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OPERATOR'S MANUAL

(ORIGINAL INSTRUCTIONS)

IMPORTANT

Carefully read and understand this instruction manual before using the lift truck.

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

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

WHENEVER YOU SEE THIS SYMBOL IT MEANS:



WARNING ! BE CAREFUL ! YOUR SAFETY OR THE SAFETY OF THE LIFT TRUCK IS AT RISK.

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

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1 - OPERATING AND SAFETY INSTRUCTIONS

2 - DESCRIPTION

3 - MAINTENANCE

4 - OPTIONAL ATTACHMENTS FOR USE WITH THE RANGE

1 - OPERATING AND SAFETY INSTRUCTIONS

ASSISTANCE | 23 SIMPLE TIPS

The Manitou Group wishes to assist you in reducing the consumption of the machines to help you reduce your carbon footprint.



Chose a machine with an appropriate power rating for your needs.



Switch off your engine after running at idle for more than 3 minutes.



Optimum engine efficiency is achieved at the maximum torque engine speed.



Preferably use a fan control and reversal system.



Favor "smart" electronically-managed transmissions.



Use the air-conditioning with windows and doors closed.



Preferably use LED headlights.



Adapt the type of tire to your environment.



Ensure that your tires are inflated to the correct pressure.



Check the parking brake adjustment.

Preferably use manufacturer-recommended attachments



Check the general condition of your trailer.



Adapt your maximum towable load.



Use the attachments that are suitable for your machine.



Check the hydraulic adjustment of your attachments.



Observe the maintenance periods.



Regularly clean the radiator, the air filter, etc.



Lubricate regularly.



Preferably buy through a manufacturer-approved dealer.



Favor OEM parts.



Study the manufacturers' maintenance contracts.



You can follow eco-driving courses.



Demand to know the consumption and emissions of the machines.



Calculate your consumption and emissions at reduce.manitou.com

1 - OPERATING AND SAFETY INSTRUCTIONS

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INSTRUCTIONS TO THE COMPANY MANAGER

THE SITE

- Proper management of the lift truck's area of travel will reduce the risk of accidents:
 - Ground not unnecessarily uneven or obstructed,
 - No excessive slopes,
 - Pedestrian traffic controlled, etc.

THE OPERATOR

- Only qualified, authorised personnel can use the lift truck. This authorisation is given in writing by the appropriate person in the establishment with respect to the use of lift trucks and must be carried permanently by the operator.

⚠ IMPORTANT ⚠

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

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

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

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

- For certain machines, the foreseeable behaviour of such persons as: apprentices, teenagers, handicapped persons, trainees tempted to drive a lift truck, operators tempted to operate the 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 LIFT TRUCK

A - THE TRUCK'S SUITABILITY FOR THE JOB

- MANITOU has ensured that this lift truck 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 harmonised standard **EN 1726-1** for mast trucks.
- Before commissioning, the company manager must make sure that the lift truck is appropriate for the work to be done, and perform certain tests (in accordance with current legislation).

B - ADAPTATION OF THE LIFT TRUCK TO STANDARD ENVIRONMENTAL CONDITIONS

- In addition to series equipment mounted on your lift truck, 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 lift truck's signalling and lighting equipment. Contact your dealer.
- Take into account climatic and atmospheric conditions of the site of use.
 - e 3 - MAINTENANCE: LUBRICANTS AND FUEL).
 - Adaptation of lubricants (ask your dealer for information).
 - Engine filtration (: 3 - MAINTENANCE: FILTER CARTRIDGES AND BELTS).

⚠ IMPORTANT ⚠

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

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

The same applies to the coolant.

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

⚠ IMPORTANT ⚠

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

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

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

- Our trucks comply with Directive 2004/108/EC concerning electromagnetic compatibility (EMC), and with the corresponding harmonised standard EN 12895. Their proper operation is no longer guaranteed if they are used within areas in which the electromagnetic fields exceed the limit specified by that standard (10 V/m).
- Directive 2002/44/EC requires company managers to not expose their employees to excessive vibration doses. There is no recognised 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 lift truck and attachment for the intended use.
 - Adapt the seat adjustment to the operator's weight (according to lift truck model) and maintain it in good condition, as well as the cab suspension. Inflate the tyres 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 - MODIFICATION OF THE LIFT TRUCK

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

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 lift trucks on the public highway is subject to the provisions of the highway code relating to special machines, defined in article R311-1 of the highway code, in category B of the Equipment Order of 20 November 1969 that determines the procedures applicable to special machines. The lift truck must be fitted with a license plate.

INSTRUCTIONS

- The operator's manual must always be in good condition and kept in the place provided on the lift truck 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 - LIFT TRUCK 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.



*Your lift truck must be inspected periodically to ensure that it remains in compliance.
The frequency of this inspection is defined by current legislation in the country in which the lift truck is used.*

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

INSTRUCTIONS TO THE OPERATOR

FOREWORD

⚠ IMPORTANT ⚠

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

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

In order to reduce or avoid any danger with a MANITOU-approved attachment, follow the instructions of paragraph: 4 - ADAPTABLE ATTACHMENTS IN OPTION 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 lift truck itself are not exhaustive.
- At any time, as an operator, you must envisage, within reason, the possible risk to yourself, to others or to the lift truck itself when you use it.

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 lift truck.
- You must report any plates and stickers which are no longer legible or which are damaged.

B - AUTHORISATION FOR USE IN FRANCE

(or see current legislation in other countries)

- Only qualified, authorised personnel can use the lift truck. This authorisation is given in writing by the appropriate person in the establishment with respect to the use of lift trucks and must be carried permanently by the operator.
- The operator is not competent to authorise the driving of the lift truck by another person.

C - MAINTENANCE

- The operator must immediately advise his superior if his lift truck is not in good working order or does not comply with the safety notice.
- The operator is prohibited from carrying out any repairs or adjustments himself, unless he has been trained for this purpose. He must keep the lift truck properly cleaned if this is among his responsibilities.
- The operator is responsible for carrying out daily maintenance operations (➤ 3 - MAINTENANCE: 10H - DAILY MAINTENANCE).
- The operator must ensure tyres are appropriate for the type of ground (➤ 2 - DESCRIPTION: TYRES). There are optional solutions, consult your dealer.
 - SAND tyres.
 - FARM tyres.
 - Snow chains.

⚠ IMPORTANT ⚠

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

The fitting of foam inflated tyres is prohibited and is not guaranteed by the manufacturer, excepting prior authorisation.

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

D - MODIFICATION OF THE LIFT TRUCK

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

E - LIFTING PEOPLE

- The use of working equipment and load lifting attachments to lift people is:
 - Either forbidden
 - Or authorised exceptionally and under certain conditions (see current regulations in the country in which the lift truck is used).

A - BEFORE STARTING THE LIFT TRUCK

- Carry out daily maintenance (↩ 3 - MAINTENANCE: 10H - DAILY MAINTENANCE).
- Make sure that the driver's cab is clean, particularly the floor and floor mat. Check that no movable object may hinder the operation of the lift truck.
- Make sure the lights, indicators and windscreen wipers are working properly.
- Make sure the rear view mirrors are in good condition, clean and properly adjusted.
- Make sure the horn works.

B - DRIVER'S OPERATING INSTRUCTIONS



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

- Whatever his experience, the operator is advised to familiarise himself with the position and operation of all the controls and instruments before operating the lift truck.
- Wear clothes suited for driving the lift truck, avoid loose clothes.
- 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 lift truck when getting into and leaving the driving seat and use the handle(s) provided for this purpose. Do not jump out of the seat to get down.
- Always pay attention when using the lift truck. 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 his normal position in the driver's cab. It is prohibited to have arms or legs, or generally any part of the body, protruding from the driver's cab of the lift truck.
- The safety belt must be worn and adjusted to the operator's size.
- The control units must never in any event be used for any other than their intended purposes (e.g. climbing onto or down from the lift truck, portmanteau, 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 lift truck or in the cab.

C - ENVIRONMENT

- Comply with site safety regulations.
- If you have to use the lift truck in a dark area or at night, make sure it is equipped with working lights.
- During handling operations, make sure that no one is in the way of the lift truck and its load.
- Do not allow anybody to come near the working area of the lift truck or pass beneath an elevated load.
- When using the lift trucks on a transverse slope, before lifting the mast, follow the instructions given in the paragraph: INSTRUCTIONS FOR HANDLING A LOAD: C - TRANSVERSE ATTITUDE OF THE LIFT TRUCK.
- Travelling 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 lift truck's dimensions and its load before trying to negotiate a narrow or low passageway.
- Never move onto a loading platform without having first checked:
 - That it is suitably positioned and made fast.
 - That the unit to which it is connected (wagon, lorry, etc.) will not shift.
 - That this platform is prescribed for the total weight of the lift truck to be loaded.
 - That this platform is prescribed for the size of the lift truck.
- Never move onto a foot bridge, floor or freight lift, without being certain that they are prescribed for the weight and size of the lift truck to be loaded and without having checked that they are in sound working order.
- Be careful in the area of loading bays, trenches, scaffolding, soft ground 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.

- 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.
- When working near aerial lines, ensure that the safety distance is sufficient between the working area of the lift truck and the aerial line.

⚠ IMPORTANT ⚠

You must consult your local electrical agency. You could be electrocuted or seriously injured if you operate or park the lift truck too close to power cables.

In the event of high winds, do not carry out handling work that jeopardises the stability of the lift truck 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 lift truck's working area, as well as that of the lift truck itself and the operator are depend on good operator visibility of the lift truck's immediate vicinity in all situations and at all times.
- This lift truck has been designed to allow good operator visibility (direct or indirect by means of rear-view mirrors) of the immediate vicinity of the lift truck while travelling 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 manoeuvre (while standing outside the truck's area of travel), making sure to keep this person clearly in view at all times,
 - In any event, avoid reversing over long distances.
- If visibility of your road is inadequate, ask someone to assist by directing the manoeuvre (while standing outside the truck'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. windscreens, windows, windscreen wipers, windscreen washers, driving and work lights, rear-view mirrors).

E - STARTING THE LIFT TRUCK

SAFETY INSTRUCTIONS

⚠ IMPORTANT ⚠

The lift truck must only be started up or manoeuvred when the operator is sitting in the driver's cab, with his seat belt adjusted and fastened.

- Never try to start the lift truck by pushing or hauling it. Such an operation may cause severe damage to the transmission. If necessary, towing requires the transmission to be put in neutral (⚠ 3 - MAINTENANCE: OCCASIONAL OPERATION).
- 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 charging.

INSTRUCTIONS

- Check the closing and locking of the hood(s).
- For lift trucks operating on gas carburisation, 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 idle.
- 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.

F - DRIVING THE LIFT TRUCK

SAFETY INSTRUCTIONS

IMPORTANT

Operators' attention is drawn to the risks involved in using the forklift truck, in particular:

- Risk of losing control.

- Risk of losing lateral and frontal stability of the forklift truck.

The operator must remain in control of the lift truck. In the event of the lift truck 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 lift truck or attachments.
- Always drive the lift truck with the forks or attachment to the transport position, i.e. at 300 mm from the ground and the carriage sloping backwards.
- Only carry loads which are balanced and properly anchored to avoid any risk of a load falling off.
- Ensure that pallets, crates, etc., are in good condition and suitable for the load to be lifted.
- Familiarise yourself with the lift truck on the terrain where it will be used.
- Ensure that the service brakes are working properly.
- The loaded lift truck must not travel at speeds in excess of 12 km/h.
- Drive smoothly at an appropriate speed for the operating conditions (land configuration, load on the lift truck).
- Do not use the hydraulic mast controls when the lift truck is moving.
- Do not manoeuvre the lift truck 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 visibility is adequate.
- 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 lift truck'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 lift truck 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 lift trucks simultaneously to handle heavy or voluminous 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 lift trucks not fitted with a punch-operated cut-out.

INSTRUCTIONS

- Always drive the lift truck with the forks or attachment to the transport position, i.e. at 300 mm from the ground and the carriage sloping backwards.
- For lift trucks with gearboxes, use the selected gear (⚙️ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Release the hand brake.
- Shift the forward/reverse selector to the selected direction of travel and accelerate gradually until the lift truck moves off.

G - STOPPING THE LIFT TRUCK

SAFETY INSTRUCTIONS

- Never leave the ignition key in the lift truck during the operator's absence.
- When the lift truck 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 lift truck is not stopped in any position that will interfere with the traffic flow and at less than one metre from the track of a railway.
- In the event of prolonged parking on a site, protect the lift truck from bad weather, particularly from frost (check the level of antifreeze), close and lock all the lift truck accesses (doors, windows, cowl, etc.).

INSTRUCTIONS

- Park the lift truck on flat ground or on an incline lower than 15%.
- Set the forward/reverse selector to neutral.
- Apply the parking brake.
- For lift trucks 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 lift truck after a long working period, leave the engine idling for a few moments, to allow the coolant liquid 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.
- Lock all the accesses to the lift truck (doors, windows, cowl...).
- For lift trucks operating on gas carburisation, shut the LPG 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 LIFT TRUCK ON THE PUBLIC HIGHWAY

FRENCH ROAD TRAFFIC RULES

- The driving of non-approved lift trucks on the public highway is subject to the provisions of the highway code relating to special machines, defined in article R311-1 of the highway code, in category B of the Equipment Order of 20 November 1969 that determines the procedures applicable to special machines. The lift truck must be fitted with a license plate.

SAFETY INSTRUCTIONS

- Operators driving on the public highway must comply with current highway code legislation.
- The lift truck 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, indicators and windscreen wipers are working properly.
- Switch off the working headlights if the lift truck is fitted with them.
- Place the attachment 300 mm from the ground.

IMPORTANT

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

DRIVING THE LIFT TRUCK 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 lift truck.
- 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.

OPERATING THE LIFT TRUCK 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 lift truck.
- The trailer's braking system must comply with current legislation.
- If pulling a trailer with assisted braking, the tractor lift truck must be equipped with a trailer braking mechanism. In this case, do not forget to connect the trailer braking equipment to the lift truck.
- The vertical force on the towing hook must not exceed the maximum authorised by the manufacturer (consult the manufacturer's plate on your lift truck).
- The authorised gross vehicle weight must not exceed the maximum weight authorised by the manufacturer (consult the manufacturer's plate on your lift truck).

IF NECESSARY, CONSULT YOUR DEALER.

INSTRUCTIONS FOR HANDLING A LOAD

A - CHOICE OF ATTACHMENTS

- Only attachments approved by MANITOU can be used on its lift trucks.
- 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 lift truck carriage.
- Make sure that your lift truck attachments work properly.
- Comply with the load chart limits for the lift truck 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. There are optional solutions; contact your dealer.

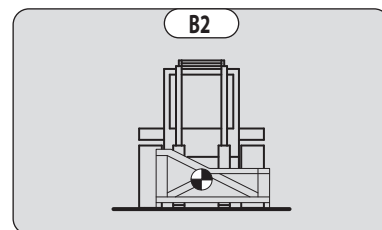
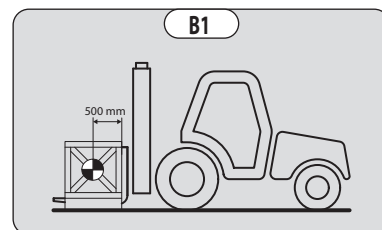
B - WEIGHT OF LOAD AND CENTRE OF GRAVITY

- Before taking up a load, you must know its mass and its centre of gravity.
- The load chart for your lift truck is valid for a load in which the longitudinal position of the centre of gravity is 500 mm or 600 mm from the base of the forks (according to the model of lift truck) (Fig. B1). For a higher centre of gravity, contact your dealer.
- For irregular loads, determine the transverse centre of gravity before any movement (fig. B2) and set it in the longitudinal axis of the lift truck.

⚠ IMPORTANT ⚠

It is forbidden to move a load heavier than the effective capacity defined on the lift truck load chart.

For loads with a moving centre of gravity (e.g. liquids), take account of the variations in the centre 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 LIFT TRUCK

The transverse attitude is the transverse slope of the chassis with respect to the horizontal.

Raising the mast reduces the lift truck's lateral stability. The transverse attitude must be set with the mast in down position as follows:

- Position the lift truck so that the bubble in the level is between the two lines (2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

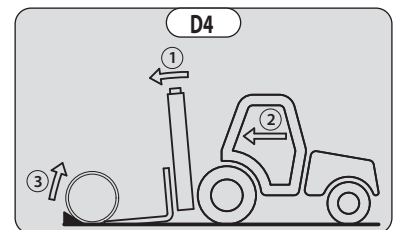
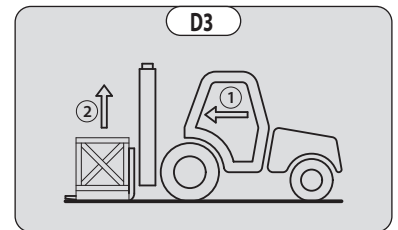
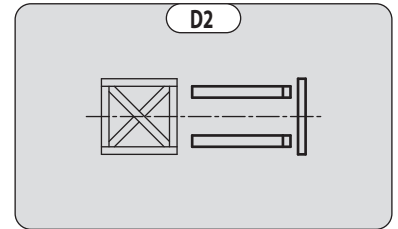
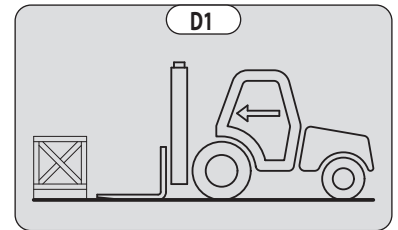
D - PICKING UP A LOAD ON THE GROUND

- Approach the lift truck 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 lift truck forward slowly (1) and bring the forks to stop in front of the load (fig. D3), if necessary, slightly lift the mast (2) while taking 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-PALLETISED LOAD

- Tilt the carriage (1) forwards and move the lift truck slowly forwards (2), to insert the fork under the load (fig. D4) (block the load if necessary).
- Continue to move the lift truck forwards (2) tilting the carriage (3) (fig. D4) backwards 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

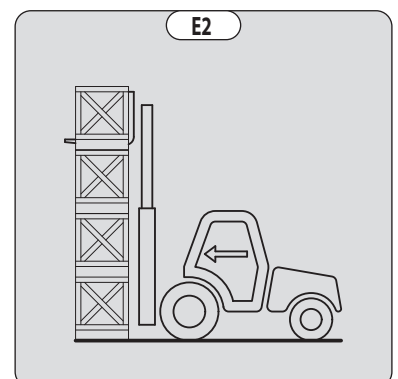
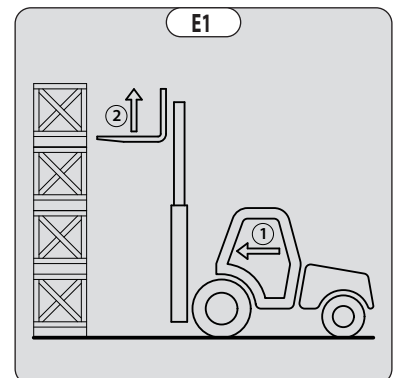
⚠ IMPORTANT ⚠

You must not raise the boom if you have not checked the transverse attitude of the lift truck (⚠ INSTRUCTIONS FOR HANDLING A LOAD).

