MANITOU

HANDLING YOUR WORLD

647468 EN (15/09/2025)

MSI25 T 4ST3A
MSI25 36KW 4ST3A
MSI30 T 4ST3A
MSI30 36KW 4ST3A
MSI35 T 4ST3A
MSI35 36KW 4ST3A
MH25-4 T BUGGIE 4ST3A
MH25-4 BUGGIE 36KW 4ST3A

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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1st ISSUE	**20/06/2014**	
UPDATED	**12/05/2016**	**+ MSI25 36KW 4ST3A** **MSI30 36KW 4ST3A** **MSI35 36KW 4ST3A** **MH25-4 BUGGIE 36KW 4ST3A** **SLINGING AND SECURING PIN**
	06/01/2017	**2-10 ; 2-14 ; 2-16 ; 2-30** **2-40 ; 2-44 (OPTION: SWITCH 4WD <-> 2WD)**
	26/11/2018	**1-1 – 1-20** **2-1 – 2-44** **3-1 – 3-36**
	01/10/2020	**2-6 – 2-7** **2-19 – 2-23** **2-33 ; 2-44**
	20/12/2021	**2-24 – 2-25**
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1 - OPERATING AND SAFETY INSTRUCTIONS

2 - DESCRIPTION

3 - MAINTENANCE

4 - OPTIONAL ATTACHMENTS FOR USE WITH THE RANGE

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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

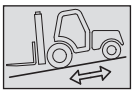
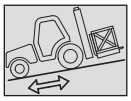
⚠ IMPORTANT ⚠

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

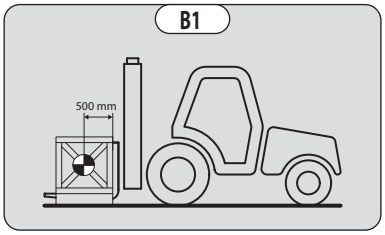
- Only attachments approved by MANITOU can be used on its machines.
- Make sure the attachment is appropriate for the work to be done (◁ 4 - ADAPTABLE ATTACHMENTS AVAILABLE ON THE RANGE).
- Make sure the attachment is correctly installed and locked onto the machine carriage.
- Make sure that your machine 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.

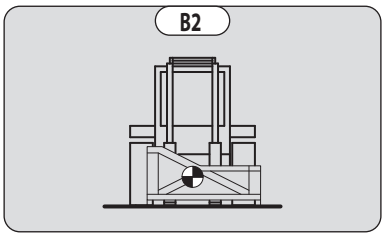
B - WEIGHT OF LOAD AND CENTRE OF GRAVITY

- 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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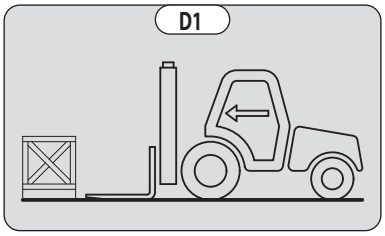
D - PICKING UP A LOAD ON THE GROUND

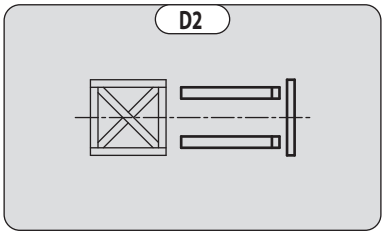
- Advance the machine perpendicular to the load, with the forks in a horizontal position (Fig. D1).
- Adjust the fork spread and centring in connection with the load (fig. D2) (optional solutions exist, consult your dealer).
- Never lift a load with a single fork.

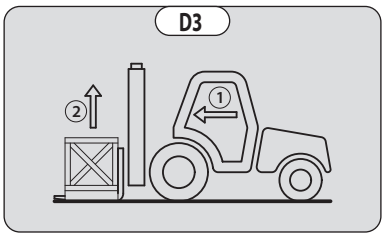
⚠ IMPORTANT ⚠

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).

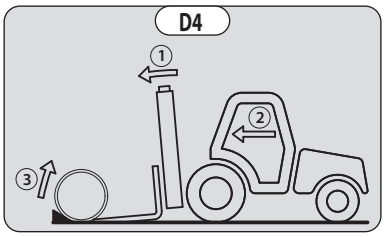






FOR A NON-PALLETIZED LOAD

- 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

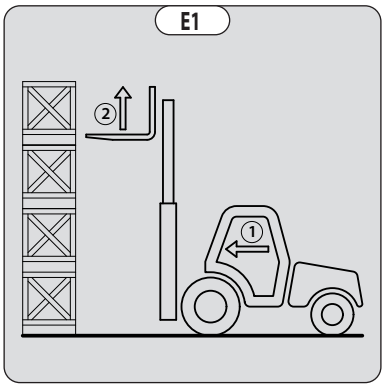
⚠ IMPORTANT ⚠

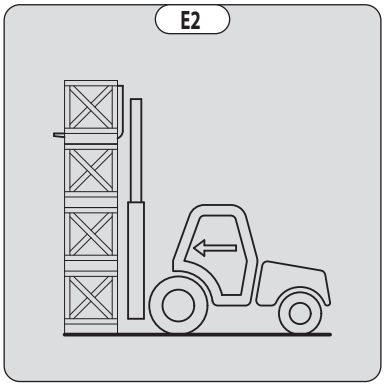
You must not raise the mast if you have not checked the transverse attitude of the machine (◁ INSTRUCTIONS FOR HANDLING A LOAD).

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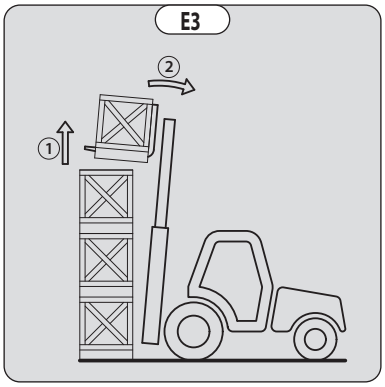
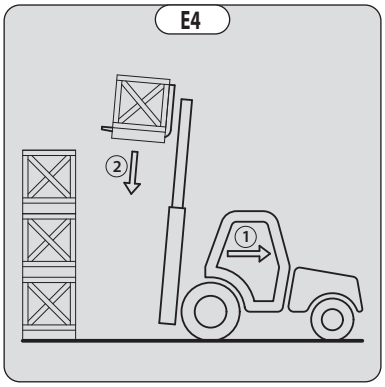
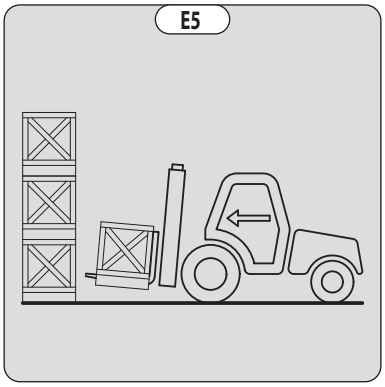
- Lift the load slightly (1) and tilt the carriage (2) backward to stabilize the load (Fig. E3).
- Tilt the load sufficiently backwards to ensure its stability.
- Reverse the machine (1) very carefully and gently to free the load. Lower the mast (2) to bring the load into transport position (fig. E4).

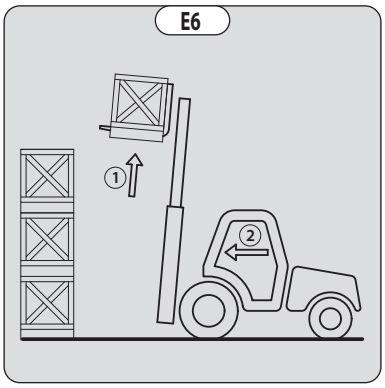


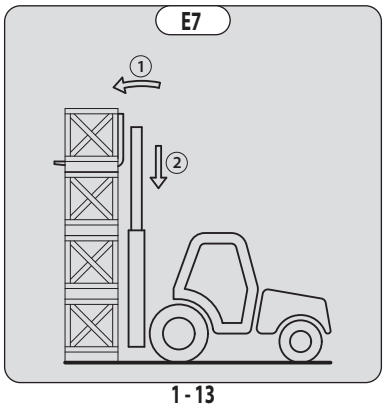


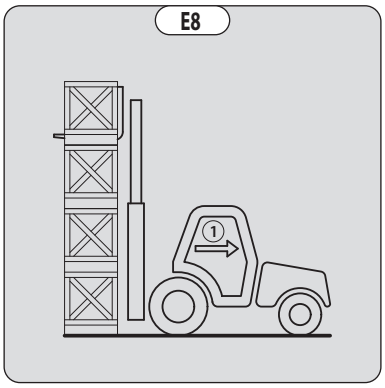
SETTING DOWN A HIGH LOAD ON TIRES

- 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).

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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2 - DESCRIPTION

1) DÉCLARATION «CE» DE CONFORMITÉ (originale)

« EC» DECLARATION OF CONFORMITY (original)

2) La société, *The company* : **MANITOU BF**

3) Adresse, *Address* : **430, rue de l'Aubinière - BP 10249 - 44158 - ANCENIS CEDEX - FRANCE**

4) Dossier technique,*Technical file* : **MANITOU BF - 430, rue de l'Aubinière**
BP 10249 - 44158 - ANCENIS CEDEX - FRANCE

5) Constructeur de la machine décrite ci-après, *Manufacturer of the machine described below* :

MSI25 T 4ST3A	**MSI25 36KW 4ST3A**
MSI30 T 4ST3A	**MSI30 36KW 4ST3A**
MSI35 T 4ST3A	**MSI35 36KW 4ST3A**
MH25-4 T BUGGIE 4ST3A	**MH25-4 BUGGIE 36KW 4ST3A**

6) Déclare que cette machine, *Declares that this machine* :

7) Est conforme aux directives suivantes et à leurs transpositions en droit national, *Complies with the following directives and their transpositions into national law* :

2006/42/CE

8) Pour les machines annexe IV , *For annex IV machines* :
9) Numéro d'attestation, *Certificate number* :
10) Organisme notifié, *Notified body* :

15) Normes harmonisées utilisées, *Harmonised standards used* :

16) Normes ou dispositions techniques utilisées, *Standards or technical provisions used* :

17) Fait à, *Done at* : **Ancenis** 18) Date, *Date* :

19) Nom du signataire, *Name of signatory* :

20) Fonction, *Function* :

21) Signature, *Signature* :

bg : 1) удостоверение за « CE » съответствие (оригинална), 2) Фирмата, 3) Адрес, 4) Техническо досие, 5) Фабрикант на описаната по-долу машина, 6) Обявява, че тази машина, 7) Отговаря на следните директиви и на тяхното съответствие национално право, 8) За машините към допълнение IV, 9)Номер на удостоверението, 10) Наименувана фирма, 15) хармонизирани стандарти използвани, 16) стандарти или технически правила, използвани, 17) Изработено в, 18) Дата, 19) Име на разписалия се, 20) Функция, 21) Функция.

cs : 1) ES prohlášení o shodě (původní), 2) Název společnosti, 3) Adresa, 4) Technická dokumentace, 5) Výrobce níže uvedeného stroje, 6) Prohlašuje, že tento stroj, 7) Je v souladu s následujícími směrnicemi a směrnicemi transponovanými do vnitrostátního práva, 8) Pro stroje v příloze IV, 9) Číslo certifikátu, 10) Notifikační orgán, 15) harmonizované normy použity, 16) Norem a technických pravidel používaných, 17) Místo vydání, 18) Datum vydání, 19) Jméno podepsaného, 20) Funkce, 21) Podpis.

da : 1) EF Overensstemmelseserklæring (original), 2) Firmaet, 3) Adresse, 4) tekniske dossier, 5) Konstruktør af nedenfor beskrevne maskine, 6) Erklærer, at denne maskine, 7) Overholder nedennævnte direktiver og disses gennemførelse til national ret, 8) For maskiner under bilag IV, 9) Certifikat nummer, 10) Bemyndigede organ, 15) harmoniserede standarder, der anvendes, 16) standarder eller tekniske regler, 17) Udfærdiget i, 18) Dato, 19) Underskrivers navn, 20) Funktion, 21) Underskrift.

de : 1) EG-Konformitätserklärung (original), 2) Die Firma, 3) Adresse, 4) Technischen Unterlagen, 5) Hersteller der nachfolgend beschriebenen Maschine, 6) Erklärt, dass diese Maschine, 7) den folgenden Richtlinien und deren Umsetzung in die nationale Gesetzgebung entspricht, 8) Für die Maschinen laut Anhang IV, 9) Bescheinigungsnummer, 10) Benannte Stelle, 15) angewandten harmonisierten Normen, 16) angewandten sonstigen technischen Normen und Spezifikationen, 17) Ausgestellt in, 18) Datum, 19) Name des Unterzeichners, 20) Funktion, 21) Unterschrift.

el : 1) Δήλωση συμμόρφωσης CE (πρωτότυπο), 2) Η εταιρεία, 3) Διεύθυνση, 4) τεχνικό φάκελο, 5) Κατασκευάστρια του εξής περιγραφόμενου μηχανήματος, 6) Δηλώνει ότι αυτό το μηχάνημα, 7) Είναι σύμφωνο με τις εξής οδηγίες και τις προσαρμογές τους στο εθνικό δίκαιο, 8) Για τα μηχανήματα παραρτήματος IV, 9) Αριθμός δήλωσης, 10) Κοινοποιημένος φορέας, 15) εναρμονισμένα πρότυπα που χρησιμοποιούνται, 16) Πρότυπα ή τεχνικούς κανόνες που χρησιμοποιούνται, 16) Είναι σύμφωνο με τα εξής πρότυπα και τεχνικές διατάξεις, 17) Εν, 18) Ημερομηνία, 19) Όνομα του υπογράφοντος, 20) Θέση, 21) Υπογραφή.

es : 1)Declaración DE de conformidad (original), 2) La sociedad, 3) Dirección, 4) expediente técnico, 5) Constructor de la máquina descrita a continuación, 6) Declara que esta máquina, 7) Está conforme a las siguientes directivas y a sus transposiciones en derecho nacional, 8) Para las máquinas anexo IV, 9) Número de certificación, 10) Organismo notificado, 15) normas armonizadas utilizadas, 16) Otras normas o especificaciones técnicas utilizadas, 17) Hecho en, 18) Fecha, 19) Nombre del signatario, 20) Función, 21) Firma.

et : 1) EÜ vastavusdeklaratsioon (algupärane), 2) Äriühing, 3) Aadress, 4) Tehniline dokumentatsioon, 5) Seadme tootja, 6) Kinnitab, et see toode, 7) On vastavuses järgmiste direktiivide ja nende riigisisesesse õigusesse ülevõtmiseks vastuvõetud õigusaktidega, 8) IV lisas loetletud seadmete puhul, 9) Tunnistuse number, 10) Sertifitseerimisasutus, 15) kasutatud ühtlustatud standarditele, 16) Muud standardites või spetsifikatsioonides kasutatakse, 17) Väljaandmise koht, 18) Väljaandmise aeg, 19) Allkirjastaja nimi, 20) Amet, 21) Allkiri.

fi : 1) EY-vaatimustenmukaisuusvakuutus (alkuperäiset), 2) Yritys, 3) Osoite, 4) teknisen eritelmän, 5) Jäljessä kuvatun koneen valmistaja, 6) Vakuuttaa, että tämä kone, 7) Täyttää seuraavien direktiivien sekä niitä vastaavien kansallisten säännösten vaatimukset, 8) Liitteen IV koneiden osalta, 9) Todistuksen numero, 10) Ilmoitettu laitos, 15) yhdenmukaistettuja standardeja käytetään, 16) muita standardeja tai eritelmät, 17) Paikka, 18) Aika, 19) Allekirjoittajan nimi, 20) Toimi, 21) Allekirjoitus.

ga : 1) « EC »dearbhú comhréireachta (bunaidh), 2) An comhlacht, 3) Seoladh, 4) comhad teicniúil, 5) Déantóir an innill a thuairiscítear thíos, 6) Dearbhaíonn sé go bhfuil an t-inneall, 7) Go gcloíonn sé le na treoracha seo a leanas agus a trasuímh isteach i ndlí náisiúnta, 8) Le haghaidh innill an aguisín IV, 9) Uimhir teastais, 10) Comhlacht a chuireadh i bhfios, 15) caighdeáin comhchuibhithe a úsáidtear, 16) caighdeáin eile nó sonraíochtaí teicniúla a úsáidtear, 17) Déanta ag, 18) Dáta, 19) Ainm an tsínitheora, 20) Feidhm, 21) Síniú.

hu : 1) CE megfelelőségi nyilatkozat (eredeti), 2) A vállalat, 3) Cím, 4) műszaki dokumentáció, 5) Az alábbi gép gyártója, 6) Kijelenti, hogy a gép, 7) Megfelel az alábbi irányelveknek valamint azok honosított előírásainak, 8) A IV. melléklet gépeihez, 9) Bizonylati szám, 10) Értesített szervezet, 15) felhasznált harmonizált szabványok, 16) egyéb felhasznált műszaki szabványok és előírások hivatkozásai, 17) Kelt (hely), 18) Dátum, 19) Aláíró neve, 20) Funkció, 21) Aláírás.

is : 1) (Samræmisvottorð ESB (upprunalega), 2) Fyrirtækið, 3) Aðsetur, 4) Tæknilegar skrá, 5) Smiður tækisins sem lýst er hér á eftir, 6) Staðfestir að tækið, 7) Samræmist eftirfarandi stöðlum og staðfærslu þeirra með hliðsjón af þjóðarrétti, 8) Fyrir tækin í aukakafla IV, 9) Staðfestingarnúmer, 10) Tilkynnt til, 15) samhæfða staðla sem notaðir, 16) önnur staðlar eða forskriftir notað, 17) Staður, 18) Dagsetning, 19) Nafn undirritaðs, 20) Staða, 21) Undirskrift.

it : 1) Dichiarazione CE di conformità (originale), 2) La società, 3) Indirizzo, 4) fascicolo tecnico, 5) Costruttore della macchina descritta di seguito, 6) Dichiara che questa macchina, 7) È conforme alle direttive seguenti e alle relative trasposizioni nel diritto nazionale, 8) Per le macchine Allegato IV, 9) Numero di Attestazione, 10) Organismo notificato, 15) norme armonizzate applicate, 16) altre norme e specifiche tecniche applicate, 17) Stabilita a, 18) Data, 19) Nome del firmatario, 20) Funzione, 21) Firma.

lt : 1) CE atitikties deklaracija (originalas), 2) Bendrovė, 3) Adresas, 4) Techninė byla, 5) Žemiau nurodytas įrenginio gamintojas, 6) Pareiškia, kad šis įrenginys, 7) Atitinka toliau nurodytas direktyvas ir į nacionalinius teisės aktus perkeltas jų nuostatas, 8) IV priedas dėl mašinų, 9) Sertifikato Nr, 10) Paskelbtoji įstaiga, 15) suderintus standartus naudojamus, 16) Kiti standartai ir techninės specifikacijas, 17) Pasirašyta, 18) Data, 19) Pasirašiusio asmens vardas ir pavardė, 20) Pareigos, 21) Parašas.

lv : 1) EK atbilstības deklarācija (oriģināls), 2) Uzņēmums, 3) Adrese, 4) tehniskās lietas, 5) Tālāk aprakstītās iekārtas ražotājs, 6) Apliecina, ka šī iekārta, 7) Ir atbilstoša tālāk norādītajām direktīvām un to transpozīcijai nacionālajā likumdošanā, 8) Iekārtām IV pielikumā, 9) Apliecības numurs, 10) Reģistrētā organizācija, 15) lietotajiem saskaņotajiem standartiem, 16) lietotajiem tehniskajiem standartiem un specifikācijām, 17) Sastādīts, 18) Datums, 19) Parakstītāja vārds, 20) Amats, 21) Paraksts.

mt : 1) Dikjarazzjoni ta' Konformità KE (oriġinali), 2) Il-kumpanija, 3) Indirizz, 4) fajl tekniku, 5) Manifattriċi tal-magna deskritta hawn isfel, 6) Tiddikjara li din il-magna, 7) Hija konformi hija konformi mad-Direttivi segwenti u l-liġijiet li jimplimentawhom fil-liġi nazzjonali, 8) Għall-magni fl-Anness IV, 9) Numru taċ-ċertifikat, 10) Entità nnotifikata, 15) l-istandards armonizzati użati, 16) standards tekniċi u speċifikazzjonijiet oħra użati, 17) Magħmul f', 18) Data, 19) Isem il-firmatarju, 20) Kariga, 21) Firma.

nl : 1) EG-verklaring van overeenstemming (oorspronkelijke), 2) Het bedrijf, 3) Adres, 4) technisch dossier, 5) Constructeur van de hierna genoemde machine, 6) Verklaart dat deze machine, 7) In overeenstemming is met de volgende richtlijnen en hun omzettingen in het nationale recht, 8) Voor machines van bijlage IV, 9) Goedkeuringsnummer, 10) Aangezegde instelling, 15) gehanteerde geharmoniseerde normen, 16) andere gehanteerde technische normen en specificaties, 17) Opgemaakt te, 18) Datum, 19) Naam van ondergetekende, 20) Functie, 21) Handtekening.

no : 1) CE-samsvarserklæring (original), 2) Selskapet, 3) Adresse, 4) tekniske arkiv, 5) Fabrikant av følgende maskin, 6) Erklærer at denne maskinen, 7) Oppfyller kravene i følgende direktiver, med nasjonale gjennomføringsbestemmelser, 8) For maskinene i tillegg IV, 9) Attestnummer, 10) Notifisert organ, 15) harmoniserte standarder som brukes, 16) Andre standarder og spesifikasjoner brukt, 17) Utstedt i, 18) Dato, 19) Underskriverens navn, 20) Stilling, 21) Underskrift.

pl : 1) Deklaracja zgodności CE (oryginalne), 2) Spółka, 3) Adres, 4) dokumentacji technicznej, 5) Wykonawca maszyny opisanej poniżej, 6) Oświadcza, że ta maszyna, 7) Jest zgodna z następującymi dyrektywami i odpowiadającymi przepisami prawa krajowego, 8) Dla maszyn załącznik IV, 9) Numer certyfikatu, 10) Jednostka certyfikująca, 15) zastosowanych norm zharmonizowanych, 16) innych zastosowanych norm technicznych i specyfikacji, 17) Sporządzono w, 18) Data, 19) Nazwisko podpisującego, 20) Stanowisko, 21) Podpis.

pt : 1) Declaração de conformidade CE (original), 2) A empresa, 3) Morada, 4) processo técnico, 5) Fabricante da máquina descrita abaixo, 6) Declara que esta máquina, 7) Está em conformidade às directivas seguintes e às suas transposições para o direito nacional, 8) Para as máquinas no anexo IV, 9) Número de certificado, 10) Entidade notificada, 15) normas harmonizadas utilizadas, 16) outras normas e especificações técnicas utilizadas, 17) Elaborado em, 18) Data, 19) Nome do signatário, 20) Cargo, 21) Assinatura.

ro : 1) Declarație de conformitate CE (originală), 2) Societatea, 3) Adresa, 4) cărtii tehnice, 5) Constructor al mașinii descrise mai jos, 6) Declară că prezenta mașină, 7) Este conformă cu directivele următoare și cu transpunerea lor în dreptul național, 8) Pentru mașinile din anexa IV, 9) Număr de atestare, 10) Organism notificat, 15) standardele armonizate utilizate, 16) alte standarde si specificatii tehnice utilizate, 17) Întocmit la, 18) Data, 19) Numele persoanei care semnează, 20) Funcția, 21) Semnătura.

sk : 1) ES vyhlásenie o zhode (pôvodný), 2) Názov spoločnosti, 3) Adresa, 4) technickej dokumentácie, 5) Výrobca nižšie opísaného stroja, 6) Vyhlasuje, že tento stroj, 7) Je v súlade s nasledujúcimi smernicami a smernicami transponovanými do vnútroštátneho práva, 8) Pre stroje v prílohe IV, 9) Číslo certifikátu, 10) Notifikačný orgán, 15) použité harmonizované normy, 16) použité iné technické normy a predpisy, 17) Miesto vydania, 18) Dátum vydania, 19) Meno podpisujúceho, 20) Funkcia, 21) Podpis.

sl : 1) ES Izjava o ustreznosti (izvirna), 2) Družba. 3) Naslov. 4) tehnične dokumentacije, 5) Proizvajalac tukaj opisanega stroja, 6) Izjavlja, da je ta stroj, 7) Ustreza naslednjim direktivam in njihovi transpoziciji v državno pravo, 8) Za stroje priloga IV, 9) Številka potrdila, 10) Obvestilo organu, 15) uporabljene harmonizirane standarde, 16) druge uporabljene tehnične standarde in zahteve, 17) V, 18) Datum, 19) Ime podpisnika, 20) Funkcija, 21) Podpis.

sv : 1) CE-försäkran om överensstämmelse (original), 2) Företaget, 3) Adress, 4) tekniska dokumentationen, 5) Konstruktör av nedan beskrivna maskin, 6) Försäkrar att denna maskin, 7) Överensstämmer med nedanstående direktiv och införlivandet av dem i nationell rätt, 8) För maskinerna i bilaga IV, 9) Nummer för godkännande, 10) Organism som underrättats, 15) Harmoniserade standarder som använts, 16) andra tekniska standarder och specifikationer som använts, 17) Upprättat i, 18) Datum, 19) Namn på den som undertecknat, 20) Befattning, 21) Namnteckning.

