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160 ATJ RNC 4RD ST5 S1
160 ATJ RC 4RD ST5 S1
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180 ATJ RC 4RD ST5 S1

OPERATOR'S MANUAL
(ORIGINAL INSTRUCTIONS)

IMPORTANT

Carefully read and understand this instruction manual before using the lifting platform.

*It contains all information relating to operation, handling and lifting platform equipment,
as well as important recommendations to be followed.*

*This document also contains precautions for use, as well as information on the servicing and routine maintenance required
to ensure the lifting platform's continued safety of use and reliability.*

WHENEVER YOU SEE THIS SYMBOL IT MEANS:



WARNING ! BE CAREFUL ! YOUR SAFETY OR THE SAFETY OF THE LIFTING PLATFORM IS AT RISK.

- This manual has been produced on the basis of the equipment list and the technical characteristics given at the time of its design.
- The level of equipment of the lifting platform depends on the options chosen and the country of sale.
- According to the lifting platform options and the date of sale, certain items of equipment/functions described herein may not be available.
- Descriptions and figures are non binding.
- MANITOU reserves the right to change its models and their equipment without being required to update this manual.
- The MANITOU network, consisting exclusively of qualified professionals, is at your disposal to answer all your questions.
- This manual is an integral part of the lifting platform.
- It is to be kept in its storage space at all times for ease of reference.
- Hand this manual to the new owner if the lifting platform is resold.

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3 - MAINTENANCE

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INSTRUCTIONS TO THE COMPANY MANAGER

THE SITE

Proper management of the personnel lifting platform's area of travel will reduce the risk of accidents:

- Ground not unnecessarily uneven or obstructed.
- No excessive slopes.
- Pedestrian traffic controlled, etc.

THE OPERATOR

- Only qualified, authorised personnel can use the platform. This authorisation is given in writing by the appropriate person in the establishment where the platform is to be used and must be carried permanently by the operator.

IMPORTANT

On the basis of experience, there are a number of possible situations in which operating the platform is contra-indicated.

Such foreseeable abnormal uses, the main ones being listed below, are strictly forbidden:

- *The foreseeable abnormal behaviour resulting from ordinary negligence, but which does not result from any wish to put the machinery to any improper use.*
 - *The reflex reactions of a person in the event of a malfunction, incident, fault, etc. during operation of the platform.*
 - *Behaviour resulting from application of the "principle of least effort" when performing a task.*
- *For certain machines, the foreseeable behaviour of such persons as: apprentices, teenagers, handicapped persons, trainees tempted to drive a platform, operators tempted to operate a truck to win a bet, in competition or for their own personal experience.*

The person in charge of the equipment must take these criteria into account when assessing the suitability of a person to drive.

IMPORTANT

OBTAIN INFORMATION ON:

- *How to behave when there is a fire.*
- *The location of the nearest first aid kit and fire extinguisher.*
- *The emergency telephone numbers for calling (the doctors, ambulance, hospital and fire brigade).*

PLATFORM

A – SUITABILITY OF THE PLATFORM FOR THE TASK

- MANITOU has ensured that this platform is suitable for use under the standard operating conditions defined in this operator's manual, with an **OVERLOAD test coefficient of 1.25** and an **OPERATIONAL test coefficient of 1.1**, as stipulated in harmonised standard **EN 280** for **MPLP** (Mobile Personnel Lifting Platforms). Before putting the platform into operation, the company manager must check that the platform is suitable for the work to be carried out and conduct certain tests (in accordance with current legislation).

B - ADAPTING THE PLATFORM TO USUAL ENVIRONMENTAL CONDITIONS

- In addition to standard equipment mounted on your platform, many options are available, such as: rotating beacon light, working light, etc. Contact your dealer.
- Take into account climatic and atmospheric conditions of the site of utilisation.
 - Protection against frost (➤ 3 - MAINTENANCE: LUBRICANTS AND FUEL).
 - Adaptation of lubricants (ask your dealer for information).
 - Engine filtration (➤ 3 - MAINTENANCE: FILTER CARTRIDGES AND BELTS).

IMPORTANT

For operation under average climatic conditions, i.e.: between -15°C and +35°C, lubricants are topped up in the factory.

For operation under more severe climatic conditions, before starting up, it is necessary to drain all the circuits, then ensure correct levels of lubricants using lubricants properly suited to the relevant ambient temperatures. The same applies to coolant.

- Preventing fire risks associated with use in dusty and flammable conditions.
- A platform operating in an area without fire extinguishing equipment must be equipped with an individual extinguisher. Solutions are available, consult your dealer.

IMPORTANT

Diesel platforms are designed for outdoor use under normal atmospheric conditions and indoor use in suitably aerated and ventilated premises.

Electric platforms are designed for outdoor use under normal atmospheric conditions and for indoor use.

It is prohibited to use the platform in areas where there is a risk of fire or which are potentially explosive (e.g. refineries, fuel or gas depots, stores of inflammable products, etc.).

For use in these areas, specific equipment is available (ask your dealer for information).

C - MODIFYING THE PLATFORM

⚠ IMPORTANT ⚠

It is strictly prohibited to replace platform components with components not approved by Manitou (batteries, wheels, basket, etc.).

⚠ IMPORTANT ⚠

It is strictly forbidden to change the structure and settings of the various components of your platform (hydraulic pressure, calibrating limiters, engine speed, sensors, addition of extra equipment, addition of counterweight, unapproved attachments, alarm systems, etc.) yourself.

In this event, the manufacturer cannot be held responsible.

⚠ IMPORTANT ⚠

Risk of the access platform becoming unstable:

- *Depending on the model, your platform may be supplied with standard wheels or all-terrain wheels. It is PROHIBITED to change from one type of wheel to the other.*
- *ELECTRIC PLATFORM: it is PROHIBITED to replace the batteries with lighter batteries.*

INSTRUCTIONS

- The operator's manual must always be in good condition and kept in the place provided on the platform and in the language used by the operator.
- You must replace the instructions manual, as well as any plates or stickers, if they are no longer legible or are missing or damaged.

MAINTENANCE

⚠ IMPORTANT ⚠

Refer to chapter: PLATFORM MAINTENANCE INSTRUCTIONS.

- Maintenance or repairs other than those detailed in chapter 3 - MAINTENANCE must be carried out by qualified personnel (consult your dealer) and under the necessary safety conditions to maintain the health of the operator and any third party.

⚠ IMPORTANT ⚠

Your platform must be periodically inspected to ensure its continued compliance.

The inspection frequency is defined by the legislation applying in the country in which the platform is used.

- Example for France: The manager in charge of the establishment using an access platform must open and maintain a maintenance log for each machine (order of 2 March 2004).

INSTRUCTIONS FOR THE OPERATOR

INTRODUCTION

IMPORTANT

The risk of accident while using, servicing or repairing your platform can be reduced if you follow the safety instructions and preventive measures detailed in these instructions.

Failure to respect the safety and operating instructions, or the instructions for repairing or servicing your platform may lead to serious, even fatal accidents.

- Only the operations and manoeuvres described in this operator's manual must be performed. The manufacturer cannot predict all possible risky situations. Consequently, the safety instructions given in the operator's manual and on the platform itself are not exhaustive.
- As an operator, you must at all times give reasonable consideration to the possible risks to yourself, to others or to the platform itself when you use it.

GENERAL INSTRUCTIONS

A - INSTRUCTION MANUAL



- Carefully read and understand the operator's manual.
- The operator's manual must always be in good condition and kept in the place provided on the platform and in the language used by the operator.
- You must replace the instructions manual, as well as any plates or stickers, if they are no longer legible or are missing or damaged.
- Any operations or manoeuvres not described in the operator's manual are categorically forbidden.
- Follow the safety advice and the instructions on the platform.
- A second operator must be present on the ground as a safety measure when using the platform.
- Familiarise yourself with the platform on the terrain where it will be used.
- The machine must also be used in accordance with good engineering practice.
- Do not use the platform if there is a wind speed of over 45 km/h. The platform's arms must not be subjected to a side force of more than 400 N (40 kg).
- Platforms intended exclusively for indoor use must not be used outside the buildings.

B - AUTHORISATION FOR USE IN FRANCE

(or see current legislation in other countries).

- Only qualified, authorised personnel can use the platform. This authorisation is given in writing by the appropriate person in the establishment where the platform is to be used and must be carried permanently by the operator.
- The operator is not empowered to authorise the driving of the platform by another person.

C - MAINTENANCE

- The operator must carry out the daily maintenance ( 3 - MAINTENANCE) before using the platform in his place of work.
- The operator must immediately advise his superior if his platform is not in good working order or does not comply with the safety notice.
- The operator is prohibited from carrying out any repairs or adjustments himself, unless he has been trained for this purpose. He must keep the platform properly cleaned if this is among his responsibilities.
- The operator is responsible for deciding and adjusting the frequency of cleaning needed to prevent the risk of fire ensuing from the build-up of flammable material. The operator should pay special attention to all the areas of the platform where these risk materials are likely to accumulate.
- The operator must ensure that the wheels are appropriate for the type of ground (see the ground contact area of the wheels ( 2 - DESCRIPTION: SPECIFICATIONS). Optional solutions are available, consult your dealer.

IMPORTANT

Do not use the platform if the wheels are damaged or excessively worn, because this could put your own safety or that of others at risk, or cause damage to the platform itself.

IMPORTANT

In the case of electric platforms, the operator must ensure that:

- Safety goggles are always worn when charging the batteries.
 - The batteries are not charged in an explosive environment.
 - There is no smoking and no naked flame directed towards the batteries when they are being handled (removal/installation) and when monitoring filling levels.
- Do not leave the battery charger connected during a lightning storm.*

D - MODIFYING THE PLATFORM

➤ INSTRUCTIONS TO SITE MANAGER: C - MODIFYING THE PLATFORM.

E - DIESEL PLATFORM AXLES

NON-OSCILLATING AXLE (ACCORDING TO MODEL)

⚠ IMPORTANT ⚠

The chassis is rigid, so the platform can be load bearing on only three wheels.

OSCILLATING AXLE (ACCORDING TO MODEL)

⚠ IMPORTANT ⚠

An oscillating axle enables the platform to have a ground reach on four wheels when in transport position.

When moving in the working position over uneven terrain, the oscillating axle is locked (the frame is stiff) so the platform may be bearing on only three wheels.

F - SAFETY DEVICES

- This machine is fitted with special safety devices that are able to limit its operation as circumstances require (➤ 2 - DESCRIPTION):
 - Overload in the basket.
 - Tilting of the platform beyond the authorised limits.
 - Blocking of the oscillating axle (according to model).
 - Slack or broken telescope cable (according to model).

OPERATING INSTRUCTIONS

A - BEFORE STARTING-UP THE PLATFORM

- Perform the daily maintenance operations (➤ 3 - MAINTENANCE).

B - DRIVER'S OPERATING INSTRUCTIONS

- Whatever their experience, operators are advised to familiarise themselves with the position and operation of the control panels before putting the platform into operation.
- The platform's arms must be fully lowered (down position for scissor platforms) before getting into or out of the basket; always get in and out facing the inside of the basket.
- If the platform is equipped with steps, the basket must be positioned vertically with these before getting in or out.
- Always use both hands and one foot or both feet and one hand to get in and out.
- Ensure that the guard rail and/or the access gate (according to model) is fully in the locked position before operating the platform from the basket.
- MANITOU recommends a safety harness in the operator's size be provided when the platform is in use (for the harness attachment in the basket, ➤ 2 - DESCRIPTION).
- Safety helmets must be worn.
- Wear suitable clothing for driving the platform; do not wear baggy clothes.
- Never operate the platform when hands or feet are wet or soiled with greasy substances.
- Make sure you have the appropriate protective equipment for the job to be done.
- Prolonged exposure to high noise levels may cause hearing problems. It is recommended to wear ear muffs to protect against excessive noise.
- Remain alert at all times when using the platform. Do not listen to the radio or music using headphones or earphones.
- The operator must always be in the normal operator's position. It is prohibited to have arms or legs, or generally any part of the body, protruding from the basket.
- The control units must never in any event be used for any other than their intended purposes (e.g. getting in or out of the basket, portmanteau, etc.).
- The platform must not be fitted with unauthorised attachments that increase the unit's wind load.
- Do not use a ladder or any improvised constructions in the basket to reach greater heights.
- Do not climb on the basket frame to reach greater heights.

C - ENVIRONMENT

- Comply with site safety regulations.
- The platform can be operated from the ground: ensure that you forbid access.
- If you have to use the platform in a dark area or at night, make sure it is equipped with working lights.
- The platforms may not be used as cranes or elevators for the permanent transport of people or materials, nor as jacks or supports.
- Suspending a load under the basket or on any part of the lifting apparatus is strictly forbidden.
- When operating, ensure that there is no one or anything impeding the platform's progress and operation.
- When raising the platform, ensure that no one or anything impedes the platform's operation and do not perform any inappropriate manoeuvres.
- Do not allow anybody to come near the working area of the platform or pass beneath an elevated load. To ensure this, mark out your working area.
- Driving on a longitudinal slope:
 - Adjust the platform speed with the proportional control handle.
- Take into account the platform's dimensions and its load before trying to negotiate a narrow or low passageway.
- Never move onto a loading bridge without having first checked:
 - That it is suitably positioned and made fast.
 - That the unit to which it is connected (wagon, lorry, etc.) will not shift.
 - That this bridge is prescribed for the size and mass of the platform (< 2 - DESCRIPTION).
 - That the slope of the bridge is not greater than the platform's maximum authorised slope (< 2 - DESCRIPTION).
- Never move onto a foot bridge, floor or freight lift, without being certain that they are prescribed for the mass and size of the platform to be loaded and without having checked that they are in sound working order.
- Be careful in the area of loading bays, trenches, scaffolding, soft ground, manholes, etc.
- Make sure the ground is stable and firm under the wheels and/or stabilisers before lifting the basket. If necessary, add sufficient wedging under the stabilisers. Do not attempt to carry out operations that exceed the platform's capabilities.
- Ensure that any materials loaded onto the platform (pipes, cables, containers, etc.) cannot fall out. Do not pile these materials to the point where it is necessary to step over them.

⚠ IMPORTANT ⚠

If the basket must remain stationary over a structure for a long period, there is a risk that the basket will descend and rest on this structure because of the oil cooling in the cylinders or a minor leak in the cylinder locking system. To eliminate this risk:

- Regularly check the distance between the basket and the structure and re-adjust if necessary.
- If possible use the platform at an oil temperature as close as possible to ambient temperature.

- In the case of work near aerial lines, ensure that the safety distance is sufficient between the working area of the platform and the aerial line.

⚠ IMPORTANT ⚠

You must consult your local electrical agency.

You could be electrocuted or seriously injured if you operate or park the platform too close to power cables.

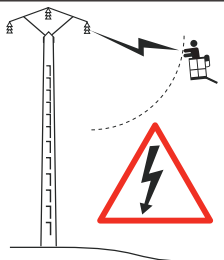
⚠ IMPORTANT ⚠

If the platform comes into contact with electric wires, press the Emergency Stop button.

Call for help, warn people on the ground not to touch the basket, and ask them to switch off the power supply to the wires or have it switched off.

⚠ IMPORTANT ⚠

It is forbidden to use the platform close to electricity cables. Maintain the specified safe distances.

RATED VOLTAGE (VOLTS)	SAFETY DISTANCE (METRES)	
50 < U < 1000	2.30 M	
1000 < U < 30000	2.50 M	
30,000 < U < 45,000	2.60 M	
45,000 < U < 63,000	2.80 M	
63,000 < U < 90,000	3.00 M	
90,000 < U < 150,000	3.40 M	
150,000 < U < 225,000	4.00 M	
225,000 < U < 400,000	5.30 M	
400,000 < U < 750,000	7.90 M	

⚠ IMPORTANT ⚠

Do not use this machine during lightning storms, snow storms, during frosty periods or in hazardous weather conditions. In case of strong wind exceeding 45 km/h, do not make any movement that may endanger the platform's stability.

- To visually recognise this wind speed, refer to the empirical wind evaluation scale below:

BEAUFORT scale (wind speed at a height of 10 m on a flat site)						
Force	Type of wind	Speed (knots)	Speed (km/h)	Speed (m/s)	Effects on Land	Sea conditions
0	Calm	0 - 1	0 - 1	<0.3	Smoke rises vertically.	Sea is like a mirror.
1	Light air	1 - 3	1 - 5	0.3 - 1.5	Smoke indicates direction of wind.	Ripples with appearance of scale, no foam crests.
2	Light breeze	4 - 6	6 - 11	1.6 - 3.3	Wind felt on face, leaves rustle.	Short wavelets, but pronounced.
3	Gentle breeze	7 - 10	12 - 19	3.4 - 5.4	Leaves and small twigs in constant motion.	Very small waves, crests begin to break.
4	Moderate breeze	11 - 16	20 - 28	5.5 - 7.9	Wind raises dust and loose pieces of paper; small branches are moved.	Small waves, becoming longer, numerous whitecaps.
5	Fresh breeze	17 - 21	29 - 38	8 - 10.7	Small trees in leaf begin to sway.	Wavelets form on inland waters; moderate waves, taking longer form.
6	Strong breeze	22 - 27	39 - 49	10.8 - 13.8	Large branches in motion, whistling heard in overhead wires, umbrella use becomes difficult.	Larger waves forming, whitecaps everywhere, some spray.
7	Near gale	28 - 33	50 - 61	13.9 - 17.1	Whole trees in motion, inconvenience felt when walking against the wind.	Sea heaps up; white foam from breaking waves begins to be blown in streaks along the direction of the wind.
8	Gale	34 - 40	62 - 74	17.2 - 20.7	Wind breaks twigs off trees; impedes progress.	Moderately high waves of greater length; edges of crests begin to break into spindrift.
9	Strong gale	41 - 47	75 - 88	20.8 - 24.4	Wind damages roofs (chimneys, slates, etc.).	High waves, crests of waves begin to topple, streaks of foam; reduced visibility.
10	Storm	48 - 55	89 - 102	24.5 - 28.4	Seldom experienced inland; trees uprooted; considerable structural damage occurs.	Very high waves; white streaks of foam; reduced visibility.
11	Violent storm	56 - 63	103 - 117	28.5 - 32.6	Very rare, widespread damage.	Exceptionally high waves able to hide medium sized ships from view, reduced visibility.
12	Hurricane	64 +	118 +	32.7 +	Devastating damage.	Sea completely white; air filled with foam and spray, very reduced visibility.

D - VISIBILITY

- Ensure good visibility on your route at all times. To increase your visibility, you can move forwards with the jib arm slightly raised (beware of the risk of falls in the basket from knocking into a low doorway, overhead electric wires, travelling cranes, highway bridges, rail tracks or any obstacle in the area in front of the platform). In reverse, look directly behind you. At all events, avoid reversing long distances.
- If visibility of your road is inadequate, ask someone to help, standing outside the area in which the platform will be moving, and make sure you always have a good view of this person.