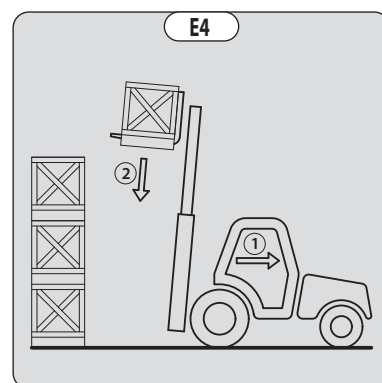
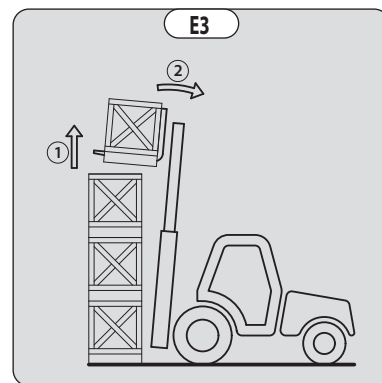
REMINDER: Make sure that the following operations can be performed with good visibility (⚠ OPERATION INSTRUCTIONS UNLADEN AND LADEN).

PICKING UP A HIGH LOAD ON TIRES

- Ensure that the forks will easily pass under the load.
- Keeping the mast vertical (1), advance the lift truck 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). Set the handbrake and place the forward/reverse selector to neutral.

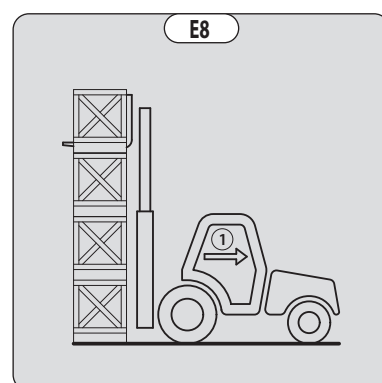
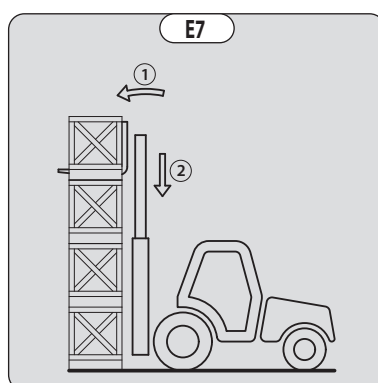
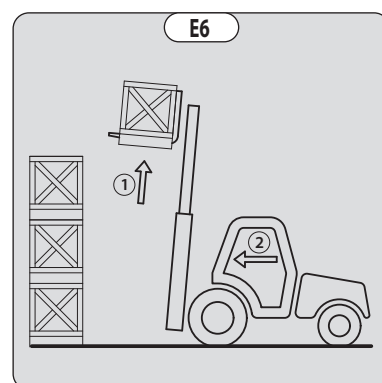
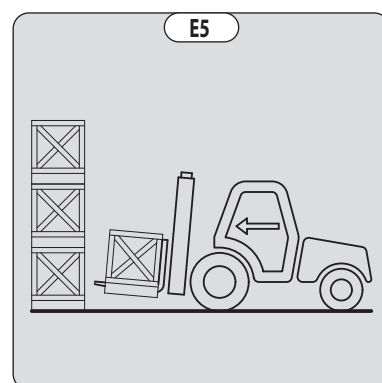


- Slightly raise the load (1) and tilt the carriage (2) backwards to stabilise the load (fig. F3).
- Tilt the load sufficiently backwards to ensure its stability.
- Reverse the lift truck (1) very carefully and gently to free the load. Lower the mast (2) to bring the load into transport position (fig. E4).



LAYING A HIGH LOAD ON TYRES

- 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 lift truck forward (2) (fig. E6) very carefully and gently, until the load is over the pile. Put the handbrake on and set the forward/reverse selector to 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 lift truck (1) very slowly and carefully to release the forks (fig. E8). Then set them into transport position.



LIFT TRUCK MAINTENANCE INSTRUCTIONS

GENERAL INSTRUCTIONS

- Ensure the area is sufficiently ventilated before starting the lift truck.
- Wear clothes suitable for the maintenance of the lift truck, avoid wearing jewellery and loose clothes. Tie and protect your hair, if necessary.
- Stop the engine and remove the ignition key, when an intervention is necessary.
- 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, etc.).

MAINTENANCE

- Perform the periodic service (⇐ 3 - LIFT TRUCK MAINTENANCE) to keep your lift truck in good working condition. Failure to perform the periodic service may cancel the contractual guarantee.

MAINTENANCE LOGBOOK

- The maintenance operations carried out in accordance with the recommendations given in part 3 - LIFT TRUCK MAINTENANCE and the other inspection, servicing or repair operations or modifications performed on the lift truck or its attachments shall be recorded in a maintenance logbook. The entry for each operation shall include details of the date of the works, the names of the individuals or companies having performed them, the type of operation and its frequency, if applicable. The part numbers of any lift truck items replaced shall also 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 lift truck 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 part: 3 - LIFT TRUCK MAINTENANCE.
- Do not attempt to loosen unions, hoses or any hydraulic component when the circuit is under pressure.

⚠ IMPORTANT ⚠

It is dangerous to change the setting and remove the BALANCING VALVES or SAFETY VALVES which may be fitted to your lift truck cylinders.

The HYDRAULIC ACCUMULATORS that may be fitted on your lift truck are pressurised 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 lift truck may suddenly start to move.
- Do not place metal items on the battery.
- Disconnect the battery before working on the electrical circuit.

WELDING

- Disconnect the battery before any welding operations on the lift truck.
- When carrying out electric welding work on the lift truck, connect the negative cable from the equipment directly to the part being welded, so as to avoid high tension 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 lift truck is equipped with an electronic control unit, disconnect this before starting to weld, to avoid the risk of causing irreparable damage to electronic components.

WASHING THE LIFT TRUCK

- Clean the lift truck or at least the area concerned before any intervention.
- Remember to close and lock all accesses to the lift truck (doors, windows, cowls...).
- 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 lift truck of any fuel, oil or grease trace.

TRANSPORTING THE LIFT TRUCK

IMPORTANT

Transporting the lift truck involves real risks for the operator and others involved.

- Towing, slinging or transporting the lift truck (⇐ 3 - MAINTENANCE: OCCASIONAL OPERATION).

IF THE LIFT TRUCK IS NOT TO BE USED FOR A LONG TIME

INTRODUCTION

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

⚠ IMPORTANT ⚠

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

PREPARING THE LIFT TRUCK

- Clean the lift truck 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 lift truck in clear and cold water and wipe them.
- Touch up the paintwork if necessary.
- Shut down the lift truck (➤ 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 the model of lift truck

- Empty and rinse the "DEF" tank.
- Replace the "DEF" (Diesel Exhaust Fluid) feed pump filter (➤ 3 - MAINTENANCE: 1,000 HOURS - PERIODIC MAINTENANCE).
- Fill up with new "DEF" (Diesel Exhaust Fluid) (➤ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Start up the lift truck to pressurise the circuit and bring it up to working temperature.
- Switch off 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: 10H - DAILY MAINTENANCE).
- Replace the coolant (➤ 3 - MAINTENANCE: 2,000 HOURS - PERIODIC MAINTENANCE).
- Leave the engine running at idling speed for a few minutes, then switch off.
- Replace the engine oil and oil filter (➤ 3 - MAINTENANCE: 500 HOURS - PERIODIC 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.

PROTECTING THE LIFT TRUCK

- Set the lift truck on axle stands so that the tyres are not in contact with the ground and release the parking brake.
- Protect cylinder rods which will not be retracted, from corrosion.
- Wrap the tyres.

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

BRINGING THE LIFT TRUCK BACK INTO SERVICE

- Remove the waterproof adhesive tape from all the holes.
- Refit and reconnect the battery.
- Remove the protection from the cylinder rods.
- Carry out daily maintenance (↖ 3 - MAINTENANCE: 10H - DAILY MAINTENANCE).
- Put the handbrake on and remove the axle stands.
- Fill the tank with fuel (↖ 3 - MAINTENANCE: 2,000 HOURS - PERIODIC MAINTENANCE).
- Fill the tank with fuel (↖ 3 - MAINTENANCE: 10H - DAILY MAINTENANCE).
- Replace the pre-filter and fuel filter (↖ 3 - MAINTENANCE: 500 HOURS - PERIODIC MAINTENANCE).
- Empty and rinse the DEF tank (according to model of lift truck).
- Top up with new "DEF" (Diesel Exhaust Fluid) (↖ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS) (according to model of lift truck).
- Refit and set the tension in the drive belts (↖ 3 - MAINTENANCE: FILTER CARTRIDGES AND BELTS).
- Turn the engine with the starter, to restore the engine oil pressure.
- Reconnect the engine cut-off solenoid.
- Lubricate the lift truck completely (↖ 3 - LIFT TRUCK MAINTENANCE).

IMPORTANT

Ensure the area is sufficiently ventilated before starting the lift truck.

- Start up the lift truck, following the safety instructions and regulations (↖ OPERATING INSTRUCTIONS UNLADEN AND LADEN).
- Run all the mast's hydraulic movements, concentrating on the ends of travel for each cylinder.



IMPORTANT

Please consult your dealer before disposing of your lift truck.

RECYCLING OF MATERIALS

METALS

- Metals are 100% recoverable and recyclable.

PLASTICS

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

RUBBER

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

GLASS

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

ENVIRONMENTAL PROTECTION

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

WORN OR DAMAGED PARTS

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

USED OIL

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

USED BATTERIES

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

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

2 - DESCRIPTION

2 - DESCRIPTION

«CE» DECLARATION OF CONFORMITY	2-4
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IDENTIFICATION OF THE LIFT TRUCK	2-8
CHARACTERISTICS MI-X 50L D C ST3A S2 MI-X 60 D C ST3A S2 MI-X 70 D C ST3A S2	2-10
CHARACTERISTICS MI 50L D ST3B S2 MI 60 D ST3B S2 MI 70 D ST3B S2	2-12
CHARACTERISTICS MI 50L G S2 MI 60 G S2 MI 70 G S2	2-14
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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* :

**MI-X 50L D C ST3A S2 / MI 50L D ST3B S2 / MI 50L G S2
MI-X 60 D C ST3A S2 / MI 60 D ST3B S2 / MI 60 G S2
MI-X 70 D C ST3A S2 / MI 70 D ST3B S2 / MI 70 G S2**

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) Konstruktor 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 järgmistele direktiivide ja nende riigisisesesse õigussesse ülevõtmiseks vastuvõetud õigusaktidega, 8) IV lisas loetletud seadmete puhul, 9) Tunnistuse number, 10) Sertifitseerimisasutus, 15) kasutatud ühtlustatud standardite, 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 kuvattun 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 gclonn sé le na treoracha seo a leanas agus a trasúimh 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 megfelelősegi 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) Ertesített 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) Smíður tækisins sem lýst er hér á eftir, 6) Staðfestir að tækið, 7) Samræmist eftirfarandi stöðlum og staðfærslu þeirra með hljóðn af þjóðarregli, 8) Fyrir tækin í aukakfla 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) Dichiaro 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) Sertifikuoto Nr, 10) Paskelbtosios įstaigos, 15) suderintus standartus naudojamus, 16) Kiti standartai ir techninės specifikacijos, 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 (originali), 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 li-gijiet li jimplimentawhom fil-ligi nazzjonali, 8) Ghall-magni fl-Anness IV, 9) Numru taċ-certifikat, 10) Entità nnotifikata, 15) I-standards armonizzati użati, 16) standards tekniċi u specifikazzjonijiet 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) Opgeemaakt 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) Oświadczam, 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) cărții 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 și specificații 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 organa, 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) Konstruktor 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.

SAFETY PLATES AND STICKERS

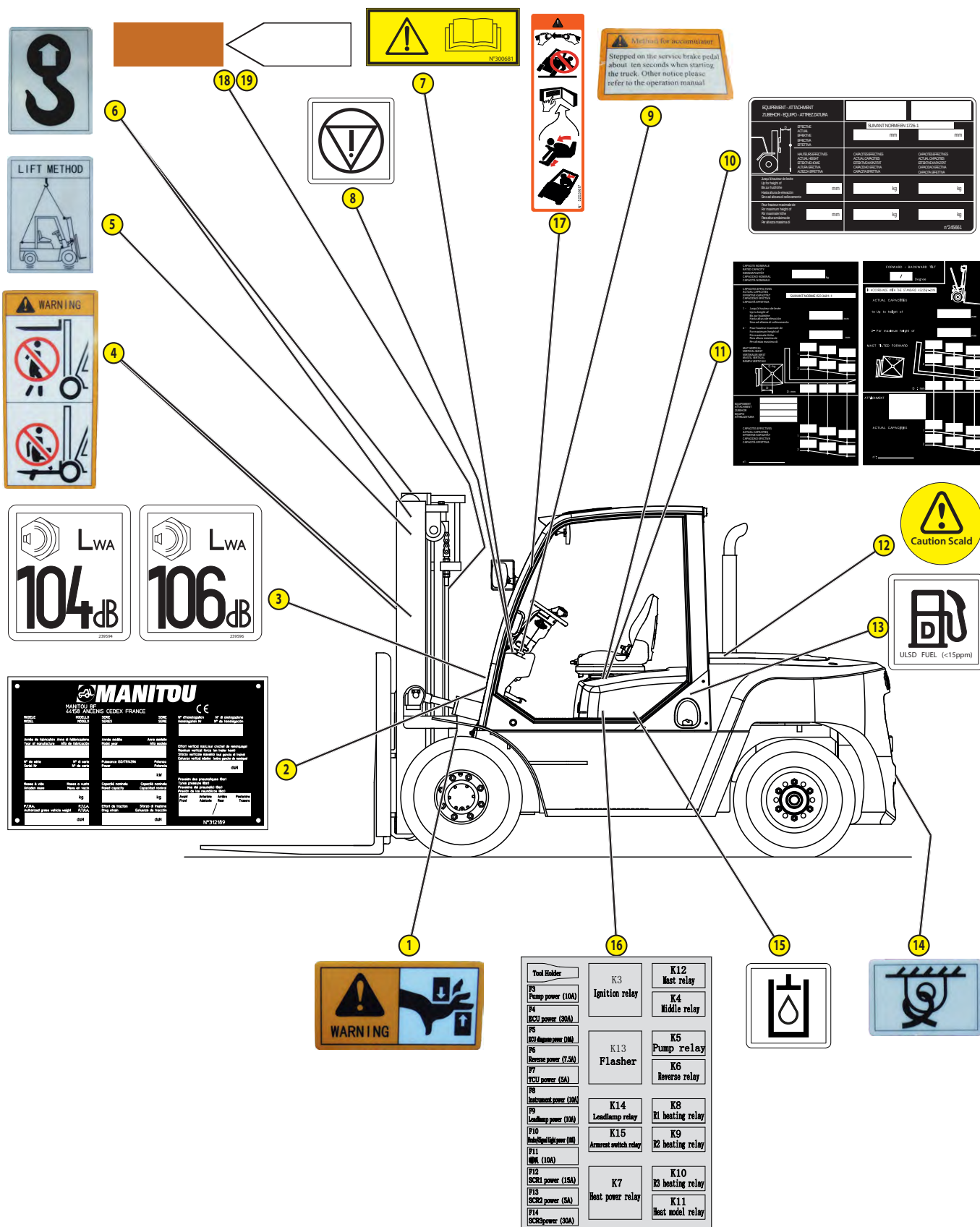
⚠ IMPORTANT ⚠

*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	828054	- Trapping safety instruction
2	Consult your dealer	- Manufacturer's plate (according to model)
3	239594	- Sound power level 104 dB (MI ... D ST3AB S2 / MI ... G S2)
	239596	- Sound power level 106 dB (MI-X ... D C ST3A S2)
4	828044	- Fork safety instruction
5	52521805	- Sliding instruction
6	24653	- Sliding instruction
7	300681	- Safety instruction
8	52523299	- Emergency stop button
9	52521562	- Lift truck start-up instruction
10	Consult your dealer	- Load chart (according to model) *
11	Consult your dealer	- Attachment load chart (according to model)*
12		- Caution, risk of scalding
13	52521587	- Diesel fuel
14	289101	- Tie-down point
15	52521860	- Hydraulic oil tank
16	Consult your dealer	- Fuses and relays
17	52531617	- Turnover instructions (Australia only)
18	52686805	- Fixed height indicator (Australia only)
19	52686806	- Moving height indicator (Australia only)

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



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.

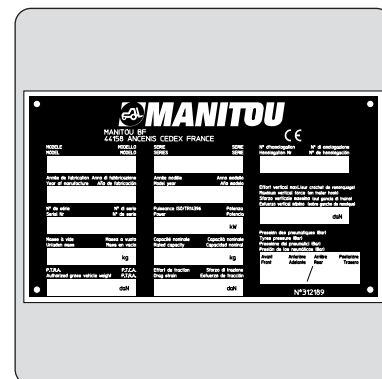
When you order parts, or when you require any technical information, always specify:

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.

For any further technical information regarding your lift truck refer to: CHARACTERISTICS.