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SAFETY PLATES AND STICKERS

⚠ IMPORTANT ⚠

Clean all of the stickers and safety plates to make them legible. It is essential to replace stickers and safety plates which are illegible or damaged.
Check the presence of stickers and safety plates after replacing any spare parts.

EXTERNAL PLATES AND STICKERS

REF.	PART NO.	DESCRIPTION
1	24653	- Slinging point
2	234802	- Diesel

STICKERS AND PLATES UNDER THE ENGINE HOOD

REF.	PART NO.	DESCRIPTION
3	293887	- Anti-freeze
4	234798	- Hydraulic oil
5	719889	- Routine maintenance

STICKERS AND PLATES IN THE CAB

REF.	PART NO.	DESCRIPTION
6	253267	- Manipulator function
7	172385	- Towing forbidden
8	234878	- Raising cab
9	300681	- Safety instruction
10	Consult your dealer	- Load chart (according to model) *
11	254212	- Cab lock/unlock
12	Consult your dealer	- Manufacturer's plate
13	239594	- Sound power level 104dB
14	Consult your dealer	- Load chart (according to model) *
15	52531617	- Rollover instructions (Australia only)

* The load chart referred to in the operator's manual 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. Mast tilted load charts are only available for Australia.

STICKERS AND PLATES ON THE MAST

REF.	PART NO.	DESCRIPTION
16	52686805	- Fixed height indicator (Australia only) *
17	52686806	- Moving height indicator (Australia only) *

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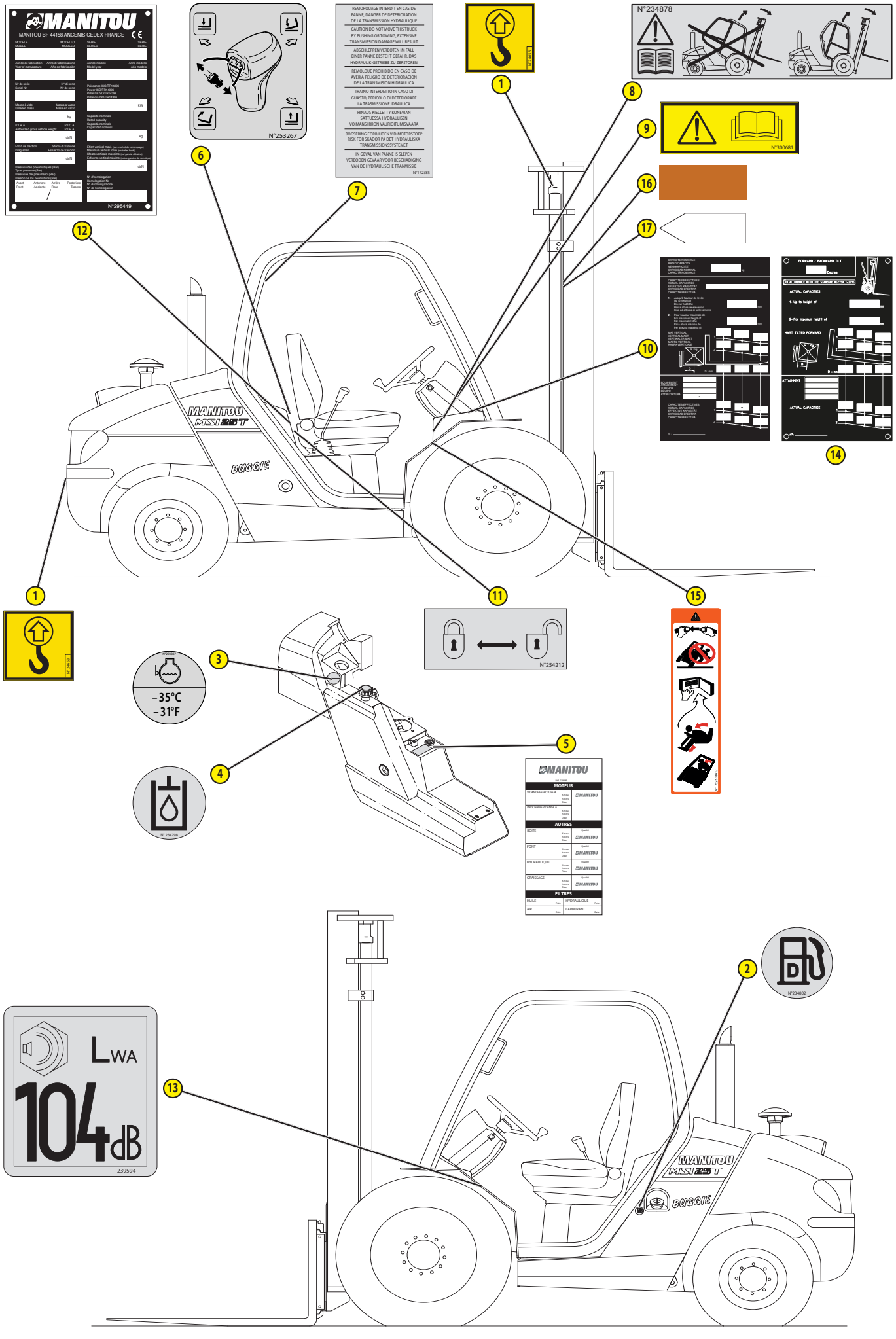

MANITOU
MANITOU BF 44158 ANCENIS CEDEX FRANCE
N°295449
N°253267
REMORQUAGE INTERDIT EN CAS DE PANNE, DANGER DE DETERIORATION DE LA TRANSMISSION HYDRAULIQUE
CAUTION DO NOT MOVE THIS TRUCK BY PUSHING OR TOWING, EXTENSIVE TRANSMISSION DAMAGE WILL RESULT
ABSCHLEPPEN VERBOTEN IM FALL EINER PANNE BESTEHT GEFAHR, 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 VAURIOITUMISVAARA
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
N°234878
N°300681
N°254212
-35°C
-31°F
MANITOU
MSI 25 T
BUGGIE
MOTEUR
AUTRES
FILTRES
HUILE
HYDRAULIQUE
AIR
CARBURANT
LWA
104 dB
239594
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

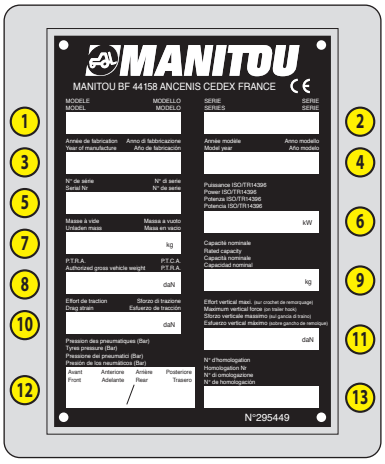
IDENTIFICATION OF THE LIFT TRUCK

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:

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

LIFT TRUCK MANUFACTURER'S PLATE



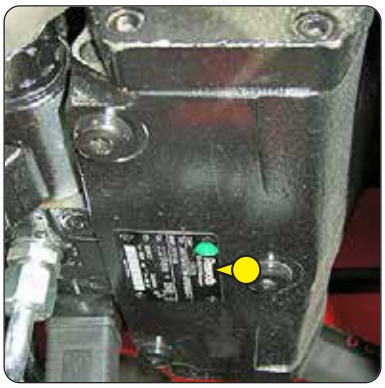
1 - MODEL
2 - SERIES
3 - Year of manufacture
4 - Model year
5 - Serial No.
6 - Power ISO/TR 14396
7 - Unladen weight
8 - Authorised gross vehicle weight
9 - Rated capacity
10 - Pulling force
11 - Maximum vertical force (on trailer hook)
12 - Tyre pressure (bar)
13 - Homologation No.

For any further technical information regarding your lift truck refer to chapter: 2 - DESCRIPTION: CHARACTERISTICS.

ENGINE

• Engine No.

HYDROSTATIC PUMP



• MANITOU Part no.
• Type of codification
• Serial No.
• Manufacturer's No.
• Year of manufacture

FRONT WHEEL ELECTRIC MOTORS

• MANITOU Part no.
• Type of codification
• Serial No.
• Manufacturer's No.
• Year of manufacture

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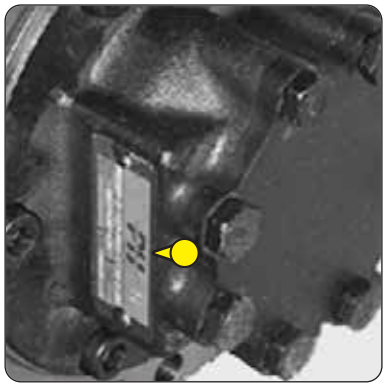
FRONT WHEEL REDUCERS

- Type
- Serial No.
- Date

REAR WHEEL HYDROSTATIC MOTORS

MH25-4 T BUGGIE 4ST3A - MH25-4 BUGGIE 36KW 4ST3A

- Type of codification
- Motor No.
- Manufacturer's No.
- Year of manufacture



OVERHEAD GUARD

- Type
- Serial No.

CAB

- Type
- Serial No.

ROLLER MASTS

- Mast identification No.

ATTACHMENT MANUFACTURER'S PLATE

- Model
- Serial No.
- Year of manufacture

CHARACTERISTICS MSI25 T 4ST3A MSI30 T 4ST3A MSI35 T 4ST3A

NOTE: The specifications given are not binding on the manufacturer and can be modified without prior notification.

DESIGNATION	1.1	Manufacturer		MANITOU	MANITOU	MANITOU
	1.2	Model type		MSI25 T 4ST3A	MSI30 T 4ST3A	MSI35 T 4ST3A
	1.3	Propulsion: battery, diesel, petrol, LPG, mains		Diesel	Diesel	Diesel
	1.4	Type of operation: manual, pedestrian, standing, seated		Seated	Seated	Seated
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	2,5	3,0	3,5
	1.6	Centre of gravity of load	c (mm)	500	500	500
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	625	630	630
	1.9	Wheelbase	y (mm)	1800	1800	1800
WEIGHT	2.1	Weight of truck in working order	kg	4070	4705	4845
	2.2	Front axle load laden	kg	5695	6780	7430
	2.2.1	Rear axle load laden	kg	875	925	915
	2.3	Front axle load unladen	kg	1630	1900	1730
	2.3.1	Rear axle load unladen	kg	2440	2805	3115
RUNNING CARRIAGE	3.1	Wheel equipment: : tyre (V), super-elastic (SE), pneumatic (L)		L	L	L
	3.2	Size of front wheels	" or mm	275/70 R22.5 148/145M	275/70 R22.5 148/145M	275/70 R22.5 148/145M
	3.3	Size of rear wheels	" or mm	7.00X12 14PR IC40	7.00X12 14PR IC40	7.00X12 14PR IC40
	3.5	Number of front wheels (x = drive wheel)		2x	2x	2x
	3.5.1	Number of rear wheels (x = drive wheel)		2	2	2
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	1046	1046	1046
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	1102	1102	1102
DIMENSIONS	4.1	Tilt of mast forward	α (°)	10	10	10
	4.1.1	Tilt of mast backward	β (°)	12	12	12
	4.2	Height of mast lowered	h1 (mm)	2300	2300	2300
	4.3	Normal free lift	h2 (mm)	130	135	135
	4.4	Lift height	h3 (mm)	3300	3300	3300
	4.5	Height of extended mast	h4 (mm)	4131	4193	4193
	4.7	Height of standard overhead guard or cab	h6 (mm)	2105	2105	2105
	4.7	Height of lowered overhead guard (option)	h6 *(mm)	1990	1990	1990
	4.7	Height of air-conditioned cab (option)	h6 **(mm)	2325	2325	2325
	4.8	Height of seat	h7 (mm)	1025	1025	1025
	4.12	Height of towing coupling	h10 (mm)	310	310	310
	4.19	Total length	l1 (mm)	4045	4080	4130
	4.20	Length of forks at heel	l2 (mm)	2945	2980	3030
	4.21	Overall width	b1 (mm)	1323	1323	1323
	4.22	Section of fork arms	s (mm)	40	45	45
	4.22.1	Width of fork arms	e (mm)	100	100	125
	4.22.2	Length of fork arms	l (mm)	1100	1100	1100
	4.23	Fork carriage to DIN 15173 A/B		FEM 2A	FEM 3A	FEM 3A
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	1260	1260	1260
	4.31	Ground clearance of mast	m1 (mm)	270	270	270
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	260	260	260
	4.33	Aisle width for 1000x1200 pallet widthways	Ast (mm)	4525	4560	4595
	4.34	Aisle width for 800x1200 pallet lengthways	Ast (mm)	4525	4560	4595
	4.35	Turning radius	Wa (mm)	2545	2580	2590
	4.36	Inner turning radius	b13 (mm)	150	150	150

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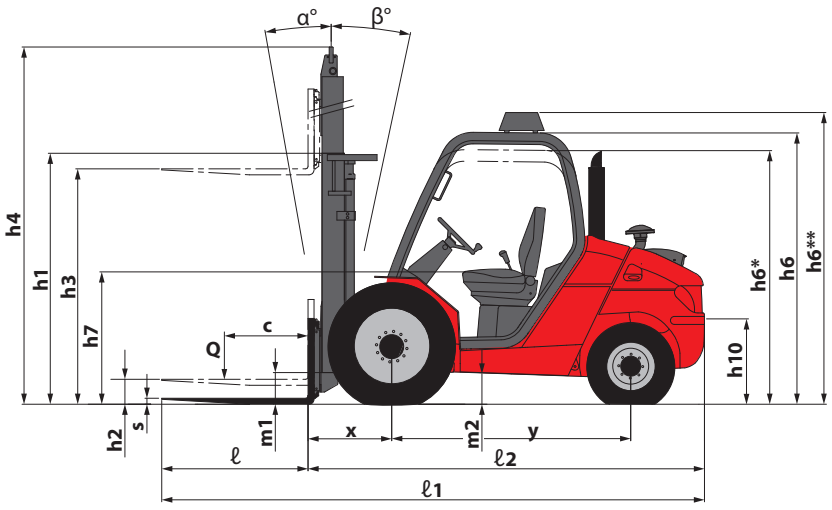
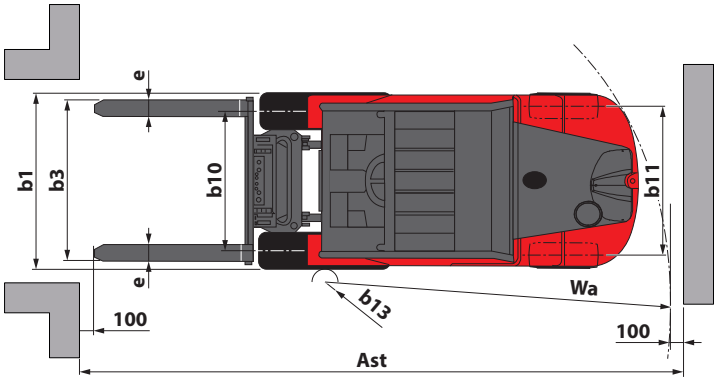
PERFORMANCES	5.1	Speed of travel laden	km/h	**20**	**20**	**20**
	5.1.1	Speed of travel unladen	km/h	**20**	**20**	**20**
	5.2	Speed of rise laden	m/s	**0,4**	**0,4**	**0,4**
	5.2.1	Speed of rise unladen	m/s	**0,5**	**0,5**	**0,5**
	5.3	Speed of lowering laden	m/s	**0,5**	**0,5**	**0,5**
	5.3.1	Speed of lowering unladen	m/s	**0,4**	**0,4**	**0,4**
	5.5	Nominal towing power laden	daN	**2280**	**2460**	**2640**
	5.5.1	Nominal towing power unladen	daN	**1370**	**1260**	**1560**
	5.7	Slope laden	%	**32**	**29**	**29**
	5.7.1	Slope unladen	%	**31**	**24**	**29**
	5.9	Acceleration time laden	s			
	5.9.1	Acceleration time unladen	s			
	5.10	Service brake		**Low pressure hydraulic**	**Low pressure hydraulic**	**Low pressure hydraulic**
ENGINE SPECIFICATION	7.1	Engine manufacturer/Type		**KUBOTA V2403 M T E3**	**KUBOTA V2403 M T E3**	**KUBOTA V2403 M T E3**
	7.2	Engine power rating to ISO 1585	kW	**44**	**44**	**44**
	7.3	Rated speed	rpm	**2700**	**2700**	**2700**
	7.4	Number of pistons/Capacity	cm^3	**4 / 2434**	**4 / 2434**	**4 / 2434**
	7.5	Fuel consumption (according to VDI cycle)	l/h	**5,1**	**5,3**	**5,3**
MISCELLANEOUS	8.1	Speed control		**Cable**	**Cable**	**Cable**
	8.2	Working hydraulic pressure for attachments	Bars	**170**	**185**	**190**
	8.3	Oil flow rate for attachments	l/min	**77**	**77**	**77**
	8.4	Sound level at driver's ears according to DIN 12053	db (A)	-	-	-
	8.4	Sound pressure level ensured in the LwA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	db (A)	-	-	-





647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

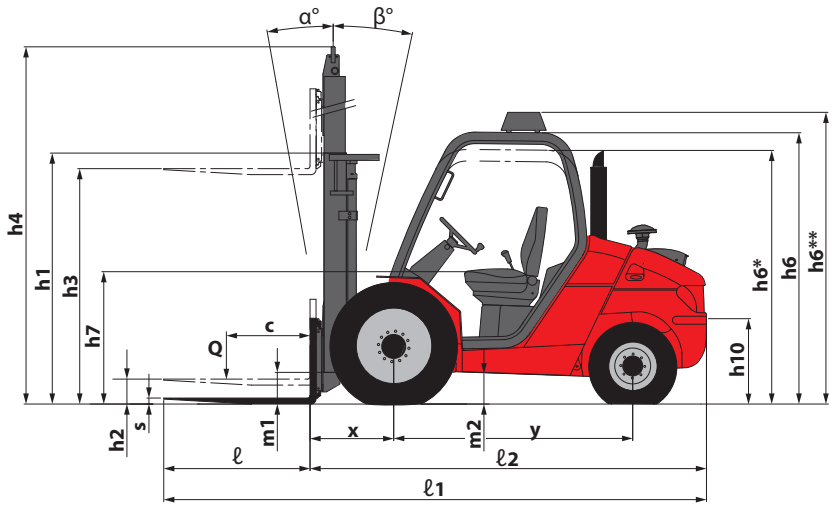
CHARACTERISTICS MH25-4 T BUGGIE 4ST3A

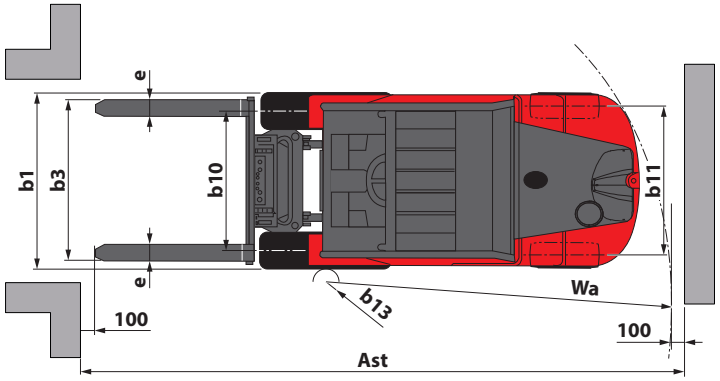
NOTE: The specifications given are not binding on the manufacturer and can be modified without prior notification.

DESIGNATION	1.1	Manufacturer		MANITOU
	1.2	Model type		MH25-4 T BUGGIE 4ST3A
	1.3	Propulsion: battery, diesel, petrol, LPG, mains		Diesel
	1.4	Type of operation: manual, pedestrian, standing, seated		Seated
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	2,5
	1.6	Centre of gravity of load	c (mm)	500
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	625
	1.9	Wheelbase	y (mm)	1800
WEIGHT	2.1	Weight of truck in working order	kg	4260
	2.2	Front axle load laden	kg	5812
	2.2.1	Rear axle load laden	kg	948
	2.3	Front axle load unladen	kg	1750
	2.3.1	Rear axle load unladen	kg	2510
RUNNING CARRIAGE	3.1	Wheel equipment: : tyre (V), super-elastic (SE), pneumatic (L)		L
	3.2	Size of front wheels	" or mm	280/80 R20 133A8 XMCL
	3.3	Size of rear wheels	" or mm	27.10-12 14PR IC40
	3.5	Number of front wheels (x = drive wheel)		2x
	3.5.1	Number of rear wheels (x = drive wheel)		2x
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	1160
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	1164
DIMENSIONS	4.1	Tilt of mast forward	α (°)	10
	4.1.1	Tilt of mast backward	β (°)	12
	4.2	Height of mast lowered	h1 (mm)	1835
	4.3	Normal free lift	h2 (mm)	130
	4.4	Lift height	h3 (mm)	3300
	4.5	Height of extended mast	h4 (mm)	4070
	4.7	Height of standard overhead guard or cab	h6 (mm)	2105
	4.7	Height of lowered overhead guard (option)	h6 *(mm)	1990
	4.7	Height of air-conditioned cab (option)	h6 **(mm)	2325
	4.8	Height of seat	h7 (mm)	1025
	4.12	Height of towing coupling	h10 (mm)	310
	4.19	Total length	l1 (mm)	4045
	4.20	Length of forks at heel	l2 (mm)	2945
	4.21	Overall width	b1 (mm)	1450
	4.22	Section of fork arms	s (mm)	40
	4.22.1	Width of fork arms	e (mm)	100
	4.22.2	Length of fork arms	l (mm)	1100
	4.23	Fork carriage to DIN 15173 A/B		FEM 2A
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	1260
	4.31	Ground clearance of mast	m1 (mm)	265
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	260
	4.33	Aisle width for 1000x1200 pallet widthways	Ast (mm)	5090
	4.34	Aisle width for 800x1200 pallet lengthways	Ast (mm)	5090
	4.35	Turning radius	Wa (mm)	3265
	4.36	Inner turning radius	b13 (mm)	1080

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

PERFORMANCES	5.1	Speed of travel laden	km/h	**14**
	5.1.1	Speed of travel unladen	km/h	**14**
	5.2	Speed of rise laden	m/s	**0,4**
	5.2.1	Speed of rise unladen	m/s	**0,5**
	5.3	Speed of lowering laden	m/s	**0,5**
	5.3.1	Speed of lowering unladen	m/s	**0,4**
	5.5	Nominal towing power laden	daN	**3550**
	5.5.1	Nominal towing power unladen	daN	**2190**
	5.7	Slope laden	%	**50**
	5.7.1	Slope unladen	%	**48**
	5.9	Acceleration time laden	s	
	5.9.1	Acceleration time unladen	s	
	5.10	Service brake		**Low pressure hydraulic**
ENGINE SPECIFICATION	7.1	Engine manufacturer/Type		**KUBOTA V2403 M T E3**
	7.2	Engine power rating to ISO 1585	kW	**44**
	7.3	Rated speed	rpm	**2700**
	7.4	Number of pistons/Capacity	cm^3	**4 - 2434**
	7.5	Fuel consumption **(according to VDI cycle)**	l/h	**-**
MISCELLANEOUS	8.1	Speed control		**Cable**
	8.2	Working hydraulic pressure for attachments	Bars	**170**
	8.3	Oil flow rate for attachments	l/min	**77**
	8.4	Sound level at driver's ears according to DIN 12053	db (A)	**-**
	8.4	Sound pressure level ensured in the LwA environment **(according to directive 2000/14/EC modified by directive 2005/88/EC)**	db (A)	**104**





647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

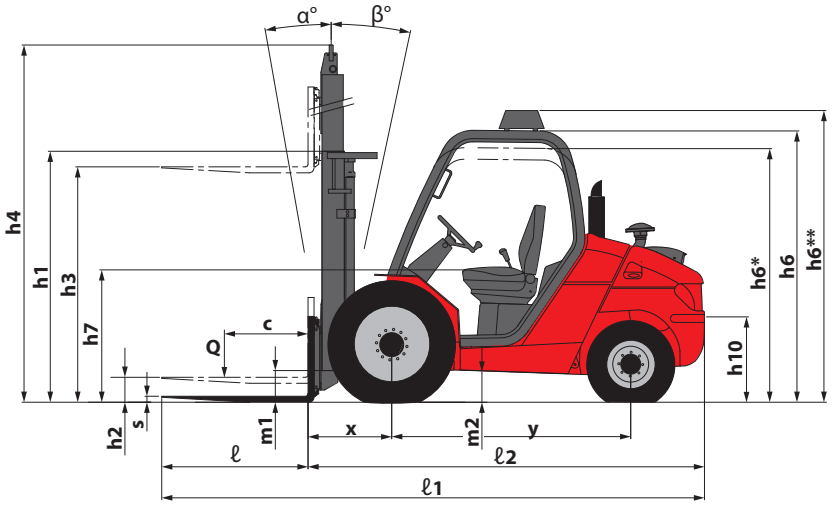
CHARACTERISTICS MSI25 36KW 4ST3A MSI30 36KW 4ST3A MSI35 36KW 4ST3A

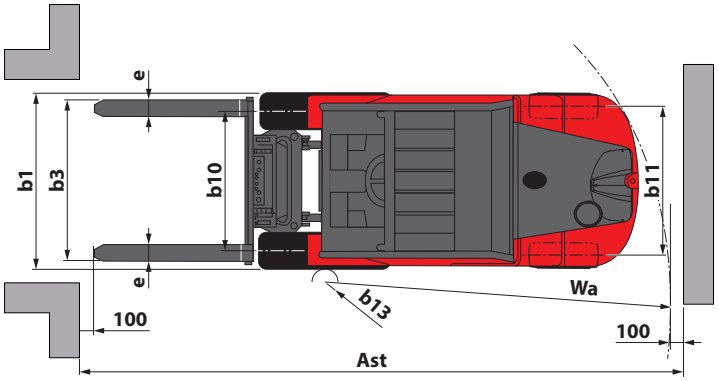
NOTE: The specifications given are not binding on the manufacturer and can be modified without prior notification.

