MANITOU

HANDLING YOUR WORLD

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OPERATOR'S MANUAL

(ORIGINAL INSTRUCTIONS)

IMPORTANT

Carefully read and understand this instruction manual before using this machine.

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

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

WHENEVER YOU SEE THIS SYMBOL, IT MEANS:

⚠ IMPORTANT ⚠

NOTE! BE CAREFUL! YOUR SAFETY, THAT OF OTHERS, OR THE SAFETY OF THE MACHINE IS AT RISK.

- This manual has been produced based on the equipment list and technical characteristics given at the time of its design.
- The machine's equipment level depends on the options chosen and the country of sale.
- Depending on the machine's options and the date of sale, certain equipment or functions described in this manual may not be present on this machine.
- Descriptions and figures are nonbinding.
- 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 available to answer all your questions.
- This manual is an integral part of the machine.
- It is to be kept in its storage location at all times for ease of reference.
- Give this manual to the new owner if the machine is resold.

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1 - OPERATING AND SAFETY INSTRUCTIONS

2 - DESCRIPTION

3 - MAINTENANCE

4 - ATTACHMENTS

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1 - OPERATING AND SAFETY INSTRUCTIONS

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1 - OPERATING AND SAFETY INSTRUCTIONS

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INSTRUCTIONS TO THE COMPANY MANAGER

THE SITE

- Proper management of the machine'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, authorized personnel can use the machine. This authorization is given in writing by the appropriate person in the establishment where the machine is to be used and must be carried permanently by the operator.

⚠ IMPORTANT ⚠

Experience has shown that there are a number of inappropriate ways in which the machine might be used. Such foreseeable misuse, of which the main examples are listed below, are strictly forbidden.

- The foreseeable abnormal behavior resulting from ordinary negligence, but not from any intentional misuse of the equipment.

- The reflex reactions of a person in the event of a malfunction, incident, fault, etc. during operation of the machine.

- Behavior resulting from application of the "principle of least effort" when performing a task.

- For certain machines, the foreseeable behavior of such persons as: apprentices, teenagers, handicapped persons, trainees tempted to drive a machine, operators tempted to operate a machine 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 whether or not a person will make a suitable driver.

THE MACHINE

A - SUITABILITY OF THE MACHINE FOR THE TASK

- This machine is a lift truck designed for handling (moving, storing or transporting) a load.
- MANITOU has ensured that this machine is suitable for use under the standard operating conditions defined in this operator's manual, with a **STATIC TEST COEFFICIENT OF 1.33** and a **DYNAMIC TEST COEFFICIENT OF 1**, as specified in harmonized standard **ISO 3691-1** for masted forklift trucks.
- Before commissioning, the company manager must make sure that the machine is appropriate for the work to be done, and perform certain tests (in accordance with current legislation).

B - ADAPTING THE MACHINE TO USUAL ENVIRONMENTAL CONDITIONS

- In addition to the standard equipment mounted on your machine, many options are available, such as: road lighting, stop lights, revolving light, reverse lights, reverse buzzer alarm, front light, rear light, etc.
- The operator must take into account the operating conditions to specify the machine's signaling and lighting equipment. Consult your dealer.
- Take into account the climatic and atmospheric conditions of the site of utilization.
  - Protection against frost (◁ 3 - MAINTENANCE).
  - Adaptation of lubricants (ask your dealer for information).
  - Engine filtration (◁ 3 - MAINTENANCE).

⚠ IMPORTANT ⚠

For operation under average climatic conditions, i.e. between -15 °C (5 °F) and +35 °C (95 °F), correct levels of lubricants in all the circuits are checked in production.

For operation under more severe climatic conditions, before starting up, drain all circuits, then fill using lubricants suitable for the ambient temperatures.

The same applies to the coolant.

- Preventing fire risks associated with use in dusty and flammable conditions (e.g. straw, flour, sawdust, organic waste, etc.).
- A machine operating in an area without fire extinguishing equipment must be equipped with an individual extinguisher. Solutions exist, consult your dealer.

⚠ IMPORTANT ⚠

Your machine is designed for outdoor use under normal atmospheric conditions and indoor use in suitably aerated and ventilated premises.

It is prohibited to use the machine 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.).

Special equipment is available for use in such areas (ask your dealer for information).

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- Our machines comply with Directive 2004/108/EC concerning electromagnetic compatibility (EMC) (UK: Electromagnetic Compatibility Regulations 2016), and with the corresponding harmonized standard EN 12895. Their correct operation is no longer guaranteed if they are used within areas in which the electromagnetic fields exceed the limit specified by this standard (10 V/m).

⚠ IMPORTANT ⚠

After commissioning, any machine equipped with devices that are likely to emit non-ionizing radiation (e.g. radio transmitter, radiofrequency ID reader, data collection system, etc.) can cause injury, especially to people with active or inactive medical devices or implants.

- Directive 2002/44/EC requires company managers to not expose their employees to excessive vibration doses. There is no recognized code of measurement for comparing the machines of different manufacturers. The actual doses received cannot therefore be measured under actual operating conditions at the user's premises.
- The following are some tips for minimising these vibration doses:
  - Select the most suitable machine and attachment for the intended use.
  - Adapt the seat adjustment to the operator's weight (depending on machine model) and maintain it in good condition, as well as the cab suspensions. Inflate the tires in accordance with recommendations.
  - Ensure that the operators adapt their operating speed to suit the conditions on site.
  - As far as possible, arrange the site in such a way as to provide a flat running surface and remove obstacles and harmful potholes.

C - MODIFYING THE MACHINE

- For your own safety and that of others, you must not change the structure and settings of the various components of your machine by yourself (hydraulic pressure, limiter calibration, engine speed, addition of extra equipment, addition of counterweights, unapproved attachments, alarm systems, etc.). In this case, the manufacturer cannot be held responsible.

D - FRENCH ROAD TRAFFIC RULES

- Only one certificate of conformity is issued. It must be kept in a safe place.
- The driving of non-approved machines on the public highway is subject to the provisions of the highway code relating to special machines, defined in Article R311-1 of the French Highway Code (*Code de la route*), in category B of the Equipment Order of 20 November 1969 that determines the procedures applicable to special machines. The machine must be fitted with an operating license plate.

INSTRUCTIONS

- The operator's manual must always be in good condition and kept in the place provided in the machine and in the language used by the operator.
- Operator's manuals and any plates or stickers which are no longer legible or are damaged, must be replaced.

MAINTENANCE

- Maintenance or repairs other than those detailed in Part: 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 machine must be periodically inspected to ensure its continued compliance.
The frequency of this inspection is defined by the legislation in force in the country in which the machine is used.

- Example for France "The manager in charge of the establishment using a machine must open and maintain a maintenance log for each machine (order of March 2, 2004) and undergo a general periodic inspection every 6 months (order of March 1, 2004)".

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INSTRUCTIONS TO THE OPERATOR

FOREWORD

⚠ IMPORTANT ⚠

The risk of accident while using, servicing or repairing your machine can be reduced if you follow the safety instructions and preventive measures detailed in this manual.
Failure to respect the safety and operating instructions, or the instructions for repairing or servicing your machine, may lead to serious, even fatal accidents.
In order to reduce or prevent any danger with a MANITOU-approved attachment, follow the instructions in paragraph: 4 - ADAPTABLE ATTACHMENTS AVAILABLE ON THE RANGE: INTRODUCTION.

- 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 machine itself are not exhaustive.
- As the operator, you must anticipate at all times the potential risks for yourself, for others and for the machine.

GENERAL INSTRUCTIONS

A - OPERATOR'S MANUAL

- Read the operator's manual carefully.
- The operator's manual must always be in good condition and in the place provided for it on the machine.
- You must report any plates and stickers which are no longer legible or which are damaged.

B - AUTHORIZATION FOR USE IN FRANCE

(or see current legislation in other countries)

- Only qualified, authorized personnel can use the machine. This authorization is given in writing by the appropriate person in the establishment where the machine is to be used and must be carried permanently by the operator.
- The operator is not cleared to authorize the driving of the machine by another person.

C - MAINTENANCE

- If the operator observes that his machine is not in good working order or does not comply with the safety instructions must inform his manager of this immediately.
- The operator is prohibited from carrying out any repairs or adjustments himself, unless he has been trained for this purpose. He must keep his machine perfectly clean if he is responsible for this task.
- The operator must carry out daily and weekly maintenance (◅ 3 - MAINTENANCE).
- For the safety of the operator, maintenance must be carried out with the engine off and the ignition key removed.
- The operator must ensure tyres are appropriate for the type of ground (◅ 2 - DESCRIPTION). Optional solutions are available, please consult your dealer.
  - SAND tires.
  - FARM tires.
  - Snow chains.

⚠ IMPORTANT ⚠

Do not use the machine if the tires are damaged or excessively worn, because this could put your own safety or that of others at risk, or cause damage to the machine itself.
The fitting of foam inflated tires is prohibited and is not guaranteed by the manufacturer unless with prior authorization.

- The operator is responsible for adjusting the frequency of cleaning needed to prevent the risk of fire ensuing from the build-up of flammable material(s).
- The operator should pay special attention to all the areas of the machine where these high-risk materials are likely to accumulate.

D - MODIFYING THE MACHINE

- For your own safety and that of others, you must not change the structure and settings of the various components of your machine by yourself (hydraulic pressure, limiter calibration, engine speed, addition of extra equipment, addition of counterweights, unapproved attachments, alarm systems, etc.). In this case, the manufacturer cannot be held responsible.

E - LIFTING PEOPLE

- It is forbidden to lift or carry people.

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A - BEFORE STARTING UP THE MACHINE

- Perform the daily maintenance operations (◁ 3 - MAINTENANCE).
- Make sure that the driver's cab is clean, particularly the floor and floor mat. Check that no movable objects may hinder operation of the machine.
- Make sure the lights, turn signals and windshield wipers are working properly.
- Make sure the rear-view mirrors are in good condition, clean and properly adjusted.
- Make sure the audible alarm works.

B - DRIVER'S OPERATING INSTRUCTIONS

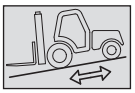
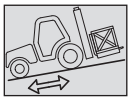
⚠ IMPORTANT ⚠

Under no circumstances must the seat be adjusted while the machine is moving.

For cabs with a heating system, check the temperature setting to prevent any risk of burns from the heating vents.

- Whatever his experience, the operator is advised to familiarize himself with the position and operation of all the controls and instruments before operating the machine.
- Wear clothes suitable for driving the machine, avoid loose clothing.
- Make sure you have the appropriate protective equipment for the task to be performed.
- Prolonged exposure to high noise levels may cause hearing problems. It is recommended to wear ear muffs to protect against excessive noise.
- Always face the machine when getting into and out of the driver's cab:
  - Use the handle(s) provided for this purpose.
  - Use the step(s).
  - Do not jump out of the machine.
- Remain alert at all times when using the machine. Do not listen to the radio or music using headphones or earphones.
- Never operate the lift truck when hands or feet are wet or soiled with greasy substances.
- For increased comfort, adjust the seat to your requirements and adopt the correct position in the driver's cab.
- The operator must always be in the normal operator's position. Arms and legs, and generally any part of the body, should be kept inside the driver's cab of the machine.
- The safety belt must be worn and adjusted to the operator's size.
- The control units must never be used for any other than their intended purposes (e.g. Climbing onto or down from the machine, coat hanger, etc.).
- If the control components are fitted with a forced operation (lever lock) device, it is forbidden to leave the cab without first putting these controls in neutral.
- It is prohibited to carry passengers either on the machine or in the cab.

C - ENVIRONMENT

- Comply with site safety regulations.
- If you have to use the machine in a dark area or work at night, make sure it is equipped with work lights.
- During handling operations, make sure that no one is in the way of the machine and its load.
- Do not allow anybody to come near the working area of the machine or pass beneath an elevated load.
- The maximum slope on which the machine can be used in relation to the capacity of the service brake is 20%.
- When using the lift truck on a transverse slope, before lifting the mast, follow the instructions given in the paragraph: INSTRUCTIONS FOR HANDLING A LOAD.
- Traveling on a longitudinal slope:
  - Drive and brake gently.
  - Moving without load: Forks or attachment facing downhill. 
  - Moving with load: Forks or attachment facing uphill. 
- Take into account the machine's dimensions and its load before trying to negotiate a narrow or low passageway.
- Never move onto a load bridge without having first checked:
  - That it is suitably positioned and made fast.
  - That the unit to which it is connected (wagon, truck, etc.) will not shift.
  - That this bridge is prescribed for the total weight of the machine, laden or unladen.
  - That this bridge is prescribed for the size of the machine.
- Never move onto a foot bridge, floor or freight lift, without being certain that they are suitable for the weight and size of the machine, laden or otherwise, and without having checked that they are in sound working order.
- Be careful in the area of loading bays, trenches, scaffolding, soft ground and manholes.
- Make sure the ground is stable and firm under the wheels before lifting the load.
- Make sure that the scaffolding, loading platform, pilings or ground is capable of bearing the load.

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- Never stack loads on uneven ground, they may tip over.
- The load or the attachment must not be left just above a structure for long periods at a time because of the descending mast. In such a case, a constant watch must be kept and the height of the forks or the attachment readjusted if necessary.
- In the case of work near to overhead lines, ensure that the safety distance is sufficient between the machine's working area and the overhead line.

⚠ IMPORTANT ⚠

You must consult your local electrical agency.

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

In the event of high winds, do not carry out handling work that jeopardizes the stability of the machine and its load, particularly if the load catches the wind badly.

- Prevent fire risks associated with use in dusty and flammable conditions (e.g. straw, flour, sawdust, organic waste, etc.).

D - VISIBILITY

- The safety of people within the machine's working area, as well as that of the machine itself and the operator, are dependent on good operator visibility of the machine's immediate surroundings in all situations and at all times.
- This machine has been designed to allow good operator visibility (direct or indirect by means of rear-view mirrors) of the immediate surroundings of the machine while driving with no load and with the mast in the transport position.
- Special precautions must be taken if the size of the load restricts visibility towards the front:
  - Moving in reverse,
  - Site layout,
  - Assisted by a person directing the operation (while standing outside the machine's area of travel), making sure to keep this person clearly in view at all times,
  - At all events, avoid reversing long distances.
- If visibility of your road is inadequate, ask someone to assist by directing the operation (while standing outside the machine's area of travel), making sure to keep this person clearly in view at all times.
- Keep all components affecting visibility in a clean, properly adjusted state and in good working order (e.g. windshields, windows, windshield wipers, windshield washers, driving lights and worklights, rear-view mirrors).

E - STARTING THE MACHINE

SAFETY INSTRUCTIONS

⚠ IMPORTANT ⚠

The machine must only be started up or maneuvered when the operator is sitting in the driver's cab with seat belt fastened and adjusted.

- Never try to start the machine by pushing or towing it. Such an operation may cause severe damage to the transmission. If necessary, towing requires the transmission to be put in neutral (◁ 3 - MAINTENANCE).
- If using an emergency battery for start-up, use a battery with the same characteristics and respect battery polarity when connecting it. Connect at first the positive terminals before the negative terminals.

⚠ 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

- Check the closing and locking of the hood(s).
- For machines operating on gas carburization, open the gas bottle.
- Ensure that the forward/reverse selector is set to neutral.
- Turn the ignition key to the position I to activate the electrical and preheat system.
- Check the fuel level on the indicator.
- Turn the ignition key fully, the engine should then start. Release the ignition key and let the engine run at idling speed.
- Do not engage the starter motor for more than 15 seconds and carry out the preheating between unsuccessful attempts.
- Make sure all the signal lights on the control instrument panel are off.
- Check all control instruments when the engine is warm and at regular intervals during use, so as to quickly detect any faults and to be able to correct them without any delay.
- If an instrument does not show the correct display, stop the engine and immediately carry out the necessary operations.

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F - OPERATING THE MACHINE

SAFETY INSTRUCTIONS

⚠ IMPORTANT ⚠

We would like to draw the operators' attention to the risks involved in using the machine, in particular:
- Risk of losing control.
- Risk of loss of lateral and frontal stability of the machine.
The operator must remain in control of the machine.
In the event of the machine overturning, do not try to leave the cab during the incident.
YOUR BEST PROTECTION IS TO STAY FASTENED IN THE CAB.

- Observe the company's traffic regulations or, by default, the public highway code.
- Do not carry out operations which exceed the capacities of your machine or attachment.
- Always drive the machine with the forks or attachment in the transport position, i.e. 300 mm (11,81 in) from the ground and with the carriage sloping backward.
- Only carry loads which are balanced and properly anchored to avoid any risk of a load falling off.
- Ensure that pallets, cases, etc, are in good order and suitable for the load to be lifted.
- Familiarize yourself with the machine on the terrain where it will be used.
- Ensure that the service brakes are working properly.
- The engine speed during movement of the machine when loaded must not exceed the maximum value indicated in the machine's technical data.
- Drive smoothly at an appropriate speed for the operating conditions (land configuration, load on the machine).
- Reduce the lift truck's moving speed when transporting loads.
- Do not use the hydraulic mast controls when the machine is moving.
- Do not maneuver the machine with the mast in the raised position unless under exceptional circumstances and then with extreme caution, at very low speed and using gentle braking. Ensure that there is sufficient visibility.
- Take bends slowly.
- In all circumstances make sure you are in control of your speed.
- On damp, slippery or uneven terrain, drive slowly.
- Brake gently, never abruptly.
- Only use the machine's forward/reverse selector from a stationary position and never do so abruptly.
- Do not drive with your foot on the brake pedal.
- Always remember that hydrostatic type steering is extremely sensitive to movement of the steering wheel, so turn it gently and not jerkily.
- Never leave the engine running when the lift truck is unattended.
- Do not leave the cab when the machine has a raised load.
- Look where you are going and always make sure you have good visibility along the route.
- Use the rear-view mirrors frequently.
- Drive round obstacles.
- Never drive on the edge of a ditch or steep slope.
- It is dangerous to use two machines simultaneously to handle heavy or bulky loads, since this operation requires particular precautions to be taken. It must only be used exceptionally and after risk analysis.
- The ignition switch has an emergency stop mechanism in case of an operating anomaly occurring in the case of machines not fitted with a punch-operated cut-out.

INSTRUCTIONS

- Always drive the machine with the forks or attachment in the transport position, i.e. 300 mm (11,81 in) from the ground and with the carriage sloping backward.
- For machines with gearboxes, use the selected gear (◁ 2 - DESCRIPTION).
- Release the hand brake.
- Shift the forward/reverse selector to the selected direction of travel and accelerate gradually until the machine moves off.

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G - STOPPING THE MACHINE

SAFETY INSTRUCTIONS

- Never leave the ignition key in the machine during the operator's absence.
- When the machine is stationary, or if the operator has to leave his cab (even for a moment), place the forks or attachment on the ground, apply the parking brake and place the forward/reverse selector in neutral.
- Make sure that the machine is not stopped in any position that will interfere with the traffic flow and at less than one meter from the track of a railway.
- In the event of prolonged parking on a site, protect the machine from bad weather, particularly from frost (check the level of antifreeze), and close and lock all the machine accesses (doors, windows, cowls, etc.).

INSTRUCTIONS

- Park the machine on flat ground or on an incline lower than 15%.
- Set the forward/reverse selector to neutral.
- Apply the parking brake.
- For machines with gearboxes, place the gear lever in neutral.
- Lower the forks or attachment to rest on the ground.
- When using an attachment with a grab or jaws, or a bucket with hydraulic opening, close the attachment fully.
- Before stopping the machine after intensive work, leave the engine idling for a few moments to allow the coolant and oil to lower the temperature of the engine and transmission. 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.
- Stop the engine with the ignition switch.
- Remove the ignition key.
- At the end of the day, activate the battery cut-off, and if the machine is being shut down from more than 20 days, disconnect the battery.
- Lock all the accesses to the machine (doors, windows, cowls, etc.).
- For machines operating on gas carburization, close the gas bottle. For a long lasting stop, let the engine stop naturally by shutting the LPG bottle before switching off the ignition, so as to eliminate all the fuel in the feed tube.

H - DRIVING THE MACHINE ON THE PUBLIC HIGHWAY

FRENCH ROAD TRAFFIC RULES

- The driving of non-approved machines on the public highway is subject to the provisions of the highway code relating to special machines, defined in Article R311-1 of the French Highway Code (*Code de la route*), in category B of the Equipment Order of 20 November 1969 that determines the procedures applicable to special machines. The machine must be fitted with an operating license plate.

SAFETY INSTRUCTIONS

- Operators driving on the public highway must comply with current highway code legislation.
- The machine must comply with current road legislation. If necessary, there are optional solutions. Contact your dealer.

INSTRUCTIONS

- Make sure the revolving light is in place, switch it on and verify its operation.
- Make sure the lights, turn signals and windshield wipers are working properly.
- Switch off the worklights if the machine is fitted with them.
- Place the attachment 300 mm (11,81 in) from the ground.

⚠ IMPORTANT ⚠

Never coast in neutral (forward/reverse selector or gear lever in neutral or transmission cut-off button pressed) to preserve the machine's engine brake.
Failure to observe this instruction on a slope will lead to excessive speed, which may make the machine uncontrollable (steering, brakes) and cause serious mechanical damage.

DRIVING THE MACHINE WITH A FRONT-MOUNTED ATTACHMENT

- You must comply with current regulations in your country, covering the possibility of driving on the public highway with a front-mounted attachment on your machine.
- If road legislation in your country authorises circulation with a front-mounted attachment, you must at least:
  - Protect and report any sharp and/or dangerous edges on the attachment (◁ 4 - ADAPTABLE ATTACHMENTS AVAILABLE ON THE RANGE).
  - The attachment must not be loaded.
  - Make sure that the attachment does not mask the lighting range of the forward lights.
  - Make sure that current legislation in your country does not require other obligations.

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For machines equipped with a towing system

OPERATING THE MACHINE WITH A TRAILER

- For using a trailer, observe the regulations in force in your country (maximum travel speed, braking, maximum weight of trailer, etc.).
- Do not forget to connect the trailer's electrical equipment to that of the machine.
- The trailer's braking system must comply with current legislation.
- If pulling a trailer with assisted braking, the tractor machine must be equipped with a trailer braking mechanism. In this case, do not forget to connect the trailer braking equipment to that of the machine.
- The vertical force on the towing hook must not exceed the maximum authorized by the manufacturer (consult the manufacturer's plate on your machine).
- The authorized gross vehicle weight must not exceed the maximum weight authorized by the manufacturer (consult the manufacturer's plate on your machine).

IF NECESSARY, CONSULT YOUR DEALER.

INSTRUCTIONS FOR HANDLING A LOAD

A - CHOICE OF ATTACHMENTS

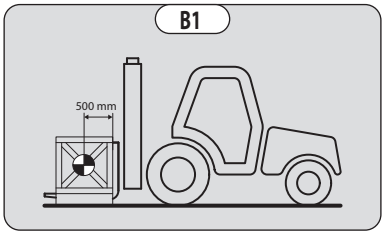
- Only attachments approved by MANITOU can be used on its machines.
- Make sure the attachment is appropriate for the work to be done (◁ 4 - ADAPTABLE ATTACHMENTS AVAILABLE ON THE RANGE).
- Make sure the attachment is correctly installed and locked onto the machine carriage.
- Make sure that your machine attachments are working properly.
- Comply with the load chart limits for the machine for the attachment used.
- Do not exceed the rated capacity of the attachment.
- Never lift a load in a sling without the attachment provided for the purpose. Optional solutions are available, please consult your dealer.

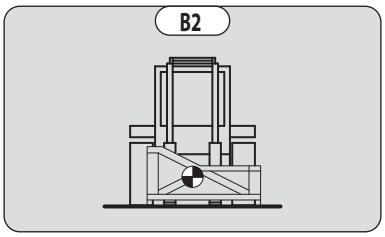
B - WEIGHT OF LOAD AND CENTRE OF GRAVITY

- Before picking up a load, you must know its weight and its center of gravity.
- The load chart for your machine is valid for a load in which the longitudinal position of the center of gravity is 500 mm (19,68 in) or 600 mm (23,62 in) from the base of the forks (depending on the model) (Fig. B1). For loads with center of gravity exceeding this distance, contact your dealer.
- For irregular loads, determine the transverse center of gravity before any handling (Fig. B2) and set it in the longitudinal axis of the machine.

⚠ IMPORTANT ⚠

It is forbidden to handle a load heavier than the effective capacity defined on the machine load chart.
For loads with a moving center of gravity (e.g. liquids), take account of the variations in the center of gravity in order to determine the load to be handled and be extra vigilant and careful to limit these variations as far as possible.





C - TRANSVERSE ATTITUDE OF THE MACHINE

- The transverse attitude is the lateral tilt of the chassis in relation to the floor.
- Raising the mast reduces the machine's lateral stability.
- The transverse attitude of the machine must be horizontal with the mast in the down position:

Depending on model

• Position the machine so that the bubble in the level is between the two lines (◁ 2 - DESCRIPTION).

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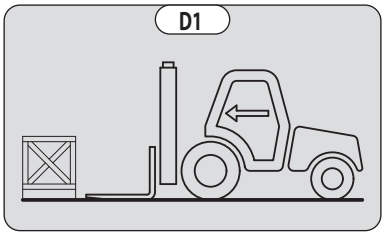
D - PICKING UP A LOAD ON THE GROUND

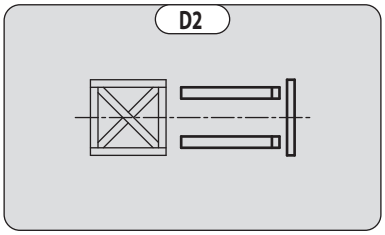
- Advance the machine perpendicular to the load, with the forks in a horizontal position (Fig. D1).
- Adjust the fork spread and centring in connection with the load (fig. D2) (optional solutions exist, consult your dealer).
- Never lift a load with a single fork.

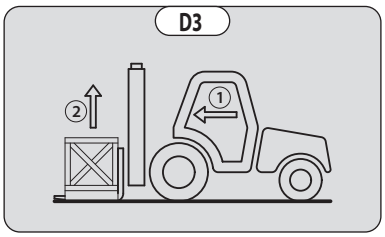
⚠ IMPORTANT ⚠

Beware of the risks of trapping or crushing limbs when manually adjusting the forks.

- Move the machine forward slowly (1) and bring the forks up to the stop in front of the load (Fig. D3). If necessary, lift the mast slightly (2) while picking up the load.
- Bring the load into the transport position.
- Tilt the load far enough backwards to ensure stability (loss of load on braking or going downhill).

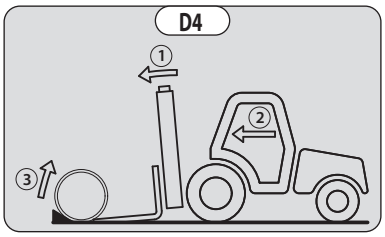






FOR A NON-PALLETIZED LOAD

- Tilt the carriage (1) forward and move the machine slowly forward (2) to insert the fork under the load (Fig. D4) (chock the load if necessary).
- Continue to move the machine (2) forward, tilting the carriage (3) (fig. D4) backward to position the load on the forks and check the load's longitudinal and lateral stability.



PICKING UP AND LAYING DOWN A HIGH LOAD ON TIRES

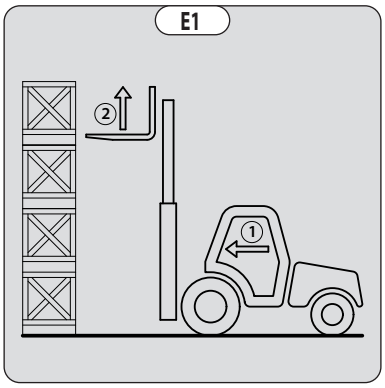
⚠ IMPORTANT ⚠

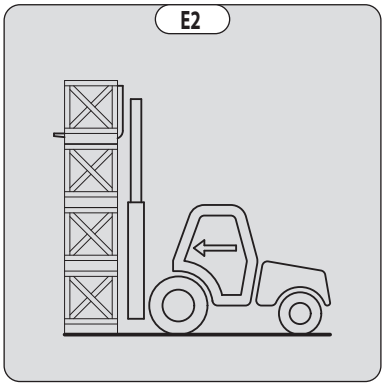
You must not raise the mast if you have not checked the transverse attitude of the machine (◁ INSTRUCTIONS FOR HANDLING A LOAD).

REMINDER: Make sure that the following operations can be performed with good visibility (◁ OPERATION INSTRUCTIONS UNLADEN AND LADEN).

PICKING UP A HIGH LOAD ON TIRES

- Ensure that the forks will easily pass under the load.
- Keeping the mast vertical (1), advance the machine and raise the forks to level with the load (2) (Fig. E1).
- Manoeuvre carefully and gently to bring the forks to the stop in front of the load (fig. E2). Apply the parking brake and place the forward/reverse selector in neutral.





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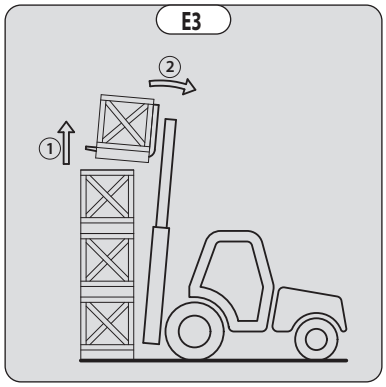
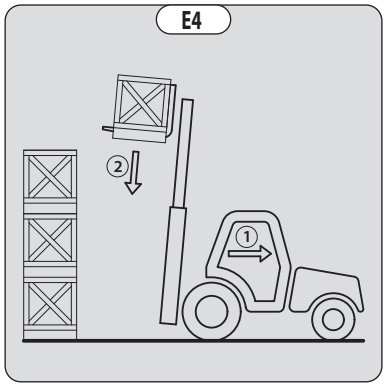
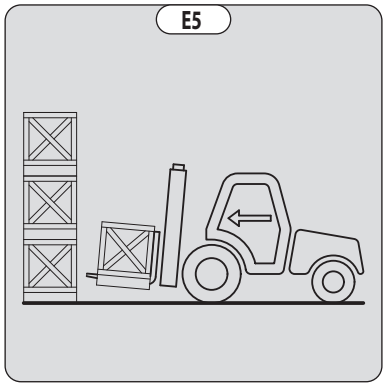
- Lift the load slightly (1) and tilt the carriage (2) backward to stabilize the load (Fig. E3).
- Tilt the load sufficiently backwards to ensure its stability.
- Reverse the machine (1) very carefully and gently to free the load. Lower the mast (2) to bring the load into transport position (fig. E4).

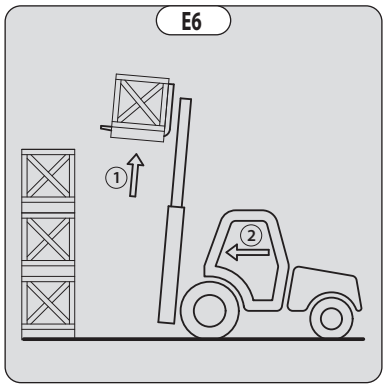


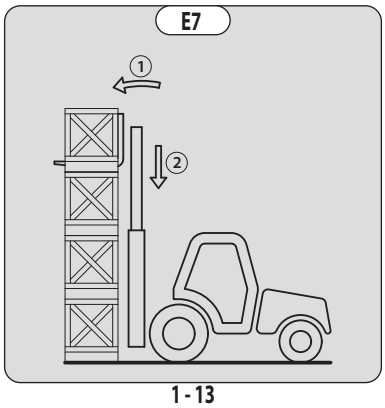


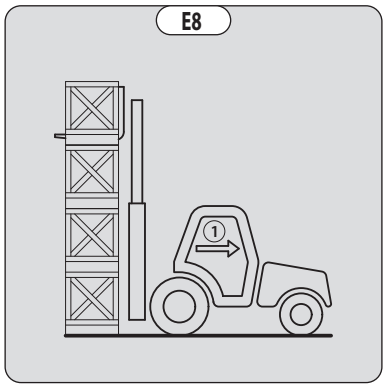
SETTING DOWN A HIGH LOAD ON TIRES

- Approach the load in the transport position in front of the pile (fig. E5).
- Raise the mast (1) until the load is higher than the pile and move the machine forward (2) (Fig. E6) very carefully and gently, until the load is over the pile. Apply the parking brake and place the forward/reverse selector in neutral.
- Place the load in a horizontal position by tilting the mast forwards (1) and lay it down on the pile (2) while checking the correct positioning of the load (fig. E7).
- Reverse the machine (1) very slowly and carefully to free the forks (Fig. E8). Then set the forks into transport position.









