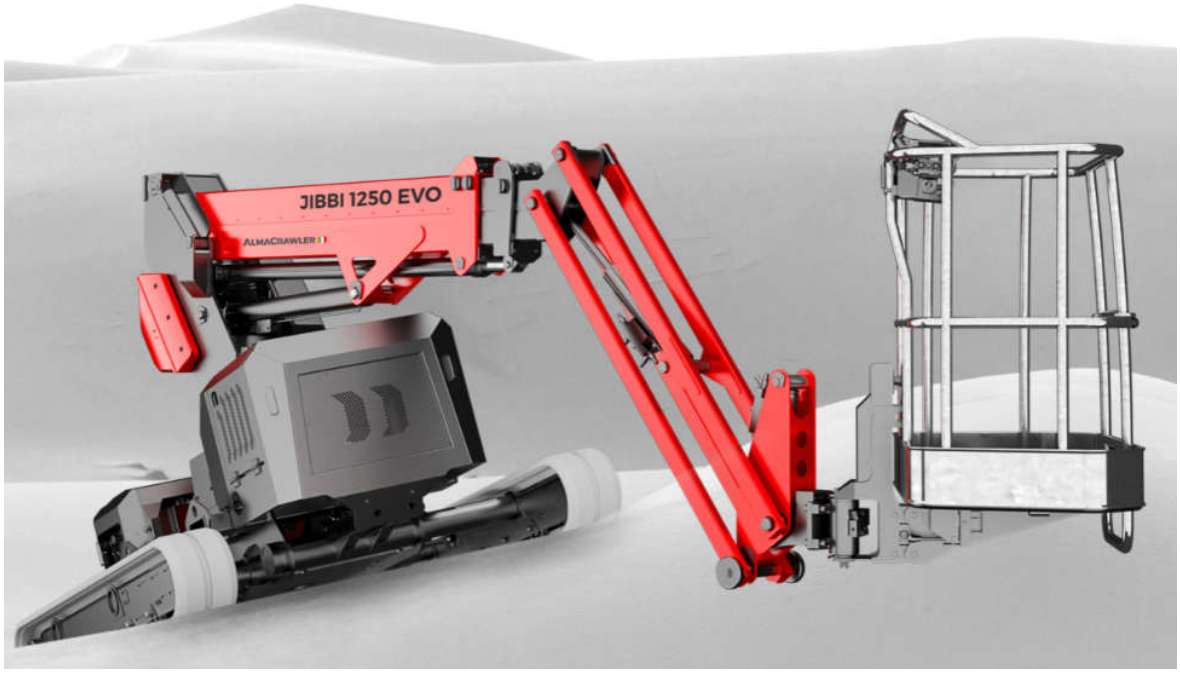
ALMACRAWLER



JIBBI 1250-EVO

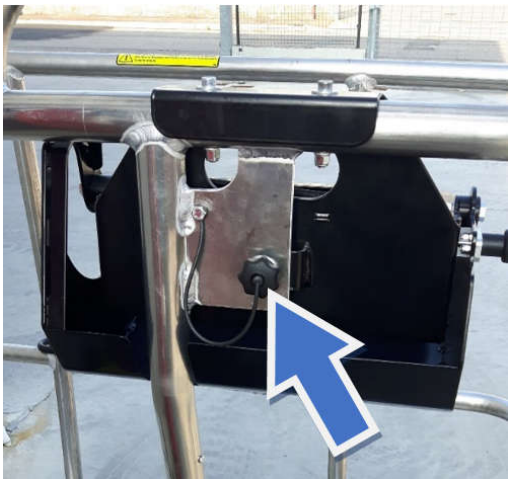
User Manual

1 Mobile command push-button panel (with cable)

The platform is equipped with a mobile control push-button panel (console) which allows for normal operation on the platform.

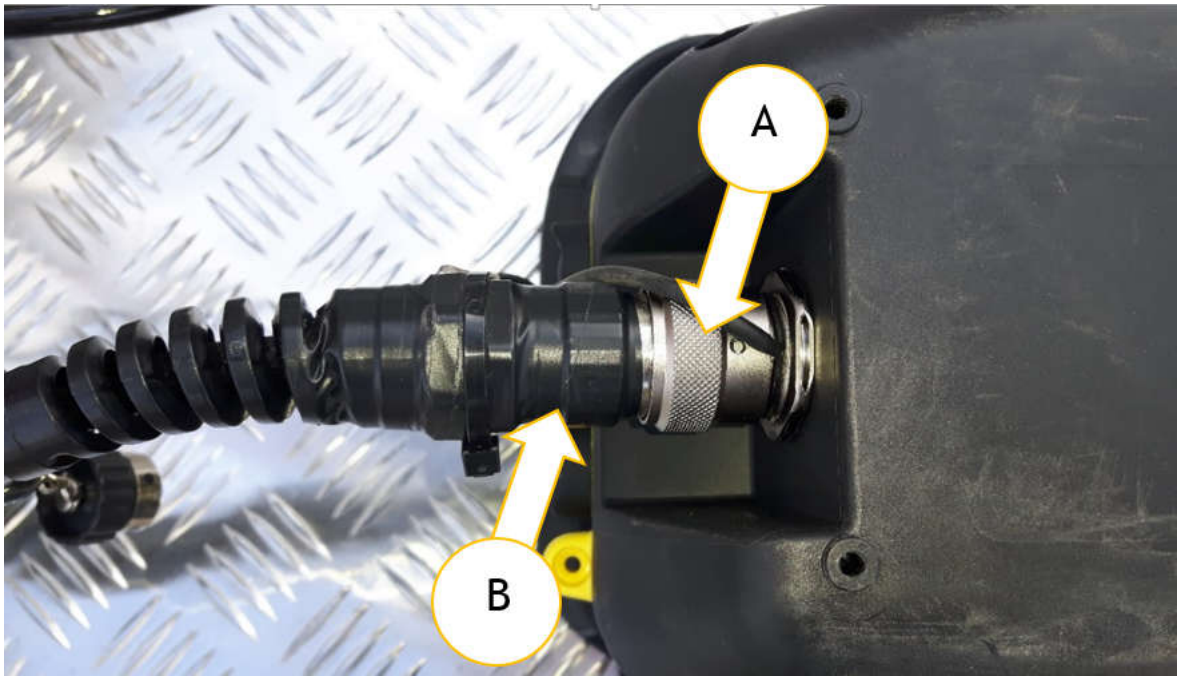
The console can be located in the dedicated metal support attached to the railing of the platform or removed and held by the operator.

The metal support can also be removed by unscrewing the relevant rear knob.

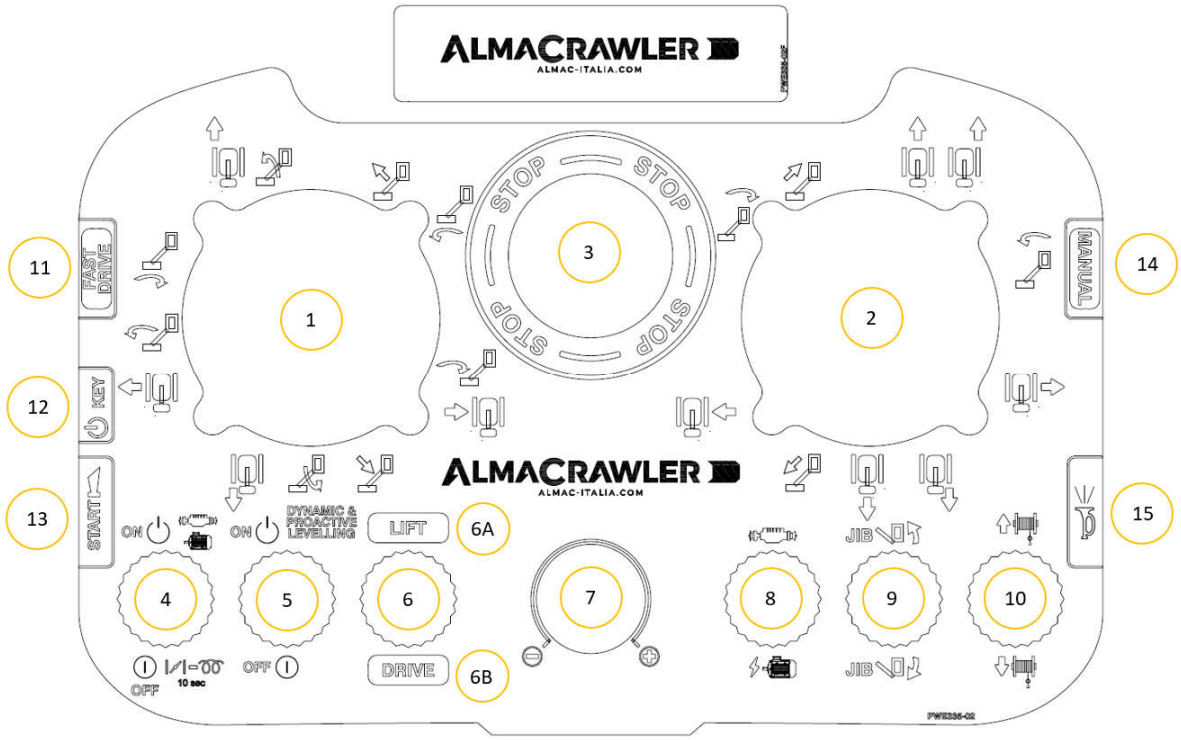


Attention: If the platform is transported on vehicles, always secure the support by means of the threaded knob.
Attention: The metal support is only removable in the cable version. In the version with radio control it is fixed and cannot be removed.

The push-button panel can also be disconnected from the spiral cable by unscrewing the ferrule indicated with (A).



Attention: Do not touch ferrule (B); if ferrule B is turned, the wires inside the connector will be damaged.
Attention: For all operations that require lifting of the basket above the transport height, the console and the operator must be inside the platform itself.


ALMACRAWLER
ALMAC-ITALIA.COM
STOP
STOP
STOP
STOP
FAST DRIVE
KEY
START
MANUAL
ON
ON
DYNAMIC & PROACTIVE LEVELLING
LIFT
DRIVE
JIB
JIB
OFF
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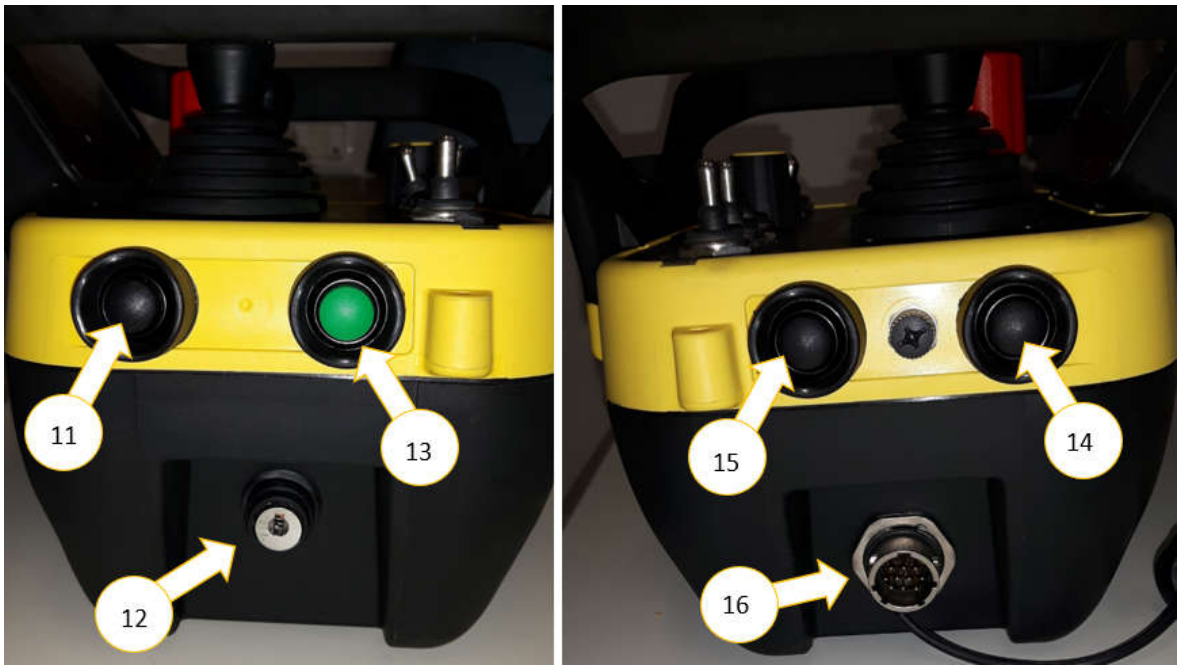
6A
6B


