise emission level	107 dB (A)			
Micro drive speed	0,5 km/h	(0,3 mph)	0,5 km/h	(0,3 mph)
High drive speed	5,3 km/h	(3,3 mph)	5,3 km/h	(3,3 mph)
Hand vibration	<2,5 m/s²	(98 in/s²)	<2,5 m/s²	(98 in/s²)
Feet vibration	<0,5 m/s²	(19 in/s²)	<0,5 m/s²	(19 in/s²)
Manual lateral force at platform	CE - AS : 400 N - 90 lbf		ANSI - CSA : 666 N / 150 lbf	

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G - Technical characteristics

For H43TPX (HB135JRT) - Technical characteristics

Machine	H43TPX		HB135JRT	
Characteristics	Metric	Imperial	Metric	Imperial
Maximum work height	42,20 m	(138 ft5 in)	42,20 m	(138 ft5 in)
Maximum platform height	40,20 m	(131 ft11 in)	40,20 m	(131 ft11 in)
Maximum working offset	230 kg : 19.80 m	507 lbs : 65 ft 0 in	230 kg : 19.80 m	507 lbs : 65 ft 0 in
	450 kg : 18.20 m	992 lbs : 59 ft 9 in	450 kg : 18.20 m	992 lbs : 59 ft 9 in
Transport length	12,30 m	(40 ft4 in)	12,30 m	(40 ft4 in)
Platform length	2,44 m	(8 ft0 in)	2,44 m	(8 ft0 in)
Length of machine in stowed position	14,50 m	(47 ft7 in)	14,60 m	(47 ft11 in)
Platform width	0,80 m	(2 ft7 in)	0,915 m	(3 ft0 in)
Overall width of machine	2,53 m	(8 ft4 in)	2,53 m	(8 ft4 in)
Machine width, with axles extended	3,33 m	(10 ft11 in)	3,33 m	(10 ft11 in)
Machine height	3,05 m	(10 ft0 in)	3,05 m	(10 ft0 in)
Transport height	3,05 m	(10 ft0 in)	3,05 m	(10 ft0 in)
Wheelbase	3,50 m	(11 ft6 in)	3,50 m	(11 ft6 in)
Maximum ground clearance	0,38 m	(0 ft15 in)	0,38 m	(0 ft15 in)
Maximum wind speed allowed	45 km/h	(28 mph)	45 km/h	(28 mph)
Maximum load capacity	230 - 450 kg	(500 - 1000 lb)	230 - 450 kg	(500 - 1000 lb)
Maximum number of people on the platform	If 230 kg (500 lbs) : 2 If 450 kg (1000 lbs) : 3			
Platform rotation angle	180 °- +90° / - 90°			
Jib working range	140 °- +70° / - 70°			
Horizontal jib rotation	150 °- +75° / - 75°			
Turntable rotation	Continuous			
Dumping CE - AS	3 °			
Rated slope ANSI - CSA	0 °			
Slope warning ANSI - CSA	5 °			
Rear drift	(NA ft)	(5 ft2 in)	(NA ft)	(5 ft2 in)
Drive speed (minimum)	0,3 km/h	(0,2 mph)	0,3 km/h	(0,2 mph)
Drive speed (maximum)	5 km/h	(3,1 mph)	5 km/h	(3,1 mph)
Platform elevation time (when empty)	240 s			
Platform lowering time (when empty)	240 s			
Maximum climbable slope	40 %			
Inner turning radius (with axles retracted)	(16 ft9 in)		(16 ft9 in)	
Outer turning radius (with axles retracted)	(8 ft9 in)		(8 ft9 in)	
Steer wheels	4			
Drive wheels	4			
Differential lock	Hydraulics			
Tyre size	445/65-22,5			
Engine	Perkins			
Reference	1104D-44 Turbo			
Power source (CE)	55,5 kW	(75,4 Hp)	55,5 kW	(75,4 Hp)
Power source (except CE)	62,4 kW	(84,9 Hp)	62,4 kW	(84,9 Hp)
Hydraulic oil tank capacity	240 l	(63 gal US)	240 l	(63 gal US)
Fuel tank capacity	140 l	(37 gal US)	140 l	(37 gal US)
Weight	20600 kg	(45,423 lb)	20600 kg	(45,423 lb)
Wheel nut torque	57 daN.m	(420 lbf.ft)	57 daN.m	(420 lbf.ft)
Slew ring torque	21,5 daN.m	(158 lbf.ft)	21,5 daN.m	(158 lbf.ft)

