

TELESCOPIC HANDLERS

Operator's manual

TELESCOPIC HANDLERS

HTL 4010 - HTL 3510 (HTL 7732) - HTL 3010

4000328140

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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® can affect the visibility in driving position and 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 ordered 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 the Eurasian Customs Union 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 - Operation instructions



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

2.1 - PROHIBITIONS



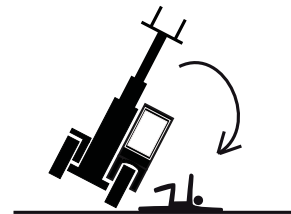
- Never use a faulty machine (hydraulic leaks, worn tires, malfunction).
- Never operate the machine controls suddenly.
- Never place the machine against a structure to hold that structure in place.
- Never use the machine to tow other machines or to drag materials.
- Never expose the batteries or electrical 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. It must be operated by a pair of operators.
- Never leave the hydraulic cylinders fully extended or retracted before switching off the machine, or during an extended stop period.

2.2 - POTENTIAL RISKS

2.2.1 - Tip-over hazards



Never use an accessory without having checked the HAULOTTE® accessory load capacity chart installed on the telehandler.



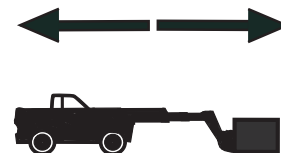
- Do not exceed the rated lifting capacity.
- Check that the ground can support the machine.



Do not drive at high speed with the boom raised.



When driving at high speed, use only front-wheel steering (if the steering mode can be selected).



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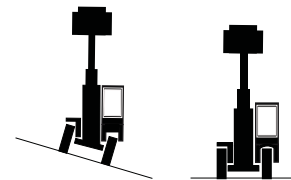
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A - Safety precautions



Do not raise the boom unless the chassis is level (0 °).



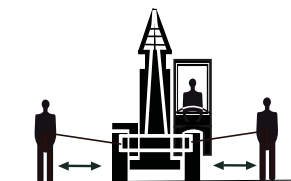
Do not level the machine with the boom or the accessory above 30 °



- Transport the load as low as possible. Attach the suspended loads to restrict movement.
- Comply with the capacity charts displayed in the cab.
- The weight of all riggings (slings, etc...) must be included as part of the load weight.

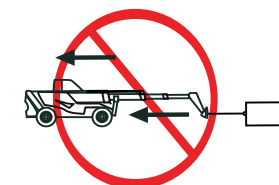


- Start, travel, turn and stop slowly to prevent the load from tipping over.
- Beware of the wind. The wind can cause a suspended load to tip over and generate destabilising side forces (even with tag lines).



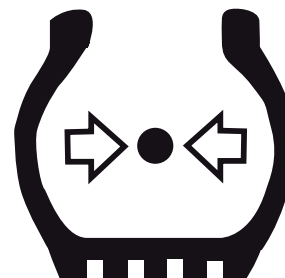
Do not try to use the telehandler's dumping function to return the load to horizontal position.

- Keep the heaviest part of the load closest to the attachment.
- Never drag the load. Lift it vertically.



A - Safety precautions

- Maintain proper tire pressure at all times. Otherwise, the machine could tip over.



Do not ballast the tires.

- Always wear the seat belt.



Do not hang your head, your arms, your hands, your legs or any other parts of your body out of the cab.

If the telehandler starts to tip over :

- Stay in the machine cabin.
- Keep your seat belt fastened.
- Hold on tightly.
- Lean away from the point of impact.



Trying to escape from a tipping machine could result in death or serious injury.

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A - Safety precautions

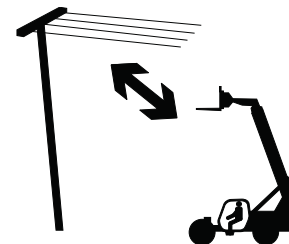
2.2.2 - Electrical hazards

- The machine is not electrically insulated and does not offer any protection in the event of proximity to or contact with electrical current.



Never operate the handler in an area where overhead power lines, overhead or underground cables or other power sources may exist without ensuring that the appropriate utility company has de-energized the lines.

- Always check for power lines before raising the boom.
- 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.

A - Safety precautions

Minimum safety distance - For AS standard only

Clearance for Operating Elevating Work Platforms Near Power Lines
While in Operating Mode

Overhead Power Lines on Poles

NO GO ZONE
For the platform or the person located in the platform

Scissor Required Between 3.0m of Power Lines

Scissor Required Between 3.0m of Power Lines

Open Area Outside 3.0m of Power Lines

Open Area Outside 3.0m of Power Lines

Special Provisions

For Operating Elevating Work Platforms Working in Operation in the No-Go Zone

1a.1 Notify the relevant authority before commencing work

1a.2 Obtain written permission from the power authority

1a.3 CONTACT commence work until a on-site safety meeting and a risk assessment have been completed

The term 'Doctor' is defined as a safety co-ordinator who is a person competent for the use task of observing and warning against unsafe approach to nuclear power lines and other electrical apparatus

1a.4 These special provisions are not applicable to workers fully engaged in maintenance in the electricity supply industry

Note: If the tower is insulated and has a current test certificate issued by a NATA approved laboratory, no scissor is required in the yellow area.
The 3.0m clearance is from the top of the outlet of the elevating work platform.

Overhead Power Lines on Towers

NO GO ZONE
For the platform or the person located in the platform

Scissor Required Between 3.0m of Power Lines

Scissor Required Between 3.0m of Power Lines

Open Area Outside 3.0m of Power Lines

Open Area Outside 3.0m of Power Lines

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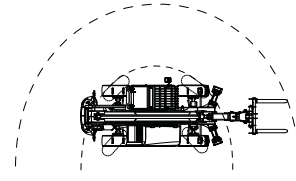
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A - Safety precautions

2.2.3 - Travel hazards

- The turning radii change according to the steering mode selected (2 or 4 steer wheels).
- Ensure that adequate clearance is provided for pivoting the rear tail and the front fork.



The rear offset is larger in 4 steer wheels mode.



Look out for and avoid other personnel, machinery and vehicles in the area. Always obtain assistance from a guide on the ground when manoeuvring.

- Before moving the machine, ensure that there is adequate visibility.
- Before moving the machine, ensure that the path is clear and sound the horn.
- When driving, retract the boom and keep the boom and the attachment as low as possible.
- Maintain visibility of the mirrors and optimal visibility of the path of travel.
- Always look in the direction of travel.
- Always check boom clearances carefully before driving underneath overhead obstacles. Position the attachment or the load so as to clear the obstacles.



- Do not change the steering mode while travelling; only do that when the telescopic handling machine has halted.
- Visually check that the wheels are properly aligned every time the steering mode has changed.
- When driving at high speed, use only front-wheel steering (if the steering mode can be selected).



Look out for obstacles with a height less than 0,75 m(2 ft6 in) which may be located near the wheels or behind the boom.

A

- Safety precautions

2.2.4 - Load falling hazards



Never suspend loads from the forks or from any other parts of the fork carriage.



Do not drill holes in the fork(s).



Do not heat or weld the forks.

The forks must be centred under the load and on the fork carriage and spaced apart as far as possible.

- Do not use the machine to lift one or more people.



2.2.5 - Mechanical attachment locking device

- Ensure that the machine is placed on a firm and level surface.
- Actuate the parking brake. Blocking the wheels is also recommended.
- Level the handler both sideways (chassis swaying) and lengthways (accessory tilt).
- Ensure that there is no-one under the accessory.
- Do not lift or transport anyone in the bucket or on the forks.



Always ensure that the fork carriage or the attachment is correctly positioned on the boom and is secured by a lock pin and a retainer pin. Incorrect installation could result in the fork carriage/attachment/load disengaging, causing death or serious injury.

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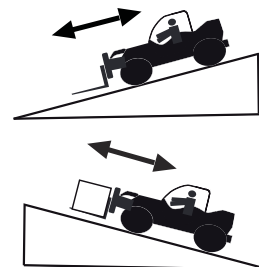
A

- Safety precautions

2.2.6 - Driving hazards on slopes

To maintain sufficient traction and braking capabilities, travel on slopes as follows :

- When the machine is unloaded, the rear of the machine is the heavy end. Drive with the forks pointed downhill.
- When it is loaded, the front of the machine is the heavy end. Drive with the forks pointed uphill.
- To avoid the machine racing on slopes, downshift to a lower gear and use the service brake as necessary to maintain a slow speed.



Do not shift to neutral to avoid coasting downhill.

- Avoid excessively steep slopes or unstable surfaces. To avoid tipping over, do not drive across excessively steep slopes under any circumstances.
- Avoid turning on a slope.
- Never put the machine in NEUTRAL while driving down a slope.



Do not park on a slope without having blocked the machine wheels.

A - Safety precautions

2.2.7 - Pinching and crushing hazards



Stay clear of pinch points and rotating parts on the handler.



Do not approach moving parts while the engine is running.

Keep clear of the tires and the chassis or other steering parts when manoeuvring the telehandler.



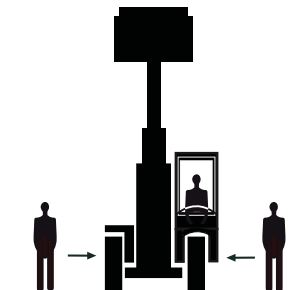
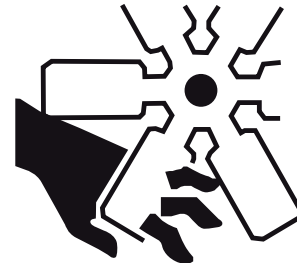
Keep clear of the boom.



Keep arms and hands clear of the attachment tilt cylinder.

Keep hands and fingers clear of the fork carriage and the forks.

Keep others away during operation.



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A - Safety precautions

2.2.8 - Risk of falling

Enter the cab using the proper hand rails and the steps provided.

Always maintain 3 points of contact when entering or leaving the machine.



Never grab the control levers or the steering wheel when mounting or dismounting the machine.

Never leave the machine until the complete shutdown procedure has been performed.

Do not carry any passengers. Falling from the machine may cause death or serious injury.



2.2.9 - Chemical hazards

Exhaust Fumes :



Do not run the engine in a place where there is a risk of build up of toxic gases.

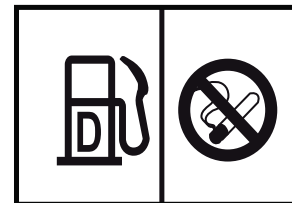


Do not operate the machine in an enclosed area without proper ventilation. Sparks produced by the electrical system or the engine exhaust can cause an explosion.

Flammable Fuel :



Do not fill the fuel tank or service the fuel system near a naked flame, sparks or smoking material. Engine fuel is flammable and can cause a fire and/or an explosion.



Hydraulic Fluid :



Do not attempt to repair or tighten any hydraulic hoses or fittings while the engine is running or when the hydraulic system is under pressure.



Do not use your hand to check for leaks, the pressurized hydraulic fluid can penetrate the skin. Use a piece of cardboard or paper instead. Wear gloves and goggles to protect yourself from fluid splashes.



Areas with explosive atmospheres :



Before entering an explosive atmosphere (e.g. silo, etc.) and to avoid any risk of explosion, particulate filter regeneration must be manually disabled ( Section C 3.5.9 - Left-hand control panel).

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.

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  Section C - Pre-operation and controls
Periodical preventive maintenance	At the specified intervals (250 hours or 1 year)	Owner (or hirer)	On-site technician or qualified HAULOTTE Services® technician	Operator's manual  Section H - Lubrication and maintenance
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	Operator's manual  Section H - Lubrication and maintenance

C

- Pre-operation and controls

1 - 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.

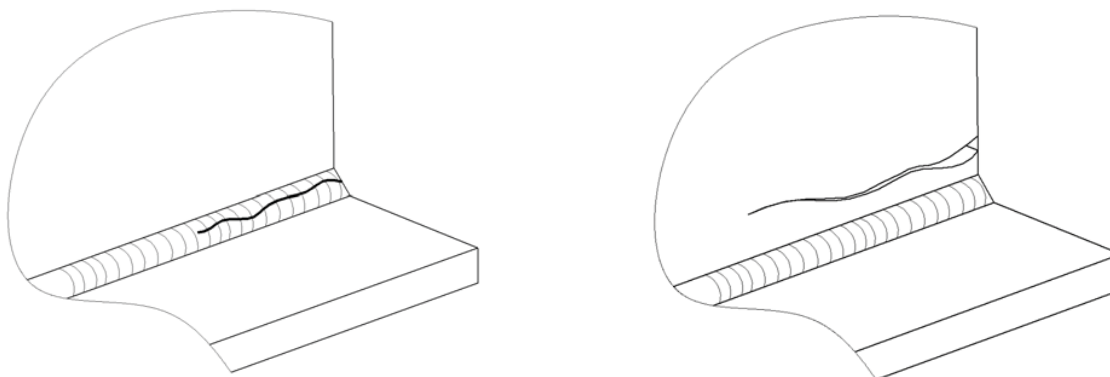
1.1 - GENERAL MECHANICAL FUNCTIONS

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.
- 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.).
 - Absence of cracks, broken parts, damaged paint. No deformations or other anomalies on the structure's parts.

Example



- State of the structure's parts : Chassis, boom, cab, tool holder, attachments :
 - No cracks, damaged paint.
 - No distortion in metal components or visible damage.
 - No foreign objects at the ends of the booms, between arms and link parts.
 - Presence of guardrails.
 - Presence and check the original position of the driving station system.
- Cylinders' state :
 - No leaks.
 - No rust and abrasions on the cylinder rod.
 - Absence of foreign objects on all surfaces.

C - Pre-operation and controls

- Steering system's state : axles, wheels and tyres :
 - No cracks, distortions, damaged paint or other faults
 - No missing or loose bolts.
 - Condition of the tyres (cuts, excessive wear, etc.).
- State of the rotation systems (Cage option, pulleys, ...)
 - No excessive clearance.
 - No missing or loose bolts.
 - Absence of foreign objects on all surfaces.
 - Greasing and lubrication according to the maintenance plan.
- State 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.
 - 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 tanks :
 - No leaks.
 - No missing or loose parts (bolts, nuts, connectors, cables, etc.).
 - Hydraulic oil level : Top up the oil level, if necessary (Machine in transport position).
 - Sufficient fuel level.
 - Sufficient engine oil.
 - Coolant level.
- State of the hydraulic pump :
 - No leaks.
 - No missing or loose parts (bolts, nuts, connectors, cables, etc.).
- Hydraulic oil filter.

C - Pre-operation and controls

2 - Pre-operation checks and inspection

N.B.: - Perform all required maintenance work before operating the unit.



Use extreme caution when checking parts that are difficult to reach. Use an approved ladder. "Failure" to comply with these instructions could result in death or serious injury.



Increase in periodical inspections : Depending on the condition of certain critical components after 5000 hours, the maintenance staff may have to reduce the interval between periodical inspections and maintenance. If the decision is made not to replace a part, the part concerned must be recorded in the inspection schedule.

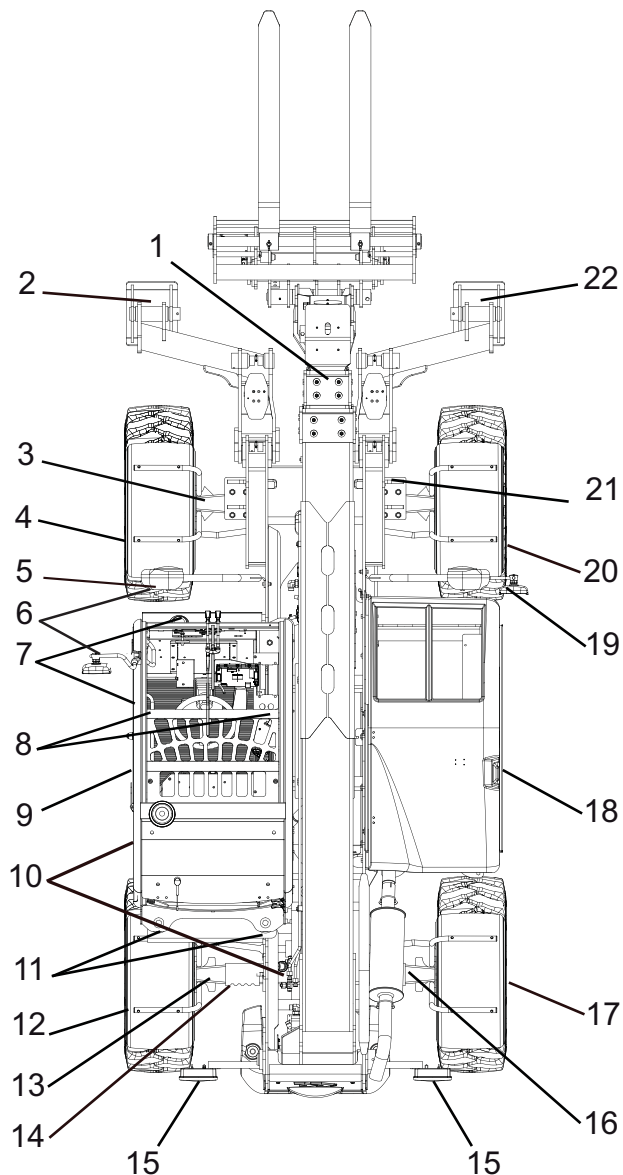
Inspect the following items :

- The condition of structural parts: chassis, boom, cab, shield, attachments.
 - Absence of cracks, broken parts, damaged paint.
 - No distortion in metal components or visible damage.
 - Absence of foreign objects at the ends of boom/attachments.
- Cylinders :
 - No leaks : Please refer to paragraph 7.2.2 (Section H - Lubrication and maintenance).
 - No rust and abrasions on the cylinder rod.
 - Absence of foreign objects on all surfaces.
- Steering system : Wheels, Axles, Brake and Tyres :
 - No cracks, distortions, damaged paint or other faults.
 - No missing or loose bolts.
 - Condition of the tyres (cuts, excessive wear, etc.)
- Condition of the pulley system :
 - No missing or loose bolts.
 - Absence of foreign objects on all surfaces.
 - Grease the extension system if necessary.
- A walk-around inspection must be performed at the beginning of each work shift or at each change of operator.
- Ensure that all safety labels are legible and in place. Clean or replace if necessary. (Section C 2 - Labels).
- Before removing the filler plugs, wipe all dirt or grease away from the ports. Dirt entering these ports can severely reduce component life.
- When adding fluids, determine the correct type and frequency (Section H - Lubrication and maintenance).

C

- Pre-operation and controls

Major Component Location Diagram



Begin the walk-around inspection at item 1, as indicated below.

Continue to the right (anticlockwise, when viewed from above) checking each part in sequence.

N.B.:-For each component, ensure that there are no loose or missing parts, that the components are securely fastened and that there are no visible leaks or excessive wear in addition to any other criteria mentioned. Inspect all structural elements including the attachment for cracks, excessive corrosion and other damage.

C

- Pre-operation and controls

1. Jib cylinders, lifting, telescoping, compensation output and input, cases :
 - Pins secure, hydraulic hoses in good condition, no leaks.
 - Check the state of the extension booms wear pads.
2. Left-hand stabiliser and detector : Pins secure, hydraulic hoses in good condition, no leaks (For HTL4010 only).
3. Front axle : Steering cylinders in good condition, no leaks; joint pins and flanges secured tightly, hydraulic hoses in good condition, no leaks.
4. Wheel/Tyre assembly : No loose or missing wheel nuts, inflated correctly. Check the state of the tyres and their level of wear.
5. Front headlights : Clean, in good condition and working properly.
6. Mirrors : Clean, in good condition and working properly.
7. Fuel tank : Check the fuel level, top up as required, the filler cap is securely fastened.
8. Front work lights (optional) : Clean, in good condition and working properly.
9. Cab and electrical circuit :
 - The cab is an approved protective cab in accordance with FOPS and ROPS standards: Check the FOPS/ROPS label in the cab.
 - Check alarms: eg. engage the reverse drive and sound the horn.
 - General appearance, no visible damage, capacity charts and Operator & Safety manual located in the manual holder.
 - Window glass in good condition and clean.
 - Gauges, switches, joystick, parking brake pedals and horn all operational.
 - Check the seat belt for damage, replace it if it is frayed or the webbing is cut, the buckles are damaged or the mounting hardware is loose or damaged.
 - Check for the presence of the load and capacity charts.
10. Hydraulic oil tank : Recommended fluid level on the level gauge (the oil must be cold) ; filler/breather cap securely in place and in working order. Check for hydraulic leaks around the reservoir.
11. Rear work lights (optional) : Clean, in good condition and working properly.
12. Wheel/Tyre assembly : No loose or missing wheel nuts, inflated correctly. Check the state of the tyres and their level of wear.
13. Rear axle : Steering cylinders in good condition, no leaks, pivot pins secure, hydraulic hoses in good condition, no leaks.
14. Left axle locking cylinder (Option) : Cylinders in good condition, no leaks and securely fastened.
15. Stop and reverse lights : Clean, in good condition and working properly.
16. Right axle locking cylinder(Option) : Cylinders in good condition, no leaks and securely fastened.
17. Wheel/Tyre assembly : No loose or missing wheel nuts, inflated correctly. Check the state of the tyres and their level of wear.

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C - Pre-operation and controls

18. Engine compartment :
 - Engine crankcase and radiator : Check the levels and top up as required. Check that the radiator is clean.
 - Drive belt : check their condition, adjust and/or replace as required.
 - Air filter blockage indicator : Check if it is clogged. Replace the element as required.
 - Engine canopy properly secured and locked.
 - Diesel particulate filter : Check the connection of all the probes. Ensure that the particulate filter has not been damaged (impact, deterioration, etc.). ⁽¹⁾
 - Engine calculator : Check the connection of the electrical connectors. Ensure that the engine calculator has not been damaged (impact, deterioration, etc.). ⁽²⁾
19. Mirrors : Clean, in good condition and working properly.
20. Wheel/Tyre assembly : No loose or missing wheel nuts, inflated correctly. Check the state of the tyres and their level of wear.
21. Tilt correction cylinder : Pins secure, hydraulic hoses in good condition, no leaks (on HTL3510 and HTL3010 only).
22. Right-hand stabiliser and contactor : Pins secure, hydraulic hoses in good condition, no leaks (For HTL4010 only).
23. Attachment : Correctly installed( Section E - Attachments).



Check the operation of :

- **All the Telehandler boom and chassis side tilt movement.**
- **All the functions related to the travel of the Telehandler.**
- **The Telehandler braking system.**

(1.) For machines fitted with engine PERKINS 854E-34TA only
 (2.) For machines fitted with engine PERKINS 854E-34TA only

C - Pre-operation and controls

3 - Safety stickers

Ensure that all stickers and appropriate capacity charts are legible and in place. Clean or replace if necessary.

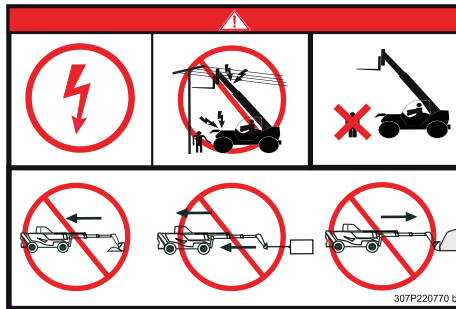
3.1 - RED LABELS



The red labels indicate a potentially fatal danger.

Common labels - AS standard

R27



R28



R13



R29



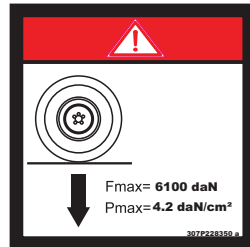
R42



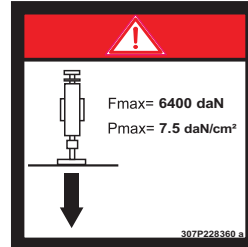
C - Pre-operation and controls

Specific labels HTL 4010 - AS standard

R9

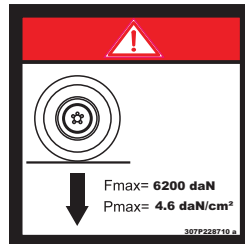


R10



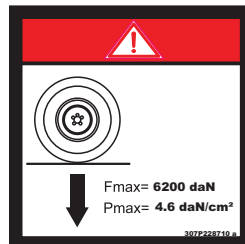
Specific labels HTL 3510 - AS standard

R9



Specific labels HTL 3010 - AS standard

R9



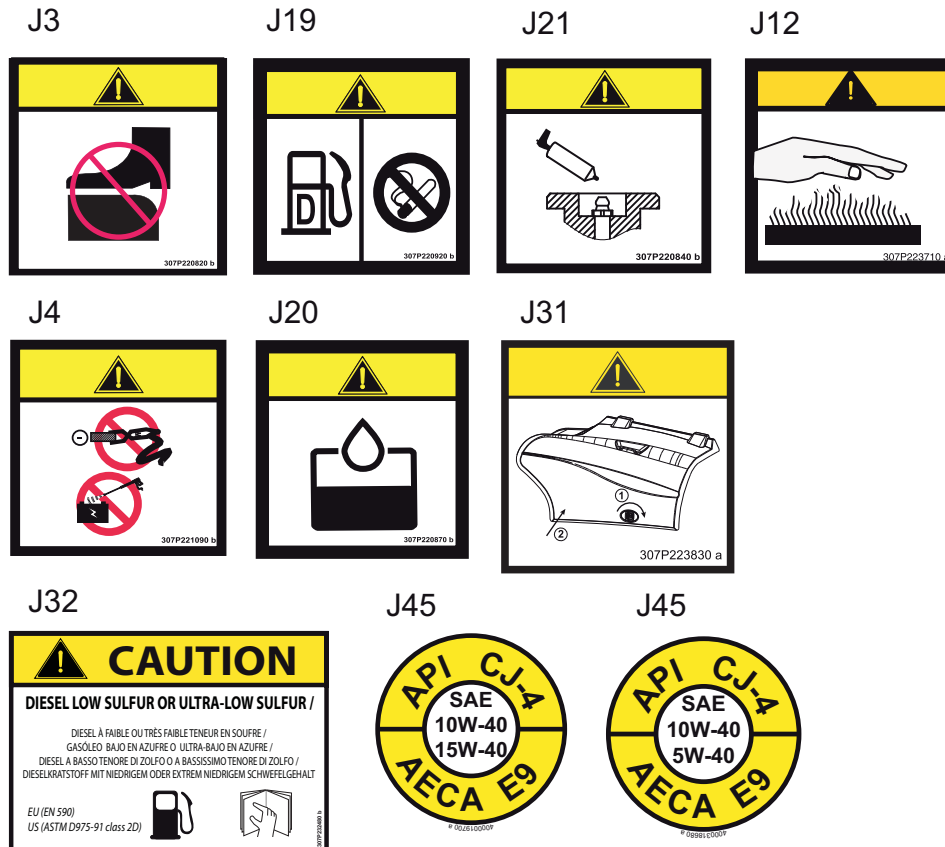
C - Pre-operation and controls

3.2 - YELLOW LABELS



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

Common labels - AS standard



C - Pre-operation and controls

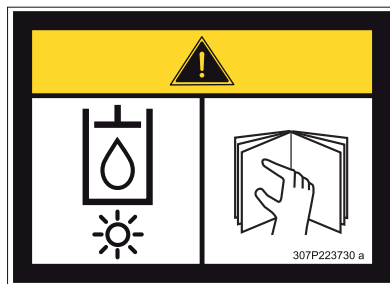
Specific labels HTL4010 - HTL 3510 - HTL 3010 - AS standard

J18



Specific labels, optional - AS standard

J29



J30



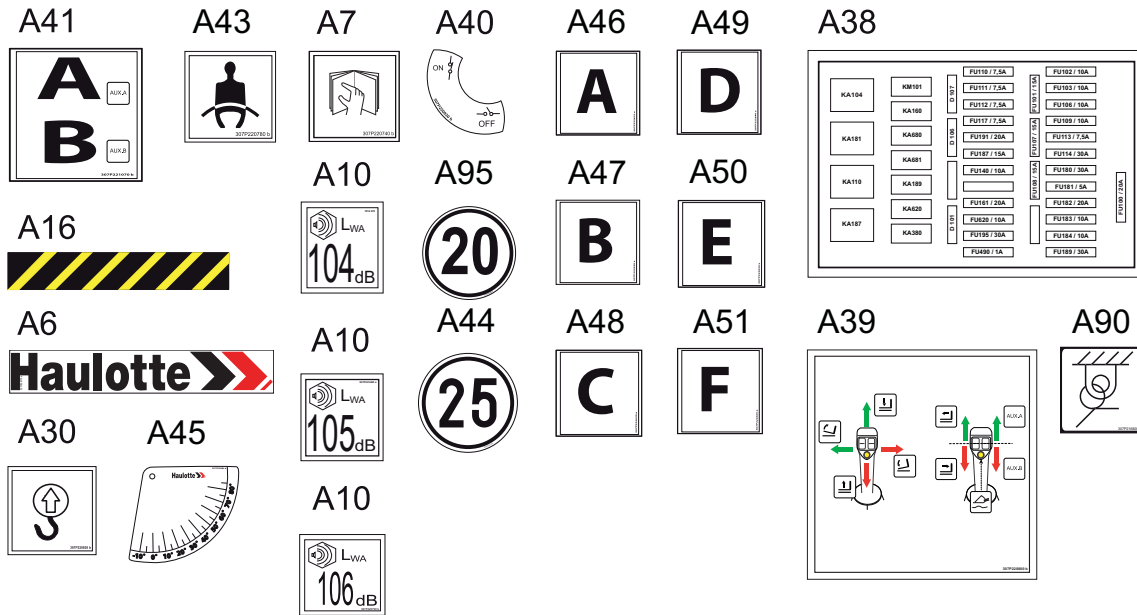
C - Pre-operation and controls

3.3 - OTHER LABELS

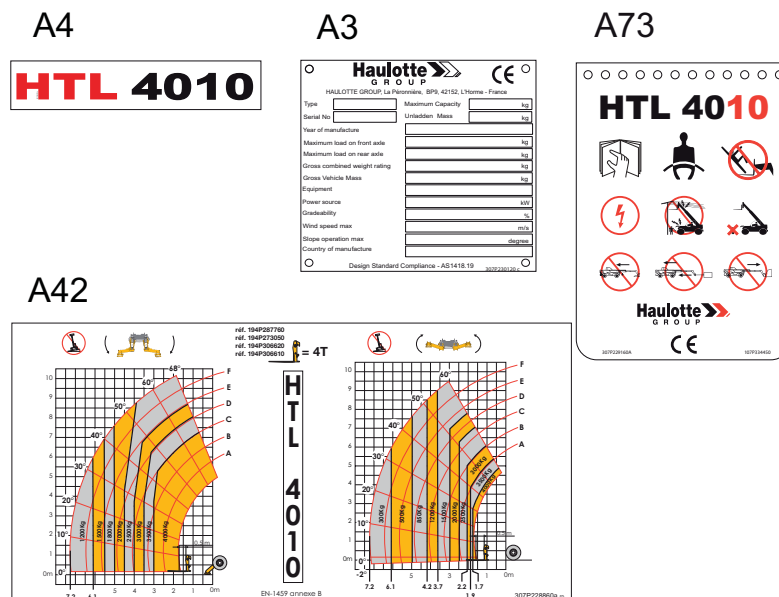


The other labels provide additional technical information.

Common labels - AS standard



Specific labels HTL 4010 - AS standard



C - Pre-operation and controls

Specific labels HTL 3510 - AS standard

A4



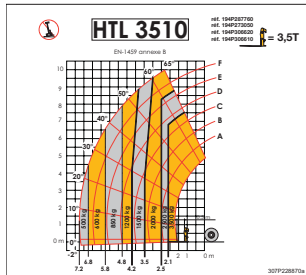
A3

Haulotte GROUP		CE
HAULOTTE GROUP, La Plénière, BP5, 42152, L'Horme - France		
Type	Maximum Capacity	kg
Serial No.	Unladen Mass	kg
Year of manufacture		kg
Maximum load on front axle		kg
Maximum load on rear axle		kg
Gross combined weight rating		kg
Gross Vehicle Mass		kg
Equipment		kg
Power source		kg
Gradability		%
Wind speed max		m/s
Slope operation max		degrees
Country of manufacture		
Design Standard Compliance: AS1418.19		

A73



A42



Specific labels HTL 3010 - AS standard

A4



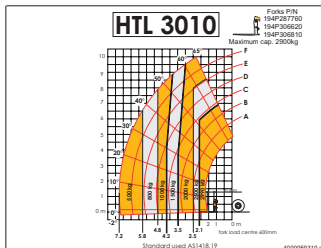
A3

Haulotte GROUP		CE
HAULOTTE GROUP, La Plénière, BP5, 42152, L'Horme - France		
Type	Maximum Capacity	kg
Serial No.	Unladen Mass	kg
Year of manufacture		kg
Maximum load on front axle		kg
Maximum load on rear axle		kg
Gross combined weight rating		kg
Gross Vehicle Mass		kg
Equipment		kg
Power source		kg
Gradability		%
Wind speed max		m/s
Slope operation max		degrees
Country of manufacture		
Design Standard Compliance: AS1418.19		

A73



A42



Specific labels, optional - AS standard

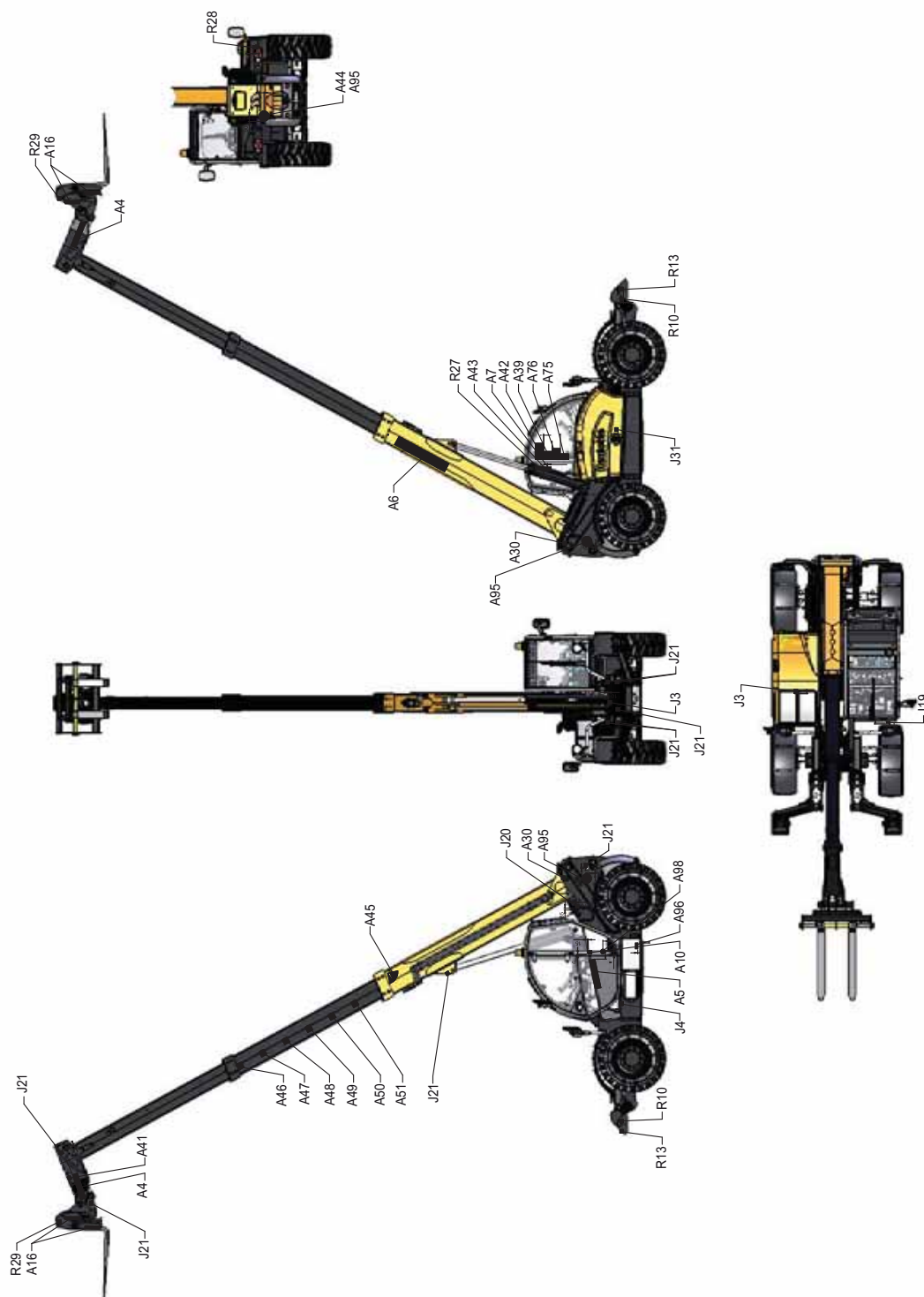
A8



C - Pre-operation and controls

3.4 - IDENTIFICATION

Locations - HTL 4010 - HTL 3510 - HTL 3010 - Standards CE and AS



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- Pre-operation and controls

Common labels - HTL4010 - HTL3510 - HTL3010 - AS standard

Color	Marking	Description	Quantity	HTL4010	HTL3510	HTL3010
Other	A3	Identification plate	1	AS standard : 307P230120		
Other	A4	Machine name logo	2	4000096280	4000085110	400010080
Other	A5	Label HAULOTTE®	1		307P224740	
Other	A6	Label HAULOTTE®	1		307P228770	
Other	A7	Read the operation manual	1		307P220740	
Other	A10	Noise emission level	1		307P223480	
Other	A16	Yellow and black adhesive tape	1		2421808660	
Other	A30	Slings attached	4		307P220830	
Other	A38	Terminal fuses	1		4000023340	
Other	A39	Joystick	1	AS standard : 4000064510		
Other	A40	Battery / Battery isolation switch	1		307P220930	
Other	A41	Indicator	1		307P221070	
Other	A42	Load capacity chart	1	307P232400	307P232440	4000059310
Other	A43	Wear the seat belt	1		307P220780	
Other	A44	25 km/h	1		307P216110	
Other	A45	Angle sensor	1		307P220900	
Other	A46	Telescoping key A	1		307P222610	
Other	A47	Telescoping key B	1		307P222620	
Other	A48	Telescoping key C	1		307P222630	
Other	A49	Telescoping key D	1		307P222640	
Other	A50	Telescoping key E	1		307P222650	
Other	A51	Telescoping key F	1		307P222660	
Other	A73	Capacity chart booklet	1	107P345780	107P347640	4000059330
Other	A75	"Safe Use"	1	AS standard only : 307P232430		
Other	A76	Electrocution	1	AS standard only : 307P226440		
Other	A90	Anchor points on the machine	4		307P216800	
Other	A96	Read the operation manual	1		3078143680	
Yellow	J3	Do not place your foot on the cover	2		307P220820	
Yellow	J4	Ground for welding	1		307P221090	
Yellow	J12	Danger of Heat burns	1		307P223710	
Yellow	J18	Tyre pressure	4		307P220880	
Yellow	J19	Fuel tank	1		307P220920	
Yellow	J20	Hydraulic oil	1		307P220870	
Yellow	J21	Lubrication	For HTL 4010 and HTL 3010 : 14 For HTL 3510 : 12		307P220840	
Yellow	J31	Engine cover	1		307P223830	
Yellow	J32	Indication - Explanation - LOW SULFUR (For machines fitted with engine PERKINS 854E-34TA or KOHLER KDI 3404 TCR only)	1		307P232480	
Yellow	J45	Oil CJ-4 (For machines fitted with engine PERKINS 854E-34TA only)	1		4000019700	
Yellow	J45	Oil CJ-4 (For machines fitted with engine KOHLER KDI 3404 TCR only)	1		4000318680	
Red	R9	Maximum effort on wheel	4	307P228350	307P228710	307P228710
Red	R10	Maximum effort on the stabilizers	2		307P228360	

C

 - Pre-operation and controls

Color	Marking	Description	Quantity	HTL4010	HTL3510	HTL3010
Red	R13	Risk of crushed feet	2		307P220890	
Red	R27	Danger of electrocution	1		307P220770	
Red	R28	Cylinder locking	1		307P220860	
Red	R29	Do not mount on the forks during elevation	2		307P221950	
Red	R42	Label book	1		307P223840	

C

- Pre-operation and controls

Load capacity chart - HTL4010 - AS standard

Color	Marking	Description	Quantity	HTL 4010
Other	A42	Load capacity chart	1	307P232400
Other	A73	Load capacity chart - Book	1	107P345780
Other		Load capacity chart - Cover book	1	307P232130
Other		Load capacity chart - Forks on wheels	1	307P230150
Other		Load capacity chart - Forks on stabilisers	1	307P230160
Other		Load capacity chart - Drift side offset - On wheels	1	307P230170
Other		Load capacity chart - Drift side offset - On stabilisers	1	307P230180
Other		Load capacity chart - Bucket - On wheels	1	307P232010
Other		Load capacity chart - Bucket - On stabilisers	1	307P232020
Other		Load capacity chart - Jib crane 1 m, 3 T - On wheels	1	307P232030
Other		Load capacity chart - Jib crane 1 m, 3 T - On stabilisers	1	307P232040
Other		Load capacity chart - Jib crane 2 m, 2 T - On wheels	1	4000027670
Other		Load capacity chart - Jib crane 2 m, 3 T - On stabilisers	1	4000027680
Other		Load capacity chart - Boom 2,5 m - On wheels	1	307P232050
Other		Load capacity chart - Boom 2,5 m - On stabilisers	1	307P232060
Other		Load capacity chart - Boom 4 m - On wheels	1	307P232070
Other		Load capacity chart - Boom 4 m - On stabilisers	1	307P232080
Other		Load capacity chart - Winch 1,2 T - On wheels	1	307P232110
Other		Load capacity chart - Winch 1,2 T - On stabilisers	1	307P232120
Other		Load capacity chart - Winch 2,4 T - On wheels	1	307P232090
Other		Load capacity chart - Winch 2,4 T - On stabilisers	1	307P232100