11
13
12
15
14
16

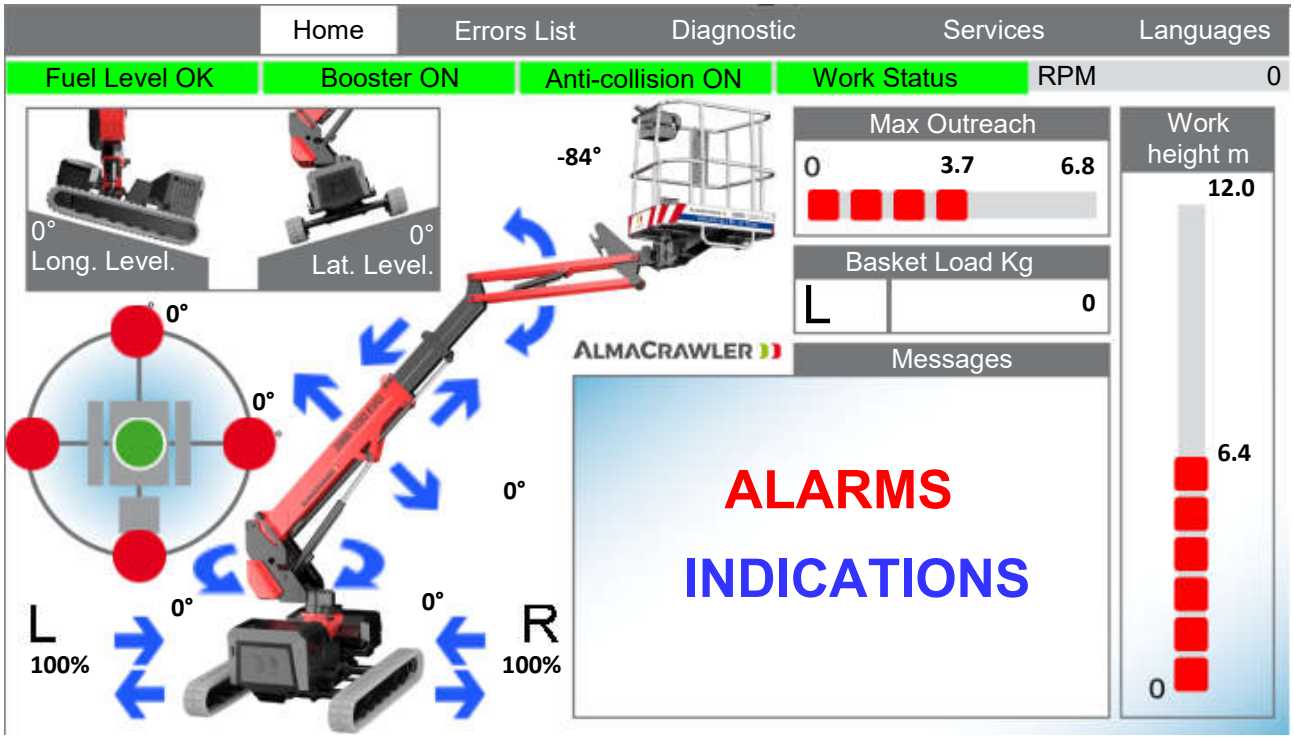
No.	Identification	Function and Status	Description of the function
1	LH joystick	Orange “DRIVE” button	- Left track translation control; - Left track opening/closing.
		Blue “LIFT” button	- Boom lifting/lowering; - Tower rotation.
		Blue “LIFT” button + Green “MANUAL” button (14)	- Side manual levelling; - Longitudinal manual levelling.
2	RH joystick	Orange “DRIVE” button	- Right track translation control; - Right track opening/closing.
		Orange “DRIVE” button ” + Purple “FAST DRIVE” button (11)	- Booster Activation; - Optional mode: translation control command with the right Joystick only.
		Blue “LIFT” button	- Outreach extension/retraction; - Basket rotation.
3	Emergency Button	EMERGENCY STOP	
4	Selector	Ignition - Switching off the combustion/electric engine	To switch on the combustion/electric engine select ON; To switch off the combustion/electric engine select OFF; Selecting OFF and holding down the control for 10 seconds the glow plugs of the internal combustion engine are activated; NOTE: When the machine is powered by an electric motor, if no signal is received after 5 minutes, the electric motor switches off.
5	Selector	Activation - Deactivation of Dynamic Levelling and Proactive Levelling	To activate Dynamic Levelling, turn the selector to ON; To deactivate the Dynamic Levelling, turn the selector to OFF; To activate Proactive Levelling, turn the selector to ON; To deactivate Proactive Levelling, turn the selector to OFF. (With the selector ON, the automatic boom ascent between 0 and 5° is also activated)
6	Selector	Selection of ground movements and aerial part movements	For the movements of the aerial part, turn the selector upwards (6A Blue “LIFT” selector); To activate the ground movements, move the selector downwards (6B Orange “DRIVE” selector).
7	Potentiometer	Selection of revolutions of the internal combustion engine	Turning the device clockwise (+) increases the currents to the proportional valves. Moreover, with the selector over 50% the

No.	Identification	Function and Status	Description of the function
			endothermic engine accelerator is activated; Turning the device anti-clockwise (-) decreases the currents to the proportional valves. Moreover, with the selector below 50% the accelerator of the internal combustion engine is deactivated and the movements can only be carried out individually.
8	Selector	Selection of endothermic engine or electric motor	To select the combustion engine, turn the selector upwards; To select the electric motor, move the selector downwards.
9	Selector	Antenna movement control (JIB)	To raise the antenna (JIB), move the selector upwards keeping it in position; To lower the antenna (JIB) move the selector downwards keeping it in position; Note: This command only works after having previously activated the aerial part using the selector 6 (Blue "LIFT" selector).
10	Selector	Winch movement control (if present)	To lower the hook of the winch, move the selector downwards keeping it in position; To raise the hook of the winch, move the selector upwards keeping it in position.
11	Purple (FAST DRIVE) button	Fast drive activation	- Press and release to activate the Booster. - Optional mode: translation control command with the right Joystick only.
12	Safety key (KEY)	Safety key for console activation	Insert the supplied key to activate the console; If the key is not inserted, the console cannot be activated; The key is encrypted so use only the key provided, otherwise the console cannot be used.
13	Button (START)	Ignition of the console	Press and release to turn on the console.
14	Green (MANUAL) Button	Activation of the manual levelling controls	Press to activate the manual levelling controls using the left joystick.
15	Button (Warning Buzzer)	Warning Buzzer Activation	Press to activate the warning buzzer.
16	Connector	Connector for coiled control cable.	

Note: The machine can perform two simultaneous movements only if the potentiometer (7) exceeds 50%; conversely, the platform will only allow one movement at a time.

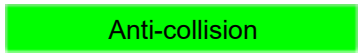
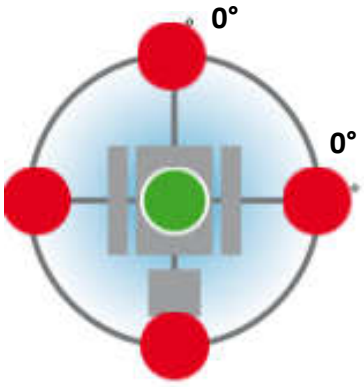
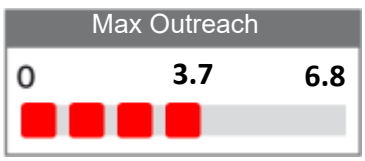
1.1 *Messages and screens on the Display*

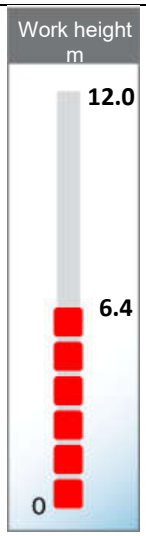
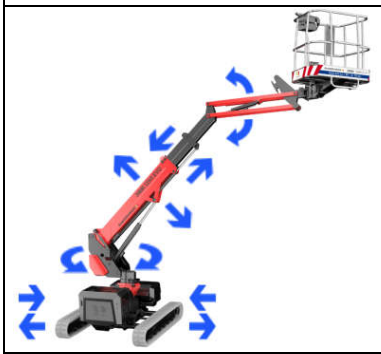
On the mobile keypad is the display (14), where all the parameters, the indications to the operator and any machine alarms are signalled (see photo below).



1.1.1 Machine status screens

Fuel Level	**Fuel level indicator**	- Green indicator: “Fuel OK” Diesel level sufficient; - Red indicator: “Fuel reserve” Low diesel level.
Booster	**BOOSTER indicator**	- Green indicator: “BOOSTER ON” Booster active; - Red indicator: “BOOSTER OFF” Booster not active.

	**Anti-collision Indicator**	- Green indicator: “ANTI-COLLISION ON” Anti-collision sensors active; - Red indicator: “ANTI-COLLISION OFF” Anti-collision sensors deactivated;
	**Machine status indicator**	- Green indicator: “Machine Status” Machine enabled for work; - Red indicator: “Errors Status” Presence of errors in memory.
	**Motor indicator**	- Machine off the value is 0; - Machine at minimum rpm 1500; - Machine at maximum rpm 2850;
	**Longitudinal levelling indicator**	The inclination of the frame on the longitudinal level is shown in real time.
	**Lateral levelling indicator**	The inclination of the frame on the side level is shown in real time.
	**Visual level**	- If the central light is green the levelling of the boom column is within the correct limits; - If the machine is longitudinally unlevelled, the red light will switch on according to the position of the unlevelling (front/rear); - If the machine is laterally unlevelled, the red light will switch on according to the position of the unlevelling (right/left); - If the machine is unlevelled both laterally and longitudinally two red lights will come on. Note: These conditions, if they limit the movements, will also be highlighted in the alarms box.
	**Limit outreach indicator**	It updates in real time the maximum distance that the operator can reach with respect to the centre of the slewing ring, according to the diagram and to the actual value of the angle of the boom. This value in the example shown to the left is 6.8m (22.3ft).

		The value of 3.7m (12.13ft) represents the distance reached by the operator.
	**Indicator of weight in basket and of the work being performed**	- It indicates in real time the weight present in the basket; - The letter indicates the active work diagram.
	**Maximum work height indicator**	It updates in real time the maximum height that the operator can reach with respect to the ground, according to the machine configuration. This value in the example shown to the left is 12m (39.37ft). The value of 6.4 m (20.99ft) represents the height reached by the operator.
	**Track configuration**	- Update in real time of the maximum extension of the two tracks (R = Right, L = Left). - If the arrow is blue, the operator can perform the movement; - If the arrow is not present, the movement is not enabled. - In the transport condition it is possible to extend the tracks. - In the transport condition and with column centred it is possible to retract the tracks.
	**Movements of the aerial part of the machine**	- If the arrow is blue the movement is enabled; - If the arrow is not present, the movement is not enabled; - If the arrow is red, it indicates the first movement to be performed to reset the machine from a stop condition.