G - Technical characteristics

Machine Characteristics	H43TPX		HB135JRT	
	Metric	Imperial	Metric	Imperial
Maximum ground pressure on hard ground	10,17 daN/cm ²	2,08 lbf/sq.ft	10,17 daN/cm ²	2,08 lbf/sq.ft
Maximum ground pressure on soft ground	6,18 daN/cm ²	1,26 lbf/sq.ft	6,18 daN/cm ²	1,26 lbf/sq.ft
Sound level at 10 m (32 ft 9 in)	< 74 dB (A)			
Noise emission level	108 dB (A)			
Micro drive speed	0,3 km/h	(0,1 mph)	0,3 km/h	(0,1 mph)
High drive speed	5 km/h	(3,1 mph)	5 km/h	(3,1 mph)
Hand vibration	<2,5 m/s ²	(98 in/s ²)	<2,5 m/s ²	(98 in/s ²)
Feet vibration	<0,5 m/s ²	(19 in/s ²)	<0,5 m/s ²	(19 in/s ²)
Manual lateral force at platform	CE - AS : 400 N - 90 lbf		ANSI - CSA : 666 N / 150 lbf	

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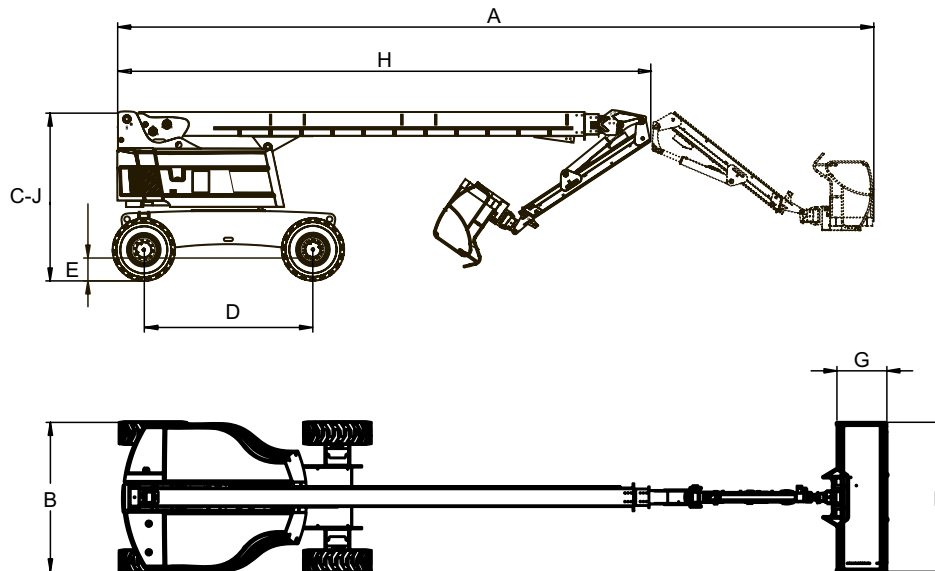
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- Technical characteristics