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MACHINE MAINTENANCE INSTRUCTIONS

GENERAL INSTRUCTIONS

- Make sure the area is adequately ventilated before starting up the machine.
- Wear clothes suitable for the maintenance of the machine. Avoid wearing jewelry and loose clothes. Tie back and protect your hair, if necessary.
- Before doing any work on the machine:
  - Switch off the engine
  - Apply the parking brake.
  - Remove the ignition key.
- Read the operator's manual carefully.
- 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
  - Cab heating vents
  - Etc.

MAINTENANCE

- Perform the periodic service (◁ 3 - MAINTENANCE) to keep your machine in good working order. Failure to perform periodic maintenance may invalidate the contractual warranty.

MAINTENANCE LOGBOOK

- The maintenance operations carried out in accordance with the recommendations given in Part: 3 - MAINTENANCE and the other inspection, servicing or repair operations or modifications performed on the machine or its attachments should be recorded in a maintenance logbook. The entry for each operation should include the date of the work, the names of the individuals or companies having performed them, the type of operation and its frequency, if applicable. If machine elements are replaced, the part numbers of these elements shall be indicated.

LUBRICANT AND FUEL LEVELS

- Use the recommended lubricants (never use contaminated lubricants).
- 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 fill the fuel tank to the maximum level.
- Do not smoke or approach the machine with a flame when the fuel tank is open or is being filled.

HYDRAULICS

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

⚠ IMPORTANT ⚠

It is dangerous to change the setting or remove the BALANCING VALVES or SAFETY VALVES that may be fitted to your machine cylinders.
The HYDRAULIC ACCUMULATORS that may be fitted on your machine are pressurized units.
Removing these accumulators and their pipework is dangerous.
Such operations must only be performed by approved personnel (consult your dealer).

ELECTRICITY

- Do not short-circuit the starter relay to start the engine. If the forward/reverse selector is not in neutral and the parking brake is not applied, the machine may suddenly start to move.
- Do not place metal items on the battery.
- Disconnect the battery before working on the electrical circuit.

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WELDING

- Disconnect the battery before any welding operations on the machine.
- When carrying out electric welding work on the machine, connect the negative cable from the equipment directly to the part being welded so as to avoid very high current passing through the alternator.
- Never carry out welding or work which gives off heat on an assembled tire. The heat would increase the pressure which could cause the tire to explode.
- If the machine is equipped with an electronic control unit, disconnect it before starting to weld so as to avoid the risk of causing irreparable damage to electronic components.

WASHING THE MACHINE

- Clean the machine or at least the area concerned before any intervention.
- Remember to close and lock all accesses to the machine (doors, windows, cowls, etc.).
- During washing, avoid the articulations and electrical components and connections.
- If necessary, protect against penetration of water, steam or cleaning agents, components susceptible of being damaged, particularly electrical components and connections and the injection pump.
- Clean the machine of any traces of fuel, oil or grease.

TRANSPORTING THE MACHINE

⚠ IMPORTANT ⚠

Transporting the machine involves real risks for the operator and others involved.

- Towing, slinging or transporting the machine (◁ 3 - MAINTENANCE).

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PROLONGED MACHINE SHUTDOWN

INTRODUCTION

⚠ IMPORTANT ⚠

Procedures to follow for long duration standstill and for bringing back the machine into service must be performed by your dealership.
This period of long duration standstill must not exceed 12 months.
After 12 months, repeat the procedures for putting the machine back into service and long-term shutdown.

The recommendations below are intended to prevent the machine from being damaged when it is not used for a period of more than 3 months.

PREPARATION OF THE MACHINE

- Clean the machine thoroughly.
- Check and repair any leakage of fuel, oil, water or air.
- Replace or repair any worn or damaged parts.
- Wash the painted surfaces of the machine in clear and cold water and wipe them.
- Touch up the paintwork if necessary.
- Shut down the machine (◅ OPERATING INSTRUCTIONS UNLADEN AND LADEN).
- Make sure the mast cylinder rods are all in retracted position.
- Release the pressure in the hydraulic circuits.

DEF (Diesel Exhaust Fluid) TANK

Depending on machine model

- Empty and rinse the "DEF" tank.
- Replace the "DEF" (Diesel Exhaust Fluid) feed pump filter (◅ 3 - MAINTENANCE).
- Fill up with new "DEF" (Diesel Exhaust Fluid) (◅ 2 - DESCRIPTION).
- Start up the machine to pressurize the circuit and bring it up to working temperature.
- Stop the engine.
- Check the "DEF" level and top up if required.

PROTECTING THE ENGINE

- Contact your dealer to obtain the procedure for protecting the inside of the engine (use of protection product).
- Fill the tank with fuel (◅ 3 - MAINTENANCE).
- Replace the coolant (◅ 3 - MAINTENANCE).
- Leave the engine running at idling speed for a few minutes, then switch off.
- Replace the engine oil and oil filter (◅ 3 - MAINTENANCE).
- Run the engine for a short time so that the oil and coolant circulate inside.
- 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 drive belts and store them in a safe place.
- Disconnect the engine cut-off solenoid on the injection pump and carefully insulate the connection.

MACHINE PROTECTION

- Place the machine on level ground.
- Set the machine on axle stands so that the tires are not in contact with the ground and release the parking brake.
- Protect cylinder rods which will not be retracted from corrosion.
- Wrap the tires.

N.B.: If the machine is to be stored outdoors, cover it with a waterproof tarpaulin.

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RETURNING THE MACHINE TO SERVICE

- Remove the waterproof adhesive tape from all the orifices.
- Refit and reconnect the battery.
- Remove the protection from the cylinder rods.
- Perform the daily maintenance operations (◁ 3 - MAINTENANCE).
- Perform the weekly maintenance operations (◁ 3 - MAINTENANCE).
- Put the handbrake on and remove the axle stands.
- Drain and clean the fuel tank (◁ 3 - MAINTENANCE).
- Fill the fuel tank with clean diesel filtered through the filler port.
- Replace the fuel filter (◁ 3 - MAINTENANCE).
- Replace the fuel pre-filter (◁ 3 - MAINTENANCE). **(depending on machine model)**
- Empty and rinse the DEF tank. **(depending on machine model)**
- Slowly fill the tank with new "DEF" (Diesel Exhaust Fluid) up to the bottom of the filler neck. **(depending on machine model)**
- Refit the drive belts and adjust the tension (◁ 3 - MAINTENANCE).
- Turn the engine over with the starter, to allow the oil pressure to rise.
- Reconnect the engine cut-off solenoid.
- Lubricate the machine completely (◁ 3 - MAINTENANCE).

⚠ IMPORTANT ⚠

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

- Start up the machine, following the operating and safety instructions (◁ OPERATING INSTRUCTIONS UNLADEN AND LADEN).
- Carry out all the boom hydraulic movements, concentrating on the ends of travel for each cylinder.

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DISPOSING OF THE MACHINE

⚠ IMPORTANT ⚠

Consult your dealer before disposing of the machine.

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 the plastic components are made of "thermoplastic" plastics, which are easily recycled by melting, granulating or grinding.

RUBBER

- Tires 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 machine 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 organizes 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.

N.B.: MANITOU aims to manufacture machines that provide the best performance and limit polluting emissions.

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2 - DESCRIPTION

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

2 - DESCRIPTION

SAFETY PLATES AND STICKERS

⚠ IMPORTANT ⚠

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

EXTERNAL PLATES AND STICKERS

REF.	REFERENCE	DESCRIPTION
1	24653	- Slinging point
2	234802	- Diesel
3	52563320	- Tie-down point
4	52502757	- Overall height (Option)

STICKERS AND PLATES UNDER THE ENGINE HOOD

REF.	REFERENCE	DESCRIPTION
5	52515083	- Antifreeze and level
6	234798	- Hydraulic fluid
7	52664861	- Safety dry air filter cartridge
8	233088	- Engine block heater (Option)
9	234797	- Air conditioning (Option)
10	52664524	- Fuses and relays (first version)
10	52804684	- Fuses and relays (second version)

STICKERS AND PLATES IN THE CAB

REF.	REFERENCE	DESCRIPTION
11	Consult your dealer	- Load charts (according to model) *
12	239594	- Sound power level 104 dB
13	300681	- Safety instruction
14	52549319	- DPF safety instruction
15	52681322	- FAP instruction
16	52531617	- Turnover instructions
17	172385	- Towing prohibited
18	253267	- Joystick function (depending on model)
	52763165	- Joystick function (depending on model)
19	52691105	- Lever 3rd hydraulic line (Option)
20	52690933	- Lever 3rd-4th hydraulic lines (Option)
21	52691107	- Lever 4th-5th hydraulic lines (Option)
22	52691109	- Lever 4th line - hydraulic locking (Option)
23	52690934	- JSM function (Option) (first version)
	52842830	- JSM function (Option) (second version)
24	288174	- Load suspension (Option)
25	Consult your dealer	- Manufacturer's plate
26	52839616	- Battery cut-off (depending on version)
27	526986805	- Fixed height indicator
28	526986806	- Moving height indicator

* The load chart referred to in the notice is a standard or blank chart. Each lift truck which can be used with an attachment has a specific chart. To obtain this, consult your dealer.

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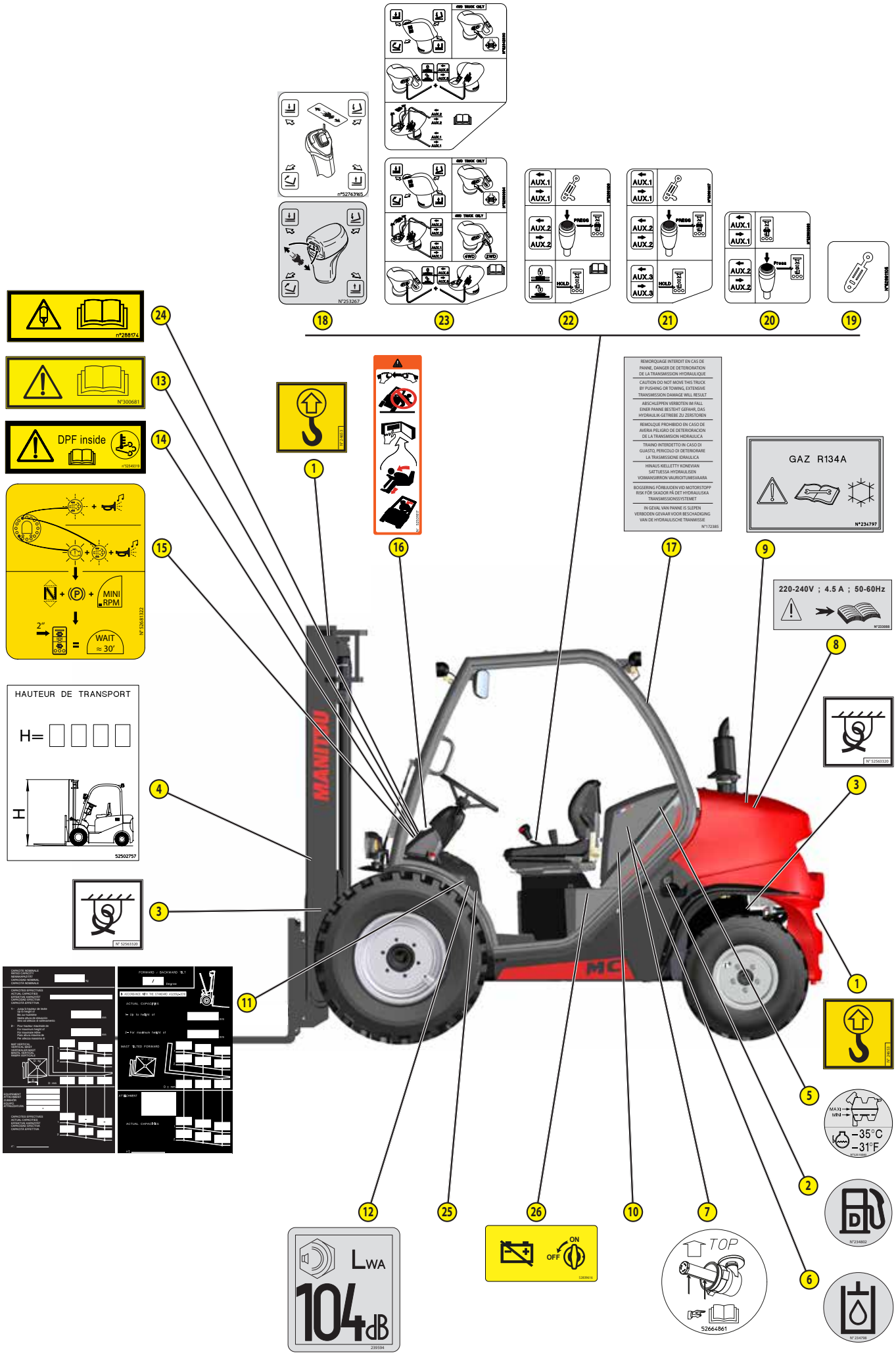
n°288174
N°300681
DPF inside
n°5245031
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N
P
MINI RPM
2"
=
WAIT
≈ 30'
HAUTEUR DE TRANSPORT
H=
H
52502757
N° 52563320
n°52763165
N°253267
AUX.1
AUX.2
AUX.3
PRESS
HOLD
Press
4WD TRACK ONLY
4WD
2WD
REMORQUAGE INTERDIT EN CAS DE PANNE, DANGER DE DETERIORATION DE LA TRANSMISSION HYDRAULIQUE
CAUTION DO NOT MOVE THIS TRUCK BY PUSHING OR TOWING, EXTENSIVE TRANSMISSION DAMAGE WILL RESULT
ABSCHLEPPEN VERBOTEN IM FALL EINER PANNE BESTEHT GEFAHR, DAS HYDRAULIK-GETRIEBE ZU ZERSTOREN
REMOLQUE PROHIBIDO EN CASO DE AVERIA PELIGRO DE DETERIORACION DE LA TRANSMISION HIDRAULICA
TRAINO INTERDETTO IN CASO DI GUASTO, PERICOLO DI DETERIORARE LA TRASMISSIONE IDRAULICA
HINAUS KIELLETTY KONEVIAN SATTUESSA HYDRAULISEN VOIMANSIIRRON VAURIOTUMISVAARA
BOGSERING FÖRBJUDEN VID MOTORSTOPP RISK FÖR SKADOR PÅ DET HYDRAULISKA TRANSMISSIONSSYSTEMET
IN GEVAL VAN PANNE IS SLEPEN VERBODEN GEVAAR VOOR BESCHADIGING VAN DE HYDRAULISCHE TRANMISSIE
N°172385
GAZ R134A
N°234797
220-240V ; 4.5 A ; 50-60Hz
N°233888
N° 52563328
MAXI
MINI
-35°C
-31°F
N°234802
N°234798
TOP
52664861
ON
OFF
LWA
104dB
239594
1
2
3
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5
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IDENTIFICATION OF THE LIFT TRUCK

As our policy is to promote a constant improvement in our products, our range of lift trucks may undergo certain modifications, without any obligation for us to advise our customers.

When you order parts, or when you require any technical information, always specify the following information.

NOTE: For the owner's convenience, it is recommended that these numbers be entered in the spaces provided, at the time of the delivery of the lift truck.

All further technical information regarding your lift truck is listed in the chapter: CHARACTERISTICS.

LIFT TRUCK MANUFACTURER'S PLATE

"Designation" Designation	
"Series" Standard	
"Year of manufacture" Year of manufacture	
"Model year" Model year	
"Serial Number / Product Identification Number" Serial number / Product Identification Number	
"Unladen mass" Unladen weight	
"Power" Power	
"Authorized gross vehicle weight" Authorized Gross Vehicle Weight	
"Rated capacity" Rated capacity	
"Max vertical force (on trailer hook)" Maximum vertical force (on trailer hook)	
"Drag strain" Tractive force	

ATTACHMENT MANUFACTURER'S PLATE

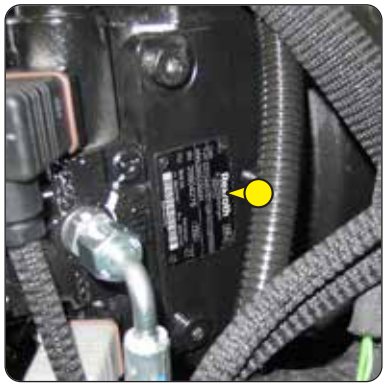
"MODELE" Model	
"N° série" Serial number	
"Année Fabrication" Year of manufacture	
"Masse à vide" Unladen weight	
"Centre de gravité" Center of gravity	
"Capacité Nominale" Rated capacity	
"Pression service" Working pressure	

ENGINE

"Modèle" Model	
"N° de série" Serial number	
"N° de moteur thermique" Engine number	

HYDROSTATIC PUMP

"Référence" MANITOU Part no.	
"Type de codification" Type of codification	
"N° série" Serial number	
"N° de fabrication" Manufacturing number	
"Année de fabrication" Year of manufacture	



FRONT WHEEL ELECTRIC MOTORS

"Type de codification" Type of codification	
"N° de moteur" Engine number	
"N° de fabrication" Manufacturing number	
"Année de fabrication" Year of manufacture	

REAR WHEEL HYDROSTATIC MOTORS

Only for MC-X . . -4 D

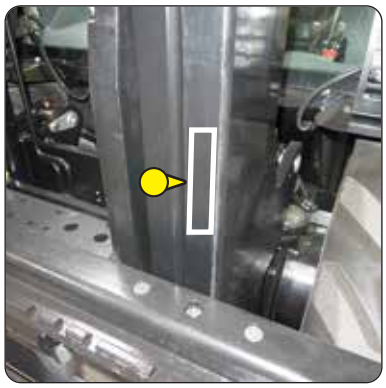
"Type de codification" Type of codification	
"N° de moteur" Engine number	
"N° de fabrication" Manufacturing number	
"Année de fabrication" Year of manufacture	

OVERHEAD GUARD / CAB

"Constructeur" Manufacturer	
"Type Cabine" Cab type	
"Numéro de série" Serial number	

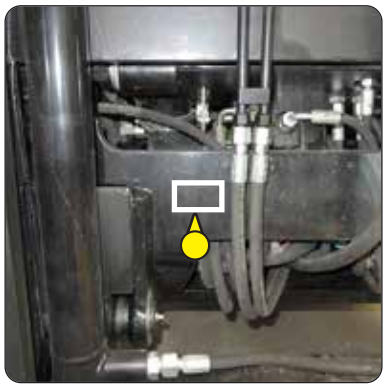
ROLLER MASTS

Reference MANITOU	



CHASSIS

Serial number / Product Identification Number	



CHARACTERISTICS MC 25-2... MC 30-2...

N.B.: The specifications given are not binding on the manufacturer and may be modified without notice.

DESIGNATION	1.1	Manufacturer		MANITOU	
	1.2	Model type / Serial no.		MC 25-2 D K ST5 S1	MC 30-2 D K ST5 S1
	1.3	Propulsion: battery, diesel, gasoline, LPG, mains		Diesel	
	1.4	Operator type: hand, pedestrian, standing, seated		Seated	
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	2.5	3.0
	1.6	Center of gravity of load	c (mm)	500	
	1.8	Distance from load bearing surface to center of the front axle	x (mm)	621	626
	1.9	Wheelbase	y (mm)	1900	
WEIGHT	2.1	Weight of truck in working order	kg	4200	4220
	2.2	Front axle load (laden)	kg	5900	6570
	2.2.1	Rear axle load (laden)	kg	730	650
	2.3	Front axle load (unladen)	kg	1820	1570
	2.3.1	Rear axle load (unladen)	kg	2380	2650
RUNNING GEAR	3.1	Tire equipment treads (V), super-elastic (SE), pneumatic (L)		L	
	3.2	Tire size, front	" or mm	12,5/80-18/12 SL R4	
	3.3	Tire size, rear	" or mm	7.00-12/12 ED PLUS	
	3.5	Number of front wheels (x = drive wheel)		2x	
	3.5.1	Number of rear wheels (x = drive wheel)		2	
	3.6	Track width, front (middle of wheels)	b10 (mm)	1159	
	3.7	Track width, rear (middle of wheels)	b11 (mm)	1112	
DIMENSIONS	4.1	Mast tilt, forward	α (°)	12	
	4.1.1	Mast tilt, backward	β (°)	10	
	4.2	Height of mast, lowered	h1 (mm)	2338	
	4.3	Normal free lift	h2 (mm)	112	117
	4.4	Lift height	h3 (mm)	3300	
	4.5	Height of mast, extended	h4 (mm)	4090	
	4.7	Standard height of the overhead guard, cab or cab with air conditioning	h6 (mm)	2155	
	4.7	Lowered height of the overhead guard, cab or cab with air conditioning	h6* (mm)	1990	
	4.8	Height of seat	h7 (mm)	1034	
	4.12	Coupling height	h10 (mm)	-	
	4.19	Total length	l1 (mm)	4195	4235
	4.20	Length to face of forks	l2 (mm)	3045	3085
	4.21	Overall width	b1 (mm)	1450	
	4.22	Fork cross-section	s (mm)	40	45
	4.22.1	Width of fork arms	e (mm)	100	
	4.22.2	Length of forks	l (mm)	1200	
	4.23	Fork carriage (according to DIN 15173 A/B)		FEM 2A	FEM 3A
	4.24	Width of fork carriage (with load backrest)	b3 (mm)	1260	
	4.31	Ground clearance below mast (unladen)	m1 (mm)	300	
	4.32	Ground clearance center of wheelbase (unladen)	m2 (mm)	320	
	4.33	Aisle width for 1000x1200 pallet crosswise	Ast (mm)	4641	4676
	4.34	Turning radius	Wa (mm)	2620	2650

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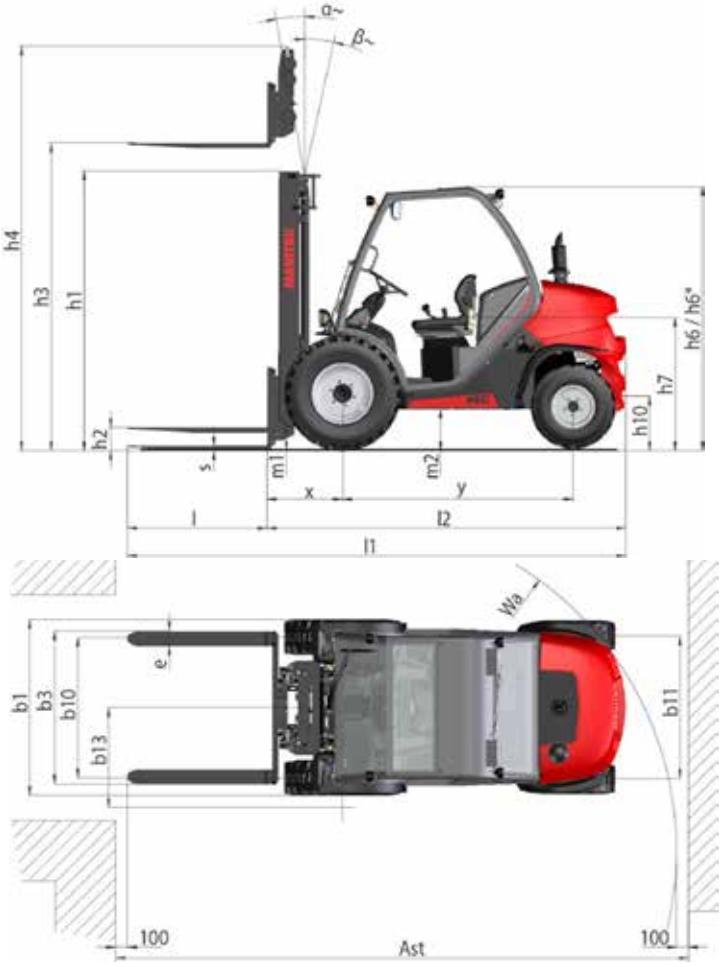
MC . . D K ST5 S1 / MSI . . D K ST5 S1

PERFORMANCE	5.1	Speed of travel laden	km/h	12	
	5.1.1	Speed of travel unladen (2RM / 4RM)	km/h	24.5 / -	
	5.2	Lifting speed (laden)	m/s	0.47	
	5.2.1	Lifting speed (unladen)	m/s	0.46	
	5.3	Speed of lowering laden	m/s	0.5	
	5.3.1	Lowering speed (unladen)	m/s	0.3	
	5.5	Rated drawbar pull (laden)	daN	1700	
	5.5.1	Rated drawbar pull (unladen)	daN	910	
	5.7	Gradeability (laden)	%	26	24
	5.7.1	Gradeability (unladen)	%	22	
	5.8	Acceleration time (unladen) (2RM / 4RM)	s	8.6 / -	
	5.9	Service brake		Low pressure hydraulic	
ENGINE	7.1	Engine manufacturer/Type		KUBOTA / D1803 CRT E5	
	7.2	Engine power (in accordance with ISO 1585)	kW	37	
	7.3	Rated speed	rpm	2700	
	7.3.1	Maximum speed	rpm	3500	
	7.4	Number of cylinders / Displacement	cm^3	3 / 1826	
	7.5	Fuel consumption (according to VDIcycle)	l/h	3.73	
	7.6	CO_2 emissions	kg/h	9.81	
MISCELLANEOUS	8.1	Speed control		Electronics	
	8.2	Working hydraulic pressure for attachments	Bar	200	220
	8.3	Pump outlet oil flow rate	L/min	43	
	8.3	Oil flow rate for attachments 3rd hydraulic line	L/min	38	
	8.3	Oil flow rate for attachments 3rd/4th hydraulic line	L/min	25 / 38	
	8.4	Sound level in the driver's ear (according to DIN 12053) (guard/cab)	db (A)	79	
	8.5	Guaranteed sound power level to the environment LwA (according to Directive 2000/14/EC amended by Directive 2005/88/EC)	db (A)	102	
	8.6	Average weighted acceleration on driver's body (according to standard NF EN 13059)	m/s	0,97	



CHARACTERISTICS MC 25-4... MC 30-4...

N.B.: The specifications given are not binding on the manufacturer and may be modified without notice.

DESIGNATION	1.1	Manufacturer		MANITOU	
	1.2	Model type / Serial no.		MC 25-4 D K ST5 S1	MC 30-4 D K ST5 S1
	1.3	Propulsion: battery, diesel, gasoline, LPG, mains		Diesel	
	1.4	Operator type: hand, pedestrian, standing, seated		Seated	
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	2.5	3.0
	1.6	Center of gravity of load	c (mm)	500	
	1.8	Distance from load bearing surface to center of the front axle	x (mm)	621	626
	1.9	Wheelbase	y (mm)	1900	
WEIGHT	2.1	Weight of truck in working order	kg	4290	4440
	2.2	Front axle load (laden)	kg	5970	6650
	2.2.1	Rear axle load (laden)	kg	820	790
	2.3	Front axle load (unladen)	kg	1780	1650
	2.3.1	Rear axle load (unladen)	kg	2510	2790
RUNNING GEAR	3.1	Tire equipment treads (V), super-elastic (SE), pneumatic (L)		L	
	3.2	Tire size, front	" or mm	12,5/80-18/12 SL R4	
	3.3	Tire size, rear	" or mm	27x10-12 SKS	
	3.5	Number of front wheels (x = drive wheel)		2x	
	3.5.1	Number of rear wheels (x = drive wheel)		2x	
	3.6	Track width, front (middle of wheels)	b10 (mm)	1159	
	3.7	Track width, rear (middle of wheels)	b11 (mm)	1176	
DIMENSIONS	4.1	Mast tilt, forward	α (°)	12	
	4.1.1	Mast tilt, backward	β (°)	10	
	4.2	Height of mast, lowered	h1 (mm)	2338	
	4.3	Normal free lift	h2 (mm)	112	117
	4.4	Lift height	h3 (mm)	3300	
	4.5	Height of mast, extended	h4 (mm)	4090	
	4.7	Standard height of the overhead guard, cab or cab with air conditioning	h6 (mm)	2155	
	4.7	Lowered height of the overhead guard, cab or cab with air conditioning	h6* (mm)	1990	
	4.8	Height of seat	h7 (mm)	1094	
	4.12	Coupling height	h10 (mm)	-	
	4.19	Total length	l1 (mm)	4195	4235
	4.20	Length to face of forks	l2 (mm)	3045	3085
	4.21	Overall width	b1 (mm)	1450	
	4.22	Fork cross-section	s (mm)	40	45
	4.22.1	Width of fork arms	e (mm)	100	
	4.22.2	Length of forks	l (mm)	1200	
	4.23	Fork carriage (according to DIN 15173 A/B)		FEM 2A	FEM 3A
	4.24	Width of fork carriage (with load backrest)	b3 (mm)	1260	
	4.31	Ground clearance below mast (unladen)	m1 (mm)	300	
	4.32	Ground clearance center of wheelbase (unladen)	m2 (mm)	310	
	4.33	Aisle width for 1000x1200 pallet crosswise	Ast (mm)	5426	5461
	4.34	Turning radius	Wa (mm)	3405	3435

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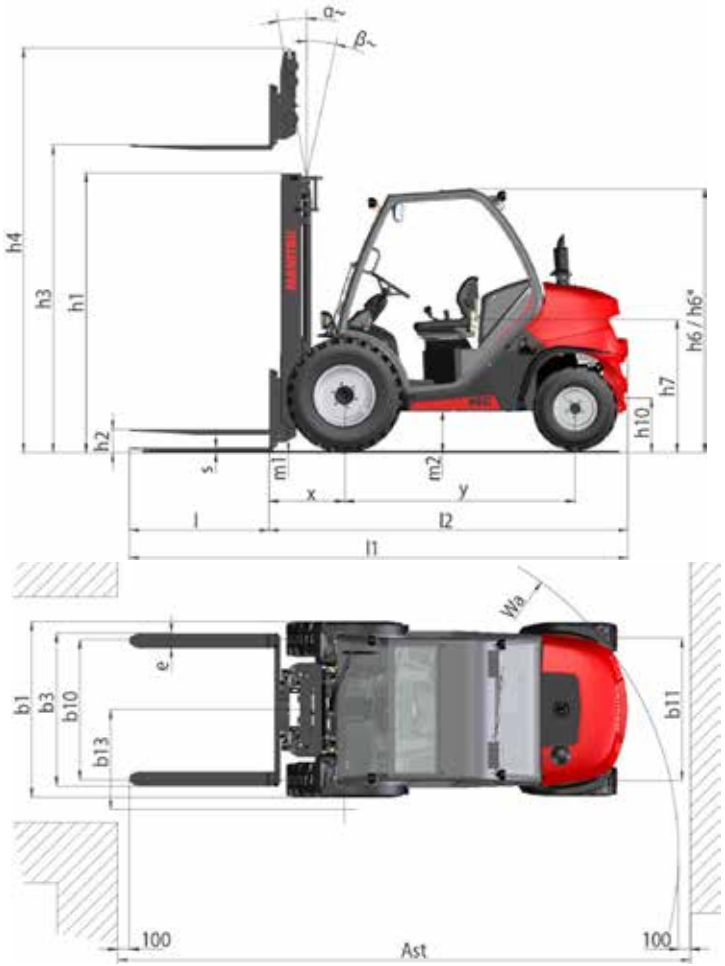
MC . . D K ST5 S1 / MSI . . D K ST5 S1

43PERFORMANCES	5.1	Speed of travel laden	km/h	12	
	5.1.1	Speed of travel unladen (2RM / 4RM)	km/h	24.5 / 13	
	5.2	Lifting speed (laden)	m/s	0.47	
	5.2.1	Lifting speed (unladen)	m/s	0.46	
	5.3	Speed of lowering laden	m/s	0.5	
	5.3.1	Lowering speed (unladen)	m/s	0.3	
	5.5	Rated drawbar pull (laden)	daN	3100	
	5.5.1	Rated drawbar pull (unladen)	daN		
	5.7	Gradeability (laden)	%	51	46
	5.7.1	Gradeability (unladen)	%		
	5.8	Acceleration time (unladen) (2RM / 4RM)	s	8.6 / 4	
	5.9	Service brake		Low pressure hydraulic	
ENGINE	7.1	Engine manufacturer/Type		KUBOTA / D1803 CRT E5	
	7.2	Engine power (in accordance with ISO 1585)	kW	37	
	7.3	Rated speed	rpm	2700	
	7.3.1	Maximum speed	rpm	3500	
	7.4	Number of cylinders / Displacement	cm^3	3 / 1826	
	7.5	Fuel consumption (according to VDIcycle)	l/h	4.61	
	7.6	CO_2 emissions	kg/h	12.12	
MISCELLANEOUS	8.1	Speed control		Electronics	
	8.2	Working hydraulic pressure for attachments	Bar	200	220
	8.3	Pump outlet oil flow rate	L/min	43	
	8.3	Oil flow rate for attachments 3rd hydraulic line	L/min	38	
	8.3	Oil flow rate for attachments 3rd/4th hydraulic line	L/min	25 / 38	
	8.4	Sound level in the driver's ear (according to DIN 12053) (guard/cab)	db (A)	79	
	8.5	Guaranteed sound power level to the environment LwA (according to Directive 2000/14/EC amended by Directive 2005/88/EC)	db (A)	102	
	8.6	Average weighted acceleration on driver's body (according to standard NF EN 13059)	m/s	0,97	



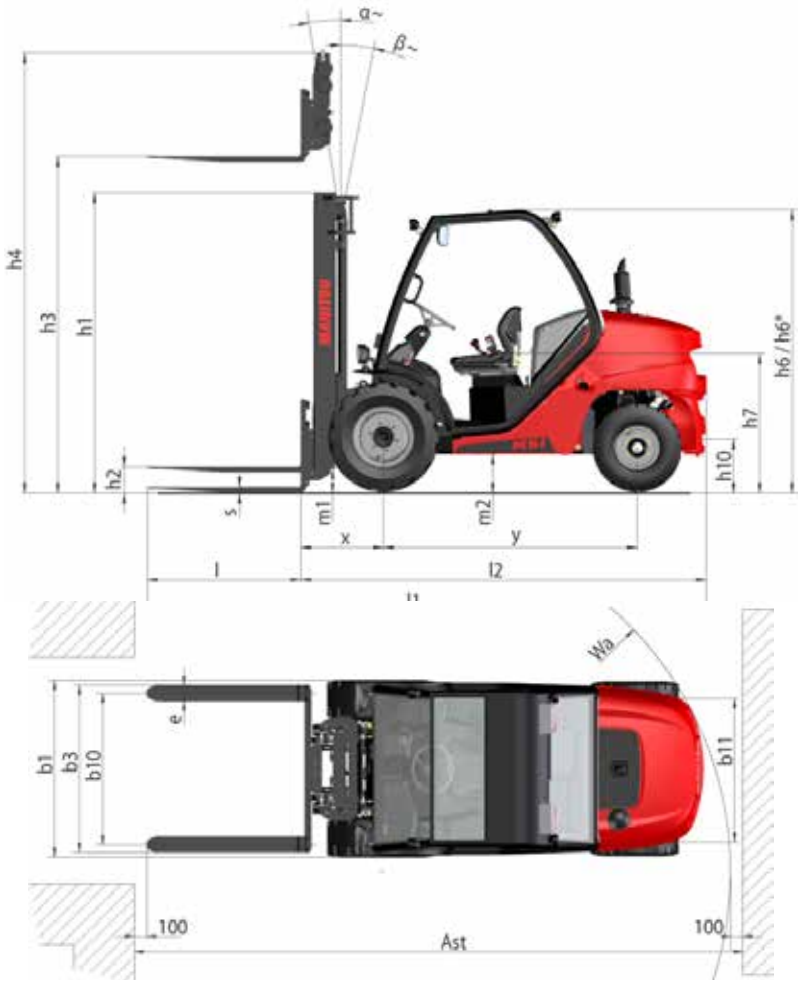
CHARACTERISTICS MSI 25... MSI 30... MSI 35...