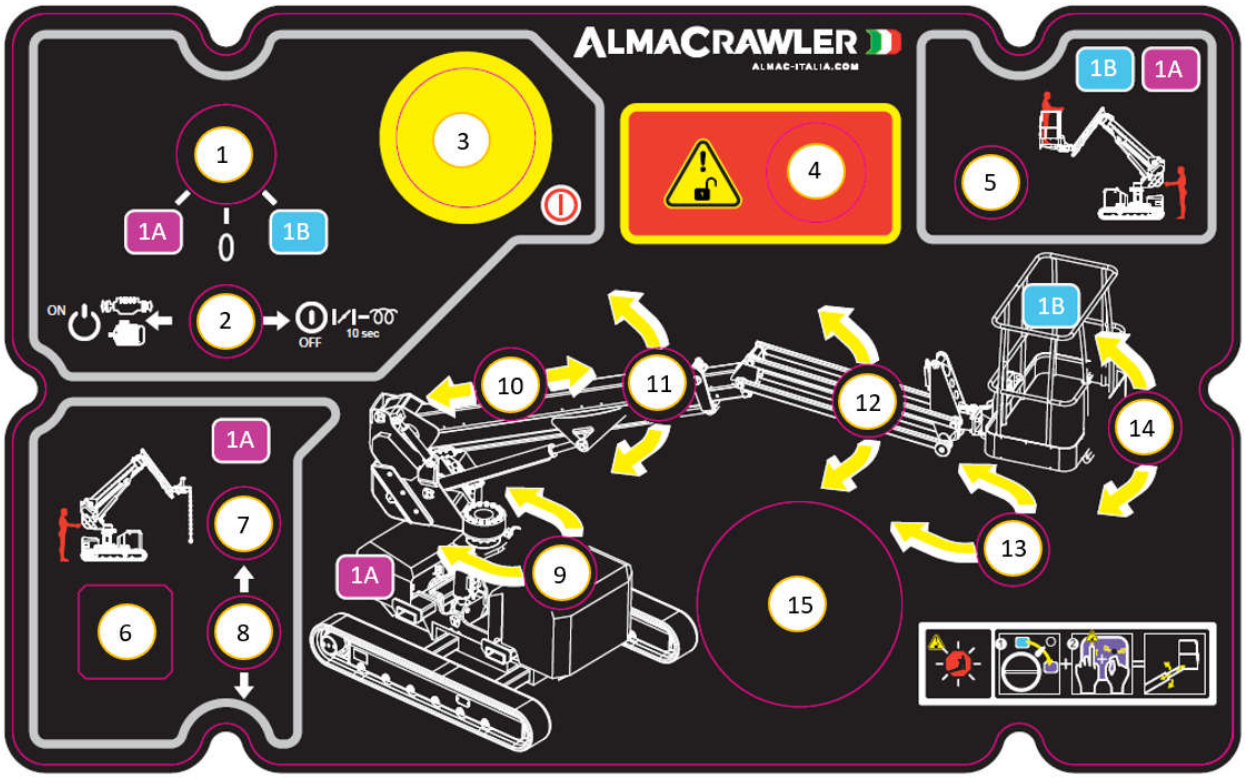
	**Movements of the aerial part of the machine With movements of the carriage selected**	- The blue arrows indicate the aerial movements necessary to bring the machine to the condition in which translation is enabled

1.1.2 **Ground controls**

The platform has a control panel located on the carriage, on the front-left side of the machine. These commands are for the operator on the ground in case of maintenance of the platform, or for emergency situations.

Attention: The key must always be available to the recovery operator or the person in charge of the operations from the ground.

Unintentional operation of the ground controls is prevented by automatic selection made via the key (1): Turning the latter to the position (RIGHT-1B) "basket controls" automatically disables the ground control console, selecting the opposite side (LEFT-1A) "ground controls" automatically disables the control console in the basket.



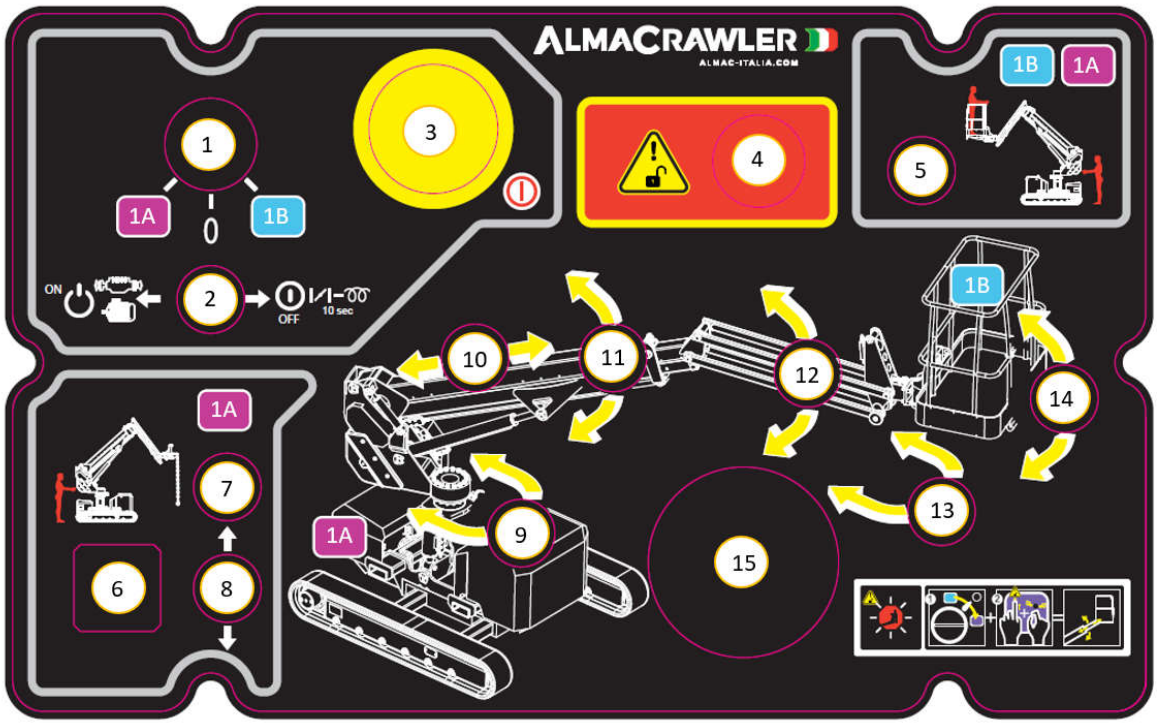
No.	Identification	Function and Status	Description of the function
1	Key selector	Selector for machine on/off and control station selection	Selector in central position (0) machine off; Selector in position 1A machine on with ground control station; Selector in position 1B machine on with platform control station.
2	Selector	Engine Power On – Off	To switch on the combustion/electric engine select ON; To switch off the combustion/electric engine select OFF; Selecting OFF and holding down the control for 10 seconds the glow plugs of the internal combustion engine are . NOTE: When the machine is powered by an electric motor, if no signal is received after 5 minutes, the electric motor switches off.
3	Emergency Button	EMERGENCY STOP.	
4	Button with cover prepared for leaded seal	Button for emergency handling	To activate the button, open the cover and press it. Attention: This button disables all the safety devices and must only be used in an emergency; example operator incapacitated and machine in block condition due to overload. The button must be kept pressed together with the desired movement which remains active for only 5 seconds. At the end it is necessary to release and press the button again.
5	LED light	Basket LED light installed	If turned on it means that the basket is installed and the machine can only be used for lifting persons and equipment. If it flashes it means that the platform is not installed nor the winch.
6	Connector	Push-button panel cable connector	Connecting the cable of the push-button panel it is possible to control translation by means of the Joysticks. The translation in addition to the transport condition is only permitted if there is no load in the basket. Connector for radio power supply (only if the machine is equipped with radio control).
7	LED light	Winch LED light installed	If turned on it means that the winch is installed and the machine can only be used for lifting material. If it flashes it means that the platform is not installed nor the winch.
8	Selector	Winch movement control (if present)	To lower the hook of the winch, move the selector downwards keeping it in position; To raise the hook of the winch, move the selector upwards keeping it in position.

No.	Identification	Function and Status	Description of the function
9	Selector	Tower rotation	By moving the selector upwards and keeping it in position, the tower is rotated to the right; By moving the selector down and holding it in position, the tower is rotated to the left.
10	Selector	Outreach extension/retraction	By moving the selector to the left and keeping it in position, the extension is retracted; By moving the selector to the right and keeping it in position, outreach extension takes place.
11	Selector	Boom movement	By moving the selector upwards and keeping it in position, the boom is raised; By moving the selector down and holding it in position, the boom is lowered.
12	Selector	Antenna movement (JIB)	By moving the selector upwards and keeping it in position, the antenna lift (JIB) is performed; By moving the selector downwards and keeping it in position, the antenna descent (JIB) is performed.
13	Selector	Basket rotation	By moving the selector upwards and keeping it in position, the basket is rotated to the right; By moving the selector down and holding it in position, the basket is rotated to the left.
14	Selector	Basket balancing	By moving the selector upwards and keeping it in position, the basket is manually balanced; By moving the selector downwards and keeping it in position, the basket is manually balanced.
15	Display	Display	Electronic hour meter which displays the operating hours of the internal combustion engine.

Attention: The use of ground controls is reserved for personnel who are adequately trained on the use of these commands.
IT IS FORBIDDEN to remain inside the basket while a second operator is performing manoeuvres with the controls on the ground.

2 Machine start-up with the ground control panel

To start the machine via the ground control panel, it is necessary to turn the key selector (1) on the Left side ("1A" Purple).



Then the control unit will begin to check the safety systems:

- An intermittent acoustic signal will be activated;
- Once the check is finished, turn the selector (2) to the right (OFF) keeping it in position for 10 seconds. In this way the glow plugs are activated;
- When the 10 seconds have elapsed, an acoustic signal will sound, at this point turn the selector to the left (ON);
- If the machine is connected to an external power supply by means of an appropriate socket, selecting ON will activate the electric motor (if present).

Attention: The controls located on the ground are for EMERGENCY or MAINTENANCE use and can only be used by qualified personnel.

2.1 *Starting the electrical engine (if any)*

To start the electric motor, and therefore the relative hydraulic pumps, it is necessary to connect a sufficiently long cable with relative three-pin socket that complies with the European IEC 309 standard (see photo below) to the appropriate socket located near the petrol engine.

The power supply characteristics of the electrical network must be compared with the characteristics of the electrical engine installed.
Characteristics of the electrical power supply network:

- Voltage: 230 v ± 10% or 110 v ± 10%;
- Frequency: 50 Hz or 60 Hz;
- Grounding line working and equipped with a differential circuit breaker;
- Use an extension power cord with an appropriate section depending on its length.

Attention: The connection to a network that does not meet the requirements of the electrical engine may cause serious damage to some of the components of the machine.

To start the electric motor through the mobile console in the basket, and therefore the hydraulic pumps, it is necessary to act on the ignition key located on the ground controls (this part is the same as that described in the paragraph "Starting the combustion engine").
Once this phase is completed, turn the selector (8) on the control panel and move it downwards. In this way the electric motor is enabled.
To start or stop the electric motor, choose the selector (4) on the mobile console.

To start the electric motor via the control panel on the ground, and therefore the hydraulic pumps, it is necessary to act on the ignition key located on the ground controls (this part is the same as that described in the paragraph "Starting the combustion engine").
Once this phase is completed, it is necessary to act only on the selector (2). Doing so will turn on the electric motor.

2.1.1 **Selection of carriage movements (translation and extension of the carriage)**

By moving the selector (6) "Orange" DRIVE downwards, the following movements can be enabled:

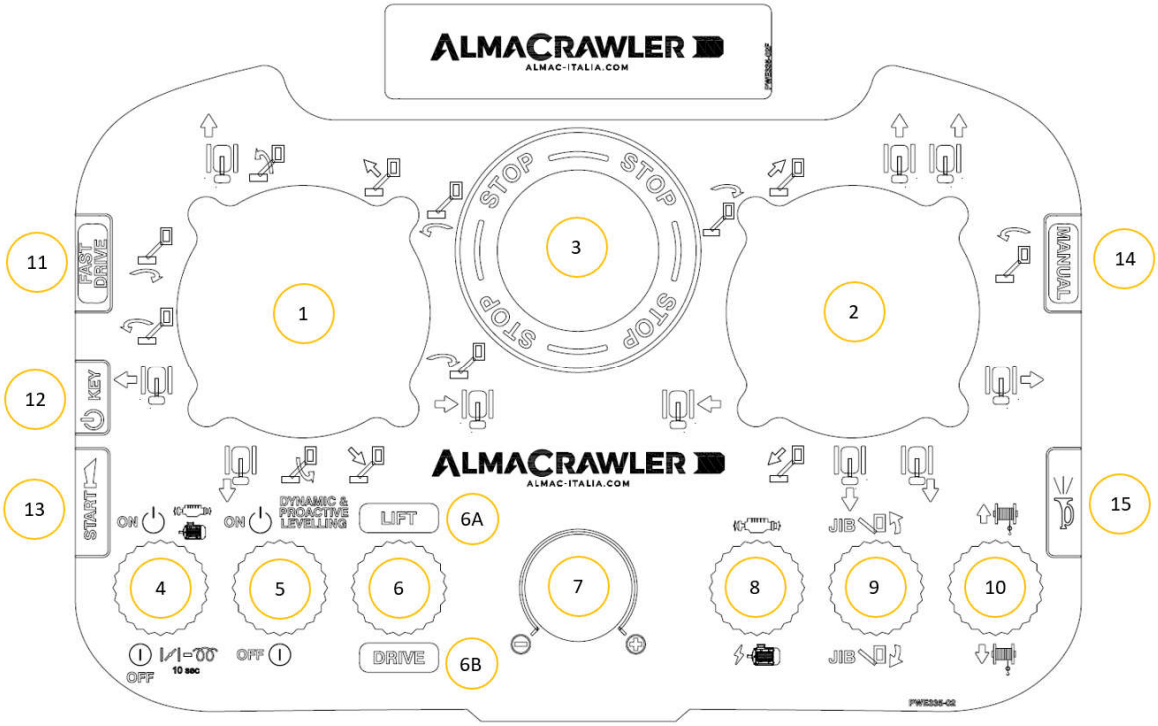
1) Translation;
2) Widening and narrowing of the tracked undercarriage.