E - STARTING-UP THE ENGINE-POWERED PLATFORM

SAFETY INSTRUCTIONS

- If using an emergency battery for start-up, use a battery with the same characteristics and respect battery polarity when connecting it. Connect the positive terminal first, and then the negative terminal.

⚠ IMPORTANT ⚠

Failure to respect polarity between batteries can cause serious damage to the electrical circuit.

The electrolyte in the battery may produce an explosive gas.

Avoid flames and generation of sparks close to the batteries. Never disconnect a battery while it is being charged.

INSTRUCTIONS: < 2 - DESCRIPTION.

E - STARTING UP THE ELECTRIC-POWERED PLATFORM

SAFETY INSTRUCTIONS

- Do not use the platform if the battery is discharged to the point that movements are slowed down. In certain cases, the platform may stop (< 2 - DESCRIPTION for the charge level not to be exceeded).

INSTRUCTIONS: < 2 - DESCRIPTION.

F - OPERATING THE PLATFORM

SAFETY INSTRUCTIONS


IMPORTANT

Operators should be aware of the risks connected with using the platform, notably:



- Risk of losing control.

- Risk of losing lateral and frontal stability of the platform.

The operator must remain in control of the platform.

- Do not carry out operations which exceed the capacities of your platform.
- Familiarise yourself with the platform on the terrain where it will be used.
- Ensure that the brakes work efficiently when stopping a travelling movement, taking into account the braking distances.
- Drive smoothly and adapt the platform speed to the operating conditions (site configuration, load in the basket).
- In all circumstances make sure you are in control of your speed.
- Take extreme care when manoeuvring the platform with the basket in the high position. Ensure that there is sufficient visibility.
- Take bends slowly.
- Look where you are going and always make sure you have good visibility along the route.
- Drive round obstacles.
- Never drive on the edge of a ditch or steep slope.
- Travel slowly on damp, slippery or uneven terrain or on truck ramps.
- Always remember that the hydraulic steering is very sensitive to movements.
- Never leave the I.C. engine on when the platform is unattended.
- Whatever your travelling speed, you must reduce the speed as much as possible before stopping.
- The platform should be operated in an area free of any obstructions or danger when it is lowered to the ground.
- Pay attention to structures, objects and people when manoeuvring.
- The operator using the platform must be aided on the ground by a person with adequate training.
- Remain within the limits of the platform's diagram ( 2 - DESCRIPTION).
- Do not load the basket if the platform needs to travel on a steep slope.

INSTRUCTIONS

- When moving the platform a long distance, always travel in transport position or with the scissors in the low position ( 2 - DESCRIPTION).
- DIESEL PLATFORM: Engage the appropriate gear ( 2 - DESCRIPTION).

G - STOPPING THE PLATFORM

SAFETY INSTRUCTIONS

- Never leave the ignition key in the platform during the operator's absence.
- Make sure that the platform is not stopped in any position that will interfere with the traffic flow and in particular the platform should not be less than one metre from a railway track.
- In the event of prolonged parking on a site, protect the platform from bad weather, particularly from frost (DIESEL PLATFORM: Check the level of antifreeze), and close and lock all the platform cowlings (if applicable).
- Park the platform on level ground.

INSTRUCTIONS:  2 - DESCRIPTION.

DIESEL PLATFORM

- Before stopping the platform after a long working period, leave the I.C. engine idling for a few moments, to allow the coolant and oil to lower the temperature of the I.C. engine and transmission.

IMPORTANT

Do not forget this precaution, in the event of frequent stops or warm stalling of the engine, or else the temperature of certain parts will rise significantly due to the stopping of the cooling system, with the risk of badly damaging such parts.

⚠ IMPORTANT ⚠

Ensure that there are no hydraulic or electrolyte leaks on the platform.

⚠ IMPORTANT ⚠

When welding, work in the opposite direction from the control console to avoid sparks damaging it.

Any welding and cutting (blow torch) work from the basket on a building's metallic structures requires the following precautions to be taken:

A - WITH AN ELECTRICAL WELDING SET

- It is essential that the machine has a discharge braid connecting the chassis of the platform to the ground.
- The external structure to be welded must, without fail, be grounded. If the above conditions are observed, the platform can, in this case, be in contact with the structure or the elements to be welded without damaging the electronic components.
- The power supply to the welding equipment must be via a grounded socket, including the extension lead if required.
- In all cases, make sure that there are no electric arcs in the basket or on the platform (contact between the rod or torch and ground plug of the welding equipment). For this the ground plug of the welding equipment must never be placed on the platform's basket; it must only be placed as close as possible to the part to be welded.
- Switch off the welding equipment before disconnecting the ground clamp from the element or elements to be welded.

B - WITH A BLOW TORCH

- Attach the blow torch's bottles to the basket's frame.
- Sparks and clippings must not be directed towards the batteries.
- Do not set the blow torch down on the floor of the basket while it is still operating or point it towards the control panel or its power supply harness.

PLATFORM MAINTENANCE INSTRUCTIONS

GENERAL INSTRUCTIONS

- Read the operator's manual carefully.
- Wear clothes suitable for the maintenance of the lift truck, avoid wearing jewellery and loose clothes. Tie and protect your hair, if necessary.
- DIESEL PLATFORM:
 - Make sure the area is adequately ventilated before starting up the platform.
 - Stop the engine before conducting any work on the platform, switch off the platform and turn the battery cut-off to the OFF position (according to model).
- ELECTRIC PLATFORM: Switch off the platform before carrying out any work on the platform and turn the battery cut-off to the OFF position.
- Carry out all repairs immediately, even if the repairs concerned are minor.
- Repair all leaks immediately, even if the leak concerned is minor.
- Ensure that process materials and of spare parts are disposed in all safely and in an ecological manner.
- Be careful of the risk of burning and splashing (exhaust, radiator, engine, etc.).

MAINTENANCE

- Perform the periodic service (< 3 - MAINTENANCE) to keep your platform in good working condition. Failure to perform the periodic service may void the contractual guarantee.

MAINTENANCE LOGBOOK

- The maintenance operations carried out in accordance with the recommendations given in chapter 3 - MAINTENANCE and the other inspection, servicing or repair operations or modifications performed on platform shall be recorded in a maintenance logbook. The entry for each operation shall include details of the date of the works, the names of the individuals or companies having performed them, the type of operation and its frequency, if applicable. The part numbers of any platform items replaced shall also be indicated.

LUBRICANT AND FUEL LEVELS

- Use the recommended lubricants (never use contaminated lubricants).

DIESEL PLATFORM

- Do not fill the fuel tank when the engine is running.
- Only fill up the fuel tank in areas specified for this purpose.
- Do not smoke or approach the platform with a flame, when the fuel tank is open or is being filled.

BATTERY ELECTROLYTE LEVEL (ELECTRIC PLATFORM)

- Check the electrolyte level of the battery or batteries.



Ensure you take all the safety precautions when performing this operation (< 3 - MAINTENANCE).

HYDRAULICS

- Any work on the hydraulic circuit is forbidden except for the operations described in chapter 3 - MAINTENANCE.
- Do not attempt to loosen connections, hoses or any hydraulic component with the circuit under pressure.



COUNTERBALANCE VALVE: It is dangerous to change the setting or remove the counterbalance valves or safety valves which may be fitted to your platform cylinders.

These operations must only be performed by approved personnel (consult your dealer).

HYDRAULIC ACCUMULATOR (according to model): dismantling hydraulic accumulators and their pipes that may be fitted on your platform is dangerous.

These operations must only be performed by approved personnel (consult your dealer).

ELECTRICITY

- Do not drop metallic items on the battery (between the positive and negative terminal(s)).
- Disconnect the battery or batteries before working on the electrical circuit.
- The control panels on the ground and in the basket and all other electrical control boxes must only be opened by authorised personnel.

TILT SENSOR

IMPORTANT

Some platforms are fitted with a tilt sensor attached to the turn table (◀ 2 - DESCRIPTION: CONTROL PANEL AND SAFETY DEVICES AT GROUND LEVEL); always carry out an initialisation after dismantling/refitting the tilt sensor. Refer to the platform repair manual.

Some platforms are fitted with a tilt sensor that is integrated in the ground level control panel (◀ 2 - DESCRIPTION: CONTROL PANEL AND SAFETY DEVICES AT GROUND LEVEL); always carry out a calibration of the tilt sensor after dismantling/refitting or loosening/tightening the ground level control panel, its mounting plates or fixing screws. Refer to the platform repair manual.

WELDING ON THE ACCESS PLATFORM

- Disconnect the battery or batteries before welding on the platform.
- When carrying out electric welding work on the platform, connect the negative cable from the welding equipment directly to the part being welded, so as to avoid high tension current passing through the alternator or the ring gear.
- If the platform is equipped with electronic controls, disconnect them before starting to weld, to avoid the risk of causing irreparable damage to electronic components.

IMPORTANT

Welding operations for the purposes of maintenance or repairs must only be carried out by persons authorised by MANITOU.

WASHING THE PLATFORM

- Clean the platform or at least the area concerned before any intervention.
- Remember to close and lock (if applicable) all the platform's cowlings.
- When cleaning with a high pressure cleaner, avoid air from entering the engine, the piston rod wiper seals, the hinges, the structural components and the electrical connections, etc.
- If necessary, protect components likely to be damaged, and in particular the electrical components (variable speed drive, charger) and electrical connections and the injection pump from penetration by water, steam or cleaning products.
- Dry the electrical components.
- Clean the platform of any fuel, oil or grease trace.
- Grease the axles, pins, ring gear, etc.

IF THE PLATFORM IS NOT TO BE USED FOR A LONG TIME

INTRODUCTION

The following recommendations are intended to prevent the platform from being damaged when it is withdrawn from service for an extended period.

⚠ IMPORTANT ⚠

*Procedures to follow if the platform is not to be used for a long time and for starting it up again afterwards must be performed by your dealership.
This period of long-term stoppage must not exceed 12 months.*

PREPARING THE PLATFORM

- Clean the platform thoroughly.
- Check and repair any leaks of fuel, oil, water, etc.
- Replace or repair any worn or damaged parts.
- Touch up the paintwork if necessary.
- Make sure the cylinder rods are in the retracted position (if applicable).
- Shut down the platform.
- Release the pressure in the hydraulic circuits.

PROTECTING THE ENGINE (DIESEL PLATFORM)

- Fill the tank with fuel (⚙ 3 - MAINTENANCE).
- Replace the engine oil and oil filter (⚙ 3 - MAINTENANCE).
- Drain and replace the coolant (⚙ 3 - MAINTENANCE).
- Disconnect the battery and store it in a safe place away from the cold, after charging it to a maximum.
- Block the outlet with waterproof adhesive tape.
- Remove the belts and store them in a safe place.
- Disconnect the engine cut-off solenoid on the injection pump and carefully insulate the connection.

BATTERY CHARGING (ELECTRIC PLATFORM)

- In order to preserve battery life and capacity, check them periodically and keep the charge level constant (⚙ 2 - DESCRIPTION).
- Do not leave the battery charger connected during a lightning storm.

PROTECTING THE PLATFORM

- Protect cylinder rods which are not be retracted from corrosion.
- Wrap the wheels.

NOTE: If the platform is to be stored outdoors, cover it with a waterproof tarpaulin.

BRINGING THE PLATFORM BACK INTO SERVICE

DIESEL PLATFORM

- Remove the protection from the cylinder rods and wheels.
- Refit and reconnect the battery.
- Remove the waterproof adhesive tape from the exhaust outlet.
- Empty and replace the fuel and replace the fuel filter (⚙ 3 - MAINTENANCE).
- Refit the belts and adjust their tension (⚙ 3 - MAINTENANCE).
- Reconnect the engine cut-off solenoid.

⚠ IMPORTANT ⚠

Make sure the area is adequately ventilated before starting up the platform.

- Start up the platform, following the safety instructions and regulations.
- Perform the daily maintenance operations (⚙ 3 - MAINTENANCE).

DIESEL AND ELECTRIC PLATFORM

- Lubricate the platform completely (⚙ 3 - MAINTENANCE).
- Carry out all the lifting system's hydraulic movements right up to the limit switches for each cylinder.

DISPOSING OF THE PLATFORM



Consult your dealer before disposing of your platform.

RECYCLING OF MATERIALS

METALS

- Metals are 100 % recoverable and recyclable.

PLASTICS

- Plastic parts are identified with a marking in accordance with current regulations.
- A limited range of materials is used to simplify the recycling process.
- The majority of plastic components are made of “thermoplastic” plastics, which are easily recycled by melting, granulating or grinding.

RUBBER

- Tyres and seals can be ground for use in cement manufacture or to obtain reusable granules.

GLASS

- Glass items can be removed and collected for processing by glaziers.

ENVIRONMENTAL PROTECTION

By entrusting the maintenance of your platform to the MANITOU network, the risk of pollution is limited and the contribution to environmental protection is made.

WORN OR DAMAGED PARTS

- Do not dump them in the countryside.
- MANITOU and its network have signed-up to a scheme of environmental protection through recycling.

USED OIL

- The MANITOU network organises the collection and processing of used oil.
- By handing over your waste oil to MANITOU, the risk of pollution is limited.

USED BATTERIES

- Do not throw away batteries, as they contain metals that are harmful for the environment.
- Return them to the MANITOU network or any other approved collection point.

NOTE: MANITOU aims to manufacture platforms that provide the best performance and limit polluting emissions.

2 - DESCRIPTION

2 - DESCRIPTION

"CE" DECLARATION OF CONFORMITY	2-4
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DECLARATION "CE" DE CONFORMITE (originale)
"EC" DECLARATION OF CONFORMITY (original) ⁽¹⁾

(2) Constructeur, **manufacturer** : Manitou BF
(3) Adresse, **Address** : 430, RUE DE L'AUBINIERE - B.P 10249
44158 - ANCENIS - CEDEX - FRANCE

(4) Titulaire du dossier technique, **Holder of the technical file** : Manitou BF
(3) Adresse, **Address** : 430, RUE DE L'AUBINIERE - B.P 10249
44158 - ANCENIS - CEDEX - FRANCE

(5) Le constructeur déclare que la machine décrite ci-après, **The manufacturer declares that the machine described below** : **160 ATJ RNC 4RD ST5 S1 - 160 ATJ RC 4RD ST5 S1**
180 ATJ RNC 4RD ST5 S1 - 180 ATJ RC 4RD ST5 S1

☐ (6) - Est conforme aux directives suivantes et à leurs transpositions en droit national (si applicables), **Complies with the following directives and their transpositions into national law (if applicable)** :

2006/42/CE

(7) - Pour les machines annexe IV, **For annex IV machines** :

(8) - Numéro d'attestation, **Certificate number** : 2681 5131 xxx xx xx xxxx

(9) - Organisme notifié, **Notified body** : BUREAU VERITAS INT. - 61-71 BD DU CHATEAU
92200 NEUILLY-SUR-SEINE

2000/14/CE + 2005/88/CE

(10) - Procédure appliquée, **Applied procedure** :

(9) - Organisme notifié, **Notified body** : SNCH - 11 ROUTE DU LUXEMBOURG
5201 SANDWEILER

(11) - Niveau de puissance acoustique, **Sound power level** :

(12) Mesuré, **Measured** : dB (A)

(13) Garanti, **Guaranteed** : dB (A)

2004/108/CE jusqu'au 19/04/2016 et 2014/30/UE à partir du 20/04/2016

☐ (14) - Normes harmonisées utilisées, **Harmonised standards used** :
EN12895

☐ (15) - Normes ou dispositions techniques utilisées, **Standards or technical provisions used** :

(16) - Fait à, **Done at** :

(17) - Date, **Date** :

(18) - Nom du signataire, **Name of signatory** :

(19) - Fonction, **Function** :

(20) - Société, **Company** :

(21) - Signature, **Signature** :

STICKERS

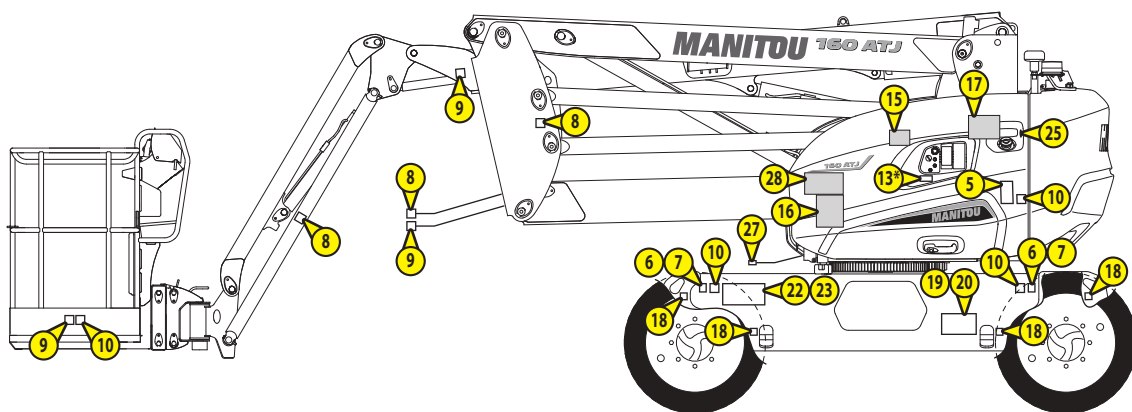
IMPORTANT

*Clean all stickers so that they are legible.
Any stickers which are illegible or damaged must be replaced.
Check that the stickers are present after replacing any spare parts.*