Load capacity chart - HTL3510 - AS standard

Color	Marking	Description	Quantity	HTL 3510
Other	A42	Load capacity chart	1	307P232440
Other	A73	Load capacity chart - Book	1	107P347640
Other		Load capacity chart - Cover book	1	307P232330
Other		Load capacity chart - Forks	1	307P231970
Other		Load capacity chart - Drift side offset	1	307P231980
Other		Load capacity chart - Bucket	1	307P232270
Other		Load capacity chart - Jib crane 1 m, 3 T	1	307P232280
Other		Load capacity chart - Jib crane 1 m, 2,9 T	1	
Other		Load capacity chart - Hook 1 m, 2,9 T	1	
Other		Load capacity chart - Jib crane 2 m, 2 T	1	4000023820
Other		Load capacity chart - Boom 2,5 m	1	307P232290
Other		Load capacity chart - Boom 4 m	1	307P232300
Other		Load capacity chart - Winch 1,2 T	1	307P232320
Other		Load capacity chart - Winch 2,4 T	1	307P232310

C

- Pre-operation and controls

Load capacity chart - HTL3010 - AS standard

Color	Marking	Description	Quantity	HTL 3010
Other	A42	Load capacity chart	1	4000059310
Other	A73	Load capacity chart - Book	1	4000059330
Other		Load capacity chart - Cover book	1	4000059410
Other		Load capacity chart - Forks	1	4000059340
Other		Load capacity chart - Drift side offset	1	4000059350
Other		Load capacity chart - Bucket	1	4000059360
Other		Load capacity chart - Jib crane 1 m, 3 T	1	
Other		Load capacity chart - Jib crane 1 m, 2,9 T	1	4000062220
Other		Load capacity chart - Hook 1 m, 2,9 T	1	4000062200
Other		Load capacity chart - Jib crane 2 m, 2 T	1	4000059420
Other		Load capacity chart - Boom 2,5 m	1	4000059370
Other		Load capacity chart - Boom 4 m	1	4000059380
Other		Load capacity chart - Winch 1,2 T	1	4000059400
Other		Load capacity chart - Winch 2,4 T	1	4000059390

C - Pre-operation and controls

3.5 - OPERATOR'S CAB

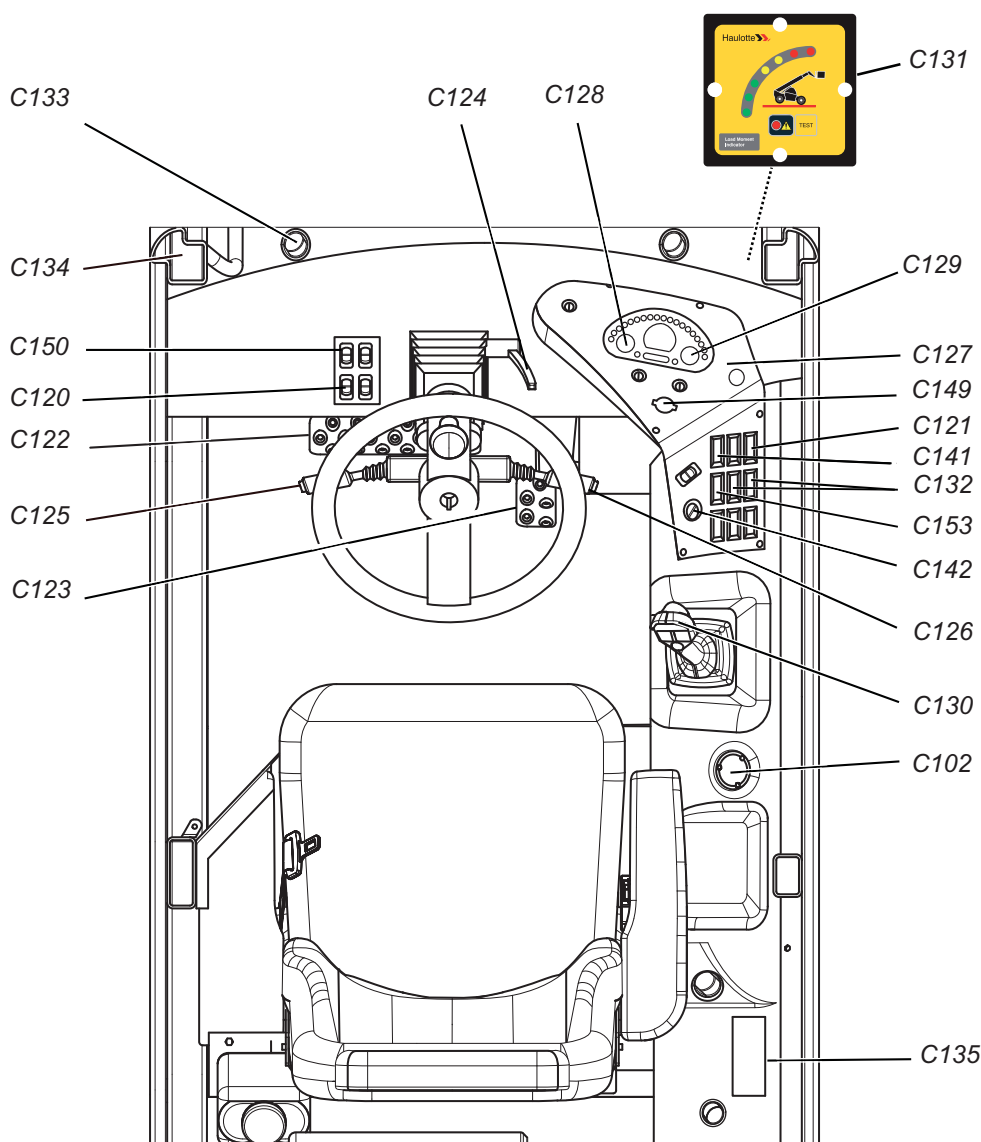
The machine is equipped with an enclosed FOPS/ROPS cab.



Never use the machine unless the overhead guards and the cab structure are in good condition. Any modifications to this machine must be approved in writing by HAULOTTE® to ensure compliance with FOPS/ROPS certification for this cab/machine configuration. The cab cannot be repaired if it is damaged, it must be replaced.

3.5.1 - Controls

General view



C

- Pre-operation and controls

Description of the components

Marking	Description
C120	Warning lights
C121	Parking brake
C122	Brake pedal /Inching : The further the pedal is pressed, the slower the travel speed
C123	Accelerator pedal : Press on the pedal to increase the engine speed and the hydraulic fluid flow
C124	Steering column adjuster :  Section C 2.5.3 - Steering column
C125	Transmission control lever :  Section C 2.5.3 - Steering column
C126	Headlight, indicator and buzzer control
C127	Indicator and control box : Controls and indicates certain machine functions. Displays engine speed.  Section C 2.5.7 - Instrument/control panel
C128	Fuel gauge : Indicates fuel level in tank
C129	Engine temperature gauge
C130	Joystick :  Section C 2.5.8 - Joystick
C131	Load moment indicator display :  Section C 2.5.10 - Load moment indicator display
C132	Heating and air-conditioning control
C133	Adjustable air vents: Individual controllable
C134	Air louvers: Individual adjustable
C102	Dumping
C135	Car radio
C141	Road mode
C142	Rear-axle steering
C149	Ignition key
C150	Fog lights
C153	Windscreen washer

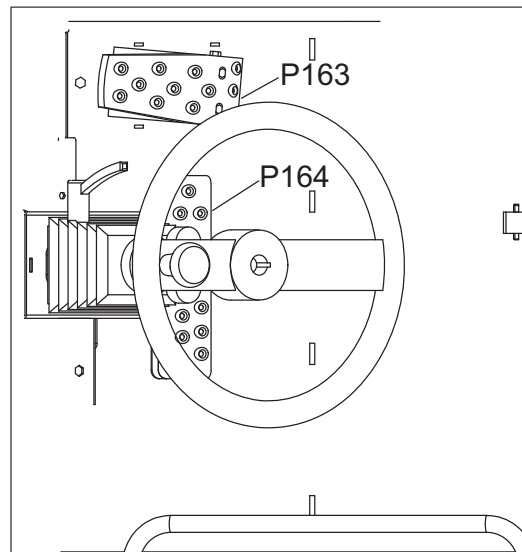
N.B.:- The functions are described for the entire range. Refer to the machine model to identify the controls and functions indicators.

C

- Pre-operation and controls

3.5.2 - Pedals

General view



Pedals

Marking	Description	Function
P163	Accelerator	Pedal for increasing the engine speed
P164	Brake	Machine braking Inching : Slow approach

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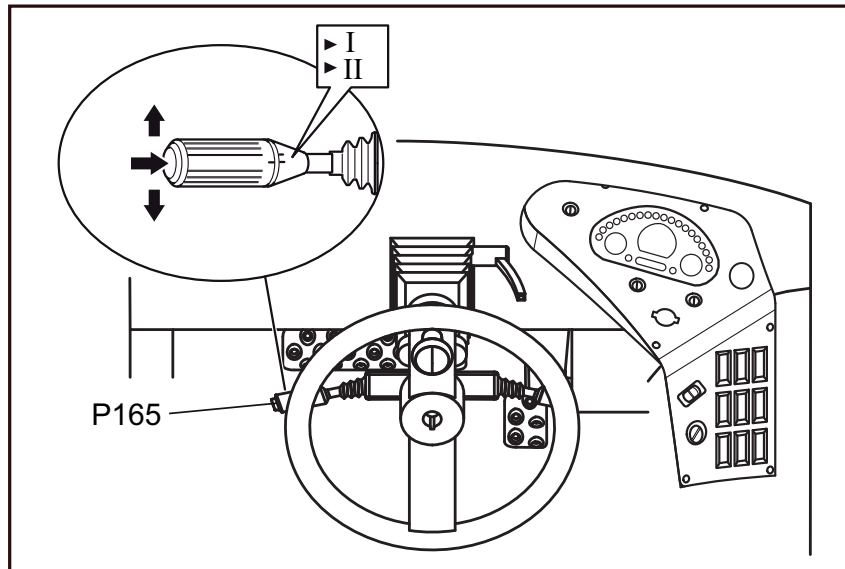
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C - Pre-operation and controls

3.5.3 - Steering column

General view



Left-hand control lever

Marking	Description	Function
P165	Gear and movement direction control	Speed selection : • Neutral • Slow speed : Selector in position I • Fast speed : Selector in position II Travel direction selection : • Forward drive : Pull the lever backwards and then push it upwards • Neutral • Reverse drive : Pull the lever backwards and then pull it downwards

Forward and reverse can be selected while in slow or fast speed.



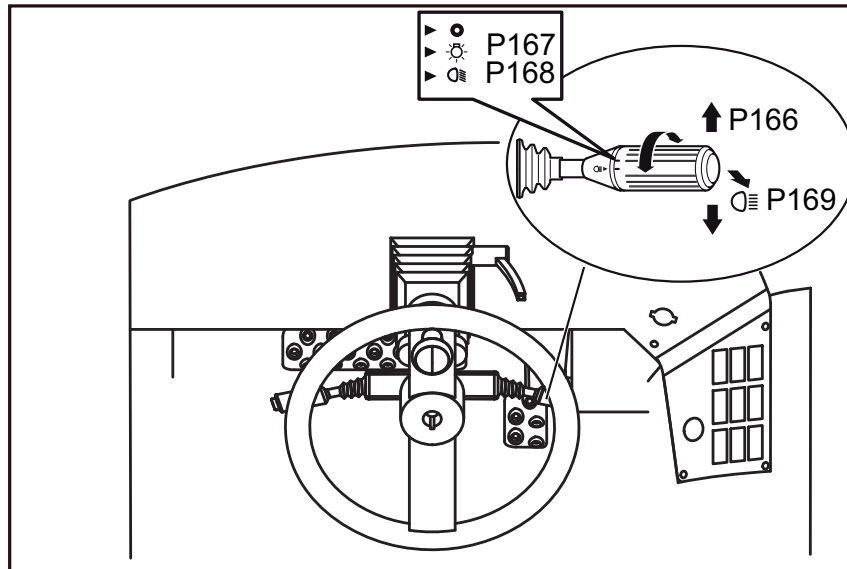
A sudden change of direction could destabilise the machine and/or cause the load to tip over or fall.

When reverse drive is activated, a audible sound warns that the machine is in reversing mode and warns of potential danger anyone present in the manoeuvring area.

Reverse mode of travel should only be selected whilst the machine is stationary.

C - Pre-operation and controls

General view



Right-hand control lever

Marking	Description	Function
P166	Turn signals/Direction indicators	Left-hand steering : Raise the lever Right-hand steering : Lower the lever
P167	Sidelights	On : Turn clockwise Off : Turn anti - clockwise (ACW)
P168	Headlights	On : Turn clockwise Off : Turn anti - clockwise (ACW)
P169	Full beam headlights	On : Push forward Off : Pull backward Flashing the lights : Pull backward in short bursts

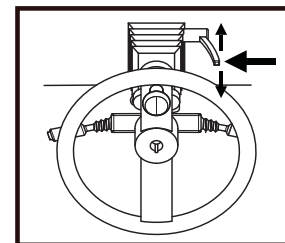
3.5.3.1 - Steering column adjustment



Bring the Telehandler to a complete stop and shutdown the engine before adjusting the steering column. A sudden change of direction could destabilise the machine and/or cause the load to tip over or fall. "Failure" to comply with these instructions could result in death or serious injury.

Adjust the steering column as follows :

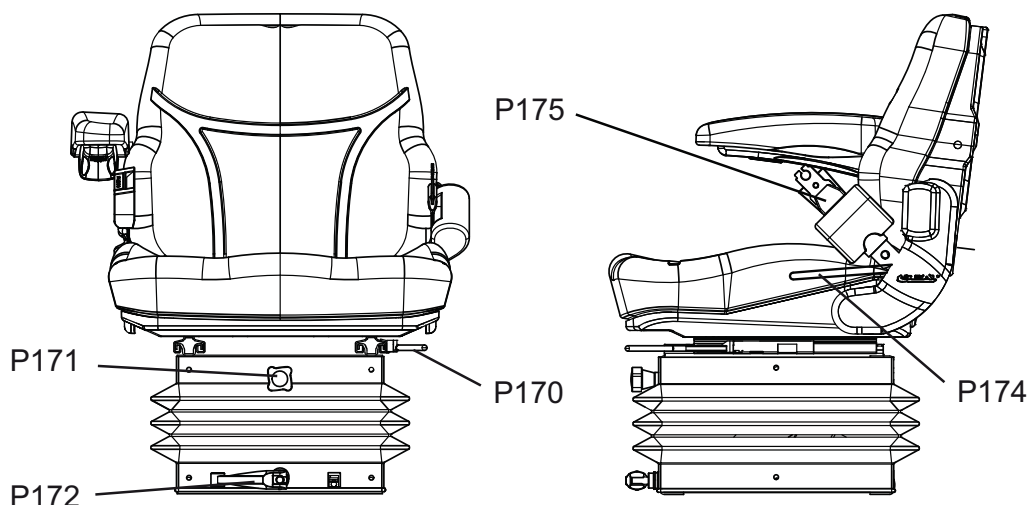
- Push the lever down to release the steering column.
- Move the steering wheel to the required position.
- Lock the steering column by pulling the lever up.



C - Pre-operation and controls

3.5.4 - Operator's seat

General view



Before starting the engine, adjust the seat as follows to place the seat in an appropriate and comfortable position :

- Move forward/backward : Use the handle (P170) to move the seat forward and backward.
- Height : Use knob (P171) to adjust the seat height.
- Suspension : Use the knob (P172) to adjust the suspension to the appropriate weight :
 - In the green zone : Suspension is adapted to the operator's weight.
 - In the red zone : The suspension is not adapted to the operator's weight.
- Backrest : Use the button (P174) to adjust the backrest angle.
- Seat belt : Always fasten the seat belt (P175) when operating the machine.

C - Pre-operation and controls

3.5.5 - Heating and ventilation

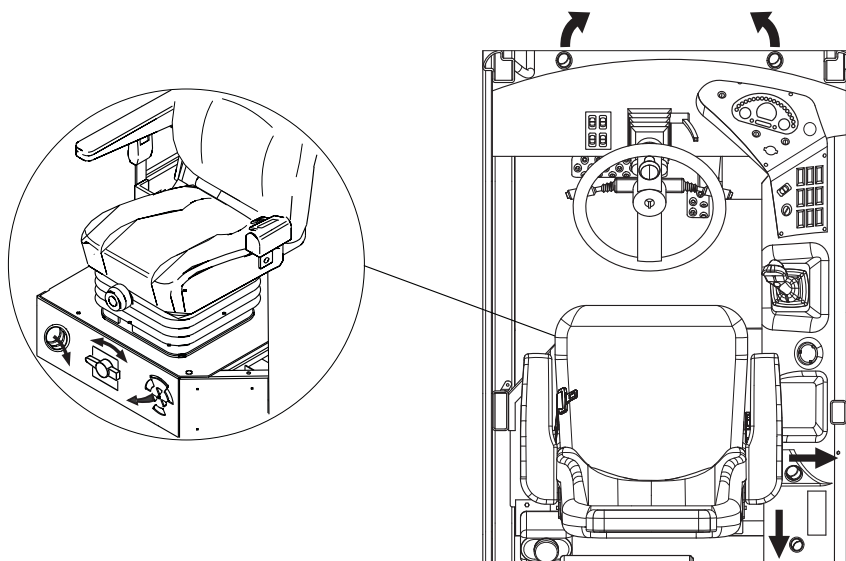
The cab is equipped with a heater that is also used for de misting the windscreen.

The air is circulated via a two-speed fan. To activate the fan, press the heating fan switch (P203) on the side instrument panel.

Adjust the heating temperature using the knob under the driver's seat.

Adjust the air flow using the air locks and round vents.

Heating and ventilation



Do not operate the Telehandler for an extended period without ventilating the cab via the ventilation system.



Always ensure proper ventilation.

A lack of proper ventilation in the cab during use can lead to driver tiredness (oxygen deprivation).

3.5.6 - Air-conditioning(Optional)

To activate the air conditioning, operate the switch (P207) located on the lateral control console.



The heating must be off when the air conditioning is on.



This equipment should not be started before starting the thermal engine.



Do not start the Telehandler engine while the air conditioning is switched on.

Adjust the fan speed.

Adjust the air flow using the air locks and round vents.

C - Pre-operation and controls

3.5.7 - Instrument/control panel



C

- Pre-operation and controls

Instrument/control panel

Marking	Description	Function
P198	Exclusion key in fork/winch mode (Option)	Folds the machine in case of anti-tipping alarm : Rotate to right and hold
	'Enable Switch' selector in platform mode (Option)	Control of the platform from the cab : Rotate to right and hold
	Emergency pump in platform mode (Option)	Operation of the emergency pump : Rotate to right and hold
P199	3-position ignition key	Position 0 : Machine shutdown
		Position 1 : Ignition
		Position 2 : Starter
P221	Fork/Winch/Platform Selector (Option)	Fork position : Center
		Winch position : Rotate to left
		Aerial lift position : Turn right
P222	Radio-control selector / Cab selector (Option)	Radio-control position : Rotate to left
		Cab position : Turn right
P223	Emergency stop button (Option)	Pulled out (activated) : Contact closed ON
		Pushed down (deactivated) : Contact open OFF

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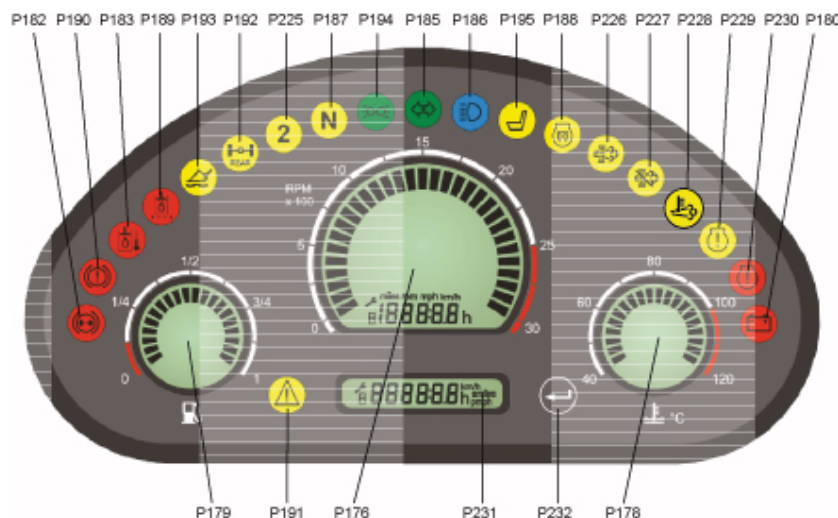
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C - Pre-operation and controls

Display General view



Display

Marking	Description	Function
P176	Service counter (when power is switched on)	Number of hours to next service
	Engine tachometer with hour meter	Engine revs indicator graduated from 0 to 3100 tr/min (3100 RPM) ¹ Vehicle speed (Km/h)
P178	Engine temperature indicator	Flashing : Coolant temperature ²
P179	Fuel level gauge	Flashing : Low fuel level
P180	Battery LED	On : Battery charge problem
P182	Parking brake defect LED	On : Parking brake fault
P183	Hydraulic oil temperature indicator	On : Hydraulic oil temperature too high
P185	Steering indicator	Flashing : Left-hand or right-hand steering activated
P186	Headlight indicator	On : Headlights on
P187	Neutral LED	On : Drive in neutral position
P188	Engine pre-heating LED	On : Engine pre-heating
P189	Hydraulic oil filter LED	On : Hydraulic oil filter clogged
P190	Service brake fault LED	On : Service brake fault or parking brake engaged
P191	Machine fault indicator	Flashing : One or more faults detected and/or active OR machine maintenance to be performed ³
P192	Rear axle alignment LED	On : Rear wheels aligned
P193	LED floating(Optional)	On : Activated Flashing : Floating lift selected but not validated
P194	Side clearance light LED	On : Side lights on
P195	Seat occupied LED	On : Seat presence not detected
P225	Drive speed 2 indicator ⁴	On : Speed 2 engaged Flashing : High speed requested but not validated
P226	Diesel particulate filter regeneration indicator (For machines fitted with engine PERKINS 854E-34TA only)	On : Automatic or manual (forced) regeneration of the particulate filter is required ⁵ On + P229 Flashing : Manual (forced) regeneration of the particulate filter is required ⁶ On + P229 Flashing + 230 On : Necessary change of diesel particulate filter ⁷

C - Pre-operation and controls

Marking	Description	Function
P227	Particulate filter regeneration disabled indicator (For machines fitted with engine PERKINS 854E-34TA only)	On : Automatic particulate filter regeneration disabled
P228	High exhaust gas temperature indicator (HEST) (For machines fitted with engine PERKINS 854E-34TA only)	On : Particulate filter regeneration in progress
P229	Engine warning	On : Drive motor faulty OR machine maintenance to be performed 5 flashes when switched on : machine maintenance to be performed in 20 h maximum
P230	Engine shutdown	On : Serious engine fault
P231	Fault codes ⁸	One or more faults detected and/or active ³
	Machine counters (hour or service)	Total machine running hours Number of hours to next service
P232	Navigation button	In case of machine fault, each press on the button scrolls through the fault codes In the absence of machine fault, each press on the button navigates between the hour counter and the service counter

¹ : Do not exceed 3100 tr/min (3100 rpm). Do not run the engine speed into the red zone.

² : Service the machine as set out in this manual ( Section H - Lubrication and maintenance).

³ : The (P191) indicator flashes to indicate an internal malfunction.

When the machine switches downgraded mode, certain movements can be limited or prohibited to safeguard the operator's well being ( Section H 21 - Troubleshooting).

⁴ : Condition for prohibiting action : Extended boom or active float option or service brake pressure fault.

⁵ : The level of clogging of the particulate filter requires regeneration. Disabled mode must be deactivated rapidly, as soon as the environment allows it (outside areas with explosive atmosphere).

⁶ : High level of particulate filter clogging.

⁷ : The particulate filter is clogged.

⁸ : Description of fault codes :  Section H 21 - Troubleshooting.

C - Pre-operation and controls

Right-hand control panel

Marking	Description	Function
P200	Chassis leveling switch	Load levelling system (on HTL 3010 and HTL 3510 (HTL 7732) only)
P201	Rear axle selection Steering mode ¹	 Synchronised axle
		 Front steer wheels
		 Crab mode axle
P203	Heating/Ventilation switch	Ventilation - 2 speeds
P204	Windscreen wiper switch	Activated : Press top of switch downwards
		Deactivated : Press bottom of switch downwards
P205	Work light switch (Option)	Windscreen washer : Press bottom of switch downward fully
		On : Press top of switch downwards
P207	Air-conditioning switch (Option)	Off : Press bottom of switch downwards
		Activated : Press top of switch downwards
P208	Left stabiliser switch	Deactivated : Press bottom of switch downwards
		To lower left stabiliser : Press bottom of switch downwards
P209	Right stabiliser switch	To raise the left stabiliser : Press top of switch downwards
		Right stabiliser lowering : Press bottom of switch downwards
P213	Beacon switch	Right stabiliser lifting : Press top of switch downwards
		On : Press top of switch downwards
P214	Parking brake switch ²	Off : Press bottom of switch downwards
		Activated : Press top of switch downwards
P215	Road mode selection switch	Deactivated : Press bottom of switch downwards
		On : Press top of switch downwards
		Off : Press bottom of switch downwards



The stabilisers only increase stability and load capabilities if they are used correctly. Using stabilisers on soft surfaces can cause the machine to tip over which can result in serious injury. Always make sure that the surface on which the machine operates, is capable of supporting the combined weight of the machine and the load.

Stabiliser switches (P208) and (P209) are equipped with a warning light. A stabiliser can only be moved if this indicator is lighted. If this indicator is off, retract and lower the telescopic arm until the indicator lights up in order to move the stabiliser.

C

- Pre-operation and controls



1 :

For high-speed driving and any driving on public roads :

- Only use the "Front steer wheels" mode.
- Check the alignment of the rear wheels : The "Rear wheels aligned" indicator (P192) must be switched on.

Axles must be realigned :

- At the start of each day.
- At least once a day.
- If a misalignment problem is observed between the front and rear axles.

Follow the instructions below to realign the driving system :

1. Select the "Front steer wheels" mode. Rotate steering wheel slowly to bring the rear wheels to the right position. The "Rear wheels aligned" indicator (P192) must be switched on. Continue to rotate steering wheel slowly until you see the front wheels aligned.
2. Select the "Synchronised axle" mode again. Check the realignment by carefully driving the machine a short distance.

2 :

N.B.-: The parking brake is automatically applied when the engine is switched off.



Parking brake switch :

- Respect the activation mode: locking /unlocking.
- Do not force the activation mode.

In road mode :

- All boom movements are prohibited (joystick deactivated).
- Using the stabilizers and dumping is prohibited.
- Steering switches to "2 steering wheels" mode, whatever the position of the steering selector may be (with the rear axle automatically returning to road position).
- Overriding the steering function with the exclusion key is also deactivated.

To switch to road mode, you must :

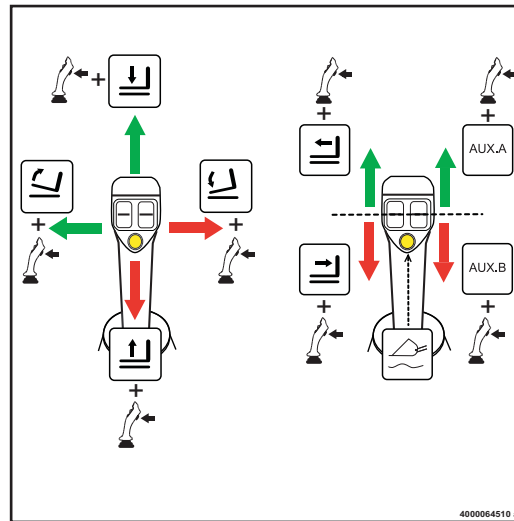
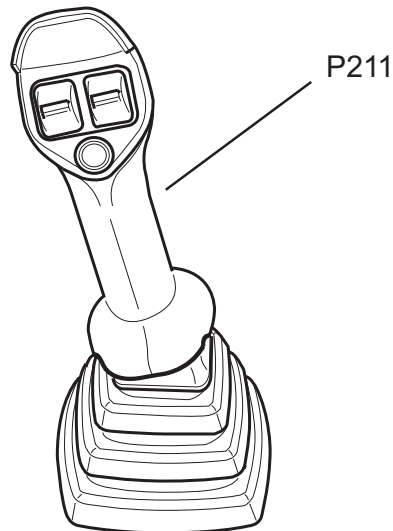
- Have the stabilizers raised
- Have stowed the machine

If these conditions are not respected and the road mode is selected, travelling is deactivated. The road mode indicator (P215) flashes to failure to comply with the conditions. If the stabilisers are not raised, the stabilizer LED (P208) and (P209) also flash. Once the conditions are met, indicator (P215) comes on and driving is enabled at high and low speeds.

C - Pre-operation and controls

3.5.8 - Joystick

General view - AS standard



Joystick - AS standard

Marking	Description	Function
P211	Joystick	To raise the telescopic arm : Pull the joystick. Keeping pressed the back trigger in the joystick. To lower the telescopic arm : Push the joystick. Keeping pressed the back trigger in the joystick. Discharging : Push the joystick to the right. . Keeping pressed the back trigger in the joystick. Crowding : Push the joystick to the left. Keeping pressed the back trigger in the joystick. To telescope out : Push the left rocker switch upwards. Keeping pressed the back trigger in the joystick. To telescope in : Push the left rocker switch downwards. Keeping pressed the back trigger in the joystick. Auxiliary, direction A : Push the right rocker switch upwards. Keeping pressed the back trigger in the joystick. Auxiliary, direction B : Push the right rocker switch downwards. Keeping pressed the back trigger in the joystick. Button : Float option

C - Pre-operation and controls

Additional controls - Joystick - HTL 4010

Marking	Description	Function
P211	Joystick	Button (High) : Float option
		Button (Low) : Load levelling system
		Lowering left stabiliser : Press the low button and push the joystick towards the left and then forwards
		Lowering right stabiliser : Press the low button and push the joystick towards the right and then forwards
		Lowering the 2 stabilisers : Press the low button and push the joystick forwards
		Lifting the left stabiliser : Press the low button and push the joystick towards the left and then backwards
		Lifting the right stabiliser : Press the low button and push the joystick towards the right and then backwards
		Lifting of the 2 stabilisers : Press the low button and pull the joystick backwards

Additional controls - Joystick - HTL 3510 - HTL 3010

Marking	Description	Function
P211	Joystick	Button (High) : Float option
		Auxiliary, direction B : Push the right rocker switch downwards
		Button (Low) : Load levelling system
		Chassis tilt : Move to the left : Press the low button and tilt the joystick left
		Chassis tilt Move to the right : Press the low button and tilt the joystick right

The speed of the joystick functions depends on the amplitude of the joystick travel in the corresponding direction. Increasing the engine speed also increases the function speed.

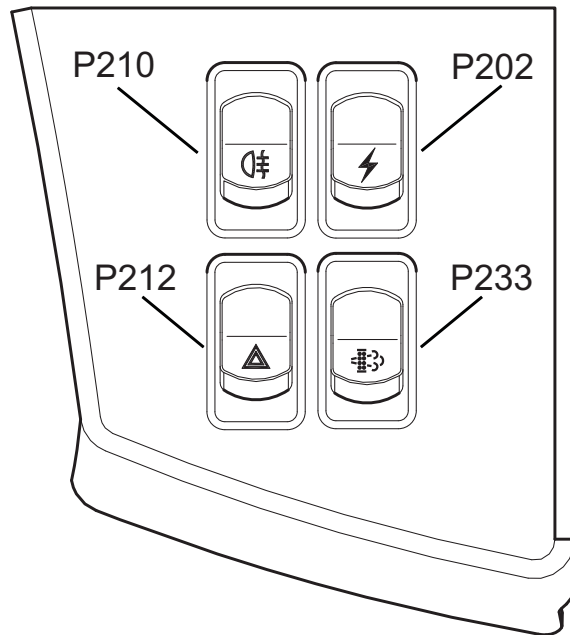


Rapid, jerky operation of the controls causes rapid and jerky machine movements. Such movements can cause the load to drift or fall and the machine may tip over. "Failure" to comply with these instructions could result in death or serious injury.

C - Pre-operation and controls

3.5.9 - Left-hand control panel

General view



General view

Marking	Description	Function
P202	12 V socket switch (Option)	
P210	Rear fog lights switch	On : Press top of switch downwards Off : Press bottom of switch downwards
P212	Hazard warning lights switch	On : Press top of switch downwards Off : Press bottom of switch downwards
P233	Particulate filter regeneration switch (For machines fitted with engine PERKINS 854E-34TA only)	Drive in neutral position : Automatic regeneration mode Push upwards : • Push upwards once and hold for 2 seconds minimum : Particulate filter regeneration disabled (mode compulsory in areas with explosive atmosphere). The (P227) indicator lights up. • Press upwards a second time and hold for 2 seconds minimum : Reactivation of particulate filter regeneration (mode compulsory in areas with explosive atmosphere). The (P227) indicator goes off.
		Press downwards : Start of forced particulate filter regeneration • Press downwards and hold for 2 seconds minimum : Start of manual (forced) regeneration outside areas with explosive atmosphere. The (P228) indicator lights up if the following conditions for performance are satisfied : • The (P226) indicator is lit. • Engine running for over 10 seconds and idling. • Engine temperature greater than 65 °C(149 °F) (engine temperature indicator (P178)). • Parking brake activated. • Translation in neutral position.

C - Pre-operation and controls



While a forced regeneration is running, it is essential to be aware of the following points :

- The machine is immobilised for 15 20 minutes (until the (P228) indicator goes out).
- The engine speed increases to 2000 tr/min.

If a significant problem arises, regeneration can exceptionally be interrupted in the following ways :

- Pressing the accelerator pedal.
- Parking brake deactivation (P214).
- Translation activated in forward or reverse.
- Engine switched off using the ignition key.



DANGER OF BURNS! During regeneration, the temperature of the exhaust gases is high and may reach 650 °C(1202 °F) .



Always start the engine and run it in a well-ventilated area. If the engine is in an enclosed space, vent the exhaust gases outside.

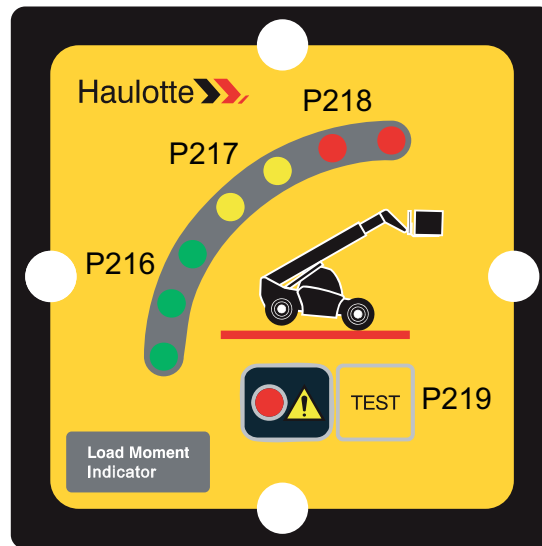


Do not run the engine in a place where there is a risk of build up of toxic gases.

C - Pre-operation and controls

3.5.10 - Load moment indicator (LMI)

General view



Controls and indicators

Marking	Description	Function
P216	Green LED's	Loading percent
P217	Yellow LED	Pre-alarm (intermittent buzzer)
P218	Red LED	Alarm (continuous buzzer)
P219	Test	The indicator can be tested at any time



The machine is fitted with an impending forward stability limit indicator. indication is only valid on flat ground when machine is stationary.

A display set into the right-hand windscreen strut shows the percentage remaining load, triggers a pre-alarm, reduces movement speed and then disables boom lowering and extension movements.

Test the load moment indicator at the start of each work period ( Section H - Lubrication and maintenance)

In all cases, the load capacity chart supplied in the cab is the only reference which may be used to define load capacity and ensure that the machine operates correctly. Even a lit green LED does not authorise the machine to be used without the load chart or the load capacity to be moved.

C - Pre-operation and controls

If a load moment indicator system alarm is triggered, the following movements are disabled :

Movements-Modes

Movement	Fork mode	Winch mode
Booms raising	Authorized	Prohibited
Boom lowering	Deactivated if the alarm sounds but can be activated with the exclusion key	Prohibited
Crowding	Deactivated if the alarm sounds but can be activated with the exclusion key	Prohibited
Discharging	Deactivated if the alarm sounds but can be activated with the exclusion key	Prohibited
To telescope in	Authorized	Prohibited
To telescope out	Prohibited	Prohibited
Attachments	Deactivated if the alarm sounds but can be activated with the exclusion key	
Driving	Authorized	

Temporary suspension of the Load Moment Indicator system :

An exclusion key (P198) allows the operator to disregard this movement deactivation to avoid being blocked in certain configurations. In this case, the operator should knowingly takes responsibility for the for the machine's stability. This function is automatically deactivated after 8 s of activation in the absence of movement. It must be released before in can be reactivated.



When the Load Moment is deactivated, the machine stability is no longer guaranteed. Consequently, there is a risk of the machine tipping over. The operator therefore assumes full responsibility for the machine's movements and must be aware of the consequences of his actions.

AS Telehandlers are optionally fitted with an EQSS Load Management System which monitors and manages the load on the Telehandler in all position. For details refer to the supplementary manual supplied with the Telehandler.

C

- Pre-operation and controls

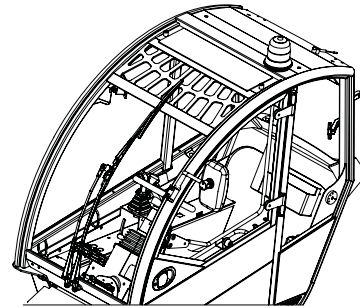
3.5.11 - Rear-view mirrors and windows

Cab door window :

The window must be blocked in open or closed position during use.

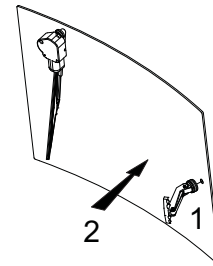
Open the cab door window and block it with the locking mechanism.

Press the unlocking button in the cab to unlock the window.



Rear window

Pull the lever and push to open the rear window.



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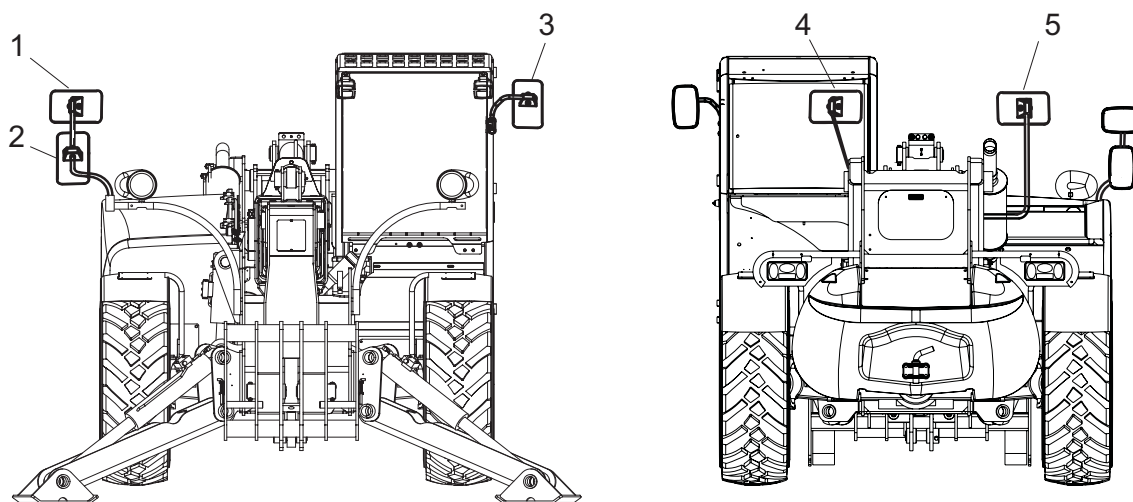
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C - Pre-operation and controls

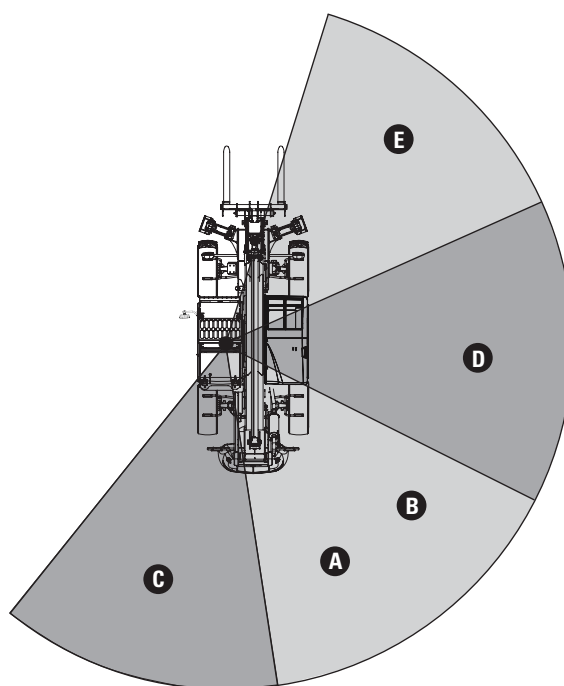
Rear-view mirror adjustment

The machine is fitted with 5 mirrors :

Locations



Visibility zone



Description of the components

Mirrors	Visibility in zone
1	A
2	B
3	C
4	D
5	E

C - Pre-operation and controls

Rear-view mirror adjustment :

Rotate the mirror on the axle on which it is fitted.