2.1.2 **Translation**

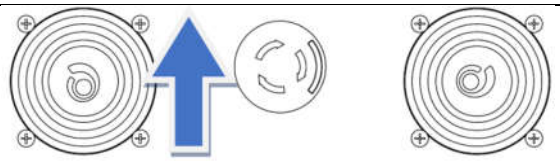
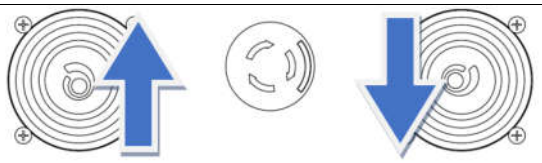
Attention: If selector 5 is positioned on (ON) and the translation is controlled, the telescopic boom will automatically rise up to a value of 5°!!

2.1.2.1 Translation in standard mode

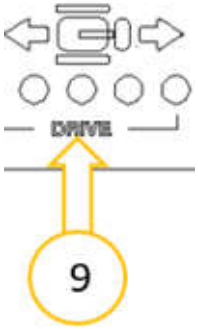
When the machine is switched on, the translation is automatically set in standard translation.
In this mode the operation is as follows:
The controls used to move and steer the platform are represented by 2 joysticks (1-2) located on the control push-button panel (see photo below).



Each lever commands the respective track (Right Lever→Right Lever, Left Lever→Left Lever).
Move the lever forwards to drive the platform forwards. Move the lever backwards to drive in reverse.
You can work with one track at a time, depending on the movement required at that particular moment.
The translation comply with the maximum safety speed allowed by the technical regulations in force (point 5.3.1.11, UNI EN280:2015).
The platform is fitted with a tracked undercarriage with dual speed gear motors equipped with a negative brake, therefore the machine will remain blocked whenever the forward or backward movement is interrupted.
To turn the platform, move the levers as indicated in the following illustrations.

	Right turn
	Left turn
	Rotation on itself towards the right (Counter-Rotation)
	Rotation on itself towards the left (Counter-Rotation)

The indication of the translation enabling is indicated by the status of the consent warning light located on the display on the control panel.



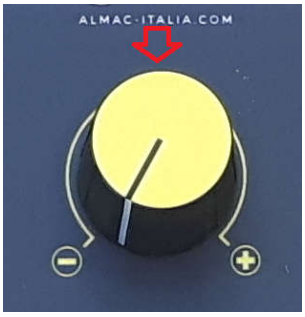
Attention: If you must drive up a slope, do not change direction when the ground changes from flat to sloping. If this is absolutely necessary, perform the manoeuvre gradually.

Adjusting the speed:

It is possible by using the potentiometer (7) in the console to activate the throttle of the internal combustion engine.

Turning the potentiometer clockwise (+) and exceeding 50% of the stroke activates the accelerator.

Turning the potentiometer anti-clockwise (-) and dropping below 50% of the stroke will deactivate the accelerator.



After a time of 35 minutes without selecting any command the accelerator is automatically deactivated.

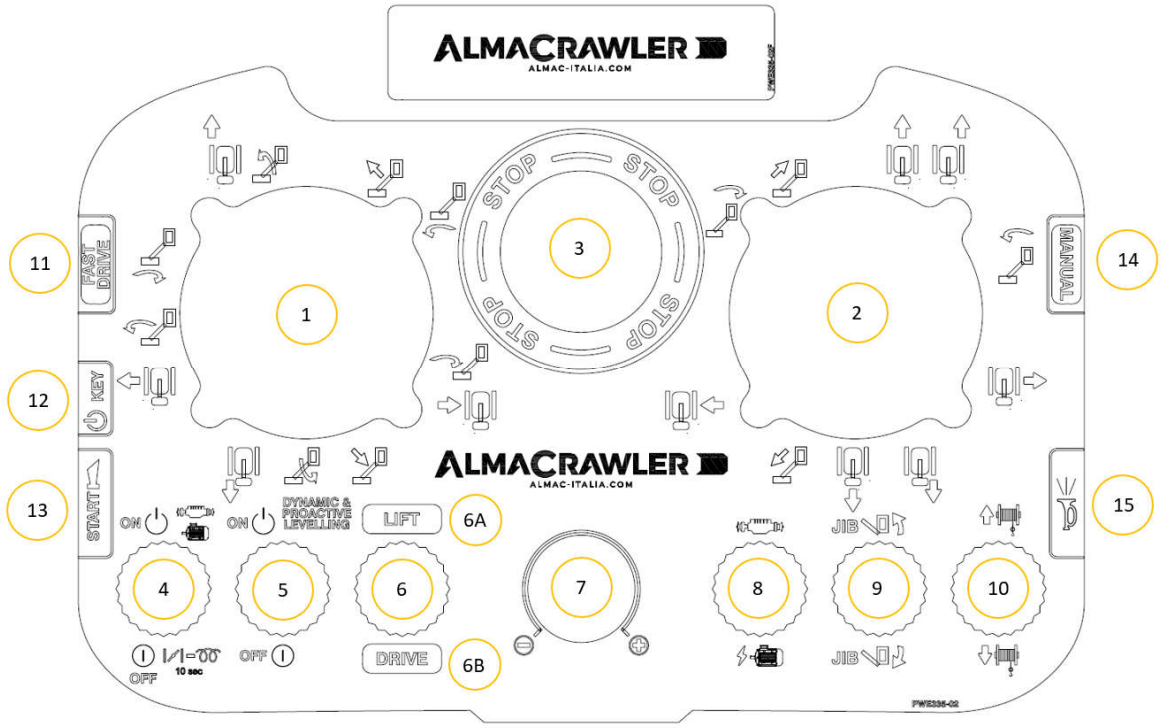
2.1.2.2 Fast drive

Pressing button 11 (Violet "FAST DRIVE") activates Booster mode (the display will show "FAST DRIVE"); in this way it is possible to move the platform in a straight line simply by operating only the Joystick (2), with the engine at maximum rpm.

This condition is activated regardless of the position of the Dynamic Levelling selector (5) and the position of the potentiometer.

Attention: During this function, automatic levelling is deactivated.

The mode remains active until the button 11 is pressed again or until the machine is switched off by means of an emergency key or mushroom button.

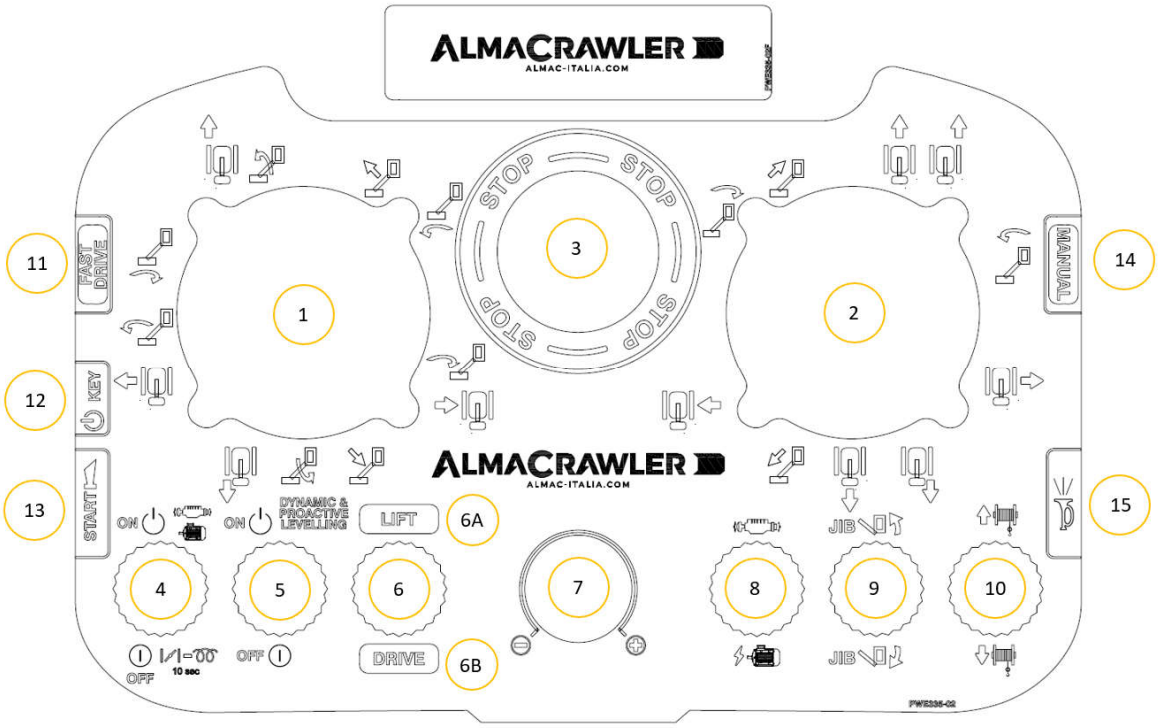


The function is only activated if the longitudinal inclination of the carriage is less than 5°.
With this function active, the hydraulic motors are put in series and engine displacement of the same is activated.
In this way it is possible to move only in a straight line (it is not possible to steer) but at twice the speed of the standard mode.

Attention: With the Booster function active, when the joystick is released the machine does not stop immediately but there is a deceleration ramp. The space travelled before it stops can even be of 50 cm.

2.1.2.3 Optional mode: translation control command with the right Joystick

Pressing button 11 (Violet "FAST DRIVE") and positioning the potentiometer (7) at a value below 90% activates the driving mode with joystick (the display will show "FAST DRIVE")
With this function enabled, it is possible to control the machine translation in a straight direction and in steering simply by operating the Joystick (2) only.
The mode remains active until the button 11 is pressed again or until the machine is switched off by means of an emergency key or mushroom button.



2.1.2.4 Translation mode with basket over the transport height

With the platform raised above the transport height, the maximum travel speed is automatically limited to a maximum value of 0.4Km/h (0.24mph).
All the functions remain the same as with the platform in the transport configuration.
Only the "FAST DRIVE" function is different, in this case the booster function is never activated.

2.1.2.5 Widening and narrowing of the tracked undercarriage

Widening of the tracked undercarriage is only permitted if the carriage is in a transport condition.

Narrowing of the tracked undercarriage is only permitted if the machine is in a transport condition and only if the column is centred.

2.1.2.5.1 Widening and narrowing of the carriage in standard mode

If the machine is in standard translation mode then each lever controls the respective track (Right Lever→Right Track,Left Lever→Left Track).

Moving the left lever to the left widens the left track, moving the left lever to the right narrows the left track.
Moving the right lever to the right widens the right track, moving the right track to the left narrows the right track.
See orange symbols on serigraphy

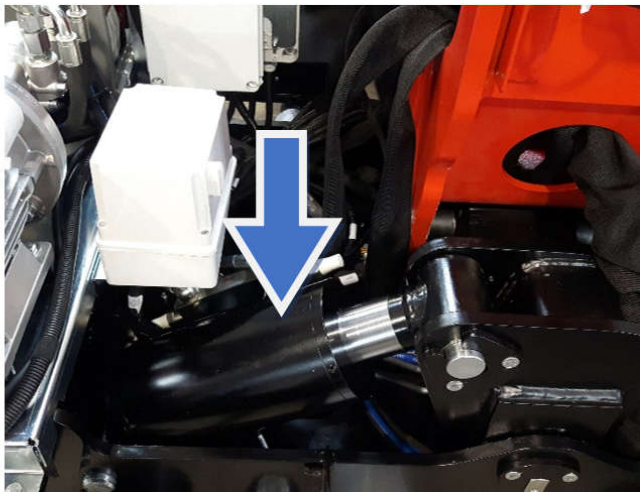
2.1.2.5.2 Widening and narrowing of the carriage in FAST DRIVE mode

If the machine is in FAST DRIVE travel mode then widening or narrowing of both tracks will only be controlled by the left lever.

Moving the left lever to the left, after 2 seconds the left track is widened first and then the right track, moving the left lever to the right after 2 seconds, first the left track and then the right track is narrowed.