LIFT TRUCK MANUFACTURER'S PLATE

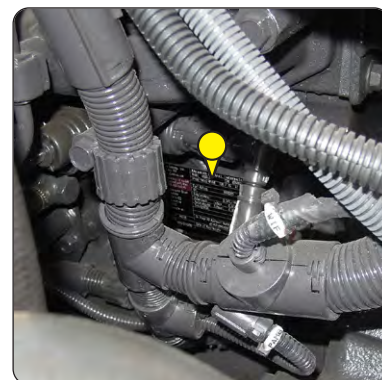
"MODEL" MODEL	
"SERIES" SERIES	
"Year of manufacture" Year of manufacture	
"Model year" Model year	
"Serial Nr" Serial No.	
"Power" Power	
"Unladen mass" Unladen weight	
"Rated capacity" Rated capacity	
"Authorized gross vehicle weight" Authorised gross vehicle weight	
"Drag strain" Pulling force	
"Homologation Nr" Homologation No.	
"Max vertical force (on trailer hook)" Maximum vertical force (on towing hook)	
"Tyres pressure (bar)" Tyre pressure (bar)	



ENGINE

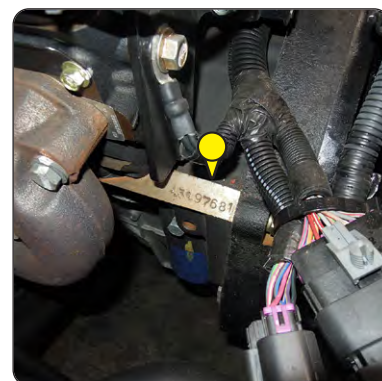
MI-X ... D C ST3A S2 / MI ... D ST3B S2

"MODEL" Model	
"CODE" Code	
"E1" Identification	
"SERNO" Serial number	
"SPEC" Specification	



MI ... G S2

Engine number / Product identification number	
---	--



HYDRAULIC PUMP

Model	
Serial no. - Month/Year	



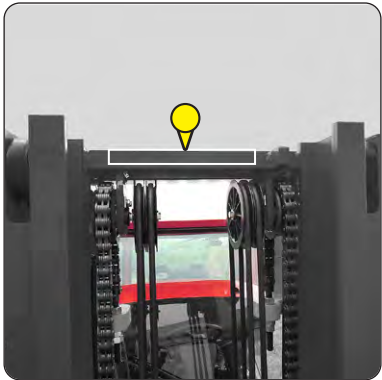
FRAME

Serial number / Product identification number	
---	--



MAST

Mast identification no.	
-------------------------	--



ATTACHMENT MANUFACTURER'S PLATE

"MODÈLE" MODEL	
"N° dans la série" Serial No.	
"Année fabrication" Year of manufacture	
"Masse à vide" Unladen weight	
"C d G / Tablier" Centre of gravity/Carriage	
"Cap. Nominale" Rated capacity	
"Pression de service" Working pressure	

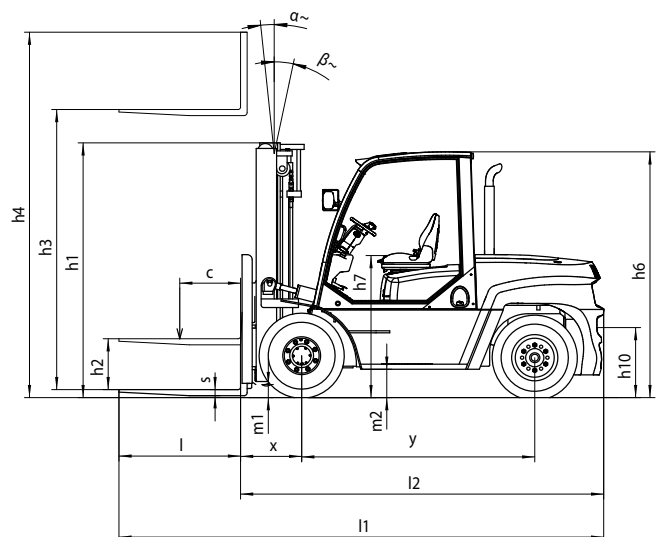
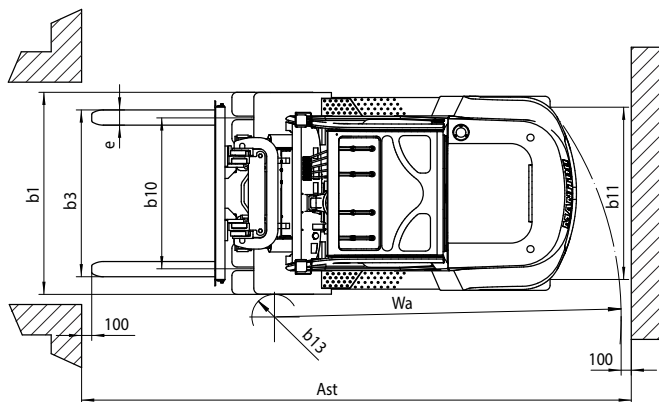


CHARACTERISTICS MI-X 50L D C ST3A S2 MI-X 60 D C ST3A S2 MI-X 70 D C ST3A S2

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		MI-X 50L D	MI-X 60 D	MI-X 70 D
	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)	5	6	7
	1.6	Centre of gravity of load	c (mm)	600		
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	598	598	603
	1.9	Wheelbase	y (mm)	2300		
WEIGHT	2.1	Weight of truck in working order	kg	8295	8825	9595
	2.2	Front axle load laden	kg	11500	13000	14830
	2.2.1	Rear axle load laden	kg	1795	1825	1765
	2.3	Front axle load unladen	kg	4080	3960	3910
	2.3.1	Rear axle load unladen	kg	4215	4865	5685
RUNNING CARRIAGE	3.1	Tyre equipment: bandage (V), super-elastic (SE), pneumatic (L)		SE		
	3.2	Size of front wheels	" or mm	8.25-15-14PR		
	3.3	Size of rear wheels	" or mm	8.25-15-14PR		
	3.5	Number of front wheels (x = drive wheel)		4x		
	3.5.1	Number of rear wheels (x = drive wheel)		2		
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	1489		
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	1700		
DIMENSIONS	4.1	Tilt of mast forward	α (°)	6		
	4.1.1	Tilt of mast backward	β (°)	12		
	4.2	Height of mast lowered	h1 (mm)	2500		
	4.3	Normal free lift	h2 (mm)	160		
	4.4	Lift height	h3 (mm)	3000		
	4.5	Height of extended mast	h4 (mm)	4420		
	4.7	Height of driver protection (cab)	h6 (mm)	2430		
	4.8	Height of seat	h7 (mm)	1350		
	4.12	Height of towing coupling	h10 (mm)	710		
	4.19	Total length	l1 (mm)	4719	4729	4804
	4.20	Length of forks at heel	l2 (mm)	3499	3509	3584
	4.21	Overall width	b1 (mm)	1990		
	4.22	Section of fork arms	s/e (mm)	150 / 60	150 / 60	150 / 65
	4.22.2	Length of fork arms	l (mm)	1220		
	4.23	Fork carriage in accordance with DIN 15 173 A/B		FEM 4A		
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	1700		
	4.31	Ground clearance of mast	m1 (mm)	190		
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	270		
	4.33	Aisle width for 1,000x1,200 pallet widthways	Ast (mm)	5137	5167	5242
	4.34	Aisle width for 800x1,200 pallet lengthways	Ast (mm)	5272	5302	5377
	4.35	Turning radius	Wa (mm)	3230	3260	3330
	4.36	Inner turning radius	b13 (mm)	1222		

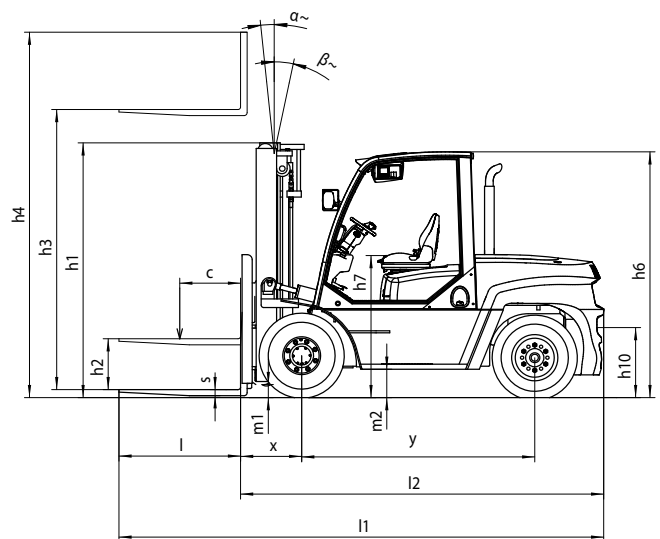
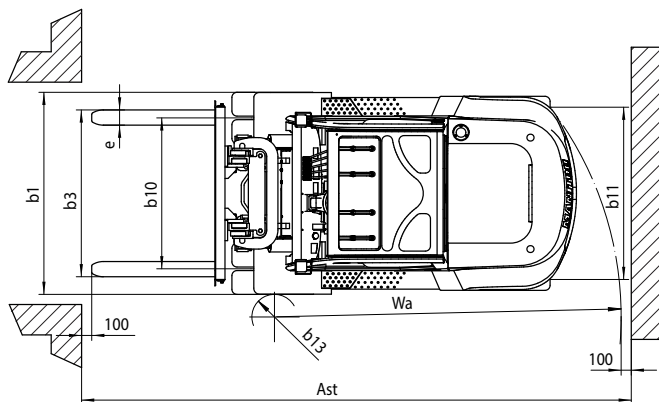
PERFORMANCES	5.1	Speed of travel laden (1st/2nd)	km/h	9.5 / 27	9.5 / 27	9.5 / 26
	5.1.1	Speed of travel unladen (1st/2nd)	km/h	9.5 / 29		
	5.2	Speed of rise laden	m/s	0.47	0.46	0.41
	5.2.1	Speed of rise unladen	m/s	0.49	0.49	0.46
	5.3	Speed of lowering laden	m/s	0.48		
	5.3.1	Speed of lowering unladen	m/s	0.42		
	5.5	Nominal towing power laden	N	65000	65000	68000
	5.5.1	Nominal towing power unladen	N	25440	26720	27500
	5.7	Slope laden	%	48	43	36
	5.7.1	Slope unladen	%	-		
	5.9	Acceleration time laden	s	5.4	5.5	5.5
	5.9.1	Acceleration time unladen	s	-		
	5.10	Service brake		Hydraulics		
ENGINE SPECIFICATION	7.1	Engine manufacturer		Cummins QSB3.3		
	7.2	Useful power	kW	74		
	7.3	Rated speed	rpm	2200		
	7.4	Number of pistons/Capacity	cm ³	4 / 3,300		
	7.5	Fuel consumption (according to VDI cycle)	l/h	7.2		
MISCELLANEOUS	8.2	Working hydraulic pressure for attachments	Bar	195		
	8.3	Oil flow rate for attachments	l/min	55		
	8.4	Measured/guaranteed mean noise level at the ear of the operator (when travelling) (as per standard EN 12053)	db (A)	88		
	8.5	Towing hook / DIN type		-		
	-	Average weighted acceleration on driver's body (as per standard NF EN 13059)	m/s ²	0.9		
	-	Battery	V/Ah	2 x 12 / 90		
	-	Fuel tank capacity	l	110		
	-	Transmission manufacturer		Hangcha		
	-	Type		Powershift		
	-	Number of gears (Fwd / Rev)		2 / 2		



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		MI 50L D	MI 60 D	MI 70 D
	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)	5	6	7
	1.6	Centre of gravity of load	c (mm)	600		
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	598	598	603
	1.9	Wheelbase	y (mm)	2300		
WEIGHT	2.1	Weight of truck in working order	kg	8810	9210	10110
	2.2	Front axle load laden	kg	12250	13340	15290
	2.2.1	Rear axle load laden	kg	1560	1870	1820
	2.3	Front axle load unladen	kg	4330	4130	4120
	2.3.1	Rear axle load unladen	kg	4480	5080	5990
RUNNING CARRIAGE	3.1	Tyre equipment: bandage (V), super-elastic (SE), pneumatic (L)		SE		
	3.2	Size of front wheels	" or mm	8.25-15-14PR		
	3.3	Size of rear wheels	" or mm	8.25-15-14PR		
	3.5	Number of front wheels (x = drive wheel)		4x		
	3.5.1	Number of rear wheels (x = drive wheel)		2		
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	1489		
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	1700		
DIMENSIONS	4.1	Tilt of mast forward	α (°)	6		
	4.1.1	Tilt of mast backward	β (°)	12		
	4.2	Height of mast lowered	h1 (mm)	2500		
	4.3	Normal free lift	h2 (mm)	160		
	4.4	Lift height	h3 (mm)	3000		
	4.5	Height of extended mast	h4 (mm)	4420		
	4.7	Height of driver protection (cab)	h6 (mm)	2430		
	4.8	Height of seat	h7 (mm)	1350		
	4.12	Height of towing coupling	h10 (mm)	710		
	4.19	Total length	l1 (mm)	4719	4749	4824
	4.20	Length of forks at heel	l2 (mm)	3499	3529	3604
	4.21	Overall width	b1 (mm)	1990		
	4.22	Section of fork arms	s/e (mm)	150 / 60	150 / 60	150 / 65
	4.22.2	Length of fork arms	l (mm)	1220		
	4.23	Fork carriage in accordance with DIN 15 173 A/B		FEM 4A		
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	1700		
	4.31	Ground clearance of mast	m1 (mm)	190		
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	270		
	4.33	Aisle width for 1,000x1,200 pallet widthways	Ast (mm)	5157	5207	5262
	4.34	Aisle width for 800x1,200 pallet lengthways	Ast (mm)	5292	5342	5397
	4.35	Turning radius	Wa (mm)	3250	3300	3350
	4.36	Inner turning radius	b13 (mm)	1222		

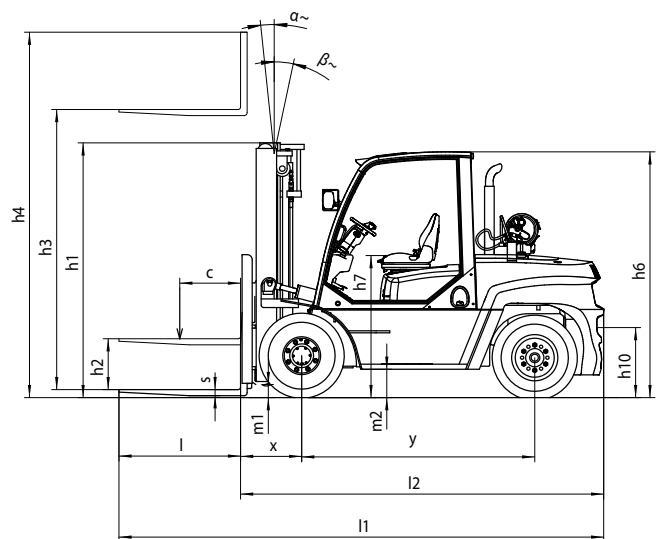
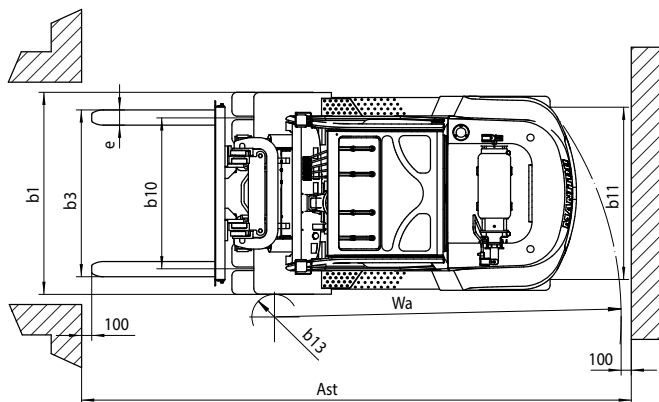
PERFORMANCES	5.1	Speed of travel laden (1st/2nd)	km/h	6 / 12 / 18		
	5.1.1	Speed of travel unladen (1st/2nd)	km/h	6 / 12 / 24		
	5.2	Speed of rise laden	m/s	0.38	0.36	0.36
	5.2.1	Speed of rise unladen	m/s	0.46	0.46	0.41
	5.3	Speed of lowering laden	m/s	0.48		
	5.3.1	Speed of lowering unladen	m/s	0.42		
	5.5	Nominal towing power laden	N	62800		
	5.5.1	Nominal towing power unladen	N	36000		
	5.7	Slope laden	%	43	39	34
	5.7.1	Slope unladen	%	-		
	5.9	Acceleration time laden	s	4.6		
	5.9.1	Acceleration time unladen	s	-		
	5.10	Service brake		Hydraulics		
ENGINE SPECIFICATION	7.1	Engine manufacturer		Deutz TCD 3.6 + DOC		
	7.2	Useful power	kW	55.4		
	7.3	Rated speed	rpm	2200		
	7.4	Number of pistons/Capacity	cm ³	4 / 3,600		
	7.5	Fuel consumption (according to VDI cycle)	l/h	9.4		
MISCELLANEOUS	8.2	Working hydraulic pressure for attachments	Bar	195		
	8.3	Oil flow rate for attachments	l/min	55		
	8.4	Measured/guaranteed mean noise level at the ear of the operator (when travelling) (as per standard EN 12053)	db (A)	84		
	8.5	Towing hook / DIN type		-		
	-	Average weighted acceleration on driver's body (as per standard NF EN 13059)	m/s ²	1.2		
	-	Battery	V/Ah	2 x 12 / 90		
	-	Fuel tank capacity	l	110		
	-	Transmission manufacturer		ZF		
	-	Type		Powershift		
	-	Number of gears (Fwd / Rev)		3 / 3		



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		MI 50 LG	MI 60 G	MI 70 G
	1.3	Propulsion: battery, diesel, petrol, LPG, mains		LPG		
	1.4	Type of operation: manual, pedestrian, standing, seated		Seated		
	1.5	Rated capacity/load on forks (basic capacity)	Q (t)	5	6	7
	1.6	Centre of gravity of load	c (mm)	600		
	1.8	Distance from the load bearing surface to the centre of the front axle	x (mm)	598	598	603
	1.9	Wheelbase	y (mm)	2300		
WEIGHT	2.1	Weight of truck in working order	kg	8295	8825	9595
	2.2	Front axle load laden	kg	11500	13000	14830
	2.2.1	Rear axle load laden	kg	1795	1825	1765
	2.3	Front axle load unladen	kg	4080	3960	3910
	2.3.1	Rear axle load unladen	kg	4215	4865	5685
RUNNING CARRIAGE	3.1	Tyre equipment: bandage (V), super-elastic (SE), pneumatic (L)		SE		
	3.2	Size of front wheels	" or mm	8.25-15-14PR		
	3.3	Size of rear wheels	" or mm	8.25-15-14PR		
	3.5	Number of front wheels (x = drive wheel)		4x		
	3.5.1	Number of rear wheels (x = drive wheel)		2		
	3.6	Front wheel gauge (middle of wheels)	b10 (mm)	1489		
	3.7	Rear wheel gauge (middle of wheels)	b11 (mm)	1700		
DIMENSIONS	4.1	Tilt of mast forward	α (°)	6		
	4.1.1	Tilt of mast backward	β (°)	12		
	4.2	Height of mast lowered	h1 (mm)	2500		
	4.3	Normal free lift	h2 (mm)	160		
	4.4	Lift height	h3 (mm)	3000		
	4.5	Height of extended mast	h4 (mm)	4420		
	4.7	Height of driver protection (cab)	h6 (mm)	2430		
	4.8	Height of seat	h7 (mm)	1350		
	4.12	Height of towing coupling	h10 (mm)	710		
	4.19	Total length	l1 (mm)	4719	4729	4804
	4.20	Length of forks at heel	l2 (mm)	3499	3509	3584
	4.21	Overall width	b1 (mm)	1990		
	4.22	Section of fork arms	s/e (mm)	150 / 60	150 / 60	150 / 65
	4.22.2	Length of fork arms	l (mm)	1220		
	4.23	Fork carriage in accordance with DIN 15 173 A/B		FEM 4A		
	4.24	Width of fork carriage (with load back-rest)	b3 (mm)	1700		
	4.31	Ground clearance of mast	m1 (mm)	190		
	4.32	Ground clearance at centre of wheel-base	m2 (mm)	270		
	4.33	Aisle width for 1,000x1,200 pallet widthways	Ast (mm)	5157	5167	5242
	4.34	Aisle width for 800x1,200 pallet lengthways	Ast (mm)	5272	5302	5377
	4.35	Turning radius	Wa (mm)	3230	3260	3330
	4.36	Inner turning radius	b13 (mm)	1222		