Adjust the rear-view mirrors as required for optimal visibility before and during use.



Ensure that rear-view mirrors are clean and clear at all times.



Before each use of the machine, ensure that the mirrors are not damaged.



Any modifications to this machine can affect the visibility in driving position.

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B

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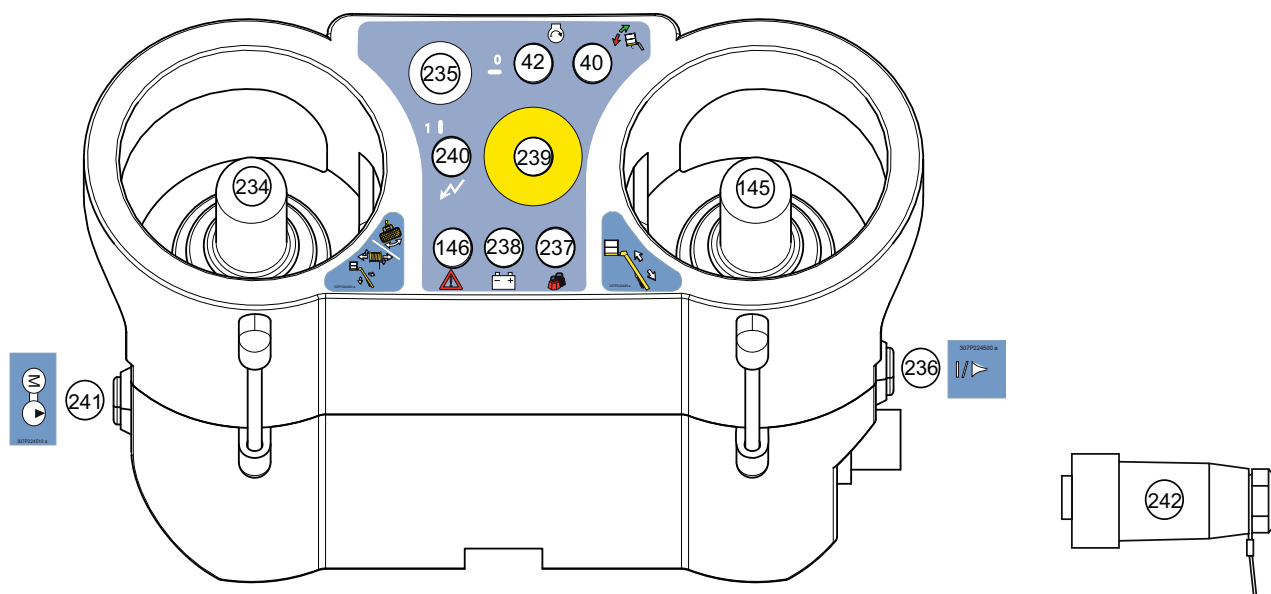
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C - Pre-operation and controls

3.6 - RADIO-CONTROL EMITTER

General view



Radio-control emitter

Marking	Description	Function
P40	Accessory compensation control	Move upwards : Accessory lifting Move downwards : Accessory lowering
P42	Engine start-up selector	Starting the engine
P145	Telescoping joystick	Press the joystick to activate and confirm the movement ⁽¹⁾ : Move forward : Boom in Press the joystick to activate and confirm the movement ⁽¹⁾ : Move backward : Boom extend
P146	Fault indicator	Machine operating fault
P234	Boom lift joystick	Press the joystick to activate and confirm the movement ⁽¹⁾ : Move upwards : Boom raising Press the joystick to activate and confirm the movement ⁽¹⁾ : Move downwards : Boom descent
	Accessory orientation joystick	Press the joystick to activate and confirm the movement ⁽¹⁾ : Move to the left : Clockwise rotation Press the joystick to activate and confirm the movement ⁽¹⁾ : Move to the right : Counter clockwise (CCW) rotation
		Position 0 : De-energizes control system Position 1 : Energizes control system
P235	Power switch	
P236	Buzzer push button / Remote control validation ⁽²⁾	Buzzer / Remote control validation
P237	Weighing indicator / Anti-tipping system	Permanently on in case of overload
P238	Battery charge indicator	Constantly on : Engine off or problem with the battery charging system Flashing : If the back-up pump is in use Pulled out (activated) : Remote control power supply
P239	Emergency stop button	Pushed down (deactivated) : Power cut to the platform controls and engine stopped
P240	Remote control on indicator	On : Remote control switched on
P241	Back-up pump unit push button	Pressed down (activated) : Back-up unit activated Release (deactivated) : Back-up unit deactivated

C

- Pre-operation and controls

Marking	Description	Function
P242	Electrical connector	Electrical connection of the remote control

(1) : Press the joystick to activate and confirm the movement. The operator can then operate the joystick without having to hold it down. Movement validation is cancelled if the joystick returns to neutral position for longer than 5 s.

(2) : The 2 joysticks ((P145) and (P234)) must be in neutral position in order to validate switching on of the remote control.

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C - Pre-operation and controls

3.6.1 - Safety devices

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

These security systems if activated, immobilize the machine and neutralize the movements.



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

3.6.1.1 - Activation of controls

The controls must be validated by a 'Enable Switch' system to activate the different movements : Press on the joystick to activate and confirm the movement and then operate the joystick (P145, P234).

Detection of internal fault

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.



Overload

If the load on the accessory is greater than the maximum authorised load, no movement is possible using the remote control.

Movements which could worsen the situation are prevented :

- Arm lowering (unless the telescope is retracted).
- To telescope out.



The weighing indicator (P237) flashes and an intermittent audible signal warns the user.

There are 2 options that will allow restoration of normal operation :

- Remove some weight to return within the authorised load.
- Use the console located in the cab to lower the platform.

N.B.:- All movements from the console located in the cab are slowed down and movements which could worsen the situation are prevented.

D - Operation

1 - Engine

N.B.:- The fuel to be used is regulated by national laws; refer to these requirements to define the appropriate fuel. 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.

1.1 - STARTING THE ENGINE

This machine can be operated at temperatures of -20 °C(0 °F) to 40 °C(104 °F) . Consult HAULOTTE Services® for operation outside this temperature range.

- Turn on the battery isolator located under the cab to the left of the steps.
- Make sure that all of the controls are in neutral and that all of the electrical components (lighting, heating, defrost system, ...) are turned off.
- Insert the ignition key.
- Turn the ignition key completely to position 1.
- Wait until the pre-heating light (P188) goes off before starting the engine.

The following LEDs should light upon start-up and then go off again :

- Parking brake LED P182 (possible if deactivated for a prolonged period).
- Battery LED P180.
- Service brake fault LED P190 (possible if deactivated for a prolonged period).
- When the machine is switched on (ignition key in position 1), the warning light (P220) comes on for one second to check that the system is working properly.



Do not actuate the starter for more than 15 s at the time.

Wait 10 s seconds between 2 attempts to avoid excessive drain of the battery power.

Do not try to start the machine by towing or pushing it, this could cause serious damage to the hydrostatic transmission.



If a LED indicates a fault, stop the engine immediately and perform the necessary operations or contact HAULOTTE Services®.

- Warm up the engine at approximately 1/2 throttle.

N.B.:- The engine will not start if the gear control lever is not in neutral.



Unexpected movement hazard. Always ensure that the gear control lever is in neutral.



Engine explosion. Do not spray ether into the air intake when starting the engine in cold weather. "Failure" to comply with these instructions could result in death or serious injury.

D - Operation

1.2 - OPERATIONAL CHECKS

1.2.1 - During the warm-up period

Check at the beginning of each work shift or at each change of operator :

- The heating, the defrost system and the windscreen wiper.
- check all lighting systems for proper operation.



Keep the engine cover closed while the engine is running. "Failure" to comply with these instructions could result in death or serious injury.

1.2.2 - When the engine is running

Check at the beginning of each work shift or at each change of operator :

- Service brake and parking brake operation.
- Forward and reverse.
- Each gear.
- Steer in 2 directions with the engine at idling speed. Check each steering mode (Forward and reverse).
- The horn and the back-up alarm. They must be audible from inside the operator's cab with the engine running.
- All of the boom and attachment functions should operate smoothly and correctly.
- Perform all additional checks ( Section H - Lubrication and maintenance).

1.3 - STARTING THE ENGINE WITH A BOOSTER BATTERY

If the engine has to be started with a booster battery (jumper cable...) proceed as follows :

- Never allow the vehicles to come into contact with each other.
- Connect the (+) terminal of the discharged battery to the (+) terminal of the booster battery.
- Connect the terminal - of the back-up battery to the terminal - of the discharged battery.
- Follow the standard starting procedures.
- Remove the cables in reverse order once the machine has been started.



Never jump-start or charge a frozen battery as it could explode. Do not produce sparks or flames or smoke near the battery. Lead acid batteries generate explosive gases when charging. Wear safety glasses. "Failure" to comply with these instructions could result in death or serious injury.



D - Operation

1.4 - NORMAL ENGINE OPERATION

Observe the gauges and the display screen frequently to ensure that all engine systems are functioning properly.

Pay attention to unusual noises and vibrations. If a fault occurs, park the machine in a safe position and perform the shut-down procedure ( Section D 1.5 -Engine shut-down procedure). Report the fault to HAULOTTE Services®.

Avoid prolonged idling. Turn the engine off when not in use.

1.5 - ENGINE SHUT-DOWN PROCEDURE

Park the machine in a safe location on a flat surface and away from any other equipment or traffic lanes.

- Actuate the parking brake switch P214.
- Shift the speed selector to neutral.
- Lower the forks or the attachment to the ground.
- Operate the engine at idling speed for 30 s.



Do not overrev the engine.

- Stop the engine : Turn the ignition key to the left to position "0".
- Remove the ignition key.
- Exit the machine correctly.
- Block the wheels if necessary.
- Switch off the battery disconnecter located under the cab on the left of the steps.



The cab seat is fitted with a device preventing the machine from moving if the operator is not sitting on the seat correctly.

1.6 - PARKING BRAKE OPERATION

At speeds under 5 km/h (3,1 mph) , pressing the switch (P214) automatically activates the parking brake.

When the parking brake is activated, the indicator lights (P190) and (P214) stay lit.

At speeds over 5 km/h (3,1 mph) , pressing the (P214) switch for more than 2 s automatically activates an audible signal and makes the (P182) indicator light flash.

After 2 s, the parking brake is activated automatically.



In this configuration, stopping the machine is detrimental.

N.B.:-Even if the machine's speed goes below 5 km/h (3,1 mph) during these 2 s, the parking brake is activated automatically.

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D - Operation

2 - Operation with a load

2.1 - LOAD LIFTING SAFETY

- Know the weight and the centre of gravity of each load to be lifted.
- Use the load capacity chart associated with each attachment.



Exceeding the machine's lifting capacity may damage the equipment and/or cause tipping over, resulting in death or serious injury.

You should know the machine's rated load capacities to determine the operating range within which you can safely lift, transport and place loads ( Section G - Technical characteristics).

2.2 - BEFORE LIFTING A LOAD

- Check the ground conditions. Adapt the travel speed and reduce the load weight according to the ground.
- Avoid lifting unbalanced loads.
- Make sure that there are no obstacles near the load.

2.2.1 - For operation with non-suspended load

- Adjust the fork spacing so that they engage into the pallet or under the load at maximum width and remain centred on the fork carriage.
- Face the load and approach it slowly with the fork tips straight and horizontal.

2.2.2 - For operation with suspended load

- Only use approved lifting devices rated for the lifting of the load ( Section E - Attachments).
- Identify the proper lifting points of the load, taking into consideration the center of gravity and load stability.
- Always properly tether loads to restrict movement.



Wheels must be aligned to lift a load.



Never lift any loads if a correct and legible capacity chart corresponding to the accessory used is not displayed in the operator's cab.



Never operate the telehandler without a proper and legible capacity chart displayed in the operator's cab for the telehandler/attachment combination in use..

D - Operation

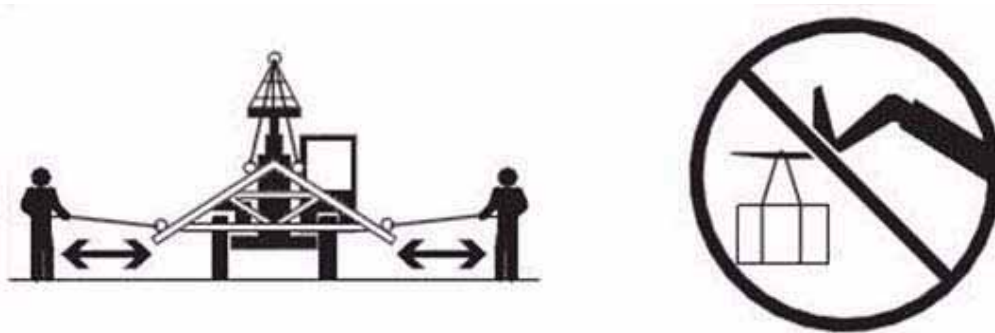
2.3 - TRANSPORTING THE LOAD

2.3.1 - For operation with non-suspended load

Once the load is engaged on the forks and leaning against the fork carriage, tilt the load backwards to place it in the travel position. Travel as specified  Section A - Safety precautions,  Section E - Attachments.

2.3.2 - For operation with suspended load

Travel in accordance with safety rules specified  Section A - Safety precautions,  Section E - Attachments.



- Ensure the boom is fully retracted.



Never raise the load more than 300 mm (11.8 in) above the ground or the boom more than 30°.



Never operate the machine controls suddenly.

- The combination of sideways movement and the load could cause the machine to tip over.
- The guide persons must remain in constant communication (verbal or hand) and be in visual contact with the operator at all times.



Never place the guide persons between the suspended load and the telehandler.

- Only transport the load at walking speed (0.4 m/s) or less.

2.4 - DUMPING PROCEDURE

- Position the machine in the best location for lifting or placing the load.
- Disable drive mode and drive at a speed lower than 5 km/h (3,1 mph) .
- Place the boom/attachment at less 30 °.
- Check the level gauge to determine if the machine must be levelling and to do it with the switch (P200) (For HTL3010/3510 only).



Never raise the boom/attachment more than 1.2 m(3 ft11 in) above the ground unless the machine is leveled. The combination of sideways movement and the load could cause the machine to tip over.

The machine is designed to allow movement of the main chassis 9 ° forward and backwards (For HTL3010/3510 only).

D - Operation

2.5 - STABILISER OPERATION PROCEDURE (HTL 4010)

The stabilizers increase lifting capacity and make it possible to level the machine.

- Position the machine in the best location for lifting or placing the load (Gradeability 3 °).
- Actuate the parking (P214) brake and shift the gear control lever to neutral.
- Release the service brake.
- Install the stabilizers with the switch (P208) and (209).
- Check the level indicator to determine whether the machine must be levelled and do so using the joystick.



Risk of sideways overturning if only one stabilizer is actuated.

2.6 - PLACING THE LOAD

Before placing a load :

- Ensure that the unloading point can safely support the weight of the load.
- Ensure that the unloading point is level, both lengthways and sideways.
- Use the capacity chart to determine the permitted boom extension range.
- Lower the forks to the level at which the load must be placed, and then extend the boom slowly until the load is just above the area where it must be placed.
- Lower the boom until the load rests in position and the forks can be retracted.

2.7 - DISENGAGING THE LOAD

Once the load has been safely placed at the unloading point, proceed as follows :

- When the load weight is no longer resting on the forks, the boom can be retracted and/or move the machine back from under the load if the surface so allows without changing the machine level.
- Lower the fork carriage.
- Drive the machine away from the landing point to continue work.

D - Operation

3 - Road operation

- Preparation :
 - Remove any large amounts of dirt from the machine.
 - Check the lights and the mirrors, and adjust them if necessary.
- Follow the recommendation in force in the country of use (Registration plate, jacket, warning triangle, first-aid kit, chocks...).
- Lower the boom. The front edge of the attachment should be approximately 0,30 m(1 ft0 in) to 0,40 m(1 ft4 in) above the ground.
- Tilt the attachment back completely.
- Place a protective cover over the front edge of the bucket ; remove the carriage forks.
- Raise the stabilisers.
- If the rear wheels are not in line with the chassis, move them back slowly to a neutral position.
- Actuate the road switch P215.
- Empty the bucket (If equipped).



Never carry loads on the road.

- The machine is now ready for road operation.

N.B.-: Ensure that you follow all local, regional and national traffic regulations.

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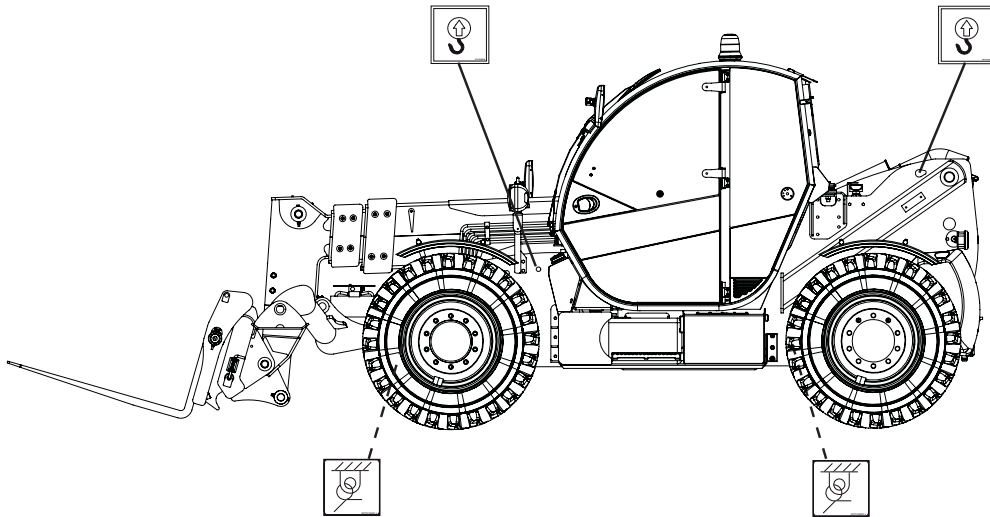
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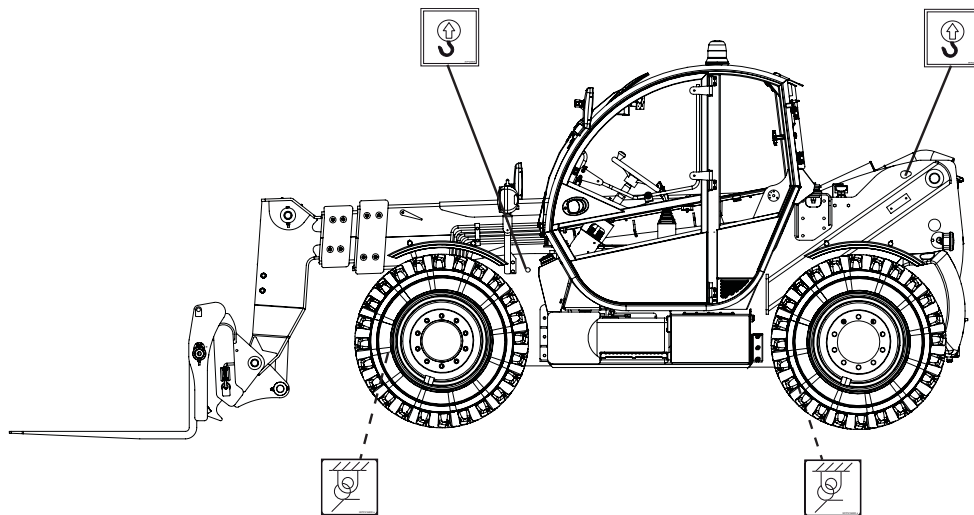
D - Operation

4 - Loading and securing for transport

HTL 4010



HTL 3510 - HTL 3010



- Level the machine before loading.
- Obtain assistance from an operator for manoeuvres and loading the machine, with the boom as low as possible.
- Once loaded, apply the parking brake and lower the boom until the boom or attachment touches the deck. Switch all controls to neutral, stop the engine and remove the ignition key.
- To secure the machine to the deck, pass chains through the designated tie-downpoints as illustrated in the figure.
- Do not tie down the front of the boom.

N.B.:- The user is fully responsible for choosing the proper method of transportation and the tie-down devices : Ensure that the equipment used is able to support the weight of the vehicle to be transported and that all manufacturer's instructions and warnings, regulations and safety rules and all national, regional and local laws are followed.

D - Operation

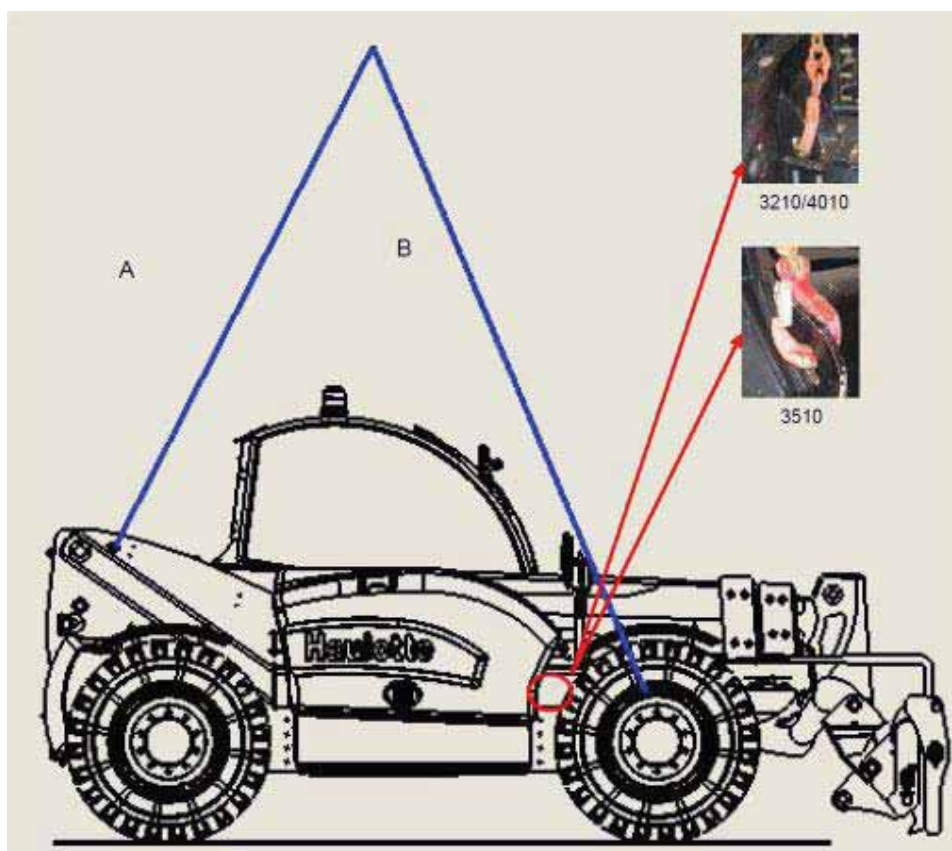


Before loading the machine to be transported, check that the deck, the ramps and the machine wheels are free of mud, snow and ice. Otherwise, the machine may slide, which could result in serious injury or death.

Lifting the machine

Ensure that :

- The machine is completely folded
- The accessories are in good conditions and have sufficient capacity
- The staff performing the maneuvers is authorized and empowered to use lifting equipment



A	2 lifting straps length 3200 +/- 50 mm
B	2 lifting straps length 4000



- Keep different length between A and B.
- Caution to lifting machine with air conditioned cab.

D - Operation

E - Attachments

1 - Approved attachments

To determine whether an attachment is approved for use on the machine in use, proceed as follows before installation of attachment :

- The attachment model/option number indicated on the attachment identification plate must correspond to the attachment number indicated on a capacity chart located in the operator's cab (For the forks, buckets and side-shift fork carriage). For other attachments, refer to the load chart booklet of the attachment.
- The model indicated on the capacity chart must correspond to the model of the machine being used.
- The center of gravity of the load on the fork (if applicable) must correspond to the center of gravity of the load indicated on the capacity chart.
- Hydraulically-powered attachments must only be used on machines equipped with auxiliary hydraulics.



If any of the above conditions are not met, do not use the attachment. The machine may not be equipped with the relevant capacity chart or the attachment may not be approved for the machine model being used. Additional information can be obtained from HAULOTTE Services®.



The user must enlist the services of a competent person to familiarise themselves with the test procedures for the specific attachments they have for the Telehandler. The user is responsible for carrying out any required checks of the attachment..



The user must ensure that the accessory can be used in the country in which the machine is be used.

2 - Unapproved attachments



Do not use attachments that have not been approved in writing by Haulotte for the following reasons :

- HAULOTTE® cannot establish the capacity range limits for DIY, home-made, altered or other unapproved attachments.
- An overextended or overloaded machine may tip over with little or no warning, can cause serious injury or death to the operator and/or those working nearby.
- HAULOTTE® cannot guarantee the ability of an unapproved attachment to perform its intended function safely.



Only use HAULOTTE approved attachments. Attachments that have not been approved by HAULOTTE for use with this machine may cause material and/or bodily damage, or even death.

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E - Attachments

3 - Telehandler/Attachment/Fork capacities

Before installing the attachment, check that it is approved and that you are in possession of the relevant capacity chart.

Attachment manufacturer's plate

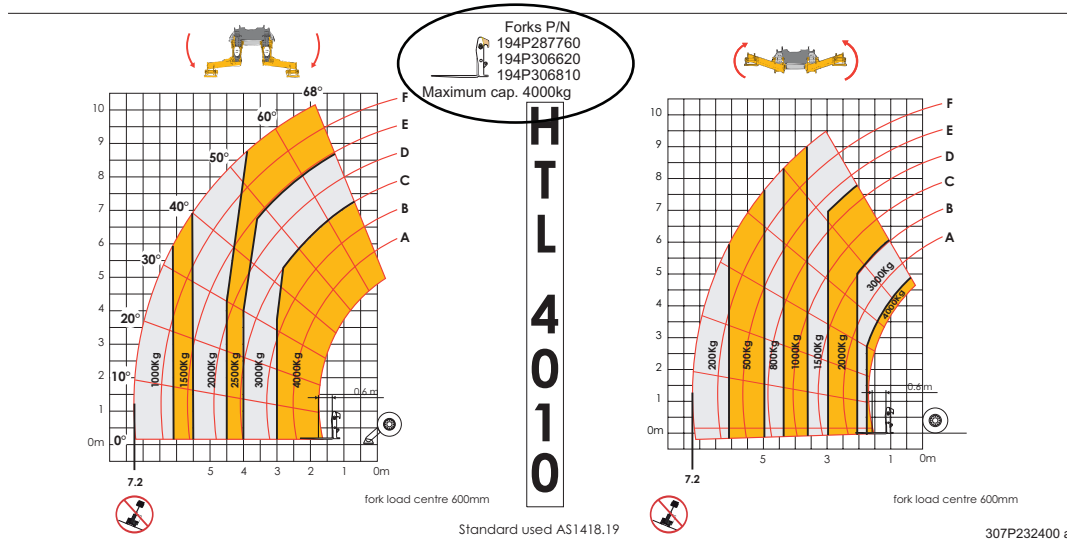
Part number			 Haulotte GROUP HAULOTTE GROUP La Péronnière BP9 42152 LYCHROME FRANCE	☐ OU / OR ☐
Accessory type				
Serial number				
Manufacture date				
Authorized equipment				
Weight	Kg	lbs		☐
Maximum Capacity	Kg	lbs		

307P229340 a

Part number			 Haulotte GROUP HAULOTTE GROUP La Péronnière BP9 42152 LYCHROME FRANCE	☐
Accessory type				
Serial number				
Manufacture date				
Weight	Kg	lbs		
Volume (SAE)	L			☐
Capacity	Kg	lbs		
Wind speed max	m/s			

307P229900 c

Load capacity chart



N.B.:- The attachment number located on the manufacturer's plate must correspond to the attachment number which appears on the load chart.

To determine the maximum capacity of the telehandler and the attachment, use the smallest of the capacities as determined by the capacity stamped on the attachment or the lifting position on the load chart..

The forks must be used in matched pairs.



Never use an accessory without having checked the HAULOTTE® accessory load capacity chart installed on the telehandler. Failure to install the relevant HAULOTTE® supplied capacity chart could cause an accident resulting in death or serious injury.

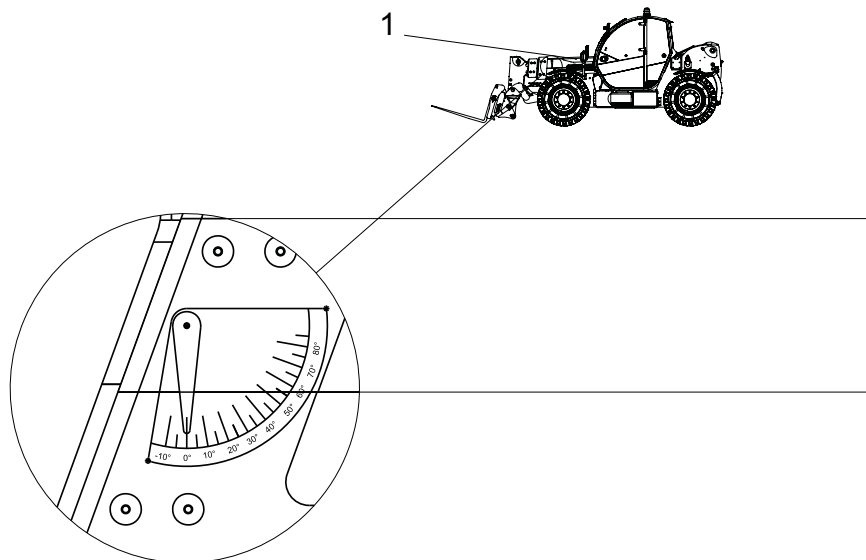
E - Attachments

4 - Using the capacity chart with forks

To use the capacity chart properly, the operator must first determine and/or obtain the following :

- Approved attachments HAULOTTE®.
- A load chart corresponding to the attachment.
- The weight of the load to be lifted.
- The load placement data :
- The height at which the load must be placed.
- The distance the load must be placed forward of the front tires of the Telehandler.
- An alphabetical key (A, B, C, D, E, F) indicates the boom extension and a pendulum indicates the boom angle ( Section E - Boom angle indicator).
- On the capacity chart for a given load, find the area corresponding to the key and follow it to the permitted reach.
- The number that appears in the load capacity range must be equal to or greater than the weight of the load to be lifted. Determine the load capacity range limits with the capacity chart and keep within those limits.

Boom angle indicator



1 : Horizontal boom

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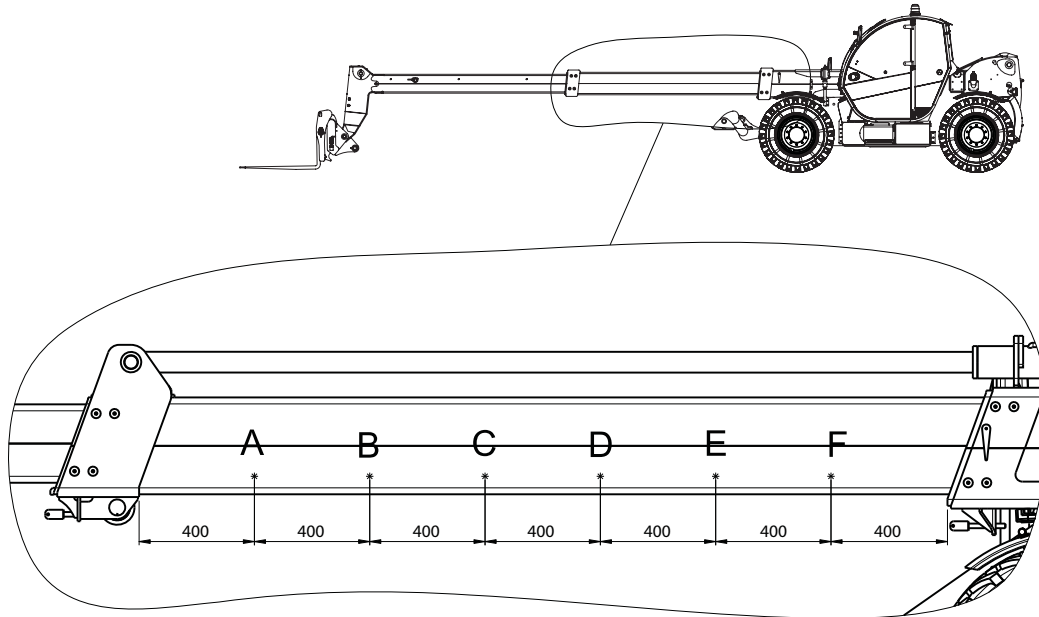
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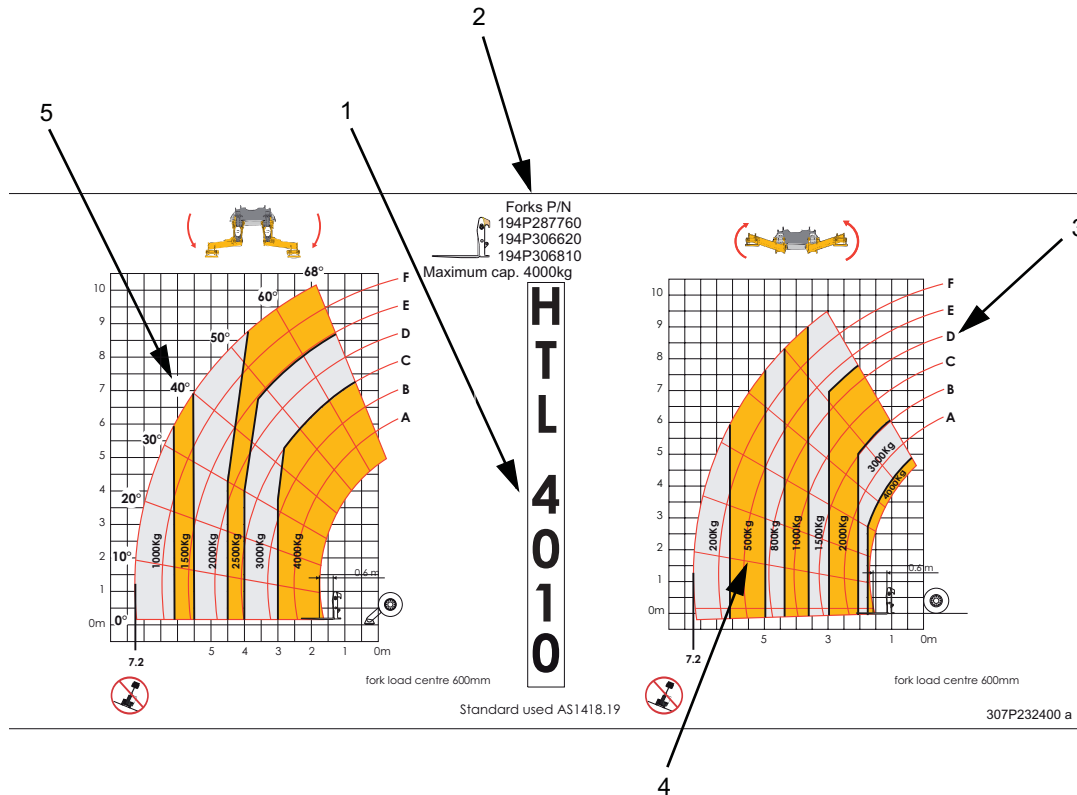
E - Attachments

Boom extension indicators



E - Attachments

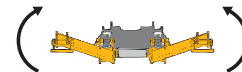
Example of a load capacity chart : HTL 4010



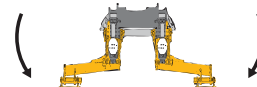
Marking	Description
1	HTL4010 : The load capacity chart must only be used for this machine
2	Attachment reference : The attachment reference must correspond to the number on the attachment manufacturer's plate
3	Boom extension indicators
4	Load area : The load areas indicate the maximum weight which can be lifted
5	Boom angle

To identify the appropriate load capacity table, refer to the icons (representing the attachments) which appear on the table :

- To be used when lifting a load with the stabilisers raised :



- To be used when lifting a load with the stabilisers lowered :



All of the loads indicated on the load capacity chart are based on the machine being on firm ground with the chassis level, the forks being positioned symmetrically on the fork carriage, the load being centred on the forks, appropriately sized tires being inflated correctly and the telehandler being in good working condition. "Failure" to comply with these instructions could result in death or serious injury.

E - Attachments

Examples of how to read the load capacity chart for the HTL4010 fitted with the fork carriage

The following examples illustrate situations where the load may or may not be lifted.



Use the capacity chart corresponding to the machine.



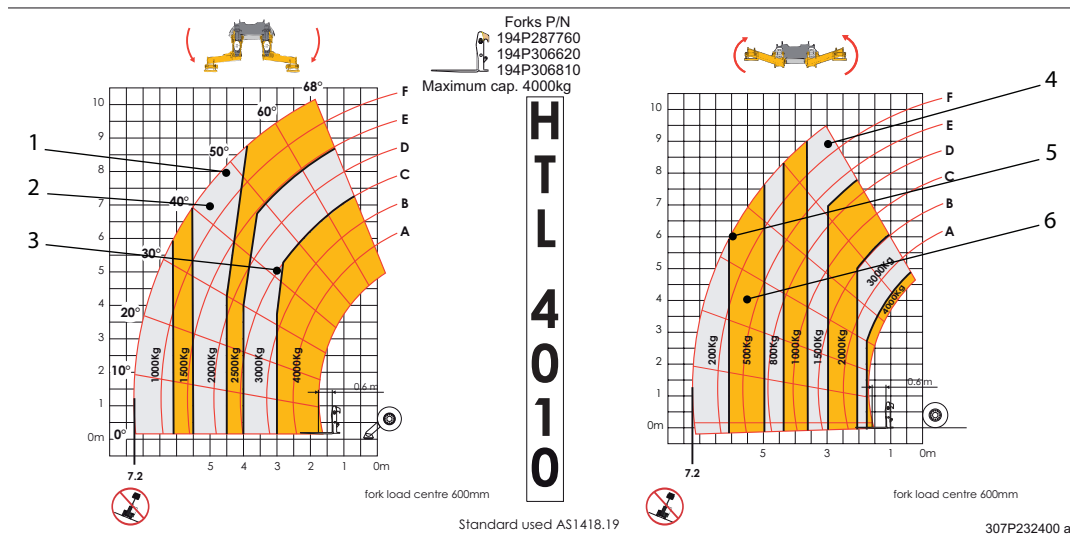
The attachment number located on the manufacturer's plate must correspond to the attachment number which appears on the load chart.