2.1.3 **Levelling of the slewing ring**

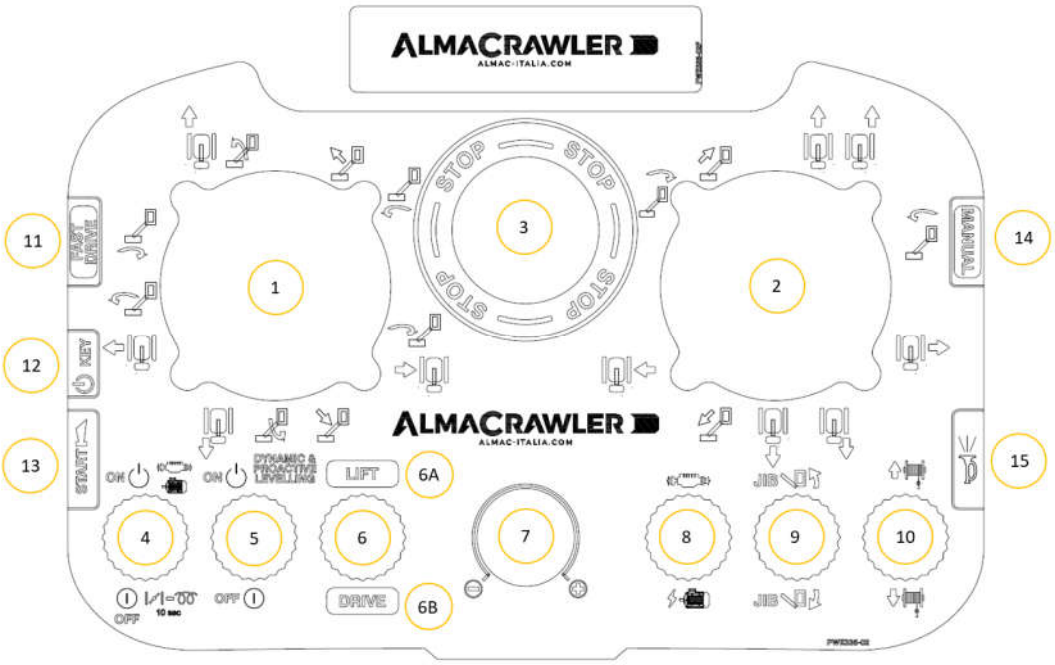
The machine is equipped with an automatic levelling system with hydraulic cylinders to allow the aerial part to operate within the maximum inclination permitted, thereby keeping the fifth wheel level always horizontal within a range of ± 0.5°, both in the longitudinal and lateral direction.



The system is able to compensate for a maximum inclination of 15° both longitudinally and laterally. The levelling of the fifth wheel level can be performed either with selector 6 positioned downwards (movements of the carriage) or with the selector positioned upwards (movements of the aerial part).

2.1.3.1 Levelling in the transport configuration (Operating the manual controls)

If the machine is in a transport condition and there is a load greater than 20 kg in the basket, it is possible to tilt the fifth wheel level manually to a maximum inclination of 5° both in the longitudinal and lateral directions, if the load in the basket is less than 20 kg it is possible to reach the end of stroke (15°).



To activate this mode it is necessary to:
Set selector 6 upwards (LIFT).

- Press the side button (14) Green “MANUAL”, and at the same time move the joystick (1) to the right/left to act on the side cylinder or up/down to act on the longitudinal cylinder.

Attention: Do not use this function to try to level the fifth wheel level, as manual levelling is less precise than automatic levelling.

2.1.3.2 Levelling in transport configuration (Operating the aerial controls)

a) If the machine is in transport condition, the selector (6) is positioned upwards and selector (5) is positioned upwards (ON) it is possible to automatically level the fifth wheel level by actuating any of the aerial movements. The system will bring the frame back to an inclination of less than 0.5° compared to the horizontal. Once levelled, if the position of the selector is still maintained, the same command is activated.

b) If the machine is in the transport condition, the selector (6) is positioned upwards and the selector (5) is positioned downwards (OFF). By actuating any aerial movement the fifth wheel level does not level and in case of reaching the maximum limit of the transport condition the automatically selected movement is interrupted. At this point, releasing the command and restarting it, levelling of the fifth wheel level is activated. Once levelled, if the position of the selector is still maintained, the same command is activated.

2.1.3.3 Levelling in transport configuration (Activating translation)

If the machine is in the transport condition, the selector (6) is positioned downwards and the selector (5) is positioned upwards (ON), it is possible to automatically level the fifth wheel level during translation of the machine.

Thanks to this system, the platform, while it is moving, will always remain levelled and once the operating area has been reached, the machine will already be in the condition to be lifted.

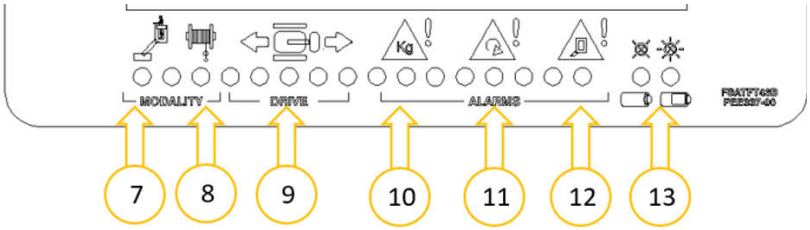
2.1.3.4 Levelling beyond the transport configuration (Translation activation)

If the machine is beyond the transport condition, but in a diagram where translation is permitted, then the levelling function called "proactive levelling" can be activated.
The selector (6) must be positioned downwards and the selector (5) must be positioned upwards (ON).

Note: Proactive Levelling is only active up to the maximum permissible translation height of the machine.

This function is used to correct the levelling of the fifth wheel level when at height, if after a translation on not perfectly level ground, the inclination of the slewing ring becomes 1° higher.
The function is automatically disabled if the inclination of the fifth wheel level exceeds 4°.

The levelling speeds are reduced compared to those with the machine in the transport position.
This is wanted both to make the manoeuvre comfortable for the operators and to minimise the effects due to inertia.



If the LED 11 is on flashing it means that the inclination of the fifth wheel level is lower than 4° but greater than 1°; the proactive function is permitted;
If the LED 11 is on steady it means that the inclination of the fifth wheel level is greater than 4°; the proactive function is not permitted.
Only the machine can be returned to the transport configuration.

Operating principle:
During the translation at height, if 1°of the inclination of the fifth wheel level is exceeded, the translation stops.

- It is necessary to release the joysticks;
- When the joysticks are reactivated, the platform will be levelled again.

Attention: If the levelling is performed by means of the joysticks, once the levelling has been completed, the machine will start to travel automatically in the selected direction.

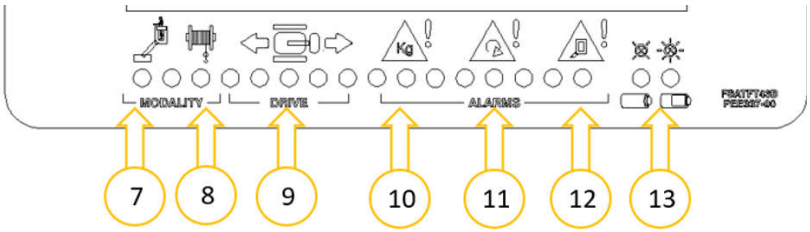
2.1.3.5 Levelling beyond the transport configuration (Activating the aerial controls)

If the machine is beyond the transport condition, but in a diagram where translation is permitted, then the levelling function called "proactive levelling" can be activated.
The selector (6) must be positioned upwards and the selector (5) must be positioned upwards (ON).

Note: Proactive Levelling is only active up to the maximum permissible translation height of the machine.

This function is used to correct the levelling of the fifth wheel level when at height, if after a movement of the aerial part, the inclination of the slewing ring becomes 1.5° higher.
The "TILT ALARM" appears on the display
The function is automatically disabled if the inclination of the fifth wheel level exceeds 4°.

The levelling speeds are reduced compared to those with the machine in the transport position.
This is wanted both to make the manoeuvre comfortable for the operators and to minimise the effects due to inertia.



If the LED 11 is on steady it means that the inclination of the fifth wheel level is greater than 4°; the proactive function is not permitted.
Only the machine can be returned to the transport configuration.

Operating principle:
During a movement of the aerial part, if inclination of the fifth wheel level is exceeded by 1.5°, the movements that increase the height of the basket stop.

- It is necessary to release the joysticks;
- When the joysticks are reactivated, the platform will be levelled again.

The aerial movements that activate this function are:

1) Boom lifting;
2) JIB Lifting;
3) Slewing ring rotation;
4) Outreach exit.

2.1.4 **Basket levelling**

The basket is levelled by a closed hydraulic system, independent from the electronics that always keeps the platform plane parallel to the fifth wheel level.
The electronics automatically intervene to correct the levelling in the following conditions:

1. The command mode in the basket is set.
2. The basket has an error greater than 2° with respect to the fifth wheel level for a time greater than 1 sec;
3. The platform is only levelled when the boom lifting or lowering command is selected;
4. The fifth wheel level is levelled within 1.5°.

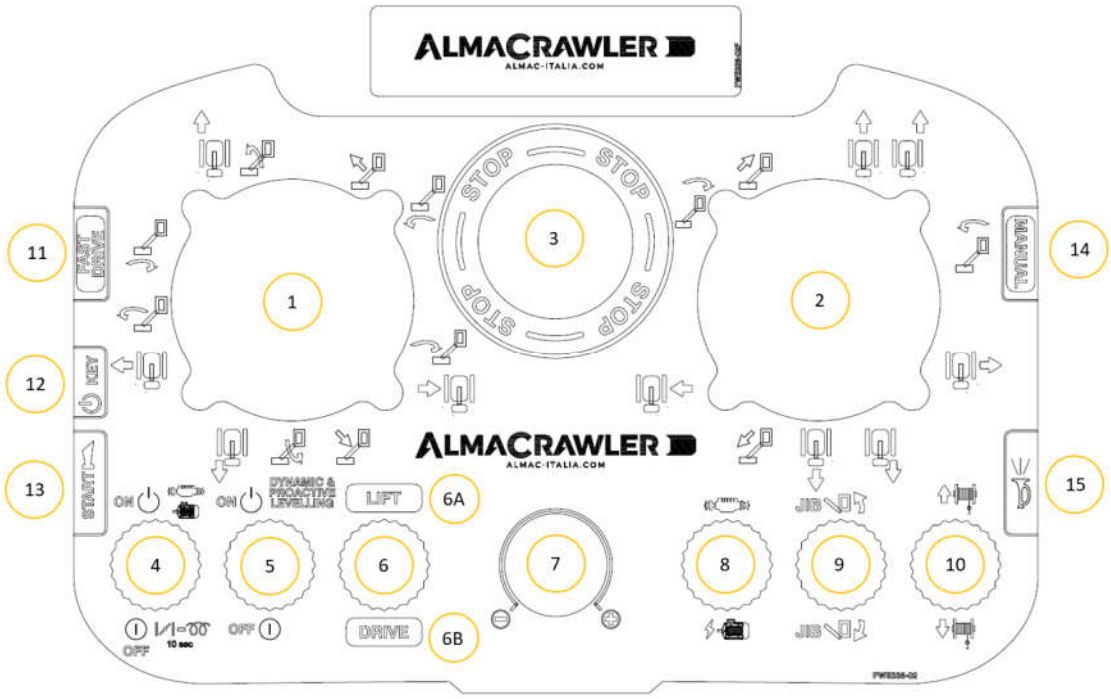
Attention: It is not possible to manually adjust the levelling of the basket from the commands in the remote console.
Attention: If during automatic levelling, the software reads an angle greater than 15° with respect to the horizon, the machine is blocked, hence only the platform can be returned.

It is only possible to manually adjust the levelling of the basket using the ground controls using the basket levelling selector.

Attention: This operation must only be carried out when the machine is stored without an operator in the basket.

2.1.5 **Overhead movements**

The basket can be moved by means of the appropriate switches on the control push-button panel. The lifting and lowering speeds are controlled by the electronic control unit (ECU) and by the positioning of the potentiometer in the mobile console (7).
The selector (6) must be positioned upwards Blue “LIFT”;



Extension and outreach retraction:

- Move the Joystick (2) up/down for extension or retraction.

Antenna lifting and lowering (JIB):

- Move the selector (9) up/down to lift or lower the antenna (JIB).

Lifting and lowering of the boom:

- Move the Joystick (1) up/down for raising or lowering of the boom.

Column rotation:

- Move the Joystick (1) to the right to rotate to the right with the platform (anti clockwise rotation);
- Move the Joystick (1) to the left to rotate to the left with the platform (clockwise rotation).

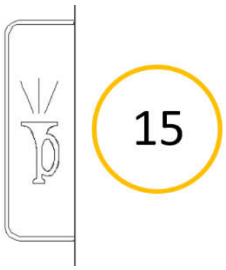
Basket rotation:

- Move the Joystick (2) to the right to rotate to the right with the platform (anti clockwise rotation);
- Move the Joystick (2) to the left to rotate to the left with the platform (clockwise rotation).