DESIGNATION	1.1	Manufacturer		MANITOU	MANITOU	MANITOU
	1.2	Model type		MSI25 36KW 4ST3A	MSI30 36KW 4ST3A	MSI35 36KW 4ST3A
	1.3	Propulsion: battery, diesel, petrol, LPG, mains		Diesel	Diesel	Diesel
	1.4	Type of operation: manual, pedestrian, standing, seated		Seated	Seated	Seated
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	2,5	3,0	3,5
	1.6	Centre of gravity of load	c (mm)	500	500	500
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	625	630	630
	1.9	Wheelbase	y (mm)	1800	1800	1800
WEIGHT	2.1	Weight of truck in working order	kg	4070	4705	4845
	2.2	Front axle load laden	kg	5695	6780	7430
	2.2.1	Rear axle load laden	kg	875	925	915
	2.3	Front axle load unladen	kg	1630	1900	1730
	2.3.1	Rear axle load unladen	kg	2440	2805	3115
RUNNING CARRIAGE	3.1	Wheel equipment: : tyre (V), super-elastic (SE), pneumatic (L)		L	L	L
	3.2	Size of front wheels	" or mm	275/70 R22.5 148/145M	275/70 R22.5 148/145M	275/70 R22.5 148/145M
	3.3	Size of rear wheels	" or mm	7.00X12 14PR IC40	7.00X12 14PR IC40	7.00X12 14PR IC40
	3.5	Number of front wheels (x = drive wheel)		2x	2x	2x
	3.5.1	Number of rear wheels (x = drive wheel)		2	2	2
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	1046	1046	1046
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	1102	1102	1102
DIMENSIONS	4.1	Tilt of mast forward	α (°)	10	10	10
	4.1.1	Tilt of mast backward	β (°)	12	12	12
	4.2	Height of mast lowered	h1 (mm)	2300	2300	2300
	4.3	Normal free lift	h2 (mm)	130	135	135
	4.4	Lift height	h3 (mm)	3300	3300	3300
	4.5	Height of extended mast	h4 (mm)	4131	4193	4193
	4.7	Height of standard overhead guard or cab	h6 (mm)	2105	2105	2105
	4.7	Height of lowered overhead guard (option)	h6 *(mm)	1990	1990	1990
	4.7	Height of air-conditioned cab (option)	h6 **(mm)	2325	2325	2325
	4.8	Height of seat	h7 (mm)	1025	1025	1025
	4.12	Height of towing coupling	h10 (mm)	310	310	310
	4.19	Total length	l1 (mm)	4045	4080	4130
	4.20	Length of forks at heel	l2 (mm)	2945	2980	3030
	4.21	Overall width	b1 (mm)	1323	1323	1323
	4.22	Section of fork arms	s (mm)	40	45	45
	4.22.1	Width of fork arms	e (mm)	100	100	125
	4.22.2	Length of fork arms	l (mm)	1100	1100	1100
	4.23	Fork carriage to DIN 15173 A/B		FEM 2A	FEM 3A	FEM 3A
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	1260	1260	1260
	4.31	Ground clearance of mast	m1 (mm)	270	270	270
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	260	260	260
	4.33	Aisle width for 1000x1200 pallet widthways	Ast (mm)	4525	4560	4595
	4.34	Aisle width for 800x1200 pallet lengthways	Ast (mm)	4525	4560	4595
	4.35	Turning radius	Wa (mm)	2545	2580	2590
	4.36	Inner turning radius	b13 (mm)	150	150	150

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

PERFORMANCES	5.1	Speed of travel laden	km/h	**12**	**12**	**12**
	5.1.1	Speed of travel unladen	km/h	**20**	**20**	**20**
	5.2	Speed of rise laden	m/s	**0,6**	**0,6**	**0,6**
	5.2.1	Speed of rise unladen	m/s	**0,6**	**0,6**	**0,6**
	5.3	Speed of lowering laden	m/s	**0,4**	**0,4**	**0,4**
	5.3.1	Speed of lowering unladen	m/s	**0,3**	**0,3**	**0,3**
	5.5	Nominal towing power laden	daN	**1860**	**1922**	**2005**
	5.5.1	Nominal towing power unladen	daN	**1240**	**890**	**1182**
	5.7	Slope laden	%	**32**	**29**	**29**
	5.7.1	Slope unladen	%	**31**	**24**	**29**
	5.9	Acceleration time laden	s			
	5.9.1	Acceleration time unladen	s			
	5.10	Service brake		**Low pressure hydraulic**	**Low pressure hydraulic**	**Low pressure hydraulic**
ENGINE SPECIFICATION	7.1	Engine manufacturer/Type		**KUBOTA V2403-M-E3B**	**KUBOTA V2403-M-E3B**	**KUBOTA V2403-M-E3B**
	7.2	Engine power rating to ISO 1585	kW	**37**	**37**	**37**
	7.3	Rated speed	rpm	**2700**	**2700**	**2700**
	7.4	Number of pistons/Capacity	cm^3	**4 / 2434**	**4 / 2434**	**4 / 2434**
	7.5	Fuel consumption (according to VDI cycle)	l/h	**5,0**	**5,2**	**5,2**
MISCELLANEOUS	8.1	Speed control		**Cable**	**Cable**	**Cable**
	8.2	Working hydraulic pressure for attachments	Bars	**170**	**185**	**190**
	8.3	Oil flow rate for attachments	l/min	**77**	**77**	**77**
	8.4	Sound level at driver's ears according to DIN 12053 (Overhead guard / Cab)	db (A)	**81 / -**	**81 / -**	**81 / -**
	8.4	Sound pressure level ensured in the LwA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	db (A)	**-**	**-**	**-**





647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

CHARACTERISTICS MH25-4 BUGGIE 36KW 4ST3A

NOTE: The specifications given are not binding on the manufacturer and can be modified without prior notification.

DESIGNATION	1.1	Manufacturer		**MANITOU**
	1.2	Model type		**MH25-4 BUGGIE 36KW 4ST3A**
	1.3	Propulsion: battery, diesel, petrol, LPG, mains		**Diesel**
	1.4	Type of operation: manual, pedestrian, standing, seated		**Seated**
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	**2,5**
	1.6	Centre of gravity of load	c (mm)	**500**
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	**625**
	1.9	Wheelbase	y (mm)	**1800**
WEIGHT	2.1	Weight of truck in working order	kg	**4260**
	2.2	Front axle load laden	kg	**5812**
	2.2.1	Rear axle load laden	kg	**948**
	2.3	Front axle load unladen	kg	**1750**
	2.3.1	Rear axle load unladen	kg	**2510**
RUNNING CARRIAGE	3.1	Wheel equipment: : tyre (V), super-elastic (SE), pneumatic (L)		**L**
	3.2	Size of front wheels	" or mm	**280/80 R20 133A8 XMCL**
	3.3	Size of rear wheels	" or mm	**27.10-12 14PR IC30**
	3.5	Number of front wheels (x = drive wheel)		**2x**
	3.5.1	Number of rear wheels (x = drive wheel)		**2x**
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	**1160**
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	**1164**
DIMENSIONS	4.1	Tilt of mast forward	α (°)	**10**
	4.1.1	Tilt of mast backward	β (°)	**12**
	4.2	Height of mast lowered	h1 (mm)	**1835**
	4.3	Normal free lift	h2 (mm)	**130**
	4.4	Lift height	h3 (mm)	**3300**
	4.5	Height of extended mast	h4 (mm)	**4070**
	4.7	Height of overhead guard or cab (option)	h6 (mm)	**2105**
	4.7	Height of lowered overhead guard (standard)	h6 *(mm)	**1990**
	4.7	Height of air-conditioned cab (option)	h6 **(mm)	**2325**
	4.8	Height of seat	h7 (mm)	**1025**
	4.12	Height of towing coupling	h10 (mm)	**310**
	4.19	Total length	l1 (mm)	**4045**
	4.20	Length of forks at heel	l2 (mm)	**2945**
	4.21	Overall width	b1 (mm)	**1450**
	4.22	Section of fork arms	s (mm)	**40**
	4.22.1	Width of fork arms	e (mm)	**100**
	4.22.2	Length of fork arms	l (mm)	**1100**
	4.23	Fork carriage to DIN 15173 A/B		**FEM 2A**
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	**1260**
	4.31	Ground clearance of mast	m1 (mm)	**265**
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	**260**
	4.33	Aisle width for 1000x1200 pallet widthways	Ast (mm)	**5090**
	4.34	Aisle width for 800x1200 pallet lengthways	Ast (mm)	**5090**
	4.35	Turning radius	Wa (mm)	**3265**
	4.36	Inner turning radius	b13 (mm)	**1080**

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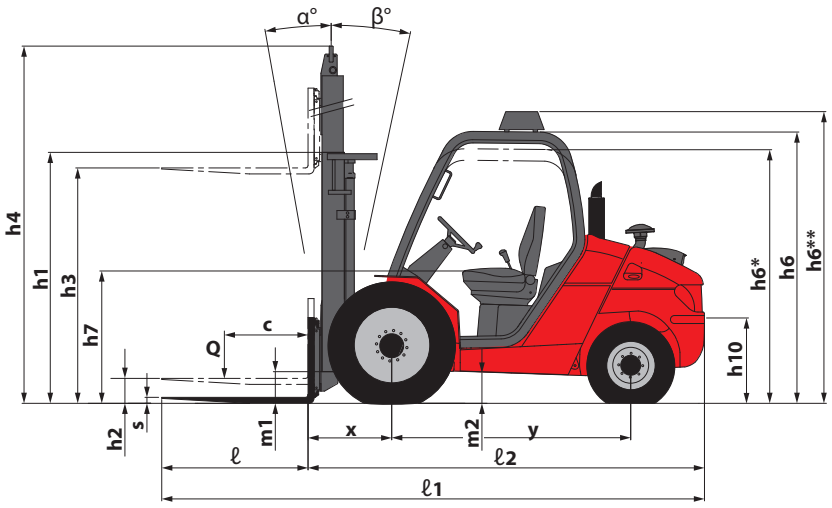
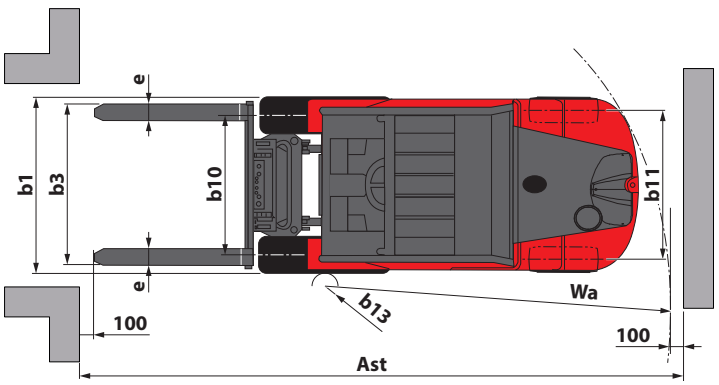
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

PERFORMANCES	5.1	Speed of travel laden	km/h	**12**
	5.1.1	Speed of forward movement unladen (2WD / 4WD)	km/h	**24 / 14**
	5.2	Speed of rise laden	m/s	**0,6**
	5.2.1	Speed of rise unladen	m/s	**0,6**
	5.3	Speed of lowering laden	m/s	**0,4**
	5.3.1	Speed of lowering unladen	m/s	**0,3**
	5.5	Nominal towing power laden	daN	**3550**
	5.5.1	Nominal towing power unladen	daN	**2190**
	5.7	Slope laden	%	**50**
	5.7.1	Slope unladen	%	**48**
	5.9	Acceleration time laden	s	
	5.9.1	Acceleration time unladen	s	
	5.10	Service brake		**Low pressure hydraulic**
ENGINE SPECIFICATION	7.1	Engine manufacturer/Type		**KUBOTA V2403-M-E3B**
	7.2	Engine power rating to ISO 1585	kW	**37**
	7.3	Rated speed	rpm	**2700**
	7.4	Number of pistons/Capacity	cm^3	**4 - 2434**
	7.5	Fuel consumption **(according to VDI cycle)**	l/h	**-**
MISCELLANEOUS	8.1	Speed control		**Cable**
	8.2	Working hydraulic pressure for attachments	Bars	**170**
	8.3	Oil flow rate for attachments	l/min	**77**
	8.4	Sound level at driver's ears according to DIN 12053 (Overhead guard / Cab)	db (A)	**81 / -**
	8.4	Sound pressure level ensured in the LwA environment **(according to directive 2000/14/EC modified by directive 2005/88/EC)**	db (A)	**104**

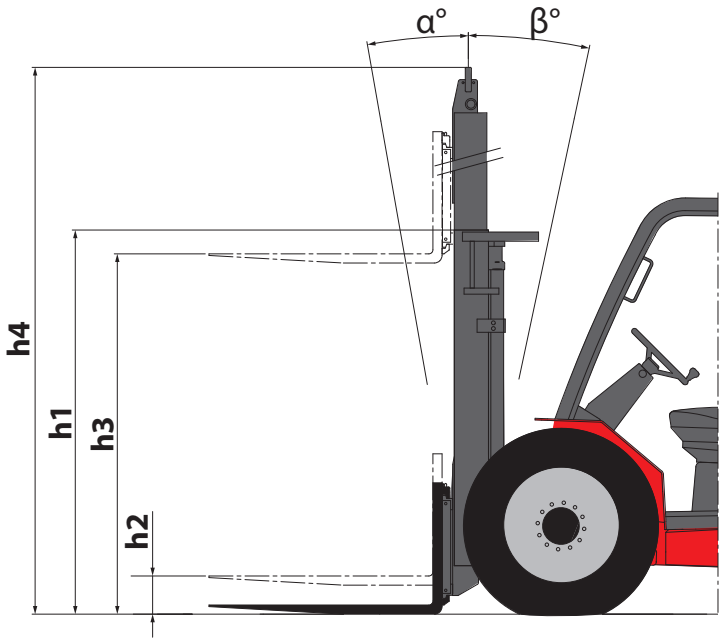




647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

ROLLER MAST CHARACTERISTICS MSI25 ...

	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	α	β
DUPLEX TOTAL VISIBILITY	2700	130	2000	3531	10°	12°
	3000	130	2150	3831	10°	12°
	3300	130	2300	4131	10°	12°
	3500	130	2400	4331	10°	12°
	3700	130	2560	4531	10°	12°
	4000	130	2750	4831	10°	12°
	4500	130	3000	5331	10°	12°
	5000	130	3250	5831	6°	6°
	5500	130	3500	6331	6°	6°
	6000	130	3790	6831	6°	6°
TRIPLEX WITHOUT FREE LIFT	3300	0	1840	4070	10°	12°
DUPLEX FREE LIFT	3000	1393	2150	3797	10°	12°
	3300	1543	2300	4097	10°	12°
	3500	1643	2400	4297	10°	12°
	3700	1803	2560	4497	10°	12°
	4000	1993	2750	4797	10°	12°
	4500	2243	3000	5297	10°	12°
TRIPLEX FREE LIFT	3700	1221	1950	4469	10°	12°
	4000	1321	2050	4769	10°	12°
	4300	1421	2150	5069	10°	12°
	4700	1571	2300	5469	10°	12°
	5000	1671	2400	5769	6°	6°
	5500	1831	2560	6269	6°	6°
	6000	2021	2750	6769	6°	6°
	6500	2271	3000	7269	6°	6°
	7000	2521	3250	7769	6°	6°



VALUES ON FORKS				VALUES WITH TDL			
Height at max. capacity (mm)		Capacity at max. height CoG at 500 mm (kg)		Height at max. capacity (mm)		Capacity at max. height CoG at 500 mm (kg)	
	2.5 t		**2.5 t**		**2.5 t**		**2.5 t**
	2700		2500		2700		2500
	3000		2500		3000		2500
	3300		2500		3300		2500
	3500		2500		3500		2500
	3700		2500		3700		2500
	4000		2500		4000		2500
	4000		2200		2400kg to 4000		2000
	4000		1900		2400kg to 4000		1600
	3300		2500		3300		2500
	3000		2500		3000		2500
	3300		2500		3300		2500
	3500		2500		3500		2500
	3700		2500		3700		2500
	4000		2500		4000		2500
	4000		1900		2400kg to 4000		1600
	3700		2500		3700		2500
	4000		2500		2400kg to 4000		2400
	4000		2400		2400kg to 4000		2200
	4000		2100		2400kg to 4000		1900
	4000		1900		2400kg to 4000		1600
	4000		1500		2400kg to 4000		1200
	4000		1500		2400kg to 4000		1200

RATED CAPACITY →

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

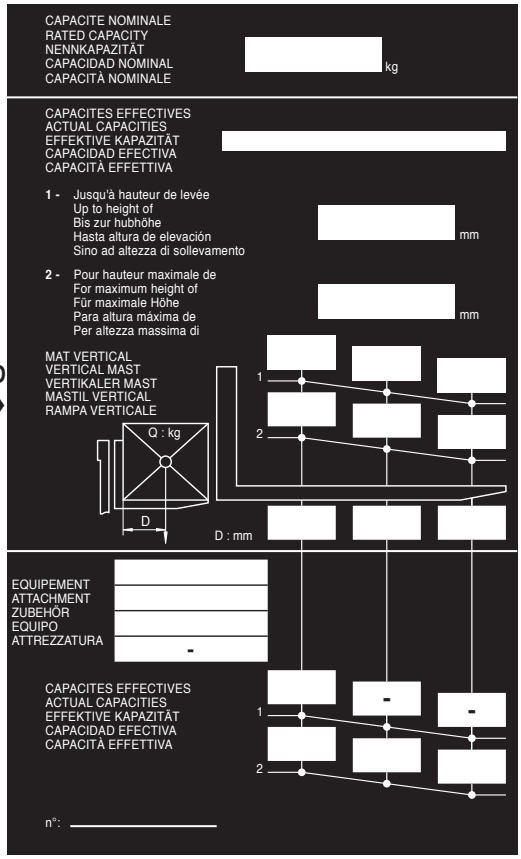
1 - Up to height of →

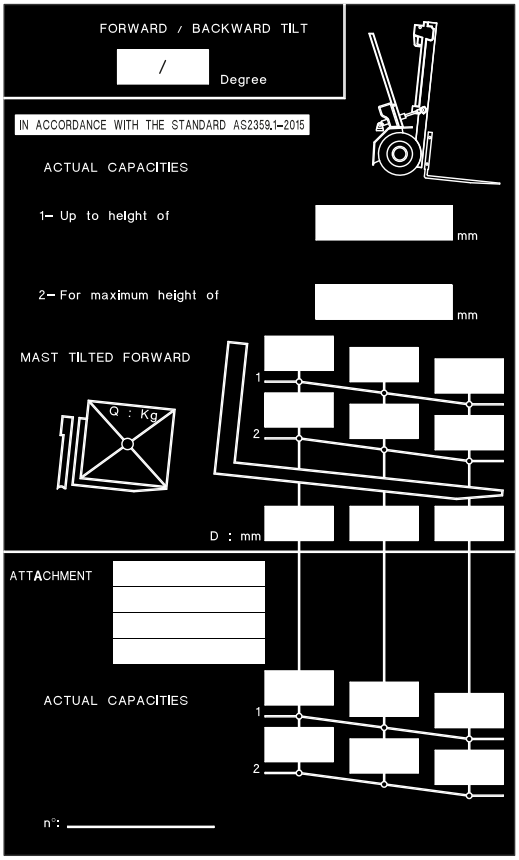
2 - For maximum height of →

VERTICAL MAST or MAST TILTED FORWARD →

EQUIPMENT →

ACTUAL CAPACITIES WITH EQUIPMENT →

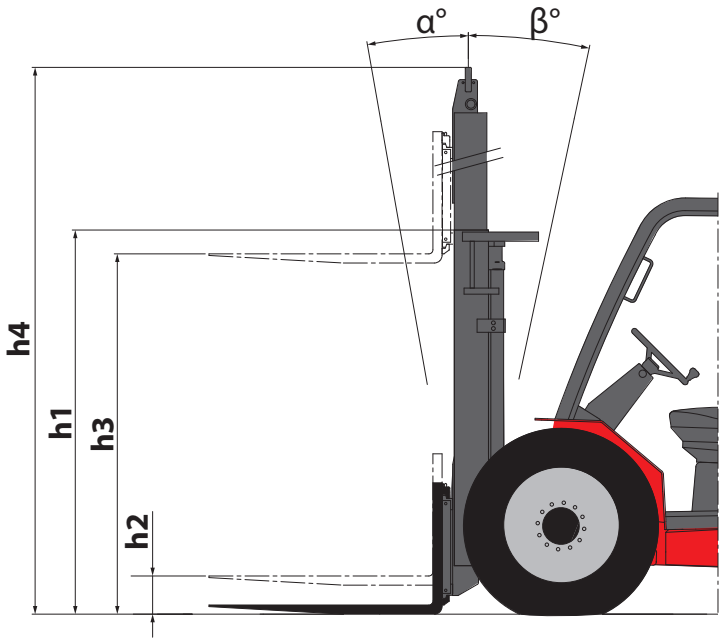




647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

ROLLER MAST CHARACTERISTICS MSI30 ...MSI35 ...

	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	α	β
DUPLEX TOTAL VISIBILITY	3000	135	2150	3893	10°	12°
	3300	135	2300	4193	10°	12°
	3500	135	2400	4393	10°	12°
	3700	135	2560	4593	10°	12°
	4000	135	2750	4893	10°	12°
	4500	135	3000	5393	10°	12°
	5000	135	3250	5893	6°	6°
	5500	135	3500	6393	6°	6°
	6000	135	3790	6893	6°	6°
DUPLEX FREE LIFT	3000	1396	2150	3799	10°	12°
	3300	1546	2300	4099	10°	12°
	3500	1646	2400	4299	10°	12°
	3700	1806	2560	4499	10°	12°
	4000	1996	2750	4799	10°	12°
	4500	2246	3000	5299	10°	12°
TRIPLEX FREE LIFT	3700	1297	2050	4500	10°	12°
	4000	1397	2150	4800	10°	12°
	4300	1547	2300	5100	10°	12°
	4700	1647	2400	5500	10°	12°
	5000	1807	2560	5800	6°	6°
	5500	1997	2750	6300	6°	6°
	6000	2247	3000	6800	6°	6°
	6500	2497	3250	7300	6°	6°
	7000	2747	3500	7800	6°	6°



VALUES ON FORKS				VALUES WITH TDL			
Height at max. capacity (mm)		Capacity at max. height CoG at 500 mm (kg)		Height at max. capacity (mm)		Capacity at max. height CoG at 500 mm (kg)	
3 t	**3.5 t**	**3 t**	**3.5 t**	**3 t**	**3.5 t**	**3 t**	**3.5 t**
3000	3000	3000	3500	3000	3200kg to 3000	3000	3200
3300	3300	3000	3500	3300	3200kg to 3300	3000	3200
3500	3500	3000	3500	3500	3200kg to 3500	3000	3200
3700	3700	3000	3500	3700	3200kg to 3700	3000	3200
4000	3400kg to 4000	3000	3400	2800kg to 4000	3100kg to 4000	2800	3100
4000	3400kg to 4000	2600	2900	2800kg to 4000	3100kg to 4000	2200	2800
4000	3400kg to 4000	2400	2700	2700kg to 4000	3100kg to 4000	2000	2500
4000		1900		2700kg to 4000		1500	
4000		1900		2700kg to 4000		1500	
3000	3000	3000	3500	3000	3200kg to 3000	3000	3200
3300	3300	3000	3500	3300	3200kg to 3300	3000	3200
3500	3500	3000	3500	3500	3200kg to 3500	3000	3200
3700	3700	3000	3500	3700	3200kg to 3700	3000	3200
4000	3400kg to 4000	3000	3400	2800kg to 4000	3100kg to 4000	2800	3100
4000	3400kg to 4000	2300	2600	2800kg to 4000	3100kg to 4000	1900	2300
3700	3400kg to 3700	3000	3400	2850kg to 3700	3100kg to 3700	2850	3100
4000	3400kg to 4000	3000	3400	2800kg to 4000	3100kg to 4000	2800	3100
4000	3400kg to 4000	2800	3000	2800kg to 4000	3100kg to 4000	2600	2900
4000	3400kg to 4000	2600	2600	2800kg to 4000	3100kg to 4000	2200	2300
4000	3400kg to 4000	2400	2700	2700kg to 4000	3100kg to 4000	2000	2500
4000	3400kg to 4000	1900	2200	2700kg to 4000	3100kg to 4000	1500	2000
4000	3400kg to 4000	1500	1800	2700kg to 4000	3100kg to 4000	1100	1600
	3300kg to 4000		1200		3000kg to 4000		1000