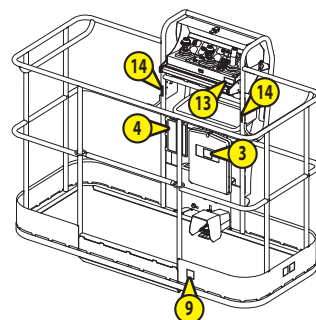
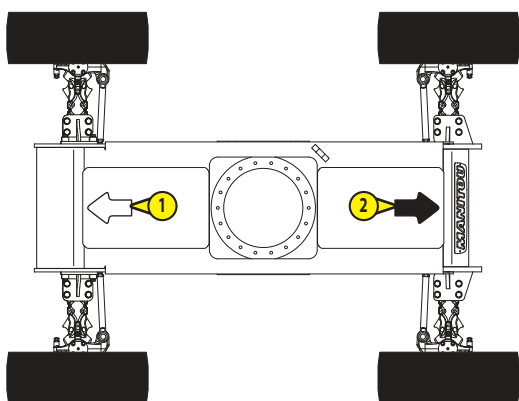
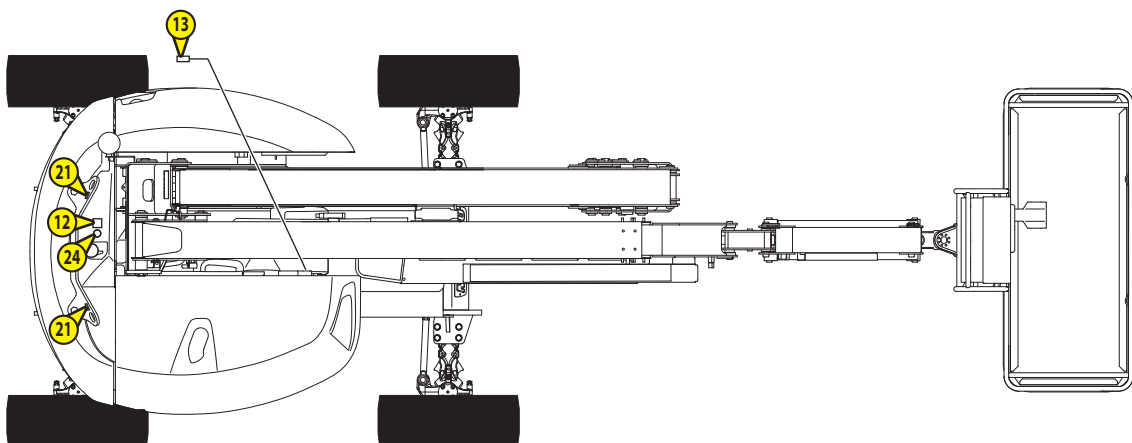
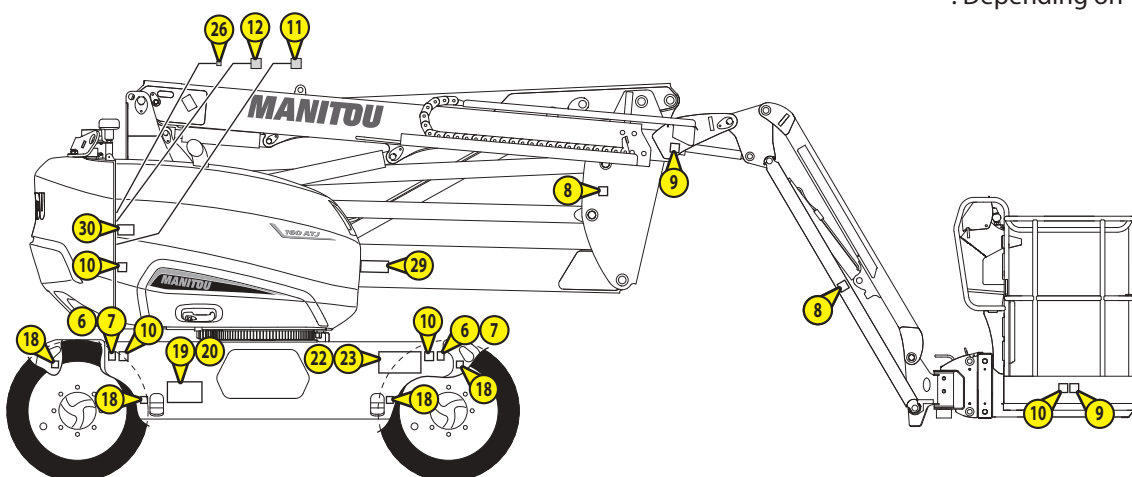
1 - WHITE ARROW	Part No. 833553	2-8
2 - BLACK ARROW	Part No. 833554	2-8
3 - INSTRUCTIONS LOCATION	Part No. 52562839	2-8
4 - BASKET SAFETY INSTRUCTIONS	Part No. 676814	2-8
5 - GROUND SAFETY INSTRUCTIONS	Part No. 685608 (1) / 52621077 (2)	2-9
6 - WHEEL LOAD 160 ATJ... ..	Part No. 683963	2-9
7 - WHEEL LOAD 180 ATJ... ..	Part No. 313819	2-9
8 - DANGER OF CRUSHING HANDS	Part No. 676988	2-9
9 - DANGER KEEP AWAY	Part No. 679450	2-9
10 - DANGER OF CRUSHING	Part No. 679452 (1) / 52621082 (2)	2-10
11 - DANGER ROTATING PART	Part No. 683108	2-10
12 - DANGER HOT COMPONENT	Part No. 683112	2-10
13 - WASHING INSTRUCTION	Part No. 313672 (1) / 52621093 (2)	2-10
14 - HARNESS ATTACHMENT POINT	Part No. 834438	2-10
15 - BACKUP PUMP	Part No. 676992	2-11
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28 - FAULT CODES	Part No. 52579619	2-13
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30 - ENGINE COVER OPENING*	Part No. 52601500 (1) / 52621097 (2) ..	2-13

*: Up to machine no. 01005238.

N.B.: (1) = 1st version. (2) = 2nd version. The reference (1) must be replaced by reference (2) for spare parts orders.



*: Depending on version

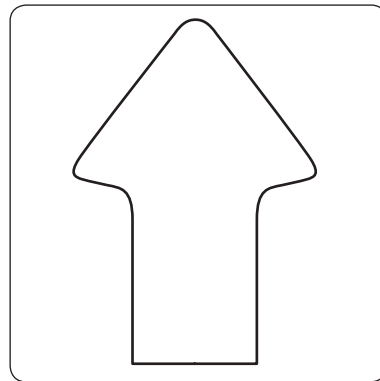


NOTE: The grey grids indicate that the stickers are hidden under the covers.

1 - WHITE ARROW

Part No. 833553

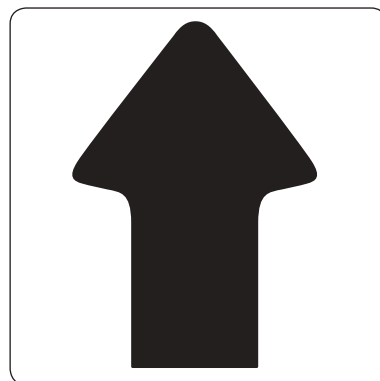
Indicates forward driving direction,  PLATFORM OPERATION: TRANSPORT/WORKING POSITION.



2 - BLACK ARROW

Part No. 833554

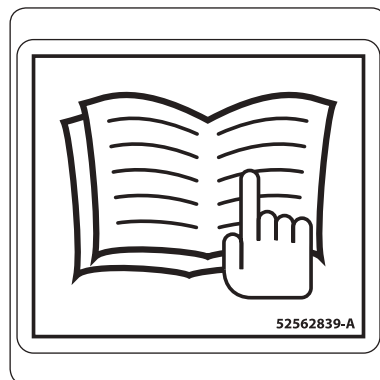
Indicates reverse driving direction,  PLATFORM OPERATION: TRANSPORT/WORKING POSITION.



3 - INSTRUCTIONS LOCATION

Part No. 52562839

Indicates location of the instructions for use.

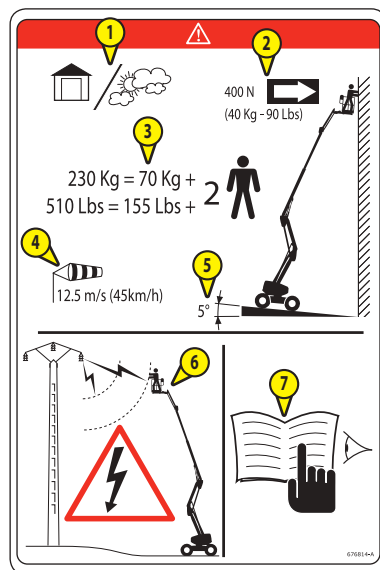


4 - BASKET SAFETY INSTRUCTIONS

Part No. 676814

Indicates:

- ①: Operating the platform outside and inside.
- ②: Maximum manual force.
- ③: Maximum load capacity for the basket.
- ④: Maximum wind speed when operating outside.
- ⑤: Maximum tilt in the working position.
- ⑥: The risk of electric shock.
- ⑦: The safety and operating instructions must be read before starting the platform.



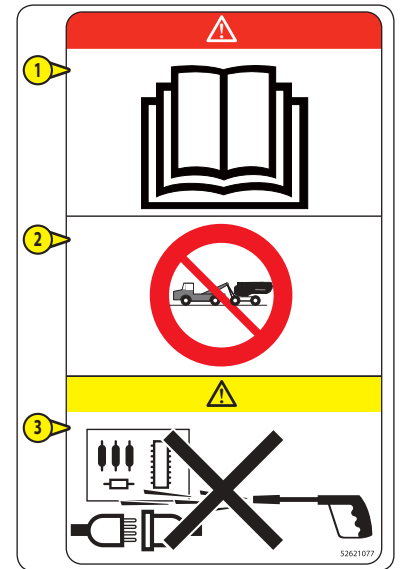
5 - GROUND SAFETY INSTRUCTIONS

Part No. 685608 (1) / 52621077 (2)

Indicates:

- ①: The safety and operating instructions must be read before starting the platform.
- ②: The platform must not be towed in the event of breakdown.
- ③: It is strictly forbidden to direct a pressure washer nozzle over the control panels and electrical components.

N.B.: (1) = 1st version. (2) = 2nd version. The reference (1) must be replaced by reference (2) for spare parts orders.



6 - WHEEL LOAD 160 ATJ...

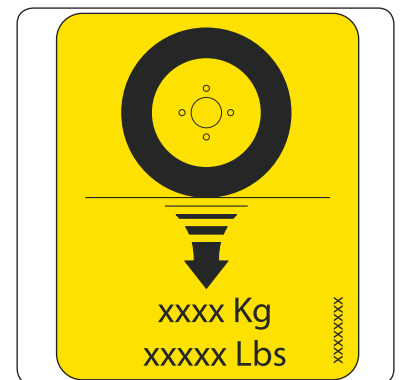
Part No. 683963

7 - WHEEL LOAD 180 ATJ...

Part No. 313819

Indicates the maximum ground load per wheel.

NOTE: Each access platform has its own specific wheel load. Please refer to this sticker to find out the value.



8 - DANGER OF CRUSHING HANDS

Part No. 676988

Indicates that it is strictly forbidden to place your hands or any other part of the body in the lifting mechanism components (arms, jib, basket, etc.).



9 - DANGER KEEP AWAY

Part No. 679450

Indicates that it is strictly forbidden to stand under the lifting mechanism (arm, jib, basket, etc.) or within the access platform's operating area.



10 - DANGER OF CRUSHING

Part No. 679452 (1) / 52621082 (2)

Indicates that it is strictly prohibited to stand in this area when the platform is moving. The components on which the stickers are present could crush you.

N.B.: (1) = 1st version. (2) = 2nd version. The reference (1) must be replaced by reference (2) for spare parts orders.



11 - DANGER ROTATING PART

Part No. 683108

Indicates that there is a high risk of severing fingers with the radiator fan.



12 - DANGER HOT COMPONENT

Part No. 683112

Indicates that there is a high risk of burns in the vicinity (silent engine, internal combustion engine, etc.).

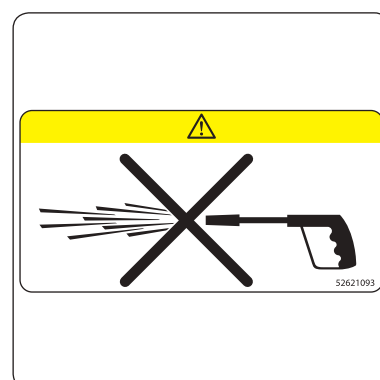


13 - WASHING INSTRUCTION

Part No. 313672 (1) / 52621093 (2)


Indicates that it is strictly forbidden to direct a high pressure cleaner nozzle over the control panels and electrical components or on the engine air intake.

N.B.: (1) = 1st version. (2) = 2nd version. The reference (1) must be replaced by reference (2) for spare parts orders.



14 - HARNESS ATTACHMENT POINT


Part No. 834438

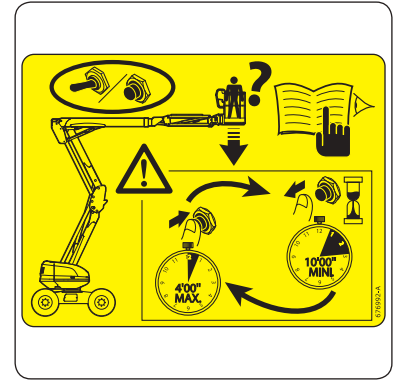
Indicates the location of safety harness attachment points,  SAFETY COMPONENTS: HARNESS ATTACHMENT POINTS.



15 - BACKUP PUMP


Part No. 676992

Indicates the procedure to be followed for using the backup pump,  RESCUE PROCEDURE.



16 - EMERGENCY CONTROL PROCEDURE


Part No. 831465

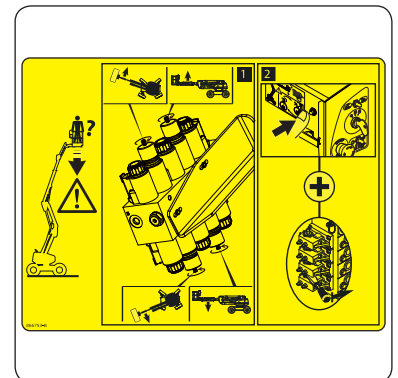
Indicates the procedure to be followed for using the emergency controls for proportional distributor,  RESCUE PROCEDURE.



17 - EMERGENCY CONTROL PROCEDURE

Part No. 866753

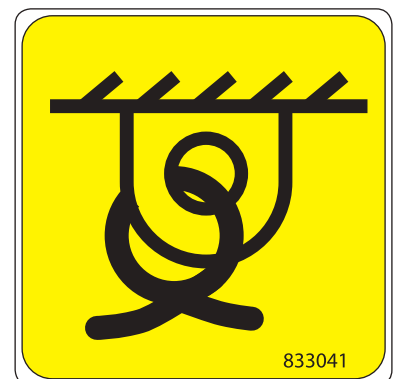
Indicates the procedure to be followed for using the emergency controls for the secondary distributor,  RESCUE PROCEDURE.



18 - LASHING POINT

Part No. 833041

Indicates the location of the platform's anchoring points,  OPERATING THE PLATFORM: TRANSPORTING THE PLATFORM.



19 - TRANSPORT LASHING 160 ATJ...

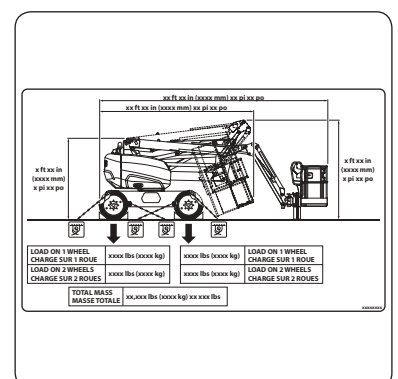
Part No. 52579614

20 - TRANSPORT LASHING 180 ATJ...

Part No. 52589806

Indicates the main features that are useful when anchoring the platform,  OPERATING THE PLATFORM: TRANSPORTING THE PLATFORM.

NOTE: Transport anchoring is different for each platform; refer to this sticker to see the values.



21 - SLINGING POINT

Part No. 833291

Indicates the location of the platform's slinging points, 3 - MAINTENANCE: OCCASIONAL OPERATION.



22 - SLINGING 160 ATJ...

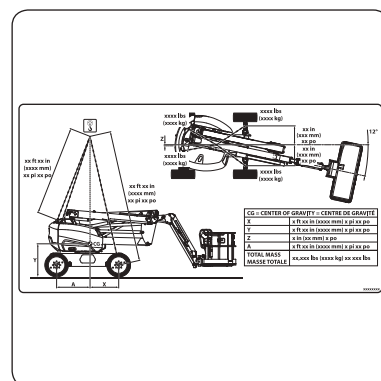
Part No. 52579620

23 - SLINGING 180 ATJ...

Part No. 52589809

Indicates the main characteristics that are useful when slinging the platform, 3- MAINTENANCE: OCCASIONAL OPERATION.

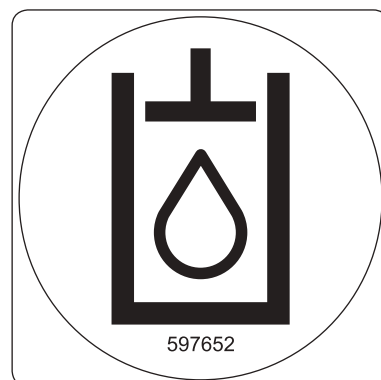
NOTE: Each access platform has its own slinging procedure; refer to this sticker to see the values.



24 - HYDRAULIC OIL

Part No. 597652

This indicates that the tank is intended to contain only hydraulic oil.



25 - DIESEL

Part No. 683437 (1) / 52621090 (2)

This indicates that the tank is intended to contain only vehicle diesel fuel.

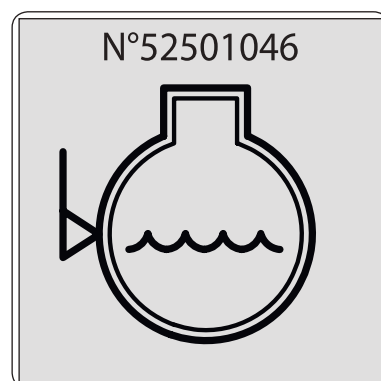
N.B.: (1) = 1st version. (2) = 2nd version. The reference (1) must be replaced by reference (2) for spare parts orders.



26 - ANTIFREEZE

Part No. 52501046

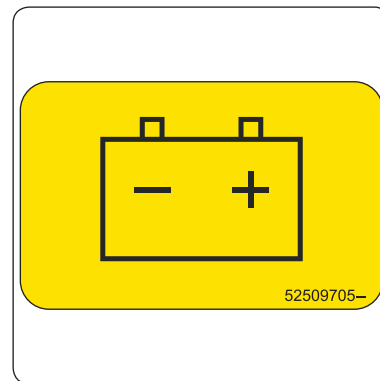
This indicates that there is antifreeze in the engine.



27 - BATTERY LOCATION

Part No. 52509705

Indicates location of battery.

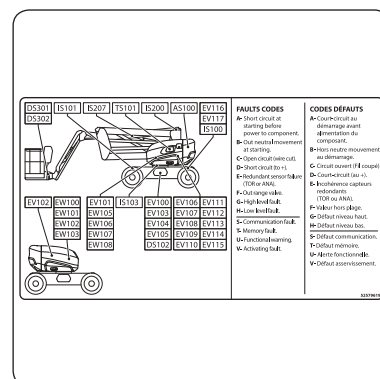


28 - FAULT CODES

Part No. 52579619

Indicates the fault codes and location of the electrical components:

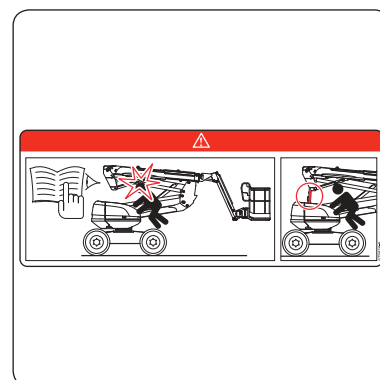
- Sensors (AS, DS, IS, TS).
- Electrovalves (EV).
- Solenoid coils (EW).



29 - MAINTENANCE STAND

Part No. 678424

Indicates that the maintenance stand must be used when working under the secondary jib in the raised position, 3 - MAINTENANCE: OCCASIONAL OPERATION.