Stabilisers lowered

Example	The weight of the load to be lifted	Distance	Height	Lifting authorised
1	2000 kg(4409 lb)	4,5 m(14 ft9 in)	8 m(26 ft24 in)	Yes
2	3200 kg(7056 lb)	5 m(16 ft40 in)	7 m(22 ft96 in)	No
3	3000 kg(6615 lb)	3 m(9 ft84 in)	5 m(16 ft40 in)	Yes

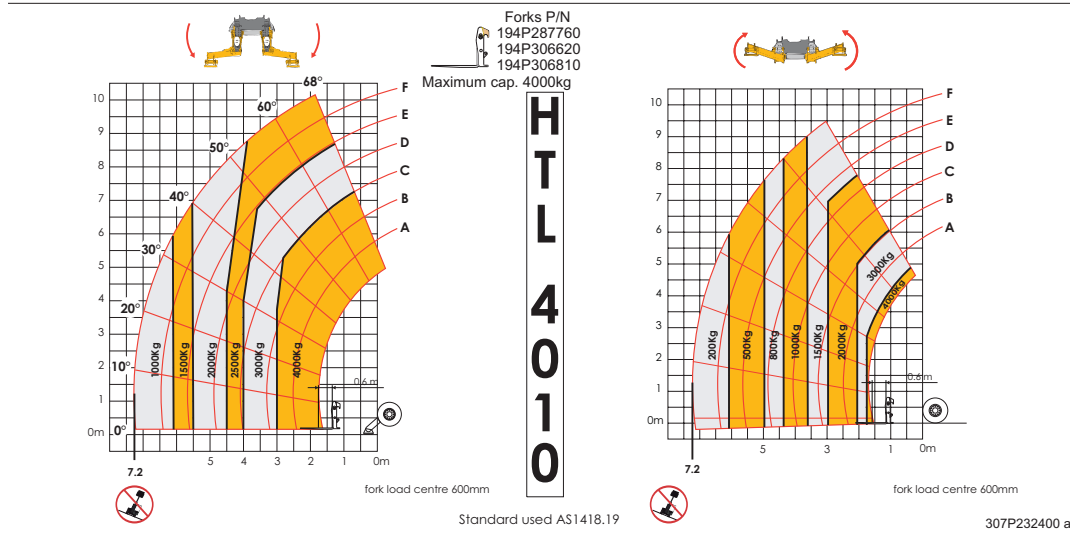
Stabilisers raised

Example	The weight of the load to be lifted	Distance	Height	Lifting authorised
4	1200 kg(2646 lb)	3 m(9 ft84 in)	9 m(29 ft52 in)	Yes
5	1000 kg(2204 lb)	6 m(19 ft68 in)	6 m(19 ft68 in)	No
6	800 kg(1764 lb)	5,5 m(18 ft1 in)	4 m(13 ft12 in)	No

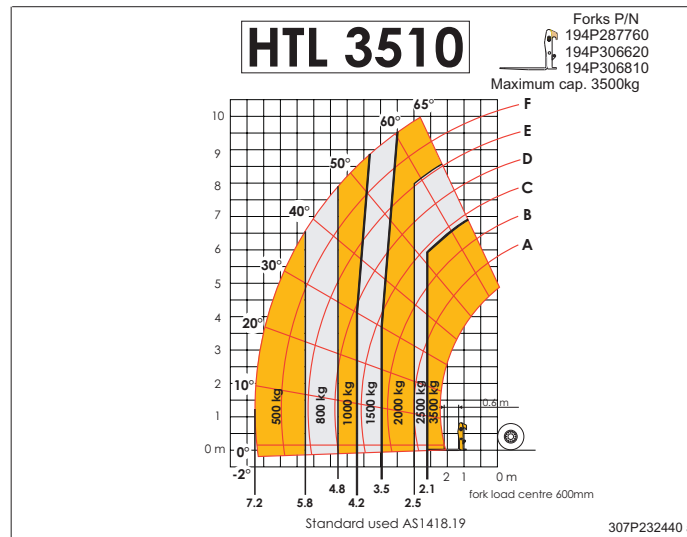


E - Attachments

HTL4010 load capacity chart



HTL3510 load capacity chart



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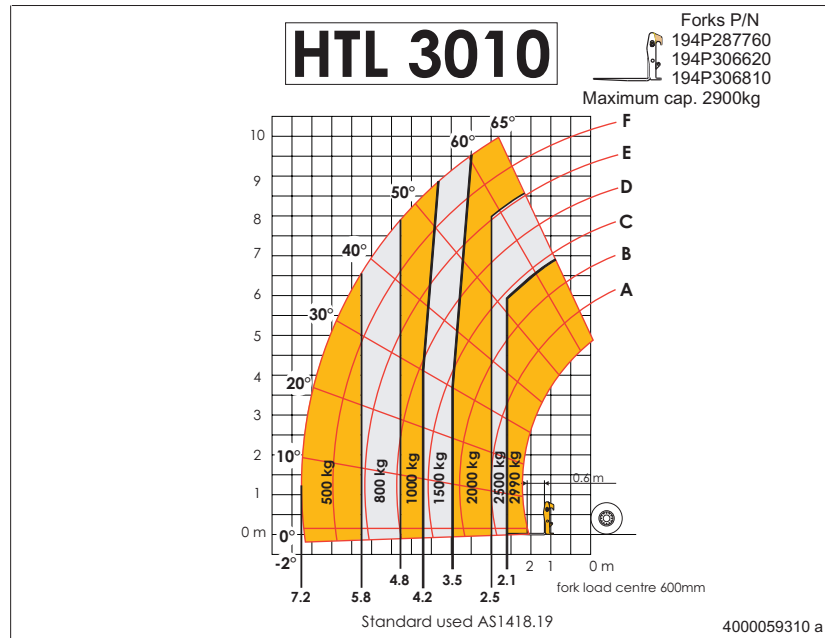
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E - Attachments

HTL3010 load capacity chart

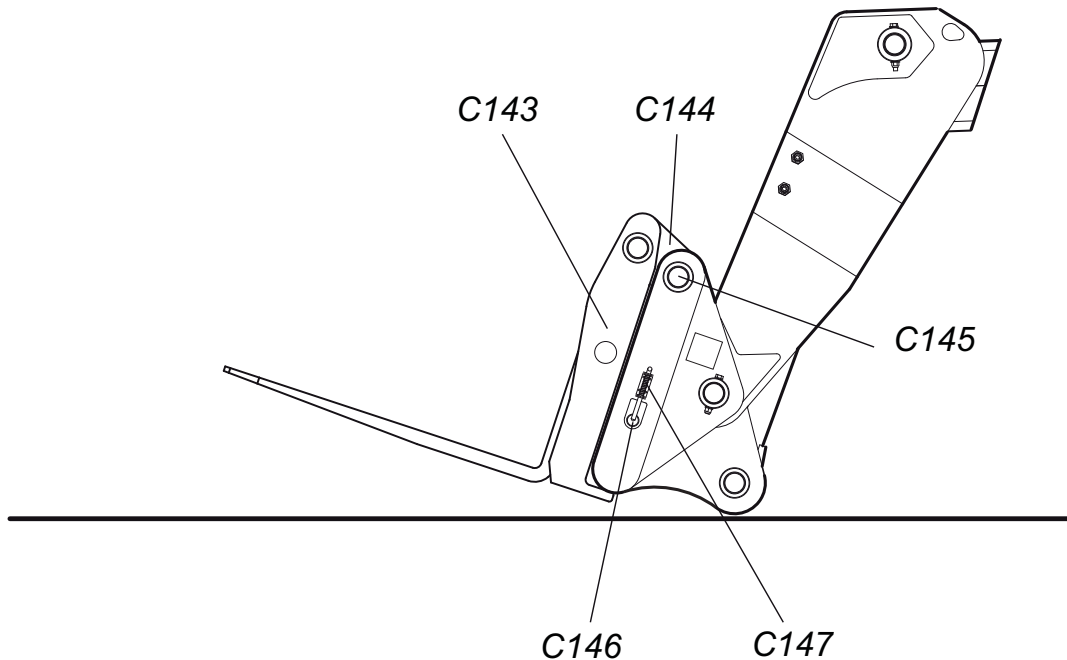


Forks characteristics

Length	Width	Weight
1200 mm	125 mm	80 kg
1200 mm	100 mm	65 kg

E - Attachments

5 - Attachment installation



Description of the components

Marking	Description
C143	Attachment
C144	Attachment pin recess
C145	Attachment pin
C146	Lock pin
C147	Retainer pin



Always ensure that the fork carriage or the accessory is correctly positioned on the boom, secured by 2 locking pins and held in place by 2 retaining locks. Incorrect installation could result in the fork carriage/attachment/load disengaging, causing death or serious injury.

5.1 - MECHANICAL ATTACHMENT LOCKING DEVICE

- Pull the locks and disengage the locking pins from the accessory.
- Align the tool apron pin with the attachment recess by lifting and crowding (P211).
- Actuate the parking brake P214. Leave the cab, insert the locking pins and secure them with the retaining locks.
- If the attachment requires hydraulic control, connect auxiliary hydraulic hoses A and B.

E - Attachments

5.2 - HYDRAULIC ACCESSORY LOCKING DEVICE (OPTION)

5.2.1 - Specific instructions



Before installing the hydraulic adaptation kit, ensure :

- that the boom is below 15 °.



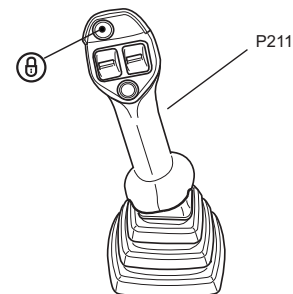
The hydraulic adaptation kit connection is carried out with the machine stopped.

5.2.2 - Operation

- Connect the hoses from the hydraulic adaptation kit to the push/pull sockets on the tool holder carriage.



- Start the engine.
- Align the tool apron pin with the attachment recess by lifting and crowding (P211).
- To unlock the tool holder carriage, press the locking button for at least 2 s and hold down.



- Carry out the attachment installation operations while holding the locking button down.
- Release the button to lock.



Releasing the button locks the attachment.



Do not press on the locking button for longer than 2 s when the auxiliary line is connected to the attachment. Danger of unexpected movement.



If the attachment requires hydraulic control, connect auxiliary hydraulic hoses A and B.



Hold the button down for 5 s to unlock the carriage.

E - Attachments

5.3 - ADJUSTING/MOVING FORKS

Fork carriages may have different locations for positioning forks.

N.B.-: Apply a light coating of an appropriate lubricant to facilitate fork or fork bar sliding.

To slide the forks :

- Ensure that the fork carriage is correctly installed :  Section E - Attachments.
- Lift the boom by approximately 10 °, tilt the fork carriage forwards until the fork heel is no longer in contact with the fork carriage.
- Stand next to the fork carriage to slide the fork, push it or pull it near its pin.

If the forks must be changed out :

- Place the forks on the ground.
- Remove the fork pin.
- Change out the forks and place them in position.
- Change out the fork pins and their retaining mechanisms.

Using forks :

- The machine's capacity and range limits change according to the forks used.



Keep the specific instructions for the forks in the manual holder situated behind the cab seat, with the telehandler operator manual.

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E - Attachments

6 - Attachments



Familiarize yourself with the information provided on the attachment identification plate.



Use the capacity table (load chart booklet) corresponding to this accessory.

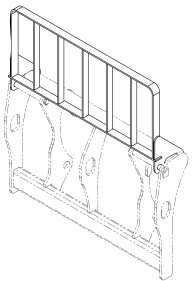


Keep the specific instructions for the forks in the manual holder situated behind the cab seat, with the telehandler operator manual.

6.1 - TECHNICAL CHARACTERISTICS OF THE ACCESSORIES

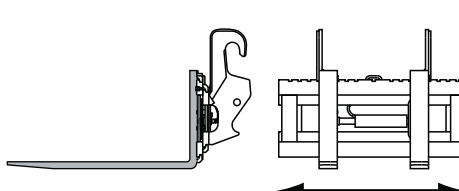
Floating forks carriage		
Attachment reference	194P287760 194P306620	
Mass	290 kg(639 lb)	
Dimensions of pallet forks	Section (Standard)	0,125 m (41 in) X 0,050 m (2 in)
	Section (Option)	0,100 m (40 in) X 0,050 m (2 in)
	Length	1,2 m(4 ft0 in)
Nominal capacity	4000 kg(8819,49 lb)	
	 If the capacity of the machine is less than 4000 kg(8819,49 lb), respect the nominal capacity of the machine	



Carriage extension (Option)		
Attachment reference	194P306780	
Length	1,15 m(3 ft9 in)	
Height	0,473 m(1 ft7 in)	
Mass	20 kg(44 lb)	

E - Attachments

Side-shift fork carriage Hydraulic kit		
Attachment reference	2820303940	
Width	1,25 m(4 ft10 in)	
Mass	390 kg(860 lb)	
Dimensions of pallet forks	Section	0,125 m (41 in) X 0,045 m (1,7 in)
	Length	1,2 m(4 ft0 in)
Lateral movement	100 mm in relation to the central position	
Nominal capacity	3000 kg(6614 lb)	
User pressure	180 bar	(2610,67 psi)
Maximum admissible pressure	220 bar	(3190,83 psi)
Minimum flow	50 l/min	
Standard : FEM3A		



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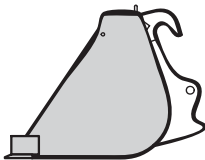
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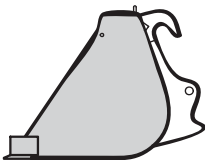
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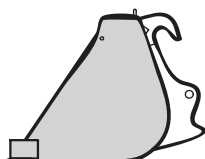
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E - Attachments

Toothless bucket		
Attachment reference	2820302810	
Nominal capacity	1140 l (301 gal)	
Width	2,4 m(7 ft10 in)	
Mass	465 kg(1025 lb)	

Toothed bucket		
Attachment reference	2820302820	
Nominal capacity	1140 l (301 gal)	
Width	2,4 m(7 ft10 in)	
Mass	595 kg(1312 lb)	

4-in- 1 bucket Hydraulic kit		
Attachment reference	2820302830	
Nominal capacity	850 l (225 gal)	
Width	2,4 m(7 ft10 in)	
Mass	636 kg(1402 lb)	

E - Attachments

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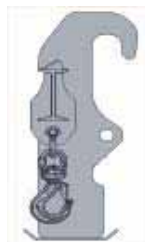
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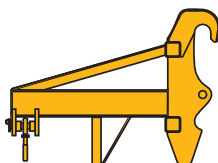
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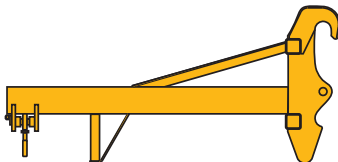
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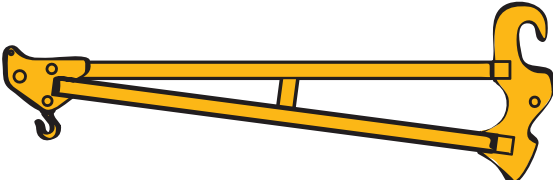
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4 T (8820 lb) 0 m(0 ft0 in) jib crane		
Attachment reference	4000023260	
Nominal capacity	4000 kg(8820 lb)	
Mass	72 kg(159 lb)	

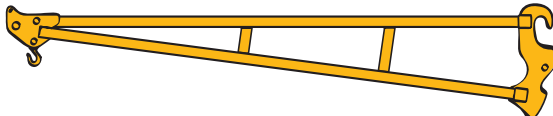
3 T (6615 lb) 1 m(3 ft3 in) jib crane		
Attachment reference	2820305490	
Nominal capacity	3000 kg(6615 lb)	
Mass	141 kg(311 lb)	

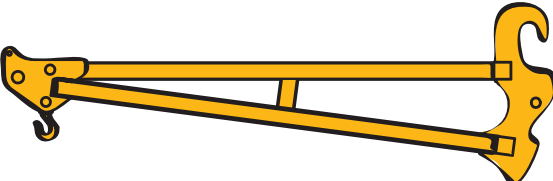
2 T (4410 lb) 2 m(6 ft7 in) jib crane		
Attachment reference	4000016740	
Nominal capacity	2000 kg(4410 lb)	
Mass	205 kg(452 lb)	

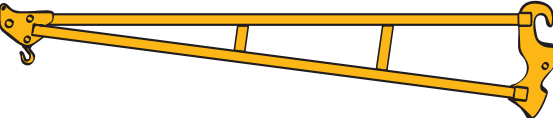
E - Attachments

Fly jib 2,5 m(8 ft2 in), 1,2 T (2646 lb) on telescopic arm		
Attachment reference	2820304080	
Nominal capacity	1200 kg(2646 lb)	
Mass	206 kg(454 lb)	

Fly jib 4 m(13 ft1 in), 0,6 T (1323 lb) on telescopic arm		
Attachment reference	2820304090	2820304090
Nominal capacity	600 kg(1323 lb)	
Mass	276 kg(609 lb)	



Fly jib 2,5 m(8 ft2 in), 1,2 T (2646 lb) with hydraulic winch		
Attachment reference	2820304120	
Nominal capacity	1200 kg(2646 lb)	
Mass	310 kg(684 lb)	

Fly jib 4 m(13 ft1 in), 0,6 T (1323 lb) with hydraulic winch		
Attachment reference	2820304130	
Nominal capacity	600 kg(1323 lb)	
Mass	375 kg(827 lb)	

E - Attachments

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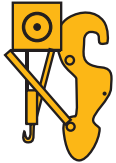
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Winch 1,2 T (2646 lb) Hydraulic kit		
Attachment reference	2820304100	
Nominal capacity	1200 kg(2646 lb)	
Mass	190 kg(419 lb)	

Winch 2,4 T (5292 lb) Hydraulic winch		
Attachment reference	2820304110	
Nominal capacity	2400 kg(5292 lb)	
Mass	190 kg(419 lb)	



E - Attachments

6.2 - OPERATION

6.2.1 - Accessory control

The joystick (P211) controls movements of the boom and attachment tilt ( Section C 2.5.8 - Joystick).

6.2.2 - Attachment installation procedure

 Section E 5 - Attachment installation.



Incorrect installation could result in the attachment or load disengaging, causing death or serious injury.

6.2.3 - Using the load capacity chart



Make yourself familiar with the information  Section E 3,  Section E 4.



Use the capacity table (load chart booklet) corresponding to this accessory.



The machine must not be used without the capacity chart booklet.



All the loads indicated on the nominal capacity chart (load chart booklet) assume that the machine is on firm ground with the chassis level, the load evenly distributed on the attachments, tyres of the correct size, sufficiently inflated and that the handler is in good working order. "Failure" to comply with these instructions could result in death or serious injury.

6.2.4 - Operation

- Raise or lower the boom to the appropriate height for lifting the load.
- Lift the load smoothly and with the boom fully retracted.
- Travel as specified  Section A - Safety precautions.

F

- Emergency procedure

1 - Towing a broken-down vehicle

1.1 - GENERAL PRECAUTIONS



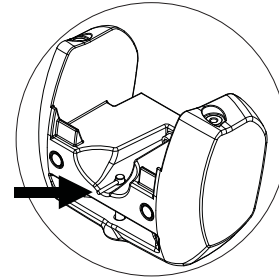
Towing must only be performed when the machine has broken down and once the operator has ensured that there is no risk of additional damage.

The first option should be to complete repairs on-site.

If the machine is on a public highway, ensure that no part of the Telehandler encroaches onto the road. If encroachment cannot be avoided, place warning signage on the road in accordance with the currently applicable regulations (example: warning triangle (optional), safety vest for the operator (optional), etc.).

Before towing the Telehandler, complete the following :

- Check that the steering can be used.
- Unbraked the front axle according to the procedure.
- To tow the Telehandler, attach a towing bar to the towing clevis situated at the front or rear of the Telehandler



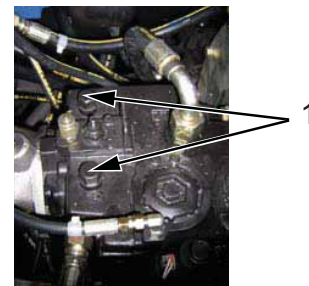
If the Telehandler must be towed, the combined weight of the towing vehicle and machine must not exceed to 28,5 Tonne.



Towing is performed at the operator's risk and must be completed with extra care.

- Ensure that the Telehandler boom is sufficiently raised to avoid interferences with the ground or the towing vehicle.
- If the Telehandler boom cannot be raised sufficiently to avoid interferences, contact HAULOTTE Services®.

Before towing the Telehandler, you should loosen the two pressure limiters on the travel pump by three turns 1.



(1) Unscrew each pressure relief valve by 3 turns before towing.

The maximum travel speed permitted for towing is 6 km/h (4 mph) . The towing distance should not exceed 300 m(984 ft4 in).

- Turn on ignition key and start up engine..
- Deactivate the parking brake.
- When the parking brake is released, the machine can be towed.

F

- Emergency procedure

If the parking brake is still engaged and the engine has broken down, de-activate the brake before towing ( Section F 1.2 - Releasing the axle brake for towing.)

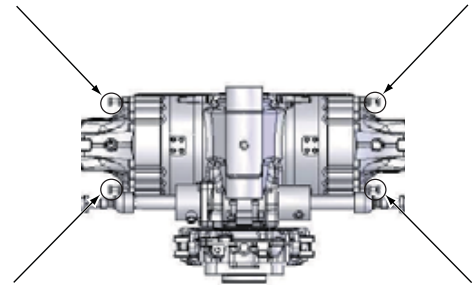
1.2 - RELEASING THE AXLE BRAKE FOR TOWING

The following procedure is used to release the front axle parking brake in the event of a engine breakdown or when the accumulator is empty.

1.2.1 - Parking brake deactivation

Tools required :

- Spanner 19 mm.
- Loosen the lock nuts.
- Fully tighten the 4 screws.



Come out from under the Telehandler and remove the chocks placed under the four wheels.

- Park the Telehandler.
- Block the four wheels again.
- The machine can be towed ( Section F 1.1 - Towing a broken-down vehicle).

1.2.2 - Parking brake reactivation

Tools required :

- Spanner 19.



Block the four wheels with chocks to prevent any Telehandler movement when the brake is disengaged.

When the four wheels are properly blocked :

- Loosen the 4 screws from 18 mm to 21 mm.
- Tighten the lock nuts.

The parking brake can then be reactivated and the front wheels blocked.

- Remove the chocks from the four wheels.
- Check that the hand brake control functions properly.

F - Emergency procedure

2 - Emergency boom lowering

2.1 - MANUAL BOOM LOWERING (EMERGENCY MODE)



This operation should only be performed as a last resort as it presents a danger for the operator (machine and load stability).

Before any manual lowering operation :

- Retract the boom before lowering it.
- Activate the parking brake and chock the wheels.

If the boom cannot be retracted, check on the load capacity chart in the cab that lowering the boom in a horizontal position is compatible with telehandler stability.

- Block the boom in position with another machine, a crane or, as a last resort, the cylinder chock.
- Completely unscrew the stop screw from the counter-balance valve block flanged on the boom lift cylinder. Note the number of turns with the spanner. Remove the locknut and rescrew the stop screw fully into its socket (1).



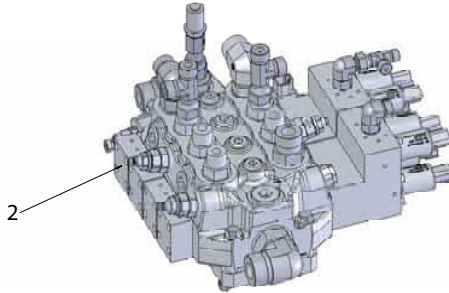
Marking	Description
1	Stop screw

- Take off the cover located under the counterweight at the rear of the machine to access the valve block.

F

- Emergency procedure

- Slowly unscrew the cap situated on the boom lift plate (first plate from the back) until you can see the boom lowering, then unscrew once the boom in low position (2).



- Once the boom is lowered and the machine has been repaired, raise the boom to its high position and secure it into place using the cylinder prop.
- Unscrew the stop screw from the counter-balance valve block, replace the counternut and rescrew the assembly fully into its socket.
- Check that the counter-balance valve functions properly after the intervention (by raising/lowering the boom with a load).

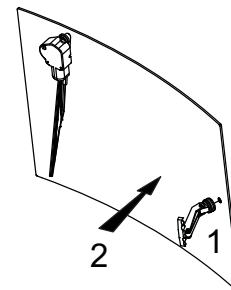


Secure the boom into position before any interventions on the counter-balance valve.

3 - Emergency exit from cab

In an emergency, exit from the cab can be achieved via the rear window..

- Release the stop (1) upwards.
- Push the window (2) outwards with your hand.



In accordance with the local and governmental regulations in force in some countries, a "break glass hammer" is provided inside the cab to allow exist in an emergency by breaking the rear window glass.

G - Technical characteristics

1 - Main characteristics



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

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

- Any options added must be either HAULOTTE® original options, or must be approved in writing by HAULOTTE®.
- 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.

1.1 - TECHNICAL CHARACTERISTICS

Engine			
Model	Perkins 1104D44T	Perkins 854E-34TA (Wall Flow DPF)	Kohler KDI 3404 TCR
Type	Four-stroke, water-cooled		
Cubic capacity	4400 cm ³ (268,50 cu in)	3400 cm ³ (207,48 cu in)	3359 cm ³ (204,97 cu in)
Intake	Turbo		
Power	70 kW (94 Hp) at 2300 rpm (97/68EC)	83 kW (111,3 Hp) at 2200 rpm (97/68EC)	56 kW (75,06 Hp) at 2200 rpm (97/68EC)
Torque	392 Nm at 1400 rpm	450 Nm at 1400 rpm	372,4 Nm at 1400 rpm

Hydraulic circuit	
Pump	Gear pump
Flow	100 l/min
Pressure	260 bar(3771 psi)
Regulation	Load Sensing
Control	Electro-hydraulic with 4-function joystick
Accessory plug flow	62 l/min
Hydraulic oil tank capacity	103 l(27 gal US)

Transmission	
Type	Hydrostatic with pump and variable cubic capacity engine, 4 permanent drive wheels
Control	Electro-hydraulic with 2/2 front, rear and neutral position selector
Speed in operating mode	0 - 8 km/h (5 mph)
Speed in road mode	0 - 25 km/h (15,53 mph)
Slow approach	Yes-Inching pedal
Traction force	6500 daN(14612 lbf)
Negotiable slope	45 %
Axles	Epicyclic gears - Limited-slip differential blocking
Swing axle	Yes

G

- Technical characteristics

Braking circuit	
Engine brake	Hydrostatic
Service brake	Multi-disc oil bath brake controlled by the brake pedal
Parking brake	Electrically-controlled multi-disc oil bath brake

Cab	
Interior width	940 mm

The cab complies with the ROPS (ISO 3471) / FOPS (ISO 3449) European safety standard. Door with two separate sections, opening rear window with wiper, heating, ventilation and joystick with 4 proportional functions.

Tyres	
Type	405/70 - 24(HAULOTTE® code : 2326014870) Pre-charge pressure : 4,5 bar(65,2 psi)

Steering system	
Inner turning radius on tyre	2550 mm
Outer turning radius on tyre	4800 mm

Electric circuit			
Model	Perkins 1104D44T	Perkins 854E-34TA (Wall Flow DPF)	Kohler KDI 3404 TCR
Operating voltage	12 V	12 V	12 V
Battery	110 Ah	110 Ah	110 Ah
Alternator	100 A	100 A	90 A
Starter	3.2 kW (4.3 Hp)	3.2 kW (4.3 Hp)	3.2 kW (4.3 Hp)

Filling capacity	
Fuel tank	120 l(32 gal US)
Hydraulic oil tank	103 l(27 gal US)
Front axle	8 l(2 gal US)
Rear axle	8,5 l(2 gal US)
Transfer case	0,5 l(0.14 gal US)
Engine oil (For machines fitted with engine PERKINS 1104D44T only)	8,4 l(2 gal US)
Engine oil (For machines fitted with engine PERKINS 854E-34TA only)	9,5 l(3 gal US)
Engine oil (For machines fitted with engine KOHLER KDI 3404 TCR only)	15,6 l(4 gal US) - Maximum 9,2 l(2 gal US) - Min.
Cooling	18 l(5 gal US)

G

- Technical characteristics

1.2 - STANDARD EQUIPMENT

- Dual-element air filter
- Fuel filter with water separator
- Transmission oil filter
- 4 Drive and steer wheels
- Safety valves on hydraulic cylinders
- Auxiliary hydraulic circuit to the boom head
- Incremental approach movements possible via the Inching system
- Deactivation of aggravating movements in the event of overload
- Load moment indicating device with load status controller and 5 LED's in the cab: cut-off and sound signal with automatic speed deceleration at the limits of the capacity chart
- Side tilt corrector : +9° / - 9° (HTL3510)
- Pre-wiring for radio and loudspeakers
- Horn
- Adjustable seat (height and armrest) with safety belt
- Adjustable steering column
- Power steering
- Metal protection above cab
- Sun visor
- Left and right exterior rearview mirrors
- Hour meter
- Boom angle indicator
- Mudguards
- Stabilisers in the machine gauge with weight-bearing presence contactor
- Forks
- Manual fork carriage with 2 pins
- Rear hitch
- Road Mode wheel configuration selector button
- Beacon light
- Front and rear full beam headlights
- Folding rear lights, working position and road driving position (Option)
- Diesel fuel prefilter with water separator

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- Technical characteristics

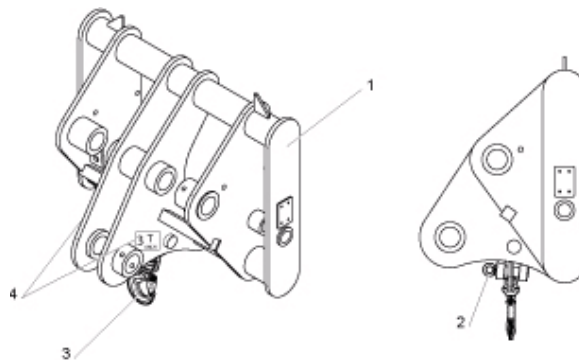
1.3 - OPTIONAL EQUIPMENT

1.3.1 - Slings attached 3T (6,615 lb)

Slings attached	
Option number	4000072600
Nominal capacity	3T (6,615 lb)



1.3.1.1 - Main components



Marking	Description
1	Tool holder carriage
2	Shackle
3	Hook
4	Overload limitation label

1.3.1.2 - Characteristics

Lifting hook mounted on tool holder carriage, designed to operate under dynamic and static load, in horizontal position.



The safety coefficient used is in compliance with the legislation on lifting apparatus or attachment tests.

1.3.1.3 - Control

The joystick (P211) controls movements of the boom and the option tilt ( Section C 2.5.8 - Joystick - Operator's manual).

G - Technical characteristics

1.3.1.4 - Operation

Operation instructions

The swivel in the hook is only to be used to align with the load and support it in a fixed position, it is not designed for rotation under load. The swivel head permits the hook to rotate and avoid the chains twisting.



Do not use slings attached :

- For pulling loads laterally.
- Under conditions of repeated cyclic fatigue : i.e. fast running on a bumpy surface.



This option is designed for load lifting necessarily in horizontal position.



When using the jib, it is forbidden to use the carriage tilt (down or up) while there is a load on the jib.



It is strictly forbidden to move the load (drive the telescopic handler) with the jib in high position.



The load must be lifted with the mast positioned as specified on the load charts.



If it must be moved, the load must be kept in the low position. Speed of movement must not exceed 5 km/h (3,1 mph) and the load must be secured to the telescopic handler fork carriage.

Working conditions

Raise or lower the boom to the appropriate height for lifting the load.

Lift the load smoothly and with the boom fully retracted.

Travel as specified  Section A - Safety precautions.

1.3.1.5 - Lubrication and maintenance



If the hook is damaged, stop using the attachment immediately. Change it.

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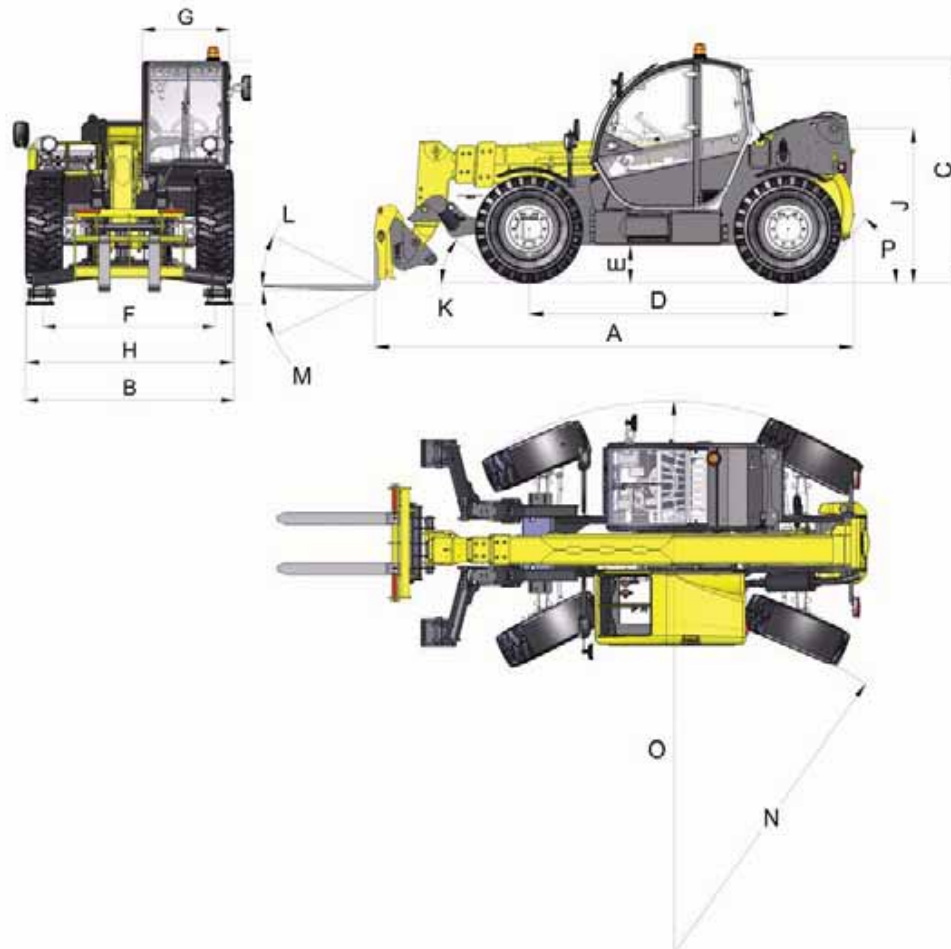
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G - Technical characteristics

2 - Overall dimensions

General diagram HTL 4010 - HTL 3510 - HTL 3010



Overall dimension specifications

Marking	HTL 4010		HTL 3510	
	Mètre	Feet inch	Mètre	Feet inch
A	5,14	16 ft 10 in	5,14	16 ft 10 in
B	2,25	7 ft 5 in	2,25	7 ft 5 in
C	2,42	7 ft 11 in	2,42	7 ft 11 in
D	2,78	9 ft 1 in	2,78	9 ft 1 in
E	0,40	1 ft 4 in	0,40	1 ft 4 in
F	1,85	6 ft 1 in	1,85	6 ft 1 in
G	0,94	3 ft 1 in	0,94	3 ft 1 in
H	2,23	11 ft	2,23	11 ft
I	2,71	7 ft 4 in	2,71	7 ft 4 in
J	1,66	5 ft 5 in	1,66	5 ft 5 in
K		39 °		39 °
L		23 °		23 °
M		103 °		103 °
N	2,55	8 ft 4 in	2,55	8 ft 4 in
O	4,80	15 ft 9 in	4,80	15 ft 9 in

G - Technical characteristics

Overall dimension specifications

Marking	HTL 3010	
	Mètre	Feet inch
A	5,14	16 ft 10 in
B	2,25	7 ft 5 in
C	2,42	7 ft 11 in
D	2,78	9 ft 1 in
E	0,40	1 ft 4 in
F	1,85	6 ft 1 in
G	0,94	3 ft 1 in
H	2,23	11 ft
I	2,71	7 ft 4 in
J	1,66	5 ft 5 in
K		39 °
L		23 °
M		103 °
N	2,55	8 ft 4 in
O	4,80	15 ft 9 in

Technical characteristics

	HTL 4010		HTL 3510	
	Metric	Imperial	Metric	Imperial
Vehicule mass without accessory	8440 kg	19,492 lb	8300 kg	18,302 lb
Vehicule mass with bucket	9040 kg	19,933 lb	8910 kg	19,647 lb
Vehicule mass with fork	8740 kg	19,272 lb	8610 kg	24,321 lb
Total weight allowed on road	9750 kg	28,665 lb	9450 kg	18,985 lb
Total weight allowed in load :				
Gross vehicle weight rating	12730 kg	28,07 lb	12300 kg	27,122 lb

Technical characteristics

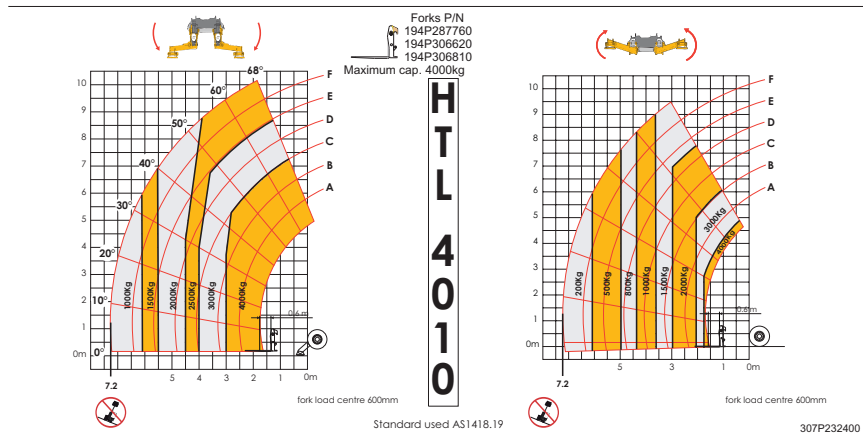
	HTL3010	
	Metric	Imperial
Vehicule mass without accessory	8300 kg	18,302 lb
Vehicule mass with bucket	8910 kg	19,647 lb
Vehicule mass with fork	8610 kg	24,321 lb
Total weight allowed on road	9450 kg	18,985 lb
Total weight allowed in load :		
Gross vehicle weight rating	12300 kg	27,122 lb

G - Technical characteristics

3 - Working area

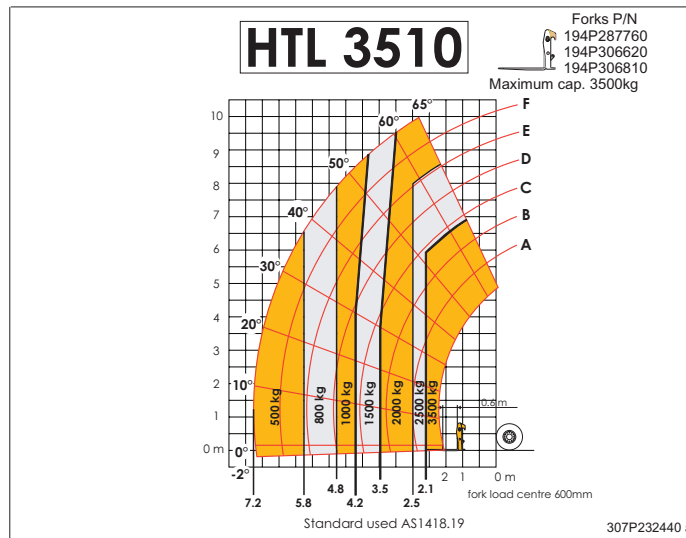
3.1 - MACHINE HTL4010

Working area



3.2 - MACHINE HTL3510

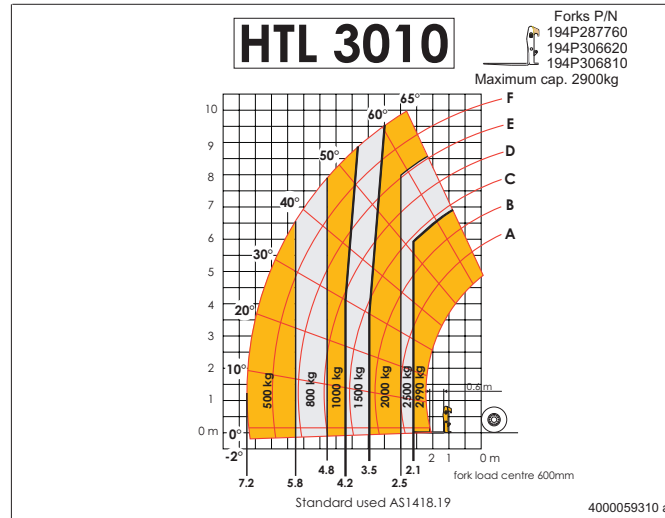
Working area



G - Technical characteristics

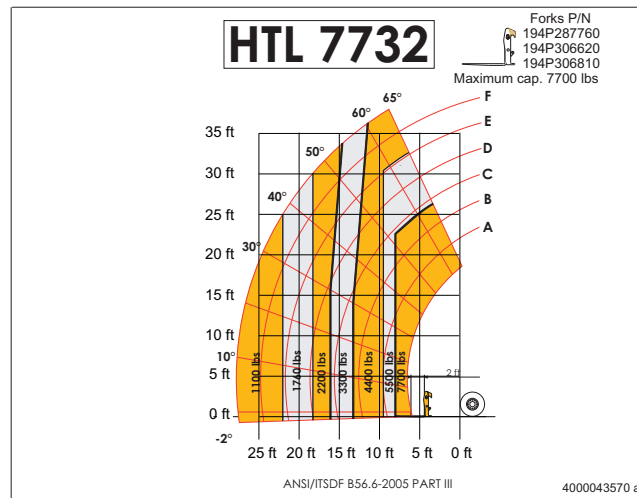
3.3 - MACHINE HTL3010

Working area



3.4 - MACHINE HTL7732

Working area



G - Technical characteristics

4 - Noise emission level



The sound power values indicated in the technical characteristics tables are obtained in the following conditions :

- For machines equipped with internal combustion engines, the guaranteed acoustic level LWA (displayed on the product) and is measured in accordance with the method and the conditions described in Appendix III, Part B, Point 36 of the 2000/14/CE European directive.

The Telehandler's noise emission sound levels comply with :

- The European directives mentioned on the compliance certificate supplied with the machine.
- National road regulations.
- National work regulations.

The LWA noise emission level is shown on the machine.

To avoid any increase in noise emission, all panels and other sound-absorbing materials must be replaced in their original position after maintenance and repair work.



Do not modify the machine in a way that may increase noise emissions.

Technical characteristics (For machines fitted with engine PERKINS 1104D44T only)

HTL 4010 - HTL 3510 (HTL 7732)	
Noise emission level at driving station	75 dBA
Maximum noise emission level	105 dBA

Technical characteristics (For machines fitted with engine PERKINS 854E-34TA only)

HTL 4010 - HTL 3510 (HTL 7732)	
Noise emission level at driving station	75 dBA
Maximum noise emission level	106 dBA

Technical characteristics (For machines fitted with engine KOHLER KDI 3404 TCR only)

HTL 4010 - HTL 3510 (HTL 7732)	
Noise emission level at driving station	75 dBA
Maximum noise emission level	104 dBA

G - Technical characteristics

5 - Telehandler vibration



The hand and feet vibration 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.