RATED CAPACITY →

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

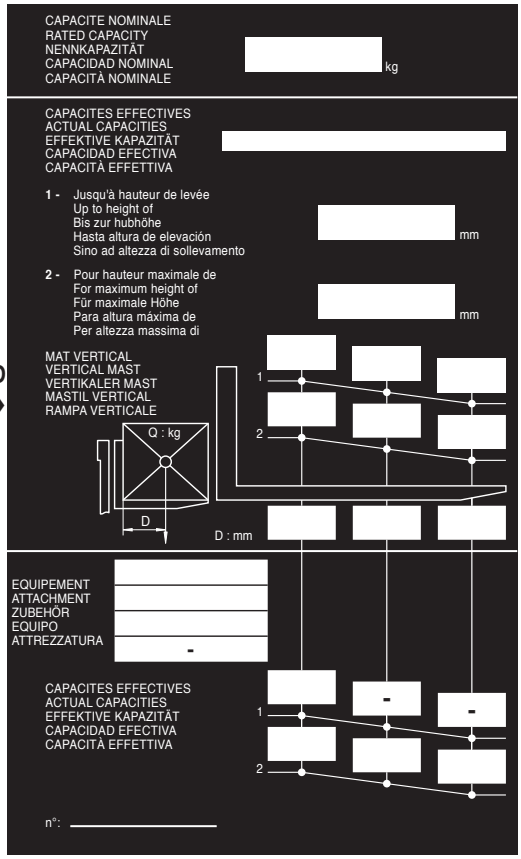
1 - Up to height of →

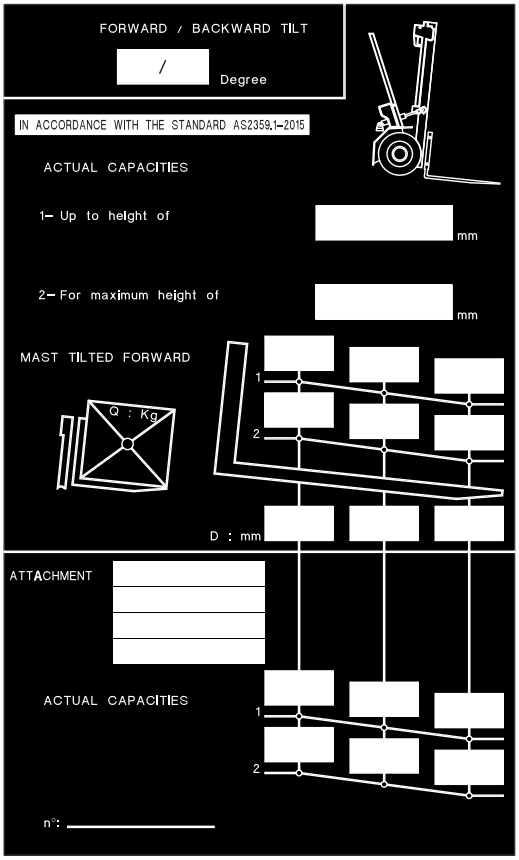
2 - For maximum height of →

VERTICAL MAST or MAST TILTED FORWARD →

EQUIPMENT →

ACTUAL CAPACITIES WITH EQUIPMENT →

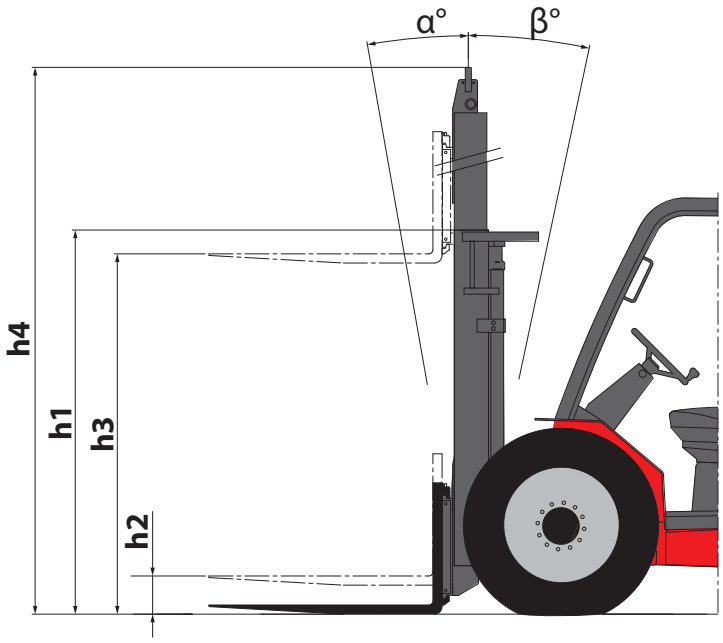




647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

ROLLER MAST CHARACTERISTICS MH25 ...

	LIFTING MAST	FREE LIFT	HEIGHT OF MAST		TILTING	
	h3 (mm)	h2 (mm)	h1 (mm) lowered	h4 (mm) extended	α	β
DUPLEX TOTAL VISIBILITY	2700	130	1995	3531	10°	12°
	3000	130	2145	3831	10°	12°
	3300	130	2295	4131	10°	12°
	3500	130	2395	4331	10°	12°
	3700	130	2555	4531	10°	12°
	4000	130	2745	4831	10°	12°
	4500	130	2995	5331	10°	12°
	5000	130	3245	5831	6°	6°
	5500	130	3495	6331	6°	6°
	6000	130	3785	6831	6°	6°
TRIPLEX WITHOUT FREE LIFT	3300	0	1835	4070	10°	12°
DUPLEX FREE LIFT	3000	1393	2145	3797	10°	12°
	3300	1543	2295	4097	10°	12°
	3500	1643	2395	4297	10°	12°
	3700	1803	2555	4497	10°	12°
	4000	1993	2745	4797	10°	12°
	4500	2243	2995	5297	10°	12°
TRIPLEX FREE LIFT	3700	1221	1945	4469	10°	12°
	4000	1321	2045	4769	10°	12°
	4300	1421	2145	5069	10°	12°
	4700	1571	2295	5469	10°	12°
	5000	1671	2395	5769	6°	6°
	5500	1831	2555	6269	6°	6°
	6000	2021	2745	6769	6°	6°
	6500	2271	2995	7269	6°	6°
	7000	2521	3245	7769	6°	6°



VALUES ON FORKS				VALUES WITH TDL			
Height at max. capacity (mm)		Capacity at max. height CoG at 500 mm (kg)		Height at max. capacity (mm)		Capacity at max. height CoG at 500 mm (kg)	
	2.5 t		**2.5 t**		**2.5 t**		**2.5 t**
	2700		2500		2400kg to 2700		2400
	3000		2500		2400kg to 3000		2400
	3000		2500		2400kg to 3300		2400
	3300		1900		2400kg to 3300		1800
	3300		1900		2400kg to 3300		1800
	3300		1550		2400kg to 3300		1350
	3300		1100		2400kg to 3300		1000
	3300		2500		3300		2400
	3000		2500		3000		2400
	3300		2500		3300		2400
	3300		1900		2400kg to 3300		1800
	3300		1900		2400kg to 3300		1800
	3300		1550		2400kg to 3300		1350
	3300		1100		2400kg to 3300		1000
	3300		1900		2400kg to 3300		1800
	3300		1550		2400kg to 3300		1350
	3300		1250		2400kg to 3300		1100
	3300		1000		2400kg to 3300		900
	3300		700		2400kg to 3300		600

RATED CAPACITY →

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

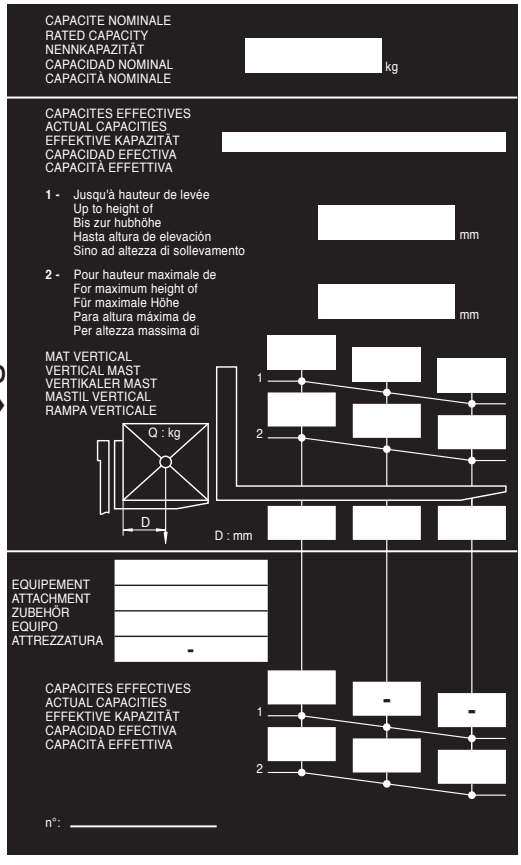
1 - Up to height of →

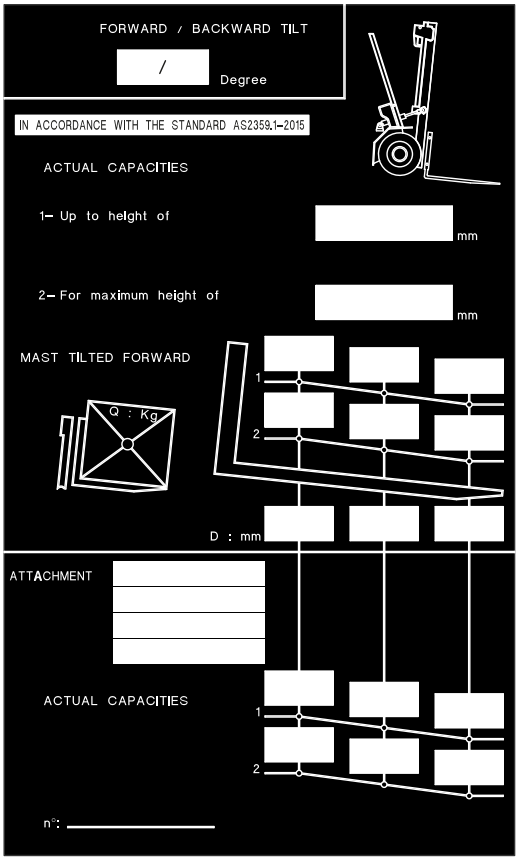
2 - For maximum height of →

VERTICAL MAST or MAST TILTED FORWARD →

EQUIPMENT →

ACTUAL CAPACITIES WITH EQUIPMENT →





- The **"rough terrain" load chart (according to standard EN 1726-1 appendix H)** for use on natural, undeveloped, unlevelled ground or on construction sites.
- The **"industrial floor" load chart (according to standard EN 1726-1 appendix H)** for use on hard, smooth, flat and prepared floors.

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

TYRES

FRONT

		PPRESSURE (bar) TYRE LOAD (kg)	MSI25 ...	MSI30 ...	MSI35 ...	MH25 ...
CONTINENTAL	10,5R20 14PR MPT80 134G TUBELESS	PRESSURE	5,3	5,6	6,5	5,3
		Front unladen	800	950	850	850
		Front laden	2850	3400	3700	2900
	8,25X20 CSE SC15	PRESSURE	Plein	Plein	Plein	
		Front unladen	800	950	850	
		Front laden	2850	3400	3700	
DUNLOP	15,5/55R18 14PR SPPG7 TUBELESS	PRESSURE	4	4,5	5,5	4
		Front unladen	800	950	850	850
		Front laden	2850	3400	3700	2900
	12,0-18 T86 TUBE TYPE 12PR	PRESSURE	3,5	4,2		
		Front unladen	800	950		
		Front laden	2850	3400		
GOODYEAR	275/70R22,5 RHS 148/145M TUBELESS	PRESSURE	9	9	9	
		Front unladen	800	950	850	
		Front laden	2850	3400	3700	
ALLIANCE	300/75 R18 580 TUBELESS	PRESSURE	4,4	4,4	4,4	
		Front unladen	800	950	850	
		Front laden	2850	3400	3700	
MICHELIN	280/80R20 XMCL TUBELESS	PRESSURE	4,4			4,4
		Front unladen	800			850
		Front laden	2850			2900

REAR

		PRESSURE (bar) TYRE LOAD (kg))	MSI25 ...	MSI30 ...	MSI35 ...	MH25 ...
CONTINENTAL	7.00X12 14PR IC40	PRESSURE	5,3	6,7	7,5	
		Rear unladen	1200	1400	1550	
		Rear laden	450	450	450	
	27.10.12 14PR IC12	PRESSURE	4,5	4,5	4,5	
		Rear unladen	1200	1400	1550	
		Rear laden	450	450	450	
	27.10.12 14PR IC30	PRESSURE				7
		Rear unladen				1250
		Rear laden				450
	7.00X12 CSE SC10	PRESSURE	Plein	Plein	Plein	
		Rear unladen	1200	1400	1550	
		Rear laden	450	450	450	
MICHELIN	7.00R12 XZM 136A5 TUBELESS	PRESSURE	4	4,75	7	
		Rear unladen	1200	1400	1550	
		Rear laden	450	450	450	

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

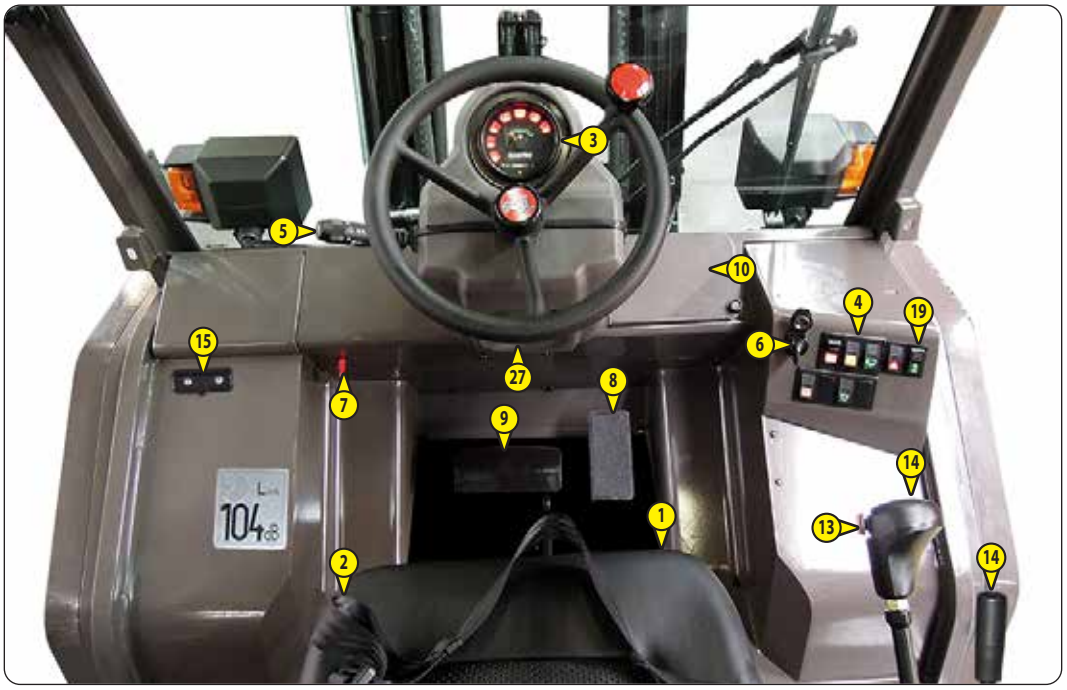
		PRESSURE (bar)	LOAD (kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD GROUND	SOFT GROUND	HARD GROUND	SOFT GROUND
CONTINENTAL	10,5R20 14PR MPT80 134G TUBELESS	5,3	800				
			850				
			2850				
			2900				
		5,6	950				
			3400	5,40		630	
		6,5	850				
			3700				
	8,25X20 CSE SC15	Solid	800	3,27		259	
			850	3,37		263	
			950	3,56		270	
			2850	7,24		393	
			3400	8,19		415	
			3700	8,71		426	
	7.00X12 14PR IC40	5,3	450				
			1200				
		6,7	450				
			1400				
		7,5	450				
			1550				
	27.10.12 14PR IC12	4,5	450				
			1200				
			1400				
			1550				
	27.10.12 14PR IC30	7	450				
			1250				
	7.00X12 CSE SC10	Solid	450	3,80		119	
			1200	6,30		190	
			1400	6,85		204	
			1550	7,24		215	
DUNLOP	15,5/55R18 14PR SPPG7 TUBELESS	4	800	2,87	1,59	280	504
			850	2,94	1,63	290	522
			2850	3,55	1,97	797	1434
			2900	3,57	1,98	810	1457
		4,5	950	3,27	1,82	290	522
			3400	3,95	2,20	860	1548
		5,5	850				
			3700				
	12,0-18 T86 TUBE TYPE 12PR	3,5	800	6,59	2,17	122	370
			2850	9,58	3,27	297	872
		4,2	950	7,52	2,46	126	386
			3400	11,11	3,80	306	895
GOODYEAR	275/70R22,5 RHS 148/145M TUBELESS	9	800				
			850				
			950				
			2850				
			3400				
			3700				
MICHELIN	280/80R20 XMCL TUBELESS	4,4	800	5,68	0,75	132	1020
			850	5,85	0,78	136	1037
			2850	10,14	1,61	273	1723
			2900	10,23	1,62	276	1740
	7.00R12 ZM 136A5 TUBELESS	4	450				
			1200				
		4,75	450	3,49		129	
			1400	4,73		296	
		7	450				
			1550				
ALLIANCE	300/75 R18 580 TUBELESS	4,4	800				
			850				
			950				
			2850				
			3400				
			3700				

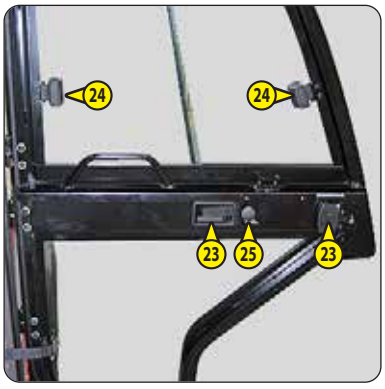
647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

DESCRIPTION

1 - DRIVER'S SEAT
2 - SEAT BELT
3 - CONTROL AND SIGNAL LIGHTS PANEL
4 - SWITCHES
5 - HORN SWITCH
6 - IGNITION SWITCH
7 - BATTERY CUT-OFF
8 - ACCELERATOR PEDAL
9 - SERVICE BRAKE PEDAL AND TRANSMISSION CUT-OFF
10 - FUSES AND RELAYS IN THE CAB
11 - FUSES AND RELAYS UNDER THE CAB (NOT ILLUSTRATED)
12 - FUSE (AIR CONDITIONING OPTION) (NOT ILLUSTRATED)
13 - FORWARD/NEUTRAL/REVERSE GEAR SELECTION
14 - HYDRAULIC CONTROLS
15 - DOCUMENT CLIP
16 - DOCUMENT STORAGE NET
17 - WINDSCREEN WASHER TANK
18 - LEVEL INDICATOR
19 - E - OVERHEAD GUARD OR CAB LIFTING
20 - ROOF LIGHT (OPTION)
21 - HEATING VENTS (OPTION)
22 - HEATER CONTROL (OPTION)
23 - DOOR LOCKS (OPTION)
24 - LEFT SIDE WINDSCREEN OPENING HANDLES (OPTION)
25 - LOCKING HANDLE FOR UPPER HALF DOOR (OPTION)
26 - RELEASING BUTTON FOR UPPER HALF DOOR (OPTION)
27 - STEERING WHEEL TILTING KNOB
28 - AIR CONDITIONING CONTROLS (AIR CONDITIONING OPTION)

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





647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

1 - DRIVER'S SEAT

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

LONGITUDINAL ADJUSTMENT

- Pull lever 1 upwards.
- Slide the seat to the desired position.
- Release the lever and be sure it returns to the lock position.

SEAT SUSPENSION ADJUSTMENT

- Pull and lift up the locking lever 2 so as to place it into one of these five positions.
  - Position A: Light-weight driver (50 kg).
  - Position B: Intermediate.
  - Position C: Middle-weight driver.
  - Position D: Intermediate.
  - Position E: Heavy-weight driver (120 kg).

BACK-REST ANGLE ADJUSTMENT

- Pull the locking lever 3 backwards.
- Tilt the back-rest into one of the three possible positions.
- Release the lever and be sure it returns to the lock position.

ANGLE ADJUSTMENT OF THE WHOLE SEAT

- Lift up the locking lever 4.
- Tilt the seat forwards or backwards.
- Release the lever and ensure it returns to the lock position.

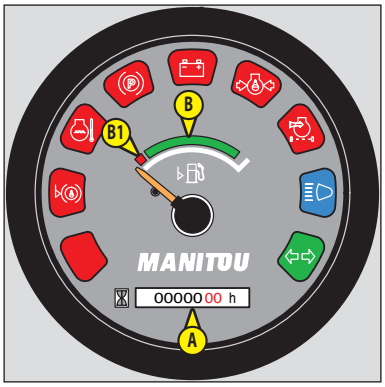
2 - SEAT BELT

⚠ IMPORTANT ⚠

In no event should the lift truck be used if the seat belt is defective (fixing, locking, cuts, tears, etc.). Repair or replace the seat belt immediately.

- Sit correctly on the seat.
- Check that 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.

3 - CONTROL AND SIGNAL LIGHTS PANEL



CONTROL INSTRUMENTS

A - HOURMETER

B - FUEL LEVEL

Red zone B1 indicates that you are using the reserve supply and that time of use is limited.

SIGNAL LIGHTS

When the lift truck ignition is switched on, all the red lamps and the panel's buzzer must come on to indicate that they are working correctly. If one of the red lamps or the buzzer fails to operate, carry out the necessary repairs.

RED LAMP - HYDRAULIC RETURN FILTER CLOGGED

The lamp and buzzer come on when the hydraulic return oil filter cartridge is clogged up. Stop the lift truck and carry out the necessary repairs (see cleaning and replacement requirements in chapter: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).

NOTE: This lamp may come on when starting the fork lift truck in cold weather, it should go out when the hydraulic oil reaches its normal operating temperature.

NOT USED

RED ENGINE WATER TEMPERATURE LAMP

If the lamp and the buzzer come on when the lift truck is running, stop the engine immediately and investigate the cooling circuit for the cause of the malfunction.

RED PARKING BRAKE INDICATOR LAMP

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

RED BATTERY CHARGE WARNING INDICATOR LAMP

If the red lamps and the buzzer come on, when the lift truck is running, stop the engine immediately and check the electrical circuit as well as the alternator belt.

RED ENGINE OIL PRESSURE WARNING INDICATOR LAMP

If the lamp and the buzzer come on when the lift truck is running, stop the engine immediately and seek the cause (see oil level in engine crankcase).

RED AIR FILTER CLOGGING INDICATOR LAMP

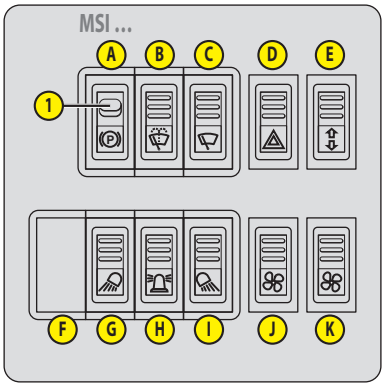
The lamp and the buzzer come on when the air filter cartridge is clogged up. Stop the lift truck and carry out the necessary repairs (see cleaning and replacement requirements in chapter: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).

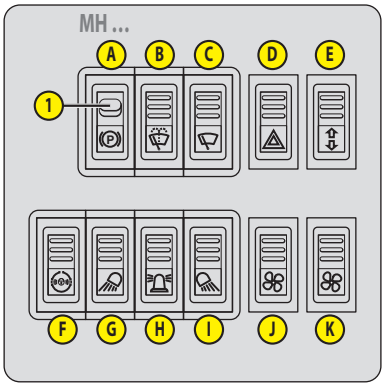
BLUE MAIN BEAM LAMP (OPTION)

GREEN INDICATOR LAMP (OPTION)

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

4 - SWITCHES





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

A - PARKING BRAKE

To connect the parking brake, lower the button 1 and press the bottom of the switch. The signal lamp shows it is being used. To disconnect the parking brake, press the top of the switch.

B - FRONT WINDSCREEN WIPER AND WINDSCREEN WASHER

This switch, when set to the intermediate position, starts the windscreen wiper and in the down position and simultaneously pressed, starts the windscreen-washer.

C- REAR WINDSHIELD WIPER

D - WARNING LIGHTS OPTION

This switch enables the L.H. and R.H. Indicators to be switched on simultaneously, with the ignition off. The signal light indicates that the switch is being used.

E - OVERHEAD GUARD OR CAB LIFTING

See: 2 - DESCRIPTION: 18 - OVERHEAD GUARD LIFTING or 18 - CAB LIFTING (OPTION) for operation of the switch.

F - OPTION

MSI ...

F - SPEED COMPENSATION ON THE 4 WHEELS

MH ...

⚠ IMPORTANT ⚠

When the speed compensation on the 4 wheels is engaged, always drive in straight line and slowly.

In the event of skidding, by holding this switch down in high position, the four drive wheels will turn at the same speed and hence improve driveability, no matter what the condition of the ground.

G - FRONT WORK LIGHTS OPTION

H - REVOLVING LIGHT OPTION

I - REAR WORK LIGHTS OPTION

J - HEATING FAN OPTION

This two speed switch allows warm or cold air to pass through the heating ventilators.

K - ADDITIONAL OR LOW-LEVEL HEATING OPTION

5 - HORN SWITCH

6 - IGNITION SWITCH

This switch has 4 positions:

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

7 - 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.

8 - ACCELERATOR PEDAL

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MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

9 - SERVICE BRAKE PEDAL AND TRANSMISSION CUT-OFF

MSI ...