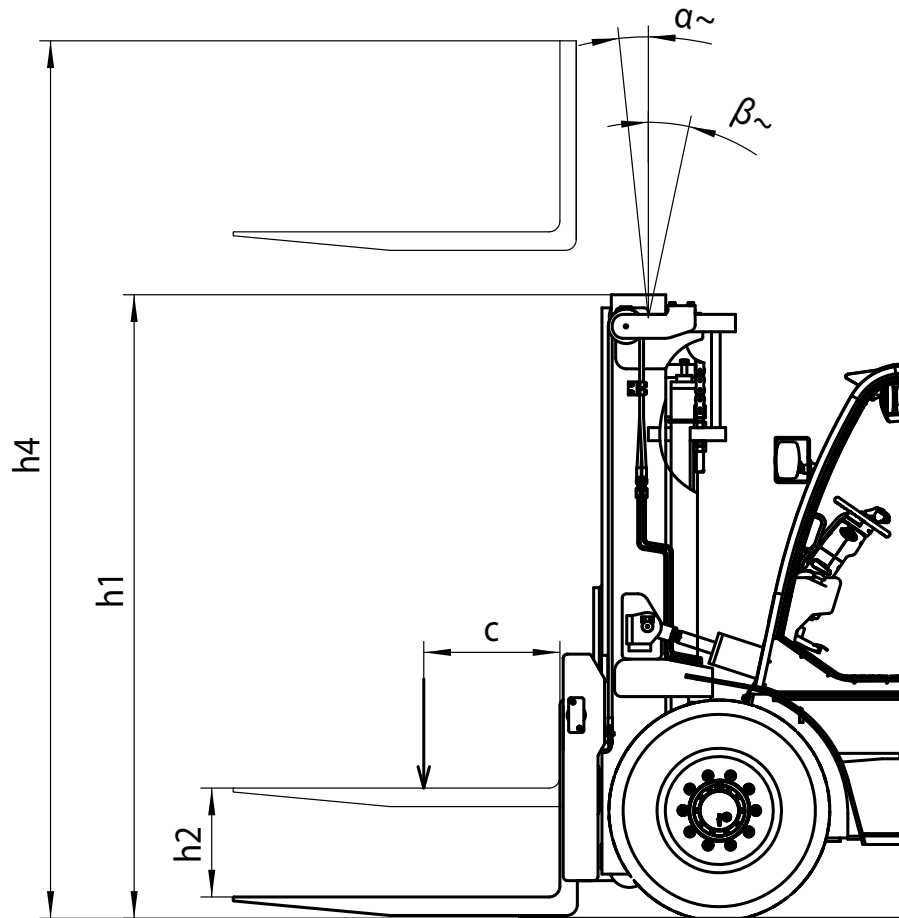
PERFORMANCES	5.1	Speed of travel laden (1st/2nd)	km/h	9.5 / 30	9.5 / 28	9.5 / 27
	5.1.1	Speed of travel unladen (1st/2nd)	km/h	9.5 / 31		
	5.2	Speed of rise laden	m/s	0.47	0.46	0.43
	5.2.1	Speed of rise unladen	m/s	0.49	0.49	0.46
	5.3	Speed of lowering laden	m/s	0.48		
	5.3.1	Speed of lowering unladen	m/s	0.42		
	5.5	Nominal towing power laden	N	59000		
	5.5.1	Nominal towing power unladen	N	25440	26720	27500
	5.7	Slope laden	%	38	33	27
	5.7.1	Slope unladen	%	-		
	5.9	Acceleration time laden	s	5.4	5.5	5.5
	5.9.1	Acceleration time unladen	s	-		
	5.10	Service brake		Hydraulics		
ENGINE SPECIFICATION	7.1	Engine manufacturer		PSI 4.3L		
	7.2	Useful power	kW	74		
	7.3	Rated speed	rpm	2300		
	7.4	Number of pistons/Capacity	cm ³	V6 / 4,300		
	7.5	Fuel consumption (according to VDI cycle)	l/h	14.9		
MISCELLANEOUS	8.2	Working hydraulic pressure for attachments	Bar	195		
	8.3	Oil flow rate for attachments	l/min	120		
	8.4	Measured/guaranteed mean noise level at the ear of the operator (when travelling) (as per standard EN 12053)	db (A)	88		
	8.5	Towing hook / DIN type		-		
	-	Average weighted acceleration on driver's body (as per standard NF EN 13059)	m/s ²	0.9		
	-	Battery	V/Ah	12 / 90		
	-	Fuel tank capacity	kg	13		
	-	Transmission manufacturer		Hangcha		
	-	Type		Powershift		
	-	Number of gears (Fwd / Rev)		2 / 2		



CHARACTERISTICS OF MASTS WITH ROLLERS AND LOAD CHARTS

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

MI-X 50L D MI 50L D MI 50L G MI-X 60 D MI 60 D MI 60 G MI-X 70 D MI 70 D MI 70 G	LIFT HEIGHT	FREE LIFT			HEIGHT OF MAST				TILTING		VALUES ON FORKS				VALUES WITH TDL			
	mm	h2		h1 lowered	h4 extended with backrest	h4 extended without backrest		α FRONT	β REAR		Height at max. capacity (mm)		Capacity at maximum height COG at 500mm (kg)		Height at max. capacity (mm)		Capacity at maximum height COG at 500mm (kg)	
		5.0t-6.0t	7.0t			5.0t-6.0t	7.0t				5.0t	6.0t	7.0t	5.0t	6.0t	7.0t	5.0t	6.0t
DUPLEX TOTAL VISIBILITY	3000	160		2500	4407	3995	4167	6°	12°		3000	3000	5000	6000	7000	3000	4500	5500
	3300	160		2650	4707	4295	4467	6°	12°		3300	3300	5000	6000	7000	3300	4500	5500
	3600	160		2800	5007	4595	4767	6°	12°		3600	3600	5000	6000	7000	3600	4500	5500
	4000	160		3000	5407	4995	5167	6°	12°		4000	4000	5000	6000	7000	4000	4500	5500
	4500	160		3300	5907	5500	5667	6°	6°		4500	4500	5000	6000	7000	4500	4500	5500
DUPLEX FREE LIFT	5000	160		3550	6407	6000	6167	6°	6°		5000	5000	5000	6000	7000	5000	4500	5500
	3000	1495	1335	2450	4137	3955	4115	6°	12°		3000	3000	5000	6000	7000	3000	4500	5500
	3300	1645	1485	2600	4437	4255	4415	6°	12°		3300	3300	5000	6000	7000	3300	4500	5500
	3600	1795	1635	2750	4737	4555	4715	6°	12°		3600	3600	5000	6000	7000	3600	4500	5500
	4000	1995	1835	2950	5137	4955	5115	6°	12°		4000	4000	5000	6000	7000	4000	4500	5500
TRIPLEX FREE LIFT	4500	1500		2725	5907	5735		6°	6°		4500	4500	4500	5500	6400	4500	4000	5000
	4800	1600		2825	6207	6035		6°	6°		4800	4800	4500	5500	6300	4800	4000	5000
	5000	1672		2875	6407	6213		6°	6°		5000	5000	4500	5500	6300	5000	4000	5000
	5500	1800		3075	6907	6785		3°	6°		5500	5500	4200	5200	6100	5500	3700	4700
	6000	2000		3225	7407	7235		3°	6°		6000	6000	4000	5000	5500	6000	3500	4500



RATED CAPACITY ▶
 ACTUAL CAPACITIES
 (according to ISO 3691-1 / AS2359.1-2019)

1 - Up to height of
 2 - For maximum height of

VERTICAL MAST ▶

ATTACHMENT ▶

ACTUAL CAPACITIES ▶

CAPACITE NOMINALE RATED CAPACITY NOMINÁLIS KAPACITÁS CAPACIDAD NOMINAL CAPACITÀ NOMINALE		kg	
CAPACITES EFFECTIVES ACTUAL CAPACITIES EFFEKTÍV KAPACITÁS CAPACIDAD EFECTIVA CAPACITÀ EFFETTIVA		SUivant NORME ISO 3691-1 (ISO 22915-2)	
1- Jusqu'à hauteur de levée Up to height of Bis zur Hubhöhe Hasta altura de elevación Sino ad altezza di sollevamento		mm	
2- Pour hauteur maximale de For maximum height of Für maximale Höhe Para altura máxima de Per altezza massima di		mm	
MAT VERTICAL VERTICAL MAST VERTIKALER MAST MÁSTIL VERTICAL RAMPRA VERTICALE			
EQUIPMENT ATTACHMENT ZUBEHÖR EQUIPO ATTREZZATURA			
CAPACITES EFFECTIVES ACTUAL CAPACITIES EFFEKTÍV KAPACITÁS CAPACIDAD EFECTIVA CAPACITÀ EFFETTIVA			
n°			

(AUSTRALIA ONLY)

FORWARD / BACKWARD TILT		Degree	
IN ACCORDANCE WITH THE STANDARD AS2359.1-2019			
ACTUAL CAPACITIES			
1- Up to height of		mm	
2- For maximum height of		mm	
MAST TILTED FORWARD			
ATTACHMENT			
ACTUAL CAPACITIES			
n°			

FRONT AND REAR TYRES

FRONT		PRESSURE (bar)	MI-X 50L D E3 S1 MI 50L D ST3B S1 MI 50L G S1	MI-X 60 D E3 S1 MI 60 D ST3B S1 MI 60 G S1	MI-X 70 D E3 S1 MI 70 D ST3B S1 MI 70 G S1
ADVANCE	8.25-15-14PR PPS JUM	PRESSURE	SOLID	SOLID	SOLID
		unladen	2050	2000	1950
		laden	5750	6500	7400
	8.25-15-14PR JUM	PRESSURE			
		unladen	2050	2000	1950
		laden	5750	6500	7400

REAR		PRESSURE (bar)	MI-X 50L D E3 S1 MI 50L D ST3B S1 MI 50L G S1	MI-X 60 D E3 S1 MI 60 D ST3B S1 MI 60 G S1	MI-X 70 D E3 S1 MI 70 D ST3B S1 MI 70 G S1
ADVANCE	8.25-15-14PR PPS	PRESSURE	SOLID	SOLID	SOLID
		unladen	2100	2450	2850
		laden	900	900	900
	8.25-15-14PR	PRESSURE			
		unladen	2100	2450	2850
		laden	900	900	900

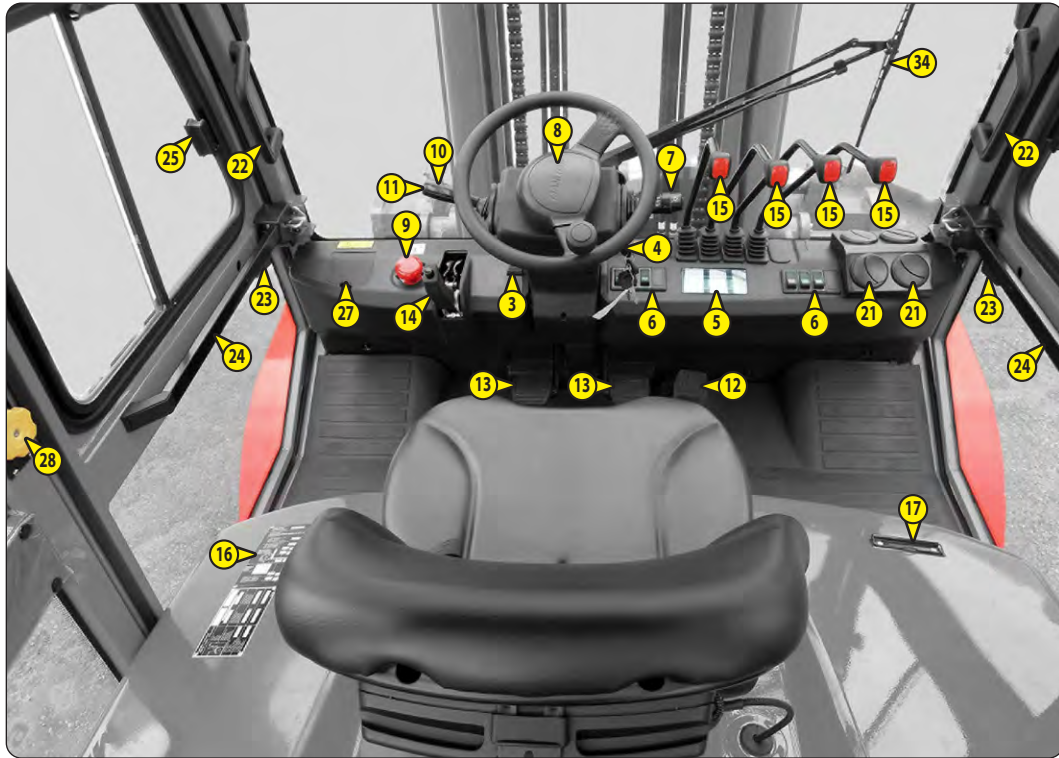
		PRESSURE (bar)	LOAD (kg)	GROUND CONTACT PRESSURE (kg/cm ²)		GROUND CONTACT AREA (cm ²)	
				HARD GROUND	SOFT GROUND	HARD GROUND	SOFT GROUND
ADVANCE	8.25-15-14PR PPS JUM	SOLID	1950				
			2000				
			2050				
			5750				
			6500				
			7400				
	8.25-15-14PR JUM		1950				
			2000				
			2050				
			5750				
			6500				
			7400				
	8.25-15-14PR PPS	SOLID	900				
			2100				
			2450				
			2850				
	8.25-15-14PR		900				
			2100				
			2450				
			2850				

INSTRUMENTS AND CONTROLS

DESCRIPTION

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

1 - DRIVER'S SEAT	2-22
2 - SEAT BELT	2-23
3 - STEERING WHEEL TILTING KNOB	2-23
4 - IGNITION SWITCH	2-23
5 - DASHBOARD	2-24
6 - SWITCHES	2-29
7 - LIGHT AND INDICATOR SWITCH	2-29
8 - HORN	2-29
9 - EMERGENCY STOP BUTTON OR BATTERY CUT-OFF	2-29
10 - FORWARD/NEUTRAL/REVERSE GEAR SELECTION	2-30
11 - GEAR SELECTOR	2-31
12 - ACCELERATOR PEDAL	2-31
13 - SERVICE BRAKE AND TRANSMISSION CUT-OFF PEDALS	2-31
14 - PARKING BRAKE LEVER	2-31
15 - HYDRAULIC CONTROLS	2-32
16 - LOAD CHARTS	2-32
17 - DOCUMENT CLIP	2-32
18 - DOCUMENT HOLDER	2-32
19 - INSIDE REAR-VIEW MIRROR	2-32
20 - ROOF LIGHT	2-32
21 - CAB VENTILATION AIR VENTS (OPTION)	2-32
22 - DRIVER'S CAB ACCESS HANDLES	2-33
23 - DOOR OPENING HANDLES (OPTION)	2-33
24 - DOOR HANDLES (OPTION)	2-33
25 - CAB DOOR SLIDING WINDOWS (OPTION)	2-33
26 - REAR WINDOW OPENING (OPTION)	2-33
27 - WINDSCREEN WASHER TANK ACCESS PANEL	2-33
28 - ENGINE COVER OPENING	2-33
29 - FUSES AND RELAYS UNDER THE ENGINE BONNET	2-33
30 - FRONT HEADLIGHTS	2-37
31 - REAR LIGHTS	2-37
32 - REAR WORKING LIGHT	2-37
33 - FLASHING LIGHT	2-37
34 - FRONT WINDSCREEN WIPER (OPTION)	2-37
35 - REAR WINDSCREEN WIPER (OPTION)	2-37
36 - FUEL TANK	2-37



1 - DRIVER'S SEAT

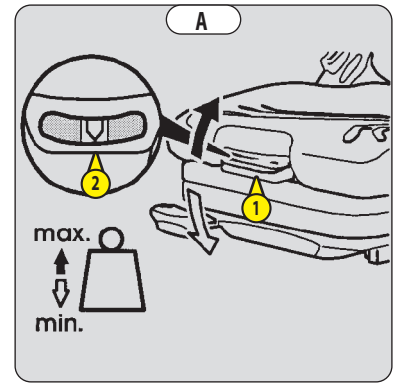
DESIGNED FOR MAXIMUM COMFORT, THIS SEAT CAN BE ADJUSTED AS FOLLOWS.

WEIGHT ADJUSTMENT (FIG. A)

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

- Switch on lift truck ignition.
- Move the switch 1 up to increase the weight or down to reduce it.
- The driver's weight is correctly adjusted when the marker is in the centre of indicator 2.

NOTE: To avoid any health problems, it is recommended that the weight should be checked and adjusted before using the lift truck.

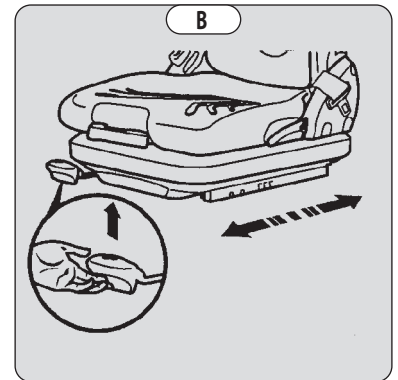


LONGITUDINAL ADJUSTMENT (FIG. B)

- Adjust the locking lever until you reach the position required. This then locks and the seat will not shift into another position.

⚠ IMPORTANT ⚠

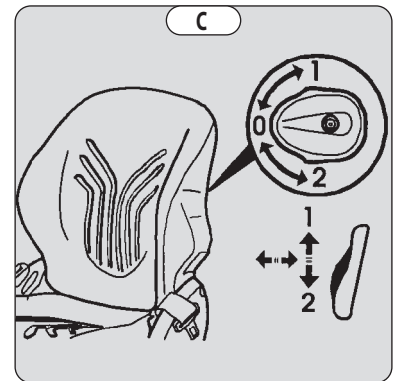
Only operate the lever by its recessed section and do not grasp from below, at the risk of crushing the hand.



LUMBAR ADJUSTMENT (FIG. C)

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

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



ANGLE ADJUSTMENT OF THE BACK-REST (FIG. D)

- Support the back-rest, pull the lever and position the back-rest to find the desired position.

⚠ IMPORTANT ⚠

If you do not support the back rest when making adjustments, it will tilt forwards.