N.B.: The specifications given are not binding on the manufacturer and may be modified without notice.

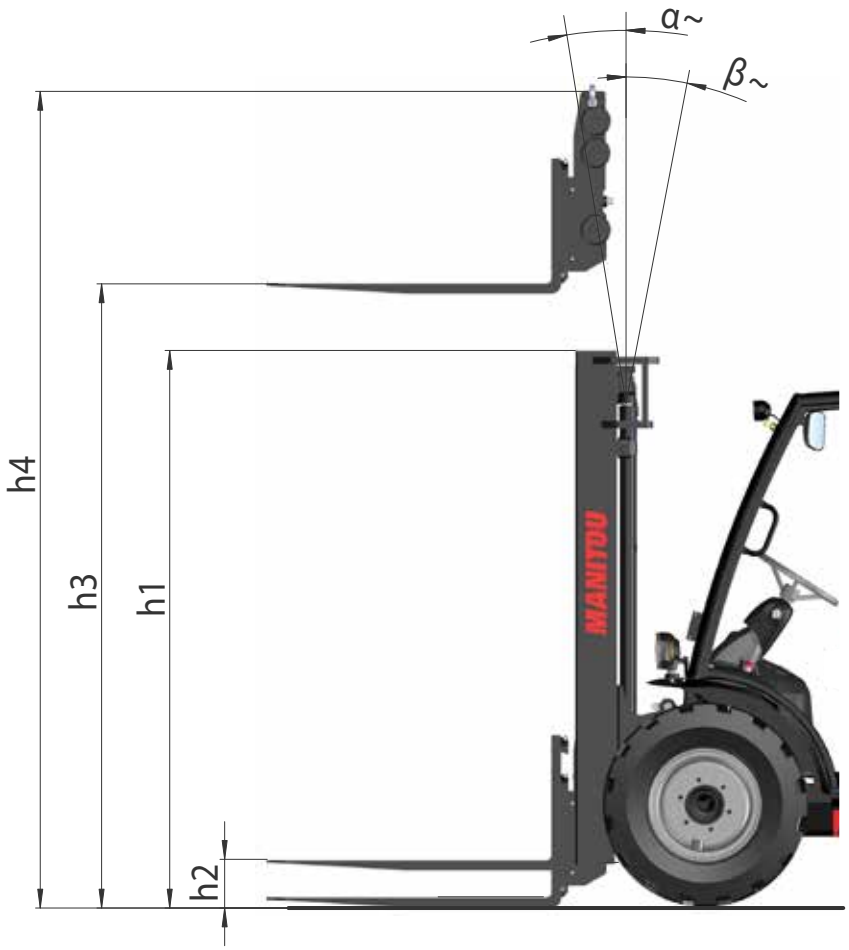
DESIGNATION	1.1	Manufacturer		MANITOU		
	1.2	Model type / Serial no.		MSI 25 D K ST5 S1	MSI 30 D K ST5 S1	MSI 35 D K ST5 S1
	1.3	Propulsion: battery, diesel, gasoline, LPG, mains		Diesel		
	1.4	Operator type: hand, pedestrian, standing, seated		Seated		
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	2.5	3.0	3.5
	1.6	Center of gravity of load	c (mm)	500		
	1.8	Distance from load bearing surface to center of the front axle	x (mm)	621	626	631
	1.9	Wheelbase	y (mm)	1900		
WEIGHT	2.1	Weight of truck in working order	kg	3900	4400	4780
	2.2	Front axle load (laden)	kg	5730	6560	7350
	2.2.1	Rear axle load (laden)	kg	670	840	850
	2.3	Front axle load (unladen)	kg	1590	1660	1710
	2.3.1	Rear axle load (unladen)	kg	2310	2740	3070
RUNNING GEAR	3.1	Tire equipment treads (V), super-elastic (SE), pneumatic (L)		L		
	3.2	Tire size, front	" or mm	300-15/18 6T P43		
	3.3	Tire size, rear	" or mm	7.00-12/12 ED PLUS		
	3.5	Number of front wheels (x = drive wheel)		2x		
	3.5.1	Number of rear wheels (x = drive wheel)		2		
	3.6	Track width, front (middle of wheels)	b10 (mm)	1044		
	3.7	Track width, rear (middle of wheels)	b11 (mm)	1108		
DIMENSIONS	4.1	Mast tilt, forward	α (°)	12		
	4.1.1	Mast tilt, backward	β (°)	10		
	4.2	Height of mast, lowered	h1 (mm)	2286		
	4.3	Normal free lift	h2 (mm)	85	90	90
	4.4	Lift height	h3 (mm)	3300		
	4.5	Height of mast, extended	h4 (mm)	4038		
	4.7	Standard height of the overhead guard, cab or cab with air conditioning	h6 (mm)	2095		
	4.7	Lowered height of the overhead guard, cab or cab with air conditioning	h6* (mm)	1930		
	4.8	Height of seat	h7 (mm)	972		
	4.12	Coupling height	h10 (mm)	-		
	4.19	Total length	l1 (mm)	4193	4234	4289
	4.20	Length to face of forks	l2 (mm)	2993	3034	3139
	4.21	Overall width	b1 (mm)	1330		
	4.22	Fork cross-section	s (mm)	40	45	45
	4.22.1	Width of fork arms	e (mm)	100	100	125
	4.22.2	Length of forks	l (mm)	1200		
	4.23	Fork carriage (according to DIN 15173 A/B)		FEM 2A	FEM 3A	FEM 3A
	4.24	Width of fork carriage (with load backrest)	b3 (mm)	1260		
	4.31	Ground clearance below mast (unladen)	m1 (mm)	260		
	4.32	Ground clearance center of wheelbase (unladen)	m2 (mm)	238		
	4.33	Aisle width for 1000x1200 pallet crosswise	Ast (mm)	4641	4676	4711
	4.34	Turning radius	Wa (mm)	2620	2650	2680

647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

PERFORMANCE	5.1	Speed of travel laden	km/h	21		
	5.1.1	Speed of travel unladen	km/h	21		
	5.2	Lifting speed (laden)	m/s	0.5		
	5.2.1	Lifting speed (unladen)	m/s	0.5		
	5.3	Speed of lowering laden	m/s	0.5		
	5.3.1	Lowering speed (unladen)	m/s	0.3		
	5.5	Rated drawbar pull (laden)	daN	1900		
	5.5.1	Rated drawbar pull (unladen)	daN	-		
	5.7	Gradeability (laden)	%	31	27	24
	5.7.1	Gradeability (unladen)	%	-		
	5.8	Acceleration time (unladen) (2RM / 4RM)	s	12		
	5.9	Service brake		Low pressure hydraulic brake		
ENGINE	7.1	Engine manufacturer/Type		KUBOTA / D1803 CRT E5		
	7.2	Engine power (in accordance with ISO 1585)	kW	37		
	7.3	Rated speed	rpm	2700		
	7.3.1	Maximum speed	rpm	3500		
	7.4	Number of cylinders / Displacement	cm^3	3 / 1826		
	7.5	Fuel consumption (according to VDIcycle)	l/h	3.7		
	7.6	CO_2 emissions	kg/h	9.7		
MISCELLANEOUS	8.1	Speed control		Electronics		
	8.2	Working hydraulic pressure for attachments	Bar	220	220	230
	8.3	Pump outlet oil flow rate	L/min	53		
	8.3	Oil flow rate for attachments 3rd hydraulic line	L/min	46		
	8.3	Oil flow rate for attachments 3rd/4th hydraulic lines	L/min	25 / 46		
	8.4	Sound level in the driver's ear (according to DIN 12053) (guard/cab)	db (A)	81		
	8.5	Guaranteed sound power level to the environment LwA (according to Directive 2000/14/EC amended by Directive 2005/88/EC)	db (A)	104		
	8.6	Average weighted acceleration on driver's body (according to standard NF EN 13059)	m/s	0,97		



MC 25-2 D K ST5 S1 MC 25-4 D K ST5 S1	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	AV α (°)	AR β (°)
DUPLEX COMPLETE VISIBILITY	3000	112	2188	3790	12	10
	3300	112	2338	4090	12	10
	3700	112	2598	4490	12	10
	4000	112	2760	4762	12	10
	4500	112	3038	5290	12	10
TRIPLEX WITHOUT FREE LIFT	3300	124	1878	4079	12	10
TRIPLEX FREE LIFT	3400	1210	1988	4236	12	10
	3700	1310	2088	4536	12	10
	4000	1410	2188	4836	12	10
	4300	1510	2338	5168	12	10
	4700	1660	2438	5536	12	10
	5000	1760	2598	5878	12	10
	5500	1920	2788	6408	6	6
	6000	2110	3038	6968	6	6



	VALUES ON FORKS		VALUES WITH INTEGRATED SIDESHIFT ATTACHMENT	
	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)
	3000	2500	3000	2500
	3000	2500	3000	2500
	3000	1450	3000	1450
	3000	800	3000	800
	3000	1900	3000	1800
	2900	1500	3000	1450
	3000	1350	3000	1350
	3000	800	3000	700
	3000	700	3000	700
	3000	400	3000	400
	3000	500	3000	500

RATED CAPACITY →

ACTUAL CAPACITIES →
(according to ISO 3691-1 / AS2359.1-2019)

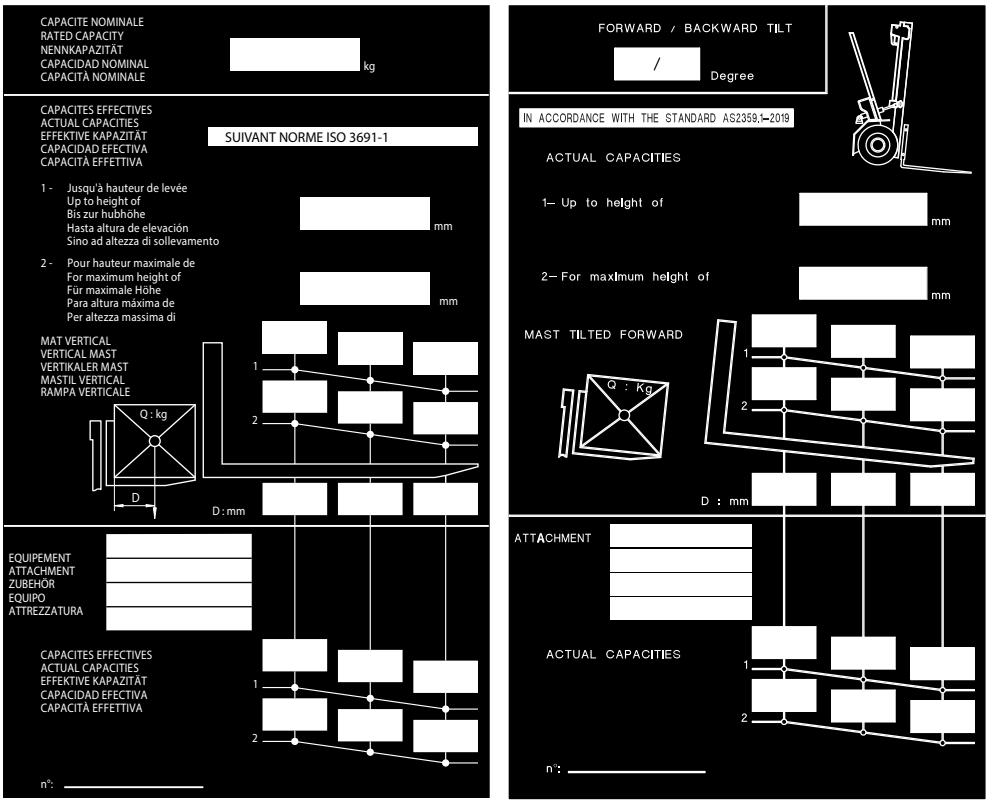
1 - Up to lift height →

2 - For maximum height of →

VERTICAL MAST or MAST TILTED FORWARD →

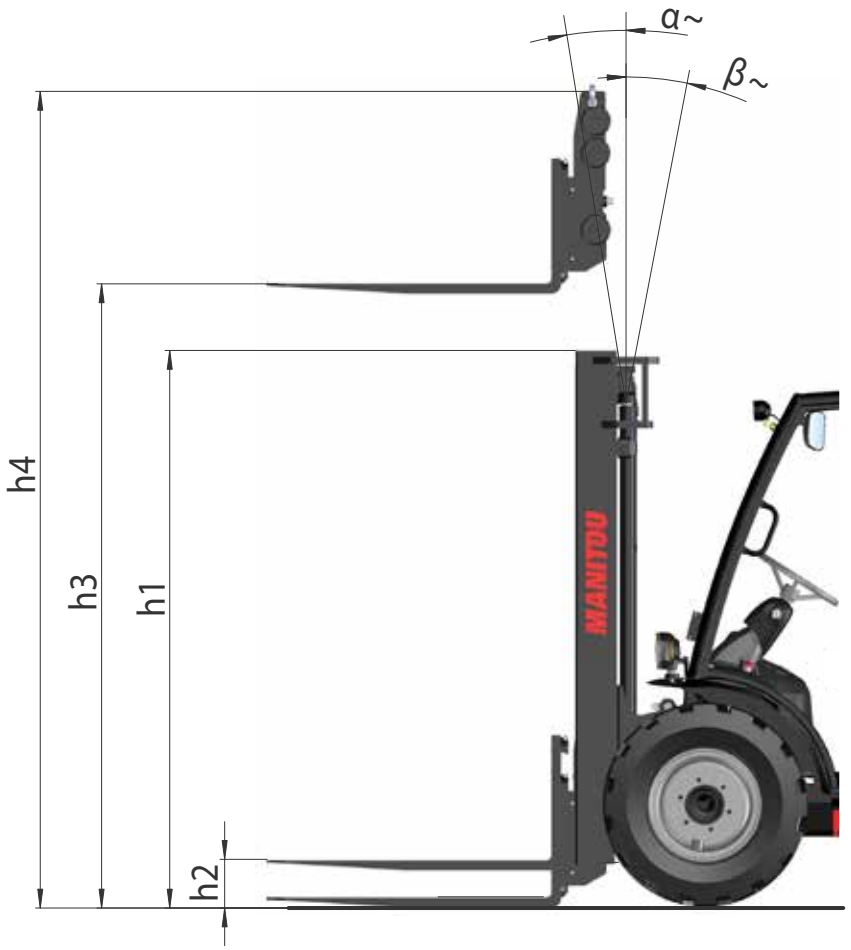
EQUIPMENT →

ACTUAL CAPACITIES →



- The **"offroad" load chart (according to standard ISO 22915-13)** for use on natural, undeveloped, non-level ground or on construction sites.
- The **"industrial floor" load chart (according to standard ISO 22915-2)** for use on hard, smooth, flat and prepared surfaces.

MC 30-2 D K ST5 S1 MC 30-4 D K ST5 S1	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	AV α (°)	AR β (°)
DUPLEX COMPLETE VISIBILITY	3000	117	2138	3790	12	10
	3300	117	2338	4090	12	10
	3700	117	2598	4490	12	10
	4000	117	2788	4790	12	10
	4500	117	3038	5290	12	10
TRIPLEX WITHOUT FREE LIFT	3300	129	1878	4079	12	10
TRIPLEX FREE LIFT	3400	1235	1988	4236	12	10
	3700	1335	2088	4536	12	10
	4000	1435	2188	4836	12	10
	4300	1585	2338	5136	12	10
	4700	1685	2438	5536	12	10
	5000	1845	2598	5836	12	10
	5500	2035	2788	6336	6	6
	6000	2285	3038	6836	6	6



VALUES ON FORKS		VALUES WITH INTEGRATED SIDESHIFT ATTACHMENT	
Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)
2700	1400	2700	1400
2700	1400	2700	1400
2700	1400	2700	1400
2800	500	2800	500
2700	1900	2700	1800
2600	1500	2600	1400
2700	1300	2700	1250
3100	1400		
2700	430	2700	400
2500	500	2500	400

RATED CAPACITY →

ACTUAL CAPACITIES →
(according to ISO 3691-1 / AS2359.1-2019)

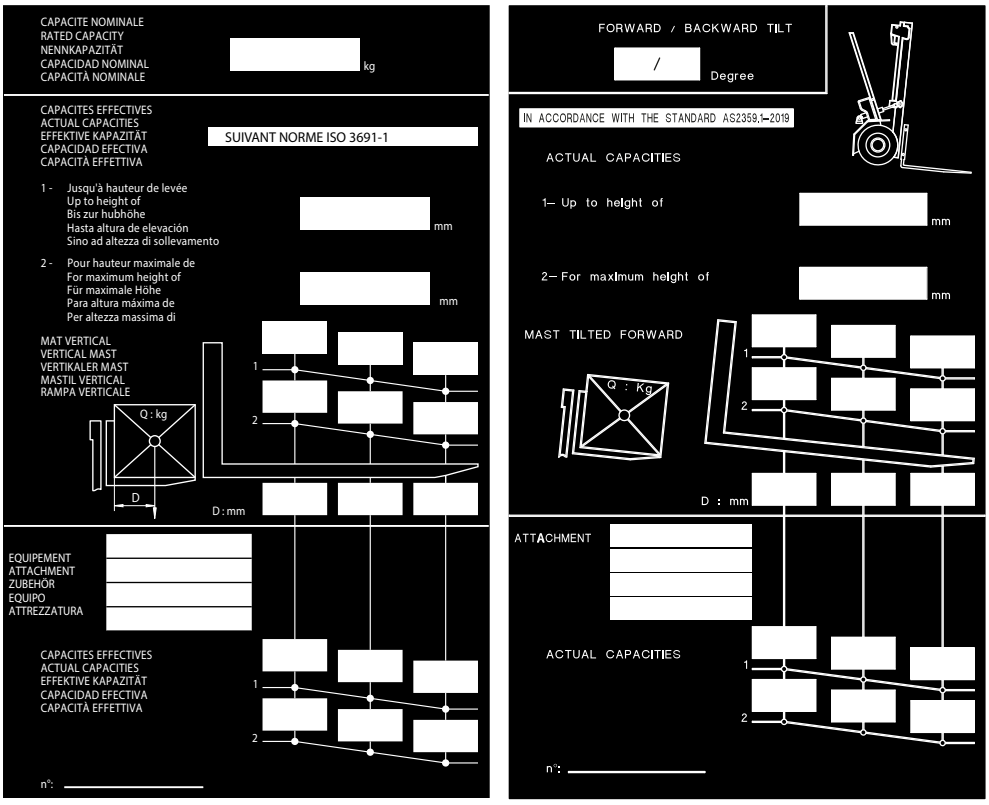
1 - Up to lift height →

2 - For maximum height of →

VERTICAL MAST or MAST TILTED FORWARD →

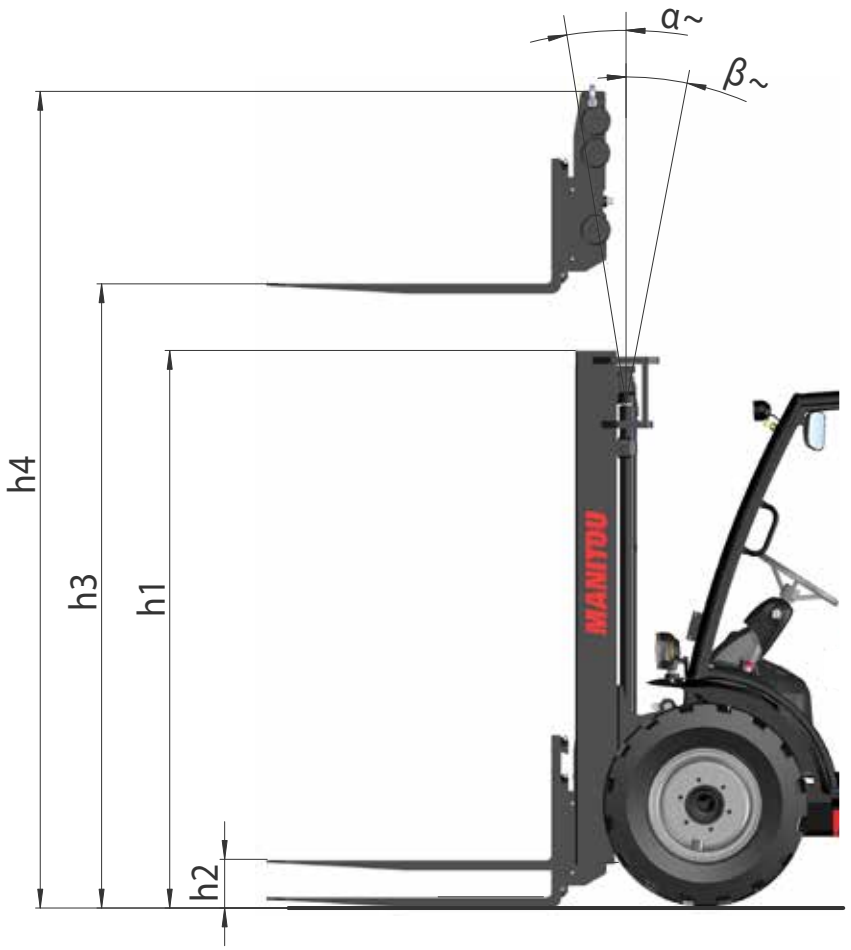
EQUIPMENT →

ACTUAL CAPACITIES →



- The **"offroad" load chart (according to standard ISO 22915-13)** for use on natural, undeveloped, non-level ground or on construction sites.
- The **"industrial floor" load chart (according to standard ISO 22915-2)** for use on hard, smooth, flat and prepared surfaces.

MSI 25 D K ST5 S1	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	AV α (°)	AR β (°)
DUPLEX COMPLETE VISIBILITY	3000	85	2136	3738	12	10
	3300	85	2286	4038	12	10
	3700	85	2546	4438	12	10
	4000	85	2736	4738	12	10
	4500	85	2986	5238	12	10
TRIPLEX WITHOUT FREE LIFT	3300	72	1826	4027	12	10
TRIPLEX FREE LIFT	3400	1183	1936	4184	12	10
	3700	1283	2036	4484	12	10
	4000	1383	2136	4784	12	10
	4300	1483	2286	5116	12	10
	4700	1633	2386	5484	12	10
	5000	1733	2546	5826	12	10
	5500	1893	2736	6356	6	6
	6000	2083	2986	6916	6	6



	VALUES ON FORKS		VALUES WITH INTEGRATED SIDESHIFT ATTACHMENT	
	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)
	3000	2500	3000	2500
	3300	2500	3300	2500
	3700	2500	3700	2500
	4000	2500	4000	2500
	4500	2500	4500	2500
	3400	2500	3400	2500
	3700	2500	3700	2500
	4000	2500	4000	2500
	4300	2500	4300	2500
	4700	2500	4700	2500
	5000	2500	5000	2500
	5200	2300	5200	2300

RATED CAPACITY →

ACTUAL CAPACITIES →
(according to ISO 3691-1 / AS2359.1-2019)

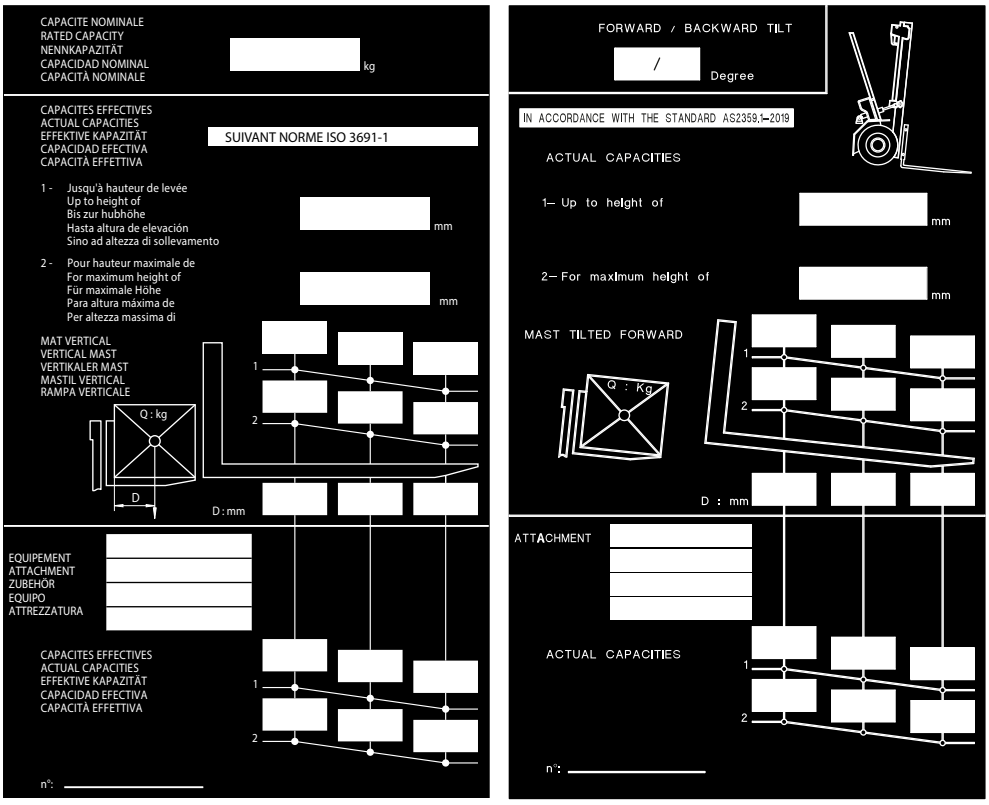
1 - Up to lift height →

2 - For maximum height of →

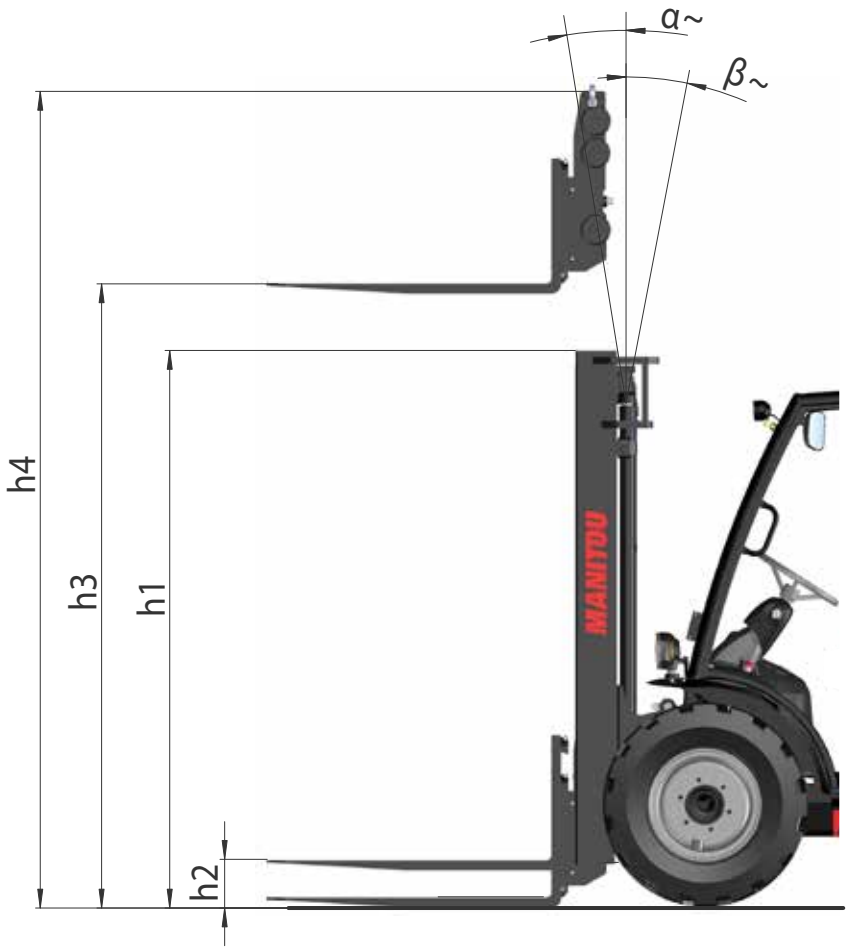
VERTICAL MAST or MAST TILTED FORWARD →

EQUIPMENT →

ACTUAL CAPACITIES →



MSI 30 D K ST5 S1	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	AV α (°)	AR β (°)
DUPLEX COMPLETE VISIBILITY	3000	90	2136	3738	12	10
	3300	90	2286	4038	12	10
	3700	90	2546	4438	12	10
	4000	90	2736	4738	12	10
	4500	90	2986	5238	12	10
TRIPLEX WITHOUT FREE LIFT	3300	77	1826	4027	12	10
TRIPLEX FREE LIFT	3400	1208	1936	4184	12	10
	3700	1308	2036	4484	12	10
	4000	1408	2136	4784	12	10
	4300	1558	2286	5084	12	10
	4700	1658	2386	5484	12	10
	5000	1818	2546	5784	12	10
	5500	2008	2736	6284	6	6
	6000	2258	2986	6784	6	6