This pedal operates in two steps:

- First, the pedal acts upon an electric switch which switches the hydrostatic transmission to neutral in order to slow the lift truck down.
- The pedal then acts upon a hydraulic valve which progressively lowers the pressure in the brakes so as to bring the lift truck to a complete stop.

NOTE: An OPTIONAL hydraulic transmission cut-off system is available that ensures gradual transmission cut-off (see: 2 - DESCRIPTION: DESCRIPTION AND USE OF THE OPTIONS).

MH ...

This pedal operates in two steps:

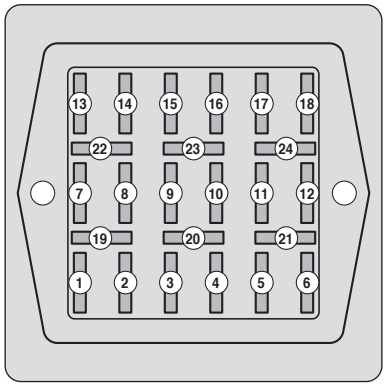
- First, the pedal acts upon a hydraulic valve which progressively cuts off the hydrostatic transmission so as to carry out a slow approach with full engine power.
- The pedal then acts upon a hydraulic valve which progressively lowers the pressure in the brakes so as to bring the lift truck to a complete stop.

10 - FUSES AND RELAYS IN THE CAB

⚠ IMPORTANT ⚠

Always replace a faulty fuse with another of equivalent rating. Never use a fuse that has been repaired.

- Remove plate 1 to access the fuses and relays.

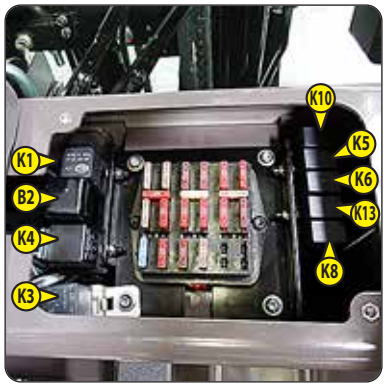


FUSES

- Remove the casing to access fuses F1 to F24.
  - F1 - OPTION Power supply for lighting, horn and indicator switch (15A).
  - F2 - OPTION Warning light power supply (10A).
    Anti-start OPTION (10A)
  - F3 - Rear windscreen wiper (7.5A).
  - F4 - Engine Stop Electrovalve (5A).
  - F5 - OPTION 1 Front worklight (7.5A).
    OPTION 2 Front worklights (15A).
    OPTION Anti-start (10A).
  - F6 - OPTION Heating (15A).
  - F7 - Control panel (5A).
  - F8 - Front windscreen wiper and windscreen washer (10A).
  - F9 - OPTION Indicator power supply (10A).
  - F10 - Reverse gear selection (10A).
    OPTION Reversing lights (10A).
    OPTION Reversing alarm (10A).
  - F11 - Parking brake (10A).
    Sound alarm (10A).
    OPTION Stop switch (10A).
  - F12 - OPTION Rotating beacon light (7.5A).
  - F13 - OPTION Right-hand sidelights (5A).
  - F14 - OPTION Left sidelights (5A).
  - F15 - OPTION Right indicator lights (7.5A).
  - F16 - OPTION Left indicator lights (7.5A).
  - F17 - OPTION Dipped headlights (10A).
  - F18 - OPTION Main headlights (10A).
  - F19 - OPTION Roof light (3A).
  - F20 - OPTION permanent (+).
  - F21 - OPTION 1 Rear work light (7.5A).
    OPTION 2 Rear work lights (15A).
  - F22 - Cut-off of hydraulic movements ISO3691 (10A).
    Differential lock (5A). MH ...
  - F23 - Starter (25A).
  - F24 - Overhead guard lifting (5A).

RELAYS

- K1 - Safety system starting switch relay.
- K3 - Overhead guard or cab lifting relay.
- K4 - OPTION Flashing unit.
- K5 - Forward gear relay.
- K6 - Reverse gear relay.
- K8 - Hydraulic movements cut-off relay ISO3691.
- K10 - Parking brake relay.
- K13 - Transmission cut-off relay.
- B2 - Buzzer.

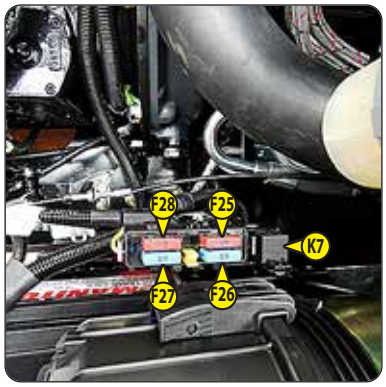


11 - FUSES AND RELAYS UNDER THE CAB

⚠ IMPORTANT ⚠

Always replace a faulty fuse with another of equivalent rating. Never use a fuse that has been repaired.

- Remove cover 1 in order to gain access to the fuses.
  - F29 - Engine preheating (50A).
  - F30 - Alternator (60A).
  - F31 - Ignition switch (60A).
  - F32 - Overhead guard lifting (50A).
  - K7 - Preheat relay.
    OPTION diesel fuel thinning relay.
    OPTION diesel fuel thinning fuse (15A).

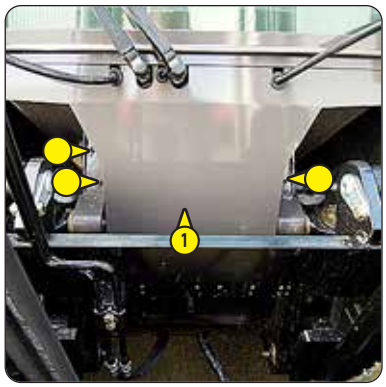


12 - FUSE (AIR CONDITIONING OPTION)

⚠ IMPORTANT ⚠

Always replace a faulty fuse with another of equivalent rating. Never use a fuse that has been repaired.

- Tilt the mat forward.
- Remove plate 1.
- Remove the casing to access the fuses.
  - F33 - Air conditioning OPTION (40A).



13 - FORWARD/NEUTRAL/REVERSE GEAR SELECTION

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

- FORWARD: Lift slightly and push the lever forwards (position A).
- REVERSE: Lift slightly and pull the lever backwards (position B).
- NEUTRAL: To start the lift truck, the lever must be in neutral (position C).

NOTE: As an OPTION, reversing lights and an acoustic reversing alarm indicate that the lift truck is running in reverse.

SAFETY FOR MOVING THE LIFT TRUCK

Authorisation to move the lift truck is controlled by an electronic unit. The operator must observe the following sequence to move the truck forwards or backwards:

- 1 - sit down correctly in the driver's seat,
- 2 - release the parking brake,
- 3 - engage forward or reverse movement.

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

- 1 - set the forward/reverse selector to neutral,
- 2 - engage the parking brake,
- 3 - get out of the lift truck.

NOTE: If the operator leaves the driver's cab with forward or reverse engaged, a continuous alarm will sound. While this alarm sounds, the operator can simply sit back in the seat and continue advancing or reversing. If the alarm becomes discontinuous, the operator must sit back in the seat, put the selector back in neutral and select forward or reverse if he wishes to continue moving.

AUSTRALIAN SPECIFICATION

If the operator only removes the seatbelt with forward or reverse gear in operation the transmission is cut-off. A discountinous beep is emited. The operator must, before continuing moving :

- 1 - Fasten the seatbelt,
- 2 - Return the gear selector to neutral,
- 3 - Engage forward or reverse gear.

If the operator leaves the seat with forward or reverse gear in operation the transmission is cut-off. A continuous beep is emited if the parking brake is not engaged. The operator must, before continuing moving :

- 1 - Sit correctly in the driver's seat,
- 2 - Fasten the seat belt,
- 3 - Return the gear selector to neutral,
- 4 - Release the parking brake (if engaged),
- 5 - Engage forward or reverse gear.

14 - HYDRAULIC CONTROLS

⚠ IMPORTANT ⚠

Do not attempt to alter the hydraulic system pressure by interfering with the pressure regulating valve. In the event of suspected malfunction, contact your dealer. ANY ALTERATION MAY RENDER THE WARRANTY NULL AND VOID.

⚠ IMPORTANT ⚠

Use the hydraulic controls 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 correctly sat on his seat. Otherwise, the hydraulic controls are blocked.

LIFTING THE LOAD

- Lever A backwards for lifting.
- Lever A forwards for lowering.

NOTE: The engine r.p.m. automatically increases when lifting the load.

TILTING THE MAST

- Lever A to the left for backward tilting.
- Lever A to the right for forward tilting.

ATTACHMENT

- Lever B forwards or backwards.

15 - DOCUMENT CLIP

16 - DOCUMENT STORAGE NET

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

NOTE: An OPTIONAL waterproof document-holder is available.

17 - WINDSCREEN WASHER TANK

See: 3 - MAINTENANCE: B - EVERY 50 HOURS SERVICE.

18 - LEVEL INDICATOR

Enables the operator to check that the lift truck is in the horizontal position.

19 - E - OVERHEAD GUARD OR CAB LIFTING

OVERHEAD GUARD (STANDARD)

⚠ IMPORTANT ⚠

Make sure that the mast is tilted forwards to a maximum and the engine is stopped before lifting the overhead guard.

UNLOCKING THE OVERHEAD GUARD

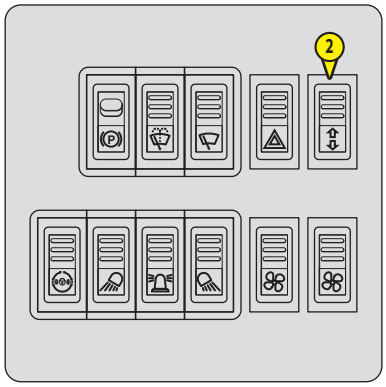
- Keep the ignition on in the lift truck.
- Unlock the overhead guard by means of the lever 1 in position A.

LIFTING THE OVERHEAD GUARD

⚠ IMPORTANT ⚠

Check that there is nothing laying on the driver's seat, which could disrupt the operation.

- Press the top of the switch 2 until complete lifting of the overhead guard.
- Put the lever 1 back into position B.
- Place the safety prop 3 onto its stop 4.

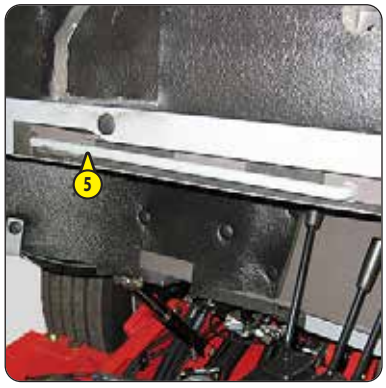


LOWERING THE OVERHEAD GUARD

⚠ IMPORTANT ⚠

Check that nothing or nobody can impede the lowering of the overhead guard.

- Fold the safety prop back into its clip 5.
- Lower the overhead guard into its initial position by pressing the bottom of the switch 2.
- Ensure that the overhead guard is locked.



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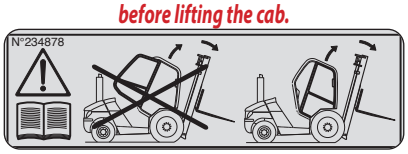
CAB LIFTING (OPTION)

⚠ IMPORTANT ⚠

Ensure that the mast is tilted forwards to a maximum, that the engine is stopped and that the two doors are shut before lifting the cab.



UNLOCKING THE CAB

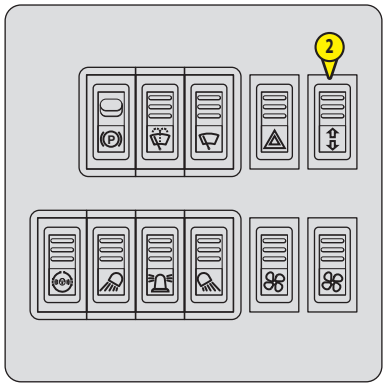
- Half-open the right door of the cab.
- Keep the ignition on in the lift truck.
- Unlock the cab by means of lever 1 in position A.

RAISING THE CAB

⚠ IMPORTANT ⚠

Check that there is nothing laying on the driver's seat, which could disrupt the operation.

- Maintain the door half-open.
- Press the top of the switch 2 until complete lifting of the cab.
- Put the lever 1 back into position B.
- Shut the door.
- Place the safety prop 3 onto its stop 4.

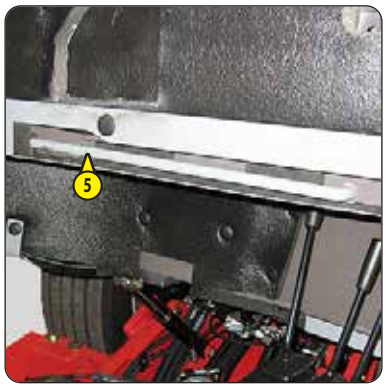


LOWERING THE CAB

⚠ IMPORTANT ⚠

Check that nothing or nobody can impede the lowering of the cab.

- Fold the safety prop back into its clip 5.
- Half-open the right door of the cab.
- Lower the cab into its initial position by pressing the bottom of the switch 2.
- Ensure that the cab is locked.
- Shut the door.



20 - ROOF LIGHT (OPTION)

21 - HEATING VENTS (OPTION)

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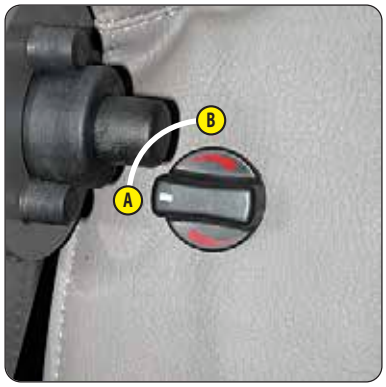
22 - HEATER CONTROL (OPTION)

Allows the temperature inside the cab to be adjusted.

- A - With the valve closed, the fan delivers fresh air.
- B - With the valve opened completely, the fan delivers warm air.

The intermediate positions allow the temperature to be adjusted.



23 - DOOR LOCKS (OPTION)

Two keys are provided with the lift truck to enable the cabin to be locked.

24 - LEFT SIDE WINDSCREEN OPENING HANDLES (OPTION)

25 - LOCKING HANDLE FOR UPPER HALF DOOR (OPTION)

26 - RELEASING BUTTON FOR UPPER HALF DOOR (OPTION)

27 - STEERING WHEEL TILTING KNOB

This handle enables the angle of the steering wheel to be adjusted.

- Turn the handle 1 towards A to loosen and adjust steering wheel.
- Turn the handle 1 towards B to lock steering wheel in the required position.

28 - AIR CONDITIONING CONTROLS (AIR CONDITIONING OPTION)

⚠ IMPORTANT ⚠

The air conditioning only works when the lift truck is started. When using the air conditioning, it is imperative to work with doors and windows closed.
In winter: So as to ensure that the air conditioning unit is correctly operated and completely efficient, start up the compressor once a week, even for a short period of time, in order to lubricate the internal seals.
In cold weather: Warm the engine before switching on the compressor, in order to allow the coolant that has collected in the liquid state at the lowest point of the compressor's circuit to turn into gas under the effect of the heat given off by the engine, as the compressor is liable to be damaged by coolant in the liquid state.
If your air-conditioning does not seem to be working correctly, have it examined by your dealer (see: 3 - MAINTENANCE: F - EVERY 2000 HOURS OF SERVICE).
Never try to repair any faults yourself.

DESCRIPTION OF THE AIR-CONDITIONING CONTROLS

- A - Control with indicator lamp for the activation and cut-off of the air conditioning system.
- B - Air temperature control.
- C - Control regulating air flow and the speed of the fan.

NOTE: Possible losses of water under the lift truck are due to condensate discharges caused by the dehumidifying effect of the system, especially under high outside temperature and high relative humidity conditions. For the air conditioning to perform properly, the air intakes must not be blocked by frost, snow or leaves. When the system is in operation, at least one of the cab air grilles must be open so as to avoid any risk of freezing to the evaporator.

AIR CONDITIONING MODE

The controls must be adjusted in the following way:

- A - Control with indicator lamp on.
- B - At the required temperature.
- C - In the desired position.

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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 securing the lift truck (see: 3 - MAINTENANCE: G - OCCASIONAL MAINTENANCE)

IF NECESSARY, CONSULT YOUR DEALER.

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DESCRIPTION AND USE OF THE OPTIONS

1 - ROTATING BEACON LIGHT
2 - LIGHTING, HORN AND INDICATOR SWITCH
3 - FRONT HEADLIGHTS
4 - REAR LIGHTS (OVERHEAD GUARD MODEL)
5 - REAR LIGHTS (CAB MODEL)
6 - REVERSING LIGHTS
7 - REVERSING BUZZER ALARM
8 - EMERGENCY STOP BUTTON
9 - FINTRONIC ANTI-START SYSTEM
10 - MODCLÉ ANTI-THEFT SYSTEM
11 - ADAPTATION OF 4TH ELEMENT OF SINGLE- OR DOUBLE-ACTING DISTRIBUTOR
12 - IN LINE DISTRIBUTOR 3 ELEMENT ADAPTATION
13 - IN LINE DISTRIBUTOR 4 ELEMENT ADAPTATION
14 - INCHING HYDRAULIC TRANSMISSION CUT-OFF ADAPTATION
15 - FOOT OPERATED FORWARD/REVERSE SWITCH ADAPTATION
16 - ARMREST AND JOYSTICK
17 - 2WD/4WD SWITCH
18 - HEIGHT INDICATOR (AUSTRALIA ONLY)

1 - ROTATING BEACON LIGHT

The rotating beacon light is dismountable to make it possible, for example, to reduce the bulkiness of the lift truck or to avoid being stolen.

- Loosen nut 1 and remove the rotating beacon light.
- Protect mounting 2 with cap 3.

2 - LIGHTING, HORN AND INDICATOR SWITCH

The switch controls the visual and sound alarms.

- A - All lights are off, the indicator lights do not flash.
- B - The right hand indicator lights flash.
- C - The left hand indicator lights flash.
- D - Sidelights and rear lights on.
- E - The dipped headlights and the rear lights are on.
- F - The main beam headlights and the rear lights are on.
- G - Headlights signal.

Pressing the end of the switch sounds the horn.

NOTE: Positions D - E - F - G can be used without switching on the ignition.

3 - FRONT HEADLIGHTS

- A - Front left indicator light.
- B - Left front sidelight.
- C - Left front dipped headlight and main beam.
- D - Right front sidelight.
- E - Right front dipped headlight and main beam.
- F - Right front indicator light.

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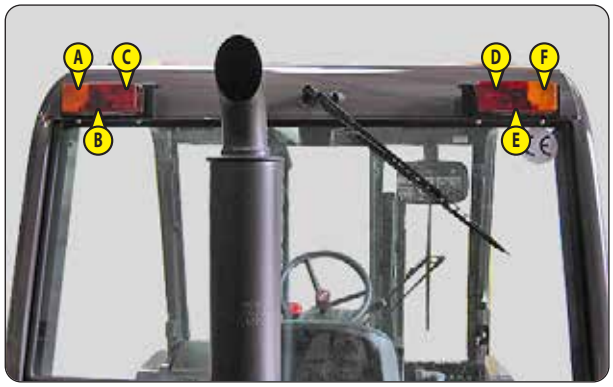
4 - REAR LIGHTS (OVERHEAD GUARD MODEL)

- A - Rear left indicator light.
- B - Rear left hand headlight.
- C - Rear left-hand stop light.
- D - Rear right-hand stop light.
- E - Right rear headlight.
- F - Right rear indicator.



5 - REAR LIGHTS (CAB MODEL)

- A - Rear left indicator light.
- B - Rear left hand headlight.
- C - Rear left-hand stop light.
- D - Rear right-hand stop light.
- E - Right rear headlight.
- F - Right rear indicator.

6 - REVERSING LIGHTS

7 - REVERSING BUZZER ALARM

8 - EMERGENCY STOP BUTTON

⚠ IMPORTANT ⚠

Be ready for hydraulic movements suddenly stopping when you press this button.

In the event of danger, it enables the engine to be shut down, thereby cutting-off all hydraulic movements.

- Turn the knob to deactivate it before restarting the lift truck.

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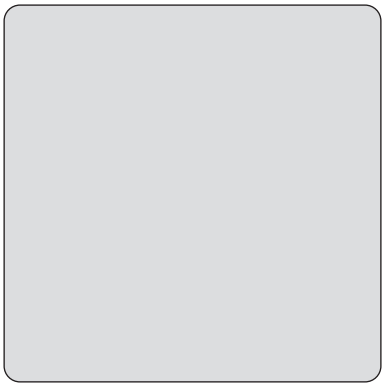
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

9 - FINTRONIC ANTI-START SYSTEM



OPERATION

- Switch on the lift truck and set the black key A next to the antenna B (maximum 80 mm).
- Wait a few seconds for red led C to go out before starting the lift truck.

NOTE: You can restart the lift truck within 20 seconds of stopping it: after this time, the anti-start system reacts and LED C flashes red.

10 - MODCLÉ ANTI-THEFT SYSTEM

OPERATION

- Use the black key on the anti-theft system unit 1, the yellow indicator 2 will briefly light up. Once the key is recognized, the green light 3 will light continuously.
- Start the lift truck within the next 60 seconds; otherwise the anti-theft system will be reactivated and the red indicator 4 will flash.

NOTE: After stopping the engine, the anti-theft system is deactivated for 20 seconds. After this pause, it reactivates and the red indicator will flash.

⚠ IMPORTANT ⚠

If the key is not recognized, all of the indicator lights will flash alternately.
Verify that the key corresponds to the anti-theft system of the lift truck.
If the anti-theft system is blocked, only the PASS key will allow the start-up of the lift truck. In case of defects, consulter your dealer.

11 - ADAPTATION OF 4TH ELEMENT OF SINGLE- OR DOUBLE-ACTING DISTRIBUTOR

LIFTING THE LOAD

- Lever A backwards for lifting.
- Lever A forwards for lowering.

NOTE: The engine r.p.m. automatically increases when lifting the load.

TILTING THE MAST

- Lever A to the left for backward tilting.
- Lever A to the right for forward tilting.

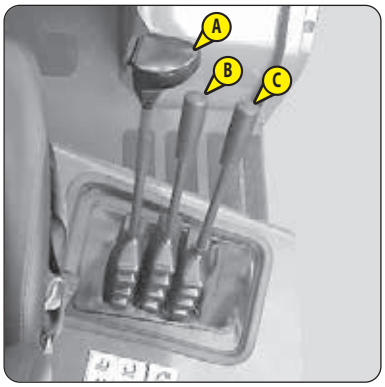
ATTACHMENT

- Lever B forwards or backwards.

ADDITIONAL ATTACHMENT

- Lever C forwards or backwards.

12 - IN LINE DISTRIBUTOR 3 ELEMENT ADAPTATION



LIFTING THE LOAD

- Lever A backwards for lifting.
- Lever A forwards for lowering.

NOTE: The engine r.p.m. automatically increases when lifting the load.

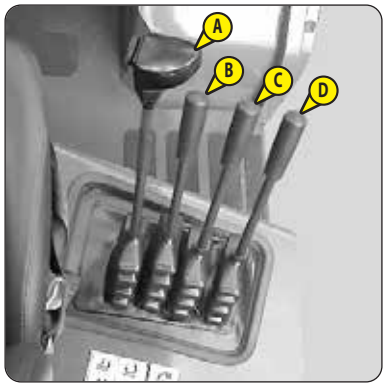
TILTING THE MAST

- Lever B backwards for backward tilting.
- Lever B forwards for forward tilting.

ATTACHMENT

- Lever C forwards or backwards.

13 - IN LINE DISTRIBUTOR 4 ELEMENT ADAPTATION



LIFTING THE LOAD

- Lever A backwards for lifting.
- Lever A forwards for lowering.

NOTE: The engine r.p.m. automatically increases when lifting the load.

TILTING THE MAST

- Lever B backwards for backward tilting.
- Lever B forwards for forward tilting.

ATTACHMENT

- Lever C forwards or backwards.

ADDITIONAL ATTACHMENT

- Lever D forwards or backwards.

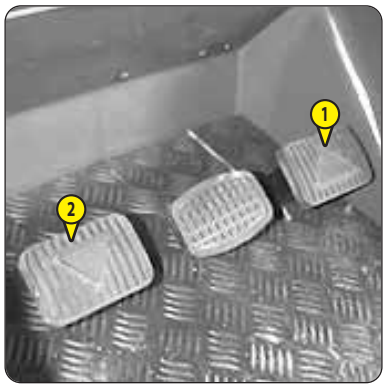
14 - INCHING HYDRAULIC TRANSMISSION CUT-OFF ADAPTATION

MSI ...

This pedal operates in two steps:

- First, the pedal acts upon a hydraulic valve which progressively cuts off the hydrostatic transmission so as to carry out a slow approach with the full engine power.
- Then, the pedal acts upon a hydraulic valve which progressively makes the pressure in the brakes drop so as to immobilise the lift truck.

15 - FOOT OPERATED FORWARD/REVERSE SWITCH ADAPTATION



The lift truck must be stationary when operating the forward/reverse pedal.

- FORWARD: Press the pedal 1 on the right.
- REVERSE: Press the pedal 2 on the left.
- NEUTRAL: To start the lift truck, do not press the reverse pedals.

16 - ARMREST AND JOYSTICK

The armrest is adjustable in height and length.

- Untighten the thumbscrews 1 and the lever 2.
- Adjust the armrest to the desired position.
- Retighten the thumbscrews and the lever.

The hydraulic control joystick is height-adjustable in relation to the arm rest (3 positions).