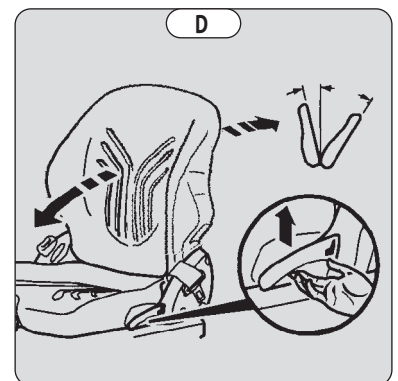
MAINTENANCE

Dirt may adversely affect the correct functioning of the seat. For this reason, make sure your seat is always clean.

- The cushions do not require to be removed from the seat frame for cleaning.

⚠ IMPORTANT ⚠

A moving backrest increases the risk of an accident!



First check the resistance of the fabric on a small concealed area before using any fabric and plastic cleaner.

2 - SEAT BELT

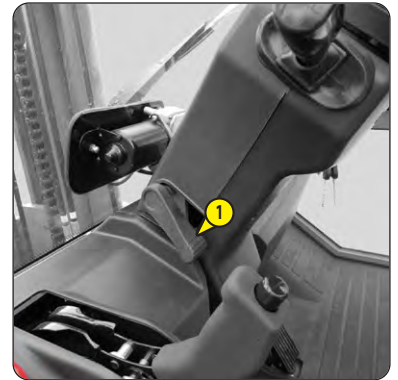
⚠ IMPORTANT ⚠

*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 - STEERING WHEEL TILTING KNOB

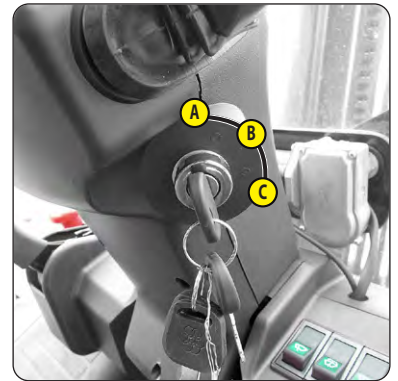
- Push knob 1 forwards.
- Tilt the steering wheel to the desired position.
- Pull the knob back to lock the steering wheel in position.



4 - IGNITION SWITCH

This switch has 3 positions:

- A - Ignition switched off and engine stopped.
- B - Ignition (Only for MI .. G).
 - Ignition and engine preheat (Only for MI-X .. D and MI .. D).
- C - The engine starts, and returns to position B as soon as the key is released.



5 - DASHBOARD

Only for MI-X 50L D C ST3A S2
MI-X 60 D C ST3A S2
MI-X 70 D C ST3A S2

A - FUEL LEVEL

Zone A1 indicates that you are using the reserve supply and that time of use is limited.

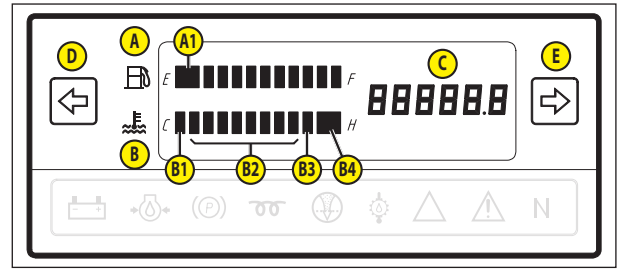
B - ENGINE WATER TEMPERATURE

- Zone B1 (0° to 50°) Use the lift truck with moderation, wait for temperature to increase before normal operation.
- Zone B2 (60° to 105°) Use lift truck normally.
- Zone B3 (110°) Use lift truck with moderation, monitor the temperature.
- Zone B4 (120°) Stop the lift truck, look for the cause of overheating.

C - HOUR METER

D - LEFT-HAND INDICATOR

E - RIGHT-HAND INDICATOR

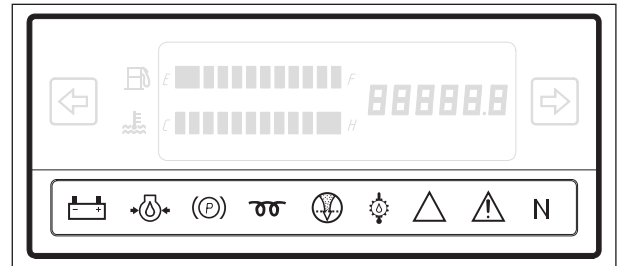


As soon as the ignition key is in position I, indicator lamps , , , , ,  and N come on to indicate their proper operation.

NOTE: If one of the red indicator lamps or the buzzer is not working, carry out the necessary repairs.

As soon as the engine starts, indicator lamps , , ,  and  will go out.

Indicator lamps  and N will go out the moment their control is used.



BATTERY CHARGE

If this lamp comes on while the lift truck is in operation, switch off the engine immediately, seek the cause of the electrical system fault and check the alternator belt. Consult your dealer if necessary.



ENGINE OIL PRESSURE

If this lamp comes on while the lift truck is in operation, switch off the engine immediately, seek the cause of the engine fault and check the engine's oil level. Consult your dealer if necessary.



PARKING BRAKE

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



DIESEL ENGINE PREHEAT

Preheat is necessary. When the lift truck is switched on, the indicator lamp comes on for a few seconds and goes off as soon as preheat is ended. Start the lift truck's engine.



AIR FILTER CLOGGING

The light comes on when the air filter cartridge is clogged up. When this light remains continuously lit the cartridge needs changing. Stop the lift truck and carry out the necessary repairs (➔ MAINTENANCE: SERVICING SCHEDULE).



TRANSMISSION OIL TEMPERATURE

If this lamp comes on while the lift truck is in operation, switch off the engine immediately, seek the cause of the transmission fault and check the transmission oil level. Consult your dealer if necessary.



ENGINE SHUTDOWN

If the indicator lamp comes on when the lift truck is running, stop the engine then:

- Seek the cause (possible leak, etc.).
- See the fault code display located under the engine cover (➤ INSTRUMENTS AND CONTROLS).
- Consult your dealer if necessary.

NOTE: If the indicator lamp remains on, an engine shut-down procedure is initiated. The lamp will then flash for 30 seconds before the engine is shut down.



ENGINE FAULT

If the indicator lamp comes on when the lift truck is running, stop the engine then:

- Seek the cause (possible leak, etc.).
- See the fault code display located under the engine cover (➤ INSTRUMENTS AND CONTROLS).
- Consult your dealer if necessary.

N

NEUTRAL POSITION

The lamp will light when the forward/reverse selector is in neutral and the lift truck is stationary. This lamp must be lit in order to start the engine.

Only for MI 50L G S2
MI 60 G S2
MI 70 G S2

A - NOT USED

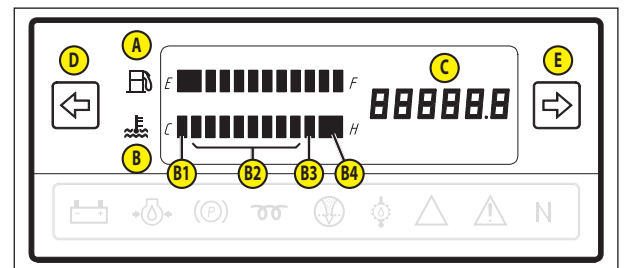
B - ENGINE WATER TEMPERATURE

- Zone B1 (0° to 50°) Use the lift truck with moderation, wait for temperature to increase before normal operation.
- Zone B2 (60° to 105°) Use lift truck normally.
- Zone B3 (110°) Use lift truck with moderation, monitor the temperature.
- Zone B4 (120°) Stop the lift truck, look for the cause of overheating.

C - HOUR METER

D - LEFT-HAND INDICATOR

E - RIGHT-HAND INDICATOR

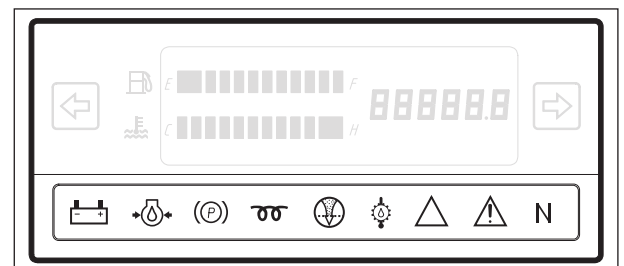


As soon as the ignition key is in position I, indicator lamps , , ,  and **N** come on to indicate their proper operation.

NOTE: If one of the red indicator lamps or the buzzer is not working, carry out the necessary repairs.

As soon as the engine starts, indicator lamps ,  and  will go out.

Indicator lamps  and **N** will go out the moment their control is used.



BATTERY CHARGE

If this lamp comes on while the lift truck is in operation, switch off the engine immediately, seek the cause of the electrical system fault and check the alternator belt. Consult your dealer if necessary.



ENGINE OIL PRESSURE

If this lamp comes on while the lift truck is in operation, switch off the engine immediately, seek the cause of the engine fault and check the engine's oil level. Consult your dealer if necessary.



PARKING BRAKE

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



NOT USED



AIR FILTER CLOGGING

The light comes on when the air filter cartridge is clogged up. When this light remains continuously lit the cartridge needs changing. Stop the lift truck and carry out the necessary repairs (➔ MAINTENANCE: SERVICING SCHEDULE).



TRANSMISSION OIL TEMPERATURE

If this lamp comes on while the lift truck is in operation, switch off the engine immediately, seek the cause of the transmission fault and check the transmission oil level. Consult your dealer if necessary.



NOT USED



ENGINE FAULT

If the indicator lamp comes on when the lift truck is running, stop the engine then:

- Seek the cause (possible leak, etc.).
- See the fault code display located under the engine cover (➔ INSTRUMENTS AND CONTROLS).
- Consult your dealer if necessary.



NEUTRAL POSITION

The lamp will light when the forward/reverse selector is in neutral and the lift truck is stationary. This lamp must be lit in order to start the engine.

Only for MI 50L D ST3B S2
MI 60 D ST3B S2
MI 70 D ST3B S2

INFORMATION SCREEN

A - REV COUNTER (RPM)

B - TRANSMISSION MODE

This display is managed by the switch to the right of this panel.

- A Automatic
- M Manual

C - GEAR MODE

This display is managed by the forward/neutral/reverse gear selector

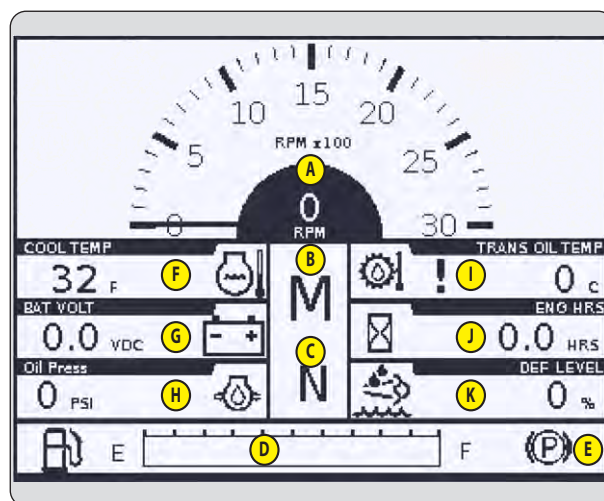
- F1 / F2 / F3 3 forward gears
- N Neutral
- R1 / R2 / R3 3 reverse gears

D - FUEL LEVEL

- E Tank empty
- F Tank full

E - PARKING BRAKE

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



F - ENGINE COOLANT TEMPERATURE (°C or °F)

- 0 °C - 50 °C Use the lift truck with moderation, wait for temperature to increase before normal operation.
- 60 °C - 105 °C Use lift truck normally.
- 110 °C Use lift truck with moderation, monitor the temperature.
- 120 °C Stop the lift truck, look for the cause of overheating.

G - BATTERY CHARGE LEVEL (Vdc)**H - ENGINE OIL PRESSURE** (Bar or PSI)**I - TRANSMISSION OIL TEMPERATURE** (°C or °F)**J - HOUR METER** (Hrs)**K - NOT USED****ENGINE FAULT**

If the indicator lamp comes on when the lift truck is running, stop the engine then:

- Seek the cause (possible leak, etc.).
- Consult your dealer if necessary.

**DIESEL ENGINE PREHEAT**

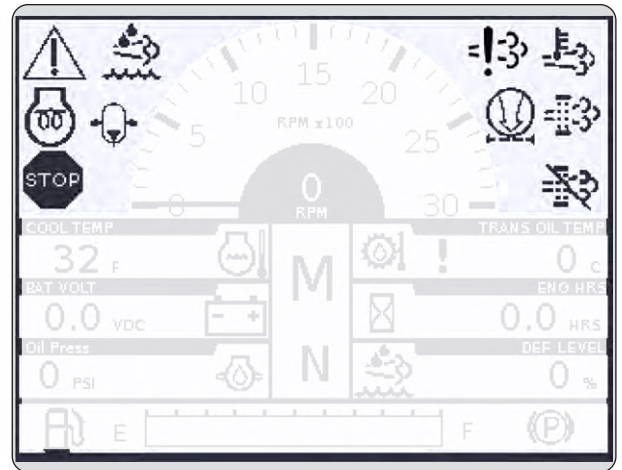
The engine needs to be preheated.

- Turn on the ignition, the light comes on for a few seconds, then start the engine.

**ENGINE SHUTDOWN**

If the indicator lamp comes on when the lift truck is running, stop the engine immediately then:

- Seek the cause (possible leak, etc.).
- Consult your dealer if necessary.



NOTE: If the indicator lamp remains on, an engine shut-down procedure is initiated. The lamp will then flash for 30 seconds before the engine is shut down.

**BRAKE SYSTEM LOW PRESSURE FAULT**

If the indicator lamp comes on when the lift truck is running, stop the engine immediately then:

- Search for the cause of the fault in the brake system.
- Consult your dealer if necessary.

**AIR FILTER CLOGGING FAULT**

If the lamp comes on when the lift truck is running, turn off the engine and clean or replace the air filter cartridge (< 3 - LIFT TRUCK MAINTENANCE).

NOTE: If the light stays on, replace the cartridge.

**NOT USED****NOT USED****NOT USED****NOT USED****NOT USED**

L - NOT USED

M - NOT USED

N - SUB-MENU KEYS

- O - GENERAL SETTINGS ADJUSTMENT
- P - NOT USED
- Q - FAULT CODE DISPLAY
- R - LIFT TRUCK SETTINGS DISPLAY
 - ENGINE/GEARBOX CONDITION



O - DASHBOARD SETTINGS ADJUSTMENT

- Use keys 1 and 2 to select the setting to modify.
 - Light level
 - Contrast
 - Unit of measurement
 - Language
 - ECU address (dealer access)
 - Transmission calibration (dealer access)
- Use keys 3 and 4 to adjust the setting.
- Use key 5 to exit the dashboard settings.



Q - FAULT CODE DISPLAY

- Use keys 1 and 2 to select the setting to view.
 - Current faults
 - Faults recorded
 - Clear fault codes (dealer access)
- Use key 3 to view the setting.
- Use key 4 to exit the fault codes.



R - LIFT TRUCK SETTINGS DISPLAY

ENGINE/GEARBOX CONDITION

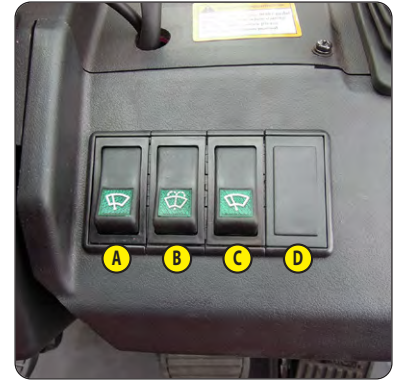
- 1 - Engine performance
- 2 - Accelerator pedal position
- 3 - Air intake temperature
- 4 - Gearbox oil pressure
- 5 - Engine torque
- 6 - Hour meter



6 - SWITCHES

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

- A- FRONT WINDSCREEN WIPER (OPTION)
- B- FRONT WINDSCREEN WIPER (OPTION)
- C - REAR WINDSCREEN WIPER (OPTION)
- D – OPTION



- E - FLASHING LIGHT
- F - REAR WORKING LIGHT
- G - FRONT WORKING LIGHT
- H - OPTION

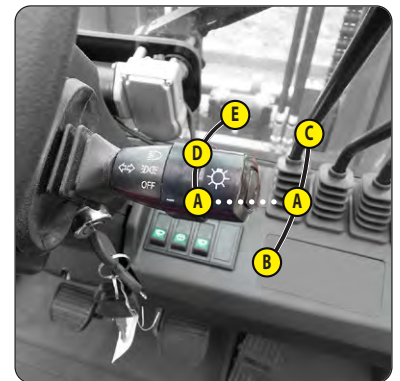


7 - LIGHT AND INDICATOR SWITCH

The switch controls the visual signals.

- A - OFF, Indicators and lights switched off.
- B - Right indicator lights.
- C - Left indicator lights.
- D - Sidelights and rear lights.
- E - Main beam headlights and rear lights.

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



8 - HORN

This push button sounds the horn



9 - EMERGENCY STOP BUTTON OR BATTERY CUT-OFF

- Pull the button to disable it before restarting the lift truck.

Only for MI-X . . C ST3A S2 / MI . . D ST3B S2



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

In case of danger, shuts down the engine.

Only for MI . . G S2

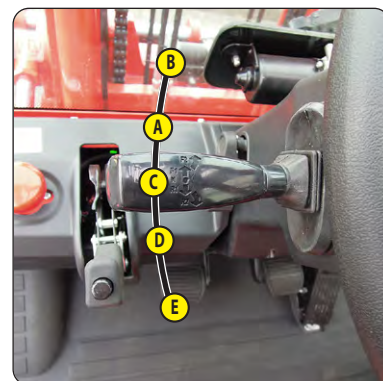
Enables the battery to be rapidly cut off from the electric circuit in the event of a short circuit or a fire.



10 - FORWARD/NEUTRAL/REVERSE GEAR SELECTION

When changing the direction of travel, the lift truck should be travelling at slow speed (less than 1 km/h) and not accelerating. In the neutral position, a mechanical lock prevents an accidental shifting movement.

Only for MI-X 50L D C ST3A S2
MI-X 60 D C ST3A S2
MI-X 70 D C ST3A S2
MI 50L G S2
MI 60 G S2
MI 70 G S2



FORWARD GEAR

- A - Low speed: Pull slightly and push the lever upwards.
- B - High speed: Pull slightly and push the lever upwards again.

NEUTRAL

- C - To start the lift truck, the lever must be in neutral.

REVERSE

- D - Low speed: Pull slightly and push the lever downwards.
- B - High speed: Pull slightly and push the lever downwards again.

NOTE: Reverse lights and a reversing sound alarm indicate that the lift truck is travelling in reverse.

Only for MI 50L D ST3B S2
MI 60 D ST3B S2
MI 70 D ST3B S2

The selected mode is displayed on the dashboard screen and linked to the gear selection.

NEUTRAL

- A - To start the lift truck, the lever must be in neutral.