2 - Overall dimensions

General diagram

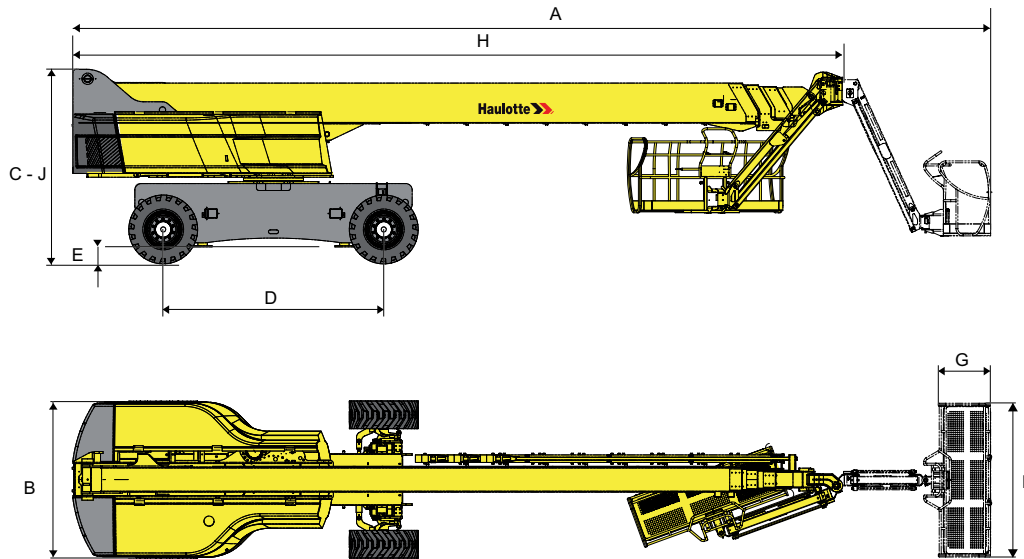


Overall dimension specifications

Marking	H28TJ+ (HB86TJ+)	
	Mètre	Feet inch
A	12,40	39 ft 4 in
B	2,49	8 ft 2 in
C	2,95	9 ft 8 in
D	3	9 ft 10 in
E	0,58	1 ft 10 in
F x G	2,44 x 0,80	8 ft 0 in x 2 ft 7 in
H	9,45	31 ft 0 in
J	2,95	9 ft 8 in

G - Technical characteristics

General diagram



Overall dimension specifications

Marking	H43TPX (HB135JRT)		For HB135JRT	
	Mètre	Feet inch	Mètre	Feet inch
A	14,50	47 ft 6 in	14,60	47 ft 11 in
B	2,53	8 ft 3 in		
C	3,05	10 ft 0 in		
D	3,50	11 ft 5 in		
E	0,38	1 ft 3 in		
F x G	2,44 x 0,80	8 ft 0 in x 2 ft 7 in	2,44 x 0,915	8 ft 0 in x 3 ft 0 in
H	12,30	40 ft 4 in		
J	3,05	10 ft 0 in		

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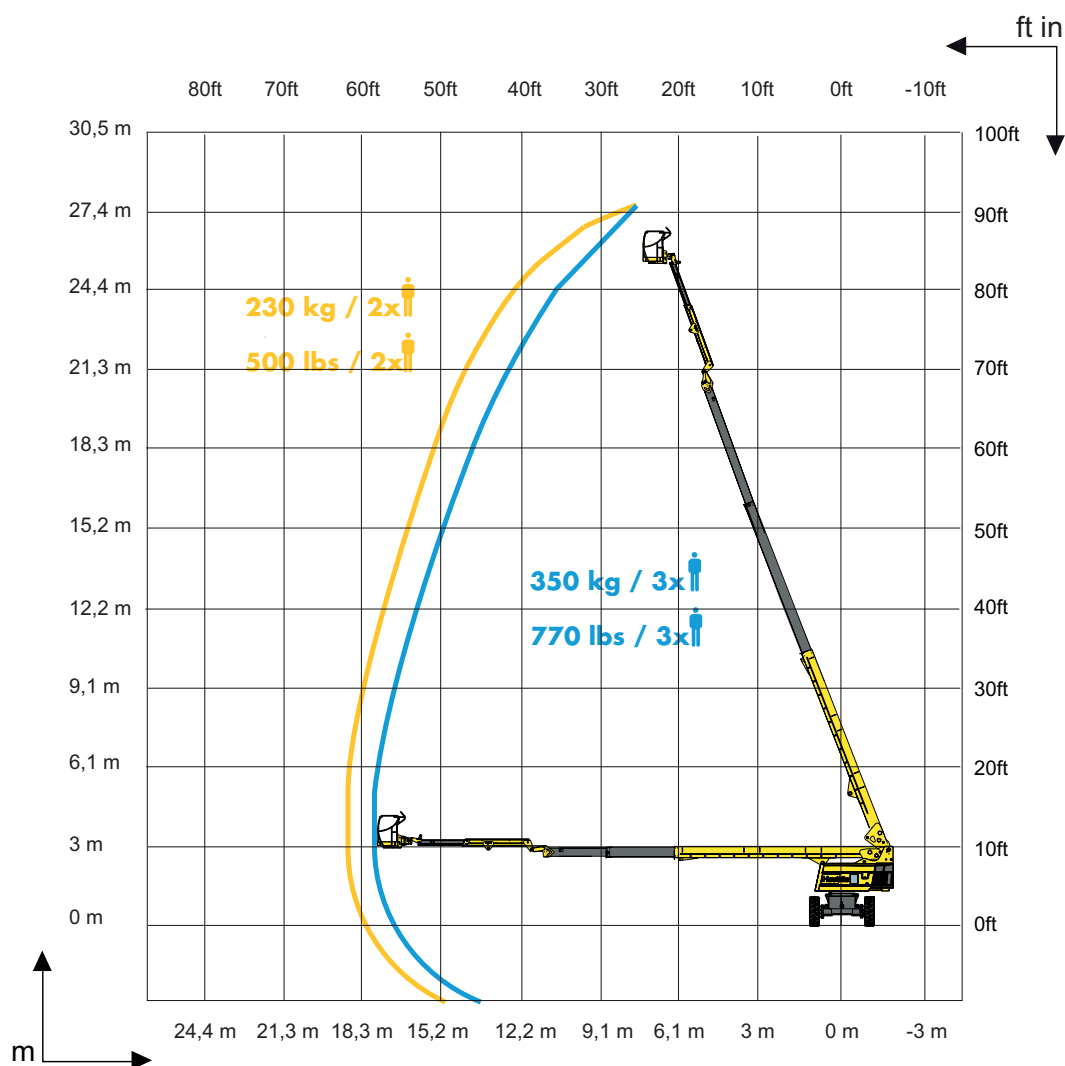
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G - Technical characteristics

