

# D - Operation instructions

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## 1 - Operation

### 1.1 - INTRODUCTION

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

Prior to operation :

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

### 1.2 - MAJOR DESCRIPTION

All the machines are equipped with :


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

### 1.3 - OPERATION FROM THE GROUND CONTROL BOX

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

- Turning ON / OFF is performed with engine start-up selector ( 16 ) after the control box activation key switch ( 22 ) is turned to the ground control box position.
- Activation of a desired control box is achieved by turning the Control box activation key switch ( 22 )

to the desired position .


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

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

***ACTIVATION KEY SWITCH 22 TO  POSITION.***

- An Enable /Foot Switch ( 6 ) is present that should be activated and maintained to authorize one or more movements. "If Enable Switch ( 6 ) is kept engaged without selecting a function movement for more than 8 seconds ; Enable Wwitch is automatically de-activated".

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- The release of control box enable switch while performing a movement stops all the movements. The function movement is progressively slowed down. If the Foot Switch is re-pressed, the function movement does not restart. A function movement can only be selected when the corresponding function switch is in neutral position.
- All controls operating a movement, return automatically to neutral when released.
- At power up, all controls must be in their neutral position (not activated).
- Enable Switch / Back-up unit selector (6) :
  - With engine running, the selector ( 6 ) functions as an Enable Switch only.
  - With engine stopped, the selector ( 6 ) functions as the Enable Switch and activates the back-up unit (emergency pump).
- Overriding system : Refer to  Section D 4.2 To rescue operator in platform.
- The status of the controls is tested automatically when the machine is switched on.
- Pressing engine start-up selector ( 16 ) starts or stops the engine.
- A buzzer beeps in the following conditions :
  - When power is switched on.
  - When platform is overloaded (if fitted).
  - When machine is on a slope greater than the rated slope.
  - Hydraulic oil overheating.
  - Movements option.
- Indicators ( 10 ), ( 13 ), ( 15 ) and ( 19 ) are checked when the machine is powered on.

## For petrol / gas machines :


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

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## 1.4 - OPERATION FROM THE PLATFORM CONTROL BOX

- The platform control box is energized only when :
  - The E-stop buttons on both ground and platform control boxes are not pressed in.
  - To switch ON the machine, turn the Control box activation key switch ( 22 ) at the ground control box to platform control box position  .
  - Platform control box is energized by turning the control box energizing selector switch ( 229 ) at the ground control box to the left.
  - Overriding system not activated.
- A faulty joystick is not taken into account to control a movement. If this fault disappears, the movement is authorised again.
- An E-Stop button at each control box stops all movements when pressed in; including shutting off an engine (if equipped).

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


***ACTIVATION KEY SWITCH ( 22 ) TO  POSITION.***

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

For petrol / gas machines :

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

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

## 1.5 - OPERATION OF OVERRIDING SYSTEM FROM GROUND CONTROL BOX




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


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## 2 - Ground control box

### 2.1 - TO START AND STOP THE MACHINE - DIESEL ENGINE


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

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


- Push the starter selector ( 16 ) upwards. The engine stops.
- Turn the key activation selector switch ( 22 ) in position .
- The machine is now switched off.

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

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

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

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

- Press the starter selector ( 16 ) to stop the engine.
- Turn the activation selector key switch ( 22 ) to off position .
- Power supply is now switched off.
- Close the gas bottle valve ( C140 ).

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



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




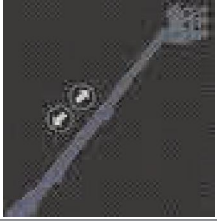





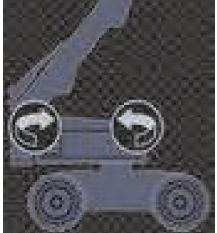


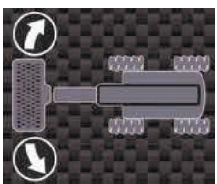


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## 2.3 - BOOMS CONTROLS

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

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

### Ground box controls (emergency station)

Control		Action
Raising / lowering of boom		Press the boom raising control ( 4 ) upwards  to raise the boom.
		Press the boom raising control ( 4 ) downwards  to lower the boom.
Boom telescoping extend / retract		Press the boom telescoping control ( 3 ) to the left  to extend the boom.
		Press the boom telescoping control ( 3 ) to the right  to retract the boom.
Jib raising / lowering (If applicable)		Press the jib control ( 2 ) upwards  to raise the jib.
		Press the jib control ( 2 ) downwards  to lower the jib.
Turntable rotation		Press the turntable rotation control ( 7 ) for a clockwise rotation  .
		Press the turntable rotation control ( 7 ) for an counterclockwise rotation  .
Platform rotation		Press the platform rotation control ( 8 ) for a clockwise rotation  .
		Press the platform rotation control ( 8 ) for an counterclockwise rotation  .

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### 2.4 - ADDITIONAL CONTROLS

For the machines equipped with beacon light :

- Press the beacon light selector switch ( 14 ) to turn ON the beacon light.
- Press the beacon light selector switch ( 14 ) to turn OFF the beacon light.

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### 3 - Platform control box

#### 3.1 - TO START AND STOP THE MACHINE

##### 3.1.1 - To start the machine

At the ground control box :

- Check that the E-stop button ( 9 ) is not pressed in.
- Turn the control box activation key switch ( 22 ) to platform position  to energize platform control box.