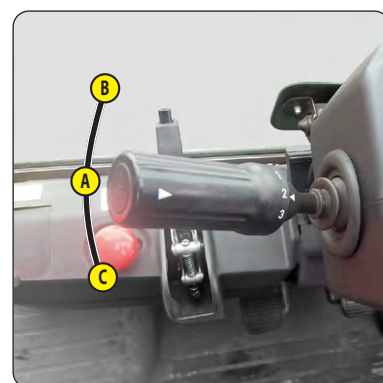
FORWARD GEAR

- B - Pull lightly and push the lever upwards.

REVERSE

- C - Pull lightly and push the lever downwards.

NOTE: Reverse lights and a reversing sound alarm indicate that the lift truck is travelling 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 of operations 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 driving cab with forward or reverse engaged the lift truck will stop after a short time.

The operator must then sit back in the seat, place the forward/reverse selector back in neutral and select forward or reverse in order to continue advancing or reversing.

The lift truck can continue its movement if the operator sits back down before the lift truck stops.

AUSTRALIAN SPECIFICATION

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

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

11 - GEAR SELECTOR

Only for MI 50L D ST3B S2
MI 60 D ST3B S2
MI 70 D ST3B S2

Using the switch, select the automatic or manual mode.

Using the selector, choose the speed of movement.

The selected mode is displayed on the dashboard screen.



Adapt the speed of movement to the use, the working environment and the site regulations.

A - AUTOMATIC MODE

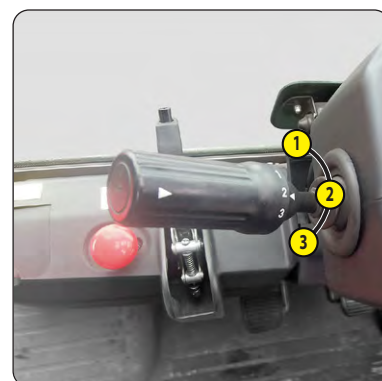
Gears are changed automatically up to the selected speed.

- 1 - slow speed
- 2 - intermediate speed
- 3 - fast speed

M - MANUAL MODE

Movement of the lift truck only uses the selected speed.

- 1 - slow speed
- 2 - intermediate speed
- 3 - fast speed



12 - ACCELERATOR PEDAL

13 - SERVICE BRAKE AND TRANSMISSION CUT-OFF PEDALS

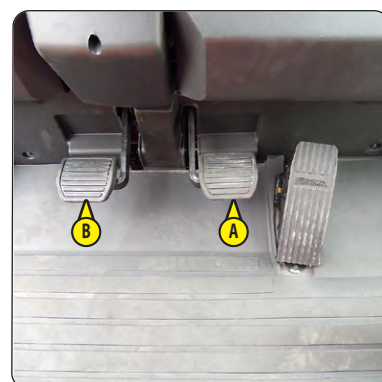
Foot pedal A acts on the front wheels by means of a hydraulic brake system, to slow down and stop the lift truck.

Foot pedal B gradually cuts off the transmission before acting on the front wheels by means of a hydraulic brake system to slow down and stop the lift truck.

NOTE: In order to stop the lift truck with forward or reverse gear engaged, keep foot pedal A or B depressed.



Prolonged use of the service brake and transmission cut off pedals causes overheating and can damage the transmission.

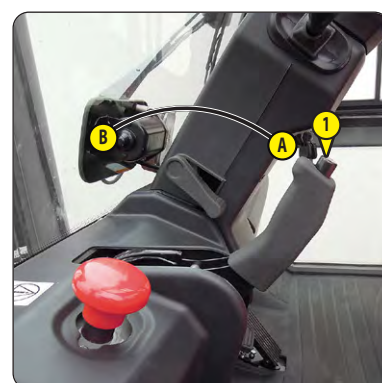


14 - PARKING BRAKE LEVER

To prevent accidental loosening or release, the lever is fitted with safety locking.

- To apply the parking brake, depress the service brake pedal and pull the lever backwards (position A).
- To loosen the parking brake, press button 1 and push the lever forwards (position B).
- Before moving, depress the brake pedal for a few seconds.

NOTE: If the parking brake is released when the driver is not present, an intermittent audible signal is sounded.



15 - HYDRAULIC CONTROLS

⚠ IMPORTANT ⚠

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

Operate the hydraulic controls gently and smoothly to avoid accidents caused by jerking of the lift truck.

Using the hydraulic controls is only possible if the driver is present and correctly sat on his seat.

LIFTING THE LOAD

- Lever A backwards to lift.
- Lever A forwards to lower.

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

TILTING THE MAST

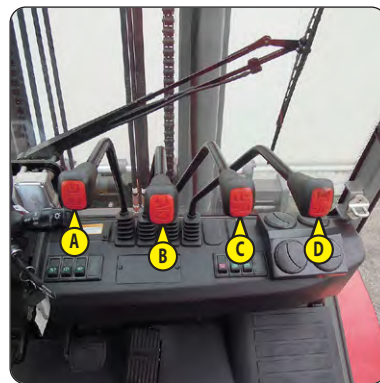
- The lever B backward for backward tilting.
- The lever B forwards for forward tilting.

ATTACHMENT

- The lever C forwards or backwards.

ATTACHMENT (OPTION)

- Lever D forwards or backwards.



16 - LOAD CHARTS

Comply with the load chart limits for the lift truck for the attachment used

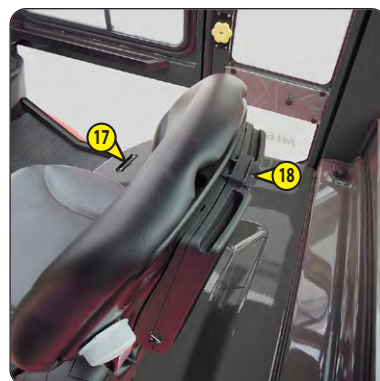
(➤ OPERATING AND SAFETY INSTRUCTIONS)



17 - DOCUMENT CLIP

18 - DOCUMENT HOLDER

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



19 - INSIDE REAR-VIEW MIRROR

20 - ROOF LIGHT

21 - CAB VENTILATION AIR VENTS (OPTION)

22 - DRIVER'S CAB ACCESS HANDLES

23 - DOOR OPENING HANDLES (OPTION)

24 - DOOR HANDLES (OPTION)

25 - CAB DOOR SLIDING WINDOWS (OPTION)

26 - REAR WINDOW OPENING (OPTION)

27 - WINDSCREEN WASHER TANK ACCESS PANEL



28 - ENGINE COVER OPENING

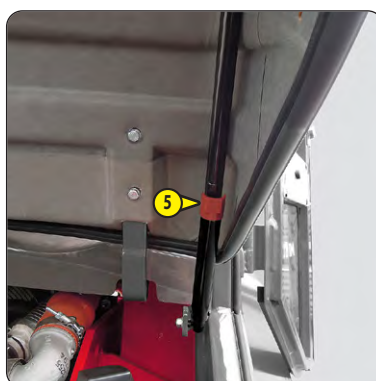
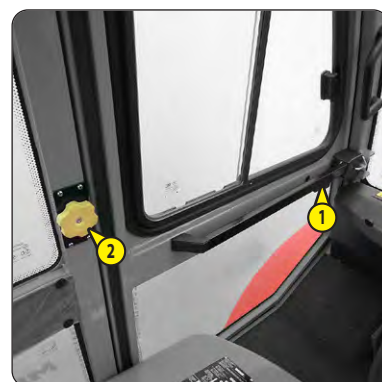
NOTE: Cab option, open the side doors 1, the side half-doors 2 and the rear window 3 before lifting the engine cover.

LIFTING THE ENGINE COVER

- Pull the handle 4, keep in this position and gently lift the engine cover until the gas strut safety catch 5 locks in place.

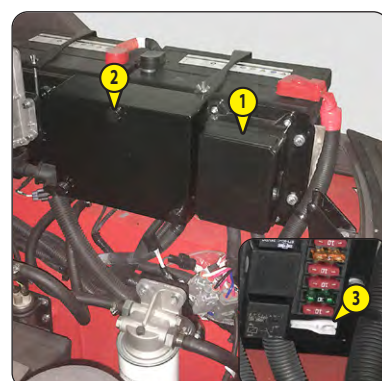
LOWERING THE ENGINE COVER

- Release the safety catch 5 and gently lower the engine cover.
- Check that the engine cover is properly closed.



29 - FUSES AND RELAYS UNDER THE ENGINE BONNET

- Open the engine cover (← INSTRUMENTS AND CONTROLS).
- Remove covers 1 and 2 to access the fuses and relays.
- Use the pliers 3 to replace a faulty fuse.



Only for MI-X 50L D C ST3A S2

MI-X 60 D C ST3A S2

MI-X 70 D C ST3A S2

FUSES

F3 - Side lights (15A).

- Front headlights (15A).

F4 - Horn (10A).

F5 - Starter (30A).

F6 - Reverse lights (5A).

F7 - Stop lights (10A).

- Rear working light (10A).

- Rotating beacon light (10A).

F8 - Engine control unit (10A).

F9 - Control panel (10A).

F10 - Engine control unit (5A).

F11 - Engine fault code (5A).

F12 - Gearbox (15A).

F13 - Rear windscreen wiper (15A).

F14 - Front windscreen wiper (20A).

RELAYS

K2 - Free.

K3 - Front headlamps.

K4 - Ignition.

K5 - Neutral gear.

K6 - Fast speed.

K7 - Reverse gear.

K8 - Forward gear.

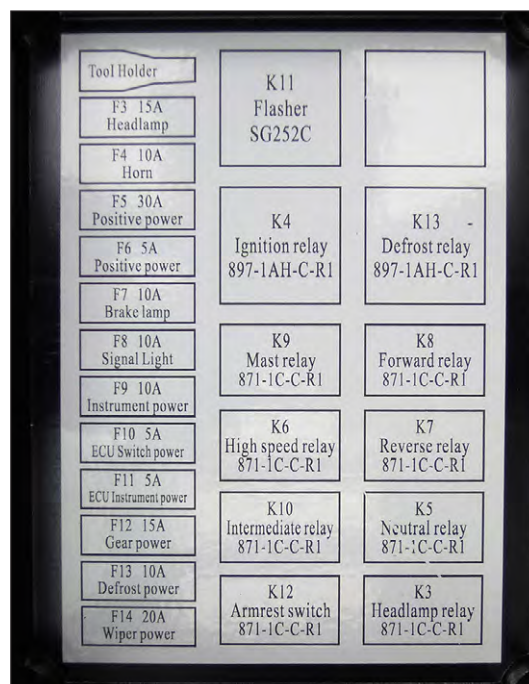
K9 - Free.

K10 - Starting.

K11 - Indicator lights.

K12 - Free.

K13 - Free.



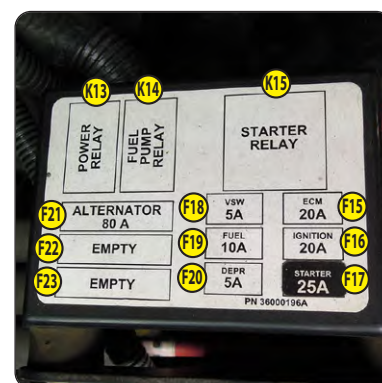
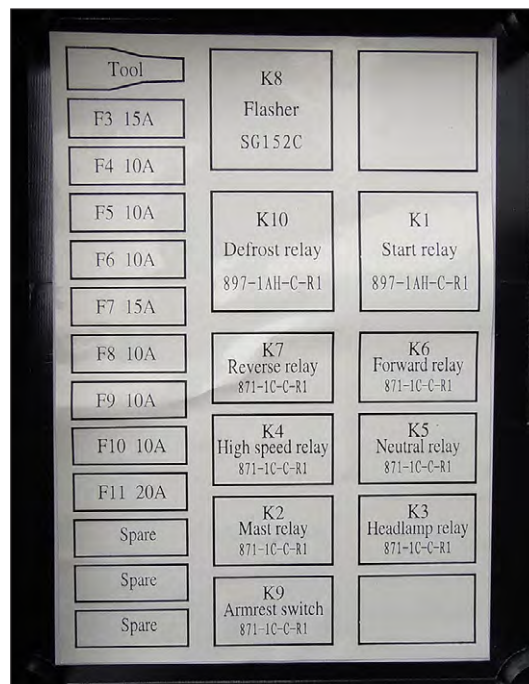
Only for MI 50L G S2
MI 60 G S2
MI 70 G S2

FUSES

- F3 - Side lights (15A).
- Front headlights (15A).
- F4 - Horn (10A).
- F5 - Stop lights (10A).
- F6 - Indicator lights (10A).
- F7 - Reversing gear (15A).
- F8 - Control panel (10A).
- F9 - Engine stop (10A).
- F10 - Free.
- F11 - Front windscreen wiper (10A).
- F12 - Free.
- F13 - Free.
- F14 - Free.
- F15 - Electronic control module (20A).
- F16 - Ignition system (20A).
- F17 - Starter (25A).
- F18 - Vaporizer pressure regulator (5A).
- F19 - LPG (10A).
- F20 - LPG vacuum (5A).
- F21 - Alternator (80A).
- F22 - Free.
- F23 - Free.

RELAYS

- K1 - Starting.
- K2 - Free.
- K3 - Front headlamps.
- K4 - Fast speed.
- K5 - Neutral gear.
- K6 - Forward gear.
- K7 - Reverse gear.
- K8 - Indicator lights.
- K9 - Free.
- K10 - Free.
- K11 - Free.
- K12 - Free.
- K13 - LPG power.
- K14 - LPG pump.
- K15 - LPG starting.



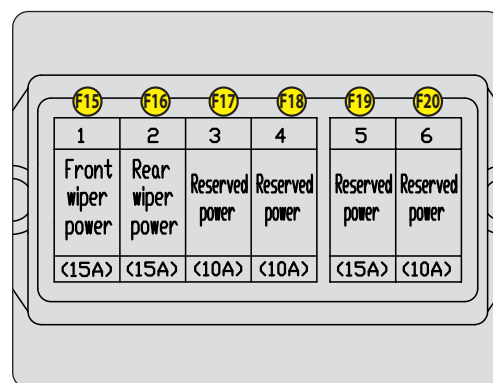
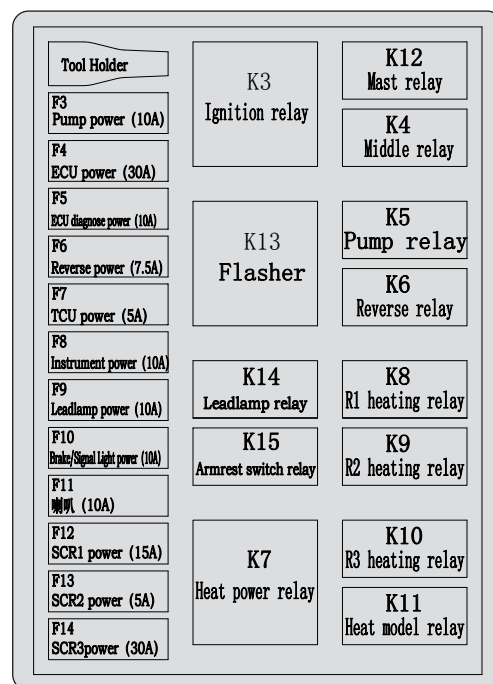
Only for MI 50L D ST3B S2
MI 60 D ST3B S2
MI 70 D ST3B S2

FUSES

- F3 - Engine preheat (10A).
- F4 - Starter (30A).
- F5 - Engine fault code (10A).
- F6 - Reversing gear (7.5A).
- F7 - Gearbox control unit (5A).
- F8 - Dashboard (10A).
- F9 - Rear working light (10A).
 - Rotating beacon light (10A).
- F10 - Stop lights (10A).
 - Indicator lights (10A).
- F11 - Free (10A).
- F12 - Free (15A).
- F13 - Free (5A).
- F14 - Free (30A).
- F15 - (1) Front windscreen wiper (15A).
- F16 - (2) Rear windscreen wiper (15A).
- F17 - (3) Free (10A).
- F18 - (4) Free (10A).
- F19 - (5) Free (15A).
- F20 - (6) Free (10A).

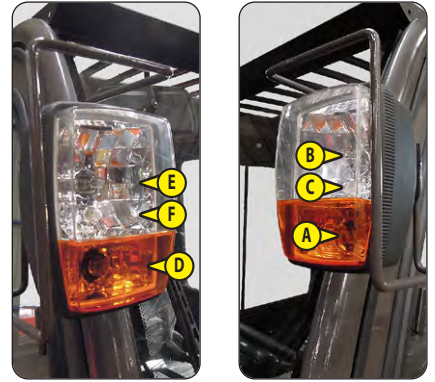
RELAYS

- K3 - Starting.
- K4 - .
- K5 - Pump.
- K6 - Reverse gear.
- K7 - Engine preheat.
- K8 - .
- K9 - .
- K10 - .
- K11 - .
- K12 - Mast.
- K13 - Rotating beacon light.
- K14 - Rear working light.
- K15 - Armrest switch.



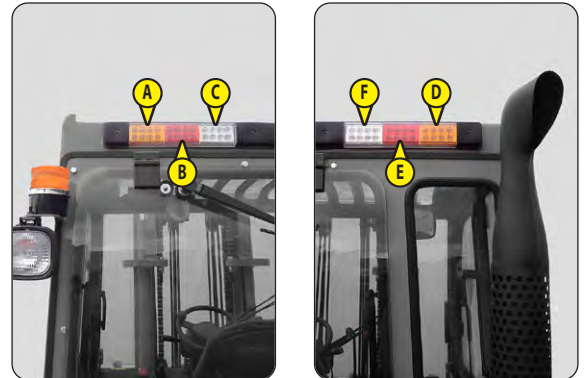
30 - FRONT HEADLIGHTS

- A - Front left indicator light.
- B - Front left headlight.
- C - Front left side light
- D - Front right indicator light.
- G - Front right headlight.
- F - Front right side light.



31 - REAR LIGHTS

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



32 - REAR WORKING LIGHT

33 - FLASHING LIGHT



34 - FRONT WINDSCREEN WIPER (OPTION)

35 - REAR WINDSCREEN WIPER (OPTION)

36 - FUEL TANK

As far as possible, keep the fuel tank well filled in order to minimise 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 the engine is running.*

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

- If necessary, add diesel oil (→ 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Remove cap 1.
- Fill the fuel tank with clean, filtered diesel.
- Refit the cap.
- Visually check that there is no leakage in the tank and pipes.

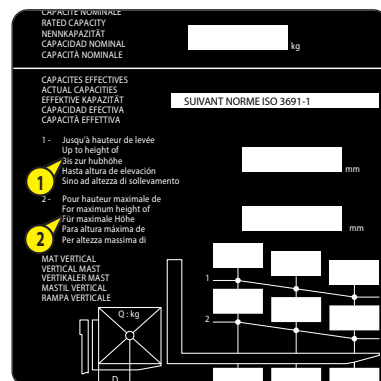
NOTE: A locking tank cap is available as an OPTION.