VALUES ON FORKS		VALUES WITH INTEGRATED SIDESHIFT ATTACHMENT	
Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)
3000	3000	3000	3000
3300	3000	3300	3000
3700	3000	3700	3000
4000	3000	4000	3000
4500	3000		
3400	3000	3400	3000
3700	3000	3700	3000
4000	3000	4000	3000
4300	3000	4300	3000
4300	2700	4200	2350
4200	2300		
4200	2200	4200	2200

RATED CAPACITY →

ACTUAL CAPACITIES →
(according to ISO 3691-1 / AS2359.1-2019)

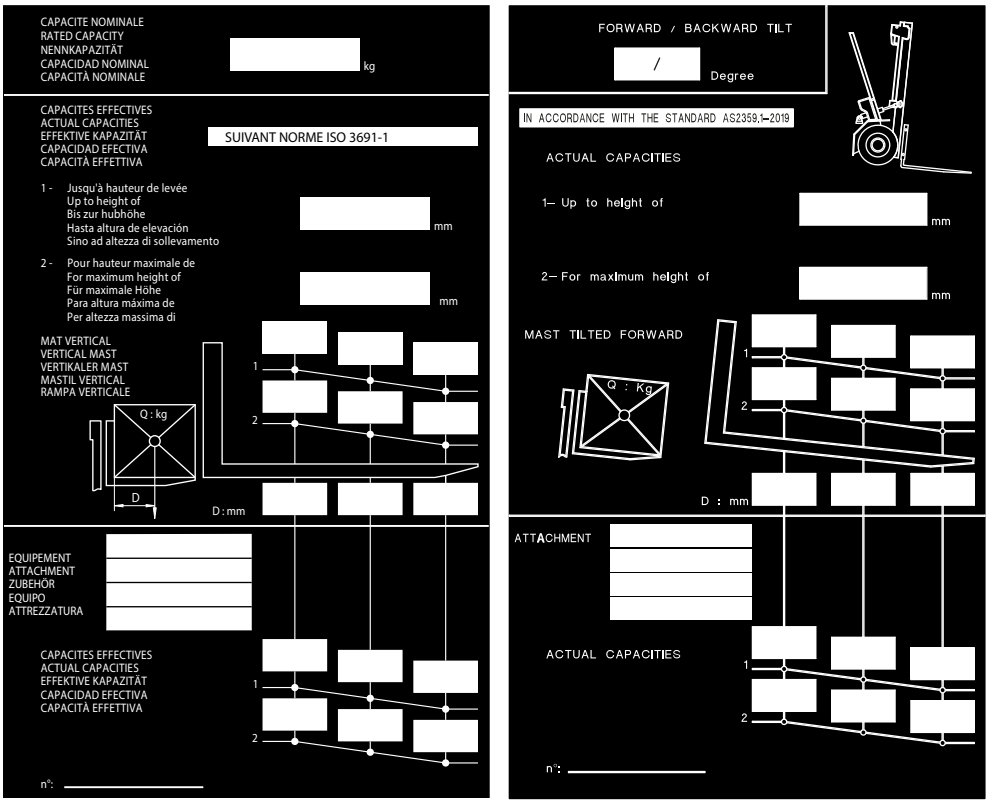
1 - Up to lift height →

2 - For maximum height of →

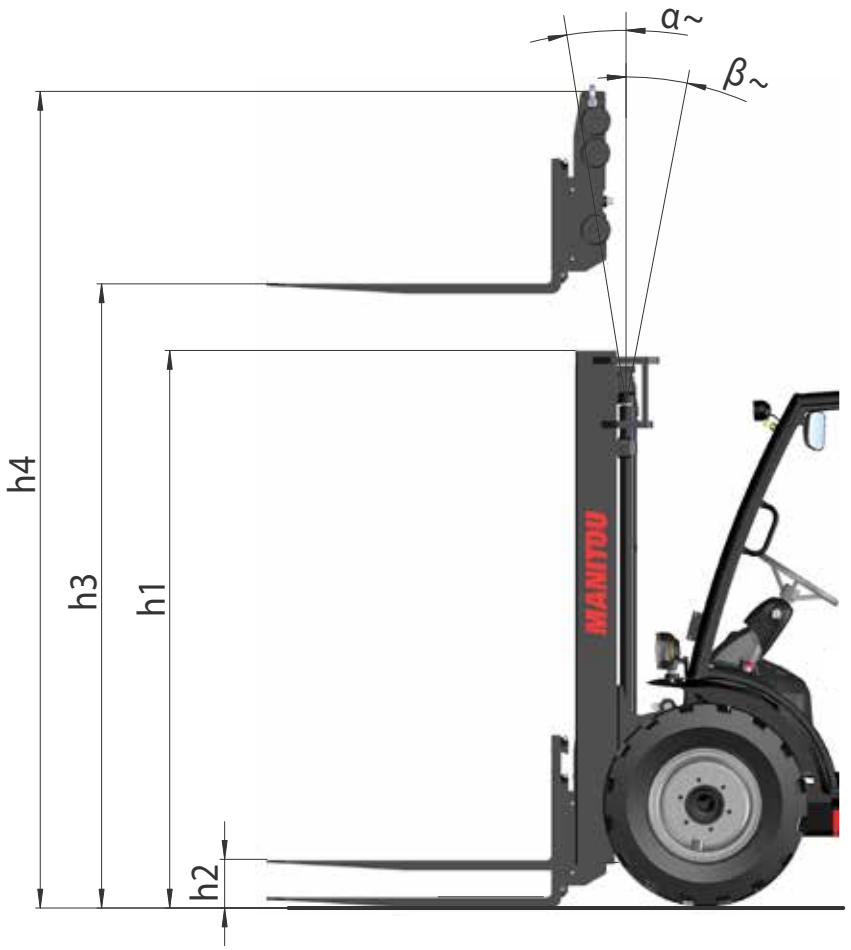
VERTICAL MAST or MAST TILTED FORWARD →

EQUIPMENT →

ACTUAL CAPACITIES →



MSI 35 D K ST5 S1	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	AV α (°)	AR β (°)
DUPLEX COMPLETE VISIBILITY	3000	90	2136	3738	12	10
	3300	90	2286	4038	12	10
	3700	90	2546	4438	12	10
	4000	90	2736	4738	12	10
	4500	90	2986	5238	12	10
TRIPLEX FREE LIFT	3400	1208	1936	4184	12	10
	3700	1308	2036	4484	12	10
	4000	1408	2136	4784	12	10
	4300	1558	2286	5084	12	10
	4700	1658	2386	5484	12	10
	5000	1818	2546	5784	12	10
	5500	2008	2736	6284	6	6
	6000	2258	2986	6784	6	6



VALUES ON FORKS		VALUES WITH INTEGRATED SIDESHIFT ATTACHMENT	
Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)	Height at max. capacity (mm)	Capacity at max. height D = 500 mm (kg)
3000	3500	3000	3500
3300	3500	3300	3500
3700	3500	3700	3500
4000	3500	4000	3500
4500	3500	4500	3500
3400	3500	3400	3500
3700	3500	3700	3500
4000	3500	4000	3500
4000	2600	4000	3200
3500	1800	3500	1800

RATED CAPACITY →

ACTUAL CAPACITIES →
(according to ISO 3691-1 / AS2359.1-2019)

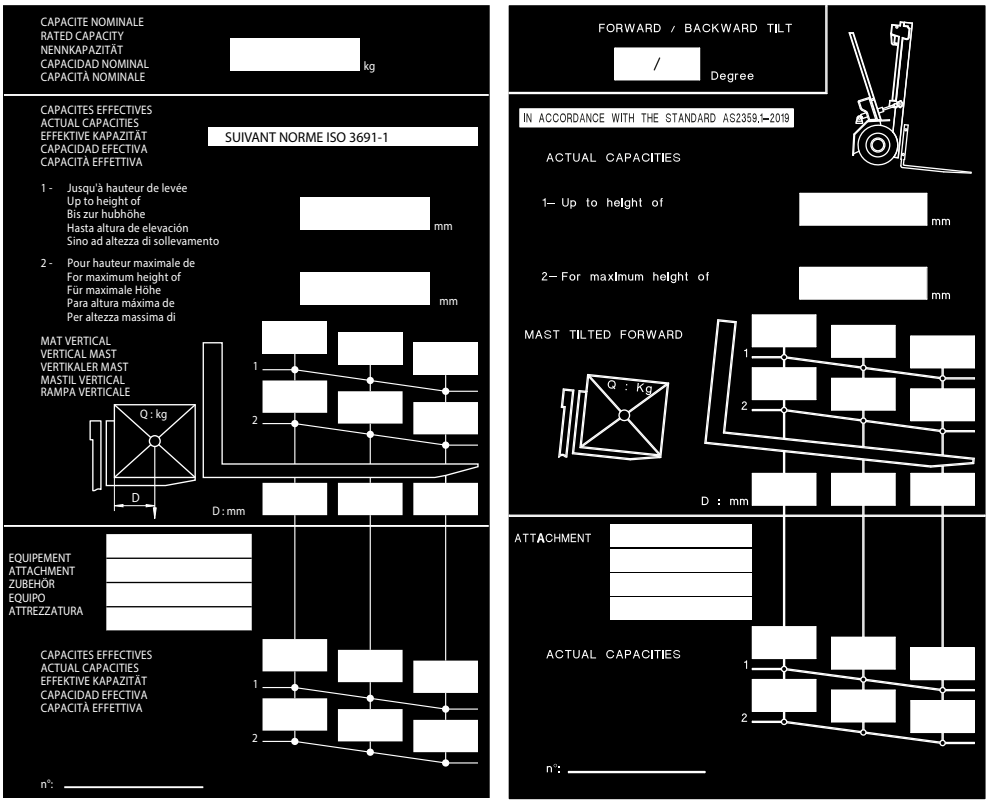
1 - Up to lift height →

2 - For maximum height of →

VERTICAL MAST or MAST TILTED FORWARD →

EQUIPMENT →

ACTUAL CAPACITIES →



TIRES

BEFORE

		PRESSURE (bar) LOAD PER TIRE (kg)	MC 25-2 D	MC 25-4 D	MC 30-2 D	MC 30-4 D	MSI 25 D	MSI 30 D	MSI 35 D
SOLIDEAL/ CAMSO	12,5/80-18/12 SL R4	PRESSURE	3,7	3,7	3,7	3,7			
		Front unladen	800	800	850	850			
		Front, laden	2850	2800	3200	3250			
	300-15/18 ED PLUS	PRESSURE					8	8	8
		Front unladen					800	850	850
		Front, laden					2850	3200	3600
CONTINENTAL	275/80R20 14PR	PRESSURE	5,3	5,3	5,6	5,6			
		Front unladen	800	800	850	850			
		Front, laden	2850	2800	3200	3250			
	315/70 R15 22PR RT20	PRESSURE					10	10	10
		Front unladen					800	850	850
		Front, laden					2850	3200	3600
	300-15 22PR IC40	PRESSURE					10	10	10
		Front unladen					800	850	850
		Front, laden					2850	3200	3600
	315/70 -15/8.0 SC20 M+ PPS	PRESSURE					SOLID	SOLID	SOLID
		Front unladen					800	850	850
		Front, laden					2850	3200	3600
ALIANCE	300/75 R18 A580	PRESSURE	4,4	4,4	4,8	4,8			
		Front unladen	800	800	850	850			
		Front, laden	2850	2800	3200	3250			
DUNLOP	15.5/55 R18 MPT SPPG7 14PR	PRESSURE	4	4	4	4	4	4	4
		Front unladen	800	800	850	850	800	850	850
		Front, laden	2850	2800	3200	3250	2850	3200	3600
BKT	12.5/80-18 TL12	PRESSURE		3,7		3,7			
		Front unladen		800		850			
		Front, laden		2800		3250			

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

FACE

		PRESSURE (bar) LOAD PER TIRE (kg)	MC 25-2 D	MC 25-4 D	MC 30-2 D	MC 30-4 D	MSI 25 D	MSI 30 D	MSI 35 D
SOLIDEAL/ CAMSO	7.00-12/12 ED PLUS	PRESSURE	8,5		8,5		8,5	8,5	8,5
		Rear unladen	1200		1350		1200	1350	1550
		Rear laden	450		450		450	450	500
	27x10-12 14PR SKS	PRESSURE		8,3		8,3			
		Rear unladen		1250		1400			
		Rear laden		500		550			
CONTINENTAL	27-10-12 14PR IC12	PRESSURE	4,5		4,5				
		Rear unladen	1200		1350				
		Rear laden	450		450				
	27-10-12 14PR IC30	PRESSURE		7		7			
		Rear unladen		1250		1400			
		Rear laden		500		550			
	7.00 R12 16PR RT20	PRESSURE					10	10	10
		Rear unladen					1200	1350	1550
		Rear laden					450	450	500
	7.00-12 14 PR IC40	PRESSURE					5,3	6,7	7,5
		Rear unladen					1200	1350	1550
		Rear laden					450	450	500
	7.00-12 SC20 M+ S PPS	PRESSURE					SOLID	SOLID	SOLID
		Rear unladen					1200	1350	1550
		Rear laden					450	450	500
BKT	10/80-12 TL10	PRESSURE		3,9		3,9			
		Rear unladen		1250		1400			
		Rear laden		500		550			

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		PRESSURE (bar)	LOAD (kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD GROUND	SOFT GROUND	HARD GROUND	SOFT GROUND
SOLIDEAL/CAMSO	12,5/80-18/12 SL R4	3,7	800	6.35	2.4	127	353
			850	6.5	2.45	132	366
			2800	9.9	3.75	283	740
			2850	9.95	3.8	286	748
			3200	10.3	3.95	310	803
			3250	10.35	4	314	811
	300-15/18 ED PLUS	8	800	7.2	2.4	111	335
			850	7.3	2.5	116	339
			2850	9.85	5.7	290	501
			3200	10.15	6.05	316	528
			3600	10.45	6.45	344	560
	7.00-12/12 ED PLUS	8,5	450	7.6	4.55	59	99
			500	7.75	4.65	64	107
			1200	9.5	6	126	201
			1350	9.8	6.2	138	218
			1550	10.1	6.5	153	239
	27x10-12 14PR SKS	8,3	500				
			550				
			1250				
			1400				
ALIANCE	300/75 R18 A580	4,4	800				
			2800				
			2850				
		4,8	850				
			3200				
			3250				
DUNLOP	15.5/55 R18 MPT SPPG7 14PR	4	800	4.87	2.29	164	349
			850	4.95	2.33	172	366
			2800	7.11	3.34	394	838
			2850	7.16	3.37	398	847
			3200	7.58	3.56	422	898
			3250	7.65	3.59	425	904
BKT	12.5/80-18 TL12	3,7	800	3.09	-	169	-
			850	3.13	-	176	-
			2800	3.51	-	492	-
			3250	3.72	-	543	-
	10/80-12 TL10	3,9	500	2.98	-	111	-
			550	3.04	-	117	-
			1250	3.18	-	251	-
			1400	3.29	-	275	-

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

		PRESSURE (bar)	LOAD (kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD GROUND	SOFT GROUND	HARD GROUND	SOFT GROUND
CONTINENTAL	275/80R20 14PR	5,3	800				
			2800				
			2850				
		5,6	850				
			3200				
			3250				
	315/70 R15 22PR RT20	10	800				
			850				
			2850				
			3200				
			3600				
	300-15 22PR IC40	10	800				
			850				
			2850				
			3200				
			3600				
	315/70 -15/8.0 SC20 M+ PPS	SOLID	800				
			850				
			2850				
			3200				
			3600				
	27-10-12 14PR IC12	4,5	450				
			1200				
			1350				
	27-10-12 14PR IC30	7	500				
			550				
			1250				
			1400				
	7.00 R12 16PR RT20	10	450				
			500				
			1200				
			1350				
			1550				
	7.00-12 14 PR IC40	5,3	450				
			1200				
		6,7	450				
			1350				
		7,5	500				
			1550				
	7.00-12 SC20 M+ S PPS	SOLID	450				
			500				
			1200				
			1350				
			1550				

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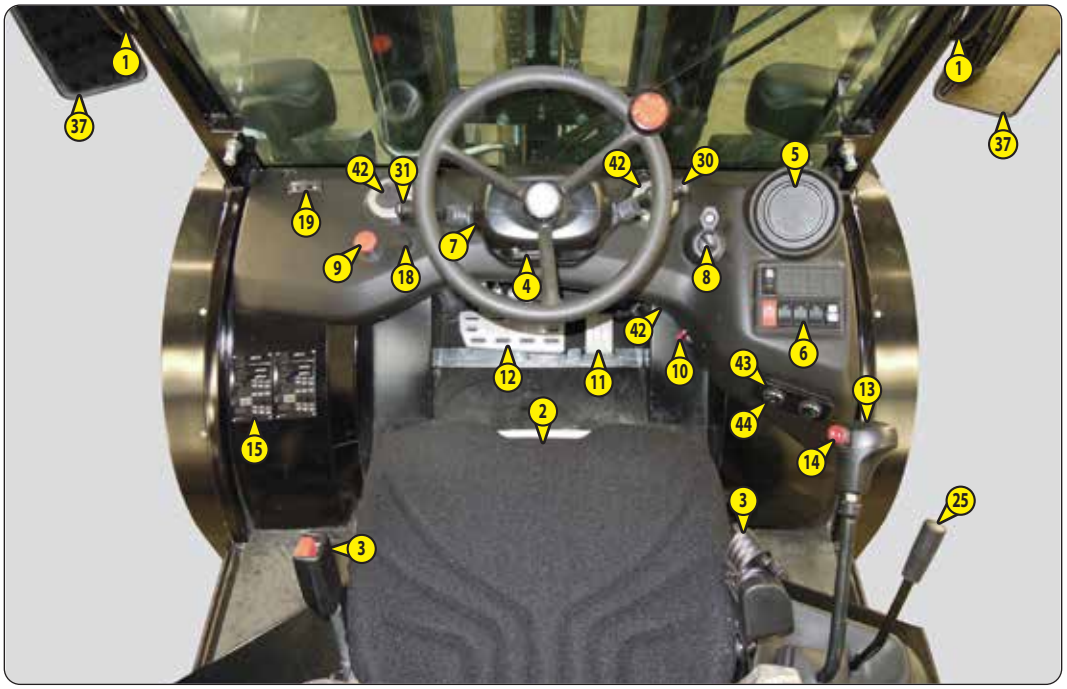
INSTRUMENTS AND CONTROLS

N.B.: All the terms such as: RIGHT, LEFT, FRONT, REAR are as seen by an observer occupying the driver's seat and looking straight ahead.

DESCRIPTION (standard)

DESCRIPTION (option)


1
37
42
31
19
9
18
7
4
42
30
5
8
6
42
10
12
11
43
44
13
14
2
15
3
3
25
1
37


MANITOU
20
13
3
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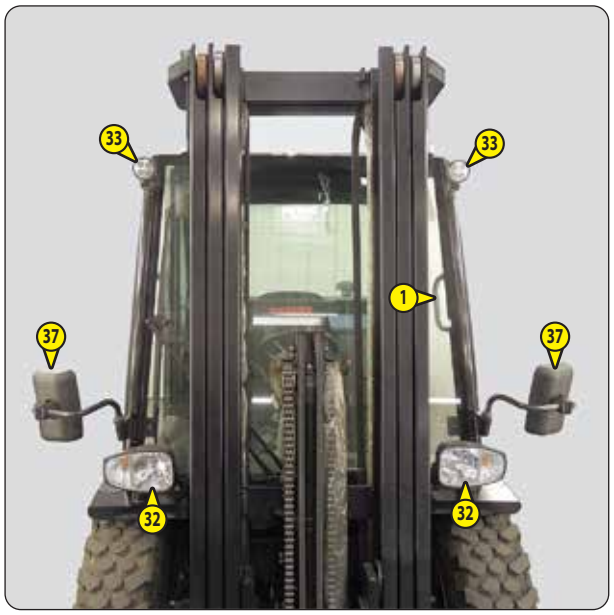
3
24
2
21
22
38


33
33
1
37
37
32
32


36
34
32
34
32
17
17
16

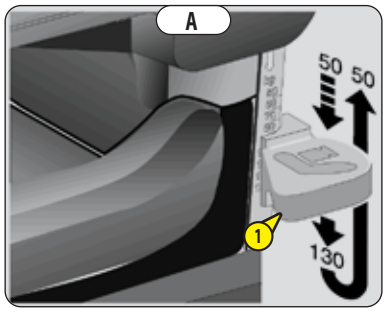
1 - DRIVER'S CAB ACCESS

- Getting into and out of the driver's cab.
- Use the three support points provided.
  1 - Left handle.
  2 - Steering wheel.
  3 - Driver's cab floor.

2 - DRIVER'S SEAT

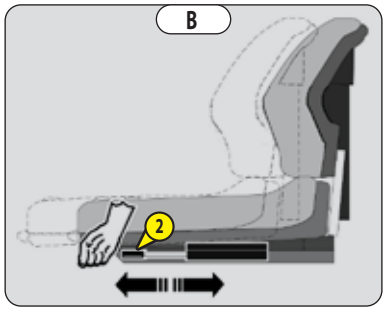
ADJUSTING WEIGHT (FIG. A)

- Lower the lever (1) to the desired position.



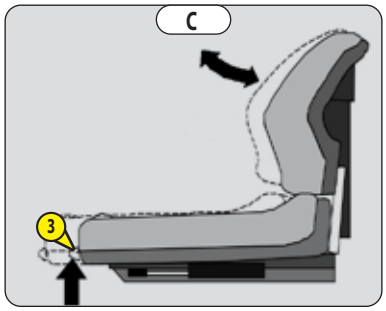
ADJUSTING DEPTH (FIG. B)

- Pull lever 2, then move the seat forward or backward into the desired position.
- Release the lever to lock it.



ADJUSTING ANGLE OF BACKREST (FIG. C)

- Pull the lever (3), then tilt the backrest to the desired position.
- Release the lever to lock it.



MAINTENANCE

- Keep your seat clean to ensure it operates efficiently
- Clean the cushions using a suitable product.
- Apply to a small hidden area first, to check the colour-fastness of covering.
- Avoid wetting the cushions.

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

3 - SEAT BELT

⚠ IMPORTANT ⚠

Under no circumstances must the machine be used if the seat belt is defective (fixing, locking, cuts, tears, etc.).
Immediately repair or replace the seat belt.

- Sit correctly on the seat.
- Check that the seat belt is not twisted.
- Place the seat belt at hip level.
- Attach the seat belt and check that it locks.
- Adjust the seat belt to your body shape without compressing your pelvis and without excessive slack.

4 - STEERING WHEEL ADJUSTMENT LEVER

- Pull the handle (1) to adjust the steering wheel.
- Push in the handle (1) to lock the steering wheel in the desired position.

5 - DASHBOARD HANDSET

INDICATOR LIGHTS

⚠ IMPORTANT ⚠

With the engine running, a permanently lit or flashing warning lamp is the sign of an operating fault.
If any of the warning lamps comes on while the lift truck is in motion, stop the lift truck under the safest possible conditions.
Illumination of some indicator lights may be accompanied by an audible signal. Do not ignore this warning. Contact your dealer as soon as possible.

BATTERY CHARGE INDICATOR LAMP

If the indicator lamp comes on, switch off the engine and check the electrical circuit and the alternator belt.

PARKING BRAKE INDICATOR LAMP

This indicator lamp comes on when the parking brake is applied.

ENGINE FAULT INDICATOR

If the indicator lamp comes on, switch off the engine and look for the cause (possible leak, request for regeneration of the particle filter, etc.).

NOTE: This light comes on when the ignition key is in position I and until the engine is started.

SEAT BELT INDICATOR

The light accompanied by a buzzer indicates that the operator has not fastened the seat belt.

ENGINE SHUT DOWN INDICATOR LAMP

If the indicator lamp comes on, switch off the engine immediately and look for the cause (possible leak, request for regeneration of the particle filter, etc.).

HYDRAULIC RETURN OIL FILTER CLOGGING LAMP

If the indicator lamp comes on, switch off the engine and replace the filter cartridge (◁ 3 - MAINTENANCE).

NOTE: This lamp can come on when the lift truck is started and should go off when the hydraulic oil reaches its operating temperature.

AIR FILTER CLOGGING INDICATOR LAMP

If the indicator lamp comes on, switch off the engine and replace the filter cartridge (◁ 3 - MAINTENANCE).

NOT USED

NOT USED

ENGINE OIL PRESSURE INDICATOR LAMP

If the indicator lamp comes on, stop the engine immediately and look for the cause (oil level, engine leak, etc.).

NOTE: After starting the engine, the indicator lamp remains on for a few seconds then goes out when the correct engine oil pressure is reached. The full engine power is then available.

WATER IN FUEL PRE-FILTER WARNING INDICATOR LAMP

If the indicator lamp comes on, switch off the engine immediately and carry out the necessary repairs (◁ 3 - MAINTENANCE).

PARTICLE FILTER MAINTENANCE INDICATOR

If the indicator lamp comes on, maintenance is required (◁ 3 - MAINTENANCE).

PARTICLE FILTER FAULT INDICATOR

If the indicator lamp comes on, switch off the engine and check the condition of the filter (◁ 3 - MAINTENANCE).

PARTICLE FILTER ACTIVATED LAMP

If the light comes on and stays on, automatic regeneration of the particle filter is in progress.

If the light flashes slowly, regeneration of the lift truck's particle filter is required (◁ 3 - MAINTENANCE).

If the light flashes rapidly, a dealer service is essential.

HIGH GAS TEMPERATURE INDICATOR LAMP

If the light comes on, regeneration of the particle filter is in progress.

EXHAUST PARTICLE FILTER DEACTIVATED LAMP

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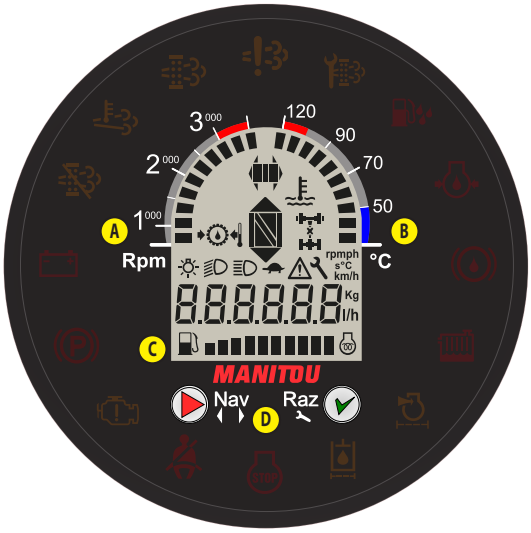
MULTIFUNCTION SCREEN



FORWARD/NEUTRAL/REVERSE PICTOGRAM

◅ FORWARD/NEUTRAL/REVERSE SELECTION

TURN SIGNAL AND WARNING PICTOGRAMS (OPTION)

◅ LIGHTING, TURN SIGNAL AND HORN SWITCH

◅ SWITCHES

MAIN BEAM PICTOGRAM (OPTION)

◅ SWITCHES

GENERAL FAULT PICTOGRAM

It is accompanied by an error code on the display.
Consult your dealer.

500H MAINTENANCE PICTOGRAM

It is accompanied by the time remaining or the time elapsed on the display. (◅ 3 - MAINTENANCE).

NOTE: The maintenance key appears 50 hours before the deadline and generates an audible signal when the lift truck is started.

To display this time again, use the validation button .

ENGINE PREHEAT PICTOGRAM

Preheating is necessary. When the ignition is on, the pictogram is displayed and indicates that preheating is in progress. When the preheating indicator goes out, start the engine.

NOTE: The pictogram flashes when the engine block heater's plug is not plugged into the safety socket. ◅ DESCRIPTION (option): ENGINE BLOCK HEATER

TRANSMISSION OIL TEMPERATURE FAULT PICTOGRAM

If it comes on, stop the engine immediately and check the transmission oil level, the radiator, etc. and check for leaks.

TRANSMISSION OIL PRESSURE FAULT PICTOGRAM

If it comes on, stop the engine immediately and check the transmission oil level, the radiator, etc. and check for leaks.

A - REV COUNTER

10-level LED display from 0 to 3500 rpm

⚠ IMPORTANT ⚠

The red zone from 3,000 to 3500 rpm must be avoided at the risk of damaging the engine.

B - ENGINE COOLANT TEMPERATURE LEVEL

10-level LED display from 0 to 120° and indicator

1st (*) LEDs + Cold	... -> 0°	Not used	Wait for the temperature to increase before using
1st to 3th LEDs	0° -> 55°	Moderate use	Wait till the temperature rises for optimum use
1st to 8th LEDs	55° - 105°	Normal use	
1st to 9th LEDs + (*) +	105° -> 110°	Usage stopped	Monitor the temperature
1st to 9th + 10th (*) LEDs + (*) +	110° -> 120°	Stop the engine immediately	Find the cause of the overheating
1st (*) to 10th (*) LEDs + (*) +	120° -> ...	Stop the engine immediately	Consult your dealer

(*) flashing

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

C - FUEL LEVEL

LED display with 10 fuel tank levels

1st (*) LED + +	Limited usage time (Reserve)	Fill the fuel tank
(*) +	Usage time finished	Fill the fuel tank quickly
1st (*) to 10th (*) LEDs + (*)	Fault	Consult your dealer

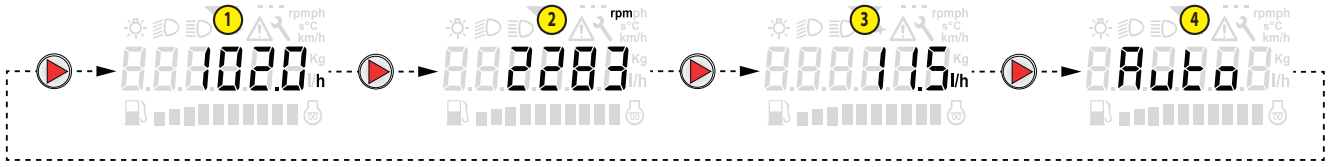
(*) flashing

D - MULTIFUNCTION SCREEN NAVIGATION

Nav MENU SCROLL BUTTON

NOTE: By default, when the lift truck is started, the screen displays the last selection made by the operator.

- 1 - Hour meter (h)
- 2 - Rev counter (rpm)
- 3 - Current fuel consumption (l/h)
- 4 - Forward/reverse -> Rev counter (rpm)
  - Neutral -> Hour meter (h)



Raz VALIDATION BUTTON, MAINTENANCE, ERROR CODES AND RESET

- 1 - Menu selected by the operator displayed

NO ERROR CODE

- 2 a - Time to 500H maintenance (h)

- To reset this maintenance, carry out the 500-hour maintenance (◁ 3 - MAINTENANCE).