30 - ENGINE COVER OPENING*

Part No. 52601500 (1) / 52621097 (2)

*: Up to machine no. 01005238

Indicates that it is strictly forbidden to open the engine cover (left turntable cover) if the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO" is activated, 4 OPERATING THE PLATFORM.

N.B.: (1) = 1st version. (2) = 2nd version. The reference (1) must be replaced by reference (2) for spare parts orders.



IDENTIFICATION OF THE PLATFORM

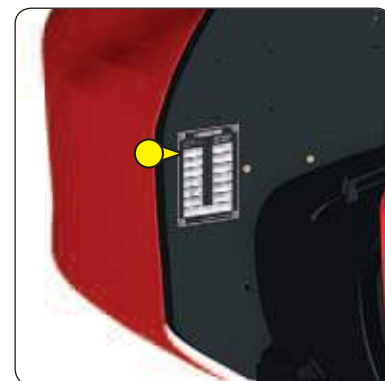
As our policy is to promote constant improvement of our products, our range of platforms may undergo certain modifications, without obligation for us to advise our customers.

When you order parts, or when you require any technical information, always specify:

NOTE: In order to have all these numbers on hand when needed, it is recommended that they are noted in the spaces provided, at the time of the delivery of the access platform.

PLATFORM MANUFACTURER'S PLATE

The manufacturer's plate is riveted to the turntable on the left side.



"Designation" Designation	
"Year of manufacture" Year of manufacture	
"Model year" Model year	
"Unladen mass" Unladen weight	
"Nominal power" Rated power	
"Voltage" Voltage	
"Inside / Outside" Interior/Exterior	
"Maximum load" Maximum load	
"Maximum number of persons" Maximum number of people	
"Mass of equipment" Equipment weight	
"Manual forces" Manual forces	
"Maximum inclination" Maximum tilt	
"Maximum wind speed" Maximum wind speed	
"Serial Number" Serial number	

All other technical information for your platform is listed in the chapter: CHARACTERISTICS.

ENGINE

"Model" Model	
"Family" Family	
"Power" Power	
"Valve clearance (cold): IN / EX" Valve clearances (cold): IN/EX	
"Inj. timing" Injection timing	
"Engine disp." Engine capacity	
ECS: EM, IFI	
"Category" Category	



HYDROSTATIC PUMP

"CNR" MANITOU Part No.	
"TYP" Codification	
"MNR" Manufacturing number	
"SN" Serial number	
"FD" Date of manufacture	



AUXILIARY PUMP

"MNR" Manufacturing number	
"FD" Date of manufacture	
"SN" Serial number	



FRONT AXLE


Type	
Serial number	
MANITOU part No.	


REAR AXLE

Type	
Serial number	
MANITOU part No.	

LOAD SPECIFICATIONS		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Platform				
- Maximum capacity of basket	kg (lbs)	230 (507)		-
- Maximum wind speed when operating outside	km/h	45		-
- Number of people in the basket in indoor use		2		-
- Number of people in the basket in outdoor use		2		-
- Unladen platform weight	kg (lbs)	6,118 (13,488)	6,380 (14,065)	2%
- Authorised maximum tilt	°	5		0.1%
- Traversable slope (+100 kg)	%	45		2%
- Maximum authorised lateral manual force	N	400		-
Wheels				
- Load on one front wheel (transport position)	kg (lbs)	1,465 (3,230)	1,540 (3,395)	2%
- Load on one rear wheel (transport position)	kg (lbs)	1,615 (3,560)	1,690 (3,726)	2%
- Maximum load on one wheel (working position)	kg (lbs)	3,740 (8,245)	3,910 (8,620)	2%
- Bearing surface on ground (hard / soft)	cm ²	344 / 728	482 / 980	5%
- Ground bearing pressure (hard / loose)	daN/cm ²	11.6 / 5.5	8.3 / 4.1	5%
SPEEDS AND MOVEMENTS		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Driving speed				
- WORKING POSITION speed	km/h	1		0.1
- TORTOISE speed	km/h	2.5		0.5
- RAMP speed	km/h	2.5		0.2
- HARE speed	km/h	5	5.5	0.2
Main jib (telescope extended)				
- Unladen / laden lifting	s	20 / 20		1
- Unladen / laden lowering	s	18 / 18		1
Main jib (telescope retracted)				
- Unladen / laden lifting	s	14 / 14		2
- Unladen / laden lowering	s	14 / 14		2
Secondary jib				
- Unladen / laden lifting	s	22 / 22		1
- Unladen / laden lowering	s	28.5 / 28.5		2.5
Telescope				
- Unladen / laden extension	s	9 / 9		1
- Unladen / laden retraction	s	9 / 9		1
Jib				
- Unladen / laden lifting	s	20 / 20		1
- Unladen / laden lowering	s	18 / 18		1
Turntable				
- 350° rotation (telescope extended/retracted)	s	90 / 70		5
Basket				
- Left / right rotation	s	13 / 13		2

ENGINE		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Type		KUBOTA D1105-E4B		-
Fuel		Diesel		-
Number of cylinders		3		-
Cubic capacity	cm³	1123		-
Idling speed unladen	rpm	1300		20
Maximum speed unladen	rpm	3000		40
Power at 3,000 rpm	kW	18.5		-
Maximum torque at 2,300 rpm	N.m	72		-
Unladen weight	kg (lbs)	93 (205)		5 (11)
Type of cooling		Water		-
Fan		Puller		-
Emissions				
- CO (carbon monoxide)	g/kWh	1.4		-
- HC + Nox (hydrocarbons + nitrogen dioxide)	g/kWh	5.8		-
- PT (particles)	g/kWh	0.21		-
TRANSMISSION		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Hydrostatic pump				
- Type		BOSCH REXROTH A10VG45		-
- Cubic capacity	cm³	46		-
- Maximum unladen flow rate	L/min	115		-
- Maximum pressure	bar	340		-
Hydrostatic motor				
- Type		BOSCH REXROTH		-
- Cubic capacity	cm³	63		-
Axles				
- Type		DANA SPICER		-
- Reduction ratio		55.9		-
- Pulling force	daN	3890	3540	-
- Front axle differential		45% limited slip		-
- Rear axle differential		Hydraulic locking 100%		-
Number of front / rear steerable wheels		2 / 2		-
Number of front / rear drive wheels		2 / 2		-
Wheels				
- Type		OTR		-
- Dimensions (external Ø x width)	mm	Standard: 840 x 295	Option: 908 x 370	-
- Inflation		Foam		-
BRAKE SYSTEM (parking brake)		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Type of brake		Negative		-
Type of control		Hydraulics		-
Braked wheels front / rear		0 / 2		-
Release (freewheel mode)		Yes, manual		-
Braking torque		1,600 on wheel		5%

HYDRAULIC CIRCUIT		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Auxiliary hydraulic pump				
- Type		BOSCH REXROTH		-
- Maximum cylinder capacity	cm³	18		-
- Maximum unladen flow rate	L/min	54		-
Distributor				
- Type		DANFOSS		-
- Maximum pressure	bar	210		5
Filtration				
- Suction	µm	125		-
- Pressure	µm	10		-
- Operation	µm	10		-
ELECTRIC CIRCUIT		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Battery				
- Type		EXIDE		-
- Capacity C5	Ah	110		-
- Capacity C20	Ah	-		-
- Rated voltage	V	12		-
Alternator				
- Type		SUMITOMO		-
- Maximum current	A	60		-
- Rated voltage	V	12		-
Starter				
- Type		Electric		-
- Power	kW	2		-
- Voltage	V	12		-
BACKUP PUMP		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
- Type		Electric		-
- Cubic capacity	cm³	2		-
- Power	kW	1.3		-
- Voltage	V	12		-
- Pressure 150 bars	A	-		-
DIMENSIONS		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Standard basket				
- External dimensions (length x width)	mm	1,800 x 800		1%
- Floor dimensions (length x width)	mm	1,790 x 760		1%
- Rotation angle right/left	°	90 / 90		1%
Wide basket (option)				
- External dimensions (length x width)	mm	2,100 x 800		1%
- Floor dimensions (length x width)	mm	2,090 x 760		1%
- Rotation angle right/left	°	90 / 90		1%
Jib displacement angle up/down	°	65 / 59.5		1%
160 ATJ RNC... : Turntable rotation angle	°	350		1%
160 ATJ RC... : Turntable rotation angle	°	Continuous rotation		-
Other dimensions:  DIMENSIONS AND DIAGRAM 160 ATJ...				

SOUND AND VIBRATION		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Sound power level LwA	dB	105		-
Vibrations affecting body in the basket				
- Average quadratic values for the body	m/s²	<0.5		-
EQUIPMENT		Diameter of wheels: 840 mm	Diameter of wheels: 908 mm	±
Orange rotating beacon light		Standard		-
Hour meter		Standard		-
Proportional diesel level display		Standard		-
Fuel/battery low level alarm		Standard		-
Tool box in basket		Standard		-
User interface (diagnostic aid)		Standard		-
Wide basket		Option		-
Oscillating front axle		Option		-
Non-marking tyres		Option	Option	-
Permanent orange rotating beacon light		Option*		-
All movements alarm		Option*		-
Driving/steering alarm		Option*		-
Key-locked fuel tank cap		Option		-
Battery cut-off		Option		-
230 V outlet in basket		Option		-
Engine block heater		Option		-
Generator 110 V/3.5 kW (UK electric power socket)		Option		-
Generator 220 V/3.5 kW		Option		-
Generator 220 V/5 kW		Option		-
Working light		Option		-
Secondary protection system "SafeManSystem"		Option		-
Automatic retraction of telescope (for option "SafeManSystem")		Option*		-
Driving direction "Drive Enable"		Option		-
*:  DEFINITION OF SUB-MENUS.				

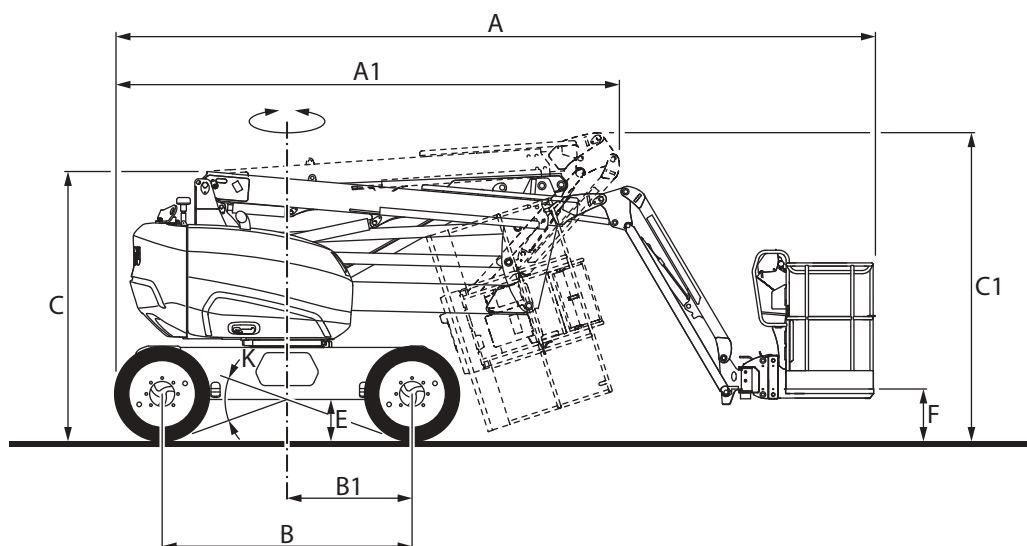
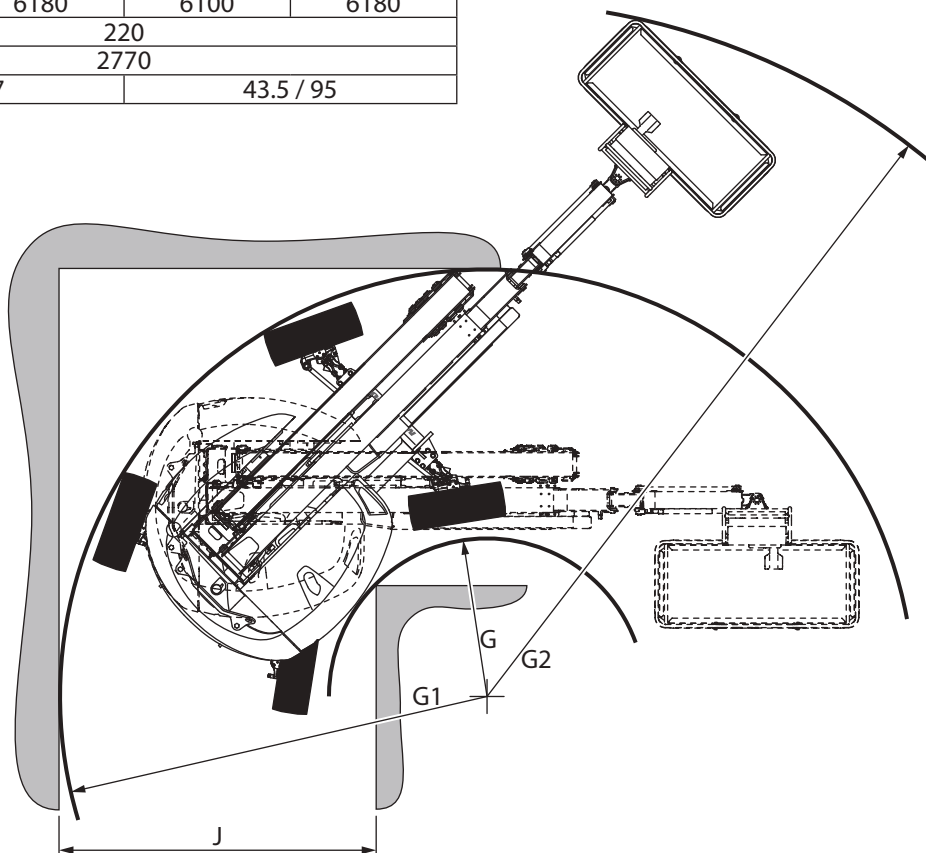
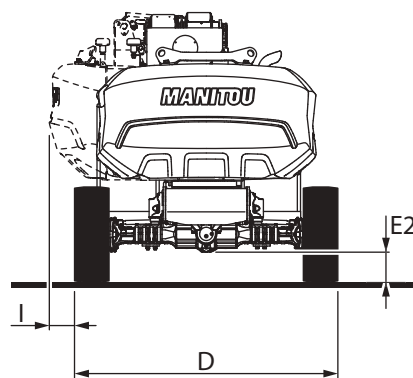
LOAD SPECIFICATIONS			±
Platform			
- Maximum capacity of basket	kg (lbs)	230 (507)	-
- Maximum wind speed when operating outside	km/h	45	-
- Number of people in the basket in indoor use		2	-
- Number of people in the basket in outdoor use		2	-
- Unladen platform weight	kg (lbs)	7430 (16380)	2%
- Authorised maximum tilt	°	5	0.1%
- Traversable slope (+100 kg)	%	45	2%
- Maximum authorised horizontal manual force	N	400	-
Wheels			
- Load on one front wheel (transport position)	kg (lbs)	1,840 (4,056)	2%
- Load on one rear wheel (transport position)	kg (lbs)	1,935 (4,266)	2%
- Maximum load on one wheel (working position)	kg (lbs)	4,845 (10,681)	2%
- Bearing surface on ground (hard / soft)	cm ²	487 / 987	5%
- Ground bearing pressure (hard / loose)	daN/cm ²	10 / 5	5%
SPEEDS AND MOVEMENTS			±
Driving speed			
- WORKING POSITION speed	km/h	1	0.1
- TORTOISE speed	km/h	2.5	0.5
- RAMP speed	km/h	2.5	0.2
- HARE speed	km/h	5	0.2
Main jib (telescope extended)			
- Unladen / laden lifting	s	27 / 27	1
- Unladen / laden lowering	s	25 / 25	1
Main jib (telescope retracted)			
- Unladen / laden lifting	s	16 / 16	2
- Unladen / laden lowering	s	15 / 15	2
Secondary jib			
- Unladen / laden lifting	s	22 / 22	1
- Unladen / laden lowering	s	28.5 / 28.5	2.5
Telescope			
- Unladen / laden extension	s	14 / 14	1
- Unladen / laden retraction	s	14 / 14	1
Jib			
- Unladen / laden lifting	s	20 / 20	1
- Unladen / laden lowering	s	18 / 18	1
Turntable			
- 350° rotation (telescope extended/retracted)	s	120 / 90	5
Basket			
- Left / right rotation	s	13 / 13	2

ENGINE			±
Type		KUBOTA D1105-E4B	-
Fuel		Diesel	-
Number of cylinders		3	-
Cubic capacity	cm ³	1123	-
Idling speed unladen	rpm	1300	20
Maximum speed unladen	rpm	3000	40
Power at 3,000 rpm	kW	18.5	-
Maximum torque at 2,300 rpm	N.m	72	-
Unladen weight	kg (lbs)	93 (205)	5 (11)
Type of cooling		Water	-
Fan		Puller	-
Emissions			
- CO (carbon monoxide)	g/kWh	1.4	-
- HC + Nox (hydrocarbons + nitrogen dioxide)	g/kWh	5.8	-
- PT (particles)	g/kWh	0.21	-
TRANSMISSION			±
Hydrostatic pump			
- Type		BOSCH REXROTH A10VG45	-
- Cubic capacity	cm ³	46	-
- Maximum unladen flow rate	L/min	115	-
- Maximum pressure	bar	340	-
Hydrostatic motor			
- Type		BOSCH REXROTH	-
- Cubic capacity	cm ³	80	-
Axles			
- Type		DANA SPICER	-
- Reduction ratio		55.9	-
- Pulling force	daN	4510	-
- Front axle differential		45% limited slip	-
- Rear axle differential		Hydraulic locking 100%	-
Number of front / rear steerable wheels		2 / 2	-
Number of front / rear drive wheels		2 / 2	-
Wheels			
- Type		OTR	-
- Dimensions (external Ø x width)	mm	908 x 370	-
- Inflation		Foam	-
BRAKE SYSTEM (parking brake)			±
Type of brake		Negative	-
Type of control		Hydraulics	-
Braked wheels front / rear		0 / 2	-
Release (freewheel mode)		Yes, manual	-
Braking torque	daN.m	1,600 on wheel	5%