2.1.6 **Manual warning buzzer**

Press the side button (15) from the mobile push-button panel to operate the platform horn. It must be used whenever persons working or moving around the platform area must be warned that platform movements are in progress.

Attention: The continuous use of this device reduces the battery charge.

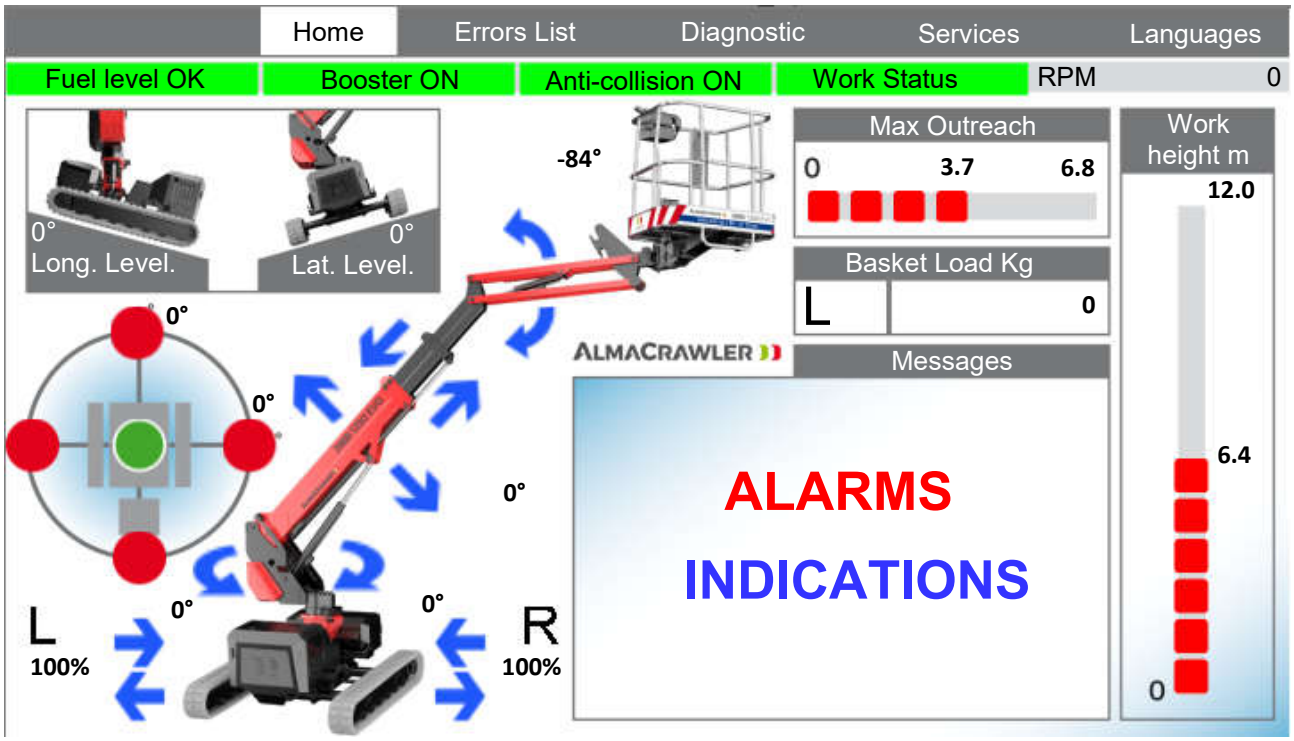


2.2 ***Indications displayed on the counter in the ground control panel***

The counter is located on the side of the machine on the ground control panel, offering the total working hours of the internal combustion engine (see photo below).

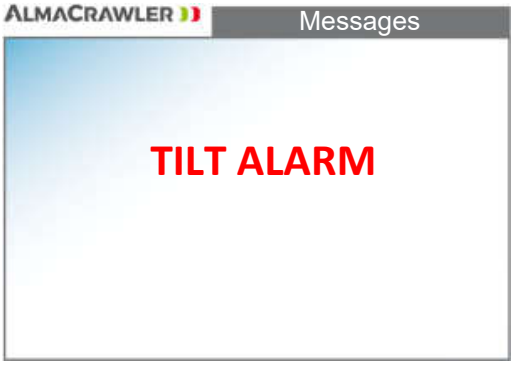
2.3 *Indications and alarms shown on the console display*

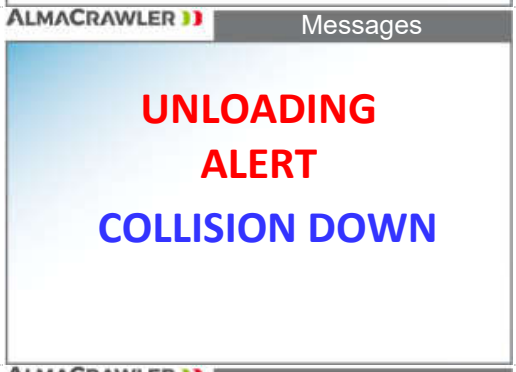
All indications and alarms detected on the moment by the machine will appear in the "Messages" box of the display (see photo below).

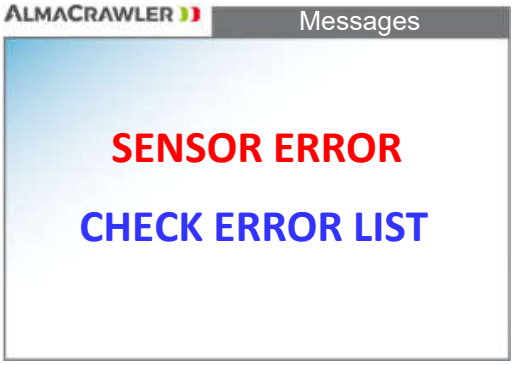
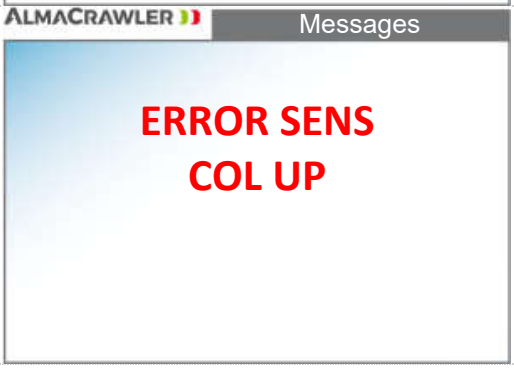


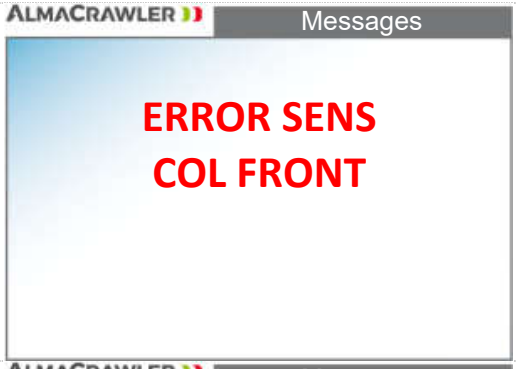
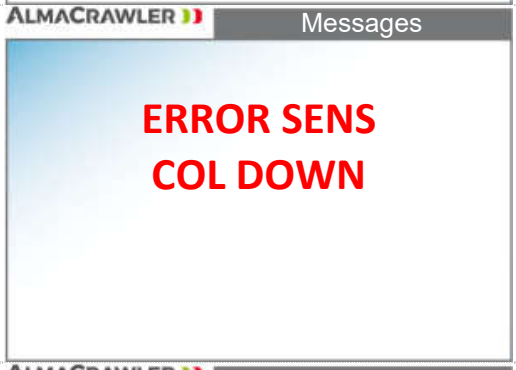
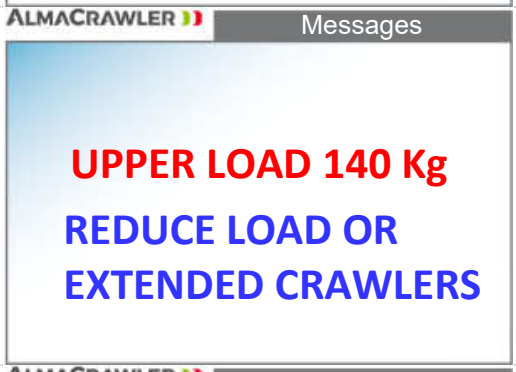
The alarms are shown in the upper message box and the words are red, the indications are shown in the lower message box and the words are blue.

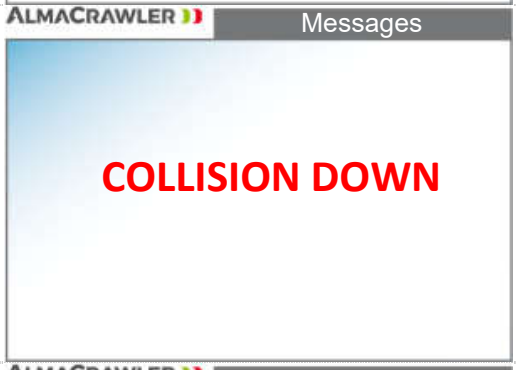
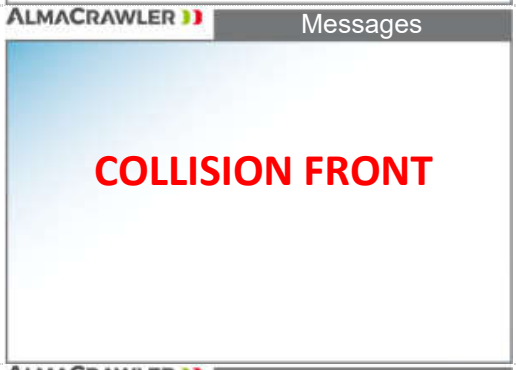
The alarms and indications on the machine are:

Message	Alarms and Indications	Description
	**TILT ALARM**	- The alarm is activated if the fifth wheel level, with the machine not in transport conditions, tilts with an angle greater than 1.5° for more than 2 seconds. The machine can only carry out the retraction movements or proactive levelling if translation is permitted; - The alarm is activated if the fifth wheel level tilts, or is inclined, by an angle greater than 4° and is out of the transport condition; all the movements are blocked except those for retraction;

Message	Alarms and Indications	Description
	**OVERLOAD ALAMR**	The alarm is activated when the limit load in the basket is exceeded. Note: At the bottom of the message box, the indication REDUCE LOAD will also appear.
	**OUTREACH LIMIT**	The alarm is activated when the outreach limit has been reached.
	**BASKET TILT ALARM**	Malfunction of the basket levelling, this alarm occurs when the angle of the platform becomes greater than 15°.
	**UNLOADING ALERT**	The alarm is activated when the software reads a negative load in the basket (example: basket resting on a roof). Note: The indication COLLISION DOWN will also appear at the bottom of the message box.
	**UNLOCKED BASKET**	This alarm occurs when the basket presence inductive sensor is not active. In this case it means that the basket is not correctly locked with the pin or that it is not present.

Message	Alarms and Indications	Description
	**SAFETY SYSTEM OFF**	The alarm is activated when the safety functions for emergency situations are bypassed using the ground control procedure. Note: This alarm remains present until the machine is switched off.
	**SENSOR ERROR**	- The alarm is activated when a safety component of the machine is not working or is in alarm; - This alarm occurs when the console or radio is activated and the system reads an already selected movement (the same applies to the ground controls). Note: At the bottom of the message box the CHECK ERROR LIS will also appear.
	**NO CAN COMMUNICATION**	The alarm is activated when there is no communication with the control unit.
	**UPPER COLLISION SENSOR ERROR**	This alarm occurs when the upper sensor is not working or is disconnected from the power supply.

Message	Alarms and Indications	Description
	**FRONT COLLISION SENSOR ERROR**	This alarm occurs when the front sensor is not working or is disconnected from the power supply.
	**LOWER COLLISION SENSOR ERROR**	This alarm occurs when the lower sensor is not working or is disconnected from the power supply.
	**MEMORY ERROR**	The alarm is activated when there is a fault inside the electronic control unit.
	**REDUCE THE LOAD OR WIDEN THE TRACKS**	The indication appears when the machine, in transport conditions with at least one track not fully extended, exceeds the maximum load of 140kg and the moving part is moved beyond the transport configuration.
	**EXTENDED CRAWLERS MAX CARRIAGE INCLINATION**	The indication appears when the machine, in addition to or at the limit of the transport conditions, with at least one track not fully extended, exceeds the maximum limit of the wagon carriage (2° laterally or 5°longitudinally).