The load and acceleration values for vibrations transmitted to the body are below the levels required by the various regulations. The measurements have been performed according to the currently applicable standards.

Hand and body vibration are measured in accordance with method and conditions described in standard ISO5349-1 and ISO2631-1.

Technical characteristics

HTL 4010 - HTL 3510 - HTL 3010	
Hand - feet vibration	< 2,5 m/s ²
Body vibration	< 0,5 m/s ²

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G - Technical characteristics

H - Lubrication and maintenance

1 - Maintenance guidelines

The Telehandler was given an arbitrary Design Life of 10 years at the design stage of the product. There are a number of factors which can affect the design life including but not limited to, severity of operating conditions/routine maintenance which should be carried out in accordance with this manual. Severity of operating conditions may require a reduction in time between maintenance periods. These factors are amongst a number, which may extend or shorten the Design Life of the product. Local Regulations may also require Enhanced Periodic Inspection/ 10 year inspection to be carried out on the product to extend its service life beyond the Design life.

Perform the maintenance in accordance with the maintenance schedule set out on the following pages.

- Adapt the frequency of maintenance according to use to obtain maximum service life.
- Read all of the instructions in the guide before starting Telehandler maintenance.
- Follow the Telehandler shut-down procedure before performing any servicing or maintenance
- For all checks, park the Telehandler on flat ground, stop the engine, actuate the parking brake and lower the booms to the parked position.
- To obtain accurate fluid level readings ensure that the machine is on level ground.
- Before each check : top-up, refill or lubrication check, you must clean the filler inlets, the filler caps and the grease points.
- After lubricating the machine, actuate all functions several times to distribute the lubricants. Perform all these maintenance procedures without any accessories fitted.
- Check the state of the filling plug seals; do not forget to replace them if they are damaged or worn.
- Maintain the Telehandler and associated equipment, especially the brakes and the steering, in good condition to protect your safety and to comply with the statutory requirements.



Do not modify or alter the machine or its equipment without the manufacturer's permission.

- Always check the pins, the bushes, the fastening pins, etc... daily
- Incorrect or poorly performed maintenance can damage the machine.



Stop the engine before opening the canopy : Presence of moving parts that could cause bodily injuries.

- Check that there are no tools or other objects left in the engine compartment after maintenance work has been completed.
- Drain the engine after operation when the oil is hot.

***N.B.:-**Mechanical vibrations may occur on the machine during the first 50 hours of operation. This phenomenon will disappear after the internal combustion engine's break-in period.*

- Remove the keys from the ignition switch during maintenance work.



Do not stand close to the front or rear of the machine while the engine is running.

- Batteries, plastic objects or other components of a toxic nature that could be harmful to the environment must be disposed of in a way that does not harm. Ensure that they must be disposed of in a way that does not harm.

***N.B.:-**Accumulators are pressurized vessels. It is the user's responsibility to refer to the national regulations in force in the country of use concerning their use and disposal.*

H

 - Lubrication and maintenance

2 - Maintenance instructions



Before operate maintenance operation on hydraulic component or component localized under the boom, use safety prop as follow :

- Place the boom to 24° - 25° (without load and machine on wheels).
- Put the safety prop in the boom in the same way that it is shown in the picture (it is prohibited to lift up or lift down the boom with the safety prop placed).
- Proceed to work under boom.

Safety prop



- Wear protective clothing and personal protection equipment supplied or required by the job conditions.



Do not wear loose fitting clothes or jewellery that could get caught on controls or moving parts.



Do not perform Telehandler servicing or maintenance with the engine running.

- If the engine is started inside a building, there must be sufficient ventilation to remove the exhaust gases.
- Always refit the guards and plates that have been dismantled before starting the machine.
- Paintwork shall be performed in well-ventilated premises using approved protective equipment.
- The engine cooling system operates under pressure. The pressure is regulated by the radiator cap.



Never dismantle a component from the system while it is hot. Always loosen the radiator cap slowly and let the pressure escape before removing it completely.

H

- Lubrication and maintenance

- To prevent any risks of fire or explosion, keep any naked flames away from the battery. To prevent any risk of sparks that could cause an explosion, use the battery cables in accordance with the instructions provided in this manual.
- Hydraulic oil leaks or fluid under pressure can cause serious injury.



Do not use your hands to check for oil leaks. Search for leaks with a piece of cardboard or paper.

N.B.:-Stop the engine and depressurize in the system before intervening on the hydraulic system.

N.B.:-Check that all connections are tight before restarting the machine or pressurizing the system.



Do not intervene on the air-conditioning system. A refrigerant fluid leak can cause serious injury. Contact HAULOTTE Services®.

- The diesel in the injection system is under high pressure. For any operations or adjustments, please contact a qualified technician or your dealer. Failure to comply with these guidelines can result in serious injury.



Never let anyone stand or work under the boom when it is raised unless the safety prop is installed and the cylinder is secured.



Section H 7.2 - Hydraulics.



Never try to repair or tighten pressurized pipes or hoses.



Never perform lubrication or adjustment operations when the machine is in motion or when the engine is running.

- Protective equipment must be worn when performing any service/repair on the machine.

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H - Lubrication and maintenance

Consumables (Fuels - Engine oil - Coolant level ...) - For machines fitted with engine PERKINS 854E-34TA or KOHLER KDI 3404 TCR only

Fuels

N.B.:- The fuel to be used is regulated by national laws; refer to these requirements to define the appropriate fuel. 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.



The engine fitted in your HAULOTTE® machine is designed to run only with diesel fuel containing a very low sulphur content. If the ASTM D5453, ASTM D2622 or ISO 20846 ISO 20884 test methods are used, the level of sulphur in the low sulphur content diesel fuel must be less than 15 ppm (mg/kg) or 0,0015 % by weight.



Using diesel fuel containing more than 15 ppm of sulphur in these engines may damage the anti-pollution control systems (sometimes irreversibly) or reduce the service frequency.

Table of technically permitted fuels

Engines	Fuels			
	European gas oil according to EN590	European fuel oil according to BS2869 2010 class A2 or UE equivalent	American gas oil according to ASTM D975 Grade 1D S15 American gas oil according to ASTM D975 Grade 2D S15	Japanese gas oil according to JIS K2204
PERKINS 854E-34TA (Wall Flow DPF)	✓	✓	✓	✓
KOHLER KDI 3404 TCR	✓		✓	✓

Compliant



Not compliant



H - Lubrication and maintenance

Engine oil



Only use API CJ-4 oil or equivalent. Please refer to the table of permitted engine oils.



Not using the appropriate specification of engine oil may reduce the service life of the engine and post-treatment system.

API CJ-4 and ACEA E9 oil categories have the following chemical limits :

- 0,1 % maximum sulfated ash
- 0,12 % maximum phosphorous
- 0,4 % maximum sulfur

Table of permitted engine oils

Engines	Engine oil specification
PERKINS 854E-34TA (Wall Flow DPF)	API CJ-4 ACEA E9 ECF-3
KOHLER KDI 3404 TCR	API CJ-4 ACEA E9 ACEA E7 ACEA E6



CC, CD, CD-2, CF-4, CG-4, CH-4, CI-4 engine oils, not approved, must not be used.

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- Lubrication and maintenance

Coolant

N.B.:- The engine fitted in your HAULOTTE® machine must operate with a 1:1 solution of water and glycol. This concentration allows the NOx reduction system to operate correctly in environments where the temperatures are high.

Glycol in the coolant helps to provide protection against the following conditions :

- Boiling
- Freezing
- Cavitation of the water pump

Coolant service life

Coolant type	Service life ¹
Commercial heavy-duty antifreeze that meets ASTM D6210	Every 3000 hours of operation (or every 2 years)
Water and commercial SCA inhibitor	Every 3000 hours of operation (or once a year)

¹ :

Use the interval that occurs first. The cooling system must also be flushed out at this time.

H - Lubrication and maintenance

3 - Repairs and adjustments

Significant repairs or adjustments on the safety systems or elements (concerns mechanics, hydraulics and electrics).

Any modifications not approved by HAULOTTE® are not permitted.

The manufacturer's product liability will be void if the work specified above is not performed by HAULOTTE® approved staff or if the spare parts are not original spare parts.

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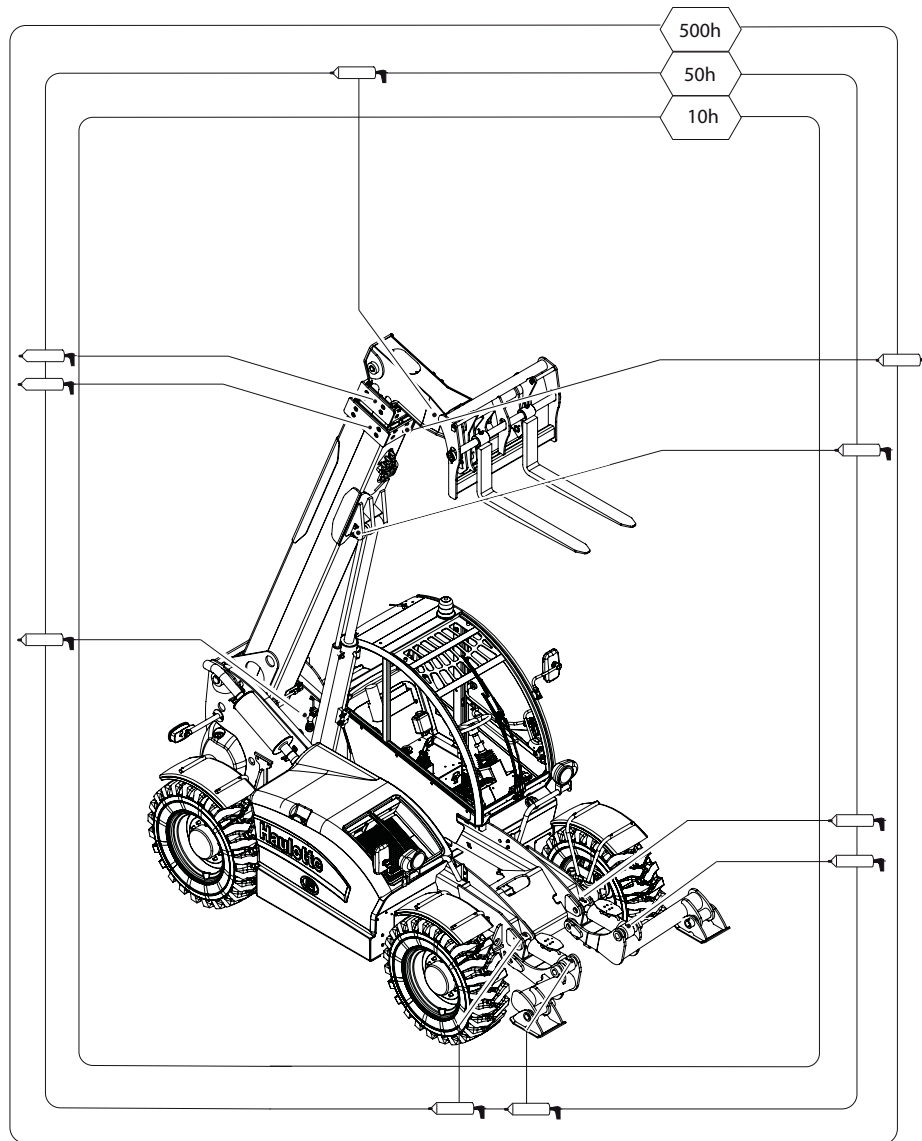
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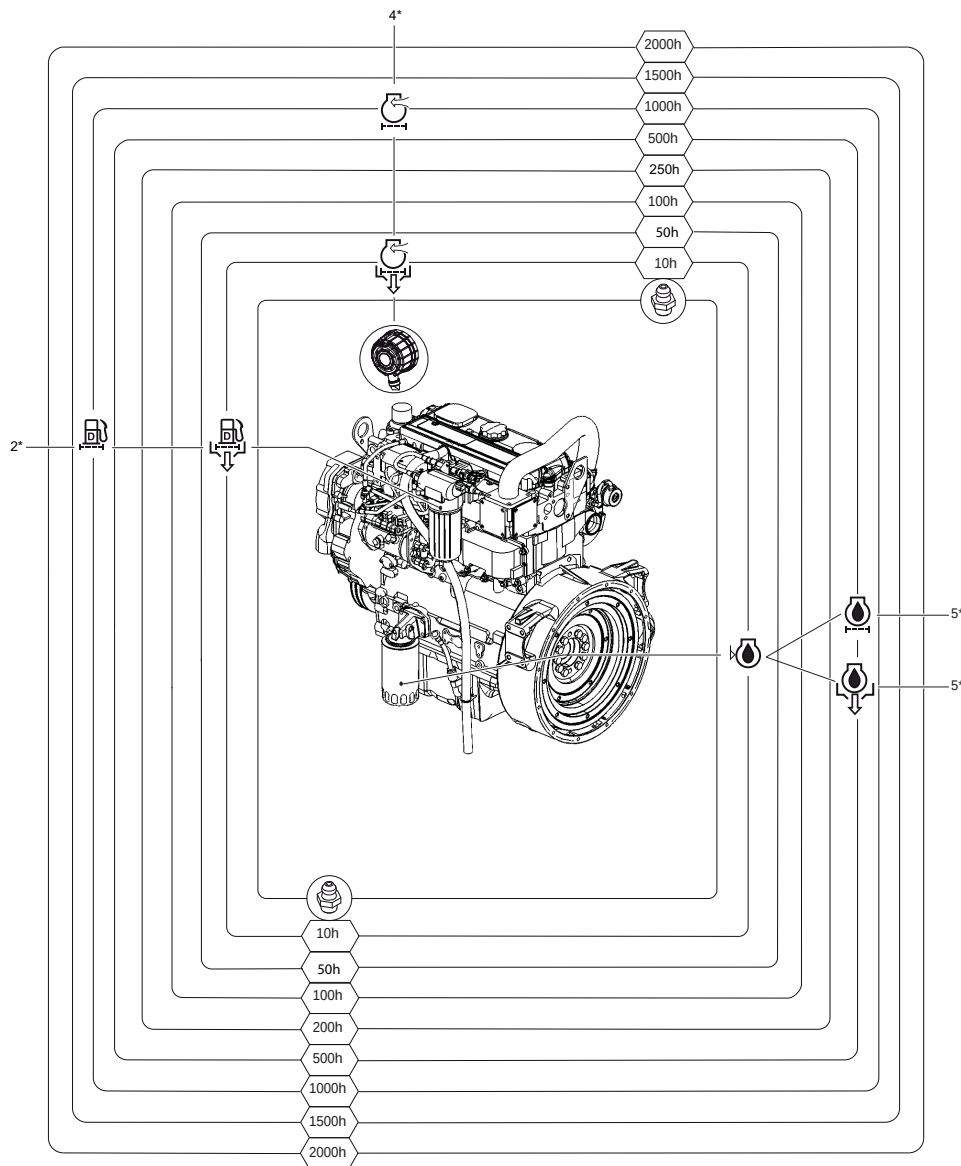
H - Lubrication and maintenance

4 - Lubrication and maintenance schedule



H - Lubrication and maintenance

For machines fitted with : Engine PERKINS 1104D44T



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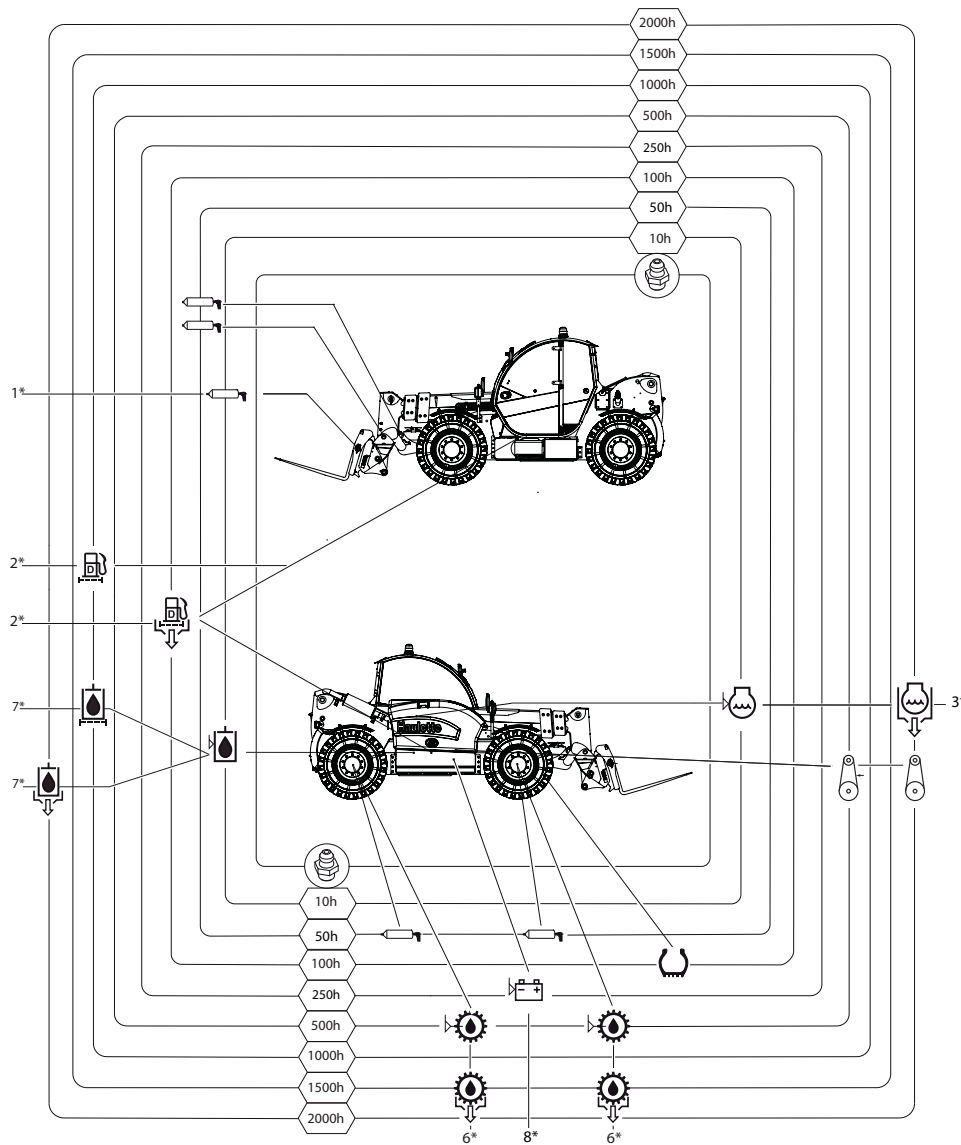
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H - Lubrication and maintenance

For machines fitted with : Engine PERKINS 1104D44T



H

- Lubrication and maintenance

Description of the components

Symbol	Marking	Description
		Check the level
		Filter
		Oil change
	1*	Lubrication
	2*	Diesel circuit
	3*	Cooling system
	4*	Air filter (system)
	5*	Internal combustion engine
	6*	Travel axles
	7*	Hydraulic circuit
	8*	Battery

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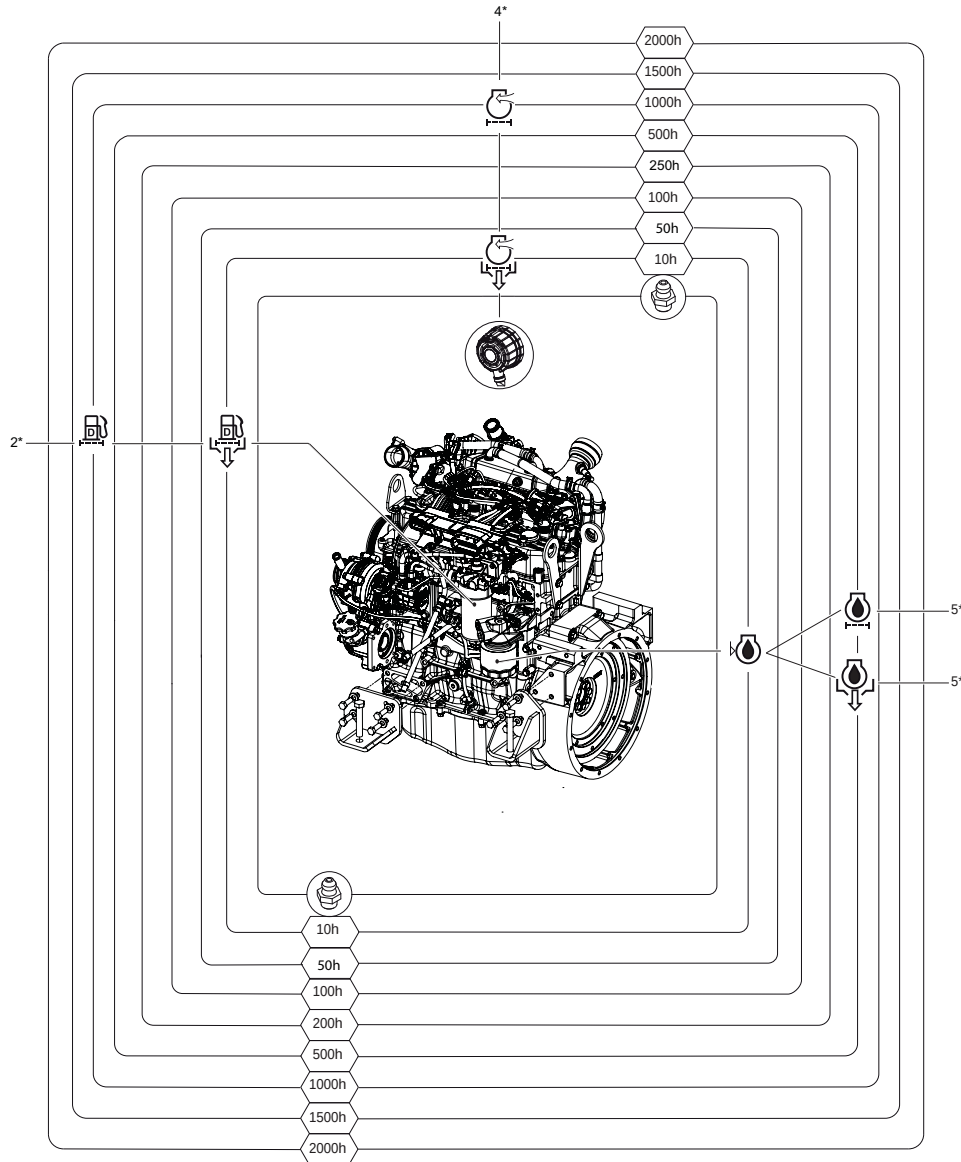
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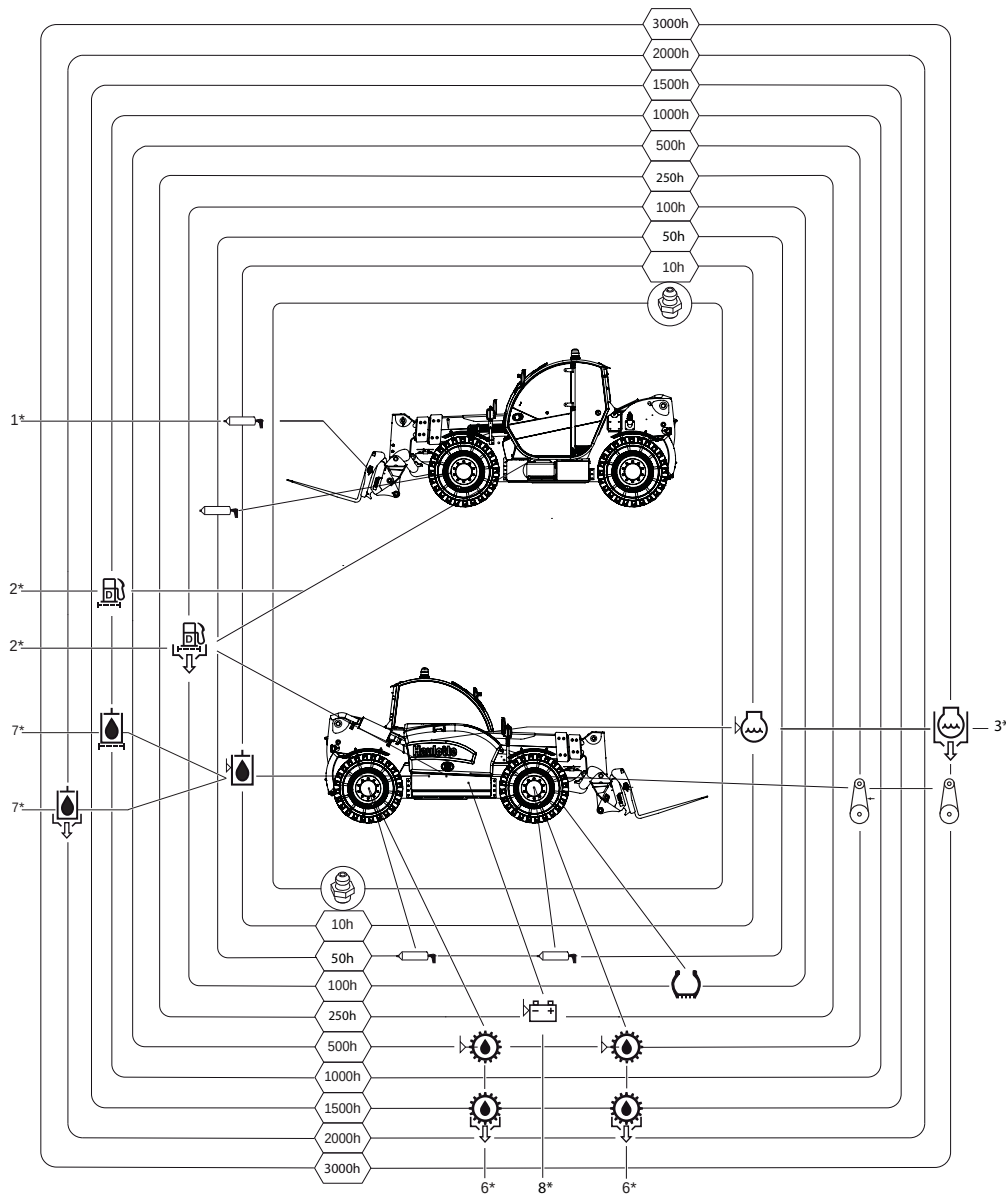
H - Lubrication and maintenance

For machines fitted with : Engine PERKINS 854E-34TA



H - Lubrication and maintenance

For machines fitted with : Engine PERKINS 854E-34TA



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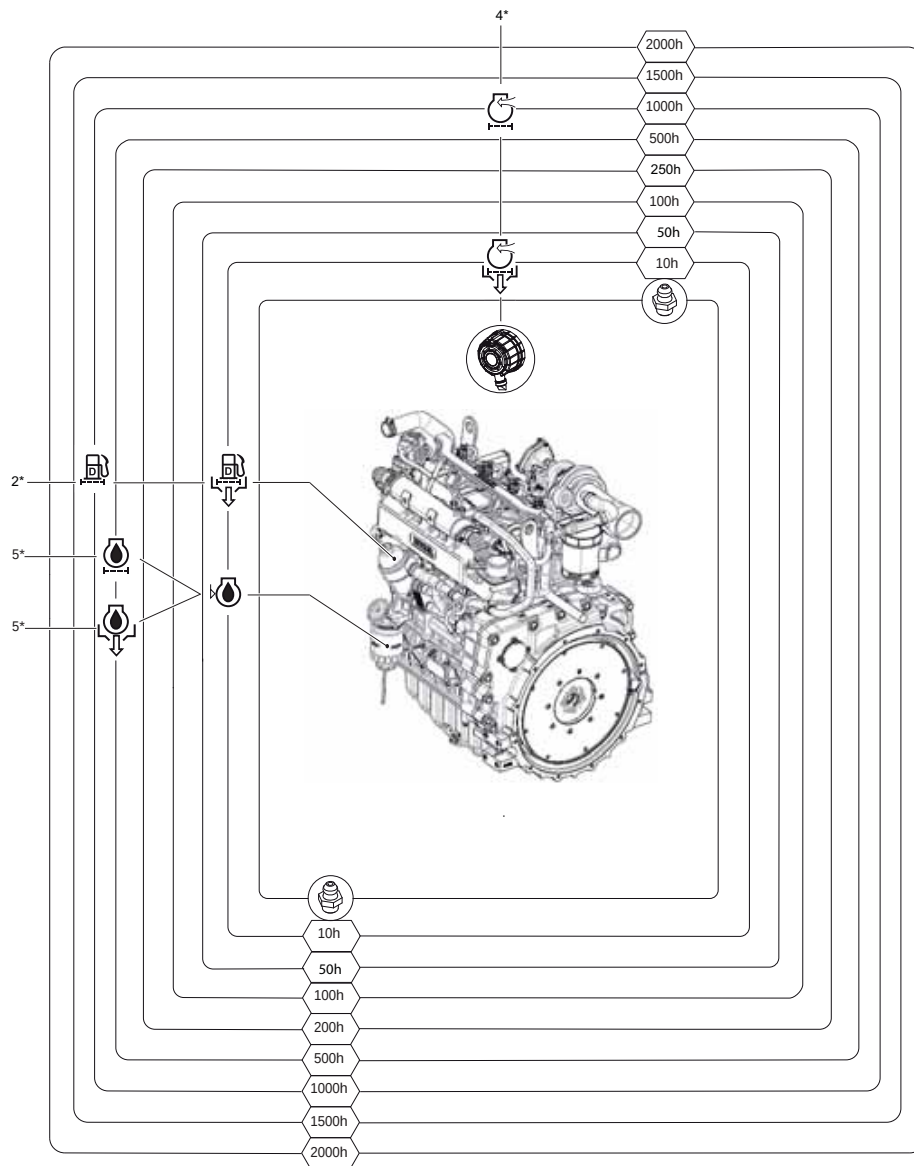
- Lubrication and maintenance

Description of the components

Symbol	Marking	Description
		Check the level
		Filter
		Oil change
	1*	Lubrication
	2*	Diesel circuit
	3*	Cooling system
	4*	Air filter (system)
	5*	Internal combustion engine
	6*	Travel axles
	7*	Hydraulic circuit
	8*	Battery

H - Lubrication and maintenance

For machines fitted with : Engine KOHLER KDI 3404 TCR



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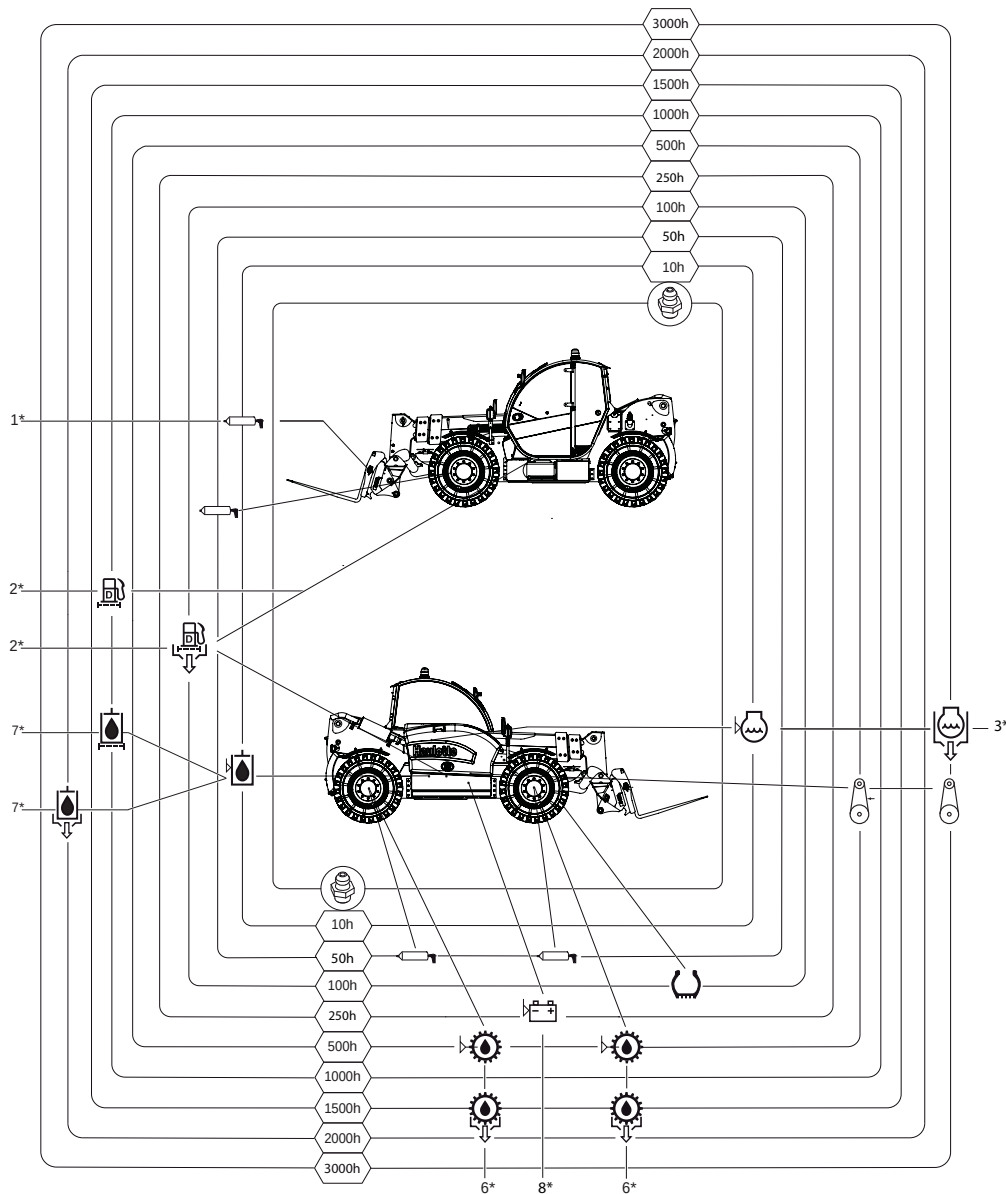
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H - Lubrication and maintenance

For machines fitted with : Engine KOHLER KDI 3404 TCR



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- Lubrication and maintenance

Description of the components

Symbol	Marking	Description
		Check the level
		Filter
		Oil change
	1*	Lubrication
	2*	Diesel circuit
	3*	Cooling system
	4*	Air filter (system)
	5*	Internal combustion engine
	6*	Travel axles
	7*	Hydraulic circuit
	8*	Battery

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H - Lubrication and maintenance

5 - General program / Recommendations

The design service life of the products covered by this manual is for a period of 10 years. This service life is based on the machine being maintained within the maintenance regime set down in the Maintenance Manual supplied with the product.

It must be noted that should the product be subject to ongoing use in harsh environments, then the effective service life will be reduced. Contact Haulotte Services for further advice.

The time periods below are recommended for fuel-powered machines in normal use.

Symbol	Meaning	Symbol	Meaning
	Visual inspections		Systematic replacement Operation requiring HAULOTTE Services® authorisation
	Check-Test See user manual or machine maintenance book		Visual inspection with dismantling and exchange or replacement if necessary Operation requiring HAULOTTE Services® authorisation Increase in periodical inspections
	Check level		Tightening (bolt, etc.)
	Lubrication-Lubrication		Tolerance (clearance lubrication)
	Oil change		Static and dynamic tests For countries where machines are not subject to controlled periodic maintenance

1 - Increase in periodical inspections

2 - For countries where machines are not subject to controlled periodic maintenance

H - Lubrication and maintenance



Increase in periodical inspections : Depending on the condition of certain critical components after 5000 hours, the maintenance staff may have to reduce the interval between periodical inspections and maintenance. If the decision is made not to replace a part, the part concerned must be recorded in the inspection schedule.

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. Inspect the following items :

- State of the structure's parts : Chassis, Boom, jib, platform.
 - Absence of cracks, broken parts, 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.
- Cylinders :
 - No leaks : Refer to the Maintenance book.
 - No rust and abrasions on the cylinder rod.
 - Absence of foreign objects on all surfaces.
- Steering system : Wheels, Axles, Brake and Tyres :
 - No cracks, distortions, damaged paint or other faults.
 - No missing or loose bolts.
 - Condition of the tyres (cuts, excessive wear, etc.)
- 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.

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H - Lubrication and maintenance

Area	Intervals									
	Daily	Every 50 hours	Every 100 hours	Every 250 hours	Every 500 hours	Every 1000 hours	Every 1500 hours	Every 2000 hours	Every 3000 hours	Every 5000 hours
General checks										
Structure parts										
Windscreen washer fluid										
Oil, water, fuel leaks										
Appearance of the mechanical parts, hydraulic hoses and wiring										
Attachment device : nuts and bolts and hydraulic fitting										
Operation of the work lighting controls, the light indicators, display load moment indicator										
Diesel engine operation										
State of anti-slip parts										
State of tires and inflation pressure										
Wheel nut torque										
Lubrication										
Cylinder pins										
Boom bottom shaft										
Telescopic boom pads										
Suspension, driver seat rails										
Diesel circuit										
Condensation					 					
Diesel pre-filter					 (1)(2)					
Filter										
Cooling system										
Coolant								 (1)	 (2)(3)	
State of the hoses and collars										
Radiator slats										
Cleanliness of the radiator's protection grill										
Air filter (system)										
Remove the dust										
Primary air filter										
Secondary air filter										
Internal combustion engine (See manufacturer's guide)										
Oil										
Oil filter cartridge										

H - Lubrication and maintenance

Diesel particulate filter									(2)				
Engine crankcase breather								(2)					
Engine mounting													
Glow plugs													
Belt tension									(1)		(2)		(3)
Travel axles (See manufacturer's guide)													
Front axle : Reducer + differential + transfer case on front axle + pivots													
Rear axle : Reducer + differential + pivots													
Epicyclic gears													
Hydraulic circuit													
Hydraulic oil													
Attachment hydraulic oil													
Transmission hydraulic filter													
Pressures													
Battery													

(1) : For machines fitted with : Engine PERKINS 1104D44T.

(2) : For machines fitted with : Engine PERKINS 854E-34TA.

(3) : For machines fitted with : Engine KOHLER KDI 3404 TCR.



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H - Lubrication and maintenance

6 - Detailed program

The time periods below are recommended for fuel-powered machines in normal use.

Symbol	Meaning	Symbol	Meaning
	Visual inspections		Systematic replacement Operation requiring HAULOTTE Services® authorisation
	Check-Test See user manual or machine maintenance book		Visual inspection with dismantling and exchange or replacement if necessary Operation requiring HAULOTTE Services® authorisation Increase in periodical inspections
	Check level		Tightening (bolt, etc.)
	Lubrication-Lubrication		Tolerance (clearance lubrication)
	Oil change		Static and dynamic tests For countries where machines are not subject to controlled periodic maintenance

1 - Increase in periodical inspections

2 - For countries where machines are not subject to controlled periodic maintenance



During the periodic inspection of the 2000 h (visual inspection with dismantling and exchange or replacement if necessary), a record must be made of all parts that have been dismantled but not replaced

H - Lubrication and maintenance

500 h or 6 month service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	 (1)(2)
State of tires and inflation pressure		Filter	
Wheel nut torque	 	Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 1104D44T.

(2) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

1000 h or 12 month service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axes (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears		Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

H - Lubrication and maintenance

1500 h or 18 month service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine crankcase breather	 (1)	Coolant	
Travel axles (See manufacturer's guide)		Hoses and collars	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Radiator slats	
Rear axle : Reducer + differential + pivots	 	Cleanliness of the radiator's protection grill	
Epicyclic gears		Battery	
Hydraulic circuit		Level	
Hydraulic oil			
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

2000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension	 (1)  (2)	Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axles (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears	 	Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
		Pressures	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 1104D44T.
 (2) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

2500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

3000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Battery	
Windscreen washer fluid		Level	
Oil, water, fuel leaks		Lubrication	
Appearance of the mechanical parts, hydraulic hoses and wiring		Cylinder pins	
Attachment device : nuts and bolts and hydraulic fitting		Boom bottom shaft	
Operation of the work lighting controls, the light indicators, display load moment indicator		Telescopic boom pads	
Diesel engine operation		Suspension, driver seat rails	
State of anti-slip parts		Diesel circuit	
State of tires and inflation pressure		Condensation	 
Wheel nut torque		Pre-filter	
Internal combustion engine (See manufacturer's guide)		Filter	
Oil		Air filter (system)	
Oil filter cartridge		Remove the dust	
Diesel particulate filter	 (1)	Primary air filter	
Alternator belt	 (1)	Secondary air filter	
Engine crankcase breather	 (1)	Cooling system	
Belt tension	 (2)	Coolant	 (1)  (2)(3)
Engine mounting		Hoses and collars	
Glow plugs		Radiator slats	
Travel axles (See manufacturer's guide)		Cleanliness of the radiator's protection grill	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hydraulic circuit	
Rear axle : Reducer + differential + pivots	 	Hydraulic oil	
Epicyclic gears	 	Attachment hydraulic oil	
		Transmission hydraulic filter	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

(2) : For machines fitted with : Engine PERKINS 1104D44T.

(3) : For machines fitted with : Engine KOHLER KDI 3404 TCR.

H - Lubrication and maintenance

3500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

4000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension	 (1)  (2)	Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axles (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears	 	Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
		Pressures	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 1104D44T.