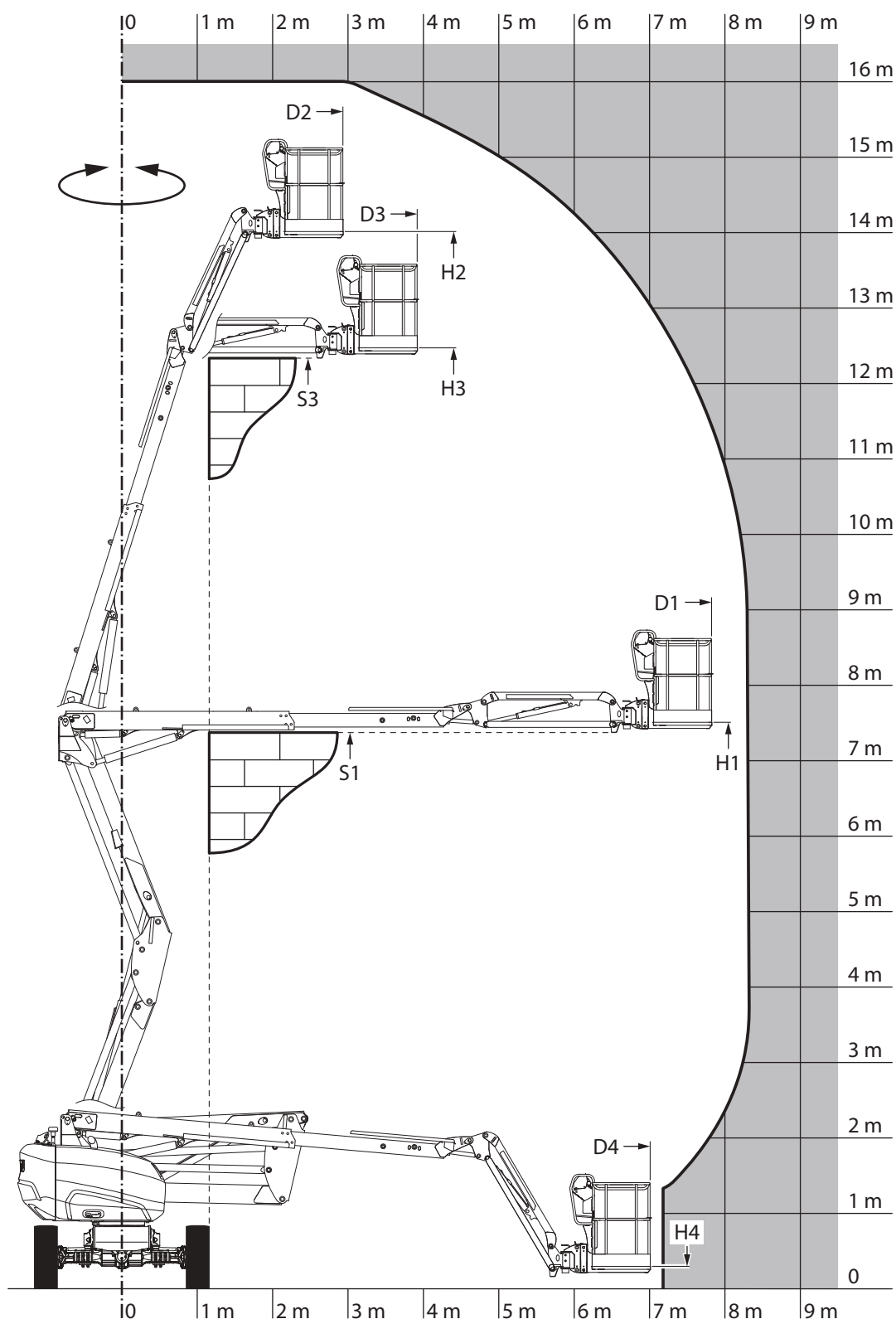
HYDRAULIC CIRCUIT			±
Auxiliary hydraulic pump			
- Type		BOSCH REXROTH	-
- Maximum cylinder capacity	cm ³	18	-
- Maximum unladen flow rate	L/min	54	-
Distributor			
- Type		DANFOSS	-
- Maximum pressure	bar	220	5
Filtration			
- Suction	µm	125	-
- Pressure	µm	10	-
- Operation	µm	10	-
ELECTRIC CIRCUIT			±
Battery			
- Type		EXIDE	-
- Capacity C5	Ah	110	-
- Capacity C20	Ah	-	-
- Rated voltage	V	12	-
Alternator			
- Type		SUMITOMO	-
- Maximum current	A	60	-
- Rated voltage	V	12	-
Starter			
- Type		Electric	-
- Power	kW	2	-
- Voltage	V	12	-
BACKUP PUMP			±
- Type		Electric	-
- Cubic capacity	cm ³	2	-
- Power	kW	1.3	-
- Voltage	V	12	-
- Pressure 150 bars	A	-	-
DIMENSIONS			±
Standard basket			
- External dimensions (length x width)	mm	1,800 x 800	1%
- Floor dimensions (length x width)	mm	1,790 x 760	1%
- Rotation angle right/left	°	90 / 90	1%
Wide basket (option)			
- External dimensions (length x width)	mm	2,100 x 800	1%
- Floor dimensions (length x width)	mm	2,090 x 760	1%
- Rotation angle right/left	°	90 / 90	1%
Jib displacement angle up/down	°	65 / 59.5	1%
180 ATJ RNC... : Turntable rotation angle	°	350	1%
180 ATJ RC... : Turntable rotation angle	°	Continuous rotation	1%
Other dimensions: DIMENSIONS AND DIAGRAM 180 ATJ...			

SOUND AND VIBRATION			±
Sound power level L _{WA}	dB	105	-
Vibrations affecting body in the basket			
- Average quadratic values for the body	m/s ²	<0.5	-
EQUIPMENT			±
Orange rotating beacon light	Standard		-
Hour meter	Standard		-
Proportional diesel level display	Standard		-
Fuel/battery low level alarm	Standard		-
Tool box in basket	Standard		-
User interface (diagnostic aid)	Standard		-
Permanent orange rotating beacon light	Option*		-
All movements alarm	Option*		-
Driving/steering alarm	Option*		-
Wide basket	Option		-
Oscillating front axle	Option		-
Non-marking tyres	Option		-
Key-locked fuel tank cap	Option		-
Battery cut-off	Option		-
230 V outlet in basket	Option		-
Engine block heater	Option		-
Generator 110 V/3.5 kW (electric power socket UK)	Option		-
Generator 220 V/3.5 kW	Option		-
Generator 220 V/5 kW	Option		-
Working light	Option		-
Secondary protection system "SafeManSystem"	Option		-
Automatic retraction of telescope (for option "SafeManSystem")	Option*		-
Driving direction "Drive Enable"	Option		-
*: DEFINITION OF SUB-MENUS.			

		Diameter of wheels: 840 mm		Diameter of wheels: 908 mm	
		Standard basket	Wide basket	Standard basket	Wide basket
A	mm	6680		6720	
A1	mm	4445	4490	4485	4530
B	mm	2200			
B1	mm	1100			
C	mm	2370		2410	
C1	mm	2630	2830	2690	2810
D	mm	2320			
E	mm	360		400	
E2	mm	260		300	
F	mm	450		495	
G	mm	1380			
G1	mm	3750			
G2	mm	6100	6180	6100	6180
I	mm	220			
J	mm	2770			
K	° / %	37.6 / 77		43.5 / 95	

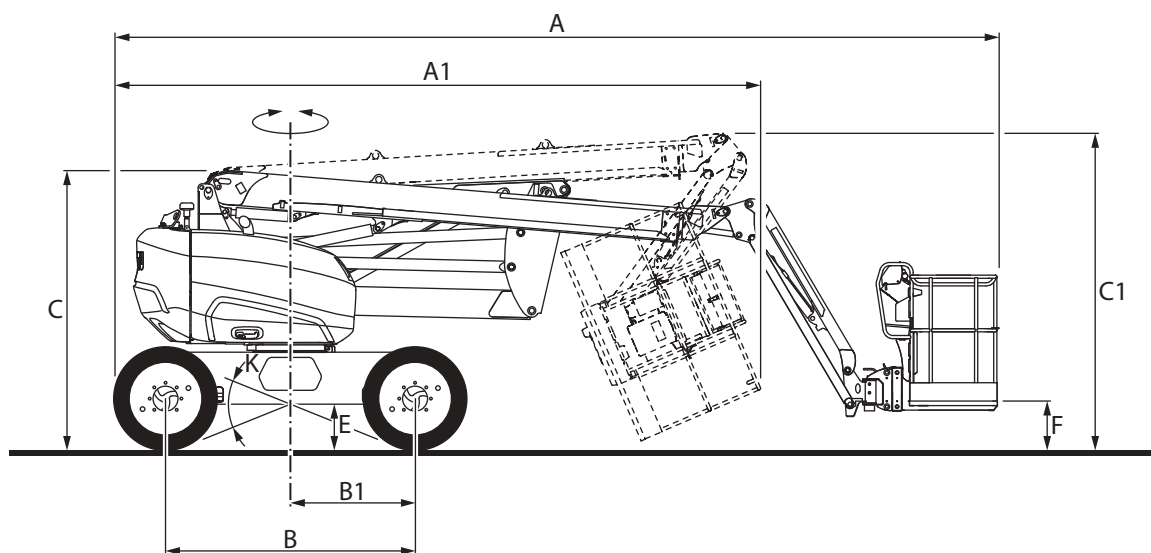
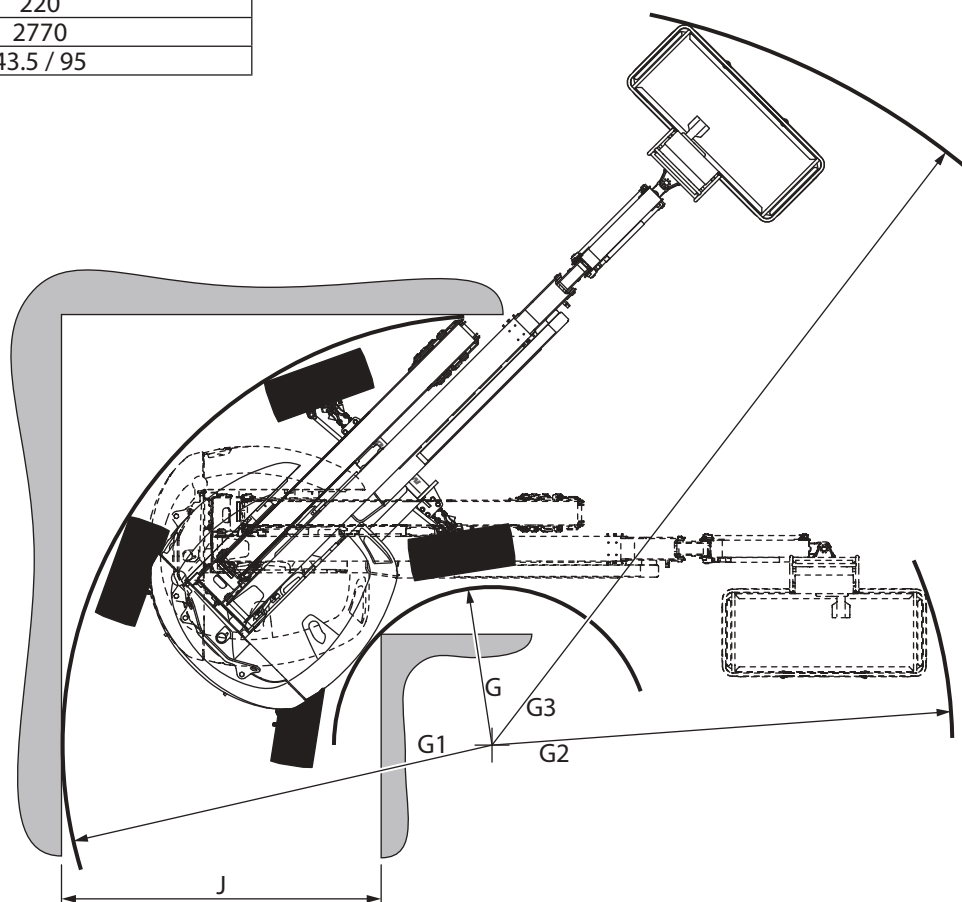
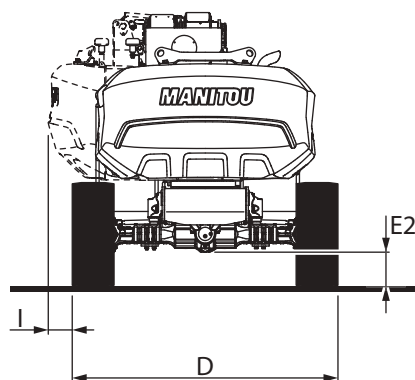


		Diameter of wheels: 840 mm		Diameter of wheels: 908 mm				Diameter of wheels: 840 mm		Diameter of wheels: 908 mm	
H1	mm	7510		7550		S1	mm	7366		7406	
D1	mm	7795									
H2	mm	14015		14055							
D2	mm	2905									
H3	mm	12475		12515		S3	mm	12334		12374	
D3	mm	3890									
H4	mm	295		335							
D4	mm	6980									

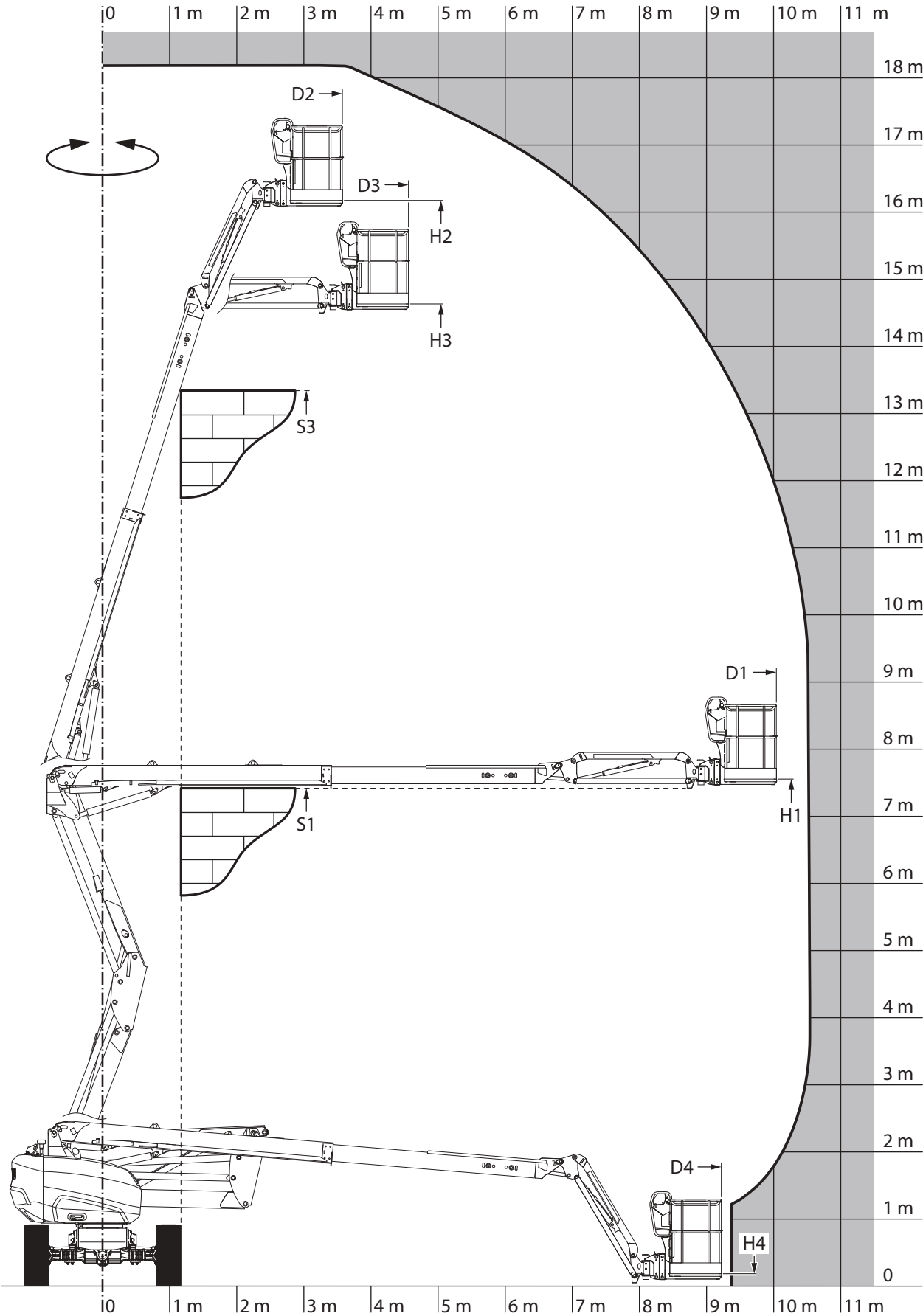


DIMENSIONS AND DIAGRAM 180 ATJ...

		Standard basket	Wide basket
A	mm	7790	
A1	mm	5560	
B	mm	2200	
B1	mm	1100	
C	mm	2475	2485
C1	mm	2560	2780
D	mm	2320	
E	mm	400	
E2	mm	300	
F	mm	430	
G	mm	1380	
G1	mm	3750	
G2	mm	4535	4675
G3	mm	7030	7095
I	mm	220	
J	mm	2770	
K	° / %	43.5 / 95	



H1	mm	7555	S1	mm	7420
D1	mm	10010			
H2	mm	16180			
D2	mm	3545			
H3	mm	14640	S3	mm	13350
D3	mm	4530			
H4	mm	185			
D4	mm	9190			



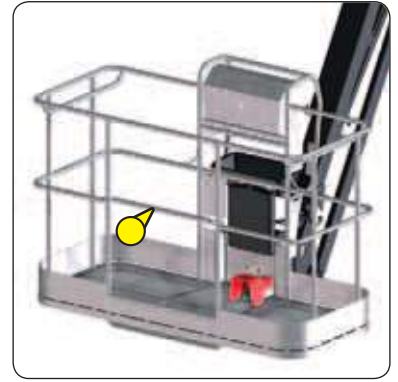
SAFETY COMPONENTS

GUARDRAIL

⚠ IMPORTANT ⚠

Do not attach the guardrail with a clamp, twine or any device that could prevent it from functioning properly.

- Raise the guardrail and keep it raised to get in and out of the basket.



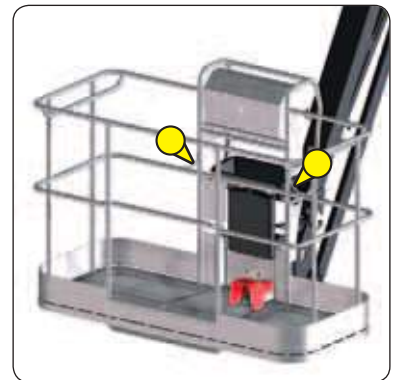
HARNESS ATTACHMENT POINTS

⚠ IMPORTANT ⚠

Only one operator is permitted to use each attachment point.

- Attach security harnesses to attachment points in the basket.

NOTE: STICKERS: HARNESS ATTACHMENT POINTS.



TURNTABLE LOCKING PIN

Position 1A: The turntable is unlocked.

Position 1B: The turntable is locked.