- 3 a - No error

WITH ERROR CODE(S)

- 2 b - Error (scroll through error codes in a loop or press ✓)

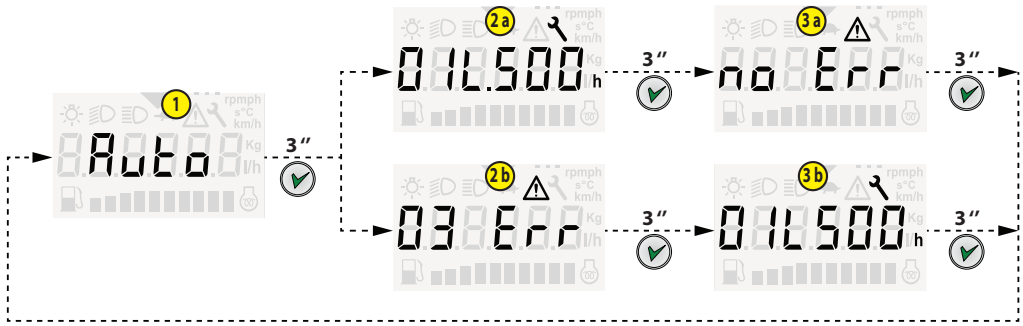
- Before contacting your dealer, check the fuses.

⚠ IMPORTANT ⚠

In order to resolve the problems with the lift truck, communicate the error code(s) to your dealer.

- 3 b - Time to 500H maintenance (h)

- To reset this maintenance, carry out the 500-hour maintenance (◁ 3 - MAINTENANCE).



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MC...D K ST5 S1 / MSI...D K ST5 S1

6 - SWITCHES

N.B.: The location of the switches may vary depending on the options.

A - PARKING BRAKE

The parking brake has 3 functions (brake on/automatic/released):

- Press the top of the switch to apply the brake  . The red indicator lamp on the top of the switch will come on together with the dashboard (P) indicator lamp.
- Press the bottom of the switch to put the brake in automatic  . The green indicator lamp on the bottom of the switch will come on.
- Press the bottom of the switch for 2 seconds to release the parking brake. The green indicator lamp on the bottom of the switch will go out.

N.B.: - By default, when the lift truck is started, the brake is in automatic mode.
- If there is a fault with the braking circuit, the brake indicator lamp flashes red.

B - PARTICLE FILTER REGENERATION

NOTE: By default, particle filter regeneration is inactive and the switch indicator lamps are off.

- Press the top of the switch to activate "lift truck stationary" regeneration  (◁ 3 - MAINTENANCE). The orange indicator lamp on the top of the switch will come on.

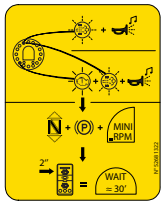
⚠ IMPORTANT ⚠

If you are performing regeneration during the 500-hour routine servicing, replace the engine oil after regeneration.

- Press the bottom of the switch to deactivate automatic regeneration  . The orange indicator lamp on the bottom of the switch will come on together with the dashboard indicator lamp.

⚠ IMPORTANT ⚠

Disabling the automatic exhaust regeneration remains a function that is only to be used in case of necessity (confined or unventilated space, etc.).

MANAGEMENT OF PARTICLE FILTER REGENERATION		
SIGNALS	ACTIONS	
Normal soot level + 2 short beeps	• Idling speed increases, indicating that automatic regeneration is in progress. • the indicator lamp may come on accompanied by a long beep. NOTE: It is preferable to wait for the automatic regeneration process to finish before removing the ignition key.	
Moderate soot level * + 2 short beeps	• Perform "lift truck stationary" regeneration (◁ 3 - MAINTENANCE). • the indicator lamp may come on accompanied by a long beep.	
High soot level + 1 long beep then * + 2 short beeps	• Lift truck efficiency is reduced. • Perform "lift truck stationary" regeneration (◁ 3 - MAINTENANCE). • the indicator lamp may come on accompanied by a long beep.	
Very high soot level STOP + 2 short beeps then ** + 5 short beeps	• Lift truck efficiency is reduced. **⚠ IMPORTANT ⚠** *Stop the lift truck and contact your dealer.*	
Particulate filter clogged STOP + + 2 short beeps then ** + 5 short beeps	• The particle filter must be replaced. **⚠ IMPORTANT ⚠** *Stop the lift truck and contact your dealer.*	

(*) slow flashing
(**) rapid flashing

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C - HYDRAULIC MOVEMENT NEUTRALIZATION

- Press the top of the switch to activate or deactivate hydraulic movement cut-off  . The indicator lamp on the top of the switch lights up red.

C - HYDRAULIC CIRCUIT DECOMPRESSION MODE

N.B.: The engine is stopped.

- Sit down correctly in the driver's seat,
- Switch the machine on,
- Press the top of the switch until the indicator lamp on the top of the switch lights up orange  .
- Press the top of the switch again to activate decompression mode.

The hydraulic controls can then be used, for example:

- Lowering the forks carriage on the mast
- Changing attachments

C - ADDITIONAL ATTACHMENT (OPTION)

- Hold the  button to use an additional attachment or hydraulic attachment locking.

D - SWITCHING BETWEEN 4WD (low speed) **<-> 2WD** (high speed)

Only for MC . . -4 D

When it is started, the lift truck keeps the speed used before it was shut down.

- Press the top of the switch for 2 seconds to activate fast speed (24 km/h - 2WD)  . The green indicator lamp on the top of the switch will come on.
- Press the bottom of the switch for 2 seconds to activate slow speed (13 km/h - 4WD)  . The green indicator lamp on the bottom of the switch will come on.

CONDITIONS OF USE

	FORWARD/REVERSE SELECTOR		
	Forward gear	**Neutral**	**Reverse gear**
(13 km/h) **4WD --> 2WD** (24 km/h)	Permitted (*)	Permitted (*)	Impossible
(24 km/h) **2WD --> 4WD** (13 km/h)	Permitted (**)	Permitted (**)	Permitted (**)

(*) After minimum 2 seconds.

(**) With the lift truck stopped, press the service brake pedal down for 2 seconds before performing the manoeuvre.

E - DIFFERENTIAL LOCK

Only for MC . . -4 D

If skidding occurs, the differential lock improves traction, whatever the ground conditions (slippery or soft surface, etc.). The top red indicator lamp will come on (depending on version).

- Keep the top of the switch pressed down to enable the 4 drive wheels to rotate at the same speed  .

F - HAZARD WARNING LIGHTS OPTION

- Press the top of the switch to turn on the hazard warning lights  . The top red indicator lamp will come on.

G - FRONT WORKLIGHTS OPTION

- Press the top of the switch to turn on the headlights  . The top red indicator lamp will come on.

H - ROTATING BEACON LIGHT OPTION

- Press the top of the switch to turn on the rotating beacon light  . The top red indicator lamp will come on.

I - REAR WORKLIGHTS OPTION

- Press the top of the switch to turn on the headlights  . The top red indicator lamp will come on.

J - REAR DEFROST OPTION

- Press the top of the switch to demist the rear window  . The top red indicator lamp will come on.

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7 - HORN

8 - IGNITION KEY

This switch has 4 positions:

- P - Ignition off, parking position.
- O - Ignition cut off and engine stopped.
- I - Ignition and preheat.
- II - Start-up and return to position I as soon as the key is released.

9 - EMERGENCY STOP

- Press the button (1) to stop the lift truck.
- Turn the button to unlock the emergency stop.

10 - BATTERY CUT-OFF

Enables the battery to be rapidly cut off from the electric circuit in the event of a short circuit or a fire.

first version

second version

11 - ACCELERATOR PEDAL

12 - BRAKE AND "INCHING" TRANSMISSION CUT-OFF PEDAL

This pedal operates in two steps:

- 1 - Gradually press on the cut-off pedal, which cuts off the hydrostatic transmission so as to carry out a slow approach with all the engine output.
- 2 - Continue to press the pedal gradually to stop the lift truck.

13 - HYDRAULIC CONTROLS (depending on model)

⚠ IMPORTANT ⚠

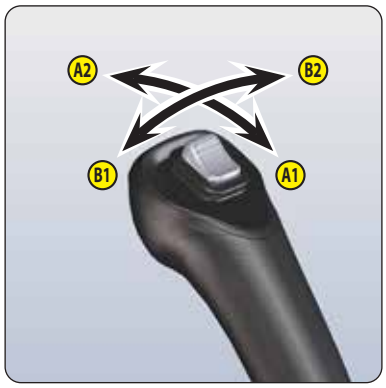
In the event of malfunction, contact your dealer.

For your own safety, do not attempt to alter the hydraulic pressure in the system. ANY MODIFICATION WILL INVALIDATE THE WARRANTY.

The hydraulic controls must be used carefully without jerking, to avoid accidents caused by shaking the lift truck.

Using the hydraulic controls is only possible if the driver is present and seated correctly in the seat.

If the operator is not present in the seat, the hydraulic controls are frozen.



A1 - LIFTING

N.B.: Engine speed automatically increases. (Standard for MSI / Option for MC)

A2 - LOWERING

Securing the machine with the engine stopped

Allows the mast to be lowered when the engine is off.

Note: The machine is powered up.

1 - Sit on the seat.
2 - Activate decompression mode (◁ SWITCHES)
3 - Press the hydraulic circuit decompression switch and lower the mast to place the forks on the ground.

B1 - CROWD

B2 - DUMP

14 - FORWARD/NEUTRAL/REVERSE GEAR SELECTOR (depending on model)

When changing the direction of travel, the lift truck should be traveling at slow speed and not accelerating.

To start the lift truck, the switch must be in neutral.

A - FORWARD GEAR

- Press the front of the switch.

B - REVERSE GEAR

- Press the back of the switch.

N.B.: A reversing alarm and a reversing light are available as an option.

C - NEUTRAL

- Lightly press the front or back of the switch.

D - NOT USED

SAFETY FOR MOVING THE LIFT TRUCK

Movement of the lift truck is only authorised if the operator is present.

To move the lift truck, the following sequence must be observed:

- 1 - Sit correctly in the driver's seat,
- 2 - Fasten the seat belt,
- 3 - Release the parking brake,
- 4 - Engage forward or reverse gear.

To stop the lift truck, the following sequence must be observed:

- 1 - Put the gear lever in neutral,
- 2 - Engage the parking brake,
- 3 - Remove the seat belt,
- 4 - Get out of the lift truck.

If the operator leaves the driver's cab with forward or reverse gear in operation:

- The alarm emits 1 beep, the operator may sit down again and continue moving.
- The alarm emits 2 beeps, the operator must sit down again, put the forward/reverse selector back into neutral and release the parking brake before continuing to move.

NOTE: Depending on the legislation in force in your country or depending on the model, a safety device on the seat belt fastener prevents movement. This is indicated by the seat belt indicator lamp and a beep.

AUSTRALIAN SPECIFICATION

If the operator leaves the driver's cab with forward or reverse gear in operation:

- If the alarm sounds continuously, the operator may sit back in the seat and continue moving.
- If the alarm sounds discontinuously, the operator must, before continuing to move:
  - 1 - Reset the forward/reverse selector to neutral,
  - 2 - Sit down correctly in the driver's seat,
  - 3 - Fasten the safety belt,
  - 4 - Release the parking brake,
  - 5 - Engage forward or reverse gear.

15 - LOAD CHARTS

For your safety, and before handling any load, consult the load charts provided in the driver's cab.

16 - INTERNAL REAR-VIEW MIRROR

17 - LEVEL INDICATORS

Standard for MC/Option for MSI

For your safety, and before handling any load, ensure that the lift truck is level.

18 - 12V SOCKET

N.B.: As an option there is a reading light for a 12 V socket.

19 - DOCUMENT CLIP

20 - DOCUMENT STORAGE NET

Make sure that the operator's manual is in the right place, i.e. in the document holder net.

N.B.: As an option there is a waterproof document holder.

21 - MOTOR COVER PANEL

N.B.: Cab option, open the side doors before opening the engine cover.

To open the engine cover:

- Fold the seat backrest onto the seat.
- Move the seat forward as far as possible.
- Press the button (1) and lift the cover using the handle (2).
- Gain access to the engine compartment to service the lift truck, as well as to the fuses and relays.

22 - BATTERY COVER

- Turn the thumb wheel (1).
- Remove the battery cover (2).

23 - FUSES AND RELAYS

- Open the engine cover (◁ INSTRUMENTS AND CONTROLS).
- Remove the air filter cover (1) and the cartridge.
- Loosen the screws and remove the cover (2) from the fuse and relay box.

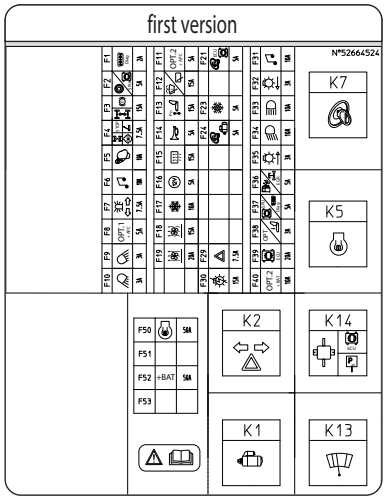
Fuses

⚠ IMPORTANT ⚠

Replace the faulty fuse with a new fuse with the same rating.

First version

F1	2A	Diagnostic plug (with ignition on)
F2	5A	Dashboard handset Forward/neutral/reverse selector Emergency stop Battery charge indicator lamp Differential lock control (Only for MC . . -4 D) 4th element electric control (option)
F3	15A	Parking brake Forward/reverse gear "Inching" transmission cut-off
F4	7,5A	Switches Stop lights Differential lock electrovalve (Only for MC . . -4 D) 4WD -> 2WD electrovalve (Only for MC . . -4 D) Solenoid valve 3rd element (option)
F5	10A	Raise solenoid valve Lower solenoid valve Crowd solenoid valve Dump solenoid valve Solenoid valves 3rd, 4th and 5th elements (option)
F6	10A	Car radio (option)
F7	7,5A	Indicator lights (option) Rotating beacon (option)
F8	5A	12V with ignition on (option 1)
F9	3A	Rear worklights (option)
F10	3A	Front worklights (option)
F11	5A	12V with ignition on (option 2)
F12	15A	Front/rear windscreen wiper + washer (option)
F13	15A	Pneumatic seat (option)
F14	5A	Audible alarm
F15	15A	Rear window defroster (option)
F16	5A	12V socket (with ignition on)
F17	10A	Air conditioning compressor (option)
F18	15A	Ventilation/heating (option)
F19	20A	Air conditioning condenser fan (option)
F20	-	Free
F21	5A	Engine ECU power supply
F22	-	Free
F23	5A	air conditioning coolant circuit sensor (option)
F24	5A	Engine ECU (starter)
F25	-	Free
F26	-	Free
F27	-	Free
F28	-	Free
F29	7,5A	Hazard warning lights (option)
F30	15A	Lighting control (option)
F31	10A	Car radio (option)
F32	3A	Left-hand sidelights (option) Sidelights indicator lamp (option)
F33	10A	Main beam headlights (option) Main beam headlights indicator lamp (option)
F34	10A	Dipped beam headlights (option)
F35	3A	Right-hand sidelights (option)
F36	5A	EGR antipollution valve Water in fuel filter sensor
F37	5A	Diagnostics plug General ECU



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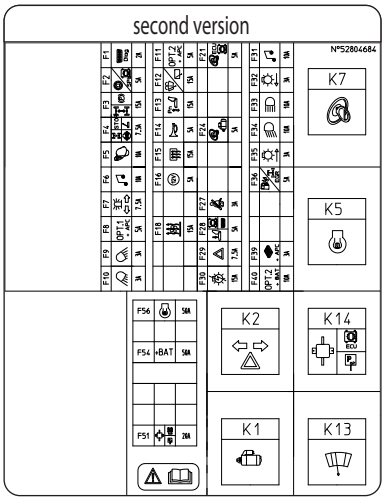
MC . . D K ST5 S1 / MSI . . D K ST5 S1

F38	**3A**	Driver presence sensor Anti-theft.
F39	**20A**	Engine ECU (power) Air flow meter sensor Fuel pump
F40	**10A**	12V permanent (option 2)
F50	**50A**	Engine preheat
F51	**-**	Free
F52	**50A**	12V permanent
F53	**-**	Free

Second version



F1	**2A**	Diagnostic plug (with ignition on)
F2	**5A**	Dashboard handset Emergency stop Battery charge indicator lamp Differential lock control **(Only for MC . . -4 D)** 4th element electric control (option)
F3	**15A**	Parking brake Forward/reverse gear "Inching" transmission cut-off
F4	**7,5A**	Switches Stop lights Differential lock electrovalve **(Only for MC . . -4 D)** 4WD -> 2WD electrovalve **(Only for MC . . -4 D)** Solenoid valve 3rd element (option)
F5	**10A**	Raise solenoid valve Lower solenoid valve Crowd solenoid valve Dump solenoid valve Solenoid valves 3rd, 4th and 5th elements (option)
F6	**10A**	Car radio (option)
F7	**7,5A**	Indicator lights (option) Rotating beacon (option)
F8	**5A**	12V with ignition on (option 1)
F9	**3A**	Rear worklights (option)
F10	**3A**	Front worklights (option)
F11	**5A**	12V with ignition on (option 2)
F12	**15A**	Front/rear windscreen wiper + washer (option)
F13	**15A**	Pneumatic seat (option)
F14	**10A**	Audible alarm
F15	**15A**	Rear window defroster (option)
F16	**5A**	12V socket (with ignition on)
F17	**10A**	Air conditioning compressor (option)
F18	**15A**	Ventilation/heating (option)
F19	**20A**	Air conditioning condenser fan (option)
F20	**-**	Free
F21	**5A**	Engine ECU power supply
F22	**-**	Free
F23	**5A**	air conditioning coolant circuit sensor (option)
F24	**5A**	Engine ECU (starter)
F25	**-**	Free
F26	**-**	Free
F27	**-**	Free
F28	**5A**	Power supply +PERM SPU +PERM diagnostics plug
F29	**7,5A**	Hazard warning lights (option)
F30	**15A**	Lighting control (option)
F31	**10A**	Car radio (option)
F32	**3A**	Left-hand sidelights (option) Sidelights indicator lamp (option)
F33	**10A**	Main beam headlights (option) Main beam headlights indicator lamp (option)
F34	**10A**	Dipped beam headlights (option)
F35	**3A**	Right-hand sidelights (option)
F36	**5A**	EGR antipollution valve Water in fuel filter sensor
F37	**-**	Free

F38	**-**	Free
F39	**20A**	Anti-theft (option)
F40	**10A**	12V permanent (option 2)
F50	**-**	Free
F51	**20A**	Engine ECU (power) Fuel pump Air flow meter sensor
F52	**-**	Free
F53	**-**	Free
F54	**50A**	12V permanent
F55	**-**	Free
F56	**50A**	Engine preheat

Relay

K1		Starter
K2		Flashing light unit (option)
K5		Engine preheat
K7		General power supply
K13		Intermittent windshield wiper (option)
K14		Engine ECU Air intake management Fuel pump

24 - HEIGHT INDICATOR

The height indicator is composed of a fixed indicator A and a mobile indicator B. Use these indicators to read the load charts.

- If indicator B is below or level with indicator A, load chart values of the category "1 - Up to height of" are applicable".
- If indicator B is above indicator A, load charts values are of the category "2 - For a maximum height" are applicable".

25 - DRIVER'S SEAT

DRIVER'S SEAT "CLASSIC"

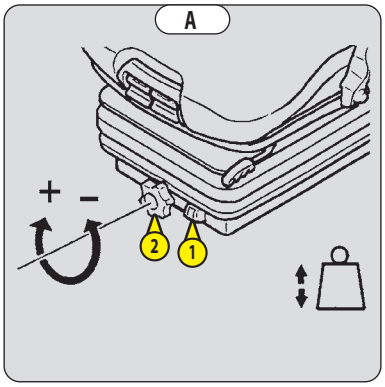
DESIGNED FOR MAXIMUM COMFORT, THIS SEAT CAN BE ADJUSTED AS FOLLOWS.

WEIGHT ADJUSTMENT (FIG. A)

It is advised that the weight be adjusted when the driver is not sitting in the cab.

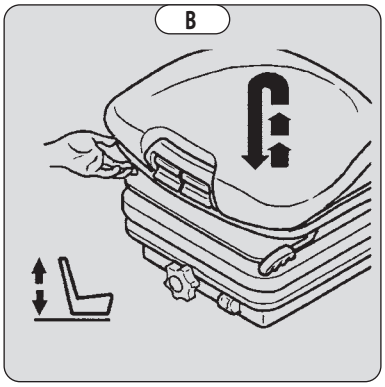
- Refer to the graduation (1) of the seat.
- Turn the handle (2) according to the driver's weight.

N.B.: To avoid any health problems, it is recommended that the weight adjustment is checked and adjusted before starting the lift truck.



SEAT HEIGHT ADJUSTMENT (FIG. B)

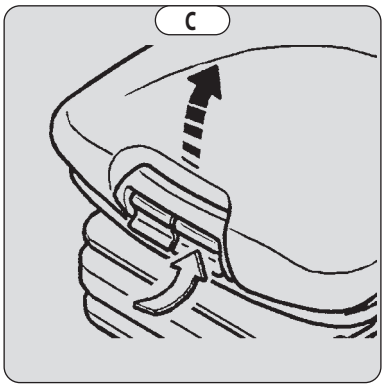
Raise the seat to the desired position, until you hear the ratchet click. If you raise the seat above the last notch (stop), the seat returns to the lowest position.



SEAT BACKREST ANGLE ADJUSTMENT (FIG. C)

The backrest angle of the seat may be adjusted to suit the individual.

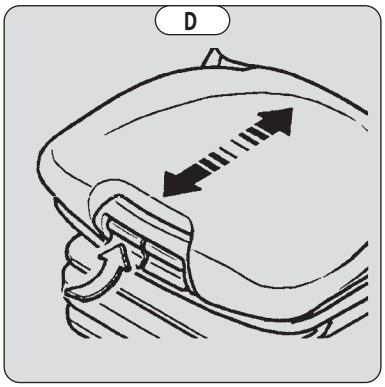
- Press the left-hand button while pushing on the seat or relaxing pressure on the seat to find a comfortable position.



SEAT DEPTH ADJUSTMENT (FIG. D)

The depth of the seat may be adjusted to suit the individual.

- Press the right-hand button while raising or lowering the seat to find the desired position.



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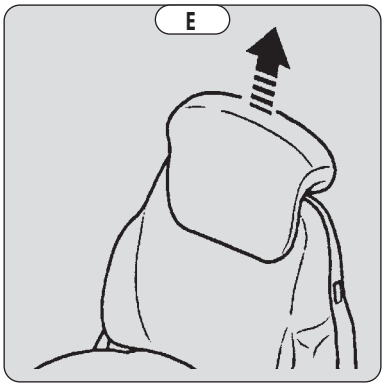
HEADREST (FIG. E)

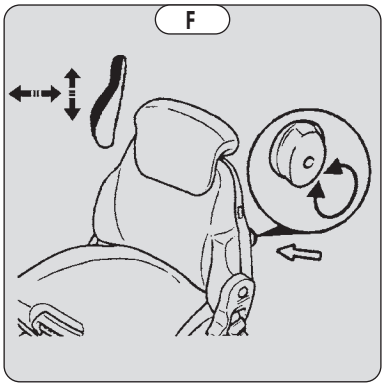
- The height of the headrest can be adjusted by pulling it upward (the notches will click) up to the stop.
- The headrest can be removed by applying sufficient pressure to pull it off the stop.



LUMBAR ADJUSTMENT (FIG. F)

This increases the comfort of the seat and the driver's freedom of movement.

- Turn the handle either left or right to adjust the height and depth of the lumbar support.

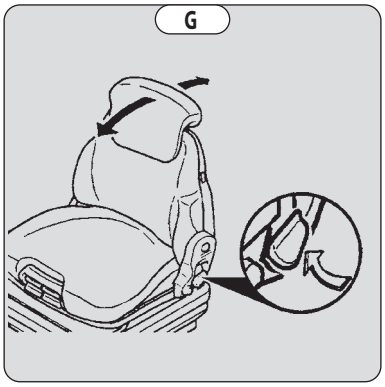


BACKREST ANGLE ADJUSTMENT (FIG. G)

- Support the backrest, pull the lever and tilt the backrest to the desired position.

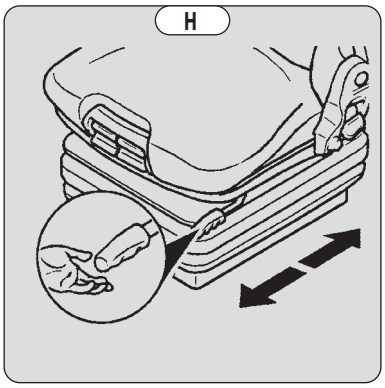
⚠ IMPORTANT ⚠

If you do not support the backrest when making adjustments, it swings completely forward.



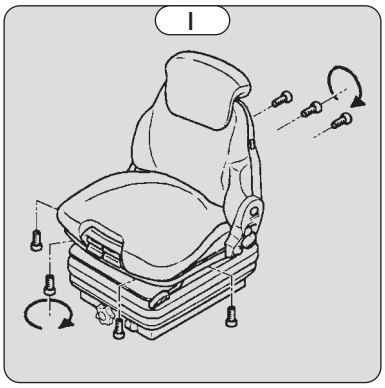
LONGITUDINAL ADJUSTMENT (FIG. H)

- Adjust the locking lever until you reach the position required. Once locked, you can no longer move the seat into another position.



MAINTENANCE (FIG. I)

- Keep your seat clean to ensure it operates efficiently
- Clean the cushions using a suitable product.
- Apply to a small hidden area first, to check the colour-fastness of covering.
- Avoid wetting the cushions.
- To facilitate cleaning remove the cushions from the seat frame.



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MC . . D K ST5 S1 / MSI . . D K ST5 S1

"PREMIUM" DRIVER'S PNEUMATIC SEAT

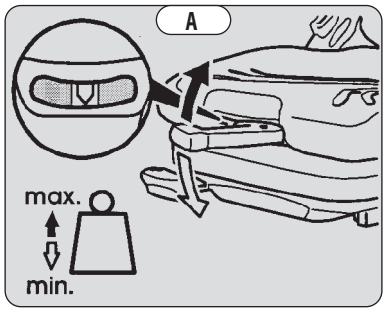
DESIGNED FOR MAXIMUM COMFORT, THIS SEAT CAN BE ADJUSTED AS FOLLOWS.

WEIGHT ADJUSTMENT (FIG. A)

Adjust the weight when the driver is sitting on the seat.

- Pull the weight adjustment lever (1) fully out.
- Move the weight adjustment lever (1) upwards to increase the weight or downwards to reduce it.
- The driver's weight is correctly adjusted when the arrow is in the centre of the indicator (2).
- After completing the weight adjustment, fully lower the lever (1).

N.B.: To avoid health problems, it is recommended that the weight setting is checked and adjusted before starting the lift truck.

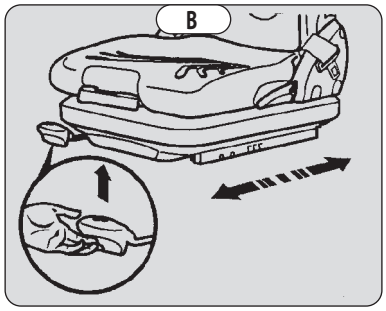


LONGITUDINAL ADJUSTMENT (FIG. B)

⚠ IMPORTANT ⚠

Only operate the lever by its recessed section and do not grasp from below, at the risk of crushing the hand.

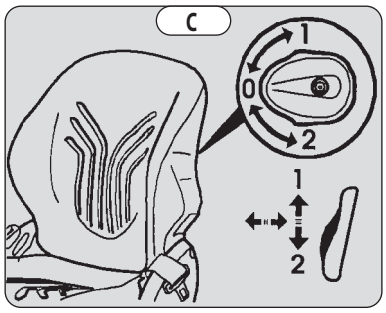
- Adjust the locking lever until you reach the position required. Once locked, you can no longer move the seat into another position.



LUMBAR ADJUSTMENT (FIG. C)

This increases the comfort of the seat and the driver's freedom of movement.

- Turn the handle (1) to adjust the height and depth of the lumbar support of the upper part of the back-rest.
- Turn the handle (2) to adjust the height and depth of the lumbar support of the lower part of the back-rest.

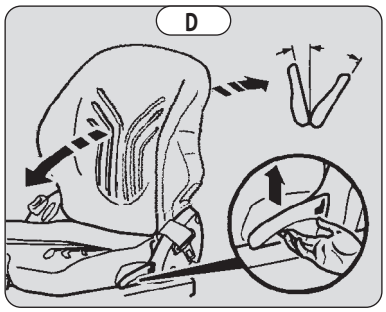


BACKREST ANGLE ADJUSTMENT (FIG. D)

⚠ IMPORTANT ⚠

If you do not support the backrest when making adjustments, it swings forward.

- Support the backrest, pull the lever and tilt the backrest to the desired position.



MAINTENANCE

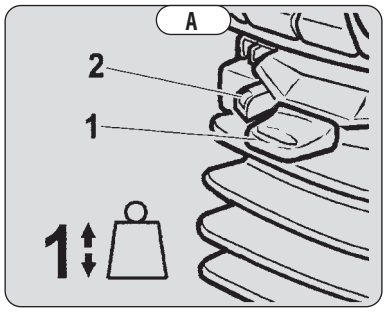
- Keep your seat clean to ensure it operates efficiently
- Clean the cushions using a suitable product.
- Apply to a small hidden area first, to check the colour-fastness of covering.
- Avoid wetting the cushions.

"ÉLITE" DRIVER'S PNEUMATIC SEAT

N.B.: Do not operate the pneumatic compressor for more than 1 minute.

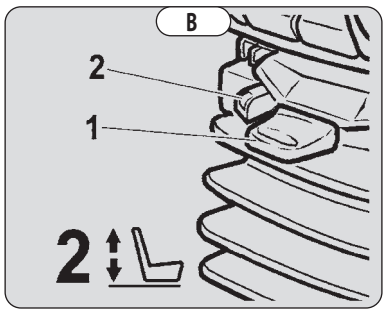
WEIGHT ADJUSTMENT (FIG. A)

- Sit on the seat.
- Switch on lift truck ignition.
- Pull or push the thumb wheel (1) until the green area appears in the indicator lamp (2).



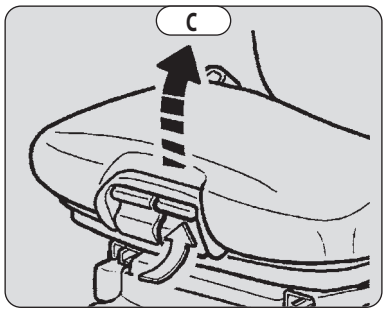
SEAT HEIGHT ADJUSTMENT (FIG. B)

- Keep the ignition on in the lift truck.
- Pull or push the thumb wheel (1) to adjust the height of the seat while monitoring the green area of the indicator lamp (2).



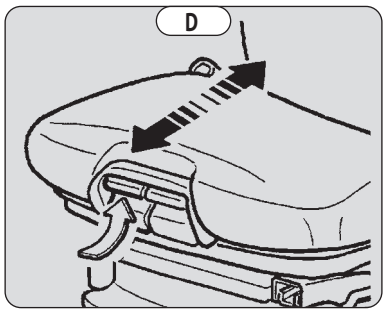
SEAT BACKREST ANGLE ADJUSTMENT (FIG. C)

- Press the left-hand button, then push or release pressure on the seat to find the desired position.



SEAT DEPTH ADJUSTMENT (FIG. D)

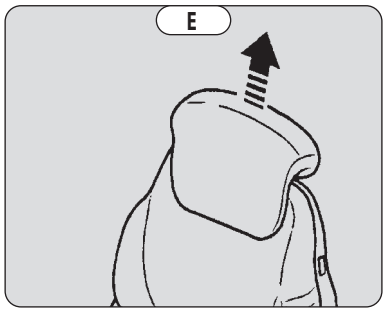
- Press the right-hand button, then move the seat backwards or forwards to find the desired position.