(2) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

4500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine crankcase breather	 (1)	Coolant	
Travel axles (See manufacturer's guide)		Hoses and collars	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Radiator slats	
Rear axle : Reducer + differential + pivots	 	Cleanliness of the radiator's protection grill	
Epicyclic gears		Battery	
Hydraulic circuit		Level	
Hydraulic oil			
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

5000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension	  (1)	Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axles (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears		Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine KOHLER KDI 3404 TCR.

H - Lubrication and maintenance

5500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

6000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Battery	
Windscreen washer fluid		Level	
Oil, water, fuel leaks		Lubrication	
Appearance of the mechanical parts, hydraulic hoses and wiring		Cylinder pins	
Attachment device : nuts and bolts and hydraulic fitting		Boom bottom shaft	
Operation of the work lighting controls, the light indicators, display load moment indicator		Telescopic boom pads	
Diesel engine operation		Suspension, driver seat rails	
State of anti-slip parts		Diesel circuit	
State of tires and inflation pressure		Condensation	 
Wheel nut torque		Pre-filter	
Internal combustion engine (See manufacturer's guide)		Filter	
Oil		Air filter (system)	
Oil filter cartridge		Remove the dust	
Diesel particulate filter	 (1)	Primary air filter	
Alternator belt	 (1)	Secondary air filter	
Engine crankcase breather	 (1)	Cooling system	
Belt tension	 (2)	Coolant	  (1) (2)(3)
Engine mounting		Hoses and collars	
Glow plugs		Radiator slats	
Travel axles (See manufacturer's guide)		Cleanliness of the radiator's protection grill	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hydraulic circuit	
Rear axle : Reducer + differential + pivots	 	Hydraulic oil	
Epicyclic gears	 	Attachment hydraulic oil	
		Transmission hydraulic filter	
		Pressures	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

(2) : For machines fitted with : Engine PERKINS 1104D44T.

(3) : For machines fitted with : Engine KOHLER KDI 3404 TCR.

H - Lubrication and maintenance

6500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

7000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axes (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears		Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

H - Lubrication and maintenance

7500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine crankcase breather	 (1)	Coolant	
Travel axles (See manufacturer's guide)		Hoses and collars	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Radiator slats	
Rear axle : Reducer + differential + pivots	 	Cleanliness of the radiator's protection grill	
Epicyclic gears		Battery	
Hydraulic circuit		Level	
Hydraulic oil			
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

8000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension	 (1)  (2)	Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axles (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears	 	Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
		Pressures	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 1104D44T.

(2) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

8500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

9000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Battery	
Windscreen washer fluid		Level	
Oil, water, fuel leaks		Lubrication	
Appearance of the mechanical parts, hydraulic hoses and wiring		Cylinder pins	
Attachment device : nuts and bolts and hydraulic fitting		Boom bottom shaft	
Operation of the work lighting controls, the light indicators, display load moment indicator		Telescopic boom pads	
Diesel engine operation		Suspension, driver seat rails	
State of anti-slip parts		Diesel circuit	
State of tires and inflation pressure		Condensation	 
Wheel nut torque		Pre-filter	
Internal combustion engine (See manufacturer's guide)		Filter	
Oil		Air filter (system)	
Oil filter cartridge		Remove the dust	
Diesel particulate filter	 (1)	Primary air filter	
Alternator belt	 (1)	Secondary air filter	
Engine crankcase breather	 (1)	Cooling system	
Belt tension	 (2)	Coolant	 (1)  (2)(3)
Engine mounting		Hoses and collars	
Glow plugs		Radiator slats	
Travel axles (See manufacturer's guide)		Cleanliness of the radiator's protection grill	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hydraulic circuit	
Rear axle : Reducer + differential + pivots	 	Hydraulic oil	
Epicyclic gears		Attachment hydraulic oil	
		Transmission hydraulic filter	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

(2) : For machines fitted with : Engine PERKINS 1104D44T.

(3) : For machines fitted with : Engine KOHLER KDI 3404 TCR.

H - Lubrication and maintenance

9500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

10000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension	  (1)(3) (2)	Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axles (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears	 	Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
		Pressures	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 1104D44T.

(2) : For machines fitted with : Engine PERKINS 854E-34TA.

(3) : For machines fitted with : Engine KOHLER KDI 3404 TCR.

H - Lubrication and maintenance

10500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine crankcase breather	 (1)	Coolant	
Travel axles (See manufacturer's guide)		Hoses and collars	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Radiator slats	
Rear axle : Reducer + differential + pivots	 	Cleanliness of the radiator's protection grill	
Epicyclic gears		Battery	
Hydraulic circuit		Level	
Hydraulic oil			
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

H - Lubrication and maintenance

11000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Engine mounting		Coolant	
Glow plugs		Hoses and collars	
Travel axes (See manufacturer's guide)		Radiator slats	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Cleanliness of the radiator's protection grill	
Rear axle : Reducer + differential + pivots	 	Hydraulic circuit	
Epicyclic gears		Hydraulic oil	
Battery		Attachment hydraulic oil	
Level		Transmission hydraulic filter	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

H - Lubrication and maintenance

11500 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Lubrication	
Windscreen washer fluid		Cylinder pins	
Oil, water, fuel leaks		Boom bottom shaft	
Appearance of the mechanical parts, hydraulic hoses and wiring		Telescopic boom pads	
Attachment device : nuts and bolts and hydraulic fitting		Suspension, driver seat rails	
Operation of the work lighting controls, the light indicators, display load moment indicator		Diesel circuit	
Diesel engine operation		Condensation	 
State of anti-slip parts		Pre-filter	
State of tires and inflation pressure		Filter	
Wheel nut torque		Air filter (system)	
Internal combustion engine (See manufacturer's guide)		Remove the dust	
Oil		Primary air filter	
Oil filter cartridge		Secondary air filter	
Belt tension		Cooling system	
Travel axles (See manufacturer's guide)		Coolant	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hoses and collars	
Rear axle : Reducer + differential + pivots	 	Radiator slats	
Epicyclic gears		Cleanliness of the radiator's protection grill	
Hydraulic circuit		Battery	
Hydraulic oil		Level	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	



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H - Lubrication and maintenance

12000 h service			
Area	Type of intervention	Area	Type of intervention
General checks		Battery	
Windscreen washer fluid		Level	
Oil, water, fuel leaks		Lubrication	
Appearance of the mechanical parts, hydraulic hoses and wiring		Cylinder pins	
Attachment device : nuts and bolts and hydraulic fitting		Boom bottom shaft	
Operation of the work lighting controls, the light indicators, display load moment indicator		Telescopic boom pads	
Diesel engine operation		Suspension, driver seat rails	
State of anti-slip parts		Diesel circuit	
State of tires and inflation pressure		Condensation	 
Wheel nut torque		Pre-filter	
Internal combustion engine (See manufacturer's guide)		Filter	
Oil		Air filter (system)	
Oil filter cartridge		Remove the dust	
Diesel particulate filter	 (1)	Primary air filter	
Alternator belt	 (1)	Secondary air filter	
Engine crankcase breather	 (1)	Cooling system	
Belt tension	 (2)	Coolant	  (1) (2)(3)
Engine mounting		Hoses and collars	
Glow plugs		Radiator slats	
Travel axles (See manufacturer's guide)		Cleanliness of the radiator's protection grill	
Front axle : Reducer + differential + transfer case on front axle + pivots	 	Hydraulic circuit	
Rear axle : Reducer + differential + pivots	 	Hydraulic oil	
Epicyclic gears	 	Attachment hydraulic oil	
		Transmission hydraulic filter	
		Pressures	
Date : Number of hours : Intervenor : HAULOTTE Services® contract number : Intervention sheet number : Signature :		Comments	

(1) : For machines fitted with : Engine PERKINS 854E-34TA.

(2) : For machines fitted with : Engine PERKINS 1104D44T.

(3) : For machines fitted with : Engine KOHLER KDI 3404 TCR.

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- Lubrication and maintenance

7 - General points

7.1 - MECHANICAL

7.1.1 - Bolts and Tightening torques

- Bolts that become damaged and need to be replaced, must be replaced with bolts of identical specification : Type, Length, Diameter, Class .
- Tighten to the torque indicated when reassembling.

7.1.2 - Pins and bearings

Except maintenance schedule, check pins and bearings in the following cases :

- Abnormal noise during the movements of the structure.
- Observance of excessive amounts of foreign material around the bearing extremities during the daily visual inspections.
- Poor or no maintenance.

Replace slew ring in the following cases :

- Deformations, fatigue failure of the bearings and/or the pins.
- Presence of excessive clearance between the pin and housing(> at 0,5 mm).
- Presence of deformations, cracks or breakage of the bearings and/or the pins.
- Presence of scoring on the surface of the bearing.
- If there is excessive friction.

When reassembling bearings and pins ensure that :

- Lightly lubricate the housing into which the bearing is to be installed.
- Insert the bearing using a bearing drift, preferably out of mild steel.
- The bearing, the bearing drift and the bearing housing must be correctly aligned during the assembly process.
- The recommended values for the bearing drift are given on the diagram below :

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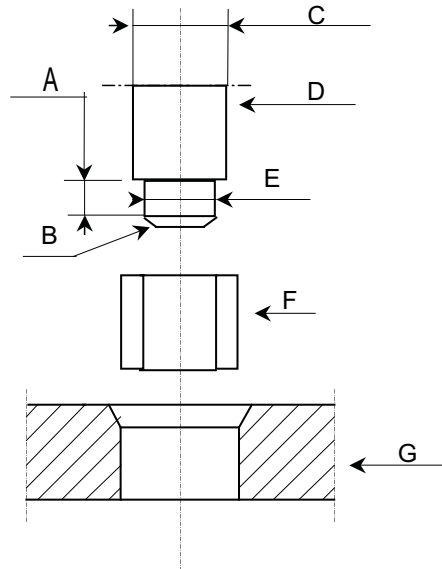
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H - Lubrication and maintenance

Recommended Values



Marking	Description
A	At least 0,5 times the nominal diameter
B	Make a chamfer
C	Nominal diameter of the bearing - 0,2 / - 0,3 mm
D	Bearing drift
E	Diameter of the bearing guide - 0,20 / - 0,25 mm
F	Bearing
G	Housing

- After inserting the bearing, lubricate and fit the pin.

7.1.3 - Bearings

Action on bearings needs to be taken outside the normal maintenance schedule if the following occurs :

- Abnormal noise during the movements of the structure.
- Machine not use for a period of 6 months or more.
- Environment of storage and specific uses(Strong moisture and salinity of the air).

Checking procedure :

- After disassembling the affected pivot, protect the bearing from external pollutants and potential damage.
- Clean the bearing with a suitable solvent.
- Replace the bearing in the following cases :
 - Presence of abrasions in the bearing housing and/or inside the bearing itself.
 - Presence of abrasion, wear, oxidation, deformations of the balls (or rollers) and the ring rollers.

H - Lubrication and maintenance

- Reassembly of the bearing/pivot :
- Clean the bearing housing or pin in order to remove all the foreign objects/abrasions.
- Lightly lubricate the bearing housing and/or pin.
- Lightly lubricate the outer ring of the bearing.
- Fit a bearing in a boring, take support on the external ring of the bearing.
- Fit a bearing on a pin, take support on the interior ring of the bearing.

7.2 - HYDRAULICS

7.2.1 - Replacing damaged of hoses

Replace hoses in the following circumstances :

- Tears in the outer casing.
- Cracks in the outer casing.
- Apparent shielding.
- Visible leak in the hose.
- Damage to the outer casing caused by chemical reaction from a foreign source.



To protect personal safety, observe the following conditions when disassembling or reassembling components :

- **Stow and park the machine on level cleared ground (The machine should not be tilted. The boom at horizontal position).**
- **Stow the machine completely.**
- **Place barriers around the perimeter of the work area (risk area = maximum height of the machine).**
- **Locate the faulty hose/s and their end connection points, to ensure proper machine operation after intervention.**
- **Identify and memorise the hose path of the hose to be replaced.**



Use an oil collection pan to avoid polluting the environment.

N.B.:- Slowly undo the hose end fitting to allow the residual hydraulic pressure to dissipate.



- **After hose removal, plug the the hose ends and components the ports from which the hose was removed, to avoid polluting the hydraulic system.**
- **Check the cleanliness of the hoses and hydraulic components (no metal cutting, rubber, plastic, ...).**
- **If necessary, drain and clean the whole system (tank included).**
- **Tighten to the torque indicated when reassembling.**

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H - Lubrication and maintenance

Tightening torque table

Description	Torque (JIC)	Torque (ORFS)
Hose 1/4" (diameter 6mm)	1,5 daN.m(11,08 lbf.ft)	2,6 daN.m(19,22 lbf.ft)
Hose 3/8" (diameter 10mm)	3,5 daN.m(25,86 lbf.ft)	4,2 daN.m(31,04 lbf.ft)
Hose 1/2" (diameter 12mm)	5 daN.m(36,95 lbf.ft)	5,7 daN.m(42,12 lbf.ft)
Hose 5/8" (diameter 16mm)	8 daN.m(59,12 lbf.ft)	8,5 daN.m(62,82 lbf.ft)
Hose 3/4" (diameter 19)	10 daN.m(73,91 lbf.ft)	12,2 daN.m(90,17 lbf.ft)



- Place the machine in its operating configuration.
- To purge the hydraulic system, operate the function/s on the machine that correspond to the hose/s that has/have been replaced, a few times.
- Check the oil level in the hydraulic oil tank.
- Check the pressure.

7.2.2 - Evaluation of leaks on hydraulic cylinders

These measures must be taken each time an anomaly has been detected in the hydraulic cylinder during daily inspection and periodic maintenance checks.

Generic Control :

- Position a load equal to the rated capacity on the cage (or platform).
- Raise the loaded attachment using the ground control box. To activate the cylinder to be tested, proceed as follows :
 - Boom lift cylinder : Raise the boom approximately half way to its maximum angle.
 - Telescoping cylinder : Lift the boom to its maximum angle and telescope approximately 50 cm.
 - Crowding/Discharging cylinder : Place a load on the forks and put them in a horizontal position. The drift of the forks must be less than 2 ° after 15 mn.
- Measure the distance between a reference point on the attachment and the ground.
- Leave the machine in this condition for 15 mn (minutes).
- Check the distance between the reference point on the accessory and the ground again.
 - If the difference between two measurements does not exceed 4 cm : the test validates correct operation.
 - If the difference between two measurements exceeds 4 cm, contact HAULOTTE Services® or carry out the additional tests described below.

H - Lubrication and maintenance

Control cylinder by cylinder :

- Position a load equal to the rated capacity on the attachment.
- Perform the movement of the concern cylinder to half of its stroke.
- Fix the cylinder with a comparator :
 - Attach the body of the comparator on the cylinder rod.
 - The needle of the comparator must be in contact with the end of the casing of the cylinder.
 - The target is to measure the creep of the cylinder rod.
- If the creep of the cylinder rod is higher than the values indicated in the table below, replace the cylinder.

Type of cylinders	Maximum drift authorised due to an internal leak of the cylinder	
	After 10 mn, creep < 0,5 mm	After 60 mn, creep < 2,5 mm
Loads levelling cylinders and axle locking cylinders		
Boom lifting cylinder, telescoping cylinder, compensation cylinder (crowding)	After 10 mn, creep < 1 mm	After 60 mn, creep < 6 mm

7.3 - ELECTRIC

7.3.1 - Replacing damaged cables

- Locate the faulty wire/s and its/their points of connection to ensure continuity of machine operation after the wire is replaced.
- Note the cable path to facilitate reassembly.
- Respect the order (configuration) of origin during the reassembly.

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- Lubrication and maintenance

8 - Every day or every 10 h of operation

8.1 - GENERAL CHECKS

- Perform a visual check for any leaks (Check the corresponding reservoir level if leak is detected).
- Check that there are no signs of scratches, tears and warping on the hoses, accessories and work tools.
- Check the attachment devices and the hydraulic connections.
- Check the appearance of the mechanical parts.
- Check the operation of the controls, control indicator lights and other system indicators.
- Check diesel engine operation : Check the colour of the exhaust fumes and locate any abnormal noises.
- Check and clean the radiator's protection grill.
- Check the state of the anti-slip parts (cab access steps) and replace them if necessary.
- Check that the tires are not damaged after the first 10 hours and then after every 100 h of operation.



Check the tire inflation pressure : 4,5 bar(65,2 psi) minimum (For HAULOTTE® tyres, code : 2326014870 or 232601508).



During a pressure check or an inflation operation, always face the end of the tyre; never face the side of the tyre.

- Check the wheel lug nut torque (300Nm) after the first 10 hours and then after every 100 of operation.



Do not allow contact with abrasive materials.

H - Lubrication and maintenance

8.2 - LOAD MOMENT INDICATOR

8.2.1 - Test procedure

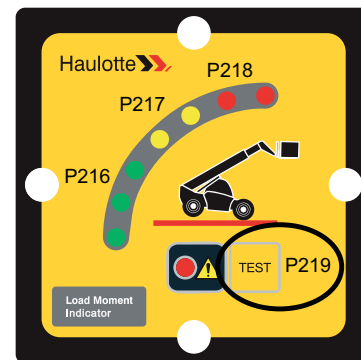
The load moment indicator's function is to constantly monitoring the stability of the front of the machine. To check that it is functioning correctly, proceed as follows :

- Without any payload on the machine, retract the boom fully and level it.



Do not raise the boom during this test.

- Level the chassis.
- Press the TEST button on the anti-tipping system display (P219) for 1 s ( Section C 3.5.10 - Load moment indicator).



- All of the LEDs should flash and a warning signal should sound. This indicates that the system is working properly.

8.2.2 - Checking procedure



Perform this operation on flat ground, with the chassis level, the wheels aligned and the stabilisers lifted.

- Lift a known load with the accessory.
- Telescope until load cut-off.
- Check that the results are constant: check that the alphabetical reference (A, B, C, D, E, F) for the boom extension and the area corresponding to the reference on the load capacity table match.



If the test gives another result, the system will not operate correctly. Reset the anti-tipping system.

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- Lubrication and maintenance

8.2.3 - Resetting procedure



To perform this operation :

- Raise the stabilisers.
- Place the machine on flat ground.
- Level the machine.
- Align the wheels.
- Retract the telescope section fully.
- Lift the boom to the maximum height.
- Check the temperature of the axle: the temperature of the axle must be between -20 °C(-4 °F) and 60 °C(140 °F) .



The procedure must be carried out without any accessories or load.



If these conditions are not satisfied, the resetting procedure may be distorted and cause the weighing system to be offset.

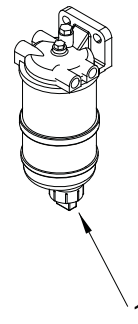
- Press on the TEST (P219) button for 6 s until you hear the beep to start the resetting procedure.
- The procedure is executed.



If a malfunction occurs, contact HAULOTTE Services®.

8.3 - DIESEL CIRCUIT

- To prevent condensation from forming, fill the reservoir every day after work (Capacity : 120 l(31,6 gal US)).
- Drain any condensate and clean the diesel pre-filter.
- To access the diesel pre-filter, open the engine cover. The pre-filter is located under the diesel filter
- Drain the water and dirt by removing the screw situated under the pre-filter (For machines fitted with engine PERKINS 854E-34TA or PERKINS 1104D44T only).
- Refit and tighten the purge screw.



H - Lubrication and maintenance

8.4 - COOLING SYSTEM

- Check the coolant level :
- When the engine is cool, the liquid level must be situated between the min. and max. marks on the expansion bottle.
- Open the radiator and top up with fluid as necessary.
- Only refill with SHELL ANTIFREEZE -38 °C (-36,4 °F) coolant.



Do not remove the filling cap when the engine is hot. DANGER OF BURNS! Loosen the plug to the first notch and let it depressurize, then unscrew the cap completely.

- Check the state of the hoses and that the collars are taut.

8.5 - AIR FILTER (SYSTEM)



Never run the engine without an air cleaner element installed or with a damaged air cleaner element.



Do not use air cleaner elements with damaged pleats, gaskets or seals.

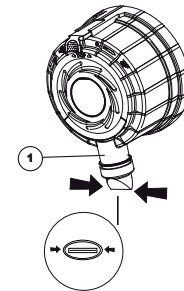


Dirt entering the engine causes premature wear and damage to engine components. Air cleaner elements help to prevent airborne debris from entering the air inlet.



Never service the air cleaner element with the engine running since this will allow dirt to enter the engine.

- Empty the dust filter :
- Empty the dust evacuation valve (1) by pressing on the evacuation slot in the direction of the arrow.
- Clean the evacuation slot.
- Clean away any remaining dust by pressing the upper part of the valve.



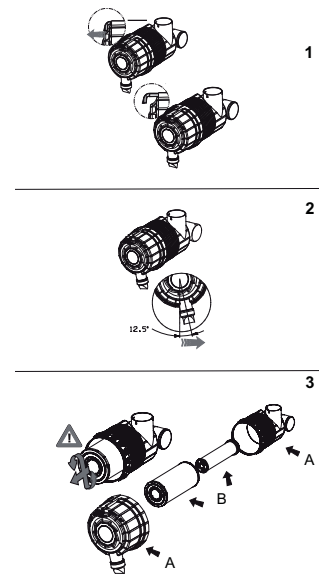
N.B.:- If the air cleaner element becomes plugged, the air can split the material of the air cleaner element. Unfiltered air will drastically accelerate internal engine wear.

N.B.:- Filter clogging check : Clogging is constantly being monitored via a sensor situated on the filter body. Visually inspect the state of the sensor. If red marking is visible : Clean or replace the filter element even if the cleaning frequency indicated above has not been reached. Clean the inside of the box.

H

- Lubrication and maintenance

- Clean the primary air filter's filter cartridge :
- Remove the cover :
- Pull the trigger situated on the cover (1).
- Locate the angular position of the cover which should be identical upon reassembly.
- Turn the cover to the right (2).
- Pull the cover to remove it.
- Turn and pull the outer cartridge.
- Clean the filter cartridge (replace it, at the latest, after every 1000 h of operation or once a year).
- Blow with dry compressed air (with a maximum pressure of 5 bar(72,5 psi)) from the inside of the filter, outwards or
- Unclog by tapping (Only in the event of an emergency). In this case, do not damage the cartridge, or
- Wash it in accordance with the manufacturer's guidelines.
- Check that neither the cartridge filter paper (translucent paper) nor the seal are damaged. Replace it/them if necessary.
- Replace the filter cartridge.
- Refit the cover, checking that the dust evacuation valve is directed downwards.



Check the state of the sealing ring before reassembling the cartridges. Check the state of the filter element with a light source placed inside the cartridge. Change the cartridge if a hole is detected (by a light ray).



Never clean the cartridge by hitting it against a hard surface or by using hot flammable liquid.

H - Lubrication and maintenance

8.6 - INTERNAL COMBUSTION ENGINE

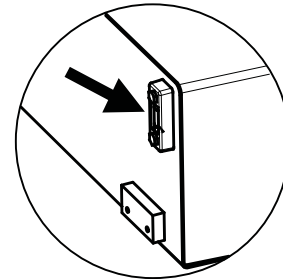


For the following operations, park the machine onto a horizontal surface and turn off the engine.

- Check the oil level :
- Open the motor canopy, remove the oil dip stick; the level must be situated between the two min. and max. marks.
- Top up as necessary via the filler.
- Check the belt tension :
- Correct belt tension is essential to ensure that the alternator, the diesel pump and the water pump work properly and for the service life of the belts themselves.
- A belt in poor condition must be replaced immediately.

8.7 - HYDRAULIC CIRCUIT

- Check the oil level :
- Park the machine on a horizontal surface.
- Stow the machine : With the stabilisers raised as far as possible, the fork carriage lowered as far as possible, the boom retracted, the cylinders retracted.
- The level must be situated between the two marks, as indicated in the photo/picture opposite. Top up as necessary via the filler.



8.8 - AIR-CONDITIONING (OPTION)

Cold weather use :

In order to guarantee the correct operation and for operational efficiency of the air conditioning system it is advisable to turn the compressor on once a week, even for a short period of time, so as to ensure that internal moving parts are lubricated.

Warm up the engine before you turn on the compressor, this the heat produced by the engine to turn the liquid coolant accumulated in the lower part of the compressor circuit to turn into gas. Liquid coolant could damage the compressor.

9 - Every 50 h hours of operation

- Lubricate the cylinder pins equipped with grease points.
- Lubricate the boom bottom shaft.
- Lubricate the sliding area friction pads.
- Check the telescope synchronisation: fully retract the boom and fully extend it. The various elements must come out simultaneously.



Section H 18.2 - For lubrication operations, refer to the Lubricants and equivalents table for the type of grease to be used.

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- Lubrication and maintenance

10 - Every 100 h hours of operation

10.1 - TYRES

Criteria of replacement

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

- Presence of cracks, damage, deformations or other faults on the hub.
- Damage on the tire :
- Cut or hole >at 3 cm (2 in) in the rubber side wall on the whole tire thickness.
- Blister or pronounce lump on the external and lateral membrane.
- Damaged wheel stud.
- Damage or wear on the side wall to the extent that the reinforcing wire become visible.



For safety reasons, always use original HAULOTTE® spare parts that are specific to this machine. Refer to the spare parts catalogue.

- Check that the tires are not damaged.
- Remove the valve rod cap.



Check the tire inflation pressure : 4,5 bar(65 psi) minimum (For HAULOTTE® tyres, code : 2326014870 or 232601508).



During a pressure check or an inflation operation, always face the end of the tyre; never face the side of the tyre

- Add air if required.
- Replace the valve cap.
- Check the wheel lug nut torque (300 Nm).

N.B.-:Perform the first torque check after the first 10 h of operation.

10.2 - DIESEL CIRCUIT

Perform the first diesel pre-filter change after the first 500 hours of operation and then after 'every 500 h or once a year ( Section H 12.3 - Diesel circuit) (For machines fitted with engine PERKINS 854E-34TA or PERKINS 1104D44T only).

10.3 - INTERNAL COMBUSTION ENGINE

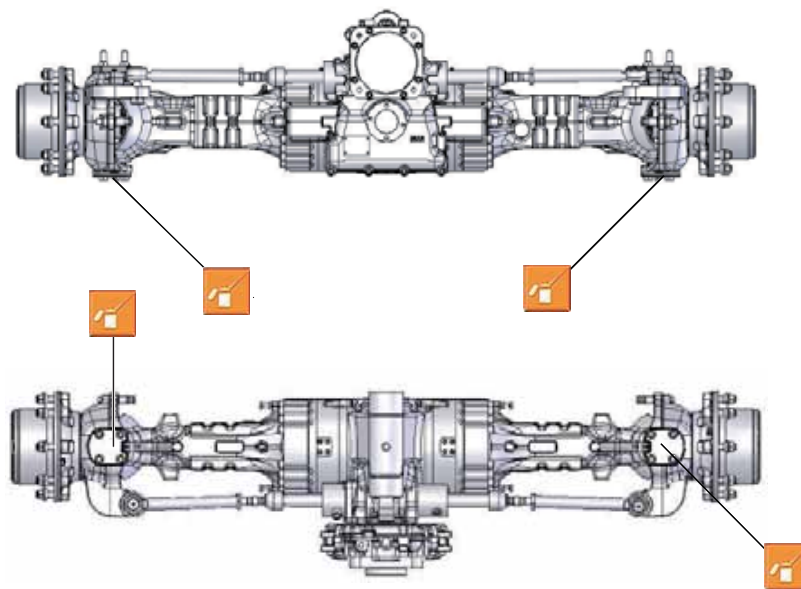
Perform the first engine oil drainage and change the filter cartridge after the first 500 hours of operation and then every 500 h ( Section H 12.4 - Internal combustion engine).

H

- Lubrication and maintenance

10.4 - LUBRICATING THE FRONT AXLE

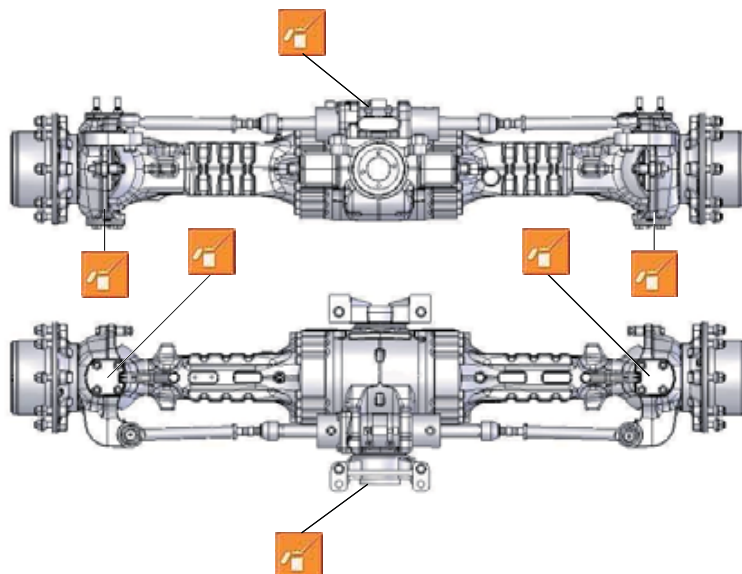
- Remove the 4 protective caps from each grease point.
- Connect the grease gun.



Remove the *1 protective caps from each grease point.

10.5 - LUBRICATING THE REAR AXLES

- Remove the 6 protective caps from each grease point.
- Connect the grease gun.



Replace the protective caps once you have lubricated the rear axle.

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H - Lubrication and maintenance

10.6 - HYDRAULIC CIRCUIT

Perform the first filter cartridge change after the first 500 hours of operation and then after every 1000 h or once a year ( Section H 13.4 - Hydraulic circuit).

10.7 - AIR-CONDITIONING (OPTION)

- Check cleanliness of the condenser. Clean where applicable.

N.B.-:Disassemble the protective covers in order to gain access to clean the condenser unit.

- Check the cleanliness of the cab air filter. Clean where applicable.



The system becomes less efficient when the circuit is being discharged. If the air conditioning unit does not work properly, have a qualified and properly equipped person examine it.



All repairs must be carried out by a qualified and authorised person.

H - Lubrication and maintenance

11 - Every 250 h hours of operation

11.1 - COOLING SYSTEM

- Clean the radiator slats.



Do not remove the filling cap when the engine is hot. DANGER OF BURNS! Loosen the plug to the first notch and let it depressurize, then unscrew the cap completely.

- Clean with a pressurized jet of water or air.



Only clean with water when the engine has cooled down.

11.2 - TRAVEL AXLES

Perform the first drainage operation on the front and rear axles and the epicycloidal reducers after the first 250 hours of operation and then every 1500 h ( Section H 14.1 - Travel axles).

N.B.:-Level check every 500 h ( Section H 12.6 - Travel axles).

11.3 - BATTERY

Battery check :

- Perform the machine shut-down procedure.
- Open the engine cover.
- Wear safety goggles and visually inspect the battery. Check that the terminals are not corroded. Replace the battery if its case is cracked, distorted or damaged.
- Close and secure the battery access cover (under the cab).

11.4 - AIR-CONDITIONING (OPTION)

- Check the tension of the compressor driving belt : driving belt tension 50 kg(110,23 lb).
- Replace the internal and external air filters as necessary.



The system becomes less efficient when the circuit is being discharged. If the air conditioning unit does not work properly, have a qualified and properly equipped person examine it.



All repairs must be carried out by a qualified and authorised person.

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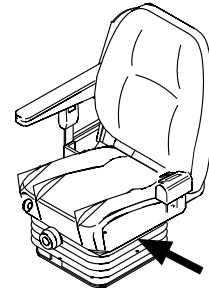
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- Lubrication and maintenance

12 - Every 500 h hours of operation

12.1 - LUBRICATING THE SUSPENSION AND THE DRIVER SEAT RAILS

For lubrication operations, refer to the Lubricants and equivalents table for the type of grease to be used.



Dirt may affect correct seat operation. The seat must always be clean.

12.2 - AIR FILTER (SYSTEM) (FOR MACHINES FITTED WITH ENGINE PERKINS 854E-34TA OR KOHLER KDI 3404 TCR ONLY)



Perform a cleaning of the primary air cleaner elements by pressurized air or vacuum cleaning.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.

N.B.-:Operating in dirty conditions may require more frequent service of the air cleaner element.

12.3 - DIESEL CIRCUIT (FOR MACHINES FITTED WITH ENGINE PERKINS 854E-34TA OR PERKINS 1104D44T ONLY)

12.3.1 - Changing the diesel filter

- Open the engine canopy to access the diesel filter.
- Loosen the filter cartridge.
- Replace the used cartridge with a new one.
- Close the engine canopy again.

12.3.2 - Changing the diesel pre-filter

To access the diesel pre-filter, open the engine cover.

- Loosen the transparent lower cover.
- Replace the filter.
- Carefully clean the cover.
- Retighten it manually (1/4 turn after contact with the seal).
- Refit the cover.

N.B.-:Perform the first pre-filter change after the first 500 h of operation.

H - Lubrication and maintenance

12.4 - INTERNAL COMBUSTION ENGINE



For the following operations, park the machine onto a horizontal surface and turn off the engine.



Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

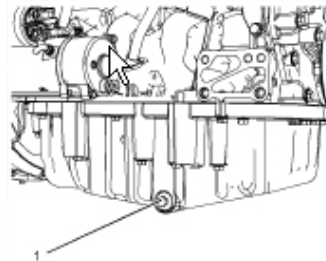
- Drain the motor oil :

Capacity :

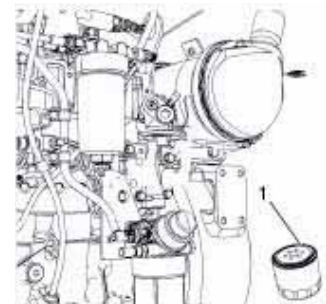
Engine PERKINS 1104D44T : 8,4 l(2,2 gal US) with filters.

Engine PERKINS 854E-34TA : 9,5 l(2,5 gal US) with filters.

- Drainage is performed when hot.
- Loosen the drainage plug and let the oil flow completely (1).
Remove the oil filling cap.



- Change the oil filter cartridge :
- Loosen and remove the filter cartridge.
- Oil the seal on the new cartridge, insert it into place on the engine carrier. Screw the cartridge manually until the seal is in place.
- Tighten the cartridge by screwing it by an additional half-turn.



- Clean the drainage plug and replace it, taking care to change the seal.
- Fill until the oil reaches the MAXI gauge mark.
- Replace the filling cap and let the engine run at idling speed for a few minutes.
- Check the seal on the oil filter cartridge.
- Stop the engine and check the oil level. Top up the oil if necessary.

N.B.:- Perform the first drainage and the first oil filter cartridge change after the first 500 hours of operation.

H

- Lubrication and maintenance

12.5 - ENGINE OIL SERVICE RESET



After changing the engine oil and the filter, a reset must be performed to avoid engine derating.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.



All repairs must be carried out by a qualified and authorised person.

12.6 - TRAVEL AXLES

N.B.:- The level check operations must be performed periodically, respecting the maintenance schedule provided. It is recommended that you intervene immediately in the event of leaks or other faults may result in a drop in oil levels to avoid any possible damage to the mechanical components. Once you have removed the filling and drainage plugs, they should be refitted again and tightened using a torque value recommended by the manufacturer.

12.6.1 - Checking the level of the front axle

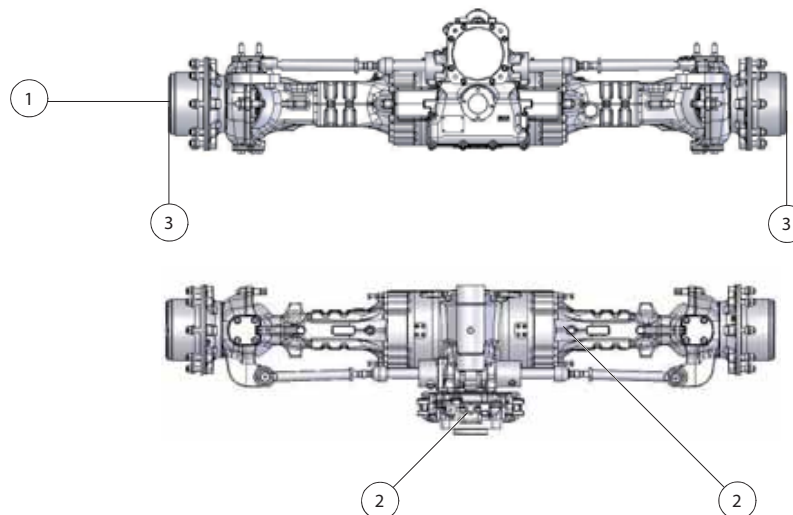
Capacity :

- Transfer case : 1,25 l(0,33 gal US).
- Front axle : 8 l(2,11 gal US).
- Before performing the oil replacement operations, firstly remove the drain plugs (2) to eliminate any pressure from inside the housing.
- Loosen the control plug (1).
- The lubricant level in the axle must be at the level of the control plug (1), otherwise top up to the correct level via the same hole.
- Refit the control plugs (1) and the drain plugs (2).



Section H 18.2 - Refer to the Lubricants and equivalents table for the type of oil used.

- Take advantage of this operation to clean the drain plugs (2).

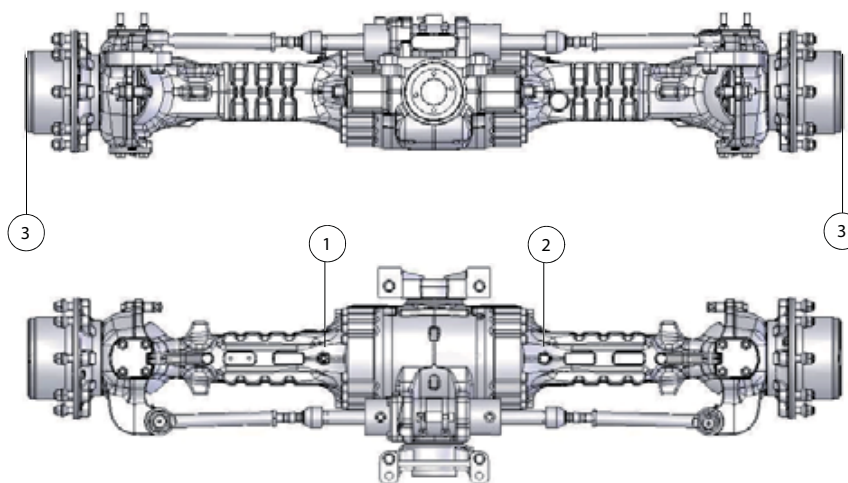


H - Lubrication and maintenance

12.6.2 - Checking the level of the rear axle

Capacity :

- Rear axle : 8,5 l(2,24 gal US).
 - Before performing the oil replacement operations, firstly remove the drain plugs (2) to eliminate any pressure from inside the housing.
 - Loosen the control plug (1).
 - The lubricant level in the axle must be at the level of the control plug (1), otherwise top up to the correct level via the same hole.
 - Refit the control plugs (1) and the drain plugs (2).
-  Section H 18.2 - Refer to the Lubricants and equivalents table for the type of oil used.
- Take advantage of this operation to clean the control plugs (1) and the drain plugs (2).



12.6.3 - Checking the level of the epicycloidal reducers

N.B.:- To check the reducer oil level, you must move the machine to position the closure plug in the required positions. Due to the presence of the differential on each of the axles, you will have to repeat this operation individually for each of the machine wheels.

Capacity : 4 x 1,3 l(4 x 0,34 gal US)

- When it is in the high position, loosen the plug (3) by a few turns, to release any internal pressure from the housing and then close it again.
- Drive the machine slowly to bring the plug to horizontal position.
- Loosen the plug completely : the oil level must arrive at the plug, otherwise top up to the correct level via the same hole.
- Refit the plug (3).

 Section H 18.2 - Refer to the Lubricants and equivalents table for the type of oil used.

H

- Lubrication and maintenance

13 - Every 1000 h hours of operation (or once a year)

13.1 - CHAIN WEAR

Have the chain wear checked by a HAULOTTE Services® technician.

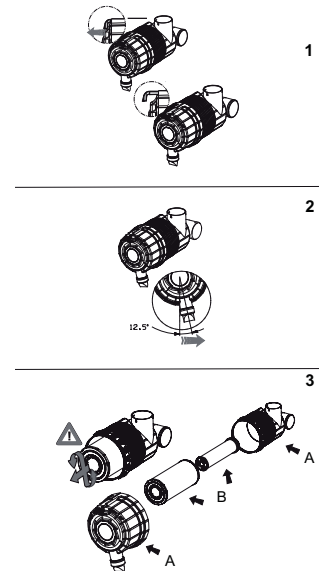
13.2 - PRIMARY AIR FILTER



Never clean the cartridge by hitting it against a hard surface or by using hot flammable liquid.

Change the filter cartridge :

- Remove the cover :
- Pull the trigger situated on the cover (1).
- Locate the angular position of the cover which should be identical upon reassembly.
- Turn the cover to the right (2).
- Pull the cover to remove it.
- Turn and pull the outer cartridge.



- Change the outer filter cartridge.
- Refit the cover, checking that the dust evacuation valve is directed downwards.

13.3 - INTERNAL COMBUSTION ENGINE



For the following operations, park the machine onto a horizontal surface and turn off the engine.

- Check that the engine supports and the vibratory mount supports are in good condition.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.