3 - Working area

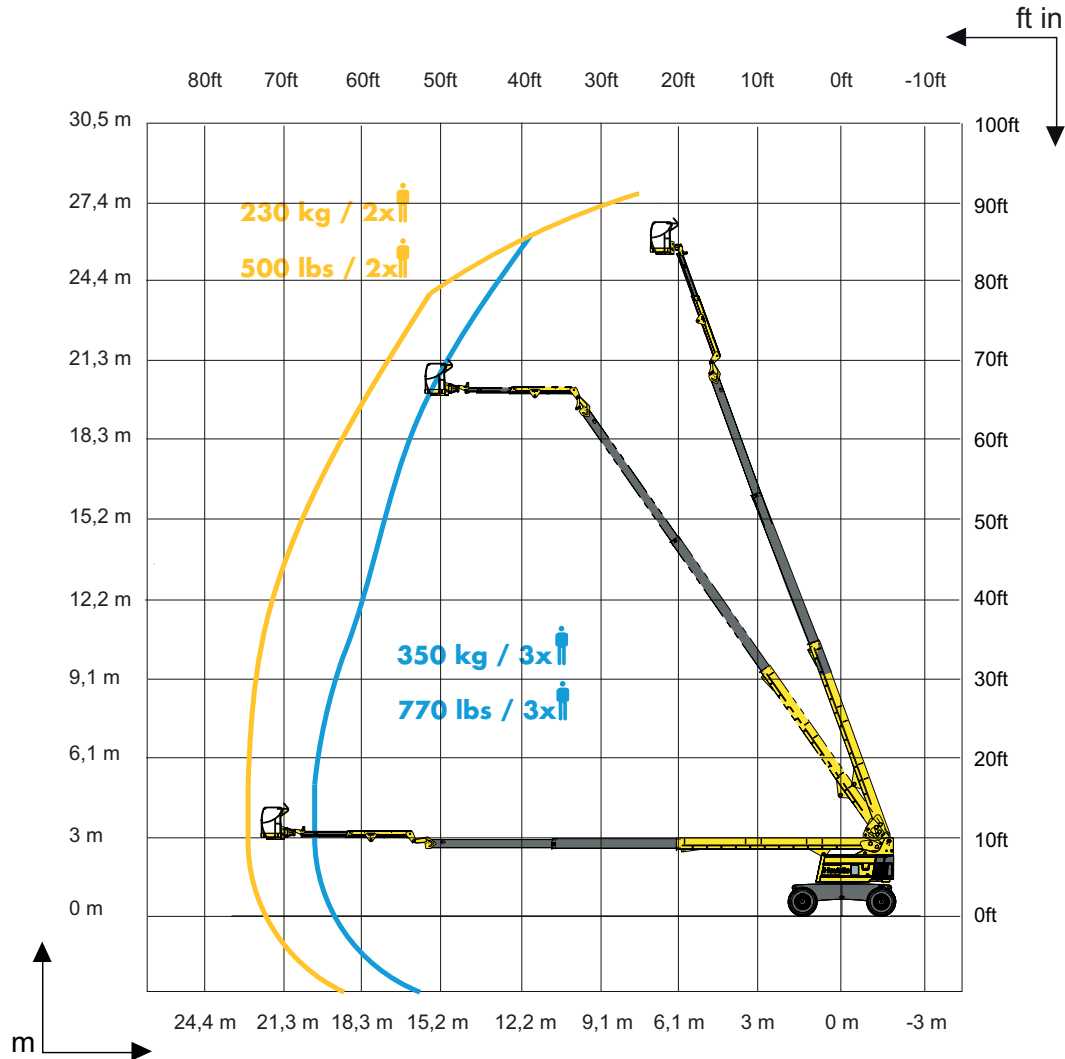
3.1 - MACHINE H28TJ+ (HB86TJ+)