37 - 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 chart values are of the category "2 - For a maximum height" are applicable.



3 - MAINTENANCE

3 - MAINTENANCE

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ORIGINAL MANITOU SPARE PARTS AND EQUIPMENT

OUR LIFT TRUCKS MUST BE SERVICED USING ORIGINAL MANITOU PARTS.

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

⚠ IMPORTANT ⚠

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

- Legally - 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*

FORKLIFT TRUCK MAINTENANCE

DAILY AND WEEKLY MAINTENANCE



THE OPERATOR IS AUTHORISED TO CARRY OUT THIS MAINTENANCE.

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

MANDATORY FIRST 500 HOURS OR 6 MONTHS SERVICE



THIS SERVICE MUST BE CARRIED OUT AFTER THE FIRST 500 HOURS OF SERVICE OR WITHIN 6 MONTHS OF START-UP OF THE MACHINE (WHICHEVER OCCURS FIRST).

PERIODIC MAINTENANCE



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

MAINTENANCE SCHEDULE

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

OCCASIONAL MAINTENANCE AND OPERATION

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

DAILY AND WEEKLY MAINTENANCE

🔄 10H - DAILY SERVICING OR EVERY 10 HOURS OF SERVICE

- CHECK	Lift truck environment.	3-14
- CHECK	Engine oil level.	3-14
- CHECK	Coolant level.	3-16
- CHECK	Fuel pre-filter.	3-17

🔄 50H - WEEKLY MAINTENANCE OR EVERY 50 HOURS OF SERVICE

- CHECK	MI .. D ST3B S2	Belt tension.	3-18
- CHECK		Gear box seal.	3-19
- CHECK		Front axle differential seal.	3-19
- CHECK		Tyre pressures.	3-19
- CHECK		Wheel nut torques.	3-19
- CHECK		Hydraulic oil level.	3-20
- CHECK		Washer fluid level (option).	3-20
- CLEAN		Dry air filter cartridge.	3-21
- CLEAN		Radiator core.	3-21
- CLEAN		Condenser core (option).	3-22
- GREASE		General greasing.	3-22
- ADJUST		Tension and alignment of the mast lifting chains.	3-23

MANDATORY FIRST 500 HOURS OR 6 MONTHS SERVICE

FIRST 500 HOURS BEFORE THE FIRST 6 MONTHS

- If the lift truck completes its first 500 hours of service before the first 6 months are up, carry out the mandatory service and the 500 hour periodic maintenance (➤ 1 500 HOURS - PERIODIC MAINTENANCE).

FIRST 6 MONTHS BEFORE THE FIRST 500 HOURS

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

➤ MANDATORY SERVICE

- CHECK		Engine oil level.....	3-14
- CHECK	MI..D ST3B S2	Belt tension.....	3-18
- CHECK		Gear box seal.....	3-19
- CHECK		Front axle differential seal.....	3-19
- CHECK		Tyre pressures.....	3-19
- CHECK		Wheel nut torques.....	3-19
- CHECK		Hydraulic oil level.....	3-20
- CHECK		Washer fluid level (option).....	3-20
- CLEAN		Dry air filter cartridge.....	3-21
- CLEAN		Radiator core.....	3-21
- CLEAN		Condenser core (option).....	3-22
- GREASE		General greasing.....	3-22
- ADJUST		Tension and alignment of the mast lifting chains.....	3-23
- GREASE		Mast lifting chains.....	3-24
- REPLACE		Engine oil.....	3-24
- REPLACE		Engine oil filter.....	3-24
- REPLACE	MI-X..D C ST3A S2	Fuel filter.....	3-26
- REPLACE	MI-X..D C ST3A S2	Fuel pre-filter.....	3-27
- CHECK	MI..GS2	Engine idling speed *.....	3-27
- CHECK	MI..GS2	Ignition setting *.....	3-27
- CHECK	MI..GS2	Spark plug *.....	3-27
- CHECK	MI..GS2	Ignition rotor and head *.....	3-27
- CHECK	MI..GS2	LPG carburettor *.....	3-27
- CHECK	MI..GS2	LPG pressure relief valve *.....	3-27
- CHECK		Speeds of hydraulic movements *.....	3-27
- CHECK		Condition of hoses and flexible pipes *.....	3-27
- CHECK		Condition of cylinders (leakage, rods) *.....	3-27
- CHECK		Fork wear *.....	3-27
- CHECK		Safety belt.....	3-28
- REPLACE	MI..D ST3B S2	Fuel filter.....	3-29
- REPLACE	MI..D ST3B S2	Fuel pre-filter.....	3-29
- CHECK		Engine speeds *.....	3-33
- CHECK		Engine valve clearances *.....	3-33
- CHECK		Engine silent blocks *.....	3-33
- CHECK		Gear box silent blocks *.....	3-33
- CHECK		Condition of wheels and tyres *.....	3-33
- CHECK		Brake *.....	3-33
- CHECK		Condition of wiring harnesses and cables *.....	3-33
- CHECK		Lights and signals *.....	3-33
- CHECK		Warning indicators *.....	3-33
- CHECK		Condition of the rear view mirrors *.....	3-33
- CHECK		Cab structure *.....	3-33
- CHECK		Frame structure *.....	3-33
- CHECK		Condition of attachments *.....	3-33

** Consult your dealer.*

PERIODIC MAINTENANCE

MAINTENANCE SCHEDULE

	OR						
WHEN DUE ➡	FIRST 6 MONTHS	FIRST 500 HOURS	500 H or 1 YEAR	1000 H or 2 YEARS	1500 H or 3 YEARS	2000 H or 4 YEARS	
PERIODIC MAINTENANCE ➡	MANDATORY SERVICE	MANDATORY SERVICE + ①	①	① + ②	①	① + ② + ③	
MACHINE COUNTER ➡							
DATE OF SERVICING ➡							

WHEN DUE ➡	2500 H or 5 YEARS	3000 H or 6 YEARS	3500 H or 7 YEARS	4000 H or 8 YEARS	4500 H or 9 YEARS	5000 H or 10 YEARS	5500 H or 11 YEARS
PERIODIC MAINTENANCE ➡	①	① + ②	①	① + ② + ③	①	① + ②	①
MACHINE COUNTER ➡							
DATE OF SERVICING ➡							

WHEN DUE ➡	6000 H or 12 YEARS	6500 H or 13 YEARS	7000 H or 14 YEARS	7500 H or 15 YEARS	8000 H or 16 YEARS	8500 H or 17 YEARS	9000 H or 18 YEARS
PERIODIC MAINTENANCE ➡	① + ② + ③	①	① + ②	①	① + ② + ③	①	① + ②
MACHINE COUNTER ➡							
DATE OF SERVICING ➡							

➡ ① 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE

- GREASE	Mast lifting chains.....	3-24
- REPLACE	Engine oil.....	3-24
- REPLACE	Engine oil filter.....	3-24
- REPLACE MI-X..DC ST3A S2	Fuel filter.....	3-26
- REPLACE MI-X..DC ST3A S2	Fuel pre-filter.....	3-27
- CHECK MI..GS2	Engine idling speed *.....	3-27
- CHECK MI..GS2	Ignition setting *.....	3-27
- CHECK MI..GS2	Spark plug *.....	3-27
- CHECK MI..GS2	Ignition rotor and head *.....	3-27
- CHECK MI..GS2	LPG carburettor *.....	3-27
- CHECK MI..GS2	LPG pressure relief valve *.....	3-27
- CLEAN MI..GS2	LPG pressure relief valve filter *.....	3-27
- BLEED MI..GS2	LPG vaporiser pressure regulator *.....	3-27
- CHECK	Speeds of hydraulic movements *.....	3-27
- CHECK	Condition of hoses and flexible pipes *.....	3-27
- CHECK	Condition of cylinders (leakage, rods) *.....	3-27
- CHECK	Fork wear *.....	3-27

* Consult your dealer.

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

ALSO PERFORM THE 500 HOUR PERIODIC MAINTENANCE OPERATIONS.

- CHECK	Safety belt.....	3-28
- LUBRICATE	Service brake pedal axle.....	3-28
- REPLACE MI..D ST3B S2	Fuel filter.....	3-29

- REPLACE	MI..D ST3B S2	Fuel pre-filter	3-29
- REPLACE		Dry air filter cartridge	3-30
- REPLACE		Gear box oil	3-30
- REPLACE	- REPLACE	Gear box oil filter	3-30
- CLEAN	- CLEAN	Metal gear box oil filter	3-30
- REPLACE		Hydraulic oil	3-32
- REPLACE	- REPLACE	Hydraulic return oil filter	3-32
- CLEAN	- CLEAN	Hydraulic oil tank filter cap	3-32
- CLEAN	- CLEAN	Hydraulic oil tank suction strainers	3-32
- CHECK		Engine speeds *	3-33
- CHECK		Engine valve clearances *	3-33
- CHECK		Engine silent blocks *	3-33
- CHECK		Gear box silent blocks *	3-33
- CHECK		Condition of wheels and tyres *	3-33
- CHECK		Brake *	3-33
- CHECK		Condition of wiring harnesses and cables *	3-33
- CHECK		Lights and signals *	3-33
- CHECK		Warning indicators *	3-33
- CHECK		Condition of the rear view mirrors *	3-33
- CHECK		Cab structure *	3-33
- CHECK		Frame structure *	3-33
- CHECK		Condition of attachments *	3-33

** Consult your dealer.*

➔ ③ 2000H - PERIODIC MAINTENANCE - EVERY 2000 HOURS OF SERVICE OR 4 YEARS

ALSO PERFORM THE 500 HOUR AND 1000 HOUR PERIODIC MAINTENANCE OPERATIONS.

- CHECK	Wheel nut tightening torques	3-34
- CLEAN	Fuel tank	3-34
- REPLACE	Coolant	3-34
- REPLACE	Dry air filter safety cartridge	3-36
- REPLACE	Front axle differential oil	3-36
- CHECK	Radiator *	3-37
- CHECK	Water pump and thermostat *	3-37
- CHECK	Alternator and starter *	3-37
- CHECK	Alternator belt *	3-37
- CHECK	Turbocharger *	3-37
- CHECK	Injection pump *	3-37
- CHECK	Injectors *	3-37
- CHECK	Swivel pins *	3-37
- CHECK	Steering connecting rods *	3-37
- CHECK	Rear axle oscillation *	3-37
- CHECK	Steering *	3-37
- CHECK	Rear axle *	3-37
- CHECK	Brake wear *	3-37
- CHECK	Mast lifting chains *	3-37
- CHECK	Condition of boom assembly *	3-37
- CHECK	Mast lifting chain pulleys *	3-37
- CHECK	Mast guide rollers *	3-37
- CHECK	Mast bearing rollers *	3-37
- CHECK	Thickness of the mast wearing plates *	3-37
- CHECK	Attachment carriage *	3-37
- CHECK	Hydraulic circuit pressures *	3-37
- CHECK	Hydraulic circuit flow rates *	3-37
- CHECK	Bearings and bushings *	3-37
- CLEAN	Hydraulic oil tank and strainer *	3-37
- CLEAN	Air-conditioning (option) *	3-37

** Consult your dealer.*

OCCASIONAL MAINTENANCE AND OPERATION

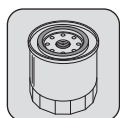
➡ OCCASIONAL MAINTENANCE

- REPLACE	Wheels	3-38
- REPLACE	Battery.....	3-39

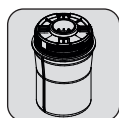
➡ OCCASIONAL OPERATION

- TOW	Lift truck.....	3-40
- SLING	Lift truck.....	3-40
- TRANSPORT	Lift truck.....	3-41

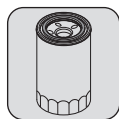
➔ ① 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE



ENGINE OIL FILTER
Part number: 951669



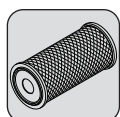
FUEL PRE-FILTER
Part number: 951653



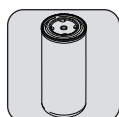
FUEL FILTER
Part number: 951654

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

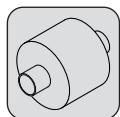
ALSO ADD FILTER ELEMENTS OF PERIODIC MAINTENANCE AT 500 HOURS OF SERVICE.



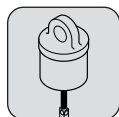
DRY AIR FILTER CARTRIDGE
Part number: 948863



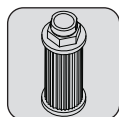
HYDRAULIC RETURN OIL FILTER
Part number: 949530



GEAR BOX OIL FILTER
Part number: 949043



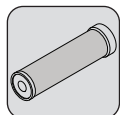
FILTER CAP FOR HYDRAULIC FLUID TANK
Part number: 950189



SUCTION STRAINER FOR HYDRAULIC OIL TANK (x2)
Part number: 949539

➔ ③ 2000H - PERIODIC MAINTENANCE - EVERY 2000 HOURS OF SERVICE OR 4 YEARS

ALSO ADD FILTER ELEMENTS OF PERIODIC MAINTENANCE AT 500 HOURS AND 1000 HOURS OF SERVICE.

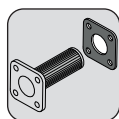


SAFETY DRY AIR FILTER CARTRIDGE
Part number: 948862

➔ OCCASIONAL MAINTENANCE



ALTERNATOR BELT (1)
Part number: 951667



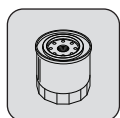
METAL GEAR BOX OIL FILTER
Part number: 950755



SELF-CLEANING PRE-FILTER (OPTION)
Part number: 953343

(1) Contact your dealer.

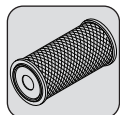
➔ ① 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE



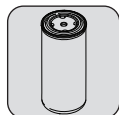
ENGINE OIL FILTER
Part number: 943326

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

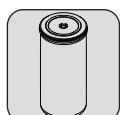
ALSO ADD FILTER ELEMENTS OF PERIODIC MAINTENANCE AT 500 HOURS OF SERVICE.



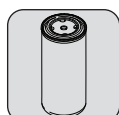
DRY AIR FILTER CARTRIDGE
Part number: 948863



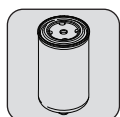
GEAR BOX OIL FILTER
Part number: 957172



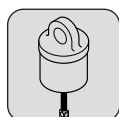
FUEL FILTER
Part number: 942117



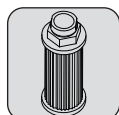
HYDRAULIC RETURN OIL FILTER
Part number: 949530



FUEL PRE-FILTER
Part number: N50302445



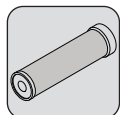
FILTER CAP FOR HYDRAULIC FLUID TANK
Part number: 950189



SUCTION STRAINER FOR HYDRAULIC OIL TANK (x2)
Part number: 949539

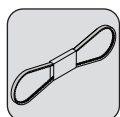
➔ ③ 2000H - PERIODIC MAINTENANCE - EVERY 2000 HOURS OF SERVICE OR 4 YEARS

ALSO ADD FILTER ELEMENTS OF PERIODIC MAINTENANCE AT 500 HOURS AND 1000 HOURS OF SERVICE.



SAFETY DRY AIR FILTER CARTRIDGE
Part number: 948862

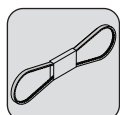
➔ OCCASIONAL MAINTENANCE



FAN BELT
Part number: 944380



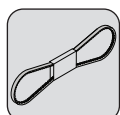
METAL GEAR BOX OIL FILTER
Part number:



ALTERNATOR BELT
Part number: 944377

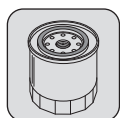


SELF-CLEANING PRE-FILTER (OPTION)
Part number: 953343



COMPRESSOR BELT
(air-conditioning option)
Part number:

➔ 1 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE



ENGINE OIL FILTER
Part number: 948377



FILTER VALVE REPAIR KIT (1)
Part number: 954279

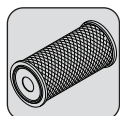


CARBURETTOR REPAIR KIT (1)
Part number: 954280

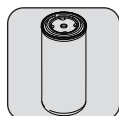
(1) Contact your dealer.

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

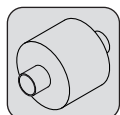
ALSO ADD FILTER ELEMENTS OF PERIODIC MAINTENANCE AT 500 HOURS OF SERVICE.



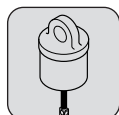
DRY AIR FILTER CARTRIDGE
Part number: 948863



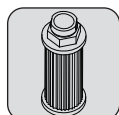
HYDRAULIC RETURN OIL FILTER
Part number: 949530



GEAR BOX OIL FILTER
Part number: 949043



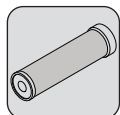
FILTER CAP FOR HYDRAULIC FLUID TANK
Part number: 950189



SUCTION STRAINER FOR HYDRAULIC OIL TANK (x2)
Part number: 949539

➔ 3 2000H - PERIODIC MAINTENANCE - EVERY 2000 HOURS OF SERVICE OR 4 YEARS

ALSO ADD FILTER ELEMENTS OF PERIODIC MAINTENANCE AT 500 HOURS AND 1000 HOURS OF SERVICE.

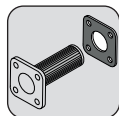


SAFETY DRY AIR FILTER CARTRIDGE
Part number: 948862

➔ OCCASIONAL MAINTENANCE



ALTERNATOR BELT (1)
Part number: 951741



METAL GEAR BOX OIL FILTER
Part number: 950755



SELF-CLEANING PRE-FILTER (OPTION)
Part number: 953343

(1) Contact your dealer.