- Pull the button 3 and adjust the joystick height:
  - A - Raised position.
  - B - Intermediate position.
  - C - Down position.

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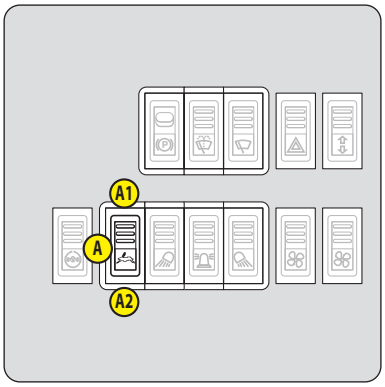
17 - 2WD/4WD SWITCH



A - 4WD <-> 2WD SWITCHING

This switch serves to change from 4WD (low speed 14km/h) to 2WD (high speed 24km/h).

A1: LOW SPEED 14km/h (4WD)

- Press the top of the switch. The indicator lamp will switch off.

A2: HIGH SPEED 24km/h (2WD)

- Press the top of the switch. The indicator lamp will switch on.

NOTE: When starting the lift truck, low speed is automatically selected.

CONDITIONS OF USE

	FORWARD/REVERSE SELECTOR		
	Forward	**Neutral**	**Reverse**
(14km/h) **4WD --> 2WD** (24km/h)	Permitted (*)	Permitted (*)	Impossible
(24km/h) **2WD --> 4WD** (14km/h)	Permitted (**)	Permitted (**)	Permitted (**)

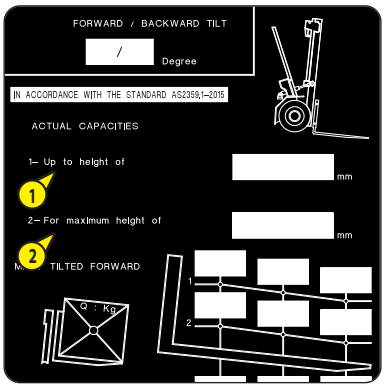
(*) After minimum 2 seconds.

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

18 - HEIGHT INDICATOR (AUSTRALIA ONLY)

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..



647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

3 - MAINTENANCE

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

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3 - MAINTENANCE

647468 (15/09/2025)
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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 - to be held responsible 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 due to experience 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 ONLY BY MANITOU AND THE DEALER NETWORK.

The list of dealers is available on the MANITOU website www.manitou.com

647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

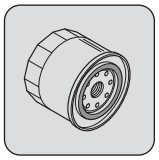
FILTER CARTRIDGES AND BELTS

ENGINE

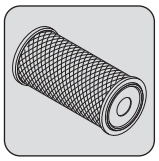
* MSI25 T 4ST3A - MSI30 T 4ST3A - MSI35 T 4ST3A - MH25-4 T BUGGIE 4ST3A

** MSI25 36KW 4ST3A - MSI30 36KW 4ST3A - MSI35 36KW 4ST3A - MH25-4 BUGGIE 36KW 4ST3A

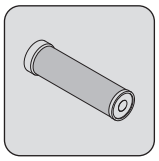
ENGINE OIL FILTER
Change: 500 H



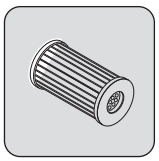
DRY AIR FILTER CARTRIDGE
Clean: 50 H
Change: 500 H



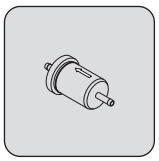
SAFETY DRY AIR FILTER CARTRIDGE
Change: 1000 H



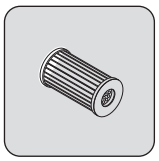
FUEL FILTER CARTRIDGE
Clean: 250 H
Change: 500 H



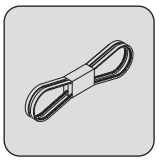
FUEL PRE-FILTER *
Change: 500 H



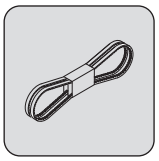
FUEL PRE-FILTER CARTRIDGE **
Change: 500 H



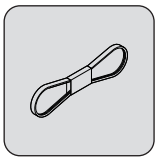
ALTERNATOR BELT *
Change: 500 H



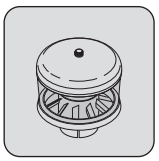
ALTERNATOR BELT **
Change: 500 H



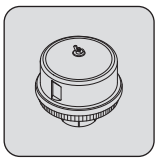
COMPRESSOR BELT
(AIR CONDITIONING OPTION)
Change: 500 H



CYCLONIC PRE-FILTER (OPTION)
Clean: 10 H

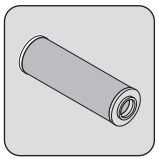


AUTOMATIC VACUUM-CLEANING PRE-FILTER
(OPTION)

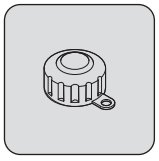


HYDRAULICS

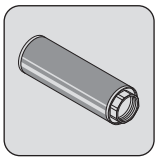
HYDRAULIC RETURN OIL FILTER CARTRIDGE
Change: 500 H



HYDRAULIC OIL TANK FILTER CAP
Change: 1000 H

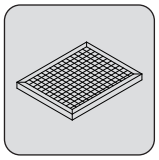


SUCTION STRAINER FOR HYDRAULIC OIL TANK
Clean: 1000 H



CAB

CAB FAN FILTER
(AIR CONDITIONING OPTION)
Clean: 50 H
Change: 250 H



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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.

- EN590 diesel fuel (sulphur content < 10 ppm)
- ASTM D975 diesel fuel (sulphur content < 15 ppm)

RECOMMENDATION

ENGINE		
PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
ENGINE	8.3 Litres	0W30 0W40 5W30 5W40 10W30 MANITOU PREMIUM OIL 15W40 API CI4 20W50
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
COOLING CIRCUIT	10 Litres	COOLANT -35°C
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
FUEL TANK	67 Litres	DIESEL OIL *

MAST	
PARTS TO BE LUBRICATED	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		
PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
HYDRAULIC OIL TANK	95 Litres	ISO VG 100 ISO VG 68 MANITOU ISO VG 46 HYDRAULIC OIL ISO VG 37 ISO VG 32

OVERHEAD GUARD		
PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
WINDSCREEN WASHER TANK	2 Litres	WINDSCREEN WASHER LIQUID

CAB (OPTION)		
PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
CAB DOOR		MANITOU BLUE MULTI-PURPOSE LUBRICANT
WINDSCREEN WASHER TANK	2 Litres	WINDSCREEN WASHER LIQUID

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FRONT AXLE

PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
FRONT WHEEL REDUCING GEAR	2 x 1 Litre	MANITOU SAE80W90 MECHANICAL TRANSMISSION OIL

REAR AXLE MSI25... - MSI30... - MSI35...

PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
SWIVEL PINS STEERING CONNECTING ROD REAR AXLE OSCILLATION		MANITOU BLUE MULTI-PURPOSE LUBRICANT

REAR AXLE MH25...

PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION
		-40°C -30 -20 -10 0 +10 +20 +30 +40 +50°C
WHEEL REDUCTION GEAR PIVOTS STEERING CONNECTING ROD REAR AXLE OSCILLATION		MANITOU BLUE MULTI-PURPOSE LUBRICANT

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SERVICING SCHEDULE

⚠ IMPORTANT ⚠

(1): MANDATORY 500 HOUR OR 6 MONTH SERVICE. This service must be carried out after approximately the first 500 hours of operation or within the 6 months following the start-up of the machine (whichever occurs first).

(2): The engine oil and engine oil filter must be replaced after the first 50 hours of operation and every 500 hours of operation thereafter.

(3): Contact your dealer.

(4): In the event of using diesel fuel with a sulphur content > 5000ppm, halve the filter and engine oil replacement frequency.

A = ADJUST, C = CHECK, G = GREASE, N = CLEAN, P = BLEED, R = REPLACE, V = DRAIN	PAGE	(1)	DAILY OR EVERY 10 HOURS OF SERVICE	EVERY 50 HOURS OF SERVICE	EVERY 250 HOURS OF SERVICE	EVERY 500 HOURS OF SERVICE OR EVERY YEAR	EVERY 1000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 2000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 3000 HOURS OF SERVICE	EVERY 4000 HOURS OF SERVICE	OCCASIONAL
ENGINE											
- Engine oil level	3-10	C	C								
- Cooling liquid level	3-10	C	C								
- Fuel level	3-11	C	C								
- Cyclonic pre-filter (option)	3-11	N	N								
- Dry air filter cartridge	3-12/18	R		C/N		R					
- Radiator core	3-12	N		N							
- Fuel filter	3-16	R			N						
- Alternator/fan/crankshaft belt tension	3-16	C/A			C/A						
- Compressor belt tension (Air-conditioning OPTION)	3-17	C/A			C/A						
- Engine oil *(2) (4)*	3-18	V				V					
- Engine oil filter *(2) (4)*	3-18	R				R					
- Fuel filter cartridge	3-19	R				R					
- Fuel pre-filter *	3-20	R				R					
- Fuel pre-filter cartridge **	3-20	R				R					
- Alternator/fan/crankshaft belt	3-20	R				R					
- Fuel tank	3-22						N				
- Safety dry air filter cartridge	3-22						R				
- Engine silent blocks							C *(3)*				
- Engine speeds							C *(3)*				
- Valve clearances		C *(3)*					C *(3)*				
- Cooling liquid	3-26							V			
- Injection pump								C *(3)*			
- Injectors								C *(3)*			
- Radiator								C *(3)*			
- Water pump and the thermostat								C *(3)*			
- Alternator and the starter motor								C *(3)*			
- Turbo compressor *									C *(3)*		
- Fuel circuit	3-28										P
* MSI25 T 4ST3A - MSI30 T 4ST3A - MSI35 T 4ST3A - MH25-4 T BUGGIE 4ST3A											
** MSI25 36KW 4ST3A - MSI30 36KW 4ST3A - MSI35 36KW 4ST3A - MH25-4 BUGGIE 36KW 4ST3A											
TRANSMISSION											
- Hydrostatic transmission circuit pressures								C *(3)*			
- Hydrostatic transmission control flow								C *(3)*			
- Working order of the hydraulic valves for the transmission cut-off and accelerator								C *(3)*			
TYRES											
- Tyre pressures	3-12	C		C							
- Wheel nut tightening	3-12	C		C							
- Wheel nut tightening torques	3-26	C						C			
- Wheel	3-29										R
MAST											
- Tension and alignment of the mast lifting chains	3-13	C/A		C/A							
- Mast	3-13	G		G							
- Mast lifting chains	3-21	N/C/G				N/C/G		C *(3)*			
- Condition of mast unit								C *(3)*			
- Chain rollers								C *(3)*			
- Mast guide rollers								C *(3)*			
- Mast bearing rollers								C *(3)*			
- Thickness of the mast wearing plates								C *(3)*			

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A = ADJUST, C = CHECK, G = GREASE, N = CLEAN, P = BLEED, R = REPLACE, V = DRAIN	PAGE	(1)	DAILY OR EVERY 10 HOURS OF SERVICE	EVERY 50 HOURS OF SERVICE	EVERY 250 HOURS OF SERVICE	EVERY 500 HOURS OF SERVICE OR EVERY YEAR	EVERY 1000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 2000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 3000 HOURS OF SERVICE	EVERY 4000 HOURS OF SERVICE	OCCASIONAL
HYDRAULICS											
- Hydraulic oil level	3-14	C		C							
- Hydraulic return oil filter cartridge	3-21	R				R					
- Hydraulic oil	3-23						V				
- Suction strainer for hydraulic oil tank	3-23						N				
- Hydraulic oil tank filter cap	3-23						R				
- Speeds of hydraulic movements							C (3)				
- Hydraulic pump tubular filter							N (3)				
- Condition of hoses and flexible pipes							C (3)				
- Condition of cylinders (leakage, rods)							C (3)				
- Hydraulic circuit pressures								C (3)			
- Hydraulic circuit outputs								C (3)			
- Hydraulic oil tank								N (3)			
BRAKING SYSTEM											
- Brake system pressure							C (3)				
- Brake							A (3)				
- Brake solenoid valve filter							N (3)				
OVERHEAD GUARD											
- Windscreen washer liquid level	3-14	C		C							
- Seat belt	3-24						C				
- Condition of the rear view mirrors							C (3)				
- Structure							C (3)				
- Raising the overhead guard in the event of a breakdown	3-30										XXX
CAB (OPTION)											
- Windscreen washer liquid level	3-14	C		C							
- Cab door	3-14	G		G							
- Condenser core (Air-conditioning OPTION)	3-14	N		N							
- Cab ventilation filter (Air-conditioning OPTION)	3-15/17	R		C/N	R						
- Seat belt	3-24						C				
- Condition of the rear view mirrors							C (3)				
- Structure							C (3)				
- Air conditioning (OPTION)	3-27							N/C			
- Lift the cab in case of failure	3-30										XXX
ELECTRICITY											
- Condition of wiring harness and cables							C (3)				
- Lights and signals (OPTION)							C (3)				
- Warning indicators							C (3)				
- Front headlights (OPTION)	3-31										A
- Battery failure	3-31										R
FRONT AXLE											
- Front wheel reduction gear oil level	3-15	C		C							
- Front wheel reducer oil	3-27	V						V			
- Wear of the brake pads and the brake disk										C (3)	
REAR AXLE											
- Swivel pins MSI25... - MSI30... - MSI35...	3-15	G		G						G/C (3)	
- Wheel reduction gear pivots MH25...	3-15	G		G						G/C (3)	
- Steering connecting rod	3-15	G		G							
- Rear axle oscillation	3-15	G		G				G/C (3)			
- Steering								C (3)			
- Rear axle										C (3)	
FRAME											
- Structure							C (3)				
- Bearings and articulation rings								C (3)			
ATTACHMENTS											
- Fork wear		C				C (3)					
- Attachment carriage							C (3)				
- Condition of attachments							C (3)				
LIFT TRUCK											
- Towing the lift truck	3-32/33										XXX
- Sling the lift truck	3-34										XXX
- Transport the lift truck on a platform	3-35										XXX

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A - DAILY OR EVERY 10 HOURS OF SERVICE

A1 – ENGINE OIL LEVEL

CHECK

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

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Pull out dipstick 1.
- Clean the dipstick and check the correct level between the two notches.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 2.
- Visually check that there is no leakage or seepage of oil in the engine.

A2 – COOLING LIQUID LEVEL

CHECK

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 burning, wait until the engine has cooled down before removing the cooling circuit filler plug.

If the cooling liquid is very hot, add only hot cooling liquid (80 °C).

In an emergency, you can use water as a cooling liquid, then change the cooling circuit liquid as soon as possible (see: 3 - MAINTENANCE: F1 - COOLING LIQUID).

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- The liquid must be at the MAXIMUM level on the expansion tank 1.
- If necessary, add cooling liquid (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 2.
- Visually check that there is no leakage in the radiator and pipes.

When the expansion tank is empty, check the level in the radiator before filling the expansion tank.

- Refit cover plate 4 and pre-filter 3.
- Slowly turn the cap of the radiator 5 up to the safety stop.
- Allow the pressure and the steam to escape.
- Press down and turn the cap so as to release it.
- Add cooling fluid through the filler port 6 (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Lubricate slightly the filler neck in order to facilitate the setting and the removal of the radiator cap.

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A3 – FUEL LEVEL

CHECK

As far as possible, keep the fuel tank well filled in order to minimize condensation due to the atmospheric conditions.

⚠ IMPORTANT ⚠

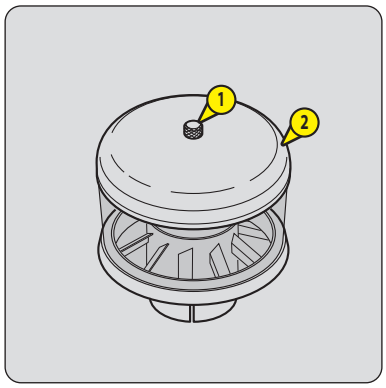
Never smoke or approach with a flame during filling operations or when the tank is open.
Never refill while engine is running.

The fuel tank is degassed via the filler plug.
When changing it, always use an original part, with degassing hole.

- Remove cap 1.
- Fill the fuel tank with clean fuel (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL), filtered through a strainer or a clean, lint free cloth, through filler port 2.
- Put the cap 1 back.
- Visually check that there is no leakage in the tank and pipes.

NOTE: A locking tank cap is available as an OPTION.

A4 – CYCLONIC PRE-FILTER (OPTION)



CLEAN

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.

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B - EVERY 50 HOURS OF SERVICE

Carry out the operations described previously as well as the following operations.

B1 – DRY AIR FILTER CARTRIDGE

CHECK - CLEAN

In case of use in a heavily dust laden atmosphere, there are pre-filtration cartridges (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS). Also, the checking and cleaning periodicity of the cartridge must be reduced.

⚠ IMPORTANT ⚠

If the clogging indicator light comes on, this operation must be carried out as quickly as possible (1 hour maximum).
The cartridge must not be cleaned more than seven times, after which it must be replaced.
Never use the lift truck without an air filter or with a damaged air filter.

- For the disassembly and reassembly of the cartridge, see: 3 - MAINTENANCE: D1 - DRY AIR FILTER CARTRIDGE.
- Clean the filter cartridge using a compressed air jet (max. pressure 3 bar) directed from the top to the bottom and from the inside towards the outside at a minimum distance of 30 mm from the cartridge wall.
- Cleaning is completed when there is no more dust on the cartridge.

⚠ IMPORTANT ⚠

Observe a safety distance of 30 mm between the air jet and the cartridge to avoid tearing or making a hole in the cartridge. The cartridge must not be blown anywhere near the air filter box.
Never clean the cartridge by tapping it against a hard surface.
Your eyes must be protected during this operation.

- Clean the cartridge seal surfaces with a damp, clean lint-free cloth and grease with a silicone lubricant (MANITOU part no.: 479292).
- Check visually the outer condition of the air filter and its mounts. Verify the condition of the hoses and their mounts also.

⚠ IMPORTANT ⚠

Do not clean the dry air filter cartridge by washing it in liquid.
Do not, under any circumstances, clean the safety cartridge located inside the filter cartridge, replace it with a new one if it is clogged or damaged.

B2 – RADIATOR CORE

CLEAN

⚠ IMPORTANT ⚠

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

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Clean the radiator with jet of compressed air directed from the outside towards the inside. This is the only effective way of removing impurities (opposite direction to the cooling air flow).

B3 – TYRE PRESSURES AND WHEEL NUT TORQUES

CHECK

⚠ 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 tyre pressures.

- Check the condition of the tyres, to detect cuts, blisters, wear, etc.
- Check the torque load of the wheel nuts. Non-compliance with this instruction can lead to damage and failure of the wheel bolts and distortion of the wheels.
- Check and, if necessary, adjust the tyre pressures (see: 2 - DESCRIPTION: TYRES).

NOTE: There is an OPTIONAL wheel tool kit.

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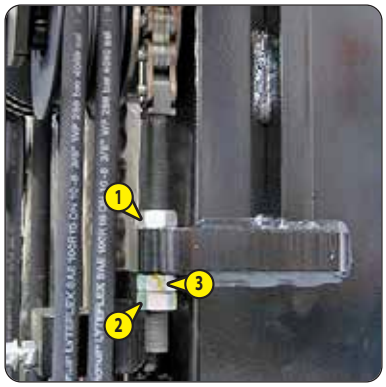
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

B4 – TENSION AND ALIGNMENT OF THE MAST LIFTING CHAINS

CHECK - ADJUST



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 for the good working operation of the mast.
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 verify 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 lock nut 2.
- Adjust the tension by tightening or loosening the nut 3 while checking the alignment of the lifting chains.
- Then tighten lock nut 2 and nut 3.
- Retighten the nut 1.

B5 – MAST

GREASE

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 10 hours of service or every day.
In case of technical faults, consult your dealer.

Clean, then lubricate the following points with grease (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove the surplus of grease:

- 1 - Articulation axles at the foot of the mast (2 lubricators).
- 2 - Tilt cylinder foot axles (2 lubricators).
- 3 - Tilt cylinder head axles (2 lubricators).

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B6 – HYDRAULIC OIL LEVEL

CHECK

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

⚠ IMPORTANT ⚠

Use a clean funnel and clean the underside of the oil drum before filling.

- Refer to the dipstick 1.
- The oil level is correct when it is at the level of the red point.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove cap 2.
- Add oil through filler port 3.
- Refit the cap.
- Visually check that there is no leakage in the tank and pipes.

Always maintain the oil level at maximum as cooling depends on the oil flowing through the tank.

B7 – WINDSCREEN WASHER LIQUID LEVEL

CHECK

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Visually check the level.
- If necessary, add windscreen washer fluid (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 1.

B8 – CAB DOOR (OPTION)

GREASE

Clean and lubricate the points 1 (8 nipples) with grease (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove the surplus of grease.

B9 – CONDENSER CORE (AIR-CONDITIONING OPTION)

CHECK

⚠ IMPORTANT ⚠

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

- Visually check the cleanliness of the condenser.
- If necessary, clean the condenser using a compressed air jet aimed in the same direction as the air flow.
- Clean with the fans running for best results.

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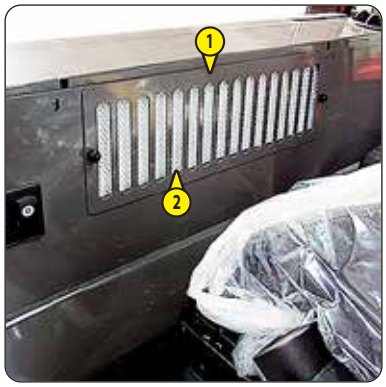
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

B10 – CAB VENTILATION FILTER (AIR-CONDITIONING OPTION)

CLEAN

- Remove the protective casing 1.
- Clean and check the condition of the filter 2, change if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Refit the protective casing.



B11 – FRONT WHEELS REDUCERS OIL LEVEL

CHECK

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

- Check the level on each front wheel reducer.
- Place the level 1 plugs horizontally.
- Remove one of the level plugs, the oil must flush with the port.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) by the same hole.
- Refit and tighten the level plug 1 (tightening torque 60 to 70 N.m).

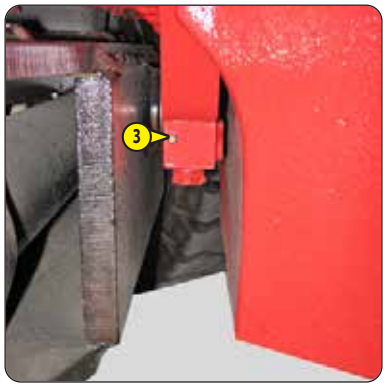
B12 – REAR AXLE

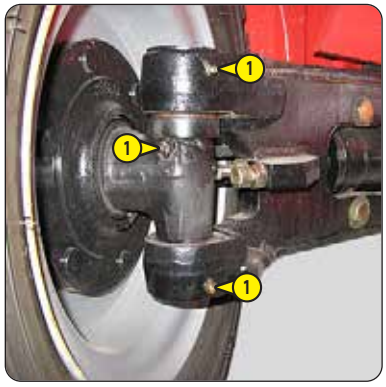
GREASE

Clean, then lubricate the following points with grease (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove the surplus of grease:

MSI25... - MSI30... - MSI35...

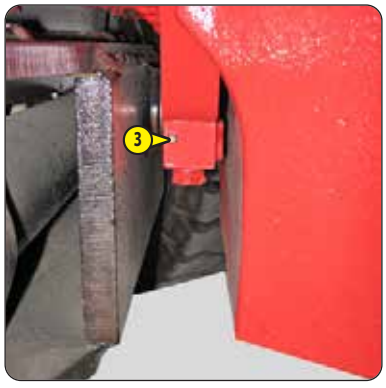
- 1 - Swivel pin lubricators (6 lubricators).
- 2 - Steering rod lubricators (4 lubricators).
- 3 - Lubricators for the rear axle oscillation pin (2 lubricators).

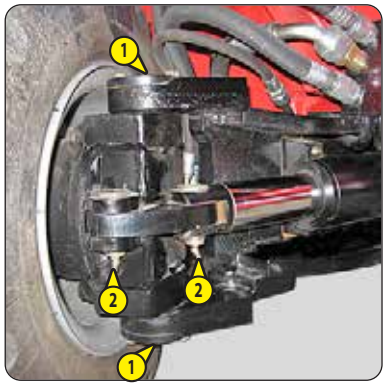




MH25...

- 1 - Lubricators of the wheel reduction gear pivots (4 lubricators).
- 2 - Steering rod lubricators (4 lubricators).
- 3 - Lubricators for the rear axle oscillation pin (2 lubricators).





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MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

C - EVERY 250 HOURS OF SERVICE

Carry out the operations described previously as well as the following operations.

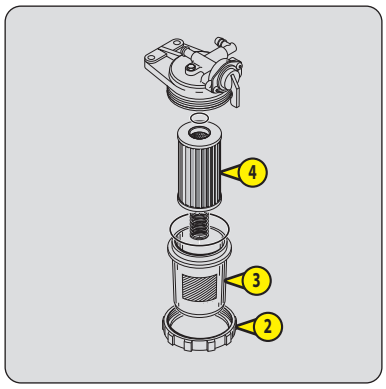
C1 – FUEL FILTER

CLEAN

⚠ IMPORTANT ⚠

Dust and impurities in the fuel will cause the injection pump and injectors to wear more quickly. To avoid this, regularly clean the fuel filter housing.