Lateral working area



G - Technical characteristics

Longitudinal working area



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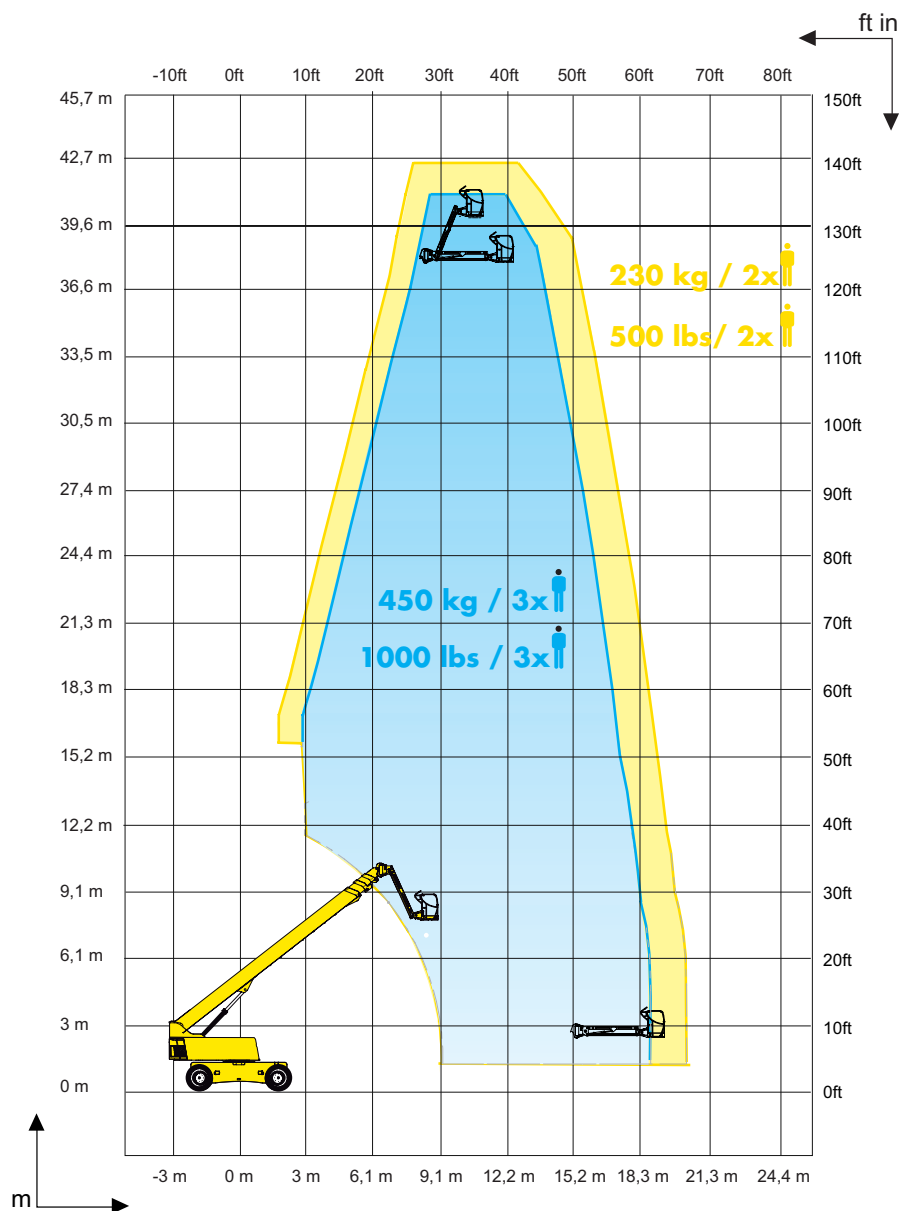
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G - Technical characteristics

3.2 - MACHINE H43TPX (HB135JRT)

Working area



G - Technical characteristics

4 - AS - CE standard specificities

The following tests must be performed after :

- A major technical intervention.
- An accident due to major component failure on the machine.