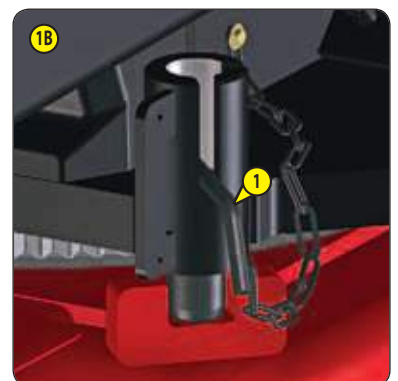
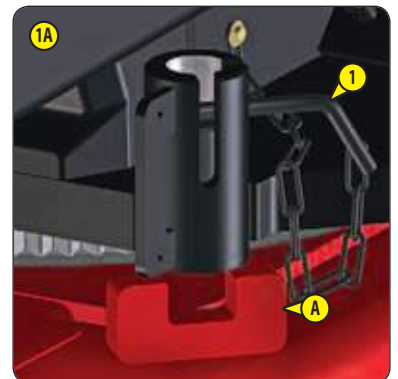
- Lock the turntable rotation when the platform is transported by a truck or other means of transport.
- Unlock the turntable rotation before using the platform.

LOCK THE TURNTABLE

- Align the pin 1 and the chassis A notch.
- Pull the pin and turn it a quarter turn to the left.
- Push it into the chassis notch (position 1B).

UNLOCK THE TURNTABLE

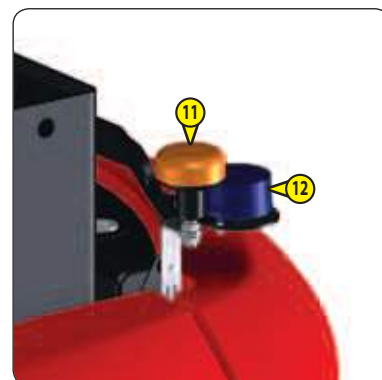
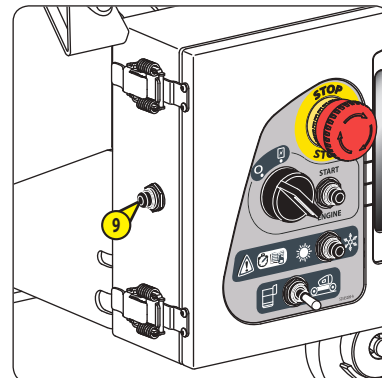
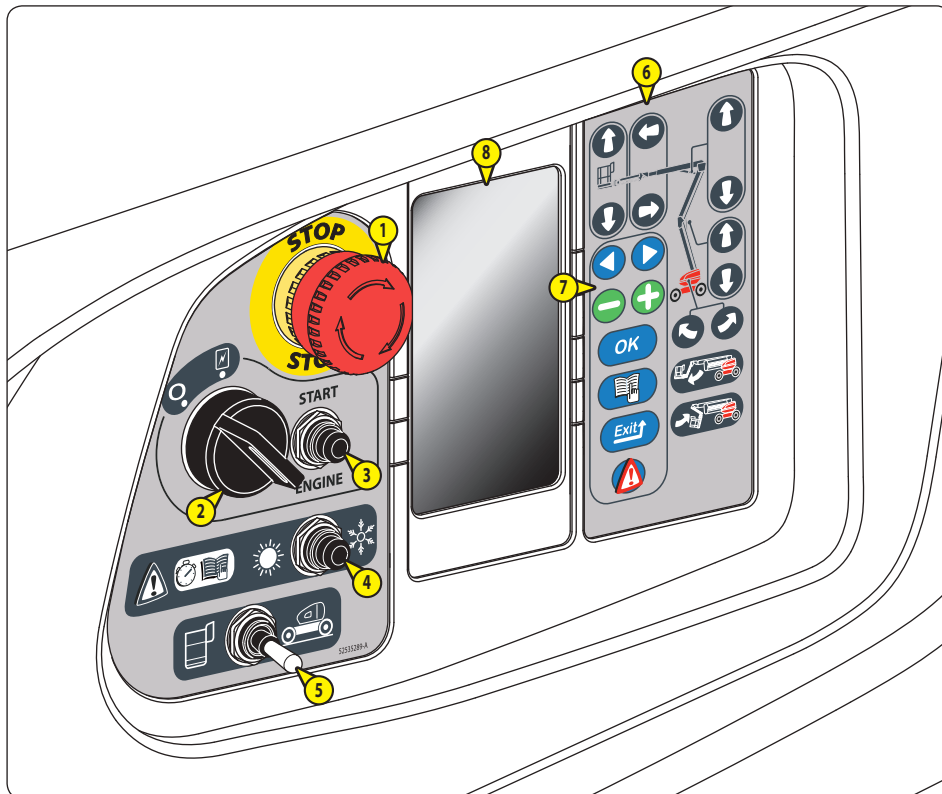
- Pull the pin 1 and turn it a quarter turn to the right.
- Push it into position 1A.



CONTROL PANEL AND SAFETY DEVICES AT GROUND LEVEL

⚠ IMPORTANT ⚠

These platforms are equipped with an integrated tilting sensor in the ground control panel
 (➤ 1 - INSTRUCTIONS AND SAFETY INSTRUCTIONS: PLATFORM MAINTENANCE INSTRUCTIONS).
 The left and right are defined in OPERATING THE PLATFORM: TRANSPORT/WORKING POSITION.



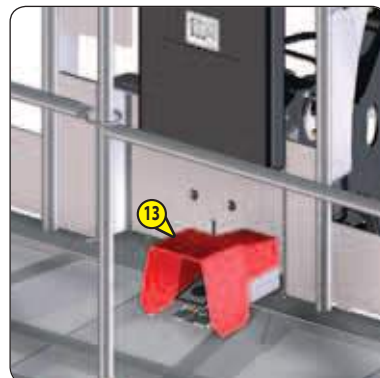
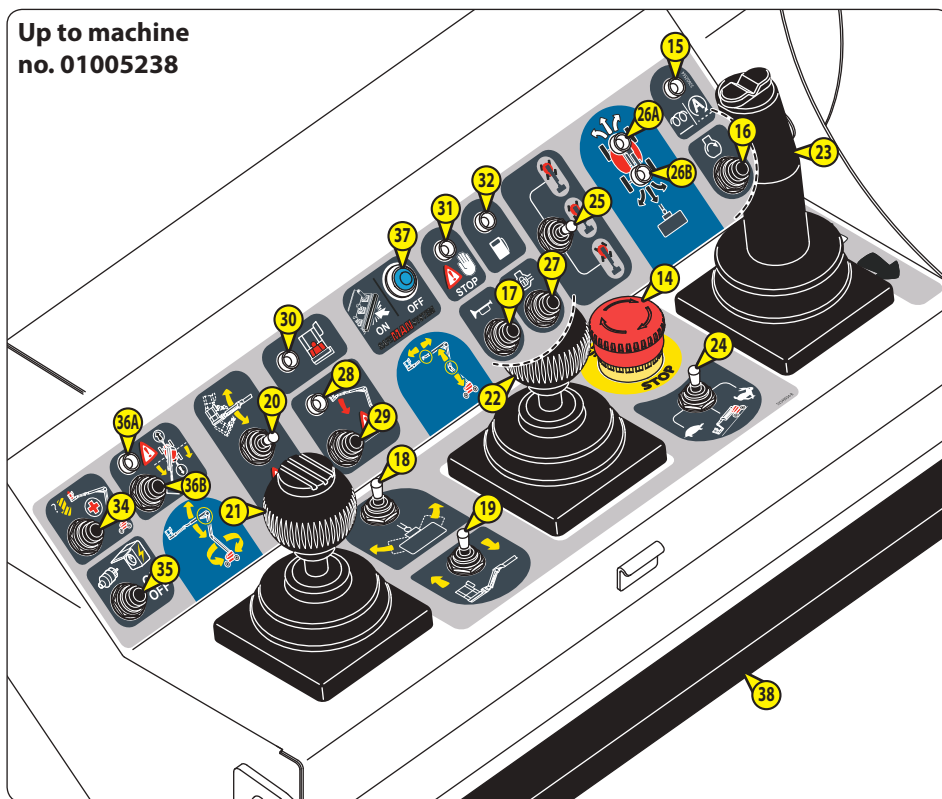
1 - EMERGENCY STOP BUTTON	2-32
2 - IGNITION SWITCH	2-32
3 - ENGINE STARTER BUTTON	2-32
4 - ENGINE STARTING MODE BUTTON	2-32
5 - CONTROL SELECTION SWITCH ON THE GROUND/ IN THE BASKET	2-33
6 - CONTROL KEYS	2-33
7 - NAVIGATION SCREEN INTERFACE KEYS	2-33
8 - INTERFACE SCREEN	2-34
9 - BACKUP PUMP BUTTON	2-34
10 - HORN	2-34
11 - ORANGE ROTATING BEACON LIGHT	2-35
12 - BLUE FLASHING LIGHT (OPTION: "SAFEMANSYSTEM")	2-35

CONTROL PANEL AND SAFETY DEVICES IN THE BASKET

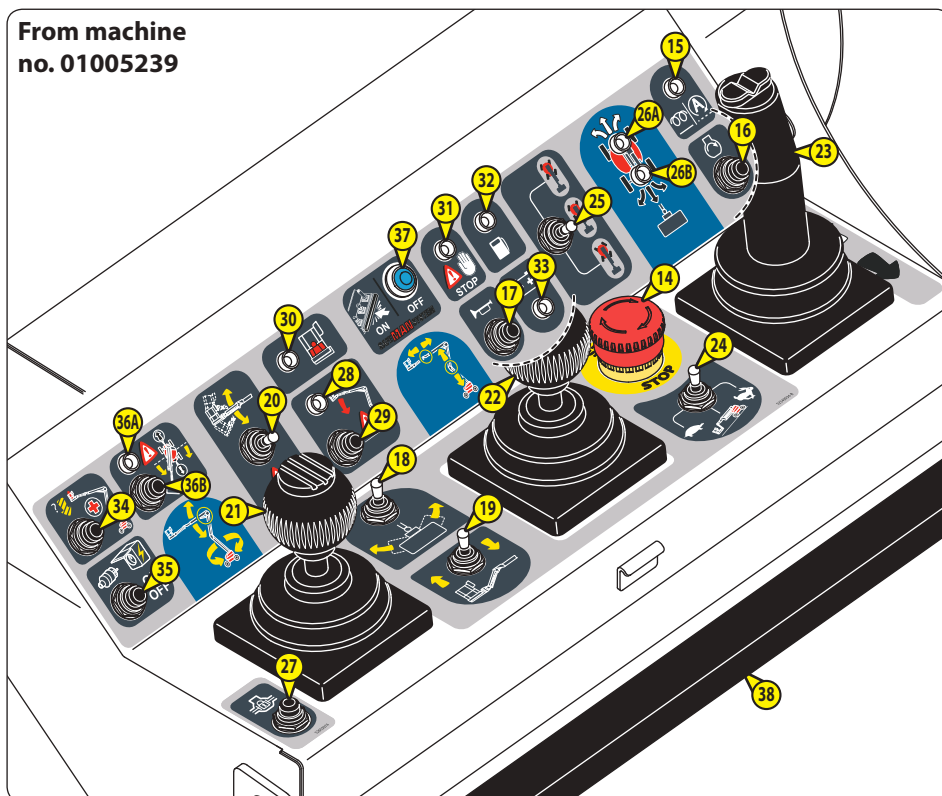
⚠ IMPORTANT ⚠

Drive forwards, drive backwards, the left and right are defined in OPERATING THE PLATFORM: TRANSPORT/WORKING POSITION.

Up to machine
no. 01005238



From machine
no. 01005239



13 - PEDAL SWITCH	2-35
14 - EMERGENCY STOP BUTTON.....	2-35
15 - PREHEAT INDICATOR LAMP	2-35
16 - ENGINE STARTER BUTTON	2-36
17 - HORN BUTTON	2-36
18 - BASKET ROTATION SWITCH	2-36
19 - JIB SWITCH	2-36
20 - BASKET TILT SWITCH	2-36
21 - MAIN JIB AND TURNTABLE CONTROL HANDLE	2-37
22 - SECONDARY JIB AND TELESCOPE CONTROL HANDLE	2-37
23 - DRIVING/STEERING CONTROL HANDLE	2-37
24 - DRIVING SPEED SELECTION SWITCH.....	2-38
25 - STEERING MODE SELECTION SWITCH.....	2-38
26 - WHEEL ALIGNMENT INDICATOR LIGHTS	2-38
27 - DIFFERENTIAL LOCKING BUTTON	2-39
28 - TILTING/OSCILLATION ALARM LIGHT	2-39
29 - USE ON SLOPE BUTTON	2-40
30 - OVERLOAD ALARM LIGHT	2-40
31 - FAULT ALARM INDICATOR LIGHT	2-40
32 - LOW FUEL LEVEL ALARM LIGHT	2-41
33 - BATTERY ALARM INDICATOR LIGHT	2-42
34 - BACKUP PUMP BUTTON	2-42
35 - GENERATOR BUTTON (OPTION: GENERATOR)	2-42
36 - TURNTABLE SLEWING BUTTON AND ALARM INDICATOR LIGHT (OPTION: "DRIVE ENABLE").....	2-42
37 - RESET BUTTON (OPTION: "SAFEMANSYSTEM").....	2-42
38 - PRESSURE SENSITIVE BAR (OPTION: "SAFEMANSYSTEM").....	2-43
39 - AUDIBLE ALARM.....	2-43

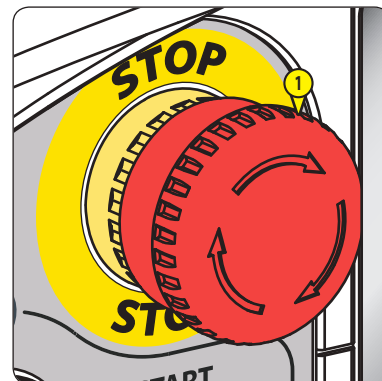
1 - EMERGENCY STOP BUTTON

⚠ IMPORTANT ⚠

*In all cases this control takes priority, even if the movements are executed from the basket control panel.
Movements may stop suddenly if the emergency stop is activated.*

2 positions:

- OFF (locked): Press the button to cut off movement and to stop the engine.
- ON (unlocked): Pull the button or turn it a quarter turn to the right and release it.



2 - IGNITION SWITCH

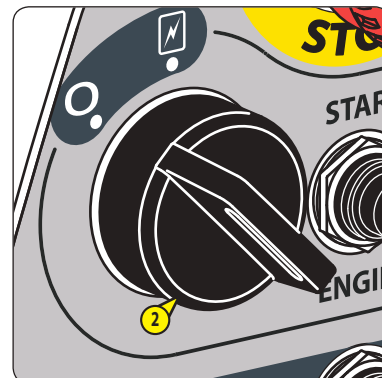
2 positions:



Power down platform and stop engine. The key can be removed.



Power up platform and start up engine preheat cycle. The key cannot be removed.

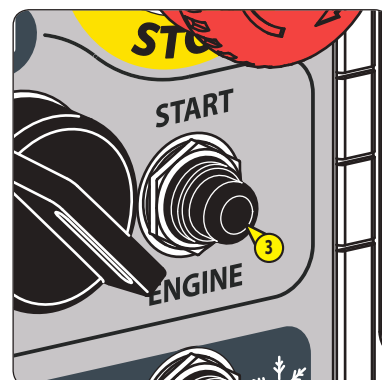


3 - ENGINE STARTER BUTTON

⚠ IMPORTANT ⚠

Do not keep the button pressed for more than 15 seconds.

- Press and hold down the button to start the engine.
- Release button once the engine has started.



4 - ENGINE STARTING MODE BUTTON

- Press the button and release it to change from SUN POSITION to SNOW POSITION and vice versa:

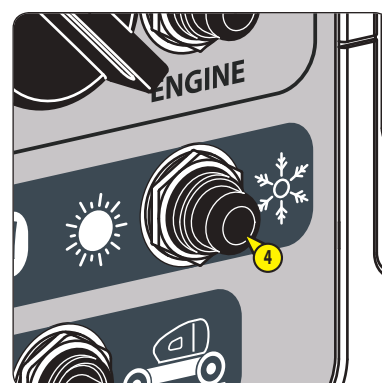


SUN POSITION: Activated by default, for an outside temperature higher than -10 °C.



SNOW POSITION: For an outside temperature lower than -10 °C:

- Press the button and release. Start the engine. The engine runs at a fast idle.
- Wait for 30 to 60 seconds depending on the outside temperature without using the platform controls.
- Press the button and release or use a platform control to restore standard idle speed (SUN POSITION).



5 - CONTROL SELECTION SWITCH ON THE GROUND/ IN THE BASKET

2 positions:



CONTROLS IN THE BASKET when the switch is released:

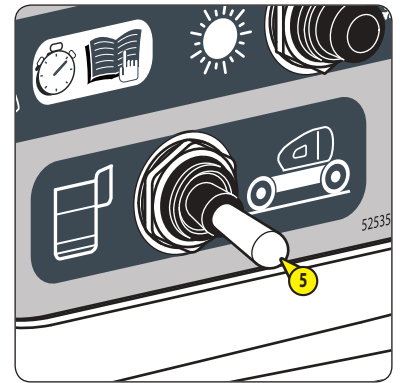
- The controls in the basket are activated.



GROUND LEVEL CONTROLS:

- Push and hold the switch to the right to activate the ground level controls.

NOTE: This operating mode is called the "dead man" function.



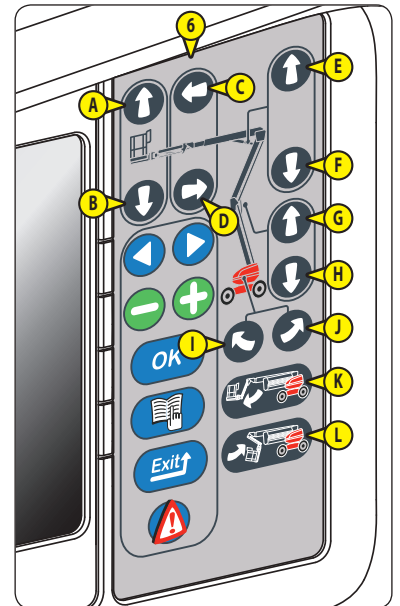
6 - CONTROL KEYS

- Push and hold the ground level/basket control selection switch to the right
- Press and hold down the appropriate keys to activate platform controls:



- A RAISE THE JIB.**
- B LOWER THE JIB.**
- C EXTEND THE TELESCOPE.**
- D RETRACT THE TELESCOPE.**
- E RAISE THE MAIN JIB.**
- F LOWER THE MAIN JIB.**
- G RAISE THE SECONDARY JIB.**
- H LOWER THE SECONDARY JIB.**
- I TURN THE TURNTABLE TO THE LEFT.**
- J TURN THE TURNTABLE TO THE RIGHT.**
- K TILT BASKET/JIB UPWARDS.**
- L TILT BASKET/JIB DOWN.**

- Release the keys or the selection switch to stop.



7 - NAVIGATION SCREEN INTERFACE KEYS

- Press the appropriate keys:



ARROWS: Navigate through the menu/sub-menu pages.



PLUS/MINUS: Navigate through the menu pages and check the parameters.



OK: Confirm a selection or a parameter.