H - Lubrication and maintenance

13.4 - HYDRAULIC CIRCUIT

13.4.1 - Equipment hydraulic circuit

- Change the hydraulic filter cartridge :
- Place the machine in the working position and stop the engine.
- Open the engine compartment by removing the lower protective covers.
- Loosen the casing from the transmission hydraulic filter.
- Change the filter cartridge.
- Start the engine.
- Perform driving movements.
- Check the oil level and top up if necessary.
- Close the casing again.

N.B.:- Perform the first filter change after the first 500 hours of operation.

13.4.2 - Transmission hydraulic circuit

- Change the hydraulic filter cartridge :
- Place the machine in the working position and stop the engine.
- Open the engine compartment by removing the lower protective covers.
- Loosen the casing from the transmission hydraulic filter.
- Change the filter cartridge.
- Switch on the engine and perform travel movements.
- Check the oil level and top up if necessary.
- Close the casing again.

N.B.:- Perform the first filter change after the first 500 hours of operation.

13.5 - ACCUMULATORS

You are advised to check the pre-charge pressure regularly via the M28x1,5 orifice used for adding gas.

- Accumulator 1 l(0,26 gal US) : Pre-charge pressure : 13 bar(188 psi) (Parking brake circuit).
- Accumulator 0,75 l(0,20 gal US) : Pre-charge pressure : 30 bar(435 psi) (Service brake circuit).



This operation requires specific tools (Consult HAULOTTE Services®) and a bottle of nitrogen to recharge the accumulator (if the pre-charge pressure drops).



The accumulators must be emptied before any maintenance operation :  **Section H 18.1 - Replacement of the brake circuit accumulators.**

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H - Lubrication and maintenance

14 - Every 1500 h hours of operation

14.1 - TRAVEL AXLES

The oil replacement operations must be performed periodically, respecting the maintenance schedule provided.

It is recommended that you intervene immediately in the event of leaks or other faults may result in a drop in oil levels to avoid any possible damage to the mechanical components.

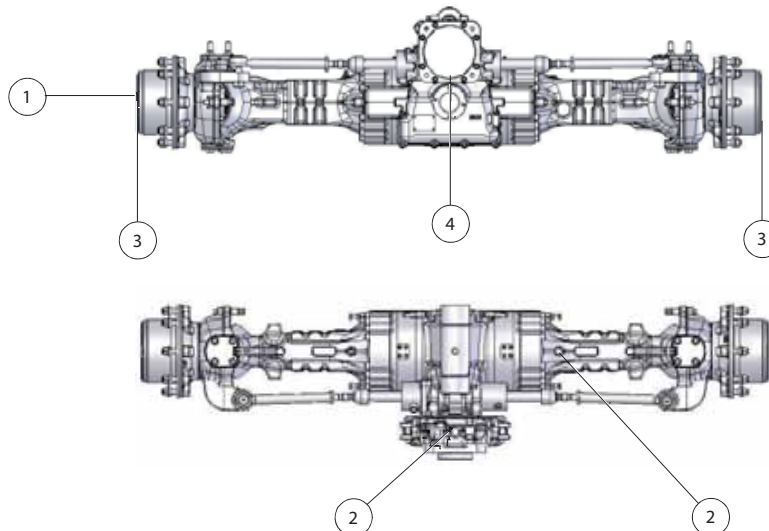
Once you have removed the filling and drainage plugs, they should be refitted again and tightened using a torque value recommended by the manufacturer.

Perform the first drainage after the first 250 hours of operation.

14.1.1 - Draining the front axle

Capacity :

- Transfer case : 1,25 l(0,33 gal US).
- Front axle : 8 l(2,11 gal US).
- Before performing the oil replacement operations, firstly remove the drain plugs (2) to eliminate any pressure from inside the housing.
- Loosen the drainage plug (4) and let the oil drain out.
- Refit and tighten the drain out (4).
- Loosen the control plug (1).
- Fill the axle, the lubricant level in the axle must be level with the control plug (1).
- Refit the control plugs (1) and the drain plugs (2).
-  Section H 18.2 - Refer to the Lubricants and equivalents table for the type of oil used.
- Take advantage of this operation to clean the drain plugs (2).



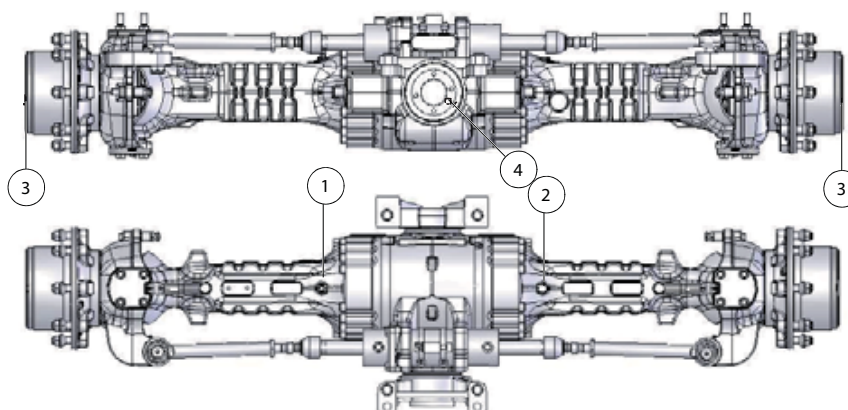
H - Lubrication and maintenance

14.1.2 - Draining the rear axle

Capacity :

- Rear axle : 8,5 l(2,24 gal US).
- Before performing the oil replacement operations, firstly remove the drain plugs (2) to eliminate any pressure from inside the housing.
- Loosen the drainage plug (4) and let the oil drain out.
- Refit and tighten the drain out (4).
- Loosen the control plug (1).
- Fill the axle, the lubricant level in the axle must be level with the control plug (1).
- Refit the control plugs (1) and the drain plugs (2).

 Section H 18.2 - Refer to the Lubricants and equivalents table for the type of oil used.



14.1.3 - Draining the epicycloidal reducers

N.B.:- To replace the reducer oil, you must move the machine to position the closure plug in the required positions. Due to the presence of the differential on each of the axles, you will have to repeat this operation individually for each of the machine wheels.

Capacity : 4 x 1,3 l(4 x 0,34 gal US).

- When it is in the high position, loosen the plug (3) by a few turns, to release any internal pressure from the housing and then close it again.
- Drive the machine slowly to bring the plug to its low position.
- Loosen the plug completely and let the oil drain out.
- Drive the machine slowly to bring the plug to horizontal position.
- Fill the reducer; the oil level must be level with the plug.
- Refit the plug (3).

 Section H 18.2 - Refer to the Lubricants and equivalents table for the type of oil used.

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H - Lubrication and maintenance

14.1.4 - Engine crankcase breather (Engine PERKINS 854E-34TA)



Before performing any interventions, let the engine cool down.



DANGER OF BURNS! Hot oil and hot components can cause personal injury. Avoid any contact with the skin.

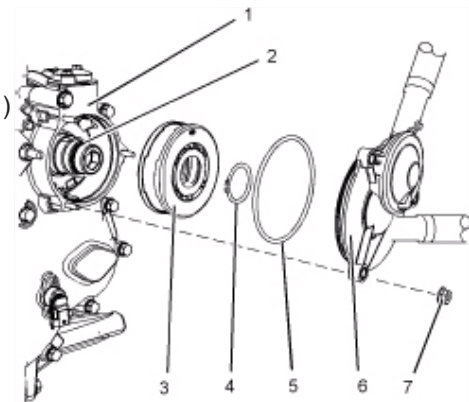
The crankcase breather is a very important component in order to keep your engine emissions compliant.

- The filter element of the housing breather must be serviced according to the stated frequencies( Section H 6 -Detailed program).
- The correct filter element must be installed before the engine is operated.
- The installation of the filter element is very important.
- The quality of the filter element that is installed is very important.
- The filter element protects the engine from excessive quantities of oil from entering the induction system. The filter element also protects the engine aftertreatment system.

N.B.:-Excessive quantities of oil that enter the induction system of the engine can rapidly increase the engine speed without control.

14.1.4.1 - Remove the breather element

- Remove the guard that covers the engine breather.
- If necessary, remove breather pipes on cover (6).
- Remove circlip (4) and remove the breather element (3) and discard.
- Remove the O ring seal (5) from the cover.



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14.1.4.2 - Install the breather element

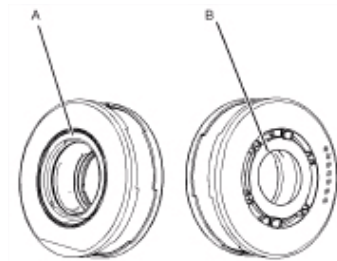


Ensure that all the components are clean and free from damage.

- Install a new O ring seal (5) onto the cover (6).

N.B.:- The breather element must have the correct orientation before installation. Diameter (A) is visibly larger than diameter (B).

- Install diameter (A) of the breather element (3) onto the shaft (2). When correctly installed the part number of the breather element will be visible.
- Install circlip (4) and cover (6). Install nuts (7) and tighten to 25 Nm (18 lb ft). If necessary, install breather pipes to cover.
- Install the guard that covers the engine breather.



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- Lubrication and maintenance

15 - Every 2000 h hours of operation (or every 2 years)

15.1 - COOLING SYSTEM (ENGINE PERKINS 1104D44T)



Before performing any interventions, let the engine cool down.

- Change the coolant :

Capacity : approx. 18 l(4,75 gal US).

N.B.-Open the heating valve situated in the cab when draining the cooling system.

- Remove the filter cap from the expansion bottle filter cap.
- Loosen the drainage plug and let the coolant drain out.
- Empty the expansion bottle.
- Clean the system thoroughly with water (or, if necessary, with a cleaning product). In this case, retighten the plug and let the engine run at mid throttle for 10 mn, stop the engine and drain the system again.
- Refit the drainage plug.
- Filling the cooling system :
 - Remove the filter cap from the expansion bottle filter cap.
 - Fill the radiator GRADUALLY until the coolant has reached the correct level.
 - Close the expansion bottle cap again.
 - Switch the acceleration control lever to IDLING.
 - Start the engine.
 - Let the engine run AT IDLING SPEED for approx. 2 mn.
 - Stop the engine.
 - Open the expansion bottle and top up if necessary.

H - Lubrication and maintenance

15.2 - AIR FILTER (SYSTEM)



Never clean the cartridge by hitting it against a hard surface or by using hot flammable liquid.

Change the filter cartridge :

- Remove the cover :
- Pull the trigger situated on the cover ( Section H 8.5 Marking1).
- Locate the angular position of the cover which should be identical upon reassembly.
- Turn the cover to the right ( Section H 8.5 Marking2).
- Pull the cover to remove it.
- Turn and pull the (primary) outer cartridge. Then pull the (secondary) inner cartridge ( Section H 8.5 Marking3).
- Insert a new secondary cartridge, by pushing it to the bottom of the socket provided in the case.
- Place the new primary cartridge above the secondary cartridge, insert it in place with a rotation movement near the stop.
- Refit the cover, checking that the dust evacuation valve is directed downwards.



Never clean the secondary filter.



Check the state of the sealing ring before reassembling the cartridges.

N.B.-:Perform the secondary cartridge change every 2 years or after every 5 maintenance operations.

15.3 - INTERNAL COMBUSTION ENGINE (ENGINE PERKINS 1104D44T)

- Change the engine belts.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.

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H - Lubrication and maintenance

15.4 - HYDRAULIC CIRCUIT

- Checking the hydraulic pressures.

This operation must be performed by a HAULOTTE Services® technician.

- Change the oil :

Tank capacity : 103 l(27 gal US)

Replace oil after each major intervention, and each time an anomaly has been detected.

- Only use oils that match the technical characteristics that correspond to HAULOTTE® recommendations.



Do not mix two oils with different characteristics : If necessary, drain and clean the whole system.

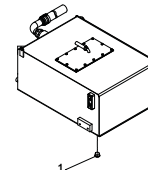
- Check the cleanliness of the oil filter cartridge (no metal shavings, rubber, plastic, ...) : If necessary, drain and clean the whole system.

When the tank is empty :



Drainage must be performed when the oil is hot.

- Place the machine in its folded position.
- Stop the engine.
- Go underneath the machine.
- Remove the filling cap (2).
- Loosen the drainage plug (1) and let the oil drain out.



- Fill the tank with the recommended oil until the gauge indicates the max. level.
- Refit the filling cap (2).
- Start the engine.
- Actuate the equipment controls in both directions for approx. five minutes (without placing the cylinders at the stops 2).
- Place the machine in road position.
- The level must be as indicated in the photo/picture opposite. Top up as necessary via the filler.



Refer to the Lubricants and equivalents table for the type of oil used.

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- Lubrication and maintenance

15.5 - AIR-CONDITIONING (OPTION)



Maintenance and repair work on the air conditioning must be carried out by a qualified and authorised person.

- Cleaning of condenser and evaporator coils.
- Cleaning of condenser water outlets.
- Recovery of coolant in order to replace the filter-drier.
- Top up with coolant and check of thermostatic regulation and pressure switches.



Any top up on the circuit must be carried out by a qualified and authorised person.



Never open the circuit as this would cause a loss of coolant. The cooling circuit contains a gas which, under given circumstances, may present some risks. This gas, i.e. the R-134a coolant, is colourless and odourless and heavier than air. It is a stable product at normal temperature.. The compressor is fitted with a gauge to check the oil level : Never unscrew this lid, as this would discharge the system. The oil level is only checked when the oil is changed.

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- Lubrication and maintenance

16 - Every 3000 h hours of operation (or every 3 years)

16.1 - INTERNAL COMBUSTION ENGINE (ENGINE PERKINS 854E-34TA)

- Change the engine belts.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.



All repairs must be carried out by a qualified and authorised person.

16.2 - DIESEL PARTICULATE FILTER (ENGINE PERKINS 854E-34TA)

- Have the particulate filter cleaned.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.



All repairs must be carried out by a qualified and authorised person.

H

- Lubrication and maintenance

16.3 - COOLING SYSTEM (FOR MACHINES FITTED WITH ENGINE PERKINS 854E-34TA OR KOHLER KDI 3404 TCR ONLY)



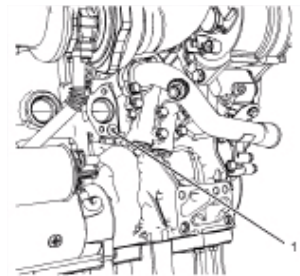
Before performing any interventions, let the engine cool down.

- Change the coolant :

Capacity : approx. 18 l(4,75 gal US).

N.B.:-Open the heating valve situated in the cab when draining the cooling system.

- Remove the filter cap from the expansion bottle filter cap.
- Loosen the drainage plug and let the coolant drain out (1).
- Empty the expansion bottle.
- Clean the system thoroughly with water (or, if necessary, with a cleaning product). In this case, retighten the plug and let the engine run at mid throttle for 10 mn, stop the engine and drain the system again.
- Refit the drainage plug.
- Filling the cooling system :
 - Remove the filter cap from the expansion bottle filter cap.
 - Fill the radiator GRADUALLY until the coolant has reached the correct level.
 - Close the expansion bottle cap again.
 - Switch the acceleration control lever to IDLING.
 - Start the engine.
 - Let the engine run AT IDLING SPEED for approx. 2 mn.
 - Stop the engine.
 - Open the expansion bottle and top up if necessary.



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H - Lubrication and maintenance

17 - Every 5000 h hours of operation (or every 5 years)

17.1 - INTERNAL COMBUSTION ENGINE (ENGINE KOHLER KDI 3404 TCR)

- Change the engine belts.



For all engine maintenance operations : Consult the guide provided by the engine manufacturer or HAULOTTE Services®.



All repairs must be carried out by a qualified and authorised person.

18 - Every 10 years

18.1 - REPLACEMENT OF THE BRAKE CIRCUIT ACCUMULATORS

Replacement involves :

- Accumulator 1 l(0,26 gal US) : Parking brake circuit.
- Accumulator 0,75 l(0,20 gal US) : Service brake circuit.



For the following operations, park the machine onto a horizontal surface and turn off the engine.



Never undertake maintenance on the accumulators with the engine running.

18.1.1 - Parking brake



Only begin working on the accumulator 24 h minimum after the previous time the engine was started. This is the time necessary for the accumulator to fully discharge to allow it to be removed and replaced safely.



Maintenance operations on accumulators are dangerous (pressurised oil) ; the procedure must be strictly adhered to and extreme caution must be exercised when removing this part.

18.1.2 - Service brake

Press the brake pedal 40 times in a row with the engine switched off in order to empty the accumulator to allow the accumulator to be changed over without danger.



Maintenance operations on accumulators are dangerous (pressurised oil) ; the procedure must be strictly adhered to and extreme caution must be exercised when removing this part.

N.B.:- Accumulator inflation pressure must be checked regularly once a year ( Section H 14.5 - Accumulator).

H - Lubrication and maintenance

18.2 - LUBRICANTS AND EQUIVALENTS

		Standard references		Manufacturer references					
Uses	Capacities	ISO	MIL API	BP	ELF	ESSO	MOBIL	AGIP	SHELL
Greases									
Pins and hinges		6743/0 catégorie X			EPEXELF 2				
Upper boom		Grade 2 ou 3			Multimove 2				
Driver seat rails						Multi- Purpose Grease (Moly)			
Oils									
Front axle and differential**	8 l(2,11 gal US)	SAE 80W90*						ROTRA MULTI THC/ C 80W90	SPIRAX LS 80W90
Rear axle and differential**	8,5 l (2,24 gal US)	SAE 80W90*						ROTRA MULTI THC/ C 80W90	SPIRAX LS 80W90
Wheel reducer**	1,3 l (0,34 gal US)	SAE 80W90*	MIL-L2105 API GL5	ENERGEA R 90 80W90	TRANSELF TYPE 80W90	ESSO GEAR GX SAE 80W90		ROTRA MULTI THC/ C 80W90	SPIRAX LS 80W90
Transfer case**	1,25 l (0,33 gal US)	SAE 80W90*	MIL-L2105 API GL5	ENERGEA R 90 80W90	TRANSELF TYPE 80W90	ESSO GEAR GX SAE 80W90		ROTRA MULTI THC/ C 80W90	SPIRAX LS 80W90
Hydraulic circuit***	175 l (46,2 gal US)	HV 46		ENERGOL SHF-HV 46	HYDRELF DS46	INVAROL EP46	DTE 15M SERIE		HYDRAULI C PW 46
Internal combustion engine (PERKINS 1104D44T)	8,4 l(2,2 gal US)	SAE 15W40	MIL-2140E	VANELLUS C5 DIESEL53 15W40	ELF PERFORM ANCE SUPER D 15W40	ESSO TUBE XT301 SAE 15W40	DELVAC M 15W40		RIMULAX 15W40
Internal combustion engine (PERKINS 854E-34TA)	9,5 l(2,5 gal US)	SAE 15W40	MIL-2140E						RIMULA R5 LE 10W-40
Internal combustion engine (KOHLER KDI 3404 TCR)	9,2 l(2 gal US) - Min. 15,6 l(4 gal US) - Maximum	SAE 10W40							RIMULA R5 LE 10W-40

* : Uses an additive for axles fitted with a limited slip differential.

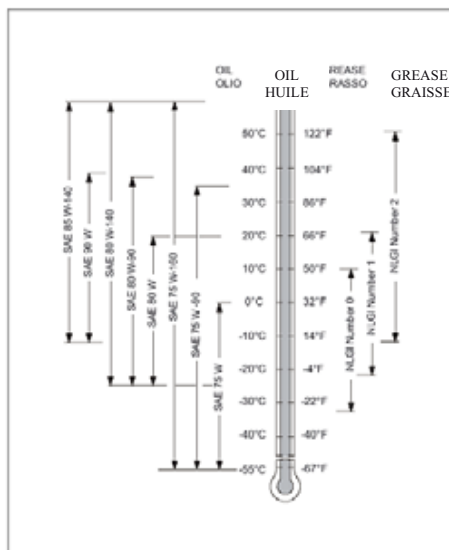
** : The axle manufacturer recommends using SHELL or AGIP products.

N.B.- The oils indicated above are valid for use at ambient temperatures of between -15 °C(5 °F) and 40 °C(104 °F) . If the equipment operates outside this temperature range, refer to the oil viscosity tables below.

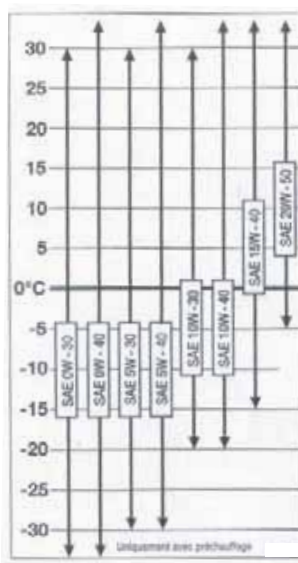
*** : Below an ambient temperature of -15 °C(5 °F) , use TELLUS ARTIC OIL 32 (SHELL). Above an ambient temperature of 45 °C(113 °F) , use TELLUS OIL T68 (SHELL). If a biodegradable oil is required, use TELLUS naturel HSE 46 (SHELL), at interval of oil change every 1000 h.

H - Lubrication and maintenance

Axle oil viscosity according to the ambient temperature



Engine oil viscosity according to the ambient temperature



H - Lubrication and maintenance

19 - Electric circuit

19.1 - WIRING DIAGRAM-MAIN COMPONENTS

N.B.:-  See end of manual.

Nomenclature

Marking	Description
FU100	General electrical equipment fuse
FU101	Fuse for warning lights
FU102	Fuse for calculator power supply
FU103	Fuse for flashing beacon-Horn
FU106	Fuse for indicator lights
FU107	Fuse for high beam headlights
FU108	Fuse for low beam headlights
FU109	Fuse for stop light
FU110	Fuse for front left hand sidelight
FU111	Fuse for front right hand sidelight
FU112	Fuse for rear side lights-Registration plate
FU113	Fuse for sensor power supply-Controls
FU114	Fuse for power supply to solenoid valves
FU117	Fuse for rear foglights
FU140	Sensor relay power supply fuse
FU161	Fuse for the engine preheat management system
FU180	Fuse for the cab heating
FU181	Air-conditioning fuse
FU182	Fuse for accessory power in the cab
FU183	Fuse for windscreen wiper-Fuse for front windscreen washer
FU184	Fuse for rear windscreen wiper
FU187	Fuse for radio control
FU189	Fuse for air conditioning fan
FU191	Fuse for work light
FU195	Fuse for 12 V socket
FU490	Weighing sensor power supply fuse
FU620	Fuse for reversing alarm
KA104	Relay for flasher indicator
KA110	Relay for sidelight validation
KA160	Relay for auxiliary starter control
KA181	Relay for air conditioning
KA187	Relay for radio control
KA189	Relay for air conditioning heat sink ventilation
KA380	Relay for floating control
KA620	Relay for reversing alert
KA680	Crab steering control relay
KA681	Synchro mode steering control relay
KM101	Power supply switch



H - Lubrication and maintenance

20 - Hydraulic circuit

20.1 - HYDRAULIC DIAGRAM-MAIN COMPONENTS

N.B.:-  See end of manual.

Nomenclature - HTL4010 - HTL3510

Marking	Description
1	Attachment hydraulic oil
2	Drive hydraulic pump
3	Dual pump
4	Charge pump
5	Steering unit
6	Hydraulic oil tank assembly
7	Main proportional directional valve
8	Valve ON/OFF (3 sections) (HTL4010)
8	Valve ON/OFF (2 sections) (HTL3510)
9	Brake unit
10	Parking brake accumulator
11	Service brake valve
12	Steering selector valve
13	Pressure switch 90 b
14	Pressure switch 5 b
15	Hydraulic drive engine
16	Hydraulic oil cooler fan motor - Hydraulic motor
17	Crowding valve
18	Telescoping valve
19	Outrigger valve (HTL4010)
20	Lifting valve
21	Boom lift cylinder
22	Boom telescopic cylinder
23	Level compensation cylinder
24	Level compensation cylinder
25	Stabiliser cylinder (HTL4010)
26	Load levelling cylinder (HTL3510)
27	Load levelling valve (HTL3510)

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Nomenclature - HTL3010

Marking	Description
1	Attachment hydraulic oil
2	Drive hydraulic pump
3	Dual pump
4	Charge pump
5	Steering unit
6	Hydraulic oil tank assembly
7	Main proportional directional valve
8	Valve ON/OFF (2 sections)
9	Brake unit
10	Parking brake accumulator
11	Service brake valve
12	Steering selector valve
13	Pressure switch 90 b
14	Pressure switch 5 b
15	Hydraulic drive engine
16	Hydraulic oil cooler fan motor - Hydraulic motor
17	Crowding valve
18	Telescoping valve
20	Lifting valve
21	Boom lift cylinder
22	Boom telescopic cylinder
23	Level compensation cylinder
24	Level compensation cylinder
26	Load levelling cylinder (HTL3010)
27	Load levelling valve

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H - Lubrication and maintenance

21 - Troubleshooting

Stop the machine and contact HAULOTTE Services® if the following LEDs flash or remain lit :

- Parking brake defect LED P182 : Not enough pressure.
- Engine oil pressure fault LED P181 : Not enough pressure.
- Service brake fault LED P190 : Not enough pressure.
- Battery LED P180 : Wiring problem.
- LED P191.

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

Default code, reported at the display tells to the user the nature of the faulty.

The machine switches to downgraded mode, depending on the type of fault : Certain movements can be limited or forbidden to preserve the operator's safety.

(A) : The fault is only indicated on the display if it is active.

(D) : The fault is indicated on the display when it is detected after starting up the machine, whether it is still active or not.

Diagnosis

Faults	Description	Solution
F02 : Contactor		
F02.02 (D)	Emergency pump fault relay (only platform mode)	Check KM120
F02.03(D)	Main contactor fault	Check KMG
F02.05(D)	Pre/post heating relay fault	Check KM160
F03 : Relay		
F03.08 (D)	Start-up relay fault	Check KA160
F03.09 (D)	Engine power supply relay fault / Ignition key	Check KA161
F03.12 (D)	PWM supply relay fault	Check KA122
F04 : Solenoid valves		
F04.02 (D)	Fork carriage compensation PWM solenoid valve fault	Check YV400 or YV420
F04.05 (D)	Boom lifting PWM solenoid valve fault	Check YV300 or YV320
F04.06 (D)	Boom telescoping PWM solenoid valve fault	Check YV340 or YV360
F04.23 (D)	Accessory control solenoid valve fault	Check YV121, YV123 and YV124
F04.24 (D)	Left-hand stabiliser solenoid valve fault	Check YV122, YV700 and YV720
F04.25 (D)	Right-hand stabiliser solenoid valve fault	Check YV122, YV701 and YV721
F04.28 (D)	Tilt correction solenoid valve fault	Check YV122, YV740 and YV760
F04.30 (D)	Floating lift TOR solenoid valve	Check YV380
F04.32 (D)	Hydraulic unlocking TOR solenoid valve fault	Check YV380
F04.33 (D)	Steering mode TOR solenoid valve fault	Check YV680 or YV681
F05 : Joystick		
F05.03 (D)	Joystick operation defect (Boom telescoping)	Check SJ120
F05.04 (D)	Joystick operation defect (Lifting)	Check SJ120
F05.07 (D)	Joystick operation defect (Equipment carriage compensation)	Check SJ120
F05.08 (D)	Joystick operation defect (Attachments)	Check SJ120

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Faults	Description	Solution
F05.09 (D)	Operating fault on the remote control joystick (Boom telescoping)	Check B402 (Radio-control)
F05.10 (D)	Operating fault on the remote control joystick (Lifting)	Check B401 (Radio-control)
F05.11 (A)	Neutral position of the cab joystick not detected since start-up	Check SJ120
F05.12 (A)	Neutral position of one of the joysticks on the remote control not detected since start-up	Check B401 or B402 (Radio-control)
F05.13 (A)	Neutral position of one of the rollers on the cab joystick not detected since start-up	Check B302 or B303
F07 : Sensors		
F07.03 (D)	Boom angle sensor incoherence	Check B403 or B404
F07.11 (D)	Telescope length incoherence	Check SQ360 or SQ340
F07.25 (D)	Inconsistency between pre-alarm and alarm LMI	Check B130 or B142
F07.26 (D) ¹	Accelerator pedal position fault	Check RP160
F07.28 (D)	Left outrigger sensor incoherence	Check SQ700 or SQ720
F07.29 (D)	Right outrigger sensor incoherence	Check SQ701 or SQ721
F07.30 (D)	Engine oil pressure sensor inconsistency	Check SP162
F07.31 (D)	Alternator D+ signal inconsistency	Check D+
F07.32 (D)	LMI fault - For LMI529 only	Check sensor LMI159
F08 : Electric circuit		
F08.04 (D)	ECU power supply fault	Check the power supply
F08.05 (D)	Voltage 5 V	Check the 5 V power supply
F09 : Engine		
F09.01 (D)	Engine overheating	
F09.02 (D)	Low engine oil pressure	
F09.03 (D)	Presence of water in diesel fuel	
F09.04 (D) ¹	Clogged air filter	
F09.07 (D) ¹	Drive motor faulty	Check Engine
F09.08 (D) ¹	Engine shutdown	Engine shutdown
F09.10 (D)	Alternator fault	Check D+
F10 : Functions		
F10.05 (A)	LMI529 calibration not performed or disabled - For LMI529 only	Check LMI529 Calibrate
F10.12 (A)	Communication problem with the display LMI	Check the display
F11 : Security devices		
F11.05 (A)	LMI alarm shunted with the key	Caution
F12 : Internal faults		
F12.01 (D)	ECU fault / CAN link	Check the connections
F12.02 (D)	ECU EEPROM fault	Change the calculator
F12.04 (D)	Machine parameter reset	Check the parameters
F13 : Switches		
F13.03 (D)	Inconsistency in the position of the compensation selector (Radio-control emitter)	Check B104 or B105
F13.04 (D)	Inconsistency in the position of the accessory control selector (Radio-control emitter)	Check B102 or B103
F13.05 (D)	Inconsistency in the position of the Platform/Fork/Winch selector (Cab)	Check SA187
F13.06 (D)	Inconsistency in the position of the Steering mode selector (Cab)	Check SA681

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Faults	Description	Solution
F13.07 (D)	Inconsistency in the position of the drive selector (Cab)	Check SA600 or SA620
F13.08 (D)	Inconsistency in the position of the Left/ Right stabiliser selector (Cab)	Check SA780 or SA781
F13.09 (D)	Inconsistency in the position of the tilt correction selector (Cab)	Check SA782
F13.10 (A)	Neutral position of one of the cab selectors not detected since start-up	Check the switches in the cab
F13.11 (A)	Neutral position of one of the remote control selectors not detected since start-up	Check the remote control switches
F13.12 (A) ¹	Problem with control FAP	Check SA161
F14 : Driving pump		
F14.01 (D)	H1 pump fault	Check the drive pump
F14.02 (D)	Fault on the H1 pump inputs	Check the drive pump
F14.03 (D)	Fault on the H1 pump outputs	Check the drive pump
F14.04 (D)	H1 pump in safety mode	Check the drive pump
F14.05 (A)	Inching pedal not calibrated or faulty	Check the inching pedal
F14.06 (D)	Engine rotation speed sensor fault	Check sensor
F14.07 (D)	Pump overheating H1	
F15 : Protocol		
F15.06 (A)	CAN J1939 message not received	Check CAN 2

¹ : For machines fitted with engine PERKINS 854E-34TA only.

21.1 - PROCEDURE

- Note the fault codes
- Note any other LED's that may be lit and the situation of the machine when the defect appears.
- Stow the Telehandler.
- Stop the Telehandler.



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

- Service the machine as set out in this manual.

I - Intervention register

1 - Intervention register

The intervention register keeps a record of maintenance and repair work carried out inside or outside the maintenance programme.

N.B.:- In the case of a HAULOTTE Services® intervention, the qualified technician must indicate the HAULOTTE Services® intervention number.

Date	Type of intervention	Number of hours	Intervenor	HAULOTTE Services® intervention number

A

B

C

D

E

F

G

H

I





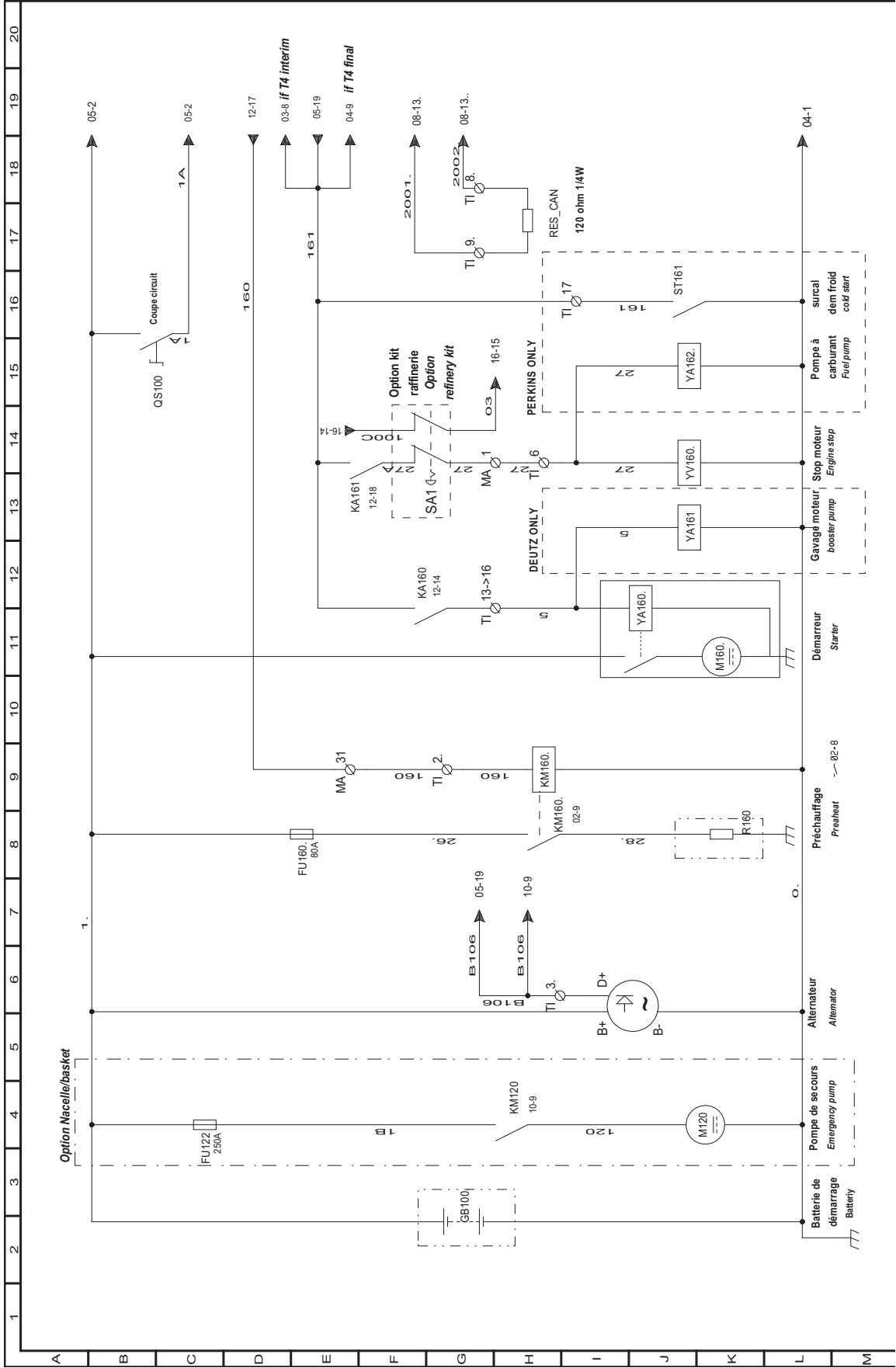
I

- Intervention register

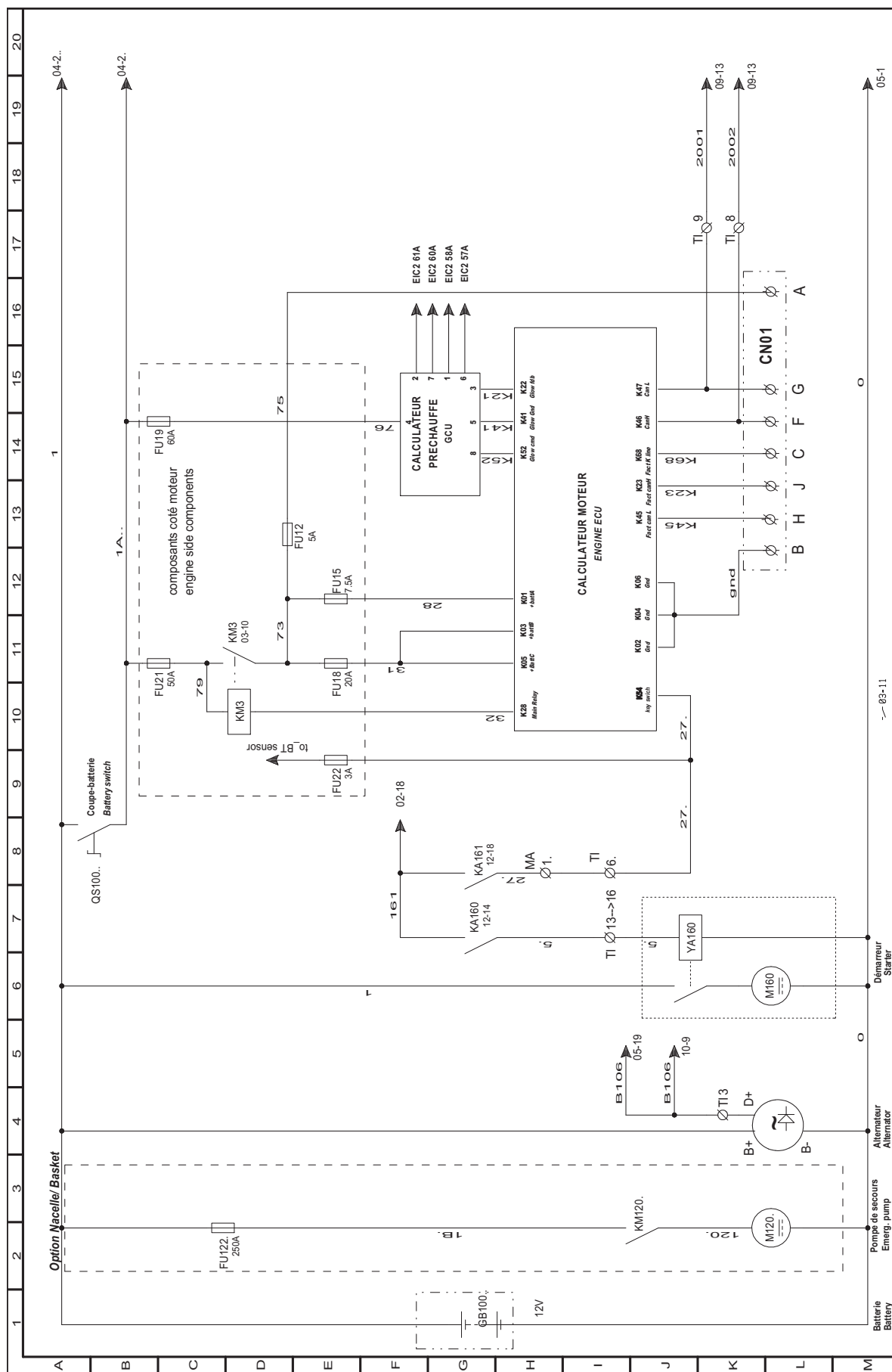
Date	Type of intervention	Number of hours	Intervenor	HAULOTTE Services® intervention number