At the platform control box :

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

##### 3.1.2 - If engine manually stopped

- Push the starter selector switch ( 230 ) downwards.

##### 3.1.3 - If engine is stopped by Stop Emission System

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

##### 3.1.4 - To stop the engine

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









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## 3.2 - DRIVE AND STEER CONTROL

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

Before driving, locate the green / red orientation arrows on the chassis and platform controls. Move the drive control joystick ( 33 ) in the direction matching the directional arrows.

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

Control	Action
Steering	 Press thumb/rocker switch on joystick ( 33 ) to the right to steer right.
	 Press thumb/rocker switch on joystick ( 33 ) to the left to steer left.
Drive speed	 Position the drive speed selector switch ( 45 ) on  for high-speed driving.
	 Position the driving speed selector ( 45 ) on  for low-speed driving (short distance, final approach, unloading from lorries/trucks).

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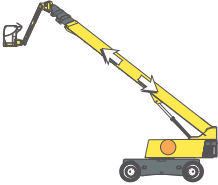
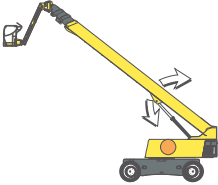
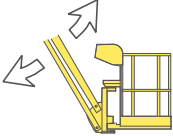
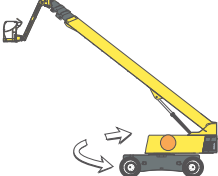
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## 3.3 - BOOM CONTROL

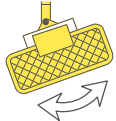
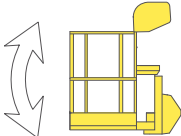
Activate the desired control and the Foot Switch simultaneously to perform that selected function.

### Foot Switch



Control	Action
<p>Boom telescoping extend / retract</p> 	<p>Push the boom telescoping joystick ( 233 ) forwards to retract the boom.</p> <hr/> <p>Pull the boom telescoping joystick ( 233 ) backwards to extend the boom.</p>
<p>Boom raising / lowering</p> 	<p>Move the boom/turntable joystick ( 232 ) upwards to raise the boom.</p> <hr/> <p>Move the boom/turntable joystick ( 232 ) downwards to lower the boom.</p>
<p>Jib raising / lowering (If equipped)</p> 	<p>Push the jib switch ( 129 ) upwards to raise the jib.</p> <hr/> <p>Push the jib switch ( 129 ) downwards to lower the jib.</p>
<p>Turntable rotation</p> 	<p>Move the boom/turntable joystick ( 232 ) to the left for a clockwise (CW) rotation.</p> <hr/> <p>Move the boom/turntable joystick ( 232 ) to the right for a counter clockwise (CCW) rotation.</p>

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

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## 3.4 - ADDITIONAL CONTROLS

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

### 3.4.1 - Stop Emission System

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



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

### 3.4.2 - Activ' Lighting System

Refer to  Section B 3.3 - Platform control box.

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

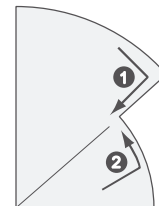
Located on the turntable, boom and platform, the Activ' Lighting System system lights up the controls and surrounding areas of the machine. Users can then safely move the machine.

### 3.4.3 - Dual load selector (if fitted)

- When the machine is switched on (whatever control box is selected) the machine operates in 450 kg (1000 lbs) or 230 kg (500 lbs) according to the selector on the platform control box ( 82 ).
- When 450 kg (1000 lbs) is selected, movement is automatically cut off when the machine reaches the limit of the 450 kg (1000 lbs) work zone.
- The 230 kg (500 lbs) indicator flashes to warn the user that he/she can select a lower load to continue the movement.
- When 230 kg (500 lbs) is selected, there is no load chart limit.
- All movements are authorized.

To safely utilize the working area/range of motion, follow the below steps and as shown in the illustrations :

1. If boom lowering is cut-off, then retract the boom to recover the lowering movement.
2. If boom extension is cut-off, then raise the boom to recover the extension movement.



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### 4 - Emergency procedure

#### 4.1 - IN CASE OF POWER LOSS

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

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

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

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

Depending on the control box in use, push and hold the back-up/auxiliary power switch ( 6 ) at ground box or switch ( 41 ) at platform box. Retract the boom and lower it by using switches ( 3 ) and ( 4 ) at ground box or joysticks ( 233 ) and ( 232 ) at platform box.

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

- Exit onto a sturdy and safe structure.
- Allowance must be made for the possibility of boom deflection when egressing from the platform.
- The occupant(s) must ensure that 2 lanyards are used for security/safety. One must be attached to the designated anchorage point on platform the occupant(s) is in and the other attached to the structure intended to get on.
- Do not leave platform without taking into account the allowance for possibility of boom deflection when exiting platform.
- Occupant(s) must exit the current platform through the normal access.

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

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## 4.2 - TO RESCUE OPERATOR IN PLATFORM



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

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



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

### Procedure :

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





### 4.2.1 - Operation of overriding system from ground control box

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



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

### Procedure :

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

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

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## 4.3 - NO POWER AVAILABLE

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



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

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