HEAD-REST HEIGHT ADJUSTMENT (FIG. E)

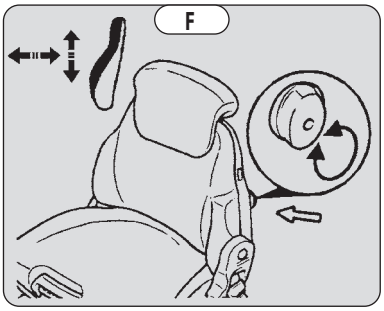
- Pull or push the head-rest to the desired position.

The headrest can be removed by applying sufficient pressure to pull it off the stop.



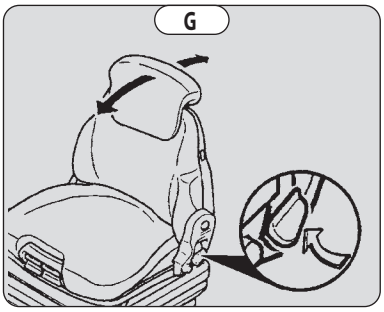
LUMBAR ADJUSTMENT (FIG. F)

- Turn the handle either left or right to adjust the height and depth to the desired position.



BACKREST ANGLE ADJUSTMENT (FIG. G)

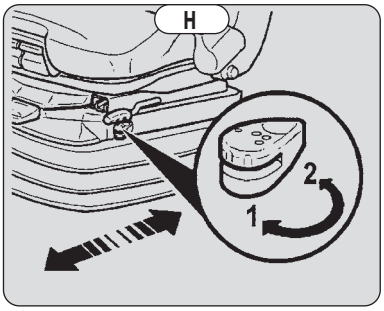
- Support the backrest, pull the lever and tilt the backrest to find the desired position.



HORIZONTAL SHOCK ABSORBER (FIG. H)

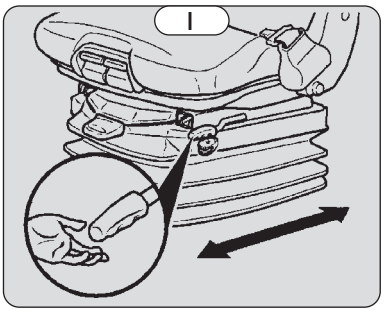
In certain conditions (e.g. rough terrain, etc.) the driver's seat can absorb shocks.

- Turn the button to position (1) to activate the shock absorber.
- Turn the button to position (2) to deactivate the shock absorber.



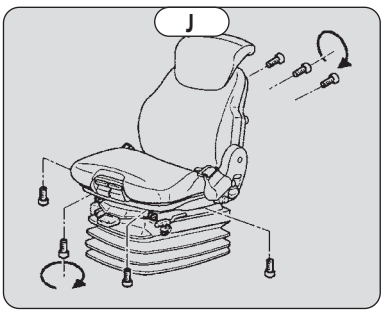
LONGITUDINAL ADJUSTMENT (FIG. I)

- Pull the lever, then move the seat forwards or backwards into the desired position.
- Release the lever to lock it.



MAINTENANCE (FIG. J)

- Keep your seat clean to ensure it operates efficiently
- Clean the cushions using a suitable product.
- Apply to a small hidden area first, to check the colour-fastness of covering.
- Avoid wetting the cushions.
- To facilitate cleaning remove the cushions from the seat frame.



26 - HYDRAULIC CONTROLS FOR ADDITIONAL ATTACHMENTS

⚠ IMPORTANT ⚠

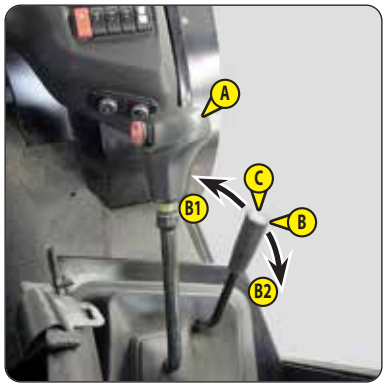
In the event of malfunction, contact your dealer.

For your own safety, do not attempt to alter the hydraulic pressure in the system. ANY MODIFICATION WILL INVALIDATE THE WARRANTY.

The hydraulic controls must be used carefully without jerking, to avoid accidents caused by shaking the lift truck.

Using the hydraulic controls is only possible if the driver is present and seated correctly in the seat.

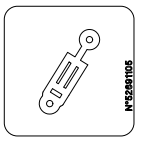
If the operator is not present in the seat, the hydraulic controls are frozen.



N.B.: For lever A (◁ INSTRUMENTS AND CONTROLS).

- Pull or push lever B to use the additional attachment(s).
- Press button C to select an attachment (depending on options).

WITH A SINGLE HYDRAULIC ATTACHMENT

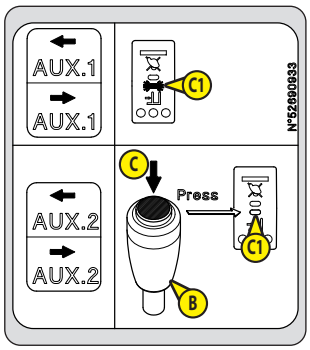


B1 - OPTIONAL 3RD HYDRAULIC LINE

B2 - OPTIONAL 3RD HYDRAULIC LINE

WITH MORE THAN ONE HYDRAULIC ATTACHMENT

- Press button C on lever B to select the attachment AUX.1 or AUX.2:



• The blue indicator lamp C1 coming on indicates activation of the attachment (below).

B1 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1)

B2 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1)

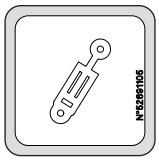
• The blue indicator lamp C1 going out indicates activation of the attachment (below).

B1 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

B2 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

TILTABLE CARRIAGE option

WITHOUT ADDITIONAL HYDRAULIC ATTACHMENT

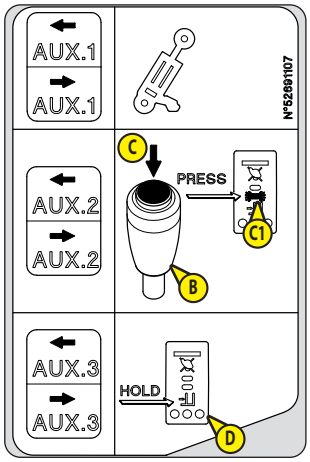


B1 - OPTIONAL 3RD HYDRAULIC LINE (TILTABLE CARRIAGE)

B2 - OPTIONAL 3RD HYDRAULIC LINE (TILTABLE CARRIAGE)

WITH MORE THAN ONE HYDRAULIC ATTACHMENT

- Press button C on lever B to select the attachment AUX.1 or AUX.2:



• The blue indicator lamp C1 going out indicates activation of the attachment (below).

B1 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1 - TILTABLE CARRIAGE)

B2 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1 - TILTABLE CARRIAGE)

• The blue indicator lamp C1 coming on indicates activation of the attachment (below).

B1 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

B2 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

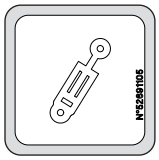
D + B1 - OPTIONAL 5TH HYDRAULIC LINE (AUX.3)

D + B2 - OPTIONAL 5TH HYDRAULIC LINE (AUX.3)

⚠ IMPORTANT ⚠

If the attachment's hydraulic locking equipment is used, make sure that the attachment is properly locked onto the tiltable carriage before use.

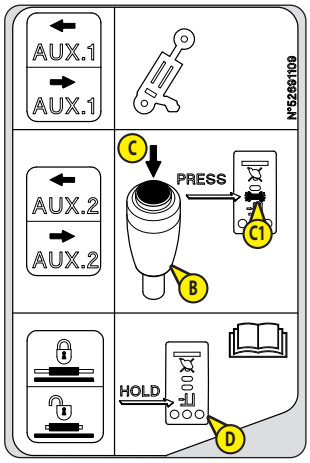
WITHOUT ADDITIONAL HYDRAULIC ATTACHMENT



B1 - OPTIONAL 3RD HYDRAULIC LINE (TILTABLE CARRIAGE)

B2 - OPTIONAL 3RD HYDRAULIC LINE (TILTABLE CARRIAGE)

WITH MORE THAN ONE HYDRAULIC ATTACHMENT



- Press button C on lever B to select the attachment AUX.1 or AUX.2:

  • The blue indicator lamp C1 going out indicates activation of the attachment (below).

B1 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1 - TILTABLE CARRIAGE)

B2 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1 - TILTABLE CARRIAGE)

  • The blue indicator lamp C1 coming on indicates activation of the attachment (below).

B1 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

B2 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

D + B1 - OPTIONAL 5TH HYDRAULIC LINE (HYDRAULIC ATTACHMENT LOCKING)

D + B2 - OPTIONAL 5TH HYDRAULIC LINE (HYDRAULIC ATTACHMENT LOCKING)

27 - HYDRAULIC CONTROL JOYSTICK

N.B.: Depending on the model, some functions described on the joystick sticker are not relevant.

HYDRAULIC CONTROLS

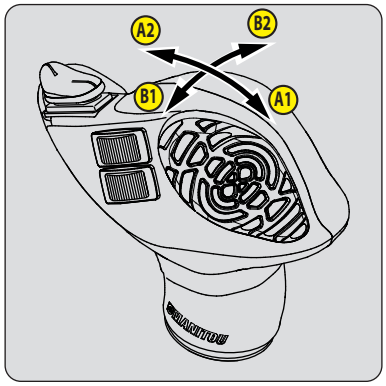
⚠ IMPORTANT ⚠

In the event of malfunction, contact your dealer.

For your own safety, do not attempt to alter the hydraulic pressure in the system. ANY MODIFICATION WILL INVALIDATE THE WARRANTY.

The hydraulic controls must be used carefully without jerking, to avoid accidents caused by shaking the lift truck.

The hydraulic controls can only be used if the driver is present and seated correctly in the seat.



A1 - LIFTING

N.B.: Engine speed automatically increases. (Standard for MSI / Option for MC)

A2 - LOWERING

Securing the machine with the engine stopped

◁ DESCRIPTION (standard) - HYDRAULIC CONTROLS

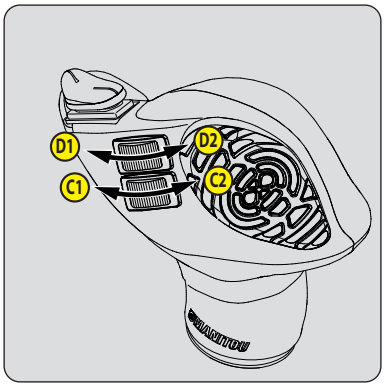
B1 - CROWD

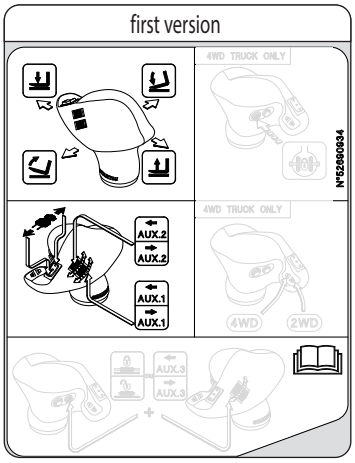
B2 - DUMP

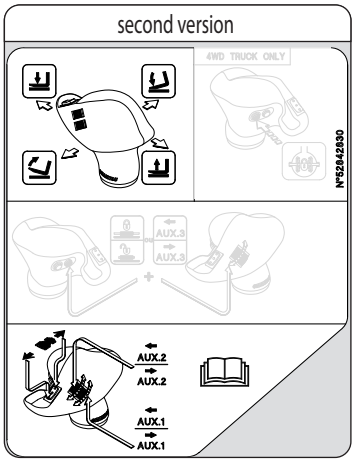
HYDRAULIC CONTROLS WITH MORE THAN ONE HYDRAULIC ATTACHMENT

C1 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1)
C2 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1)

D1 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)
D2 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)







TILTABLE CARRIAGE option

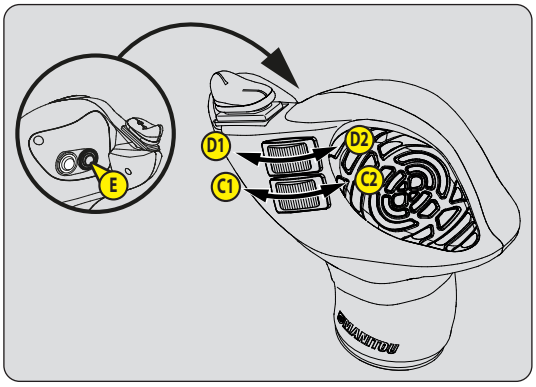
C1 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1 - TILTABLE CARRIAGE)
C2 - OPTIONAL 3RD HYDRAULIC LINE (AUX.1 - TILTABLE CARRIAGE)

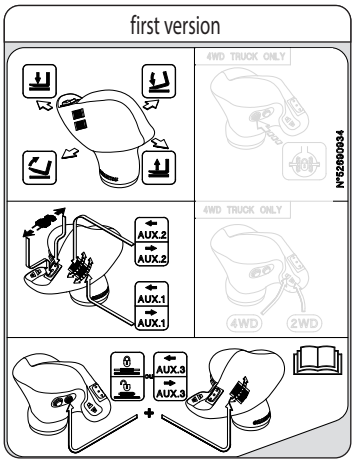
D1 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)
D2 - OPTIONAL 4TH HYDRAULIC LINE (AUX.2)

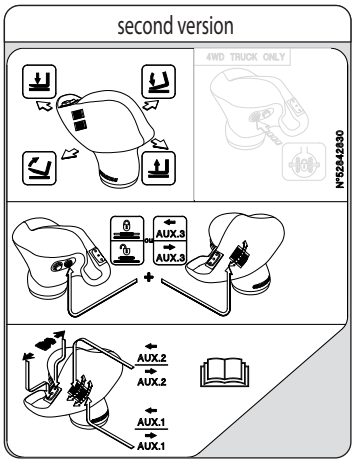
E + D1 - OPTIONAL 5TH HYDRAULIC LINE (AUX.3 or (HYDRAULIC ATTACHMENT LOCKING)
E + D2 - OPTIONAL 5TH HYDRAULIC LINE (AUX.3 or (HYDRAULIC ATTACHMENT LOCKING)

⚠ IMPORTANT ⚠

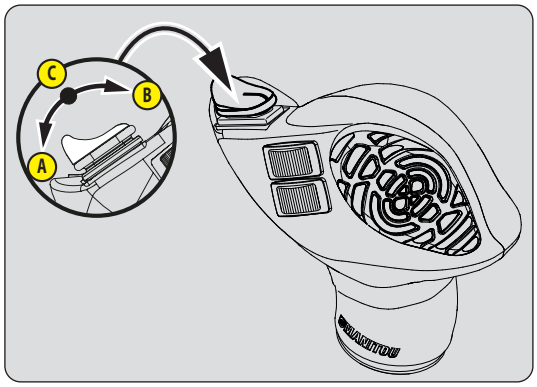
If the attachment's hydraulic locking equipment is used, make sure that the attachment is properly locked onto the tiltable carriage before use.







FORWARD/NEUTRAL/REVERSE SELECTOR



When changing the direction of travel, the lift truck should be traveling at slow speed and not accelerating.

To start the lift truck, the switch must be in neutral.

A - FORWARD GEAR

- Push the switch forwards.

B - REVERSE GEAR

- Pull the switch backwards.

N.B.: A reversing alarm and a reversing light are available as an option.

C - NEUTRAL

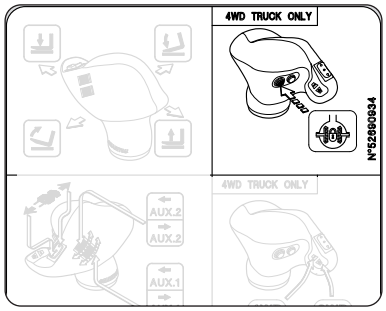
- Lightly press the front or back of the switch.

SAFETY FOR MOVING THE LIFT TRUCK

◁ FORWARD/NEUTRAL/REVERSE GEAR SELECTOR (Standard)

DIFFERENTIAL LOCK

Only for MC . . -4 D



⚠ IMPORTANT ⚠

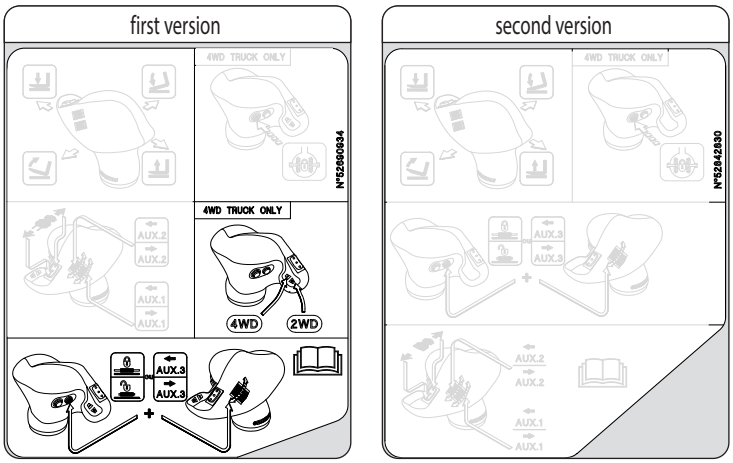
When it is being used, always drive in a straight line and slowly.

If skidding occurs, the differential lock improves traction, whatever the ground conditions (slippery or soft surface, etc.).

- Hold the switch F down to enable the 4 drive wheels to rotate at the same speed.

SWITCHING BETWEEN 4WD (low speed) <-> 2WD (high speed)

Only for MC . . -4 D



When it is started, the lift truck keeps the speed used before it was shut down.

HIGH SPEED 24 km/h (2RM)

- Press the "+" switch on the joystick* or the top of switch 2. The indicator lamp 2a will come on.

SLOW SPEED 13 km/h (4RM)

- Press the "-" switch on the joystick* or the bottom of switch 2. The indicator lamp 2b will come on.

CONDITIONS OF USE

	FORWARD/REVERSE SELECTOR		
	Forward gear	**Neutral**	**Reverse gear**
4RM --> 2RM (13 km/h) --> (24 km/h)	Permitted (**)	Permitted (**)	Impossible
2RM --> 4RM (24 km/h) --> (13 km/h)	Permitted (***)	Permitted (***)	Permitted (***)

(*) First version only.

(**) After minimum 2 seconds.

(**) With the lift truck stopped, press the service brake pedal for 2 seconds before performing the maneuver.

28 - LOAD SUSPENSION

The purpose of this option is to damp lifting and lowering of the load.

29 - CONNECTING/DISCONNECTING A HYDRAULIC ATTACHMENT

1 - Sit on the seat.
2 - Stop the engine.

Note: The machine is powered up.

3 - Activate decompression mode (◁ SWITCHES)
4 - Press the hydraulic circuit decompression switch and operate the hydraulic controls for the attachment in question.
5 - Connect or disconnect the hydraulic attachment.

30 - ENGINE "ECO STOP"

⚠ IMPORTANT ⚠

The "ECO STOP" function is not a substitute for stopping the machine. Please refer to the instruction manual (◁ 1 - OPERATING AND SAFETY INSTRUCTIONS: OPERATOR INSTRUCTIONS: OPERATING INSTRUCTIONS WITH AND WITHOUT LOAD: G - STOPPING THE MACHINE).

This function reduces fuel consumption by switching off the internal combustion engine.

It is available under certain conditions:

- Forward/reverse selector in neutral,
- Parking brake on,
- No driver present,
- Accelerator pedal released,
- No "stationary machine" exhaust regeneration.

OPERATION

By default, the "ECO STOP" function is activated.

- Turn the ignition key to restart the engine.

TIME DELAY ADJUSTMENT

The default engine stop time is 3 minutes.

- Press ▶ for 5 seconds while switching on the machine's ignition.

The program version appears on the display (e.g. "1_2_7").

- Press ▶ to select "Seat" from the menu and confirm with ✔.

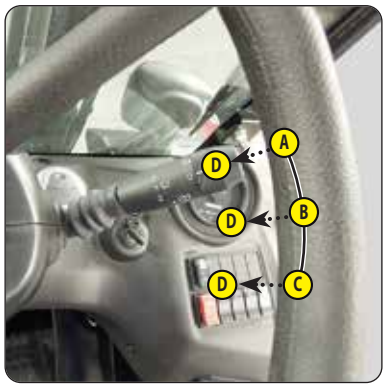
The time delay appears on the display (e.g. "3" by default).

- Press ▶ to select the engine stop time ("off" (0), 1, 3, 5, 10, 30, 60 minutes) and confirm with ✔.

31 - WINDSCREEN WIPER CONTROL

FRONT WINDSHIELD WIPER

- A - Off.
- B - On.
- C - Intermittent.
- D - Windscreen washer (pulsing).

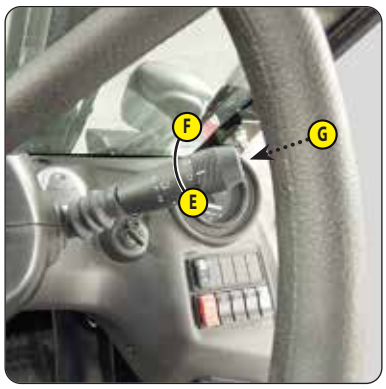


REAR WINDSHIELD WIPER

- E - Off.
- F - On.

ROOF WINDSHIELD WIPER

- G - Roof windscreen wiper and windscreen washer (pulsing).

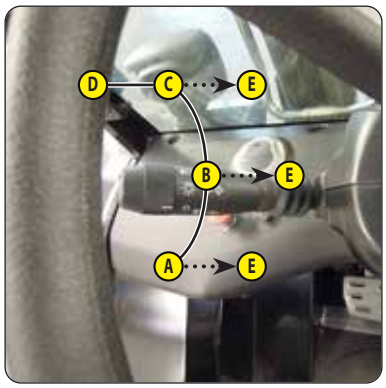


32 - LIGHTING, HORN AND INDICATOR LIGHT CONTROL

ROAD LIGHTS

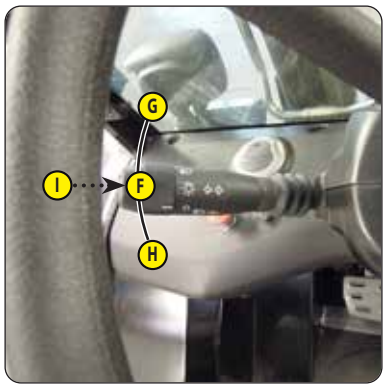
The road lights can be used without the ignition key.

- A - Off.
- B - Front and rear side lights.
- C - Dipped beam headlights.
- D - Main beam headlights.
- E - Headlight flashing (pulsing).



TURN SIGNALS AND HORN

- F - Off.
- G - Right indicator lights.
- H - Left indicator lights.
- I - Sound alarm (pulsing).



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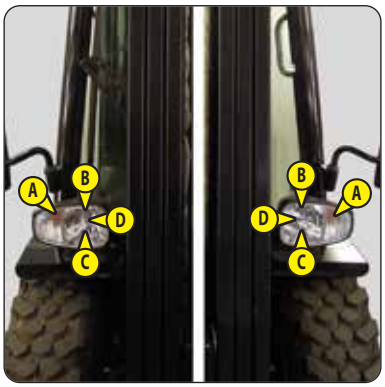
MC . . D K ST5 S1 / MSI . . D K ST5 S1

33 - ROAD LIGHTS

FRONT HEADLIGHTS

- A - Indicator lights.
- B - Dipped beam headlights.
- C - Main beam headlights.
- D - Side lights.

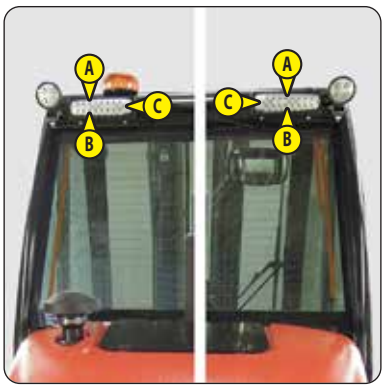
N.B.: As an option there is a guard for the main beam headlights.



REAR LIGHTS

- A - Indicator lights.
- B - Stop lights.
- C - Side lights.

N.B.: As an option there is a guard for the main beam headlights.



34 - FRONT WORKLIGHTS

N.B.: As an option there is a guard for the front worklights.

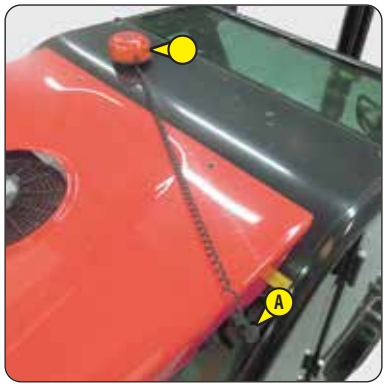
35 - REAR WORKLIGHTS

N.B.: As an option there is a guard for the rear worklights.

36 - REVERSING LIGHT

37 - ROTATING BEACON LIGHT OR LED FLASHING LIGHT

The magnetic rotating beacon light can be fitted by disconnecting plug A.



38 - WING MIRRORS

39 - REVERSING SOUND ALARM

40 - ROOF VISOR

41 - LOCKABLE CAP

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42 - CAB OPTION

DOOR OPENING HANDLES

- Insert the ignition key into lock A to lock or unlock the cab.
- Pull on the handle B or C to open the door.

N.B.: The door must be:

- Either closed.
- Either completely open and locked on the door arrester system.

DOOR RELEASE HANDLES

- Pull on the handle A to release and close the door.

SLIDING WINDOWS ON LEFT-HAND DOOR

- Press the latches A and slide the windows.

HALF-DOOR ON RIGHT-HAND DOOR

- Lower the latch A to open the half-door.

N.B.: The half-door must be:

- Either closed.
- Either completely open and locked on the door arrester system.

43 - HEATING VENTS

44 - HEATER CONTROL

- A - Temperature adjustment.
- B - Ventilation speed adjustment.

45 - AIR CONDITIONING CONTROL

⚠ IMPORTANT ⚠

Once a week in winter operate the air conditioning on a one-off basis to guarantee it is operating correctly.
In cold weather, start and warm up the engine before starting the air conditioning to avoid damaging the air conditioning circuit.
If the air conditioning seems to operate irregularly, perform servicing (◁ 3 - MAINTENANCE) or consult your dealer.
Never try to repair possible faults in the system, consult your dealer.

- A - Temperature adjustment.
- B - Ventilation speed adjustment.
- C - On/Off for the air conditioning with indicator lamp.

CONDITIONS OF USE:

- The air conditioning only works if the engine is running.
- The doors and windows must be closed.
- The air intakes must not be obstructed (frost, snow, leaves, etc.).
- As a minimum, one cab heating vent must be open to avoid the risk of the air conditioning circuit freezing.
- For demisting, the air conditioning must be on with the heating temperature at maximum.

N.B.: Possible water loss under the lift truck are due to the dehumidifying effect of the unit. These losses may vary depending on the exterior temperature and humidity.

46 - CAB HEATING SYSTEM

1 Switch with extreme cold heating indicator light

- Press the switch to turn the extreme cold heating system on/off.
  - Light on: the extreme cold heating is on.

2 Ventilation control switch

- Turn the switch to set the ventilation speed.
  - Position 0: ventilation is off.

3 Temperature control switch

- Turn the switch clockwise to increase the temperature.

4 Switch with air conditioning indicator light

- Not used.

Machine start-up (extreme cold)

Note: the machine is powered down.

- Check that the machine's battery is in good condition.
- Turn on the extreme cold heating system.
- Turn on the ventilation.
- Wait for a few minutes (between 5 and 15 minutes maximum).

⚠ IMPORTANT ⚠

The machine's battery is in danger of discharging completely.

- Switch on the machine.
- Start the engine.

Shut down the machine

- Turn off the extreme cold heating system.
- Switch off the engine.

⚠ IMPORTANT ⚠

If the extreme cold heating system is left on when the machine's engine is turned off, the machine's battery is in danger of discharging completely.

47 - CAR RADIO

48 - ENGINE IMMOBILISER SYSTEM

BY ID CODE

An identification code must be created for the operator via the "EasyMANAGER" portal. For more information, contact your dealer.

- Switch on lift truck ignition, LED 1 comes on.
- Enter your identification code followed by "V" to validate, LED 2 comes on.
- Start the lift truck within 60 seconds. After this time, the immobilizer system reactivates and LED 1 flashes.

N.B.:

- If you make a mistake when entering the code, press key "X" to cancel and re-enter the code in full.
- If you wait more than 5 seconds between key presses, code entry is abandoned. The immobilizer system is reactivated and LED 1 flashes.
- The I.C. engine can also be stopped by entering the code “V 0 0 V”.

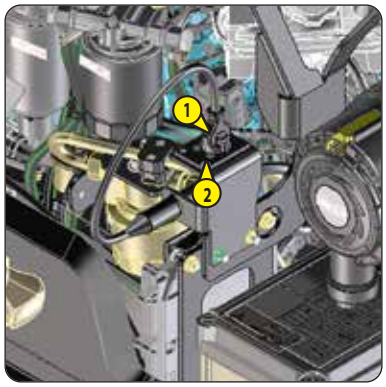
BY ID CARD

- Switch on lift truck ignition, LED 1 comes on.
- Present your ID card. A beep confirms that the card has been read and LED 2 comes on.
- Start the lift truck within 60 seconds. After this time, the immobilizer system reactivates and LED 1 flashes.

N.B.: The I.C. engine can also be stopped by entering the code “V 0 0 V”.

49 - WATERPROOF DOCUMENT HOLDER

50 - ENGINE BLOCK HEATER



Enables the engine block to be kept warm during prolonged periods of stoppage and thus improves engine starting.

SUPPLY CHARACTERISTICS OF PREHEATING SYSTEM:

- Rated power supply voltage range: 220-240 V; 50-60 Hz.
- Current consumed: 4.5A.
- Class 1 equipment.
- Equipment can only be connected to TT or TN supply diagrams.
- Installation category 2.

ENVIRONMENTAL CONDITIONS FOR USE:

- Maximum ambient temperature for using preheat: + 25 °C.
- Pollution level 2.

CONDITIONS FOR CONNECTION AND USE OF PREHEATING:

- The preheat system should not be used for an external ambient temperature higher than + 25°C.
- It is essential that the power supply to the preheating system:
  - Is effected with a cable that conforms to the installation standards in force and contains a protective earth conductor.
  - Contains an appropriate sectioning system.
  - Include an appropriate short-circuit protection system (fuses or circuit breaker) and a ground-fault circuit breaker, sensitive to 30 mA.
- Only connect to and disconnect from the power supply while the unit is switched off and the engine is stopped.

SAFETY FOR MOVING THE MACHINE:

⚠ IMPORTANT ⚠

To use the machine, the electric plug 1 of the engine block heater must be connected to the safety socket 2.

If the engine block heater's electric plug is not connected to the safety socket:

- the machine's movement controls are disabled

- If the forward/reverse selector is in the forward or reverse position:
  - The engine preheat pictogram flashes on the multifunction display.
  - The requested direction pictogram alternates with neutral on the multifunction screen.
  - The alarm sounds intermittently.

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SLINGING AND SECURING PIN

⚠ IMPORTANT ⚠

This lift truck is not intended for use with a trailer.

This device is used only for slinging and lashing the lift truck (◁ 3 - MAINTENANCE - OCCASIONAL OPERATION).

IF NECESSARY, CONSULT YOUR DEALER.

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3 - MAINTENANCE

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3 - MAINTENANCE

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ORIGINAL MANITOU SPARE PARTS AND EQUIPMENT

OUR LIFT TRUCKS MUST BE SERVICED USING ORIGINAL MANITOU PARTS.

BY ALLOWING THE USE OF NON ORIGINAL MANITOU PARTS, YOU RISK:

⚠ IMPORTANT ⚠

THE USE OF COUNTERFEIT PARTS OR COMPONENTS NOT APPROVED BY THE MANUFACTURER MEANS YOU LOSE THE BENEFIT OF THE CONTRACTUAL GUARANTEE.