1 - HTL 3010 - HTL 3510 - HTL 4010

1.1 - FOLIO 1/15



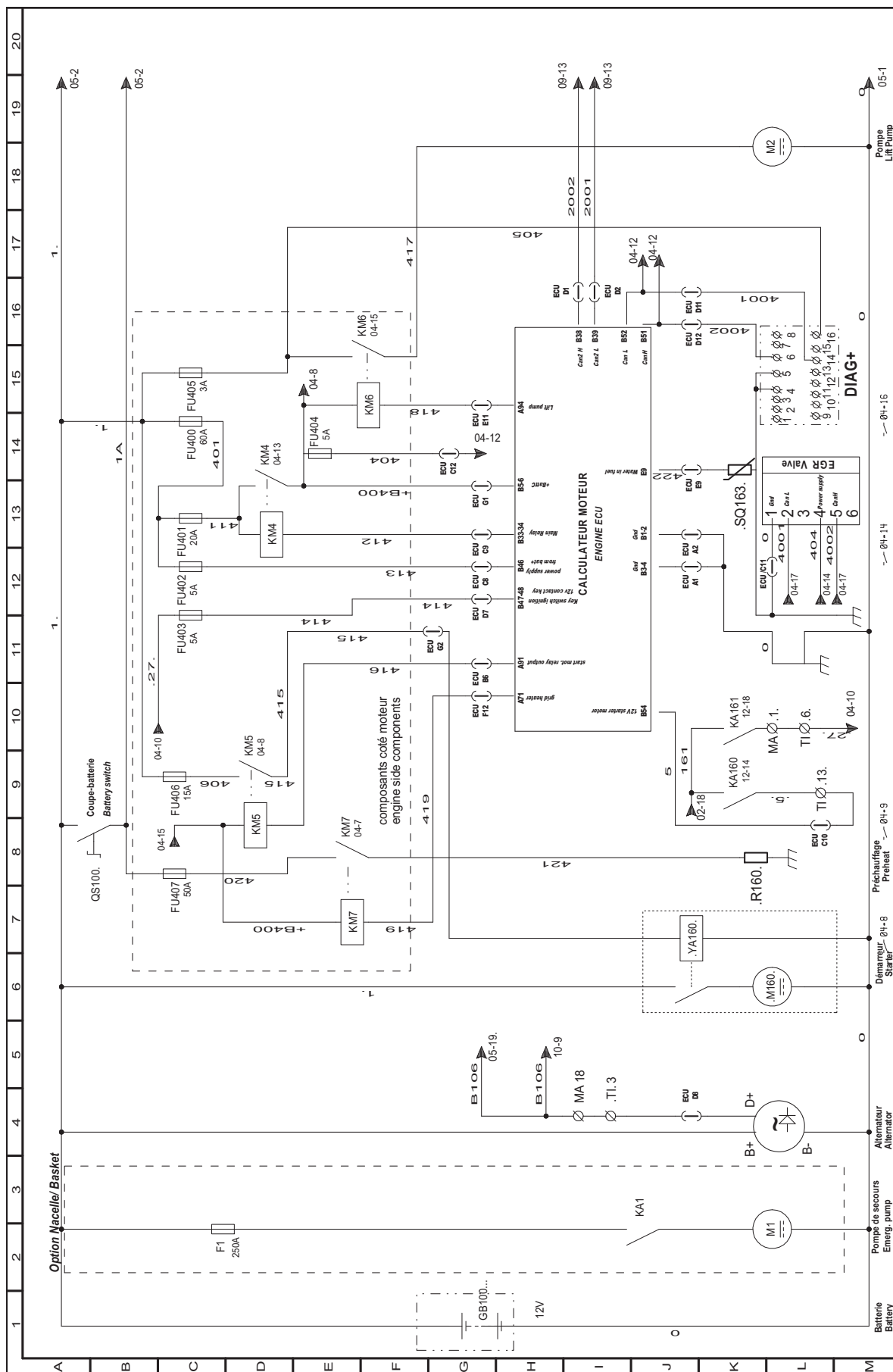
1.2 - FOLIO 2/15



Electrical Diagram

Telescopic Handlers

1.3 - FOLIO 3/15



Wiring Diagram for Renault 19 1.7i 16V

Legend:

- 0: radio
- 1: cabine cab

SWITCH RADIO:

- 0: radio
- 1: cabine cab

Key Contact:

- 0=Key off
- 1=Key on
- 2=Start

Options:

- Option Anti Demarrage
- Option Anti Startup
- (Modcod ou Modèle)

Options Radiocommande:

- Option Radiocommande
- Option Anti Startup

SHUNT 10 > 11 (connector) or SHUNT 10A > 11 if option Anti Startup

SHUNT 187 > 141

SHUNT 3 > 2 (connector) or SHUNT 3A > 2 if option Anti Startup

AVANT CONTACT

ACCESSOIRES

CLIM

FEUX

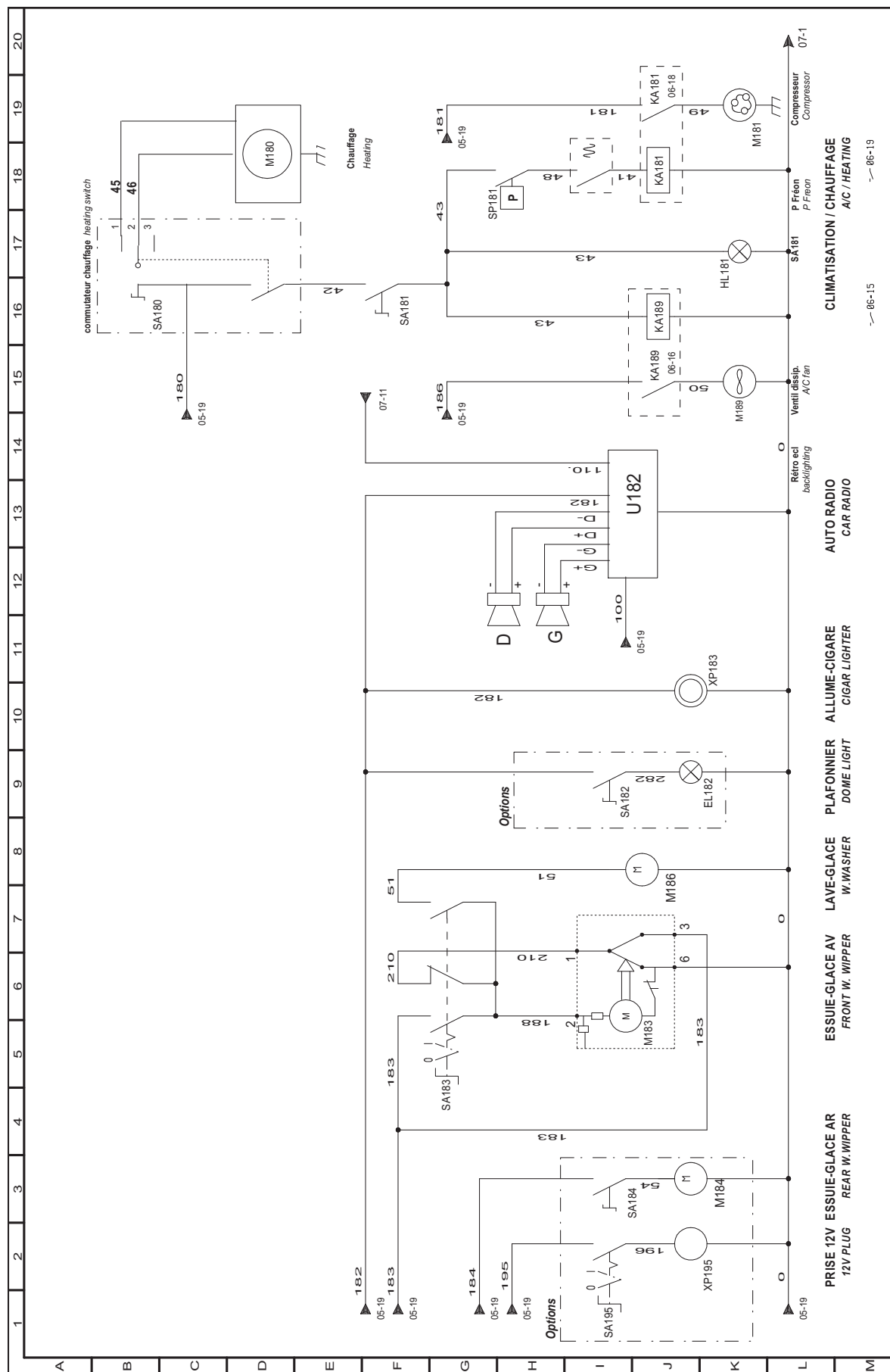
ALIMENTATIONS

SUPPLY

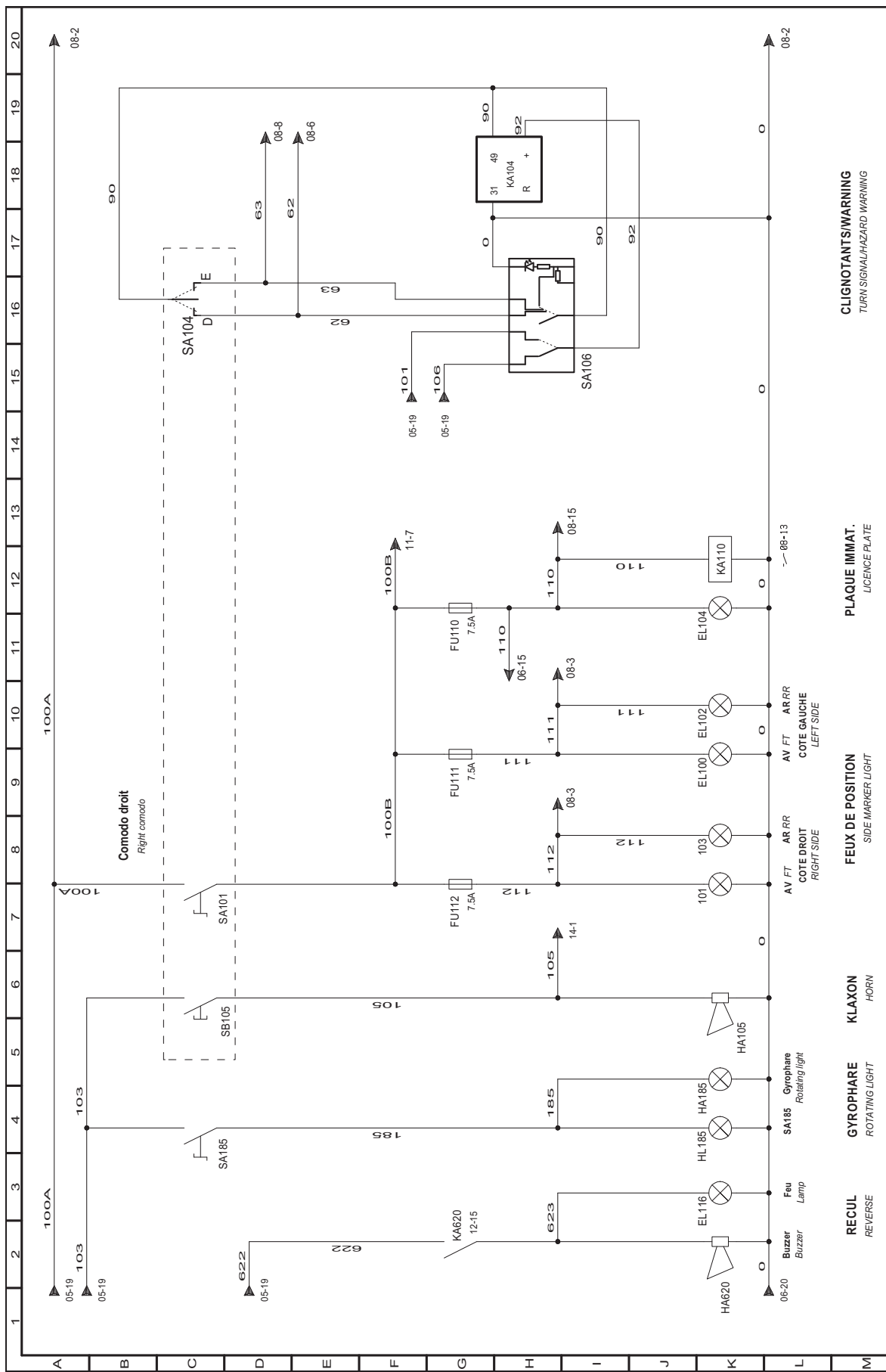
Electrical Diagram

Telescopic Handlers

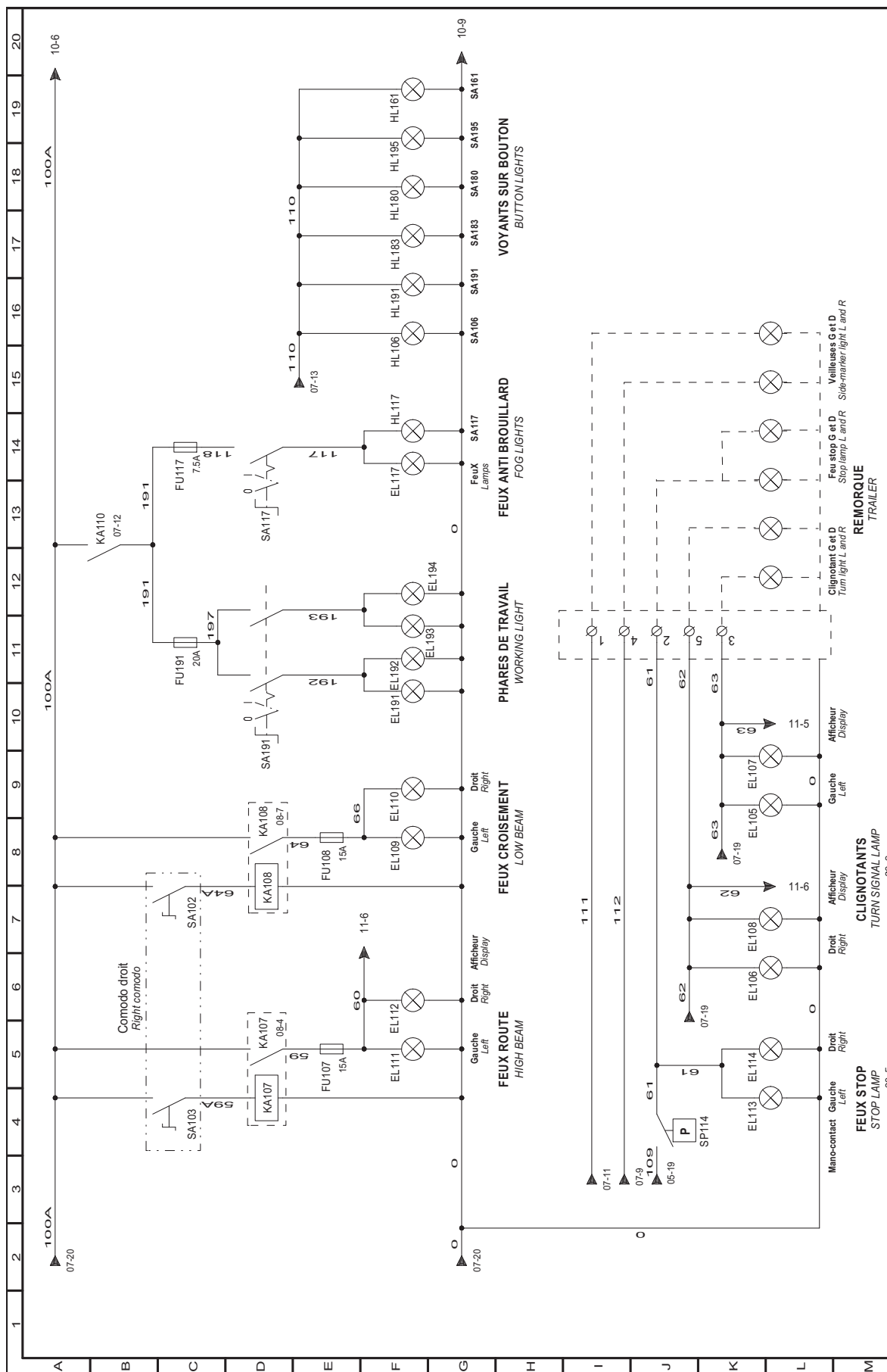
1.5 - FOLIO 5/15



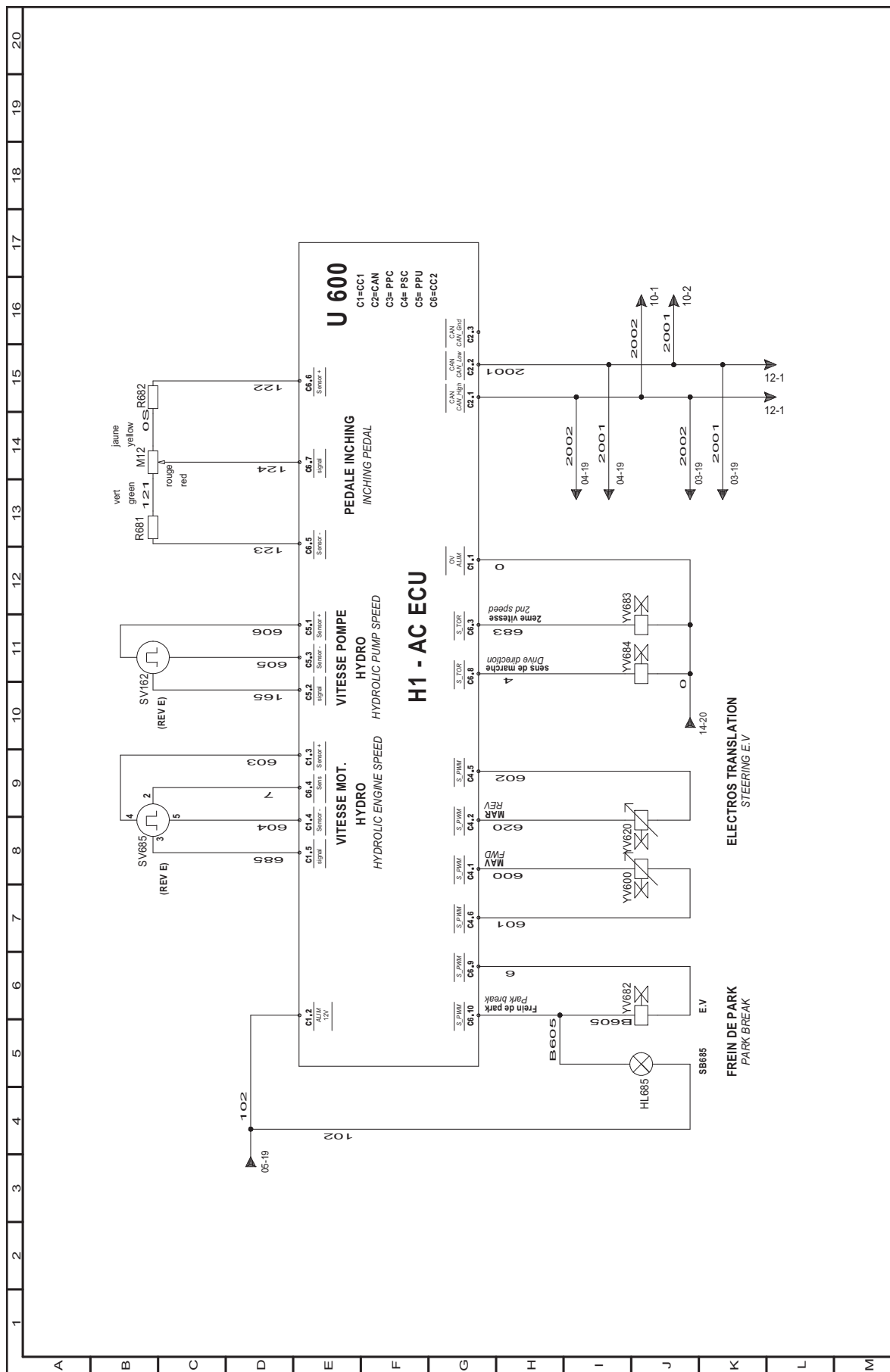
1.6 - FOLIO 6/15



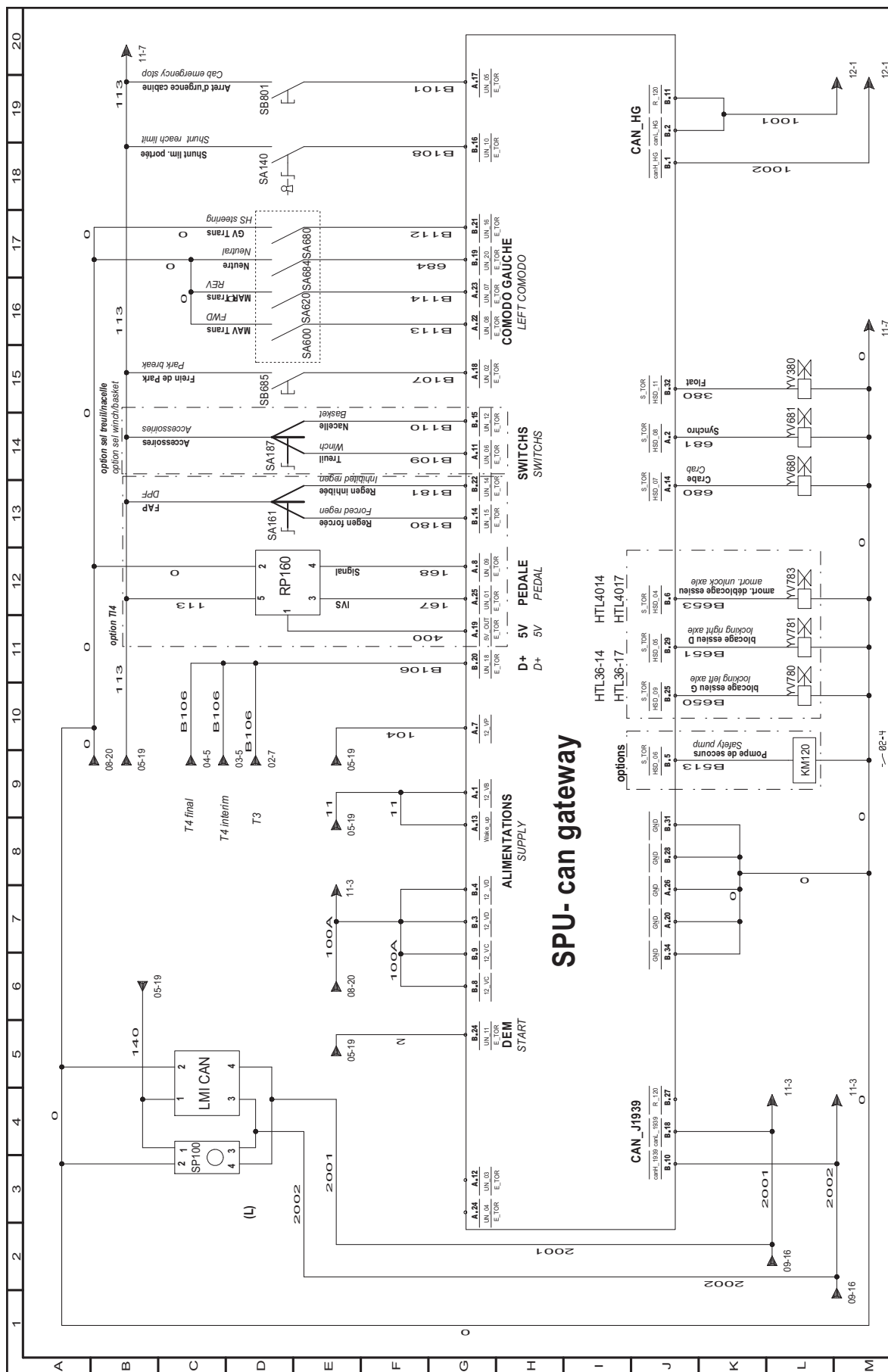
1.7 - FOLIO 7/15

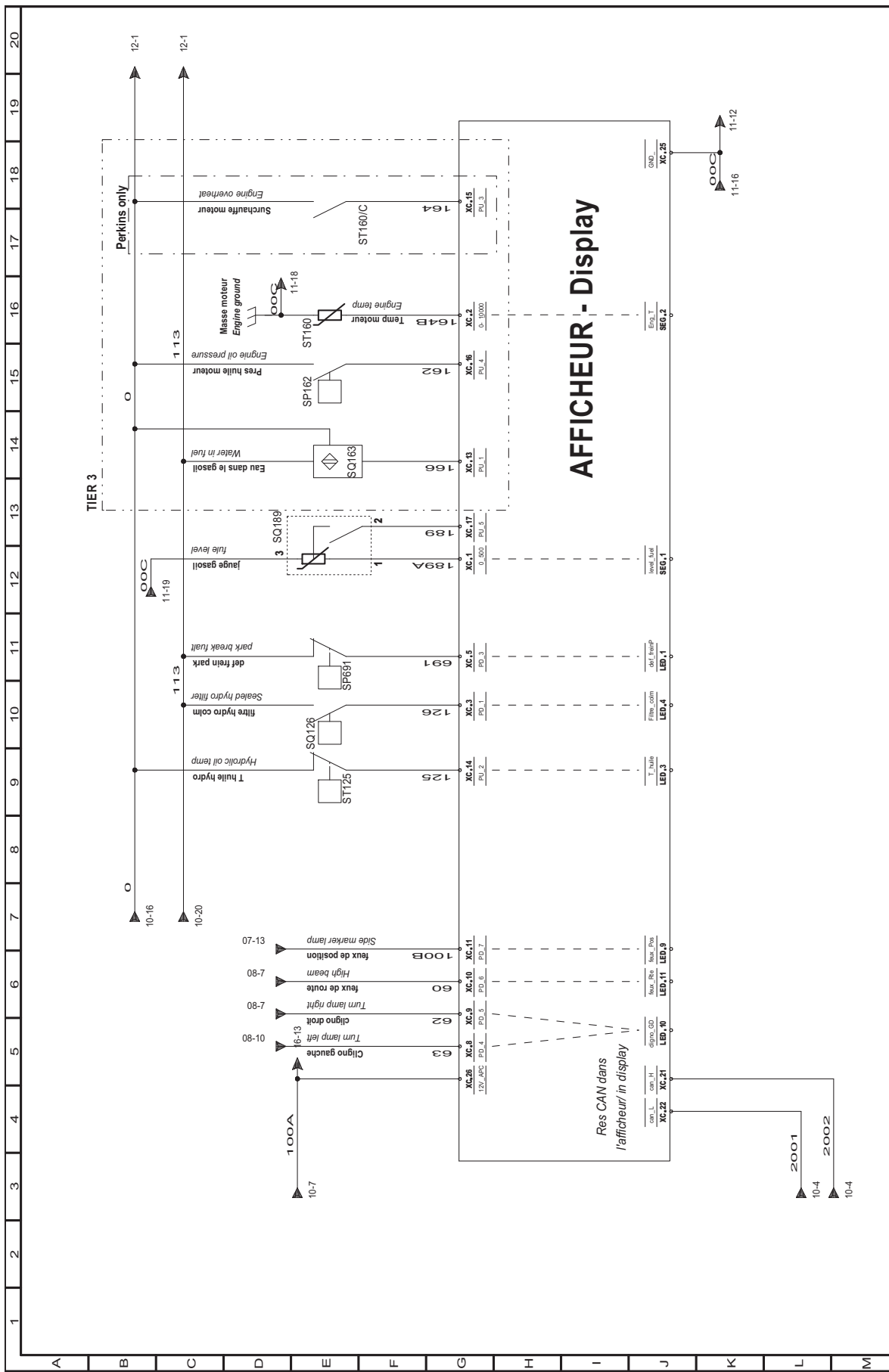


600

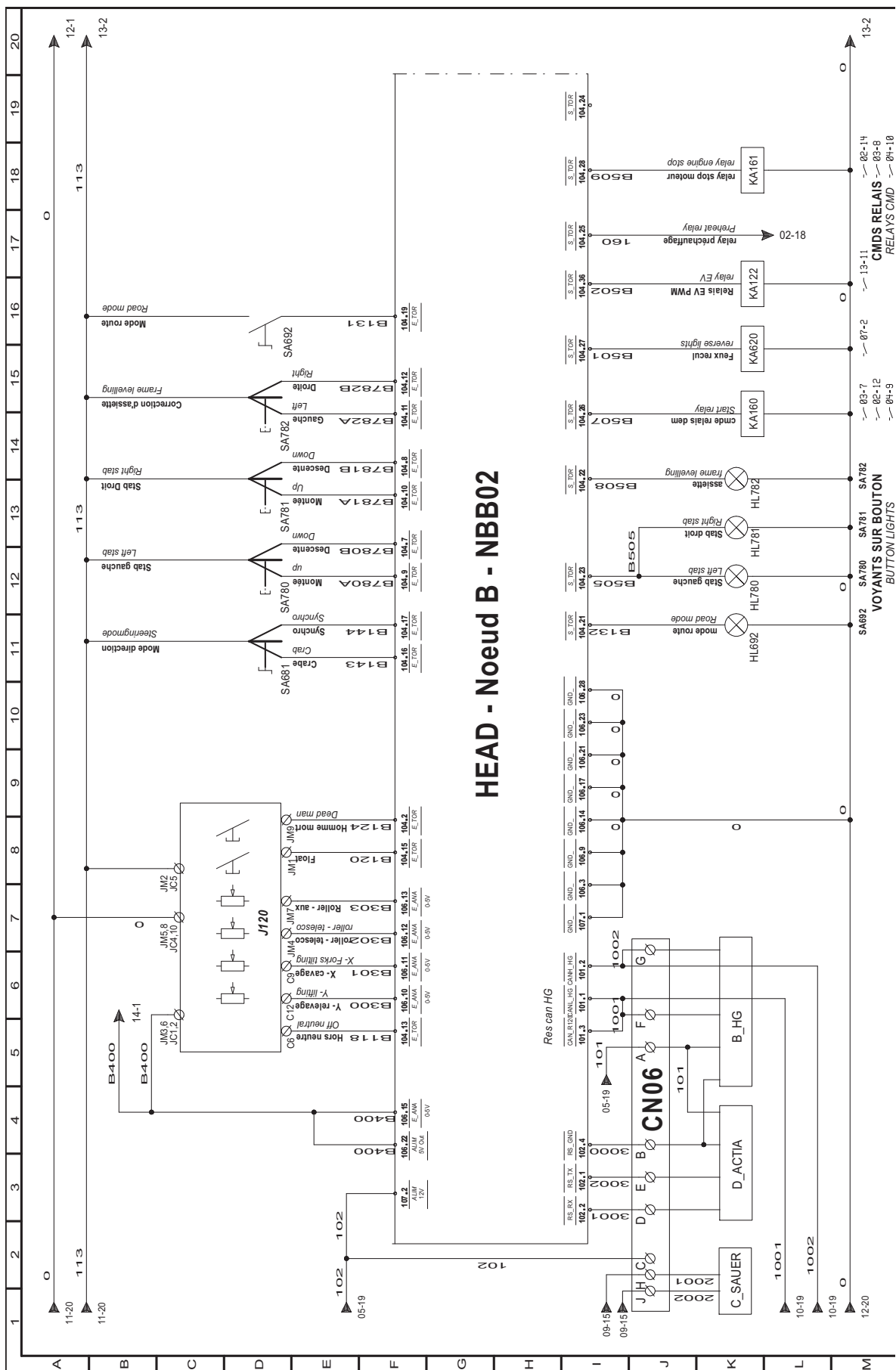


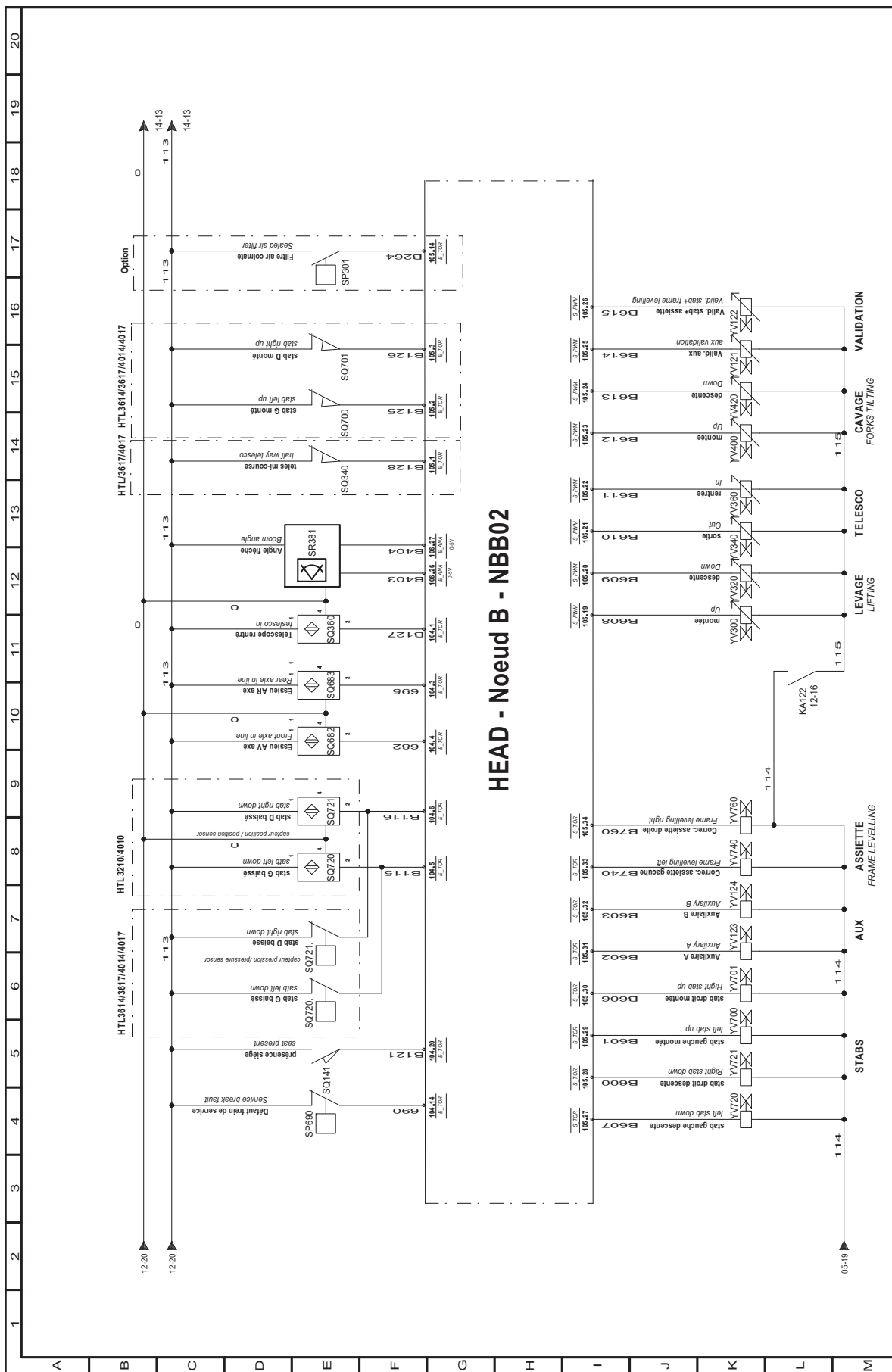
1.9 - FOLIO 9/15





1.11 - FOLIO 11/15

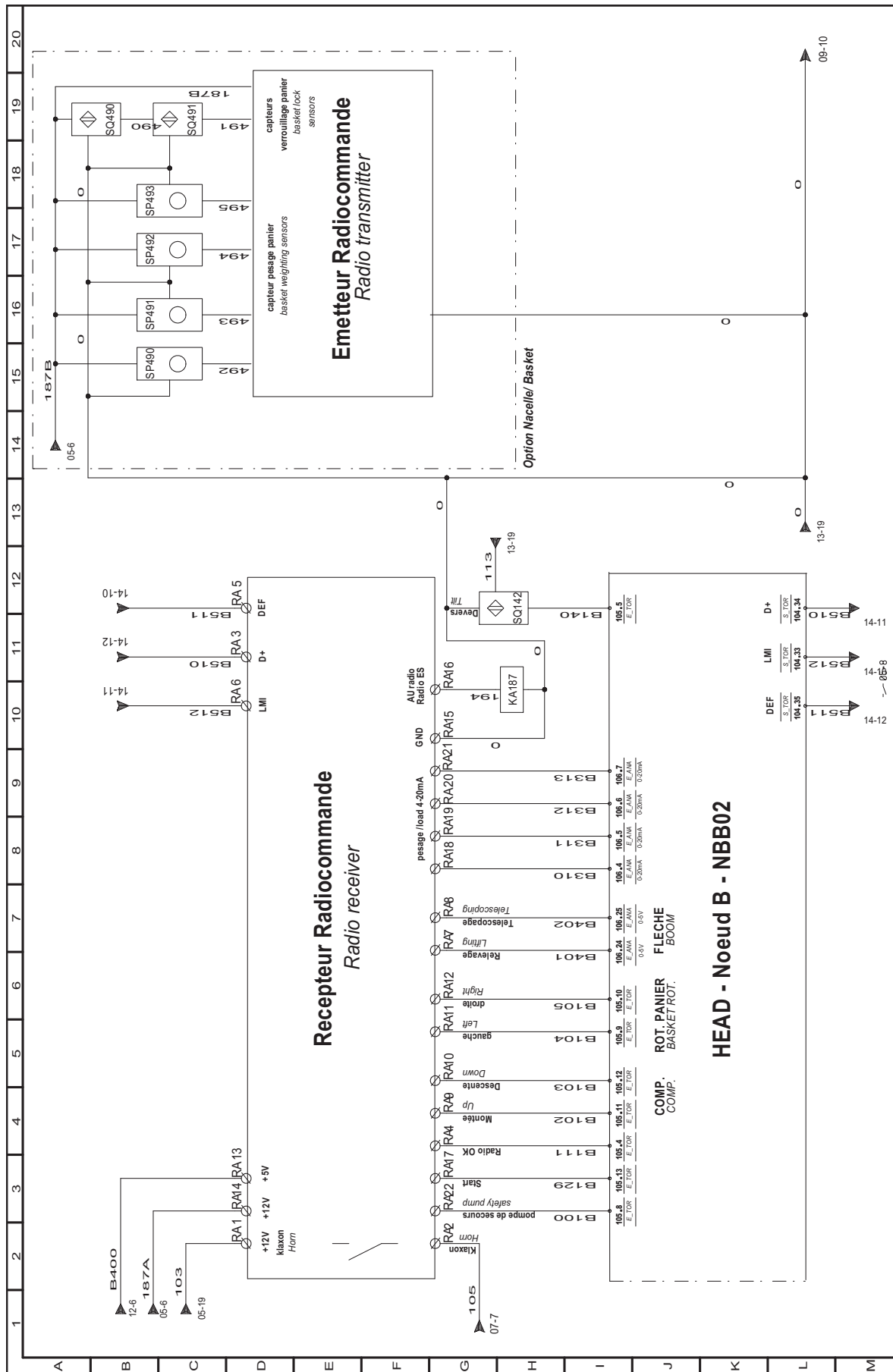




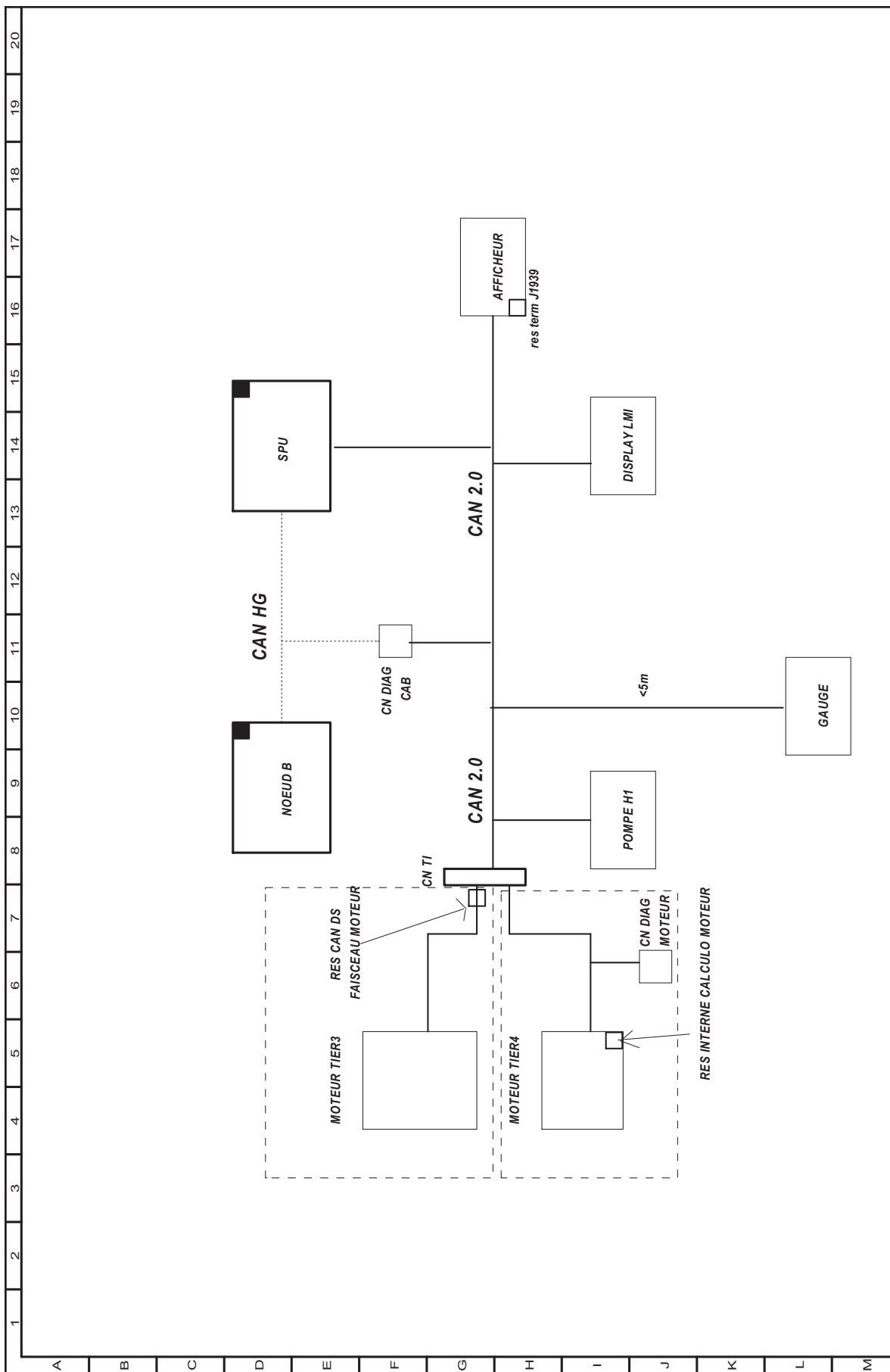
Electrical Diagram

Telescopic Handlers

1.13 - FOLIO 13/15



1.14 - FOLIO 14/15



[illegible]

1 - HTL3010 - HTL3510 - HTL4010

1.1 - FOLIO 1/1