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Close the fuel valve 1 by setting to position B.
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Unscrew the retaining ring 2, remove the housing 3 and clean the inside using a brush immersed in clean diesel oil.
- Remove the cartridge filter 4 and dip in diesel oil to rinse.
- Refit the unit.
- Open the fuel valve 1 by setting to position A.
- Bleed the fuel circuit (see: 3 - MAINTENANCE: H1 - FUEL SYSTEM).



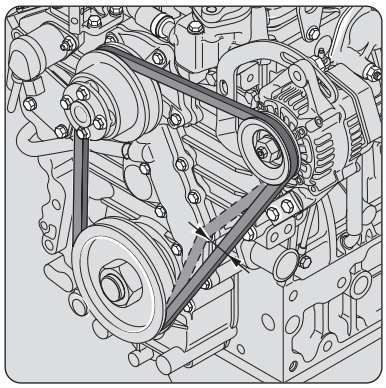
C2 – ALTERNATOR/FAN/CRANKSHAFT BELT TENSION

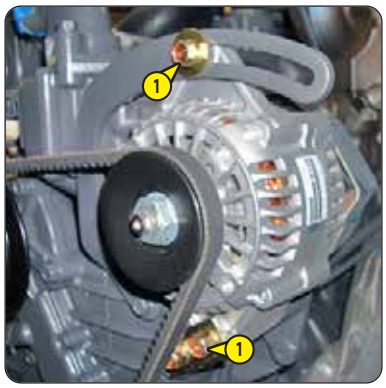
CHECK - ADJUST

⚠ IMPORTANT ⚠

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

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Check the belt for signs of wear and cracks and change if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Check the belt tension between the pulleys of the crankshaft and of the compressor.
- Under pressure applied by the thumb (98 N), the tension should be between 7 and 9 mm.
- Adjust if necessary.
- Loosen screws 1 by two to three turns.
- Swivel the alternator assembly so as to obtain the required belt tension.
- Retighten the screws 1.





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MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

C3 – COMPRESSOR BELT TENSION (AIR-CONDITIONING OPTION)

CHECK - ADJUST

⚠ IMPORTANT ⚠

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

- Lift up the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Check the belt 1 for signs of wear and cracks and change if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Check the belt tension between the pulleys of the crankshaft and of the compressor.
- Measured with a n electronic tension meter, the value should be situated between 87 and 90 Hz.
- Adjust if necessary.
- Loosen screws 2 by two to three turns.
- Loosen lock nut 3.
- Adjust the compressor using screw 4, so as to obtain the belt tension required.
- Retighten lock nut 3.
- Retighten the screws 2.

C4 – CAB VENTILATION FILTER (AIR-CONDITIONING OPTION)

REPLACE

- Remove the protective casing 1.
- Lift out cab ventilation filter 2 and replace it with a new one (see: 3 - MAINTENANCE: FILTERS, CARTRIDGES AND BELTS).
- Refit the protective casing.

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MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

D - EVERY 500 HOURS OF SERVICE OR EVERY YEAR

Carry out the operations described previously as well as the following operations.

D1 – DRY AIR FILTER CARTRIDGE

REPLACE

In case of use in a heavily dust laden atmosphere, there are pre-filtration cartridges, see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS. Also, the checking and cleaning periodicity of the cartridge must be reduced (up to 250 hours in a heavily laden dust atmosphere and with pre-filtration).

⚠ IMPORTANT ⚠

Change the cartridge in a clean location, with the engine stopped.
Never operate the lift truck with a removed or damaged cartridge.

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Loosen the bolts and remove cover 1.
- Gently remove the cartridge 2 taking care to avoid spilling the dust.
- 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 and the connection and state of the clogging indicator on the filter.
- Before mounting check the condition of the new cartridge (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Insert the cartridge in the filter axis and push it home, pressing against the outer edge and not the centre.
- Reassemble the cover, guiding the valve downwards.

D2 – ENGINE OIL

DRAIN

D3 – ENGINE OIL FILTER

REPLACE

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 drain oil in an ecological manner.

DRAINING THE OIL

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Place a container under drain plug 1 and unscrew the plug.
- Remove the filler plug 2 to ensure that the oil is drained properly.

REPLACEMENT OF THE FILTER

- Remove engine oil filter 3 discard the filter and the filter seal.
- Clean the filter holder with a clean, lint-free cloth.
- Fill the new engine oil filter (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS) and lightly grease the seal.
- Fit the oil filter onto its holder.
- 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 1 (tightening torque 30 to 40 N.m).
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 4.

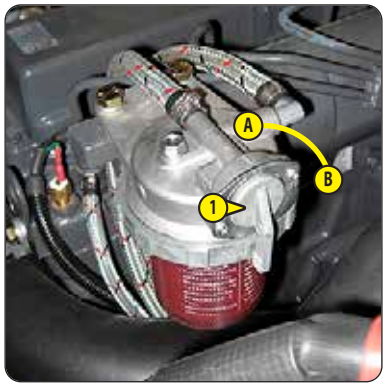
NOTE: For this operation, we recommend you use a funnel fitted with a hose.

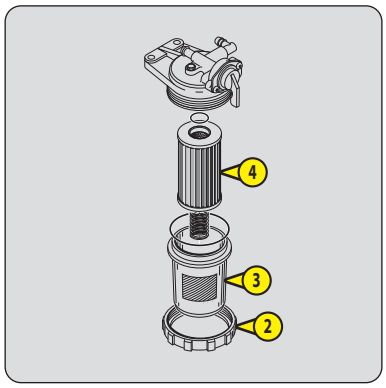
- Wait a few minutes to allow the oil to flow into the sump.
- Start the engine and let it run for a few minutes.
- Check for possible leaks at the drain plug and the engine oil filter.
- Stop the engine, wait a few minutes and check the level between the MAX and MIN marks on the dipstick 5.
- Top up the level if necessary.

D4 – FUEL FILTER CARTRIDGE

REPLACE

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Close the fuel valve 1 by setting to position B.
- Unscrew the retaining ring 2, remove the housing 3 and clean the inside using a brush immersed in clean diesel oil.
- Discard the filter cartridge 4.
- Refit the assembly with a new cartridge (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).





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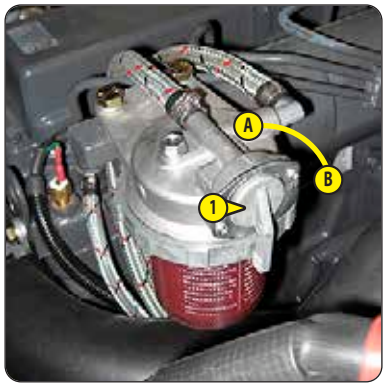
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

D5 – FUEL PRE-FILTER

REPLACE

MSI25 T 4ST3A - MSI30 T 4ST3A - MSI35 T 4ST3A - MH25-4 T BUGGIE 4ST3A

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove pre-filter 1 from clip 2.
- Remove and discard pre-filter 1.
- Fit a new pre-filter (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Place the new pre-filter under clip 2.
- Open the fuel valve 1 by setting to position A.

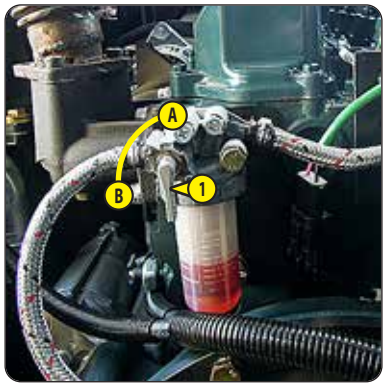


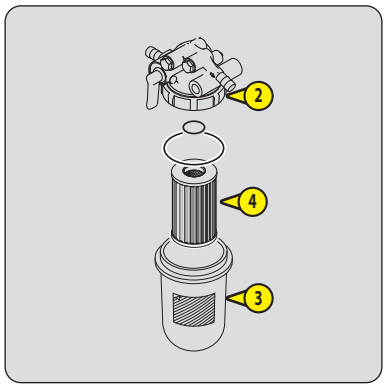
D6 – FUEL PRE-FILTER CARTRIDGE

REPLACE

MSI25 36KW 4ST3A - MSI30 36KW 4ST3A - MSI35 36KW 4ST3A - MH25-4 BUGGIE 36KW 4ST3A

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Carefully clean the outside of the pre-filter and its holder, to prevent dust from getting into the system.
- Close the fuel valve 1 by setting to position B.
- Unscrew the retaining ring 2, remove the housing 3 and clean the inside using a brush immersed in clean diesel oil.
- Discard the filter cartridge 4.
- Refit the assembly with a new cartridge (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).





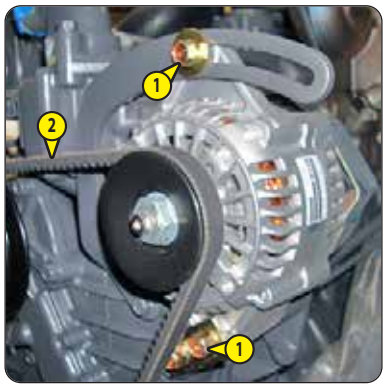
D7 – ALTERNATOR/FAN/CRANKSHAFT BELT

REPLACE

⚠ IMPORTANT ⚠

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

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Loosen screws 1 by two to three turns.
- Swivel the alternator assembly so as to free the belt 2 and replace with a new one (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Adjust the belt tension between the crankshaft and alternator pulleys.
- Under pressure applied by the thumb (98 N), the tension should be between 7 and 9 mm.
- Retighten the screws 1



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D8 – MAST LIFTING CHAINS

CLEAN - CHECK - ADJUST

⚠ IMPORTANT ⚠

In case of technical faults, consult your dealer.

- Wipe the mast lifting chains 1 (fig. D7) with a clean, lint-free cloth, then examine them closely so as to detect any signs of wear.
- 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.
- Moderately lubricate the chains (see: 3- MAINTENANCE: LUBRICANTS AND FUEL).

D9 – HYDRAULIC RETURN OIL FILTER CARTRIDGE

REPLACE

⚠ IMPORTANT ⚠

Thoroughly clean the outside of the filter and its surroundings before any operation to prevent any risk of polluting the hydraulic system.

Stop the engine and release the pressure from the systems by operating the hydraulic controls.

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove cap 1.
- Clear to the side of the tank and unscrew cover 2 by two or three thread turns.
- Wait a few moments while the oil flows into the tank.
- Remove the cover and slowly take out the filter cartridge assembly 3.
- Place the assembly in a clean container and empty the bowl.
- Separate the housing 4 and the head 5 from the filter cartridge 6 with a twisting motion.
- Refit the bowl and the top onto a new cartridge (see: 3 - MAINTENANCE: FILTER ELEMENTS AND BELTS).
- Put back the assembly then retighten the cover 2.
- Put the cap 1 back.

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E - EVERY 1000 HOURS OF SERVICE OR TWO YEARS

Carry out the operations described previously as well as the following operations.

E1 – FUEL TANK

CLEAN

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.

- Inspect the parts of the fuel circuit and the tank liable to leak, both visually and by touch.
- 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 that the oil is drained properly.
- Rinse out with ten litres of clean diesel through filler port 3.
- Refit and tighten the drain plug 1 (tightening torque 29 to 39 N.m).
- Fill the fuel tank with clean diesel filtered through the filler port.
- Refit the filler plug 2.
- If necessary, bleed the fuel supply system (see: 3 - MAINTENANCE: G1 - FUEL SUPPLY SYSTEM).

E2 – SAFETY DRY AIR FILTER CARTRIDGE

REPLACE

- For the disassembly and reassembly of the cartridge, see: 3 - MAINTENANCE: D1 - DRY AIR FILTER CARTRIDGE.
- Remove the dry air filter safety cartridge 1 carefully, to minimise dust fall.
- Clean the gasket surface on the filter with a damp, clean lint-free cloth.
- Check the condition of the new safety cartridge before fitting (see: 3 - MAINTENANCE: FILTERS AND BELTS).
- Introduce the cartridge into the filter axis and push it in, pressing the edges and not the middle.

NOTE: The safety cartridge replacement frequency is given for information only. The safety cartridge must be changed for every two changes of the air filter cartridge.

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E3 – HYDRAULIC OIL

DRAIN

E4 – SUCTION STRAINER FOR HYDRAULIC OIL TANK

CLEAN

E5 – HYDRAULIC OIL TANK FILTER CAP

REPLACE

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

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

Before any intervention, thoroughly clean the area surrounding the drain plug and the suction cover on the hydraulic tank.

- Lift up the overhead guard or the cab (see: 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.

CLEANING THE STRAINER

- Disconnect clogging indicator 3.
- Disconnect the hoses 4 at the level of hydraulic return oil filter 5.
- Unscrew the four 6 screws and remove filter assembly 5.
- Unscrew the suction strainer at the bottom of the tank, clean it with the help of a compressed air jet, check its condition and change it, if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Reassemble the strainer, the filter and re-connect the hoses and the clogging indicator.

FILLING WITH OIL

- Clean and refit the drain plug 1 (tightening torque 72 to 88 N.m).
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 7.

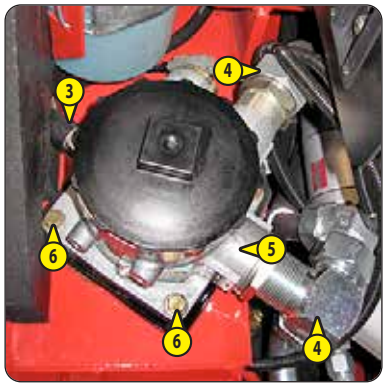
⚠ IMPORTANT ⚠

Use a clean container and funnel and clean the underside of the oil drum before filling.

- Observe the oil level on dipstick 8, the oil level should be at the level of the red point.
- Check for any possible leaks at the drain plug.
- Replace filler plug with a new filler plug 2 (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).

HYDRAULIC CIRCUIT DECONTAMINATION

- Let the engine run (accelerator pedal at halfway travel) for 5 minutes without using anything on the lift truck, then for 5 more minutes while using completely the hydraulic movements (except the steering system).
- Accelerate the engine at full speed for 1 minute, then activate the steering system.
- This operation makes a pollution abatement of the circuit possible through the hydraulic return oil filter.



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CHECK

⚠ IMPORTANT ⚠

In no event should the lift truck be used if the seat belt is defective (fixing, locking, cuts, tears, etc.).
Repair or replace the seat belt immediately.

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.

NOTE: After an accident, replace the seat belt.

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MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

F - EVERY 2000 HOURS OF SERVICE OR EVERY TWO YEARS

Carry out the operations described previously as well as the following operations.

F1 – COOLING LIQUID

DRAIN

These operations are to be carried out as necessary or every two years at the beginning of winter. Place the lift truck on level ground with the engine stopped and cold.

⚠ IMPORTANT ⚠

The engine does not contain any corrosion resistor and must be filled during the whole year with a mixture containing 25 % of ethylene glycol-based antifreeze.

DRAINING THE LIQUID

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove pre-filter 1 and the cover plate 2.
- Place a container under hose 3 of the radiator.
- Remove hose 3.
- Unscrew the filler plug 4 of the expansion tank and empty the latter.
- Remove the radiator cap 5.
- Let the cooling circuit drain entirely while ensuring that the ports do not get clogged.
- Check the condition of the hoses as well as the fastening devices and change the hoses if necessary.
- Rinse the circuit with clean water and use a cleaning agent if necessary.

FILLING WITH COOLANT

- Reconnect hose 3.
- Slowly fill the system with the cooling liquid (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 6.
- Fill the expansion tank to the maximum level.
- Run the engine at idle for a few minutes.
- Check for any possible leaks.
- Check the level and refill if necessary.
- Refit the filler plug 5.
- Replace cover plate 1 and pre-filter 2.
- Refit filler plug 4.

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F2 – WHEEL NUT TIGHTENING TORQUES

CHECK

- 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: 400 N.m ± 15 %
  - Rear wheels: 110 N.m ± 15 % MSI25... - MSI30... - MSI35...
  - Rear wheels: 200 N.m ± 15 % MH25...

F3 – AIR CONDITIONING (OPTION)

CLEAN- CHECK

CLEANING CONDENSER AND EVAPORATOR COILS (*)

CLEANING CONDENSATE TRAY AND RELIEF VALVE (*)

COLLECTING COOLANT TO REPLACE FILTER-DRIER (*)

REFILLING WITH COOLANT AND CHECKING THE THERMOSTATIC CONTROL AND PRESSURE SWITCHES (*)

NOTE: When opening the evaporator unit, remember to replace the cover seal.

(*): (CONSULT YOUR DEALER).

⚠ IMPORTANT ⚠

DO NOT ATTEMPT TO REPAIR ANY FAULTS BY YOURSELF. ALWAYS REFER TO YOUR DEALER WHEN REFILLING CIRCUITS, AS THEY HOLD THE CORRECT SPARE PARTS, AS WELL AS HAVING THE NECESSARY TECHNICAL KNOWLEDGE AND TOOLS.
In the event of inhalation, take the victim into fresh air, give oxygen or artificial respiration if necessary and call a doctor.
In the event of contact with the skin, wash immediately with copious amounts of water and remove any contaminated garments.
In the event of contact with the eyes, rinse with clear water for 15 minutes and call a doctor.

- Do not open the circuit under any circumstances as this would loss of coolant.
- The cooling circuit contains a gas which can be dangerous under certain conditions. This gas, coolant R-134a, is colourless, odourless and heavier than air.
- The compressor has a fluid level gauge; never unscrew this gauge because it would depressurise the system. The fluid level should only be checked when draining the system.

F4 – FRONT WHEEL REDUCER OIL

DRAIN

Place the lift truck on level ground with the engine stopped and the reducers' oil still warm.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

This operation should be carried out once a year if the lift truck has not reached 2000 hours service within the year.

- Drain and change the oil of each wheel reduction gear.
- Place drain plug 1 in position A.
- Place a container under the drain plug and unscrew the plug.
- Let the oil drain fully.
- Place the drain port in position B, i.e. in a level port.
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through level port 1.
- The level is correct when the oil level is flush with the edge of the hole.
- Refit and tighten the drain plug (tightening torque 60 to 70 N.m).

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G - OCCASIONAL MAINTENANCE

G1 – FUEL SYSTEM

DRAIN

These operations are to be carried out only in the following cases:

- A component of the fuel system replaced.
- A drained tank.
- Running out of fuel.

⚠ IMPORTANT ⚠

Fuel under high pressure that comes into contact with the skin can penetrate the skin and cause burns.
Spraying fuel under high pressure can cause a fire.
Failure to follow the inspection and maintenance instructions may result in serious injury.

Never work on the high pressure system.
Failure to follow this instruction may result in serious damage to the engine.
The high pressure fuel system must be adjusted and repaired only by approved and suitably trained technicians.

Ensure that the level of fuel in the tank is sufficient and bleed in the following order:

- Lift up the overhead guard or the cab (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

BLEEDING THE FUEL FILTER

- Unscrew bleeder screw 1.
- Switch on the lift truck ignition until the diesel oil flows from the bleeder screw free of any air.
- - Tighten the bleed screw while the diesel fuel is flowing out.

BLEEDING THE INJECTION PUMP

- Open bleed screw 2.
- Switch on the lift truck ignition until the diesel oil flows from the bleeder screw free of any air.
- Seal the bleed valve while the diesel oil is flowing.

The engine is now ready to be started.

NOTE: If the engine runs correctly for a short time then stops or runs erratically, check for possible leaks in the low pressure circuit. If in doubt, contact your dealer.

REPLACE

⚠ IMPORTANT ⚠

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

- Stop the lift truck, if possible on firm, level ground.
- To pass on stop of lift truck (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: DRIVING INSTRUCTIONS UNLADEN AND LADEN).
- Switch on the hazard warning lights (OPTION).
- Immobilise the lift truck in both directions on the axle opposite to the wheel to be changed.
- Unlock the nuts of the wheel to be changed.

REAR WHEEL

For this operation, we advise you to use the hydraulic jack MANITOU Part number 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 by reciprocating 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 with a torque wrench (see: 3 - MAINTENANCE: A - DAILY OR EVERY 2000 HOURS OF SERVICE OR 2 YEARS for tightening torque).

FRONT WHEEL

- Lift the carriage and tilt the mast backwards.
- Immobilize 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 by reciprocating 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 with a torque wrench (see: 3 - MAINTENANCE: A - DAILY OR EVERY 2000 HOURS OF SERVICE OR 2 YEARS for tightening torque).

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G3 – OVERHEAD GUARD OR CAB IN THE EVENT OF A FAILURE

⚠ IMPORTANT ⚠

The lifting procedure is a delicate and dangerous operation that must be carried out with care.

Check that there is nothing laying on the driver's seat, which could disrupt the operation.

Tilt the mast as far forward as possible in order to avoid colliding with the lifted cab.

PROCEDURE IN THE EVENT OF HYDRAULIC FAILURE ON THE LIFTING SYSTEM

UNLOCKING THE OVERHEAD GUARD OR THE CAB:

- Unlock the overhead guard by means of the lever 1 in position A.
- With the cab model, close the doors.

UNLOCKING THE LIFTING CYLINDER

- Unscrew lifting cylinder feed screw via the access panel situated beneath the lift truck.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

RAISING THE OVERHEAD GUARD OR THE CAB:

- Unscrew the two screws 2 on the roof and replace them with two MANITOU eyes 3 Reference 72422.
- Use a pulley or winch (minimum load capacity 2000kg) as well as a sling (CMU 2000kg).
- Pass sling through pulley block and attach the ends of the sling to rings 3.
- Slowly lift the cab using the hoist until you are able to place the safety prop 4 in its holder 5.

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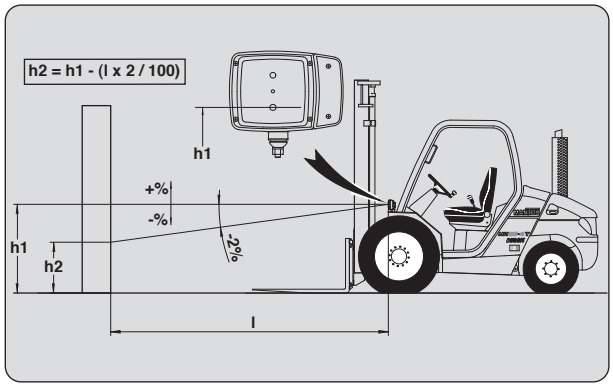
G4 – FRONT HEADLIGHTS (OPTION)

ADJUST



RECOMMENDED SETTING

(as per standard ECE-76/756 76/761 ECE20)

Adjustment of -2 % of the dipped beam 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 tyre pressures (see: 2 - DESCRIPTION: FRONT AND REAR TYRES).
- Place the forward/reverse selector 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.

G5 – BATTERY

REPLACE

⚠ IMPORTANT ⚠

The lifting procedure is a delicate and dangerous operation that must be carried out with care.

Check that there is nothing laying on the driver's seat, which could disrupt the operation.

Tilt the mast as far forward as possible in order to avoid colliding with the lifted cab.

PROCEDURE IN THE EVENT OF BATTERY FAILURE

⚠ 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.

- Pull and move lever 1 to position A to unlock the overhead guard or the cab.
- Partially open the doors in the cab version.
- Remove the access panel 2 by undoing the thumbscrews to access the fuses and relays.
- Connect a backup battery to the lifting fuse 3 to raise the overhead guard or the cab.
- Place the safety prop 4 onto its stop 5.
- CHANGE THE BATTERY

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MSI25... - MSI30... - MSI35...

If the lift truck is not on level ground, chock it so that it does not descend 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).

- To tow a lift truck, the wheel reducers must be unlocked to avoid deteriorating the hydrostatic transmission. Towing the lift truck must be carried out by means of a rigid drawbar, because the lift truck is uncoupled from its braking system after unlocking the wheel reducers.

UNLOCKING THE FRONT WHEEL REDUCERS

- Carry out this operation on both front wheel reducers.
- Place a container under the reducer.
- Remove retaining ring 1.
- Remove cap 2, a little oil will then escape.
- Put a screw HM 6 x .. onto the threading of the drive shaft 3.
- Remove the drive shaft and protect it with a clean cloth.
- Refit cap 2 and retaining ring 1 to protect the wheel reducers during towing.

TOWING THE LIFT TRUCK

- Release the hand brake.
- Switch on the hazard warning lights (option).
- As the steering booster is lacking, operate slowly and energetically the steering wheel. Avoid abrupt movements and jerks.
- After towing, proceed in the reverse order to lock the wheel reducers.

NOTE: When reassembling, ensure that the drive shaft grooves and the gears coincide without forcing.

- Top up the level of oil in the wheel reducers (see: 3 - MAINTENANCE: B3 - FRONT WHEELS REDUCERS OIL LEVEL).

MH25...

If the lift truck is not on level ground, chock it so that it does not descend 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).

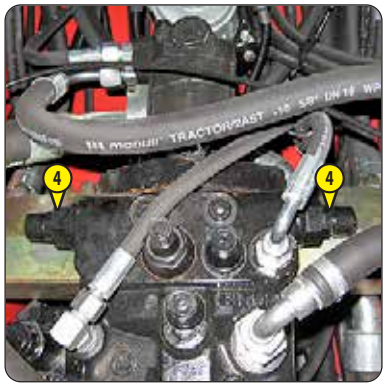
- To tow a lift truck, the wheel reducers and the high pressure limiters 4 must be unlocked to avoid deteriorating the hydrostatic transmission. Towing the lift truck must be carried out by means of a rigid drawbar, because the lift truck is uncoupled from its braking system after unlocking the wheel reducers.