- Legally, incurring liability in the event of an accident.
- Technically - to cause operating malfunctions or shorten the life of the lift truck.

BY USING ORIGINAL MANITOU PARTS FOR MAINTENANCE OPERATIONS, YOU BENEFIT FROM OUR KNOW-HOW

Through its network, MANITOU provides the user with,

- Know-how and competence.
- The guarantee of high-quality work.
- Original replacement parts.
- Help with preventive maintenance.
- Efficient help with diagnosis.
- Improvements as a result of feedback.
- Operator training.
- Only the MANITOU network has detailed knowledge of the design of the lift truck and therefore the best technical ability to provide maintenance.

⚠ IMPORTANT ⚠

ORIGINAL REPLACEMENT PARTS ARE DISTRIBUTED EXCLUSIVELY BY MANITOU AND ITS DEALER NETWORK.

The dealer network list is available on the MANITOU web site: www.manitou.com

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FORKLIFT TRUCK MAINTENANCE

DAILY AND WEEKLY MAINTENANCE

⚠ IMPORTANT ⚠

THE OPERATOR IS AUTHORIZED TO CARRY OUT THIS MAINTENANCE.

These maintenance operations enable the operator to maintain the lift truck in a clean and safe condition.

MANDATORY FIRST 500 HOURS OR 6 MONTHS OF SERVICE

⚠ IMPORTANT ⚠

THIS SERVICE MUST BE CARRIED OUT AFTER THE FIRST 500 HOURS OF SERVICE OR WITHIN THE 6 MONTHS FOLLOWING PUTTING THE MACHINE INTO SERVICE (WHICHEVER OCCURS FIRST).

PERIODIC MAINTENANCE

⚠ IMPORTANT ⚠

THE PERIODIC MAINTENANCE MUST BE CARRIED OUT BY A PROFESSIONAL APPROVED BY THE MANITOU NETWORK

MAINTENANCE SCHEDULE

This schedule enables the operator to keep up with the periodic maintenance of the lift truck by notifying the total number of hours of operation and the date of the service performed by the professional approved by the MANITOU network.

OCCASIONAL MAINTENANCE AND OPERATION

These maintenance tasks and operations are to be performed as required for the safety and upkeep of the lift truck.

DAILY AND WEEKLY MAINTENANCE

10H - DAILY SERVICE OR EVERY 10 HOURS OF SERVICE

50H - WEEKLY MAINTENANCE OR EVERY 50 HOURS OF SERVICE

*** Only for the first 50 hours of service, and then every 500 hours of service or 1 year.*

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MANDATORY FIRST 500 HOURS OR 6 MONTHS OF SERVICE

FIRST 500 HOURS BEFORE THE FIRST 6 MONTHS

- If the lift truck has reached the first 500 hours of operation before the first 6 months have expired, perform both the mandatory maintenance and periodic 500 H maintenance (◅ ➲ ❶ 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF service OR 1 YEAR).

FIRST 6 MONTHS BEFORE THE FIRST 500 HOURS

- If the lift truck has not completed 500 hours of service in the first 6 months, just carry out the mandatory service.

➲ MANDATORY SERVICE

***** Engine service, consult your dealer.***

**** Consult your dealer.***

PERIODIC MAINTENANCE

MAINTENANCE SCHEDULE

	OR					
SCHEDULE ➲	FIRST 6 MONTHS	FIRST 500 HOURS	500 H or 1 YEAR	1000 H or 2 YEARS	1500 H or 3 YEARS	2000 H or 4 YEARS
PERIODIC MAINTENANCE ➲	MANDATORY SERVICE	MANDATORY SERVICE + ❶	❶	❶+❷	❶	❶+❷+❸
MACHINE COUNTER ➲						
DATE OF SERVICING ➲						

SCHEDULE ➲	2500 H or 5 YEARS	3000 H or 6 YEARS	3500 H or 7 YEARS	4000 H or 8 YEARS	4500 H or 9 YEARS	5000 H or 10 YEARS	5500 H or 11 YEARS
PERIODIC MAINTENANCE ➲	❶	❶+❷+❹	❶	❶+❷+❸	❶	❶+❷	❶
MACHINE COUNTER ➲							
DATE OF SERVICING ➲							

SCHEDULE ➲	6000 H or 12 YEARS	6500 H or 13 YEARS	7000 H or 14 YEARS	7500 H or 15 YEARS	8000 H or 16 YEARS	8500 H or 17 YEARS	9000 H or 18 YEARS
PERIODIC MAINTENANCE ➲	❶+❷+❸+❹	❶	❶+❷	❶	❶+❷+❸	❶	❶+❷+❹
MACHINE COUNTER ➲							
DATE OF SERVICING ➲							

➲ ❶ 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE OR 1 YEAR

*** Engine service, consult your dealer.*

** Consult your dealer.*

➲ ❷ 1000H -PERIODIC SERVICE - EVERY 1000 HOURS OF SERVICE OR 2 YEARS

ALSO CARRY OUT THE PERIODIC MAINTENANCE FOR 500 HOURS OF SERVICE.

***** Engine service, consult your dealer.***

**** Consult your dealer.***

➲ ❸ 2000H -PERIODIC SERVICE - EVERY 2000 HOURS OF SERVICE OR 4 YEARS

ALSO PERFORM THE 500 HOUR AND 1000 HOUR PERIODIC MAINTENANCE.

**** Consult your dealer.***

➲ ❹ 3000H - PERIODIC MAINTENANCE - EVERY 3000 HOURS OF SERVICE OR EVERY 6 YEARS

ALSO PERFORM THE 500 HOUR AND 1000 HOUR PERIODIC MAINTENANCE.

***** Engine service, consult your dealer.***

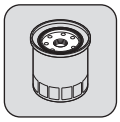
OCCASIONAL MAINTENANCE AND OPERATION

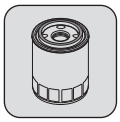
OCCASIONAL MAINTENANCE

OCCASIONAL OPERATION

FILTER CARTRIDGES AND BELTS

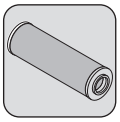
➲ ❷ 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE OR 1 YEAR


ENGINE OIL FILTER

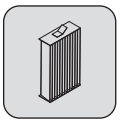

FUEL FILTER CARTRIDGE


FUEL PRE-FILTER CARTRIDGE


ALTERNATOR BELT


HYDRAULIC RETURN OIL FILTER CARTRIDGE


CAB INTERIOR VENTILATION FILTER (OPTION)

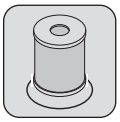

CAB EXTERIOR VENTILATION FILTER (OPTION)


COMPRESSOR BELT (OPTION)

➲ ❸ 1000H - PERIODIC MAINTENANCE - EVERY 1000 HOURS OF SERVICE OR EVERY 2 YEARS

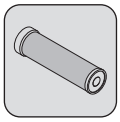
ALSO ADD THE FILTER CARTRIDGES FROM THE PERIODIC MAINTENANCE FOR 500 HOURS OF SERVICE.

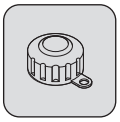

DRY AIR FILTER CARTRIDGE

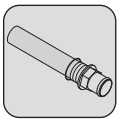

ENGINE CRANKCASE VENTILATION FILTER

➲ ❹ 2000H - PERIODIC MAINTENANCE - EVERY 2000 HOURS OF SERVICE OR EVERY 4 YEARS

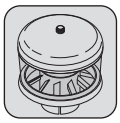
ALSO ADD FILTER ELEMENTS FOR PERIODIC MAINTENANCE AT 500 HOURS AND 1,000 HOURS OF SERVICE.


SAFETY DRY AIR FILTER CARTRIDGE


FILTER CAP FOR HYDRAULIC FLUID TANK


SUCTION STRAINER FOR HYDRAULIC OIL TANK

➲ OCCASIONAL MAINTENANCE


CYCLONIC PRE-FILTER (OPTION)


SELF-CLEANING PRE-FILTER (OPTION)

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⚠ IMPORTANT ⚠

USE THE RECOMMENDED LUBRICANTS AND FUEL:
- For topping up, oils may not be miscible.
- For oil changes, MANITOU oils are perfectly appropriate.

DIAGNOSTIC ANALYSIS OF OILS

If a service or maintenance contract has been set up with the dealer, a diagnostic analysis of engine, transmission and axle oils may be requested depending on the rate of use.

(*) REQUIRED FUEL SPECIFICATION

Use a high-quality fuel to obtain optimal performance of the engine.

- Type of diesel fuel EN590 (sulfur content < 10 ppm)
- Type of diesel fuel ASTM D975 (sulfur content < 15 ppm)

RECOMMENDATION

ENGINE

DESCRIPTION	CAPACITY	RECOMMENDATION
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
ENGINE	8,3 L	0W30 0W40 5W30 5W40 10W30 **MANITOU EVOLOGY OIL 10W40 API CJ4** 15W40 20W50
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
COOLING CIRCUIT	10 L	**COOLANT -35 °C**
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
FUEL TANK	71 L	**HP NON-ROAD DIESEL (GNR) ***

MAST

DESCRIPTION	RECOMMENDATION
	-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
MAST LIFTING CHAINS	**MANITOU SPECIAL CHAINS LUBRICANT**
	-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
GREASING OF THE MAST	**MANITOU BLACK MULTI-PURPOSE LUBRICANT**

HYDRAULICS

DESCRIPTION	CAPACITY	RECOMMENDATION
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
HYDRAULIC OIL TANK	81 L	ISO VG 100 ISO VG 68 **MANITOU ISO VG 46 HYDRAULIC FLUID** ISO VG 37 ISO VG 32

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OVERHEAD GUARD		
DESCRIPTION	CAPACITY	RECOMMENDATION
WINDSHIELD WASHER TANK	2 L	WINDSHIELD WASHER FLUID

REAR AXLE MC . .-2 / MSI . .	
DESCRIPTION	RECOMMENDATION
	-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
SWIVEL PINS	MANITOU BLUE MULTI-PURPOSE LUBRICANT

REAR AXLE MC . .-4	
DESCRIPTION	RECOMMENDATION
	-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
WHEEL REDUCTION GEAR PIVOTS	MANITOU BLUE MULTI-PURPOSE LUBRICANT

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➲ 10H - DAILY SERVICE OR EVERY 10 HOURS OF SERVICE

CHECK — Lift truck environment

⚠ IMPORTANT ⚠

Follow the operator instructions (◅ 1 - OPERATING AND SAFETY INSTRUCTIONS - OPERATOR INSTRUCTIONS).
In case of safety-related faults, consult your dealer.

- Carry out a general inspection of the lift truck:
  - Fluid leaks or stains on the ground.
  - Additional object on the lift truck or in the overhead guard or the cab.
  - Mounting and adjustment of lights and rear view mirrors.
  - Mounting and locking of the attachment.
  - Condition of the tires, to detect cuts, blisters, wear, etc.
  - Condition of glazing, especially the glass roof, to detect scratches, chips, cracks, etc.
- According to the conditions of use and the environment, ensure that the lift truck is clean:
  - Lights, rear view mirrors, windows, bodywork.
  - Driver's cab (◅ OCCASIONAL MAINTENANCE).
  - Engine housing and inside the frame (◅ OCCASIONAL MAINTENANCE) to prevent leaks and accumulation of materials (e.g. straw, flour, sawdust, organic waste, etc.).

⚠ IMPORTANT ⚠

Particular attention should be paid to accumulations of flammable materials and fuel or lubricant leaks. These significantly increase the risk of fire.

CHECK — Engine oil level

Place the lift truck on level ground with the engine stopped, and let the oil settle in the sump.

- Open the engine cover (◅ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Pull out the dipstick 1.
- Clean the dipstick and check the correct level between the two notches.
- If necessary, add oil (◅ LUBRICANTS AND FUEL).
- Remove the access panel 2.
- Add oil through filler port 3.
- Check for leaks.

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CHECK — Coolant level

Place the lift truck on level ground with the engine stopped, and allow the engine to cool.

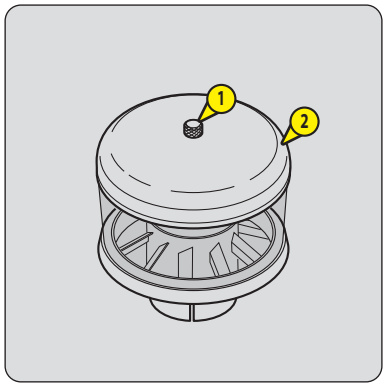
⚠ IMPORTANT ⚠

To avoid any risk of spraying or scalding, wait until the engine has cooled down before removing the cooling circuit filler plug.

In the event of an emergency, it is possible to use water as the coolant, but then proceed to drain the coolant circuit as quickly as possible.

- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- The liquid must be at the MAX. level on the expansion tank 1.
- If necessary, add coolant (◁ LUBRICANTS AND FUEL) through the filler hole 2.
- Check for leaks.

CLEAN — Cyclonic pre-filter (OPTION)



The cleaning interval is given as a guide, however the pre-filter must be emptied and cleaned as soon as impurities reach the MAX level on the tank.

⚠ IMPORTANT ⚠

When cleaning, take care not to let impurities into the dry air filter.

- Loosen nut 1 remove cover 2 and empty the tank.
- Clean the pre-filter unit with a clean dry cloth and reassemble the unit.

CHECK — Protection of electrical connections

⚠ IMPORTANT ⚠

In case of technical faults, consult your dealer.

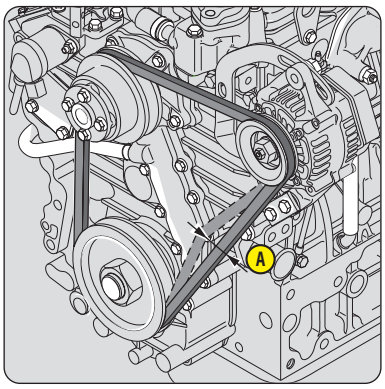
- Check the presence and condition of the electrical connection protection.

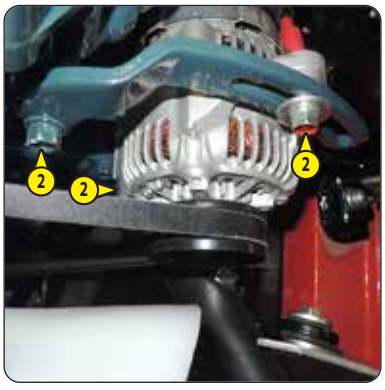
CHECK — Alternator belt tension

⚠ IMPORTANT ⚠

If the compressor belt has to be changed, check the tension again after the first 20 hours of operation.

- Remove the access panel 1.
- Check the belt for signs of wear and cracks and change if necessary (◁ FILTER CARTRIDGES AND BELTS).
- Check the tension between the crankshaft and alternator pulleys.
- Under normal pressure applied by the thumb (98 N), belt movement A should be between 10 and 12 mm.
- Carry out adjustments if necessary.
- Loosen screws 2 by two to three thread turns.
- Swivel the alternator assembly so as to obtain the required belt tension.
- Retighten the screws 2.





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CHECK — Air conditioning belt tension (OPTION)

⚠ IMPORTANT ⚠

If the compressor belt has to be changed, check the tension again after the first 20 hours of operation.

- Remove the access panel 1.
- Check the belt for signs of wear and cracks and change if necessary (◁ FILTER CARTRIDGES AND BELTS).
- Check the belt tension between the pulleys of the crankshaft and of the compressor.
- Under normal pressure applied by the thumb (98 N), belt movement should be between 10 and 12 mm.
- Carry out adjustments if necessary.
- Loosen screws 2 by two to three thread turns.
- Loosen locknut 3.
- Adjust the compressor using the screw 4, so as to obtain the belt tension required.
- Retighten locknut 3.
- Retighten the screws 2.

CHECK — Tire pressure

CHECK — Wheel nut tightening

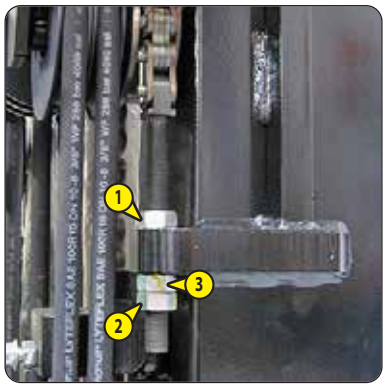
⚠ IMPORTANT ⚠

Check that the air hose is correctly connected to the tyre valve before inflating and keep all persons at a distance during inflation.
Inflate to the recommended tire pressures.

- Check the wheel nut torque. Non-compliance with this instruction can lead to deterioration and breakage of the wheel lugs and distortion of the wheels.
- Check and restore tire pressures if necessary (◁ 2 - DESCRIPTION - TIRES).

N.B.: An OPTIONAL wheel tool kit is available.

CHECK — Tension and alignment of mast lifting chains



Place the lift truck on level ground with the mast in a vertical position and the forks raised approximately 200 mm.

⚠ IMPORTANT ⚠

These checks are important to ensure correct mast operation.
In case of technical faults, consult your dealer.

- Check the alignment of the mast lifting chains between the carriage chain fasteners and the chain rollers.
- Manually inspect the chain tension and, if necessary, adjust as indicated below while ensuring that the carriage is perpendicular to the mast.
- Loosen nut 1.
- Loosen the chain tensioner locknut 2.
- Adjust the tension by tightening or loosening the nut 3 while checking the alignment of the lifting chains.
- Then tighten locknut 2 and nut 3.
- Retighten the nut 1.

CHECK — Hydraulic fluid level

Place the lift truck on level ground with the engine stopped, the mast tilted backward and lowered as far as possible.

⚠ IMPORTANT ⚠

Use a very clean funnel and clean the top of the oil can before filling.

- Check dipstick 1, the correct level must be at the level of the red dot.
- If necessary, add oil (◅ LUBRICANTS AND FUEL).
- Open the engine cover (◅ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Remove the cap 2.
- Add oil through filler port 2.
- Refit the cap.
- Check for leaks.

CHECK — Windshield washer liquid level (OPTION)

- Open the engine cover (◅ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Visually check the level in the tank.
- If necessary, add windscreen washer liquid (◅ LUBRICANTS AND FUEL) through the filling hole 1.

CLEAN — Dry air filter cartridge

Pre-filtration cartridges are available for use in very dusty atmospheres (◅ FILTER CARTRIDGES AND BELTS). In this case, the cartridge checking and cleaning interval must be reduced.

⚠ IMPORTANT ⚠

If the clogging indicator comes on, this operation must be done as soon as possible (within 1 hour).
Never operate the lift truck without an air filter or with an air filter that is damaged.
Clean the cartridge in a clean place away from the air filter unit.
Protect your eyes during this operation.
Never clean the cartridge by tapping it on a hard surface.
Never wash the dry air filter cartridge.
Never clean the air filter safety cartridge. Replace it with a new one if it is clogged or damaged.

- For the dismantling and refitting of the cartridge (◅ 1000H - REPLACE Air filter cartridge).
- Leave the safety cartridge in place.
- Clean the filter cartridge from inside to outside using a compressed air jet (max. 2 bar), maintaining a safe distance (min. 30 mm) to avoid damaging the cartridge.
- Use a damp, clean, lint-free cloth to clean the surface of the cartridge seal
- Lubricate the surface of the seal with a silicone lubricant (Part No. MANITOU: 479292).
- Visually inspect the external condition of the air filter and its mounts.
- Also check the condition and attachment of the hoses.

CLEAN — Radiator harness

⚠ IMPORTANT ⚠

In a polluting atmosphere, clean the radiator harness daily.
Do not use a water jet or high pressure steam as this could damage the fins.
Wear a mask and protective goggles for cleaning.

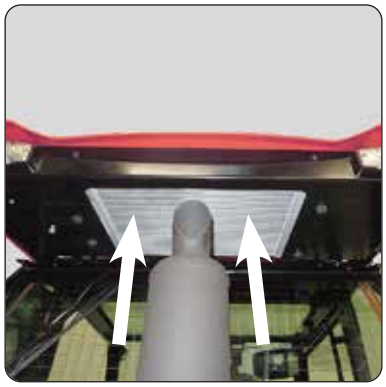
- Remove the access panel 1.
- Using a soft cloth, clean the core in order to remove as much dirt as possible.
- Clean the radiator using a compressed air jet aimed from the engine toward the radiator, in the opposite direction to the cooling air flow.
- Refit access panel 1

CLEAN — Condenser harness (Air conditioning OPTION)

⚠ IMPORTANT ⚠

In a polluting atmosphere, clean the radiator harness daily.
Do not use a water jet or high-pressure steam as this could damage the condenser fins.

- Visually check whether the condenser is clean and clean it if necessary.
- Clean the condenser using a compressed air jet aimed in the same direction as the air flow.
- Clean with the fan running for best results.



647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

To be carried out weekly, if the lift truck has been operated for less than 50 hours during the week.

⚠ IMPORTANT ⚠

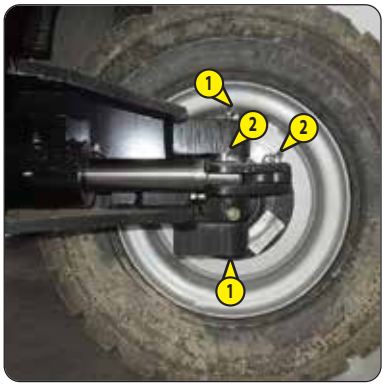
In the event of prolonged use in an extremely dusty or oxidizing atmosphere, reduce this interval to every 10 hours of service or every day.

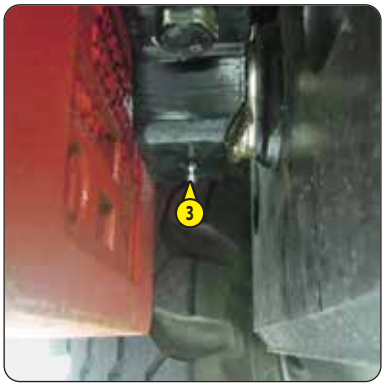
- Clean, then lubricate the following points with grease (◁ LUBRICANTS AND FUEL) and remove the surplus.

REAR AXLE

MC . .-2
MSI . .

1 - Lubricators for the swivel pins (4 lubricators).
2 - Lubricators for the tie-rods (4 lubricators).
3 - Rear axle oscillation lubricators (2 lubricators).



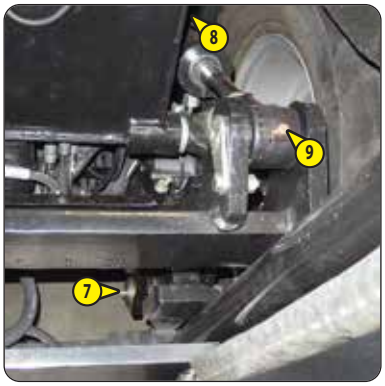


MC . .-4

4 - Wheel motor pivot lubricators (4 lubricators).
5 - Lubricators for the tie-rods (4 lubricators).
6 - Rear axle oscillation lubricators (2 lubricators).

MAST

7 - Mast foot hinge pins (2 lubricators).
8 - Tilt cylinder foot axles (2 lubricators).
9 - Tilt cylinder head axles (2 lubricators).



647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

REPLACE *Engine oil ****

REPLACE *Engine oil filter ****

**** Only for the first 50 hours of service, and then every 500 hours of service or 1 year.*

N.B.: When the lift truck is first put into service, the maintenance key is lit up. The oil and oil filter must be replaced after the first 50 hours of service to abide by the guarantee.

Place the lift truck on level ground, let the engine run at idle for a few minutes, then stop the engine.

⚠ IMPORTANT ⚠

Dispose of the used oil in an ecological manner.

- Open the engine cover (◅ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Remove the access panel 1.
- Clean the areas around the plugs and oil filter.

DRAINING THE OIL

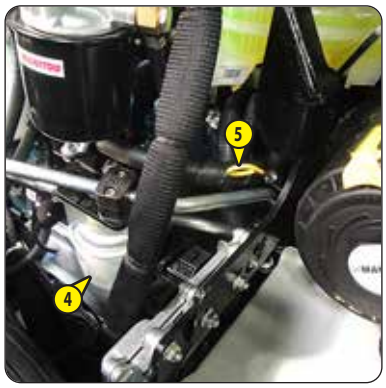
- Place a container under the drain port 2 and unscrew the plug.
- Remove the filler plug 3 to ensure correct drainage.

REPLACEMENT OF THE FILTER

- Clean the filter bracket with a clean, lint-free cloth.
- Unscrew and recycle the engine oil filter 4, together with its seal.
- Lightly grease the seal before refitting the new oil filter (◅ FILTER CARTRIDGES AND BELTS) on its bracket.
- Tighten the oil filter by hand pressure only and lock the filter in place by a quarter turn.

FILLING WITH OIL

- Refit and tighten the drain plug 2 (tightening torque 32,4 - 37,2 N.m).
- Fill up with oil (◅ LUBRICANTS AND FUEL) through filler hole 3.
- Wait a few minutes to allow the oil to flow into the sump.
- Start the engine and let it run for a few minutes.
- Check for possible leaks from the drain plug and the oil filter.
- Stop the engine; wait a few minutes
- Check the correct level between the two notches on the dipstick 5.
- Top up if necessary.
- Refit the filler plug 3.
- Refit access panel 1.



647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

➲ ❶ 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE OR 1 YEAR

CHECK — Hydraulic oil

MANITOU offers a hydraulic oil analysis kit which makes it possible to extend the recommended interval for periodic maintenance from 1,000 to 2,000 hours.

In this case, hydraulic oil analysis must be carried out every 500 hours of service.

This analysis makes it possible to confirm the oil quality to reach the deadline of 2,000 hours.

N.B.: This kit is highly recommended for specific uses causing stresses on the hydraulic circuit:

- Extreme environmental conditions
- Use of attachments with a very high hydraulic flow rate (sweepers, mixers, etc.)

ANALYSIS PROCEDURE

- Order an oil analysis kit from your dealer (part no. MANITOU 958162).
- On receipt of the kit, take a sample and follow the detailed instructions.
- According to the results, keep the analysis report or replace the hydraulic fluid.

GREASE — Mast lifting chains

- Wipe the mast lifting chains with a clean, lint-free cloth
- Vigorously brush the chains to get rid of any foreign matter, with a hard nylon brush and clean diesel fuel.
- Rinse the chains by means of a paint brush impregnated with clean diesel fuel and dry them with a compressed air jet.
- Carefully check each chain for any signs of wear.

⚠ IMPORTANT ⚠

In case of technical faults, consult your dealer.

- Grease the chains sparingly (◅ LUBRICANTS AND FUEL).

LUBRICATE — Cab door locks (OPTION)

- Unscrew the tip 1 of the opening control for the right-hand half-door.
- Remove the tip of the lever 2 on each lock.
- Remove the protective casings 3 from each lock.

LUBRICATION OF THE LOCKS

- Clean and check the operation.
- Lubricate the mechanism 4.
- Refit the casings and the tips.

647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

REPLACE Engine oil

REPLACE Engine oil filter

Place the lift truck on level ground, let the engine run at idle for a few minutes, then stop the engine.

⚠ IMPORTANT ⚠

Dispose of the used oil in an ecological manner.

- Open the engine cover (◅ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Remove the access panel 1.
- Clean the areas around the plugs and oil filter.

DRAINING THE OIL

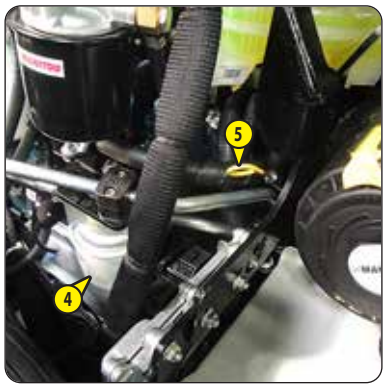
- Place a container under the drain port 2 and unscrew the plug.
- Remove the filler plug 3 to ensure correct drainage.

REPLACEMENT OF THE FILTER

- Clean the filter bracket with a clean, lint-free cloth.
- Unscrew and recycle the engine oil filter 4, together with its seal.
- Lightly grease the seal before refitting the new oil filter (◅ FILTER CARTRIDGES AND BELTS) on its bracket.
- Tighten the oil filter by hand pressure only and lock the filter in place by a quarter turn.

FILLING WITH OIL

- Refit and tighten the drain plug 2 (tightening torque 32,4 - 37,2 N.m).
- Fill up with oil (◅ LUBRICANTS AND FUEL) through filler hole 3.
- Wait a few minutes to allow the oil to flow into the sump.
- Start the engine and let it run for a few minutes.
- Check for possible leaks from the drain plug and the oil filter.
- Stop the engine; wait a few minutes
- Check the correct level between the two notches on the dipstick 5.
- Top up if necessary.
- Refit the filler plug 3.
- Refit access panel 1.



INITIALIZATION OF 500-HOUR MAINTENANCE

- Consult your dealer.

647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

REPLACE Fuel pre-filter

- Switch off the lift truck's ignition.
- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Carefully clean the outside of the pre-filter and its holder, to prevent dust from getting into the system.
- Disconnect the wiring harness 1.
- Place a receptacle under the plug 2.
- Unscrew the plug 2 to drain the fuel.
- Unscrew and recycle the fuel pre-filter 3.
- Clean the inside of the pre-filter head and housing using a brush immersed in clean diesel oil.
- Lightly grease the seal before fitting the new fuel pre-filter (◁ FILTER CARTRIDGES AND BELTS).
- Tighten the filter by hand only and lock it by a quarter turn.
- Retighten the plug 2.
- Reconnect the wiring harness 1.

After replacing the fuel pre-filter, replace the fuel filter.

REPLACE Fuel filter

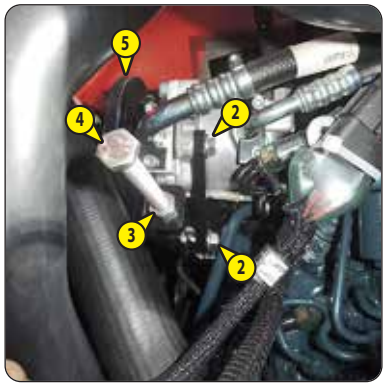
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Unscrew and recycle the fuel filter 1.
- Clean the inside of the filter head and housing using a brush immersed in clean diesel oil.
- Lightly grease the seal before fitting the new fuel filter (◁ FILTER CARTRIDGES AND BELTS).
- Tighten the filter by hand only and lock it by a quarter turn.
- Unscrew the bleeder screw 2.
- Turn on the lift truck's ignition to bleed air from the circuit.
- Retighten the bleeder screw 2.

N.B.: If necessary, activate the pump by hand 3 to facilitate starting of the engine.

REPLACE Air conditioning belt (OPTION)

⚠ IMPORTANT ⚠

Check the belt tension again after the first 20 hours of operation.



- Remove the access panel 1.
- Loosen screws 2 by two to three thread turns.
- Loosen the locknut 3 and the screw 4.
- Swivel the compressor assembly so as to free the belt 5.
- Remove the belt and replace with a new one (◁ FILTER CARTRIDGES AND BELTS).
- Ensure that it is properly seated in the grooves of each pulley.
- Adjust the compressor using the screw 4, so as to obtain the belt tension required.
- Under normal pressure applied by the thumb (98 N), belt movement should be between 10 and 12 mm.
- Lock the screw 4 and retighten the locknut 3.
- Retighten the screws 2.

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

REPLACE Alternator belt

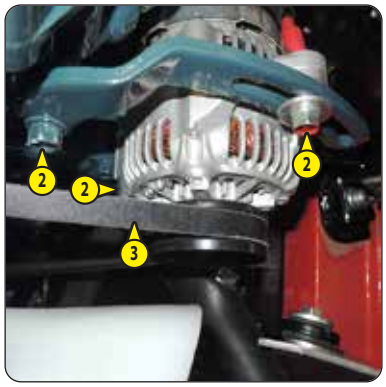
⚠ IMPORTANT ⚠

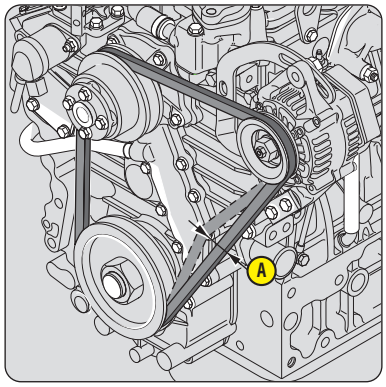
Check the belt tension again after the first 20 hours of operation.