Message	Alarms and Indications	Description
	**COLLISION UP**	The alarm appears when the sensor located in the railing of the basket detects the presence of objects at a distance of 1.5 m above the basket.
	**COLLISION DOWN**	The alarm appears when the sensor located under the basket detects the presence of objects at a distance of 0.8 m below the basket.
	**COLLISION FRONT**	The alarm appears when the sensor located under the basket detects the presence of objects at a distance of 0.8 m in front of the basket.
	**AUTO LEVEL: ON**	The indication appears when the machine is automatically levelling the fifth wheel level or basket.
	**FAST DRIVE**	The indication appears when the "FAST DRIVE" mobile console button is pressed.

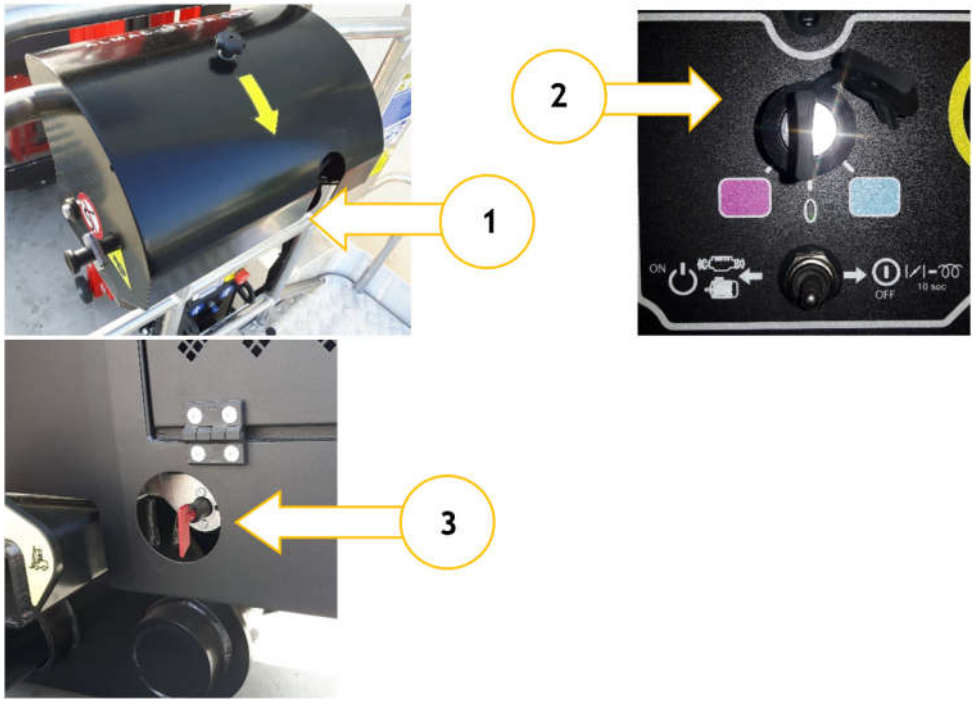
Message	Alarms and Indications	Description
	**TRANSPORT**	The indication appears when the machine is in a transport condition.
	**START**	The indication appears when the machine is started; pressing the green start button on the side of the console activates all the controls, at which point the machine can be switched on.
	**RADIO OUT BASKET**	The indication appears when the sensor fixed on the console support does not detect the presence of the radio in its housing.

2.4 *Stopping the machine*

2.4.1 **Normal stop**

During normal use of the platform, releasing the joysticks and the selectors will stop aerial and ground-based movement.
Deactivation and platform recovery must be performed in this way:

- Bring all lifting members to their rest position;
- Turn off the machine via the console by setting the selector to OFF;
- Cover the mobile push-button panel with its guard (1);
- Get out of the basket;
- Position the key selector (2) on the ground controls in the central position, then remove the key;
- Disconnect the battery using the dedicated command and remove the key (3).



2.4.2 **Emergency stop**

In case of anomalous circumstances, or in those situations in which it is necessary to interrupt any movement of the machine, the operator can command IMMEDIATE STOPPING of all the functions of the machine by pressing the MUSHROOM button. Three emergency buttons are installed on the machine:

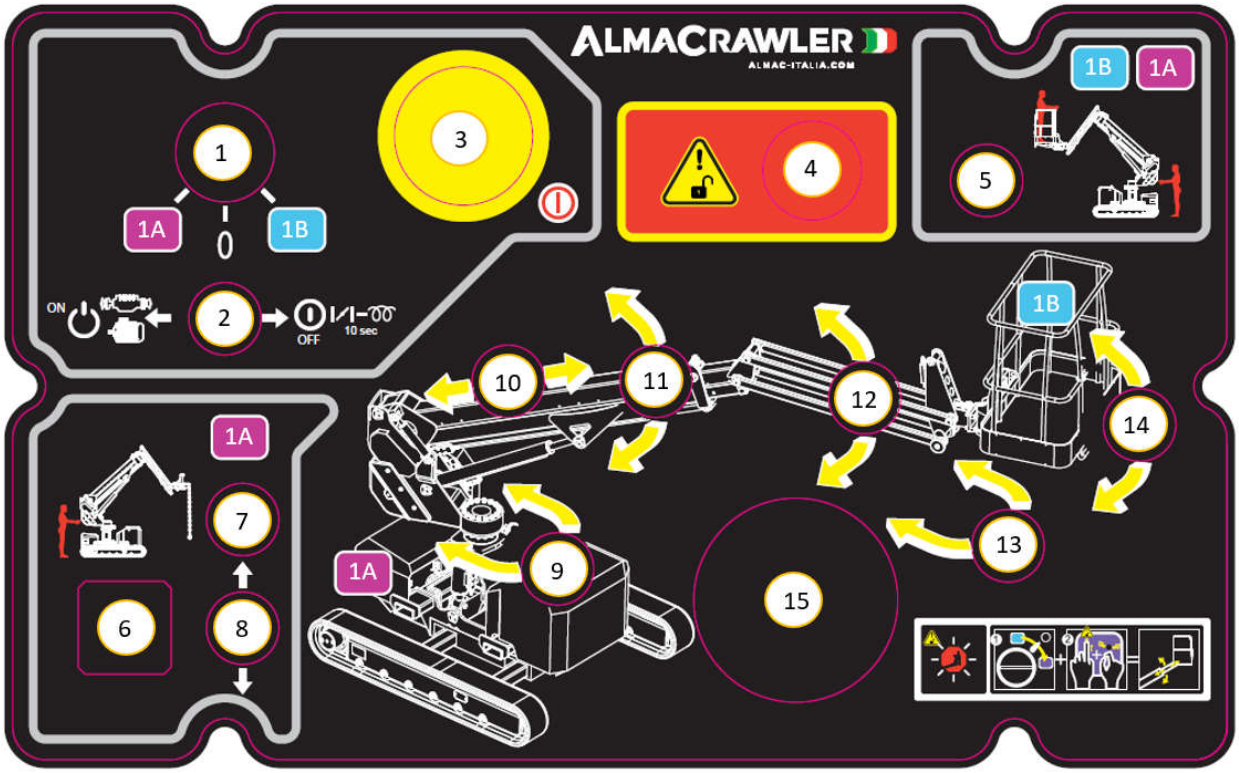
- Ground control panel;
- Remote control push-button panel;
- Basket support (if any).

ONLY RADIO VERSION

After using the emergency button, to restart the machine it is necessary to release the mushroom buttons in order to re-enable all the controls.

3 Emergency procedures

3.1 *Operator recovery procedure incapacitated by ground controls, even with the mushroom button pressed in the basket.*

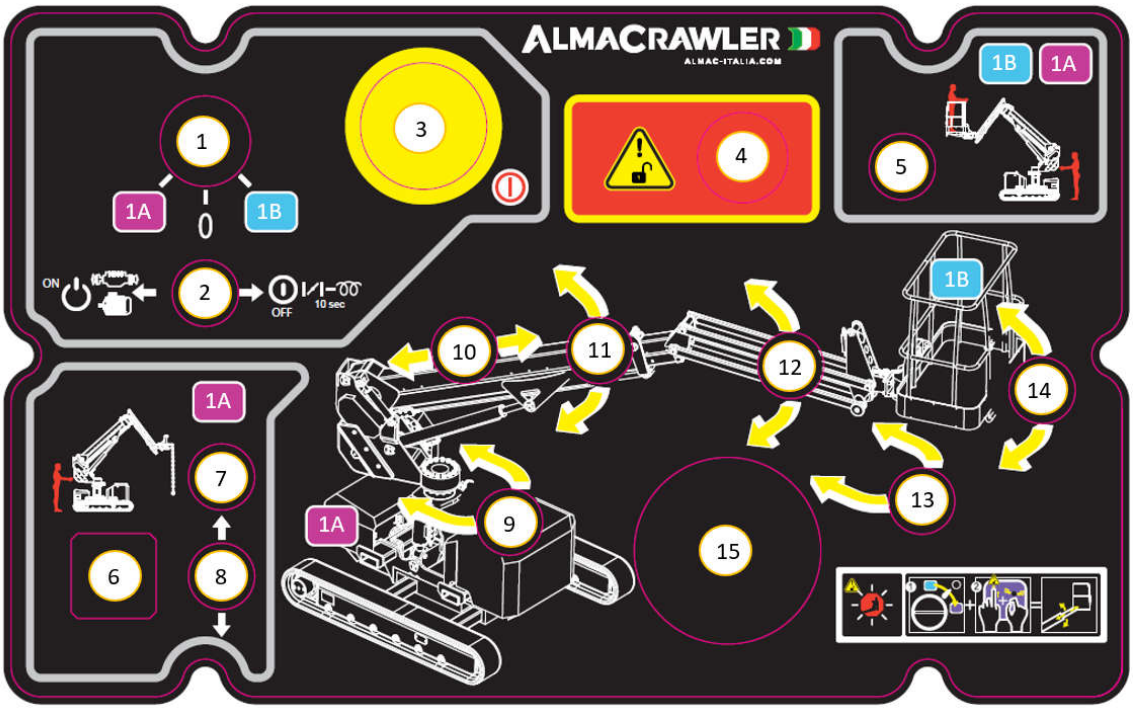


Using the ground control panel, perform the sequence described below for the operator recovery:

1. Turn the selection key (1) to the "Purple" position (1A).
2. Use the selector (2) to switch on the petrol/electric engine;
3. Using the selectors (9-10-11-12-13-14), perform one movement at a time to bring the machine back to the safety position.

During this procedure all the safety functions of the machine are active.

3.2 *Procedure to move with the wired push-button panel connected to the ground panel (Outlet 6).*

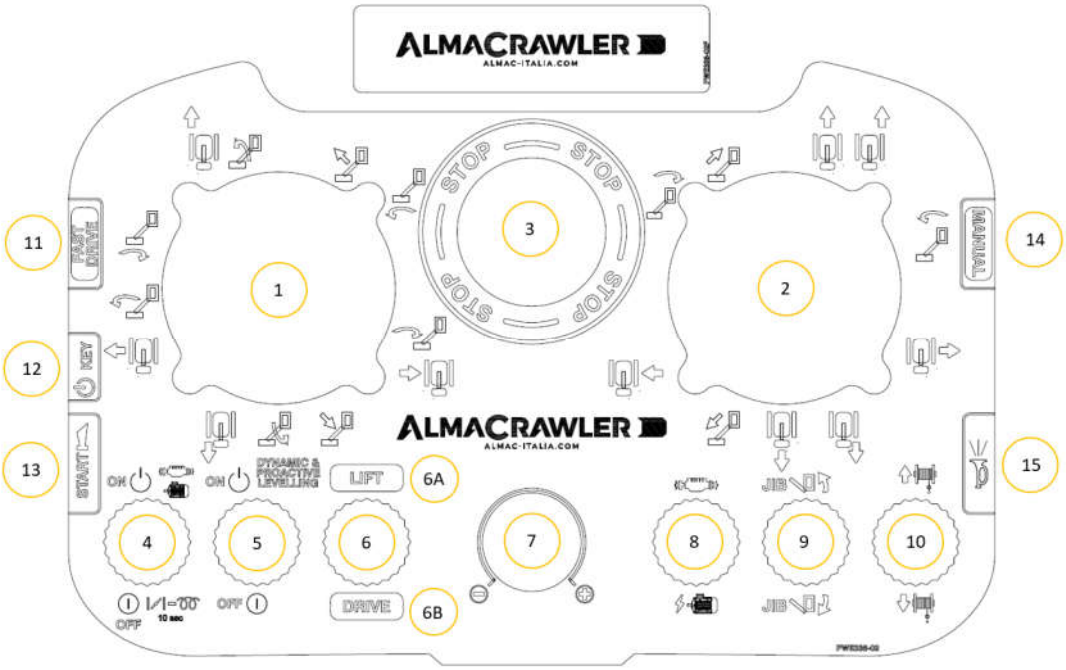


Using the ground control panel, perform the sequence described below:

1. Remove the connector from the ground control outlet 6 and store it carefully.

2. Connect the console cable to the ground control outlet 6.

3. Turn the selection key (1) to the "Purple" position (1A);
4. Use the selector (2) to switch on the petrol/electric engine;
5. Using the selectors (9-10-11-12-13-14), perform one movement at a time to move the aerial part if necessary;
6. Using the Joysticks 1 and 2, perform the translation movements



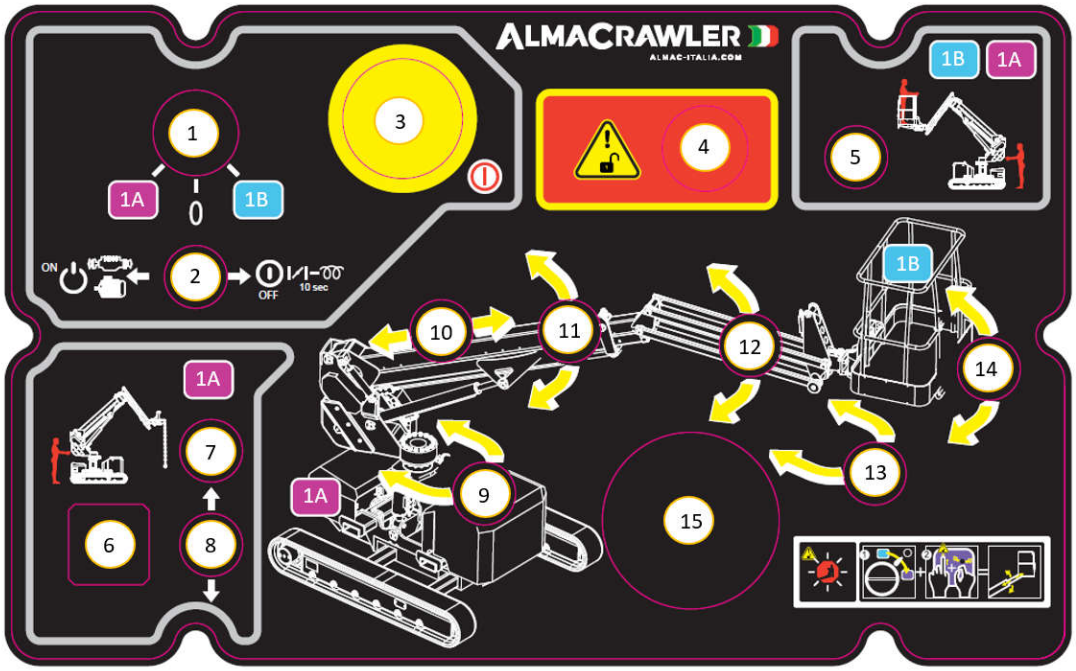
Attention the selector (5) must be set to OFF.
<u>During this procedure all the safety functions of the machine are active.</u>

With this procedure it is possible to move with the machine beyond the transport conditions and to move it in particularly tight spaces.

During this procedure there should be no load in the basket or load on the basket support in case the basket is removed.
In the event of a load presence, the translation will not be permitted.

Attention: Follow all the safety instructions regarding the translation given in chapter 4.7.3.1.1 and the related other chapter called up.

3.3 *Operator recovery procedure incapacitated by means of controls on the ground and machine in overload.*



Using the ground control panel, perform the sequence described below for the operator recovery:

1. Turn the selection key (1) to the "Purple" position (1A);
2. Use the selector (2) to switch on the petrol/electric engine;
3. Remove the seal on the cover that protects the button (4);
4. Press the button (4) for more than 3 seconds and keep it pressed; in this way the safety functions are bypassed, at the same time the acoustic signal is activated with a continuous sound; in addition the alarm "SAFETY SYSTEM OFF" appears on the display;
5. Keeping the button (4) pressed together with one of the selectors (9-10-11-12-13-14) the aerial movements are performed, the movement lasts at most 5 seconds. Once the time has elapsed it is necessary to release and press the button (4). Only one movement can be executed at a time;
6. At the end of this procedure the acoustic signal and the alarm on the display will always be present. To cancel these alarms it is necessary to switch the machine off and on again with a key or emergency stop;
7. On the “Service" page of the display, however, the button (4) has been pressed. In the last line called "Bypassed Safety Devices" the index will show the number of times the function has been activated.

ATTENTION: <u>During this procedure all the machine safety devices (load control, outreach control and tilt control) are deactivated.</u>
ATTENTION: <u>Carefully perform all movements as there is a constant danger of the machine overturning and overloading of the structure.</u>

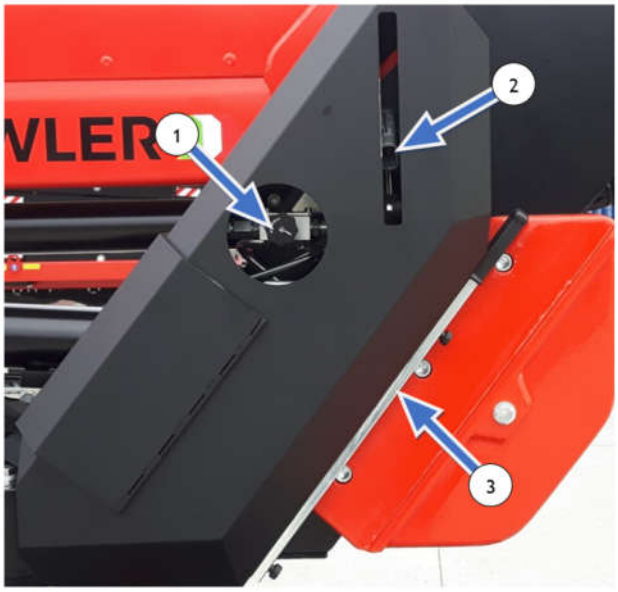
It is therefore necessary to always perform the following sequence of movements:

1. Complete retraction with extension of the telescopic boom;
2. Full lowering of the JIB;
3. Rotation of the slewing ring to bring the column back into a centred position (slewing ring angle 0°);
4. Complete lowering of the telescopic boom.

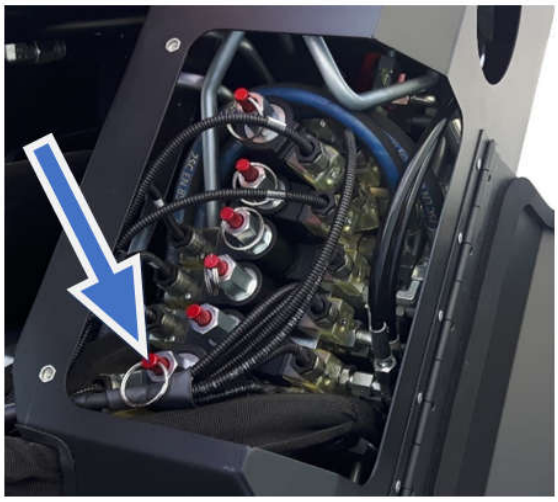
3.4 *Emergency manual descent*

In the event of a fault in the electrical system or in the hydraulic system, it is possible to perform the DESCENT operation of the platform, using the dedicated manual safety system.
To perform this manual emergency procedure, the following are necessary:

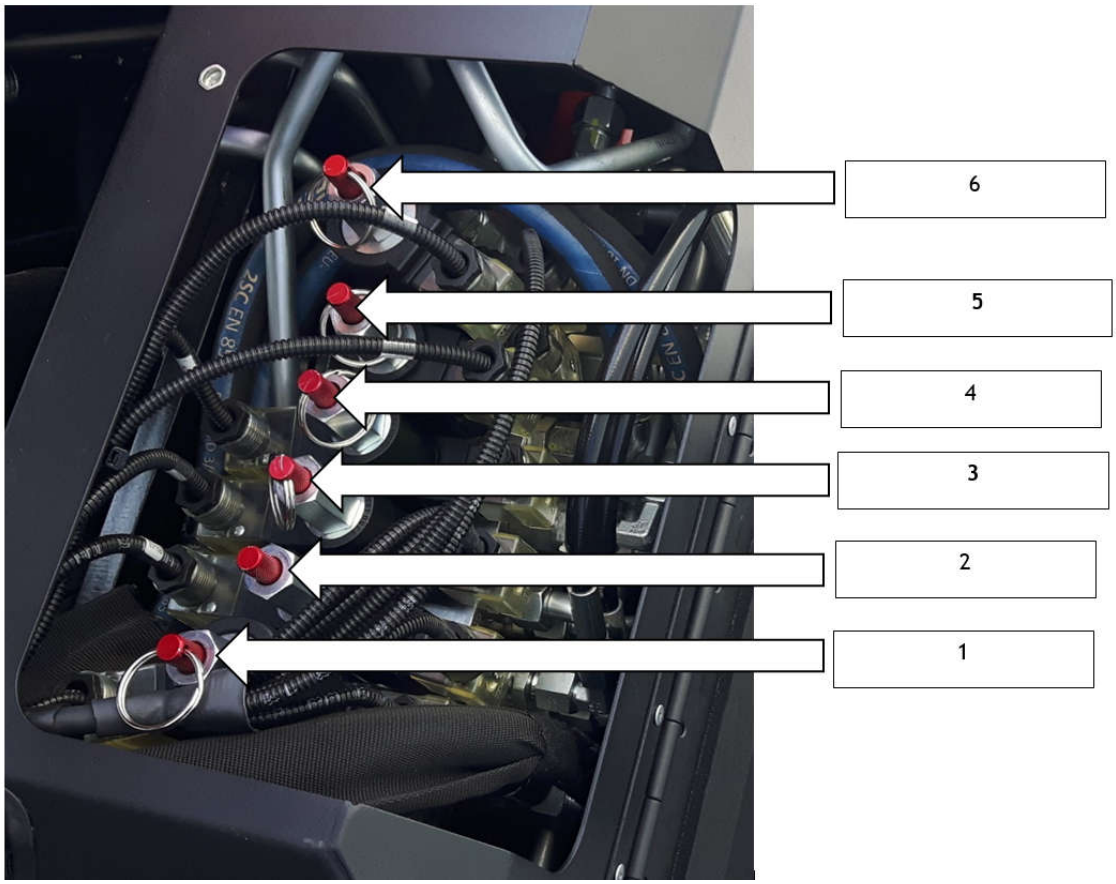
On the right side of the tower, near the distributor, signalled by dedicated stickers, there is a manual diverter (1) and a hand pump (2) provided with lever (3).



Turn the diverter with arrow facing up;
In this way it is possible to manually control the valves A1 and B1 (Exit and retraction of outreach).



Turn the diverter with the arrow pointing downwards;
In this way it is possible to manually control the rest of the valves.



1) Exit and retraction of outreach;
2) Basket rotation;
3) Basket levelling;
4) JIB;
5) Column rotation;
6) Boom lifting and lowering.

With the diverter positioned in one of the two conditions described above, manoeuvre the pump by hand using the appropriate lever, at the same time commanding the valves for the movements to be carried out.

Note: Do not perform two movements at the same time, perform only one movement at a time.
Note: On the valve that controls the outreach there is an accessory to facilitate the retraction procedure; the same device can also be installed on the valve that controls the movements of the boom.

These operations are to be performed with:

1) Combustion or electric engine off;
2) Electrical system switched off (by disconnecting the switch-battery).

These operations simulate emergencies that can happen to the machine such as:

1) Electrical system faulty;
2) Hydraulic system faulty;
3) Motors faulty.

ATTENTION: During this procedure all the machine safety devices (load control, outreach control and tilt control) are deactivated.
ATTENTION: Carefully perform all movements as there is a constant danger of the machine overturning and overloading of the structure.

It is therefore necessary to always perform the following sequence of movements:

1. Complete retraction with extension of the telescopic boom;
2. Full lowering of the JIB;
3. Rotation of the slewing ring to bring the column back into a centred position (slewing ring angle 0°);
4. Complete lowering of the telescopic boom.

ATTENTION: THIS MECHANISM MUST ONLY BE USED IN AN EMERGENCY, i.e. ELECTRICAL OR HYDRAULIC FAILURE.

3.5 *Transporting the machine in an emergency*

To move or transport the platform using external equipment, refer to paragraph 2.5.

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