- The following tests must be performed by a qualified person in secure conditions.
- The results must be fully recorded.

To avoid the machine tipping over, it must be secured during the test (by a chain or anchorage point).

4.1 - OVERLOAD TEST

The overload test is performed with 125 % of the nominal load. See paragraph 1.12.3 of the AS1418.10 standard for test details.

Load table

Machine	Test load	
	Pound (lb)	Kilogramme (kg)
H43TPX (HB135JRT) 230 kg	634	287.5
H43TPX (HB135JRT) 450 kg	1240	562.5



The machine must not show any signs of permanent distortion.

Tests are performed by a qualified person under optimal conditions and results must be fully recorded.

4.2 - FUNCTIONAL TEST

Functional tests have confirmed the following: :

- The machine has performed all movements without jerking, while carrying the nominal load.
- All security systems are operating correctly.
- Maximum authorized operating speeds are not exceeded.



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G - Technical characteristics

4.3 - STABILITY TEST

The stability test proves that the machine is stable in an unfavourable position. The moment when the machine tips is calculated by combining loads in the machine's most unfavourable position (load W applied over distance L).

Stability table for H43TPX (HB135JRT) - 230 kg

	T (°)	W		L		Moment of tipping over
		Pound (lb)	Kilogramme (kg)	Feet inch (ft in)	Mètre (m)	m kgf
P	3,5	639,34	290	48,17	14,683	17418,651
F	3,5	791,45	359	120,27	36,659	

Stability table for H43TPX (HB135JRT) - 450 kg

	T (°)	W		L		Moment of tipping over
		Pound (lb)	Kilogramme (kg)	Feet inch (ft in)	Mètre (m)	m kgf
P	3,5	1245,61	565	42,35	12,913	21565,225
F	3,5	837,75	380	123,19	37,551	

G - Technical characteristics

Stability for H43TPX (HB135JRT) - 230 kg



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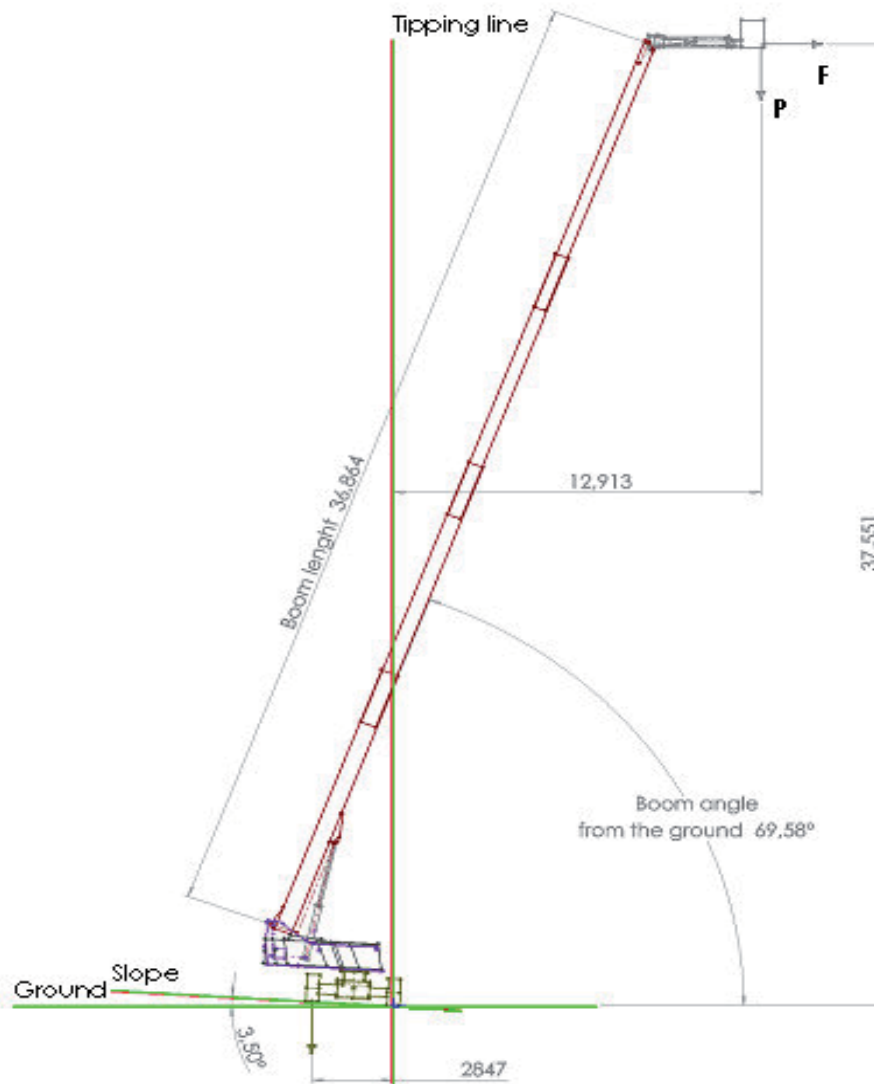
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G - Technical characteristics