MENU:

- Display the MENU PAGE.
- Exit a men/sub-menu and return to WORK PAGE.



EXIT:

- Cancel a parameter change.
- Return to the previous sub-menu level.



FAULT: Display the FAULT CODE/ALARM PAGE.

NOTE: SCREEN DISPLAY - DESCRIPTION OF PAGES.

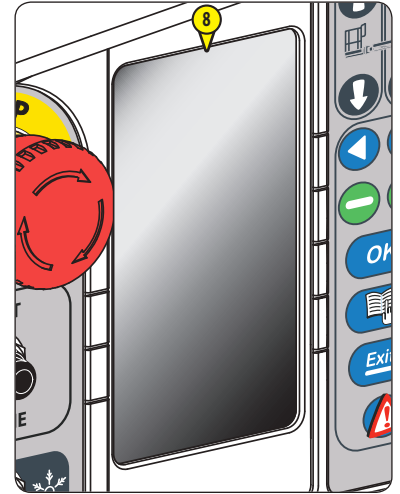


8 - INTERFACE SCREEN

The interface screen displays all the start-up steps and the settings, and gives access to specific sub-menus, such as:

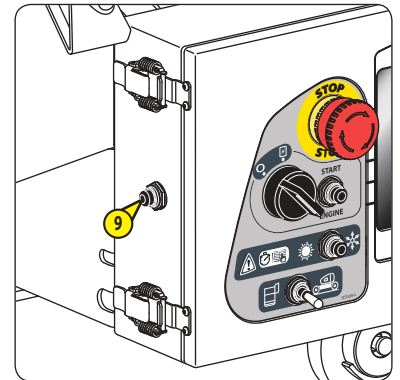
- Platform maintenance.
- Fault log.
- Hour meters (engine operation hours counter, daily usage hour counter, etc.).

NOTE: SCREEN DISPLAY - DESCRIPTION OF PAGES.



9 - BACKUP PUMP BUTTON

 RESCUE PROCEDURE.



10 - HORN

The horn sounds:

- When the horn button is pressed.
- Twice when the machine is turned on without starting the engine in the next 10 seconds, SCREEN DISPLAY - DESCRIPTION OF PAGES: ALARM PAGE.


ALL MOVEMENTS ALARM option: This sounds intermittently when the controls are activated and when driving/steering the platform, SUB-MENU DEFINITIONS: USER OPTIONS: HORN MODE.


DRIVING/STEERING ALARM option: This sounds intermittently when driving/steering the platform, SUB-MENU DEFINITIONS: USER OPTIONS: HORN MODE.


Option "SafeManSystem": It sounds intermittently when the system is in alarm mode, OPTIONS.

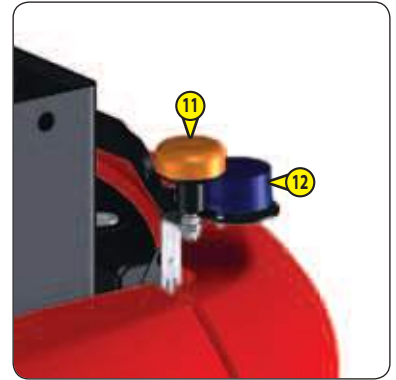


11 - ORANGE ROTATING BEACON LIGHT

PERMANENT ORANGE ROTATING BEACON LIGHT option deactivated: The orange rotating beacon light is lit when the controls are activated and when driving/steering the platform,  SUB-MENU DEFINITIONS: USER OPTIONS: PERMANENT ORANGE ROTATING BEACON LIGHT.

PERMANENT ORANGE ROTATING BEACON LIGHT activated: The orange rotating beacon light is lit when the platform is powered up,  SUB-MENU DEFINITIONS: USER OPTIONS: PERMANENT ORANGE ROTATING BEACON LIGHT.

NOTE: ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO",  OPERATING THE PLATFORM.



12 - BLUE FLASHING LIGHT (OPTION: "SAFEMANSYSTEM")

 OPTIONS.

13 - PEDAL SWITCH


IMPORTANT

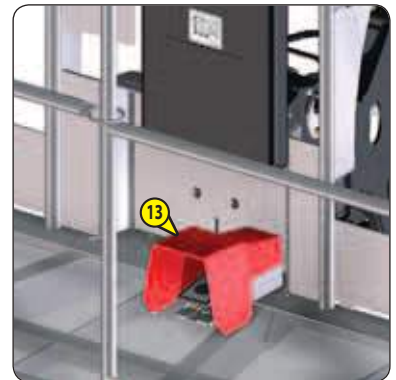
Do not press the pedal switch when starting the engine with the ENGINE STARTER BUTTON.

- Press and hold down the foot switch to activate the controls from the basket control panel.

NOTE: This operating mode is called the "dead man" function.

NOTE: No controls can be activated if the foot switch is released.

NOTE: ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO",  OPERATING THE PLATFORM.



14 - EMERGENCY STOP BUTTON

IMPORTANT

*In all cases this control takes priority, except when the movements are executed from the ground control panel.
Movements may stop suddenly if the emergency stop is activated.*

2 positions:


- OFF (locked): Press the button to cut off movement and to stop the engine.
- ON (unlocked): Pull the button or turn it a quarter turn to the right and release it.

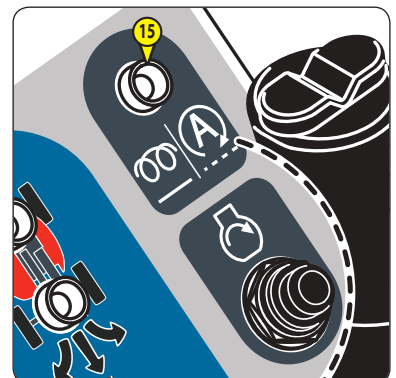


15 - PREHEAT INDICATOR LAMP

The indicator light is lit during the engine preheat cycle.

It switches off when the preheat cycle is completed.

It flashes when the engine is stopped by the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO",  OPERATING THE PLATFORM.

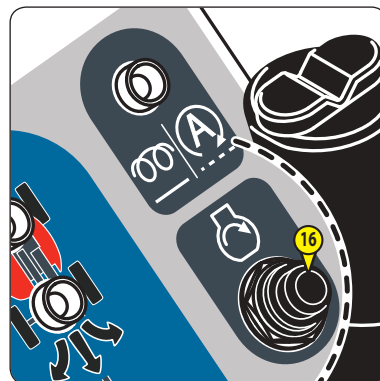


16 - ENGINE STARTER BUTTON

⚠ IMPORTANT ⚠

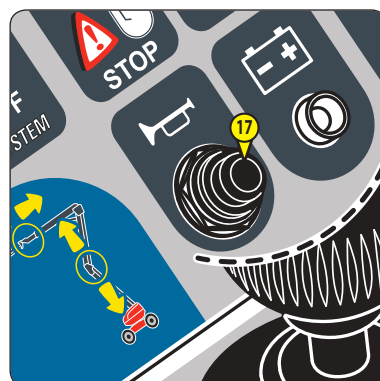
Do not keep the button pressed for more than 15 seconds.

- Press and hold down the button to start the engine.
- Release button once the engine has started.



17 - HORN BUTTON

- Press and hold down the button to sound the horn. Release to stop it.



18 - BASKET ROTATION SWITCH

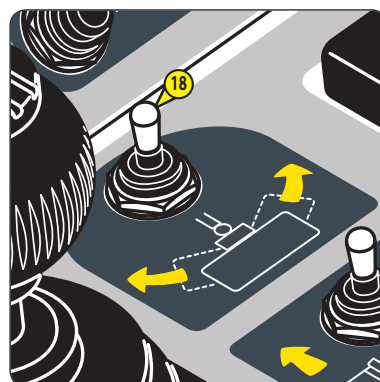
- Press and hold down the foot switch.

TURN BASKET TO THE LEFT

- Push and hold the switch to the left. Release to stop.

TURN BASKET TO THE RIGHT

- Push and hold the switch to the right. Release to stop.



19 - JIB SWITCH

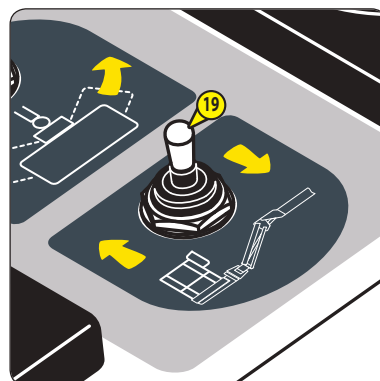
- Press and hold down the foot switch.

RAISE THE JIB

- Push the switch forwards and hold it there. Release to stop.

LOWER THE JIB

- Pull the switch backwards and hold it there. Release to stop.



20 - BASKET TILT SWITCH

- Press and hold down the foot switch.

TILT BASKET UPWARDS

- Push and hold the switch upwards. Release to stop.

TILT BASKET DOWN

- Push and hold the switch downwards. Release to stop.



21 - MAIN JIB AND TURNTABLE CONTROL HANDLE

- Press and hold down the foot switch.

RAISE THE MAIN JIB

- Push and hold the control handle forward. Release to stop.

LOWER THE MAIN JIB

- Pull and hold the control handle back. Release to stop.

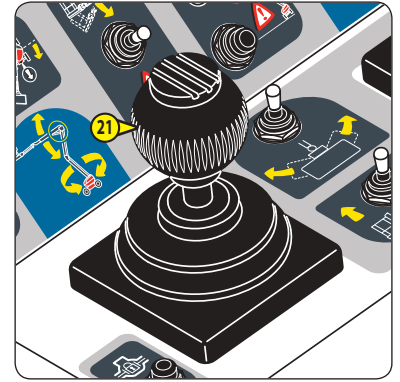
TURN THE TURNTABLE TO THE LEFT

- Push and hold the control handle to the left. Release to stop.

TURN THE TURNTABLE TO THE RIGHT

- Push and hold the control handle to the right. Release to stop.

NOTE: The proportional control handle must be operated smoothly, without jolting.



22 - SECONDARY JIB AND TELESCOPE CONTROL HANDLE

- Press and hold down the foot switch.

RAISE THE SECONDARY JIB

- Push and hold the control handle forward. Release to stop.

LOWER THE SECONDARY JIB

- Pull and hold the control handle back. Release to stop.

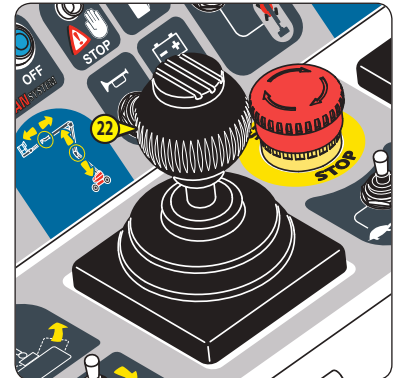
EXTEND THE TELESCOPE

- Push and hold the control handle to the left. Release to stop.

RETRACT THE TELESCOPE

- Push and hold the control handle to the right. Release to stop.

NOTE: The proportional control handle must be operated smoothly, without jolting.



23 - DRIVING/STEERING CONTROL HANDLE

⚠ IMPORTANT ⚠

Always refer to the arrow colours on the chassis and on the control panel in the basket before driving/steering the platform.

- Press the pedal switch and hold it down Press the trigger **A** and hold it down. The driving/steering controls cannot be activated if the trigger and/or the pedal switch are released.

DRIVE FORWARDS

- Push and hold the control handle forward. Release to brake.

DRIVE BACKWARDS

- Pull and hold the control handle back. Release to brake.

BRAKE

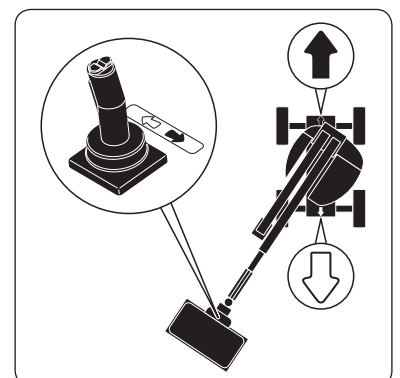
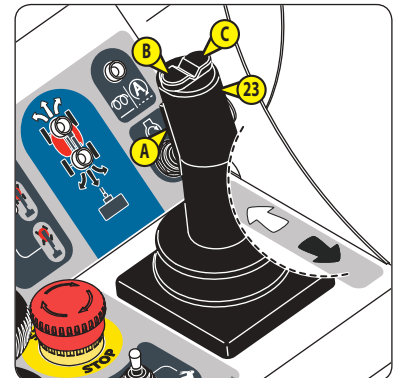
- Release the control handle in the neutral position to apply the brakes. The brakes are also applied when the trigger and/or the pedal switch are released.

STEER TO THE LEFT

- Press and hold down button **B**. Release to stop.

STEER TO THE RIGHT

- Press and hold down button **C**. Release to stop.



24 - DRIVING SPEED SELECTION SWITCH

⚠ IMPORTANT ⚠

Always brake the platform before selecting the driving speed.

3 positions:



TORTOISE speed for driving the platform at slow speed.

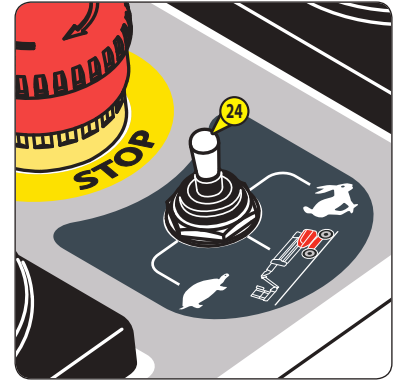


RAMP speed for driving the platform at slow speed with full power.



HARE speed for driving the platform at high speed.

NOTE: Driving speed selection only works in the transport position, OPERATING THE PLATFORM: TRANSPORT/WORKING POSITION.



25 - STEERING MODE SELECTION SWITCH

⚠ IMPORTANT ⚠

The front and rear wheels must be correctly aligned with the platform axis before changing the steering mode, WHEEL ALIGNMENT INDICATOR LIGHT.

3 positions:



CRAB steering mode: Front and rear steering wheels in the same direction.



2-WHEEL DRIVE steering mode: Front steering wheels.



4-WHEEL DRIVE steering mode: Front and rear steering wheels in opposite directions.

NOTE: Only TORTOISE and RAMP driving speeds are possible in 4-WHEEL DRIVE steering mode.



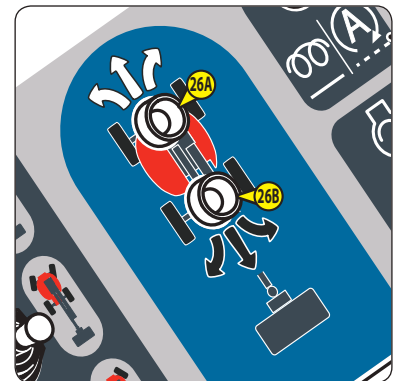
26 - WHEEL ALIGNMENT INDICATOR LIGHTS

The Indicator light comes on when the front wheels are correctly aligned with the platform axis.

The indicator light is lit when the rear wheels are correctly aligned with the platform axis.

If the front and rear wheels are not correctly aligned:

- Select 4-WHEEL DRIVE steering mode and align the rear wheels, then select 2-WHEEL DRIVE steering mode and align the front wheels.

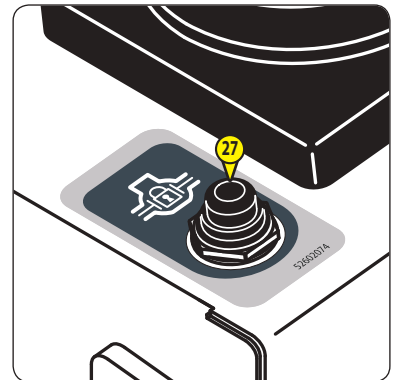


27 - DIFFERENTIAL LOCKING BUTTON

⚠ IMPORTANT ⚠

It is recommended that differential locking is only used when the wheels are correctly aligned with the axis of the machine.

- Press and hold down the button to activate the differential locking when the platform is being driven.
- Release the button and brake the platform to deactivate the differential locking.



28 - TILTING/OSCILLATION ALARM LIGHT

The tilt alarm is activated when the platform is on a steep slope:

- The indicator light flashes (On = 0.6 seconds, Off = 0.4 seconds) and the sound alarm sounds intermittently (On = 1 second, Off = 1 second).
- Some controls are locked, <⚠ OPERATING THE PLATFORM: LOCKED CONTROLS.
- To stop the alarm and reinstate the controls:
 - Fully retract the telescope.
 - Fully lower the main arm.
 - Fully lower the secondary jib.
 - Move platform to a level surface.

OSCILLATING FRONT AXLE OPTION:

The oscillation alarm is activated when an oscillating axle locking fault is detected:

⚠ IMPORTANT ⚠

If the fault persists, consult your dealer.


- The indicator light flashes (On = 0.4 seconds, Off = 0.4 seconds) and the sound alarm sounds intermittently (On = 0.4 second, Off = 0.4 second).
- Some controls are locked, <⚠ OPERATING THE PLATFORM: LOCKED CONTROLS.
- To stop the oscillation alarm and reinstate the controls:
 - Fully retract the telescope.
 - Fully lower the main arm.
 - Fully lower the secondary jib.
 - Fully lower the jib.
 - Move platform to a level surface.
- Confirm cancellation of the fault by pressing the key **OK** on the ground control panel.



29 - USE ON SLOPE BUTTON

⚠ IMPORTANT ⚠


The platform could tip over when this function is used. Use with extreme caution.

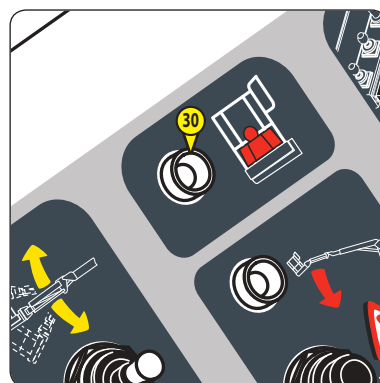
- Press the button and hold it down to action the locked controls (except driving forward and backwards) when the tilt alarm is activated.  TILT/OSCILLATION ALARM INDICATOR LIGHT.



30 - OVERLOAD ALARM LIGHT

The overload alarm is activated when the load in the basket has reached maximum capacity:

- The light flashes and the audible warning sounds continuously.
- All controls are locked,  OPERATING THE PLATFORM: LOCKED CONTROLS.
- To stop the overload alarm and reinstate the controls:
 - Remove excessive load.




31 - FAULT ALARM INDICATOR LIGHT

The indicator light comes on when the platform is turned on and the engine has not been started. It goes off when the engine is started.



If flashes when a fault is detected:

MINOR FAULTS	AUDIBLE ALARM	PREHEAT INDICATOR LAMP	
The pedal switch or control selection switch on the ground/ in the basket is blocked.	1 beep	STOP	Stop the machine. Refer to the maintenance personnel.
The driving/steering control handle trigger is stuck.			
The pressure-sensitive bar is blocked (OPTION: "SAFEMANSYSTEM")	3 beeps repeated every 8 seconds		
Other minor faults	STOP		
Up to machine no. 01005238 Low battery charge level*	Sounds intermittently	Flashes	Restart the engine immediately.