UNLOCKING THE FRONT WHEEL REDUCERS

- Carry out this operation on both front wheel reducers.
- Place a container under the reducer.
- Remove retaining ring 1.
- Remove cap 2, a little oil will then escape.
- Put a screw HM 6 x ... onto the threading of the drive shaft 3.
- Remove the drive shaft and protect it with a clean cloth.
- Refit cap 2 and retaining ring 1 to protect the wheel reducers during towing.

UNLOCKING THE HYDROSTATIC TRANSMISSION 4

- Unscrew the nuts 5 by two turns at the most.



TOWING THE LIFT TRUCK

- Release the hand brake.
- Switch on the hazard warning lights (Option).
- As the steering booster is lacking, operate slowly and energetically the steering wheel. Avoid abrupt movements and jerks.
- After towing, proceed in the reverse order to lock the wheel reducers and the high pressure limiters.

NOTE: When reassembling, ensure that the drive shaft grooves and the gears coincide without forcing.

- Top up the level of oil in the wheel reducers (see: 3 - MAINTENANCE: B3 - FRONT WHEELS REDUCERS OIL LEVEL).

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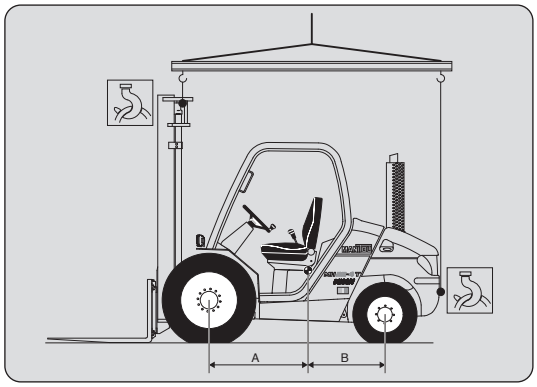
G8 – LIFT TRUCK

SLINGING

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

A = 1040 mm	B = 760 mm	MSI25...
A = 1120 mm	B = 680 mm	MSI30...
A = 1160 mm	B = 640 mm	MSI35...
A = 1020 mm	B = 780 mm	MH25...

- Place the hooks in the fastening points 1 provided.



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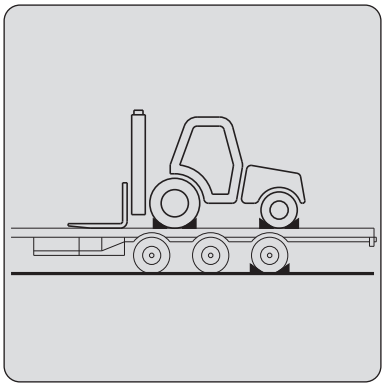
⚠ IMPORTANT ⚠

Ensure that the platform safety instructions are correctly applied before the loading of the lift truck and that the driver of the means of transport is informed about the dimensions and the weight of the lift truck (see: 2 - DESCRIPTION: CHARACTERISTICS).

Ensure that the platform is of sufficient size and load capacity for transporting the lift truck.

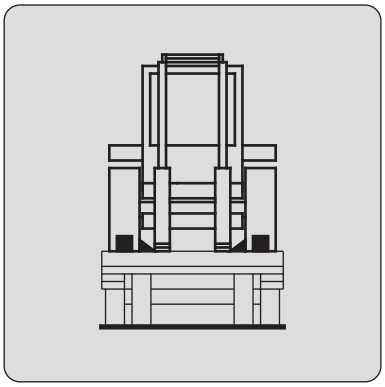
Check also the allowable ground contact pressure of the platform relative to the lift truck.

For lift trucks equipped with a turbo-charged engine, block off the exhaust outlet to avoid rotation of the turbo shaft without lubrication when transporting the vehicle.



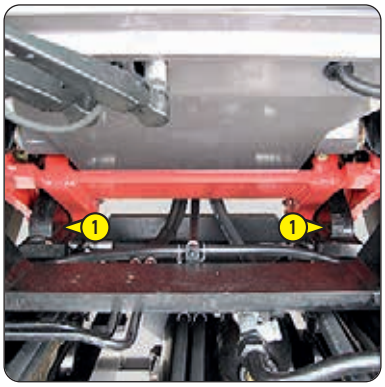
LOADING THE LIFT TRUCK

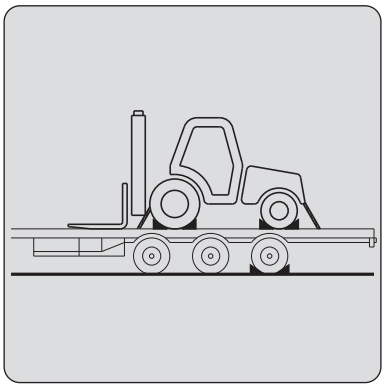
- Block the wheels of the platform.
- Attach the loading ramps to the platform in such a way as to give the shallowest possible ramp angle for the lift truck.
- Load the lift truck parallel to the platform.
- Shut down the lift truck (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: DRIVING INSTRUCTIONS UNLADEN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



STOWING THE LIFT TRUCK

- Fix the chocks to the platform at the front and at the back of each tyre.
- Also fix the chocks to the platform on the inside of each tyre.
- Secure the lift truck to the platform with sufficiently strong ropes. At the front of the lift truck, attach the ropes to the fastening points 1 and at the rear to the slinging and securing pin 2.
- Tighten the ropes.





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4 - OPTIONAL ADAPTABLE ATTACHMENTS FOR THE RANGE

TABLE OF CONTENTS

4 - OPTIONAL ADAPTABLE ATTACHMENTS FOR THE RANGE

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 are to be used on our lift trucks
(see: 4 - ADAPTABLE ATTACHMENTS IN OPTION ON THE RANGE: TECHNICAL SPECIFICATIONS OF ATTACHMENTS).
The manufacturer shall not be liable for any modification or adaptation of an attachment made 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 center of gravity.
In the event of the attachment having less capacity than the lift truck, never exceed this limit.

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

SUSPENDED LOAD

⚠ IMPORTANT ⚠

Suspended loads MUST be handled with a lift truck designed for that purpose

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TECHNICAL SPECIFICATIONS OF ATTACHMENTS

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

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

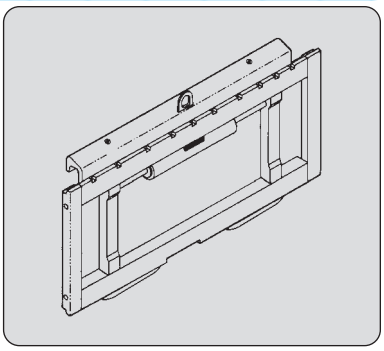
***: Triple mast with free-acting lift (TLL)

****: Triple mast without free-acting lift (TLL)

STANDARDISED SIDE-SHIFT CARRIAGE

MSI25 ... MH25 ...

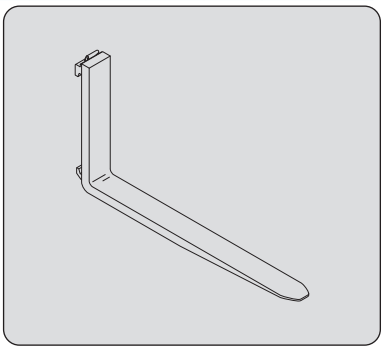
	TDL 2T5 L 1260 FEM2	TDL 2T5 L 1470 FEM2	TDL 2T5 L 1580 FEM2
PART NO.	**571456*** **571457**** **571458***** **571463******	**571460*** **571461**** **571462*****	**571464*** **571465**** **571466*****
Rated capacity	2500 kg	2500 kg	2500 kg
Side-shift	2 x 100 mm	2 x 100 mm	2 x 100 mm
Width	1260 mm	1470 mm	1580 mm
Ground	85 kg	101 kg	105 kg



STANDARDIZED FORK

MSI25 ... MH25 ...

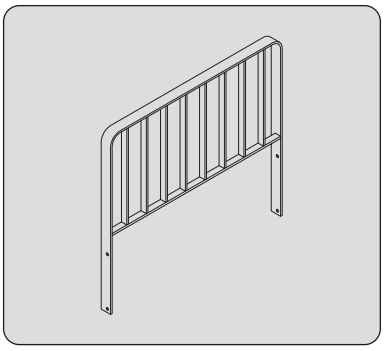
PART NO.	**415689**	**415691**	**415692**
Section	100 x 40 x 1100 mm	100 x 40 x 1200 mm	100 x 40 x 1500 mm
Ground	43 kg	44 kg	60 kg
PART No.	**415330**		
Section	125 x 45 x 1200 mm		
Ground	65 kg		



LOAD BACK REST

MSI25 ... MH25 ...

PART NO.	**556005**	**555323**	**556007**
Width	1260 mm	1470 mm	1580 mm
Ground	37 kg	41 kg	43 kg



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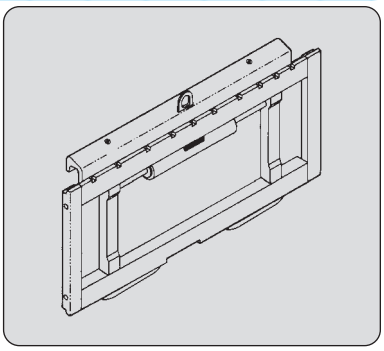
STANDARDISED SIDE-SHIFT CARRIAGE

MSI30 ... MSI35 ...

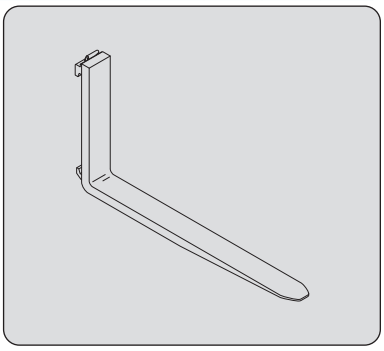
	TDL 3T5 L 1260 FEM2	TDL 3T5 L 1470 FEM2	TDL 3T5 L 1580 FEM2
PART NO.	**751666***	**556386***	**556256***
	751667**	**570198****	**570199****
	751668***	**570195*****	**570196*****
Rated capacity	3000 kg	3000 kg	3000 kg
Side-shift	2 x 100 mm	2 x 100 mm	2 x 100 mm
Width	1260 mm	1470 mm	1580 mm
Ground	110 kg	192 kg	200 kg



STANDARDIZED FORK

MSI30 ... MSI35 ...

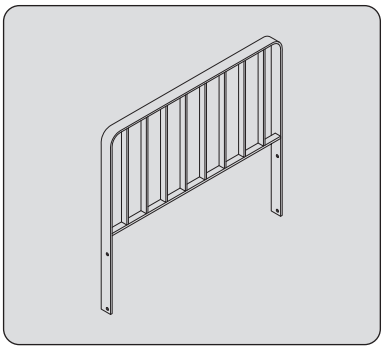
PART NO.	**415566**	**415618**	**415125**
Section	125 x 45 x 1100 mm	125 x 45 x 1200 mm	125 x 45 x 1500 mm
Ground	68 kg	72 kg	88 kg
PART No.	**415449**		
Section	150 x 50 x 1200 mm		
Ground	100 kg		



LOAD BACK REST

MSI30 ... MSI35 ...

PART NO.	**556008**	**555325**	**55601042**
Width	1260 mm	1470 mm	1580 mm
Ground	39 kg	41 kg	43 kg



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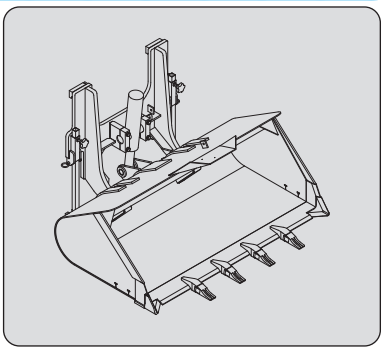
DIGGING BUCKET

MSI25 ... MH25 ...

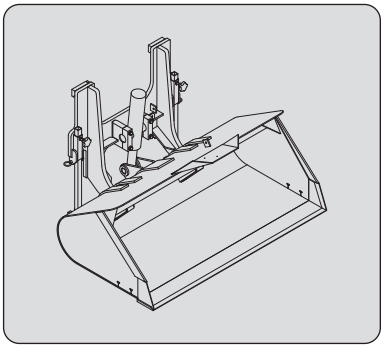
	SP 500-25N A.D. FEM2	SP 500-25N L.A.D. FEM2
PART NO.	**751440**	**751442**
Rated capacity	540L	487L
Width	1648 mm	2022 mm
Ground	420 kg	450 kg



DIGGING BUCKET

MSI25 ... MH25 ...

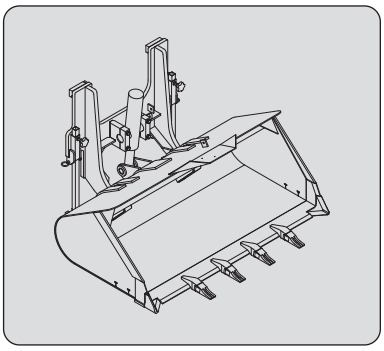
	SP 500-25N S.D. FEM2	SP 500-25N L.S.D. FEM2
PART NO.	**751436**	**751437**
Rated capacity	540L	487L
Width	1648 mm	2022 mm
Ground	420 kg	450 kg



DIGGING BUCKET

MSI30 ... MSI35 ...

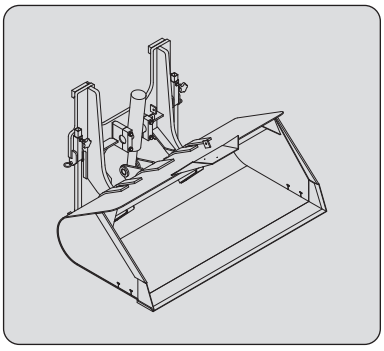
	SP 500-30N A.D. FEM3	SP 500-30N L.A.D. FEM3
PART NO.	**751441**	**751443**
Rated capacity	540L	487L
Width	1648 mm	2022 mm
Ground	420 kg	450 kg



DIGGING BUCKET

MSI30 ... MSI35 ...

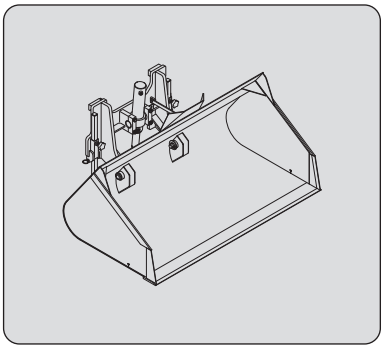
	SP 500-30N S.D. FEM3	SP 500-30N L.S.D. FEM3
PART NO.	**751438**	**751439**
Rated capacity	540L	487L
Width	1648 mm	2022 mm
Ground	420 kg	450 kg



GRAIN BUCKET

MSI25 ... MH25 ...

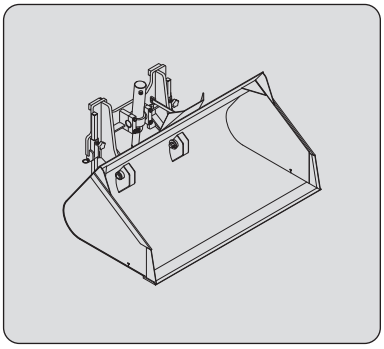
	BA 1000 25N FEM 2A	BA 1500 25N FEM 2A	BA 2000 25N FEM 2A
PART NO.	**751430**	**751431**	**751432**
Rated capacity	1333L	1971L	2580L
Width	2022 mm	2022 mm	2022 mm
Ground	470 kg	600 kg	700 kg



GRAIN BUCKET

MSI30 ... MSI35 ...

	BA 1000 30N FEM 3A	BA 1500 30N FEM 3A	BA 2000 30N FEM 3A
PART NO.	**751433**	**751434**	**751435**
Rated capacity	1333L	1971L	2580L
Width	2022 mm	2022 mm	2022 mm
Ground	480 kg	610 kg	700 kg

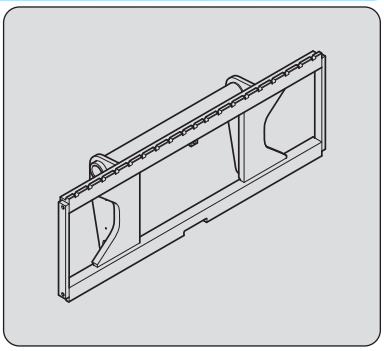


647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

NORMALIZED TILTING FORK CARRIAGE (ON TILTABLE CARRIAGE TI)

MSI25 ... MH25 ...

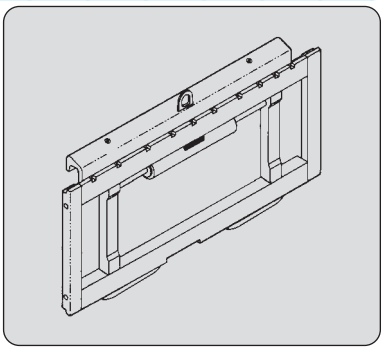
	PFB 25 N TI L 1260	PFB 25 N TI L 1470	PFB 25 N TI L 1580
PART NO.	**570513**	**570514**	**653843**
Rated capacity	2500 kg	2500 kg	2500 kg
Width	1260 mm	1470 mm	1580 mm
Ground	87 kg	104 kg	108 kg



STANDARDISED SIDE SHIFT CARRIAGE (ON TILTABLE CARRIAGE TI)

MSI25 ... MH25 ...

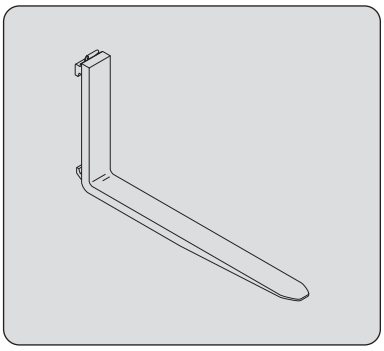
	TDL 2T5 L 1260	TDL 2T5 L 1470	TDL 2T5 L 1580
PART NO.	**752182**	**752183**	**752184**
Rated capacity	2500 kg	2500 kg	2500 kg
Side-shift	2 x 100 mm	2 x 100 mm	2 x 100 mm
Width	1260 mm	1470 mm	1580 mm
Ground	67 kg	88 kg	93 kg



STANDARDISED FORK (ON TILTABLE CARRIAGE TI)

MSI25 ... MH25 ...

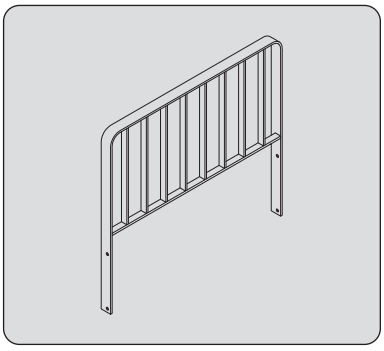
PART NO.	**415689**	**415691**	**415692**
Section	100 x 40 x 1100 mm	100 x 40 x 1200 mm	100 x 40 x 1500 mm
Ground	43 kg	44 kg	60 kg
PART NO.	**415330**	**415565**	**415164**
Section	125 x 45 x 1200 mm	125 x 40 x 1100 mm	125 x 40 x 1200 mm
Ground	65 kg	54 kg	56 kg



LOAD BACK REST (ON TILTABLE CARRIAGE TI)

MSI25 ... MH25 ...

PART NO.	**570518**	**570519**	**556007**
Width	1260 mm	1470 mm	1580 mm
Ground	38 kg	42 kg	44 kg

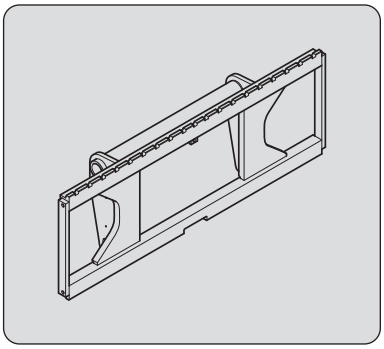


647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

NORMALIZED TILTING FORK CARRIAGE (ON TILTABLE CARRIAGE TI)

MSI30 ... MSI35 ...

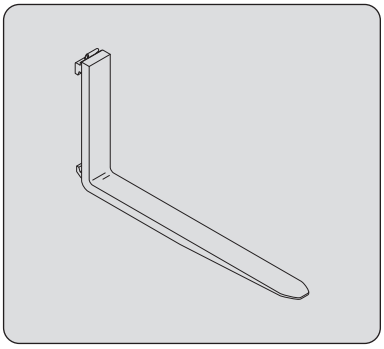
	PFB 35 N TI L 1260	PFB 35 N TI L 1470	PFB 35 N TI L 1580
PART NO.	**653844**	**653845**	**653846**
Rated capacity	3500 kg	3500 kg	3500 kg
Width	1260 mm	1470 mm	1580 mm
Ground	114 kg	133 kg	138 kg



STANDARDISED FORK (ON TILTABLE CARRIAGE TI)

MSI30 ... MSI35 ...

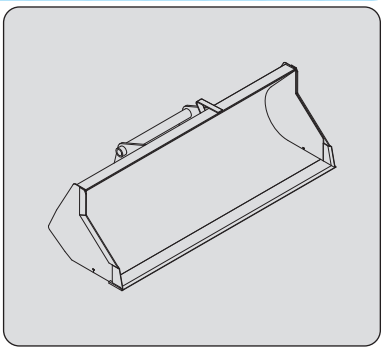
PART NO.	**415689**	**415691**	**415692**
Section	100 x 40 x 1100 mm	100 x 40 x 1200 mm	100 x 40 x 1500 mm
Ground	43 kg	44 kg	60 kg
PART NO.	**415330**	**415565**	**415164**
Section	125 x 45 x 1200 mm	125 x 40 x 1100 mm	125 x 40 x 1200 mm
Ground	65 kg	54 kg	56 kg



LOADING BUCKET (ON TILTABLE CARRIAGE TI)

MSI25 ... MH25 ...

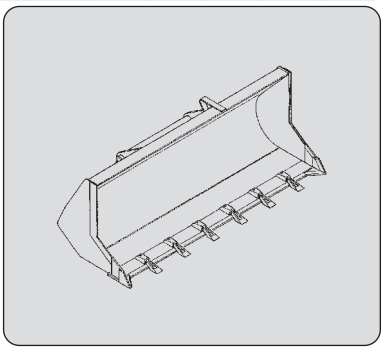
	CBR 500 L1500	CBR 600 L1500
PART NO.	**571991**	**570614**
Rated capacity	496 L	583 L
Width	1500 mm	1500 mm
Ground	254 kg	274 kg



BUILDING BUCKET (ON TILTABLE CARRIAGE TI)

MH25 ...

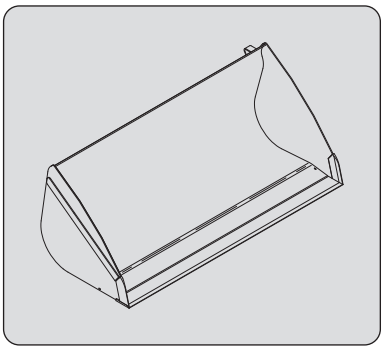
	CBC 500 L 1500
PART NO.	**654474**
Rated capacity	519L
Width	1500 mm
Ground	276 kg



GRAIN BUCKET (ON TILTABLE CARRIAGE TI)

MH25 ...

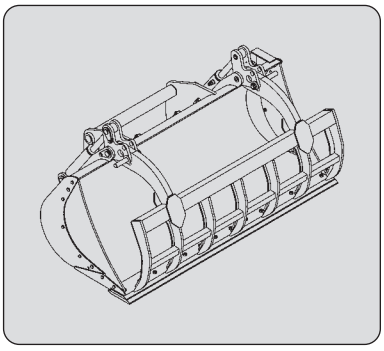
	CBA 900 L 1500 S3
PART NO.	**570543**
Rated capacity	878L
Width	1500 mm
Ground	367 kg



GRAIN BUCKET (ON TILTABLE CARRIAGE TI)

MH25 ...

	CBG 1500 S4
PART NO.	**751425**
Rated capacity	0,8 m3
Width	1500 mm
Ground	458 kg

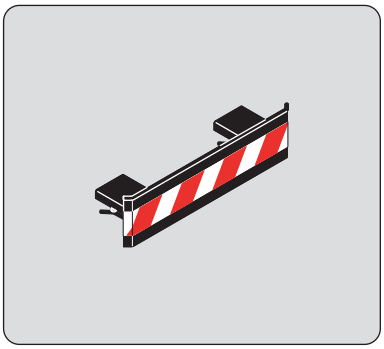


647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A

ATTACHMENT SHIELDS

FORK PROTECTOR

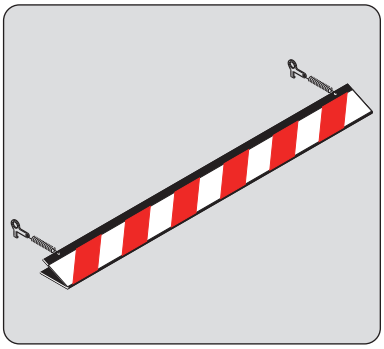
PART NO.	**227801**



BUCKET PROTECTOR

Always ensure that the width of the protector you choose is less than or equal to the width of the bucket.

PART NO.	**206734**	**206732**	**206730**
Width	1375 mm	1500 mm	1650 mm
PART NO.	**235854**	**206728**	**206726**
Width	1850 mm	1950 mm	2000 mm
PART NO.	**223771**	**223773**	**206724**
Width	2050 mm	2100 mm	2150 mm
PART NO.	**206099**	**206722**	**223775**
Width	2250 mm	2450 mm	2500 mm



647468 (15/09/2025)
MSI 25/30/35 ... 4ST3A ; MH 25-4 ... 4ST3A