Stability for H43TPX (HB135JRT) - 450 kg



See paragraph 1.12.2 of the AS1418.10 standard for test details.

The machine must return to a stable state without tipping over.

G - Technical characteristics

5 - Declaration of conformity



CE Declarations of Conformity only apply to machines that are certified for the European market.

Declaration of conformity - Thermal platforms

DECLARATION DE CONFORMITE CE

(certificate of conformity with EC directives)

Nom et adresse du constructeur ou son représentant autorisé dans la communauté :
Name and address of manufacturer or their authorised agents within the European Community

HAULOTTE Group Siège Social
La Péronnière
BP 09
42152 L'HORME Cedex
FRANCE

HAULOTTE GROUP
Usine de _____

Déclare que la machine décrite ci-dessous :
(Declares that the technical installation described below)

Nacelle ou Plate-forme mobile élévatrice de personnes

(Elevating work Platform)

Machine au nom commercial (Machine with the commercial name) _____,

Conforme au type (in compliance with the type) _____

Numéro de série (Serial number): _____

Se conforme aux dispositions de la directive machine 2006/42/CE.
(Conforms to the provisions set out in the EC Machinery Directive 2006/42/EC)

N° de certificat (Certificate no): _____

Cette machine est identique au modèle ayant fait l'objet d'un examen CE de type par l'organisme notifié :
(This machinery is identical to the model that was tested in an EC type-examination by the appointed body)

Organisme certifié (Authorised certification body) :

_____ n° _____

- Se conforme également aux dispositions de la directive 2000/14/CE concernant l'émission de bruit par l'équipement dans l'environnement en utilisation extérieure
(is also in accordance with the clauses contained in the EC Outdoor Noise Directive (2000/14/EC))
 - Méthode de mesure (Measuring methods) Annexe III-B
 - LwA, Niveau de puissance acoustique garantie (LWA, sound level guaranteed) _____ dB
 - LwA, Niveau de puissance acoustique minimum/maximum (LWA, maxi sound level) _____/_____ dB
- Se conforme également aux dispositions de la directive 2004/108/CE concernant la compatibilité électromagnétique.
(is in accordance with the provisions contained in EEC Directive no. 2004/108/CE on electromagnetic compatibility)
- Se conforme aux principales exigences des normes harmonisées suivantes : EN 280 et EN 954.
(also fulfils the principal requirements of the following harmonised standards: EN 280 and EN 954)

Fait à L'Horme le :

Directeur Division _____ /Managing Director, _____ Division

Signature

Cette déclaration est conforme aux exigences de l'annexe II-a de la directive 2006/42/CE. Toute modification de la machine décrite ci-dessus rendrait cette déclaration caduque.
This declaration conforms with the requirements of annex II-A of the directive 2006/42/EEC. Any modification to the above described machine violates the validity of this declaration.

G - Technical characteristics

H - Intervention register

1 - Intervention register

In order to benefit from the HAULOTTE® guarantee, each maintenance or repair operation must be entered in the INTERVENTION REGISTER, which can be found at the end of the maintenance book delivered with your machine.

Intervention register



H - REGISTRE D'INTERVENTION

REGISTRE D'INTERVENTION HAULOTTE SERVICE				
Date	Nature de l'intervention	Nbre heures	Intervenant	N° intervention Haulotte service

MODELE

H

- Intervention register