*: Only when the engine has been stopped by the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO",  OPERATING THE PLATFORM.

MAJOR FAULTS	AUDIBLE ALARM	
CAN communication fault	STOP	All controls are locked. Refer to the maintenance personnel.
Low engine oil pressure	Sounds intermittently	Stop the machine immediately and refer to the maintenance personnel. NOTE: The engine stops after 90 seconds.
High coolant temperature		
Inconsistent levelling sensor calibration.	STOP	The simultaneous functions are locked. The movement speeds are reduced. Refer to the maintenance personnel.
Engine overspeed	STOP	The engine stops after 2 seconds. Refer to the maintenance personnel.
Hydrostatic pump fault	STOP	The driving functions are locked. Refer to the maintenance personnel.
Proportional distributor fault	Sounds intermittently	Stop the machine. Refer to the maintenance personnel.
Overload sensor inconsistency		
Oscillating axle blocking fault (1)		
Engine oil pressure sensor fault	STOP	
Fuel level very low (level 3)	Refer to LOW FUEL LEVEL ALARM LIGHT	

(1): The TILT/OSCILLATION ALARM LIGHT flashes at the same time

32 - LOW FUEL LEVEL ALARM LIGHT

The light flashes and the audible alarm sounds when the fuel level is low.



3 alarm levels:

	LOW FUEL LEVEL ALARM LIGHT	AUDIBLE ALARM
Level 1	ON = 0.8 seconds OFF = 0.4 seconds	3 beeps (ON = 0.6 seconds, OFF = 0.4 seconds) repeated every 10 minutes
Level 2	ON = 0.4 seconds OFF = 0.4 seconds	3 beeps (ON = 0.4 seconds, OFF = 0.4 seconds) repeated every minute
Level 3*	ON = 0.3 seconds OFF = 0.2 seconds	3 beeps (ON = 0.4 seconds, OFF = 0.4 seconds) repeated every 10 seconds

*: It is no longer possible to raise the main/secondary jib, extend the telescope, raise the jib, tilt the basket upwards/downwards, turn the turntable and turn the basket for more than 2 seconds at a time.

33 - BATTERY ALARM INDICATOR LIGHT

From machine no. 01005239

The indicator light comes on and the audible alarm sounds intermittently when the engine is automatically stopped by the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO" and the battery voltage is low:

It is recommended to restart the engine when the light is on.

NOTE: USING THE PLATFORM: ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO".



34 - BACKUP PUMP BUTTON

 RESCUE PROCEDURE.



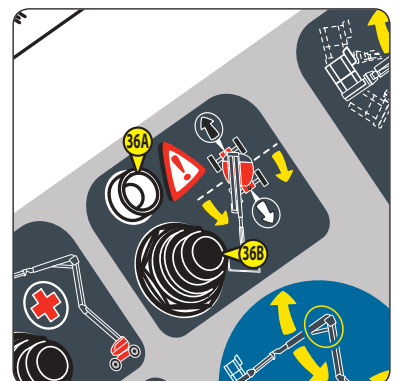
35 - GENERATOR BUTTON (OPTION: GENERATOR)

 OPTIONS.



36 - TURNTABLE SLEWING BUTTON AND ALARM INDICATOR LIGHT (OPTION: "DRIVE ENABLE")

 OPTIONS.



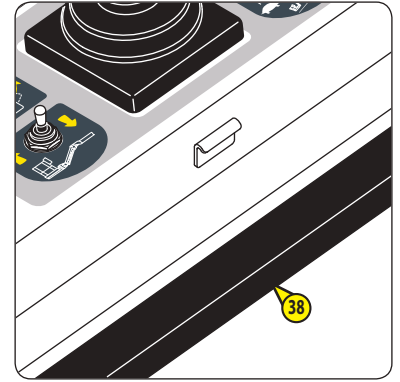
37 - RESET BUTTON (OPTION: "SAFEMANSYSTEM")

 OPTIONS.



38 - PRESSURE SENSITIVE BAR (OPTION: "SAFEMANSYSTEM")

☞ OPTIONS.



39 - AUDIBLE ALARM

The audible alarm sounds:

- Once after the platform has been powered up.
- Intermittently when the platform is on a steep slope or if a blocking fault in the oscillating axle is detected, ☞ TILTING/OSCILLATION ALARM INDICATOR LIGHT.
- Continuously when the basket load has reached maximum capacity, ☞ OVERLOAD ALARM INDICATOR LIGHT.
- When the fuel level is low, ☞ LOW FUEL LEVEL ALARM INDICATOR LIGHT.
- When a fault is detected, ☞ FAULT ALARM INDICATOR LIGHT.
- When the battery voltage is low, ☞ BATTERY ALARM INDICATOR LIGHT.
- Twice when the controls cannot be operated simultaneously, ☞ OPERATING THE PLATFORM: SIMULTANEOUS CONTROLS.

Option "Drive enable": It sounds twice when driving is not possible, ☞ OPTIONS.

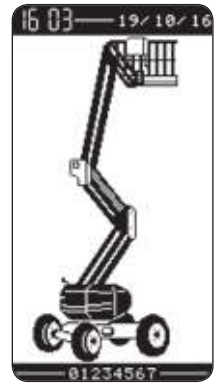


SCREEN DISPLAY - DESCRIPTION OF PAGES

START-UP PAGE

Once the platform is powered up, the start-up page is displayed briefly, then the PREHEAT PAGE is displayed.

NOTE: The current time is displayed at the top of each page. The platform serial number is displayed at the bottom of each page.



PREHEAT PAGE

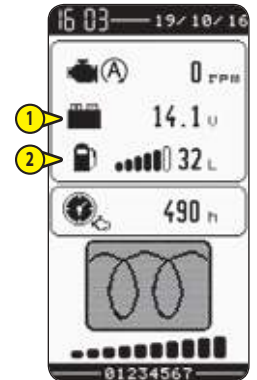
The preheat page is displayed during the engine preheat cycle. The bar graph increases in proportion to the preheat cycle time that has elapsed.

The preheat cycle is completed when the bar graph is full.

A search for faults/alarms is carried out automatically:

- If no fault is detected and no alarm is triggered:
 - The ENGINE STARTING PAGE is displayed.
 - The audible alarm sounds once.
- If a fault is detected: A FAULT PAGE is displayed.
- If a warning is triggered: An ALARM PAGE is displayed.

NOTE: The battery voltage ① and the fuel level ② are displayed on the PREHEAT PAGE, the ENGINE STARTING PAGE, the WORK PAGE and the FAULT PAGE.

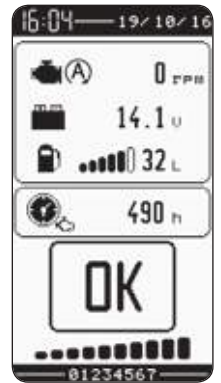


ENGINE START PAGE

The engine can be started when OK is displayed.

To access the menu page, refer to MENU PAGE.

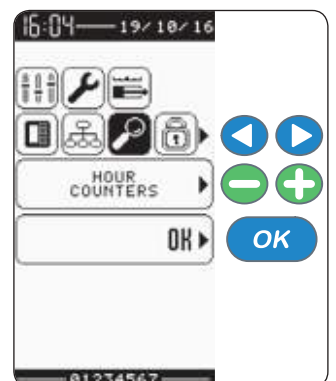
The WORK PAGE is displayed when the engine is started.











MENU PAGE

- Press the MENU key to display the MENU PAGE.
- Select a menu by pressing the ARROW keys and confirm by pressing the key OK .
- Select a sub-menu (if necessary) by pressing the MINUS/PLUS keys and confirm by pressing the key OK .
- Return to the WORK PAGE by pressing the MENU key .

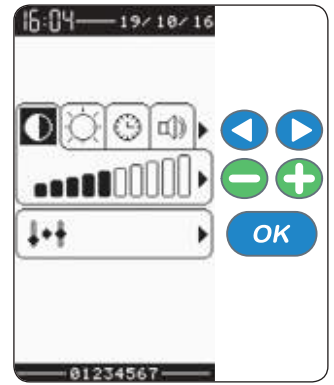
NOTE: DEFINITION OF SUB-MENUS.



EDITING A SUB-MENU


- After selecting a menu, select the required sub-menu (if necessary) using the ARROW keys  .
- Press the MINUS/PLUS keys   to change the settings.
- Confirm once by pressing the key OK . A confirmation message is displayed.
- Press the key OK  again to confirm.
- Return to previous page by pressing the key EXIT .
- Return to the MENU PAGE by pressing the MENU key .

NOTE:  DEFINITION OF SUB-MENUS.







WORKING PAGE


The WORK PAGE  is displayed by default, and the basket controls are activated.

The WORK PAGE  is displayed when the ground controls are activated.

NOTE:  CONTROL PANEL AND SAFETY DEVICES ON THE GROUND.

The pictogram  shows the status of the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO" ( 2 - OPERATING THE PLATFORM):

- : the system is activated.
- : the system is deactivated.

NOTE: The pictogram is displayed on the PREHEAT PAGE, the ENGINE STARTING PAGE, the WORK PAGE and the FAULT PAGE. 


IMPORTANT

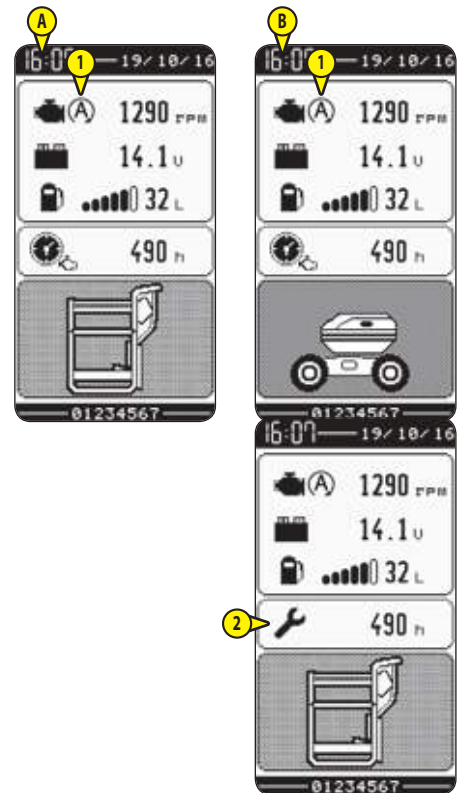
A maintenance operation could be necessary when the maintenance alert ( spanner) is displayed.

Refer to the maintenance personnel.

The maintenance alert is displayed after every 50 hours of service.

Maintenance could be carried out before the alert depending on how much the platform has been used, for example:

- Maintenance is required every 50 hours of service or every month.
- The machine has reached 1 month of service and 30 hours of operation.
- Maintenance has been performed but it is not possible to reset the maintenance alarm before the 50 hours of service.
- The alarm will be displayed when the 50 hours of service are reached.
- In this case it is possible to reset the maintenance alarm,  3 - MAINTENANCE.



FAULT PAGE

⚠ IMPORTANT ⚠

*Certain controls may be locked depending on the fault.
Refer to the maintenance personnel if there is a fault.*

A FAULT PAGE is displayed when a fault is detected.

- Press the FAULT key  to display the FAULT CODE/ALARM PAGE.



ALARM PAGE

An ALARM PAGE is displayed intermittently with the FAULT PAGE or the WORK PAGE when an alarm is triggered.

- Resolve the problem to return to the WORK PAGE.



NOTE: Depending on the type of alarm press the FAULT key  to display the FAULT CODE/ALARM PAGE.

NOTE: The illustrations show 2 examples of alarms.




This ALARM PAGE is displayed when the platform is powered up without starting the engine in the next 10 seconds.


To cancel this alarm page:

- Turn the ignition switch to position .
- Turn the ignition switch to position .
- Wait for the preheat cycle to finish and start up the engine.



This ALARM PAGE is displayed when the engine is stopped by the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO",  2 - OPERATING THE PLATFORM.




This ALARM PAGE is displayed when the engine is stopped by the ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO" and when the engine must be restarted immediately,  2 - OPERATING THE PLATFORM.

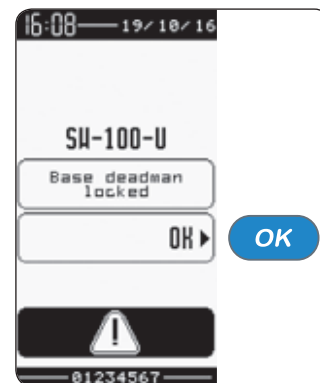


FAULT/ALARM CODE PAGE



The fault/alarm code and its description are displayed on this page.

- Press the key OK  so that the fault or alarm is no longer displayed. This action is recorded in the faults/alarm history.

NOTE: The illustration shows an example of a fault code.








DEFINITION OF SUB-MENUS

Icons	Menus/sub-menus		User		Dealers/Rental companies	
			Access code not required		Access code required	
			Display	Adjustment of parameters	Display	Adjustment of parameters
	"Code" Code			X		X
	"Options" Options	"Klaxon mode" Horn mode (1)		X		X
		"Always flash. light" Permanent rotating beacon light (2)		X		X
		Stop & go (3)		X		X
		"Locking telescop" Telescope locking				X
		"Drive in working mode" Travel when working				X
		"Tilt in working mode" Tilting when working				X
		"Auto straight wheel" Wheel realignment				X
		"Safe Man System"				X
		"Auto retract tel. (SMS)" Automatic telescope retraction (SMS) (4)				X
		"Reduce speed fast + bkwd" Reversing speed + hare reduction				X
		"Easy manager"				X
		"Box config Easy manager" Box configuration Easy manager				X
		"Drive enable mode" Mode Drive enable				X
	"Language" Language	English				X
		Deutsch				X
		Nederlands				X
		Français				X
	"System parameters" System parameters	"Engine management" Engine management				X
		"Arm 1/2 management" Jib management 1/2				X
		"Arm 3 management" Jib management 3				X
		"Telescop management" Telescope management				X
		"Telescop bumper" Telescope stop				X
		"Jib management" Jib management				X
		"Turret management" Turn table management				X
		"Bskt levell mgmt" Basket tilting management				X
		"Bskt rotation mgmt" Basket rotation management				X
		"Steering management" Steering management				X
		"Generator" Generator				X
		"Maint periods" Maintenance periods				X
		"USB download" Transfer USB				X

NOTE: The texts in brackets are displayed when the language "English" (English) is selected.

- (1): "NONE" = NONE, "AVCT" = DRIVING/STEERING ALARM, "MVT" = ALL MOVEMENTS ALARM.
 (2): PERMANANENT ORANGE ROTATING BEACON LIGHT: "OFF" = deactivated, "ON" = activated.
 (3): ENGINE AUTOMATIC STOP SYSTEM "STOP AND GO": "OFF" = deactivated, "ON" = activated.
 (4): AUTOMATIC TELESCOPE RETRACTION: "OFF" = deactivated, "ON" = activated.

Icons	Menus/sub-menus		User		Dealers/Rental companies	
			Access code not required		Access code required	
			Display	Adjustment of parameters	Display	Adjustment of parameters
	"Maintenance" Maintenance	"Oil change at" Oil change in	x			x
		"Oil filter at" Oil filter in	x			x
		"Air filter at" Air filter in	x			x
		"Fuel filter at" Diesel filter in	x			x
		"Hydraulic filter at" Hydraulic filter in	x			x
		"Hydrostat filter at" Hydrostatic filter in	x			x
		"Lubrication at" Lubrication in	x			x
		"Mechanical check at" Mechanical inspection in	x			x
	"Maintenance History"	Maintenance history			x	
	"Slope management"	"Calibration" Calibration				x
	Tilting management	"Self-test" Self-test		x		x
	"Speed calibration" Speed calibration	"Arm 1/2 lifting up" Raising jib 1/2				x
		"Arm 1/2 lifting down" Lowering jib 1/2				x
		"Arm 3 lifting up" Raising jib 3				x
		"Arm 3 lifting down" Lowering 3				x
		"Extend telescop" Telescope extension				x
		"Retract telescop" Telescope retraction				x
		"Jib lifting up" Raising jib				x
		"Jib lifting down" Lowering jib				x
		"Right rotating turret" Right turntable rotation				x
		"Left rotating turret" Left turntable rotation				x
		"Basket tilting up" Basket tilting up				x
		"Basket tilting down" Basket tilting down				x
		"Basket right rotation" Right basket rotation				x
		"Basket left rotation" Left basket rotation				x
		"Forward drive working mode" Work forward travel			x	
		"Backward drive working mode" Working reverse travel			x	
	"Overload calibration"	Overload calibration				x
	"Generator calibration"	Generator calibration				x
	"Pressure setting"	Pressure adjustments				x
	"Parameters setting" Parameter management	"Mach parameters restoration" Restore machine parameters				x
		"Mach parameters saving" Save machine parameters				x
		"Raw factory prm restoration" Restore basic factory values				x
	"Engine accel calibration"	Engine acceleration calibration				x
	"Joysticks calibration"	Joystick calibration				x

Icons	Menus/sub-menus		User		Dealers/Rental companies	
			Access code not required		Access code required	
			Display	Adjustment of parameters	Display	Adjustment of parameters
	"Screen settings" Screen adjustments	"Contrast" Contrast		X		X
		"Brightness" Light level		X		X
		"Date and time" Date and time		X		X
		"Button tones" Key beeps		X		X
	"Codification" Codification		X		X	
	"Machine selection" Machine selection					X
	"Hour counters" Hour counter	"Rental" Rental	X			X
		"Engine" Engine	X		X	
	"Day hours" Daily hours		X		X	
	"Input/output visualisation" Input/output display	"General" General	X		X	
		"Power supply" Power supplies	X		X	
		"Fuses" Fuses	X		X	
		INTOR UC234	X		X	
		INANA UC234	X		X	
		HSCE UC234	X		X	
		OUTOR UC234	X		X	
		OUTANA UC234	X		X	
		OUTPWM UC234	X		X	
		"UPU-S option" Option UPU-S	X		X	
	"Diagnostic" Diagnostics	"Lifting arm 1/2" Raising jib 1/2	X		X	
		"Lifting arm 3" Raising jib 3	X		X	
		"Lowering arm 1/2" Lowering jib 1/2	X		X	
		"Lowering arm 3" Lowering 3	X		X	
		"Telescop extend" Telescope extension	X		X	
		"Telescop retract" Telescope retraction	X		X	
		"Lifting jib" Raising jib	X		X	
		"Lowering jib" Lowering jib	X		X	
		"Turret rotation" Turntable rotation	X		X	
		"Lifting basket tilt" Basket tilting up	X		X	
		"Lowering basket tilt" Basket tilting down	X		X	
		"Basket rotation" Basket rotation	X		X	
		"Driving" Platform travel	X		X	
		"Steering" Platform steering	X		X	
		"Generator activation" Generator activation	X		X	
		"Engine starter" Engine starting	X		X	
	"Defaults history" Fault history		X		X	