- Remove the access panel 1.
- Loosen screws 2 by two to three thread turns.
- Swivel the alternator assembly so as to free the belt 3.

N.B.: Take the opportunity provided by the removal of the belt to check that the pulleys and bearings are working correctly (noise, friction, play, etc.).

- Remove the belt and replace with a new one (◁ FILTER CARTRIDGES AND BELTS).
- Ensure that it is properly seated in the grooves of each pulley.
- Adjust the tension between the crankshaft and alternator pulleys.
- Swivel the alternator assembly so as to obtain the required belt tension.
- Under normal pressure applied by the thumb (98 N), belt movement A should be between 10 and 12 mm.
- Retighten the screws 2.





REPLACE Hydraulic return oil filter cartridge

Place the lift truck on level ground with the engine stopped.

⚠ IMPORTANT ⚠

Do not operate the lift truck without the cartridge in place, as this would immediately damage the hydraulic transmission system, the pump and the hydrostatic wheel motors.

- Release the pressure from the circuits by operating the hydraulic controls.
- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Carefully clean the outside of the filter and the area surrounding it
- Unscrew the plug 1 with a wrench.
- Remove the hydraulic oil filter cartridge 2 from the filter head 3 and replace it with a new one (◁ FILTER CARTRIDGES AND BELTS).
- Refit the unit.

REPLACE — Cab fan filters (OPTION)

INTERIOR CAB VENTILATION FILTER

- Remove the protective grid 1.
- Remove the cab ventilation filter 2 and replace it with a new one (◁ FILTER CARTRIDGES AND BELTS).
- Refit the protective grid.

EXTERIOR CAB VENTILATION FILTER

- Remove the floor mat.
- Remove the cab ventilation filter 3 and replace it with a new one (◁ FILTER CARTRIDGES AND BELTS).
- Put back the floor mat.

CHECK — Hoses and differential pressure hoses for the exhaust particle filter "DPF" **

CHECK — Exhaust gas recirculation piping "EGR" **

CHECK — Intake hose **

CHECK — Exhaust manifold **

CHECK — Fork wear *

** Engine service, consult your dealer.

* Consult your dealer.

647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

➲ ❷ 1000H -PERIODIC SERVICE - EVERY 1000 HOURS OF SERVICE OR 2 YEARS

ALSO CARRY OUT THE PERIODIC MAINTENANCE FOR 500 HOURS OF SERVICE.

CHECK — Seat belt

⚠ IMPORTANT ⚠

It is forbidden to use the lift truck if the seat belt is defective (fixing, locking, cuts, tears, etc.).
Immediately repair or replace the seat belt.

SEAT BELT WITH TWO ANCHORING POINTS

- Check the following points:
  - Fixing of the anchoring points on the seat.
  - Cleanness of the strap and the locking mechanism.
  - Triggering of the locking mechanism.
  - Condition of the strap (cuts, curled edges).

REELED SEAT BELT WITH TWO ANCHORING POINTS

- Check the points listed above together with the following points:
  - The correct winding of the belt.
  - Condition of the reel guards.
  - Roller locking mechanism when the strap is given a sharp tug.

N.B.: Following an accident, the seat belt must be replaced.

CLEAN — Fuel tank

Place the lift truck on level ground with the engine stopped.

⚠ IMPORTANT ⚠

Do not smoke or approach with a flame during this operation.
Never attempt to carry out welding or any other operation by yourself, as this could cause an explosion or a fire.

- Check for any possible leaks in the fuel circuit and tank.
- In the event of a leak, contact your dealer.
- Place a container under drain plug 1 and unscrew the plug.
- Remove the filler plug 2 to ensure correct drainage.
- Rinse with ten liters of clean diesel through the filler hole 3.
- Refit and tighten the drain plug 1 (tightening torque 73 - 97 N.m).
- Fill the fuel tank with clean, filtered diesel.
- Turn on the lift truck's ignition to bleed air from the circuit.

N.B.: If necessary, activate the pump by hand 4 to facilitate starting of the engine.

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MC . . D K ST5 S1 / MSI . . D K ST5 S1

These operations are to be carried out as necessary or every 2 years at the beginning of winter.

⚠ IMPORTANT ⚠

The engine does not contain anti-corrosive elements and must be filled all year round with a minimum mixture comprising 25% ethylene-glycol anti-freeze.

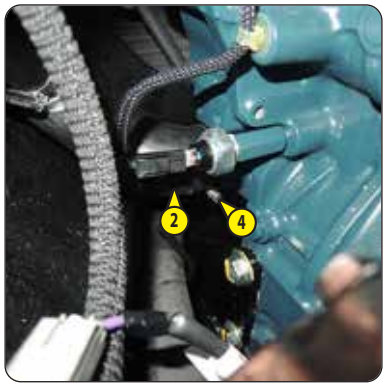
- Place the lift truck on level ground with the engine stopped and cold.
- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Remove the access panel 1.

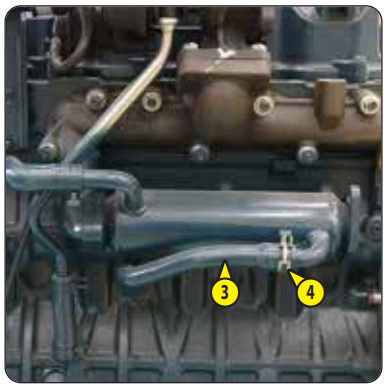
DRAINING THE LIQUID

- Place a container under the hose 2 of the radiator and under the hose 3 of the exhaust gas recycling valve cooler.
- Undo the clamps 4 and remove the hose 2 and the hose 3.
- Remove the filler plug 5 to ensure correct drainage.
- Let the cooling circuit drain entirely while ensuring that the ports do not get clogged.
- Check the condition of the hoses and their attachments, and change if necessary.
- Rinse the circuit with clean water, or use a cleaning agent if necessary.

FILLING WITH COOLANT

- Refit the hose 2 and the hose 3.
- Slowly fill the system with coolant (◁ LUBRICANTS AND FUEL) through the filler hole 5.
- Refit the filler plug.
- Run the engine at idle for a few minutes.
- Visually check that there is no leakage in the radiator and pipes.
- Check the level and top up if necessary.
- The liquid must be at the MAXIMUM level on the expansion tank 6.





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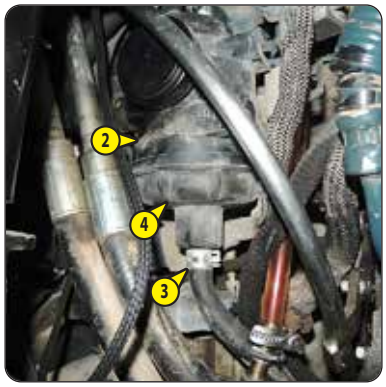
MC . . D K ST5 S1 / MSI . . D K ST5 S1

REPLACE — Engine crankcase ventilation filter



- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Remove the air filter 1 and its holder.
- Carefully clean the outside of the filter 2 and its holder to prevent dust from getting into the system.
- Disconnect the hose 3 at the filter.
- Unscrew the cover 4.
- Take out the filter 5 and discard it together with the seal of the cover 3.
- Check the condition of the recycling valve (cracks, breaks or abnormal deposits) inside the head of the filter 6.
- Refit a new seal on the cover and insert a new filter (◁ FILTER CARTRIDGES AND BELTS).
- Tighten the cover 4 by hand only and lock in place by a quarter turn.
- Reconnect the hose 3.
- Refit the air filter.

REPLACE — Dry air filter cartridge

Pre-filtration cartridges are available for use in very dusty atmospheres (◁ FILTER CARTRIDGES AND BELTS).

In very dusty atmospheres, with pre-filtration, the cartridge's replacement interval must be reduced to 250 hours.

⚠ IMPORTANT ⚠

Replace the cartridge in a clean location.

Never operate the lift truck without an air filter or with an air filter that is damaged.

- Stop the engine.
- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Loosen the locks and remove cover 1.
- Gently remove the cartridge 2 to reduce dust falling as far as possible.
- Leave the safety cartridge in place.
- Carefully clean the following parts with a damp, clean lint-free cloth.
  - The inside of the filter and cover.
  - The inside of the filter inlet hose.
  - The gasket surfaces in the filter and in the cover.
- Check pipes and connections between the air filter and the engine.
- Check the connection and condition of the clogging indicator on the filter.
- Before fitting check the condition of the new cartridge (◁ FILTER CARTRIDGES AND BELTS).
- Introduce the cartridge into the filter axis, pressing on the edges and not the middle.
- Reassemble the cover, guiding the valve downwards.

CHECK Silentblocks **

CHECK Valve lash **

CHECK Injectors **

CHECK Exhaust gas recirculation cooler "EGR" **

CHECK Condition of wiring harnesses and cables *

CHECK Lights and signals *

CHECK Warning indicators *

CHECK Condition of the rear view mirrors *

CHECK Structure of the overhead guard or the cab *

CHECK Chassis structure *

CHECK Attachment mounting system *

CHECK Condition of attachments *

** Engine service, consult your dealer.

* Consult your dealer.

647839 (F-02/2025)
MC . . D K ST5 S1 / MSI . . D K ST5 S1

➲ ❸ 2000H -PERIODIC SERVICE - EVERY 2000 HOURS OF SERVICE OR 4 YEARS

ALSO PERFORM THE 500 HOUR AND 1000 HOUR PERIODIC MAINTENANCE.

CHECK — Wheel nut tightening torque

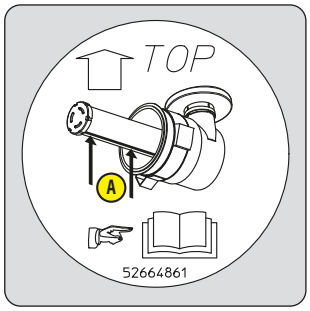
- Check the condition of the tyres to detect cuts, blisters, wear, etc.
- Check the tightening torque of the wheel nuts with a torque wrench.
  - Front wheels = 550 N.m ± 55 N.m
  - Rear wheels = 110 N.m ± 16 N.m MC..-2 / MSI..
  - Rear wheels = 200 N.m ± 20 N.m MC..-4

REPLACE — Dry air filter safety cartridge

⚠ IMPORTANT ⚠

The safety cartridge replacement frequency is given for information only. It must be changed every second time the dry air filter cartridge is changed.

- For the dismantling and refitting of the cartridge (◅ 1000H - REPLACE Air filter cartridge).
- Carefully remove the dry air filter safety cartridge 1 to reduce dust fall as much as possible.
- Clean the gasket surface on the filter with a damp, clean lint-free cloth.
- Check the condition of the new safety cartridge before fitting (◅ FILTER CARTRIDGES AND BELTS).
- Introduce the safety cartridge into the filter axis, pressing on the edges and not the middle.



REPLACE — Hydraulic oil

CLEAN — Hydraulic oil tank suction strainer *

REPLACE — Hydraulic oil tank filter cap

Place the lift truck on level ground with the engine stopped, the mast tilted backward and lowered as far as possible.

⚠ IMPORTANT ⚠

Thoroughly clean the area surrounding the drain plug and the hydraulic tank access hatch.
Dispose of the used oil in an ecological manner.
Use a clean container and funnel and clean the underside of the oil drum before filling.

- Open the engine cover (◅ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).

DRAINING THE OIL

- Place a container under drain plug 1 and unscrew the plug.
- Remove level and filling plug 2 to ensure that the oil is drained properly and discard.
- Allow the hydraulic tank to empty completely.

CLEANING THE SUCTION STRAINER

- Consult your dealer.

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FILLING WITH OIL

- Clean and refit the drain plug 1 (tightening torque 73 - 97 N.m).
- Fill up with oil (◅ LUBRICANTS AND FUEL) through filler hole 3.
- Check the oil level on the dipstick 4, the oil level should be level with the red point.
- Check for any possible leaks at the drain plug.

FILTER PLUG REPLACEMENT

- Replace filler plug with a new filler plug 2 (◅ FILTER CARTRIDGES AND BELTS).

HYDRAULIC CIRCUIT DECONTAMINATION

- Let the engine run (accelerator pedal at mid position) for 5 minutes without using any accessories on the lift truck, then for 5 more minutes while using all the hydraulic movements (except the steering system and the service brakes).
- Accelerate the engine at full speed for 1 minute, then activate the steering system and the service brakes.
- This operation allows the circuit to be decontaminated by the hydraulic oil filter.

⚠ IMPORTANT ⚠

It is sometimes necessary to bleed the circuits at the pump inlet when an air bubble forms during draining.
Then consult your dealer.

CHECK	*Radiator **
CHECK	*Transmission pressures **
CHECK	*Steering **
CHECK	*Steering swivel joints **
CHECK	*Rear axle **
CHECK	*Condition of mast assembly **
CHECK	*Mast lifting chains **
CHECK	*Mast rollers **
CHECK	*Condition of hoses and flexible pipes **
CHECK	*Condition of cylinders (leakage, rods) **
CHECK	*Hydraulic circuit pressures **
CHECK	*Bearings and bushings **
CLEAN	*Hydraulic oil tank suction strainer **
CLEAN	*Air conditioning (option) **

** Consult your dealer.*

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➲❹ 3000H - PERIODIC MAINTENANCE - EVERY 3000 HOURS OF SERVICE OR EVERY 6 YEARS

ALSO PERFORM THE 500 HOUR AND 1000 HOUR PERIODIC MAINTENANCE.

CHECK — **Turbocharger ****

CHECK — **Exhaust gas recirculation system "EGR" ****

CLEAN — **Exhaust particle filter "DPF" ****

*** Engine service, consult your dealer.*

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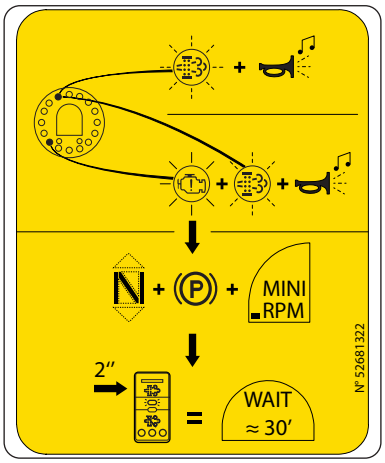
CLEAN "Stationary lift truck" particle filter (Regeneration)



⚠ IMPORTANT ⚠

If the indicator lamp (STOP) comes on, contact your dealer.
If you are performing regeneration of the particle filter during the 500-hour routine servicing, replace the engine oil after regeneration.

Regeneration of the particle filter is an automated procedure activated by the operator when the following indicator lamps are displayed:

- (slow flashing) + 2 short beeps.
- + 1 long beep, then (slow flashing) + 2 short beeps.

- Check that the fuel level is sufficient.
- Park the lift truck in a safe and adequately ventilated place.
- Start the lift truck's engine.
- Check the following points:
  - forward/reverse selector in neutral,
  - parking brake applied,
  - forks resting on the ground,
  - accelerator pedal released.
- Press the top of the switch for more than two seconds to begin the regeneration procedure.
  - Indicator lamp comes on.
  - The engine speed increases.
  - The indicator lamp comes on and confirms the start of the regeneration procedure.
  - The indicator lamp comes on as soon as the particulate filter temperature is high enough.

⚠ IMPORTANT ⚠

The regeneration procedure must not be stopped unless absolutely necessary.
The procedure stops automatically if the operator:
- releases the parking brake,
- presses on the accelerator pedal,
- engages forward or reverse gear,
- switches off the engine,
- presses the regeneration switch.

The time taken by the regeneration is approximately 30 minutes and varies according to various criteria, such as:

- the level of clogging of the filter,
- the engine temperature,
- the fuel quality and type of engine oil,
- the number of automatic regeneration requests canceled,
- the ambient temperature.

At the end of the regeneration procedure, the indicator lamp goes out and the time remaining before the next stationary particle regeneration is reset.

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NOTE: The frequency of cleaning is given as an example.

⚠ IMPORTANT ⚠

Do not use a high pressure cleaner or water jet.

Take precautions with electrical and electronic components.

- Clean the inside of the overhead guard or the cab using a small brush, vacuum cleaner and a cloth.

N.B.: With the cab option, protect the ventilation filter located under the floor mat.

CLEAN Engine compartment

CLEAN Inside of the frame

⚠ IMPORTANT ⚠

Do not use a high pressure cleaner or water jet.

Take precautions with electrical and electronic components.

- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Open the battery access flap 1.
- Remove the protection for the hydraulic controls 2.
- Clean the engine compartment and the inside of the frame using a compressed air jet.

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⚠ IMPORTANT ⚠

In the event of a wheel being changed on the public highway, secure the lift truck vicinity:

- Park the lift truck, if possible on firm, level ground.
- Stop the lift truck (◁ 1 - OPERATING AND SAFETY INSTRUCTIONS - OPERATING INSTRUCTIONS UNLADEN AND LADEN).
- Switch on the hazard warning lights (Option).
- Immobilize the lift truck in both directions on the axle opposite to the wheel to be changed.
- Loosen the nuts of the wheel to be changed until they can be easily removed.

REAR WHEEL

For this operation, we advise you to use the hydraulic jack (Part No. MANITOU: 505507).

- Place the jack under the counterweight. It must be situated in the middle and under the flat part of the counterweight.
- Lift the wheel until it comes off the ground and put in place the safety block under the axle.
- Completely unscrew the wheel nuts and remove them.
- Free the wheel using back and forth movements and roll it to the side.
- Slip the new wheel on the wheel hub.
- Hand-tighten the nuts, grease them if necessary.
- Remove the security block and lower the lift truck with the jack.
- Tighten the wheel nuts to the prescribed torque value (◁ 2000H - PERIODIC MAINTENANCE - EVERY 2,000 HOURS OF SERVICE OR EVERY 4 YEARS) using a torque wrench.

FRONT WHEEL

- Lift the carriage and tilt the mast backwards.
- Immobilise under the foot of the mast on the side where the wheel is being changed.
- Tilt the mast forwards to lift the wheel.
- Place wedges under the chassis as near as possible to the wheel.
- Completely unscrew the wheel nuts and remove them.
- Free the wheel using back and forth movements and roll it to the side.
- Slip the new wheel on the wheel hub.
- Hand-tighten the nuts, grease them if necessary.
- Remove the wedges under the axle and lower the lift truck.
- Tighten the wheel nuts to the prescribed torque value (◁ 2000H - PERIODIC MAINTENANCE - EVERY 2,000 HOURS OF SERVICE OR EVERY 4 YEARS) using a torque wrench.

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REPLACE — Battery

⚠ IMPORTANT ⚠

Handling and servicing a battery can be dangerous. Take the following precautions:

- Wear protective goggles.

- Keep the battery horizontal.

- Never smoke or work near a naked flame.

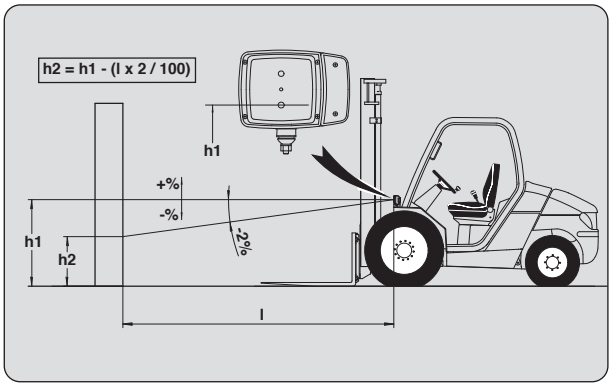
- Work in a well-ventilated area.

- In the event of electrolyte being spilled onto the skin or splashed in the eyes, rinse thoroughly with cold water for 15 minutes and call a doctor.

- Turn off the power to the battery cut-off.
- Open the battery access flap 1.
- Unscrew the battery fastener 2.
- Disconnect terminal 3 (+) then terminal 4 (-).
- Replace the battery.

N.B.: A large-capacity battery is available as an OPTION.

ADJUST — Front headlights



RECOMMENDED SETTING

(according to standard ECE-76/756 76/761 ECE20)

Adjustment of -2 % of the dipped beam harness relative to the horizontal axis of the headlight.

ADJUSTMENT PROCEDURE

- Place the unladen lift truck in the transport position and perpendicular to a white wall on flat, level ground.
- Check the tire pressures (◁ 2 - DESCRIPTION - TIRES).
- Put the gearshift lever in neutral.

CALCULATING THE HEIGHT OF THE DIPPED BEAM (H2)

- h1 = Height of the dipped beam in relation to the ground.
- h2 = Height of the adjusted beam.
- l = Distance between the dipped beam and the white wall.

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TOW — Lift truck

If the lift truck is on a slope, with the parking brake applied, chock it so that it does not go down the slope.

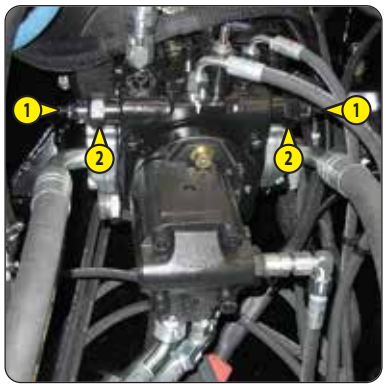
⚠ IMPORTANT ⚠

The lift truck must be towed very slowly (less than 5 km/h) and for as short a distance as possible (less than 100 m).
Use a rigid coupling bar as the lift truck is uncoupled from its braking system.

UNLOCKING THE HYDROSTATIC TRANSMISSION

N.B.: When towing the lift truck, the high pressure limiters 1 must be unlocked to avoid damaging the hydrostatic transmission.

- Open the engine cover (◁ 2 - DESCRIPTION - INSTRUMENTS AND CONTROLS).
- Unscrew the nuts 2 by two turns at the most.



UNLOCKING THE FRONT WHEEL BRAKES

- Open the battery access flap 3.
- Push button 4.
- Pump (minimum of 20 times) using the button 5 to release the front wheel brakes.

TOWING THE LIFT TRUCK

- Switch on the hazard warning lights (Option).
- Tow the lift truck gently and carefully.

Steering hydraulic assistance fails:

- Use the steering wheel slowly but powerfully.
- Avoid sudden or jerky movements.

AFTER TOWING THE LIFT TRUCK

- Proceed in the reverse order to lock the high pressure limiters.
- Pull the button 4 to reactivate braking.

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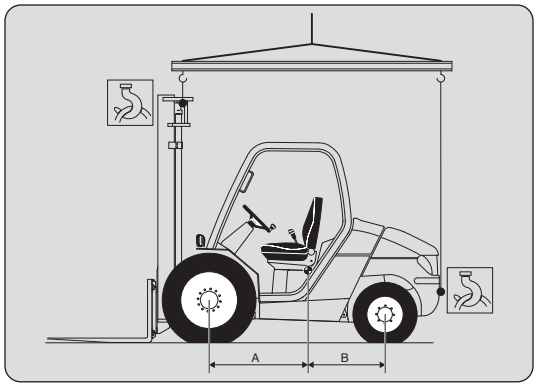
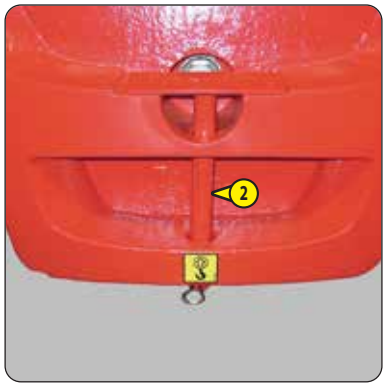
SLING — Lift truck

- Take into account the position of the lift truck center of gravity for lifting.

A = 1140 mm	B = 760 mm	MC 25-2
A = 1150 mm	B = 750 mm	MC 25-4
A = 1180 mm	B = 720 mm	MC 30-2
A = 1160 mm	B = 740 mm	MC 30-4
A = 1140 mm	B = 760 mm	MSI 25
A = 1180 mm	B = 720 mm	MSI 30
A = 1230 mm	B = 670 mm	MSI 35

- Position the hooks:
  - At the front, at the head of the mast, on the anchorage points 1.
  - At the rear, on the slinging pin 2.





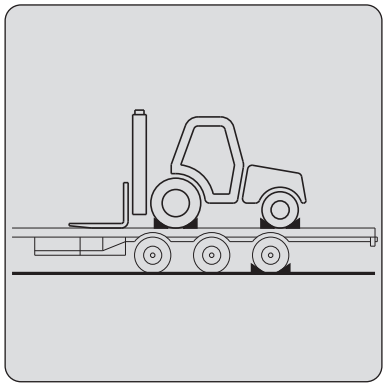
TRANSPORT — Lift truck

⚠ IMPORTANT ⚠

Check that the safety instructions relating to the flatbed have been correctly applied before loading the lift truck and that the transport company is informed about the dimensions and the weight of the lift truck (◁ 2 - DESCRIPTION - SPECIFICATIONS).

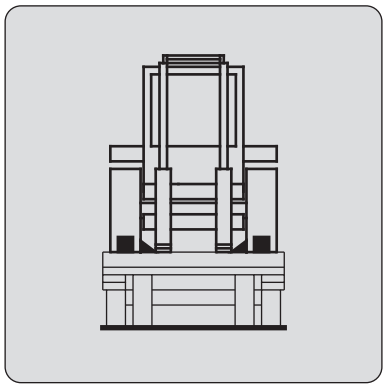
Make sure that the flatbed is large enough and has sufficient loading capacity to carry the lift truck.

Also check the allowable ground contact pressure of the platform relative to the lift truck.



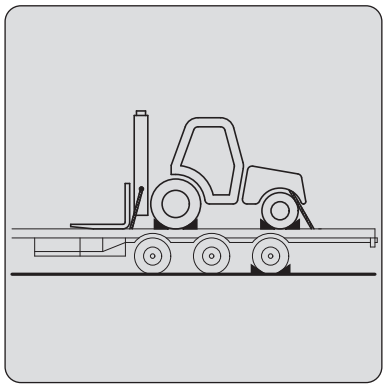
LOADING THE LIFT TRUCK

- Block the wheels of the platform.
- Attach the loading ramps to the platform in such a way as to give the shallowest possible ramp angle for the lift truck.
- Load the lift truck parallel to the platform.
- Stop the lift truck (◁ 1 - OPERATING AND SAFETY INSTRUCTIONS - OPERATING INSTRUCTIONS UNLADEN AND LADEN).



STOWING THE LIFT TRUCK

- Fix the chocks to the flatbed at the front and at the back of each tire.
- Also fix the chocks to the flatbed on the inside of each tire.
- Secure the lift truck to the platform with sufficiently strong straps:
  - At the front, at the foot of the mast, to the anchorage points 1.
  - At the rear, to the anchorage points 2.
- Tighten the straps.



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4 - ATTACHMENTS

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4 - ATTACHMENTS

INTRODUCTION

Your lift truck must be used with interchangeable equipment. These items are called: ATTACHMENTS.

A wide range of attachments is available, guaranteed by MANITOU and designed to fit your lift truck perfectly.

⚠ IMPORTANT ⚠

Only attachments approved by MANITOU can be used with their lift trucks (see: 4 ADAPTABLE ATTACHMENTS AVAILABLE ON THE RANGE: TECHNICAL SPECIFICATIONS OF ATTACHMENTS).

The manufacturer cannot be held responsible for any modifications or adaptations to attachments without its knowledge.

The attachments are delivered with a load chart concerning your lift truck. The operator's manual and the load chart should be kept in the places provided in the lift truck. For standard attachments, their use is governed by the instructions contained on this notice.

⚠ IMPORTANT ⚠

Maximum loads are defined by the capacity of a lift truck taking account of the attachment's mass and centre of gravity.

Should the attachment have a lower capacity than the lift truck, never exceed this limit.

All attachments with a suspended load (winch, crane jib, crane jib with winch, hook, etc.) MUST be used with a lift truck equipped with a hydraulic movement cut-out device. In this case, the movement cut-out must be switched on and the transverse attitude perfectly horizontal.

Some particular uses require the adaptation of the attachment which is not provided in the price-listed options. Optional solutions exist, consult your dealer.

TECHNICAL SPECIFICATIONS OF ATTACHMENTS

*: Double mast with all-round vision (DVT)

**: Double mast with free-acting lift (DLL)

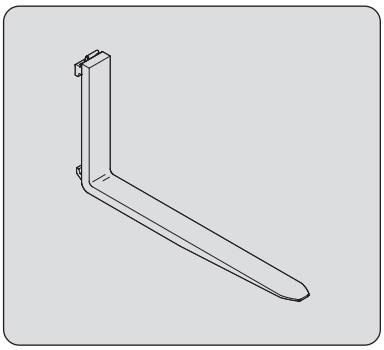
***: Triple mast with free-acting lift (TLL)

STANDARDISED SIDESHIFT CARRIAGE

	-
PART NO.	-
Rated capacity	kg
Sideshift	- mm
Width	mm
Weight	kg

STANDARDISED FORK

MC 25-2 D K ST5 S1 / MC 25-4 D K ST5 S1 / MSI 25 D K ST5 S1

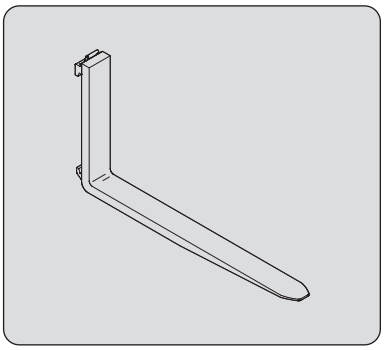


PART NO.	**52585528**	**52596822**	**52585529**
Section	100 x 40 x 1,100 mm	122 x 40 x 1,150 mm	100 x 40 x 1,200 mm
Weight	kg	kg	kg

PART NO.	**52585530**	**52585531**
Section	100 x 40 x 1,500 mm	125 x 45 x 1,200 mm
Weight	kg	kg

STANDARDISED FORK

MC 30-2 D K ST5 S1 / MC 30-4 D K ST5 S1 / MSI 30 D K ST5 S1

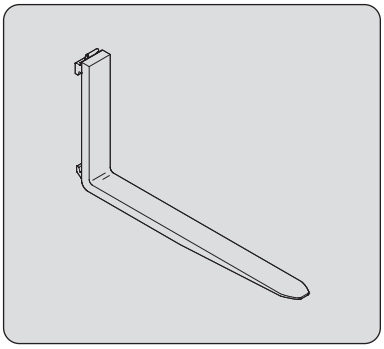


PART NO.	**52585536**	**52596827**	**52585538**
Section	100 x 45 x 1,100 mm	122 x 45 x 1,150 mm	100 x 45 x 1,200 mm
Weight	kg	kg	kg

PART NO.	**52585540**	**52585534**
Section	100 x 45 x 1,500 mm	150 x 50 x 1,200 mm
Weight	kg	kg

STANDARDISED FORK

MSI 35 D K ST5 S1



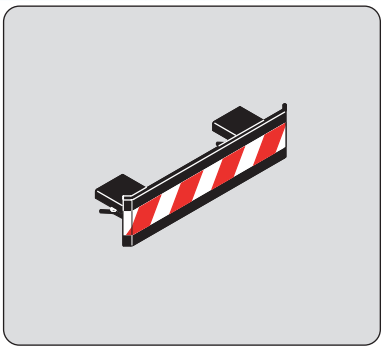
PART NO.	**52585534**	**52585535**	**52596829**
Section	150 x 50 x 1,200 mm	125 x 45 x 1,100 mm	122 x 50 x 1,150 mm
Weight	kg	kg	kg

PART NO.	**52585537**	**52585539**
Section	125 x 45 x 1,200 mm	125 x 45 x 1,500 mm
Weight	kg	kg

ATTACHMENT GUARDS

FORK GUARD

PART NO. 227801



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