⚠ 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 organised 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 MI-X .. D C ST3A S2 MI .. D ST3B S2 MI .. G S2	8 Litres 9 Litres 4.25 Litres					0W30							
						0W40							
						5W30							
						5W40							
						10W30							
						MANITOU EVOLOGY OIL 10W40 API CJ4							
							15W40						
							20W50						
		-40 °C	-30	-20	-10	0	+10	+20	+30	+40	+50 °C		
COOLING CIRCUIT MI 50L / 60 / 70 ... MI 80 / 100 ...	23 Litres 28 Litres			COOLANT -35 °C									
		-40 °C	-30	-20	-10	0	+10	+20	+30	+40	+50 °C		
FUEL TANK MI 50L / 60 / 70 D MI 80 / 100 D	110 Litres 120 Litres			GNR HP DIESEL *									
		-40 °C	-30	-20	-10	0	+10	+20	+30	+40	+50 °C		
GAS CYLINDER MI ... G	13 kg		Propane LPG										

MAST		RECOMMENDATION										
PARTS TO BE LUBRICATED		-40 °C	-30	-20	-10	0	+10	+20	+30	+40	+50 °C	
MAST LIFTING CHAINS												MANITOU SPECIAL CHAIN LUBRICANT (aerosol)
		-40 °C	-30	-20	-10	0	+10	+20	+30	+40	+50 °C	
GREASING OF THE MAST												MANITOU BLACK MULTI-PURPOSE LUBRICANT

HYDRAULICS		RECOMMENDATION										
PARTS TO BE LUBRICATED	CAPACITY	-40 °C	-30	-20	-10	0	+10	+20	+30	+40	+50 °C	
HYDRAULIC OIL TANK	110 Litres											ISO VG 100
												ISO VG 68
												ISO VG 46
												ISO VG 37
												MANITOU ISO VG 32 HYDRAULIC OIL

TRANSMISSION										
PARTS TO BE LUBRICATED	CAPACITY	RECOMMENDATION								
		-40°C	-30	-20	-10	0	+10	+20	+30	+40 +50°C
GEARBOX	Litres	MANITOU DEXRON-III AUTOMATIC TRANSMISSION OIL								
		-40°C	-30	-20	-10	0	+10	+20	+30	+40 +50°C
DIFFERENTIAL / AXLE	19 Litres	SPECIAL MANITOU OIL FOR IMMersed BRAKES								

REAR AXLE										
		-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								

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

PACKAGING

OIL						
PRODUCT	PACKAGING / PART NO.					
	1 LITRE	2 LITRES	5 LITRES	20 LITRES	55 LITRES	209 LITRES
- MANITOU EVOLOGY OIL 10W40 API CJ4			895837	895838	895839	895840
- MANITOU ISO VG 32 HYDRAULIC OIL			744638	744637		744636
- MANITOU DEXRON-III AUTOMATIC TRANSMISSION OIL	781630			781631		781632
- SPECIAL MANITOU OIL FOR IMMersed BRAKES			545976	582391		894257

GREASE						
PRODUCT	PACKAGING / PART NO.					
	400 ML	400 GR	1 KG	5 KG	20 KG	50 KG
- MANITOU BLACK MULTI-PURPOSE LUBRICANT		947766	161590			499235
- MANITOU BLUE MULTI-PURPOSE LUBRICANT		161589		554974	958177	958176
- MANITOU Special chain LUBRICANT (aerosol)	554271					

LIQUID						
PRODUCT	PACKAGING / PART NO.					
	1 LITRE	2 LITRES	5 LITRES	20 LITRES	55 LITRES	210 LITRES
- COOLANT -35 °C			894967	894968		894969
- WINDSCREEN WASHER LIQUID	490402		486424			

CHECK

Lift truck environment

⚠ IMPORTANT ⚠

Follow the operator instructions (➤ OPERATOR INSTRUCTIONS).

- Carry out a general inspection of the lift truck:
 - Fluid leaks or stains on the ground.
 - Additional objects on the lift truck and in the driver protection or the cab.
 - Mounting and adjustment of lights and rear view mirrors.
 - Mounting and locking of the attachment.
 - Condition of the tyres, to detect cuts, blisters, wear, etc.
- According to the conditions of use and the environment, ensure that the lift truck is clean.
 - Cleanliness of lights, rear view mirrors, windows and the driver's cab.
 - Cleanliness of the engine housing and inside the frame (➤ OCCASIONAL MAINTENANCE) to prevent leaks and build-up of materials (e.g. straw, flour, sawdust, organic waste, etc.).

⚠ IMPORTANT ⚠

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

CHECK

Engine oil level

- Place the lift truck on level ground with the engine stopped, and let the oil settle in the sump.
- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).

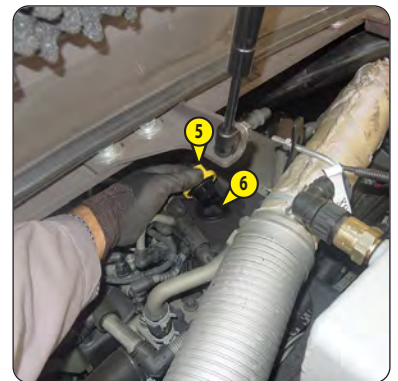
MI-X...DCST3AS2

- Pull out and clean the dipstick 1.
- Reinsert the dipstick and remove it again.
- Check the correct level between the two notches.
- If necessary, add oil (➤ LUBRICANTS AND FUEL) through the filler port 2.
- Unscrew the thumbscrews 3 and remove the housing 4.
- Remove the cover 5 to access filler cap 2.
- Visually check that there is no leakage or seepage of oil in the engine.



MI..D ST3B S2

- Pull out and clean the dipstick 1.
- Reinsert the dipstick and remove it again.
- Check the correct level between the two notches.
- If necessary, add oil (☞ LUBRICANTS AND FUEL).
- Unscrew the thumbscrews 2 and remove the housing 3.
- Remove the cover 4 to access filler cap 5.
- Add oil through filler port 6.
- Visually check that there is no leakage or seepage of oil in the engine.



MI..G S2

- Pull out and clean the dipstick 1.
- Reinsert the dipstick and remove it again.
- Check the correct level between the two notches.
- If necessary, add oil (☞ LUBRICANTS AND FUEL) through the filler port 2.
- Visually check that there is no leakage or seepage of oil in the engine.



- 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.

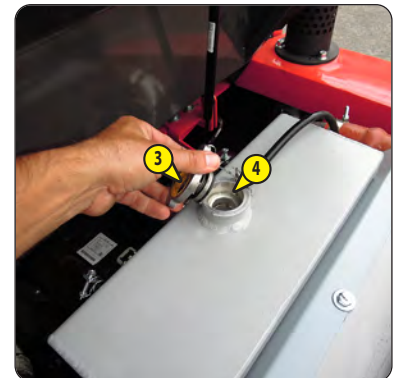
If the coolant is very hot, add only hot coolant (80 °C).

In an emergency, you can use water as a coolant, then change the cooling circuit liquid as soon as possible (⚠ 3 2000 H - PERIODIC MAINTENANCE).

MI-X...DCST3A S2

MI...DST3B S2

- Unscrew the thumbscrews 1 and remove the housing 2.
- Slowly turn the cap of the radiator 3 up to the safety stop.
- Allow the pressure and the steam to escape.
- Press down and turn the cap so as to release it.
- Check the correct level up to 15 mm below the filler port 4.
- If necessary, add coolant (⚠ LUBRICANTS AND FUEL) through the filler port 4.
- Lubricate slightly the filler neck in order to facilitate the setting and the removal of the radiator cap.
- Visually check that there is no leakage in the radiator and pipes.



MI...GS2

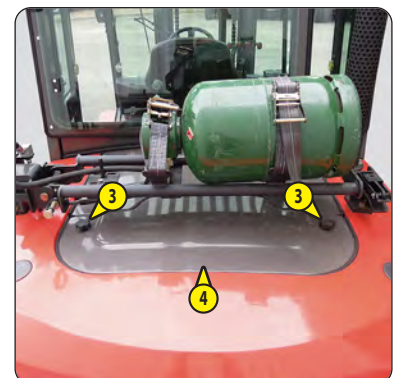
- Open the engine cover (⚠ DESCRIPTION: INSTRUMENTS AND CONTROLS).

The liquid must be at the MAXIMUM level on the expansion tank 1.

- If necessary, add cooling liquid (⚠ 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.

- Unscrew the thumbscrews 3 and remove the housing 4.
- 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 coolant through the filler port (⚠ LUBRICANTS AND FUEL).
- Lubricate slightly the filler neck in order to facilitate the setting and the removal of the radiator cap.



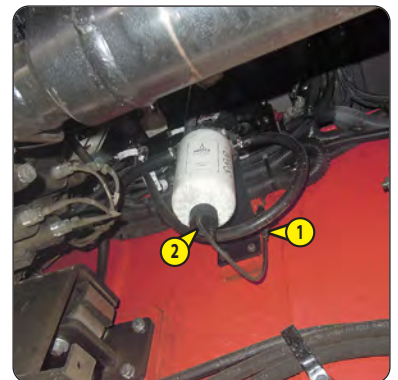
- Switch off the lift truck's ignition.
- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.

MI-X...DCST3A S2

- Check for the presence of water in pre-filter tank 1 and drain if necessary.
- Place a receptacle under the drain plug 2 and unscrew by two to three turns.
- Allow the diesel fuel to flow out until it is free from impurities and water.
- Retighten the drain plug while the diesel fuel is flowing out.
- If necessary, bleed the fuel supply system (➤ OCCASIONAL MAINTENANCE).

**MI...DST3B S2**

- Disconnect electrical wiring harness 1 from the fuel pre-filter.
- Place a container under the drain plug 2.
- Unscrew the drain plug 2 by two turns.
- Allow the diesel fuel to flow out until it is free from impurities and water.
- Re-tighten drain plug 2 and reconnect the wiring harness 1.
- Turn on the ignition to power the boost pump and release air from the pre-filter.



⚠ IMPORTANT ⚠

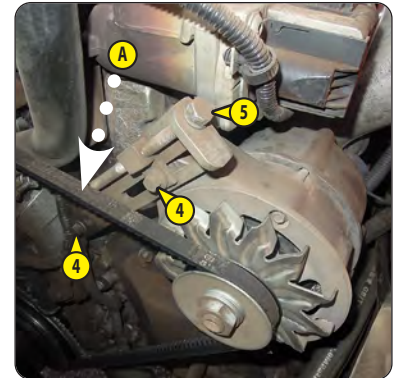
If the compressor belt has to be changed, check the tension again after the first 20 hours of operation.

- Unscrew the thumbscrews 1 and remove the housing 2.
- Lift cover 3 to gain access to the belts.
- Check the belts for signs of wear and cracking and change if necessary (⇐ FILTER CARTRIDGES AND BELTS).



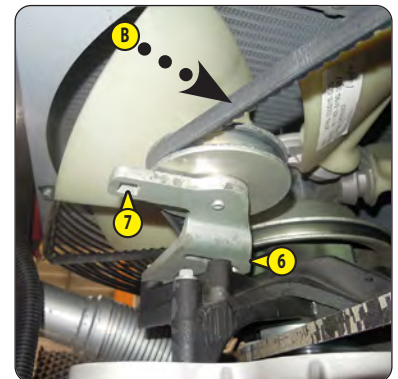
ALTERNATOR BELT

- Check the tension between pulleys, under normal pressure applied by the thumb A (98 N/10 kg), belt movement should be between 7 and 10 mm.
- Adjust if necessary.
- Loosen screws 4 by two to three turns.
- Tighten or loosen screw 5 to obtain the required belt tension.
- Retighten screws 4 (tightening torque 22 N.m).



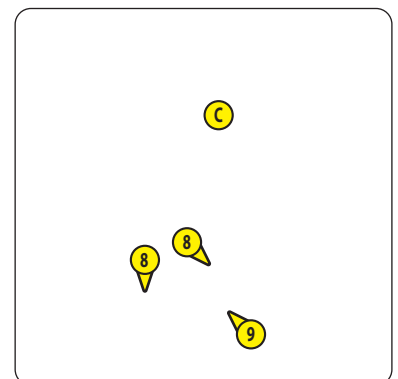
FAN BELT

- Check the tension between pulleys, under normal pressure applied by the thumb B (98 N/10 kg), belt movement should be between 7 and 10 mm.
- Adjust if necessary.
- Loosen screw 6 by two to three turns.
- Use a wrench to swivel the tensioner pulley 7 and obtain the required belt tension.
- Retighten screw 6 (tightening torque 22 N.m).



COMPRESSOR BELT (air-conditioning option)

- Check the tension between pulleys, under normal pressure applied by the thumb C (98 N/10 kg), belt movement should be between 7 and 10 mm.
- Adjust if necessary.
- Loosen screws 8 by two to three turns.
- Tighten or loosen screw 9 to obtain the required belt tension.
- Retighten screws 8 (tightening torque 22 N.m).



CHECK

Gear box seal

- Place the lift truck on level ground with the engine stopped.
- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Visually check for seepage and leaks.
- If there are any, check the level.

MI-X .. D C ST3A S2

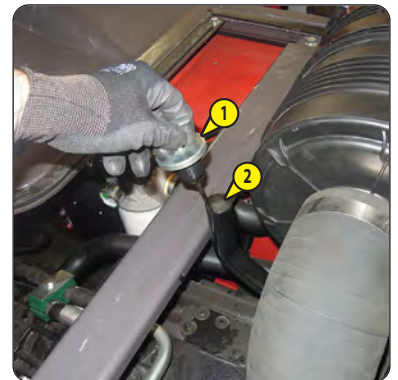
MI .. G S2

- Pull out and clean the dipstick 1.
- Reinsert the dipstick and remove it again.
- Check the correct level between the two notches.
- If necessary, add oil (➤ LUBRICANTS AND FUEL) through the same hole 2.



MI .. D ST3B S2

- Pull out and clean the dipstick 1.
- Reinsert the dipstick and remove it again.
- Check the correct level between the two notches.
- If necessary, add oil (➤ LUBRICANTS AND FUEL) through the same hole 2.



CHECK

Front axle differential seal

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

- Visually check for seepage and leaks.
- If there are any, check the level.
- Raise the mast to gain access to the plug.
- Remove the level plug 1, the oil should be flush with the edge of the opening.
- If necessary, add oil (➤ LUBRICANTS AND FUEL) through the filler port 2.
- Refit and tighten the plugs (tightening torque 34 to 49 N.m).



CHECK

Tyre pressures

CHECK

Wheel nut torques

⚠ 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 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 restore tyre pressures if necessary (➤ TYRES).

NOTE: There is an OPTIONAL wheel toolkit.

CHECK

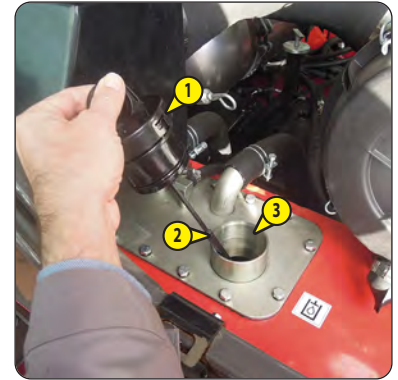
Hydraulic oil level

Place the lift truck on level ground with the engine stopped, and the boom retracted and lowered as far as possible.

⚠ IMPORTANT ⚠

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

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove cap 1.
- Refer to dipstick 2 and the table below.



MODEL	MARKING	MAST raising height (mm)				
		≤ 3000	> 3000 ≤ 4000	> 4000 ≤ 5000	> 5000 ≤ 6000	> 6000 ≤ 7000
		Filling level				
MI-X 50L D / MI 50L D / MI 50L G	45 A	70 (*)	70 (*)	70 (*)	74 (*)	74 (*)
MI-X 60 D / MI 60 D / MI 60 G	70 B	30 (*)	40 (*)	50 (*)	60 (*)	70 (*)
MI-X 70 D / MI 70 D / MI 70 G	70 B	30 (*)	40 (*)	50 (*)	60 (*)	70 (*)

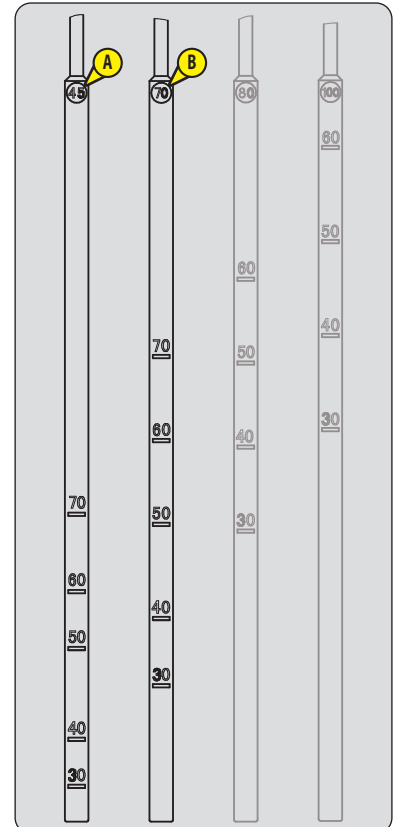
(*) For lift trucks fitted with a hydraulic attachment (side shift carriage, positioner, etc.) add the equivalent of 25 mm of oil on the dipstick.

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

- If necessary, add oil (➤ LUBRICANTS AND FUEL) through the filler port 3.
- Put the cap 1 back.
- Visually check that there is no leakage in the tank and pipes.
- Check the operation of the hydraulic controls (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).

⚠ IMPORTANT ⚠

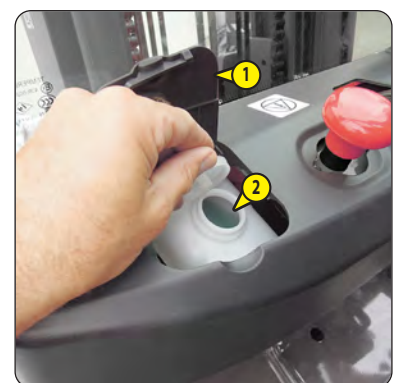
Consult your dealer in case of abnormal operation of the hydraulic controls.



CHECK

Washer fluid level (option)

- Lift up windscreen washer tank access cover 1.
- Visually check the level.
- If necessary, add windscreen washer fluid (➤ LUBRICANTS AND FUEL) through filler port 2.



In very dusty atmospheres, the cartridge cleaning frequency must be reduced to 10 hours.

However, there are pre-filtration elements (➤ FILTER CARTRIDGES AND BELTS); if necessary, contact your dealer.

⚠ 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.

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Release the locks 1 and remove the cover 2.
- Gently remove the cartridge 3 taking care to avoid spilling the dust.
- Leave the safety cartridge in place.
- Using a compressed air jet (max. 3 bar), clean the filter cartridge from the top to the bottom and from the inside towards the outside, maintaining a minimum safety distance of 30 mm to avoid damaging the cartridge. Cleaning is completed when there is no more dust escaping from the cartridge.

⚠ IMPORTANT ⚠

The cartridge must not be blown anywhere near the air filter box.

Never clean the cartridge by tapping it against a hard surface.

Never wash the dry air filter cartridge.

Never clean the air filter security cartridge; replace it with a new one if it is dirty or damaged.

- 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 attachments.
- Check also the condition of the hoses and their attachments.

⚠ 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.

- Unscrew the thumbscrews 1 and remove the housing 2.
- Lift cover 3 to gain access to the radiator.
- Using a soft cloth, clean the radiator in order to remove as much dirt as possible.
- Clean the radiator with jet of compressed air directed from the inside towards the outside. This is the only effective way of removing impurities (opposite direction to the cooling air flow).



CLEAN

Condenser core (option)

⚠ 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.

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



GREASE

General greasing

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

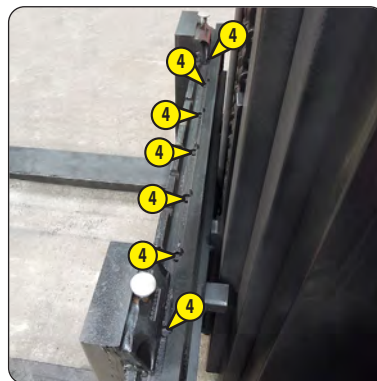
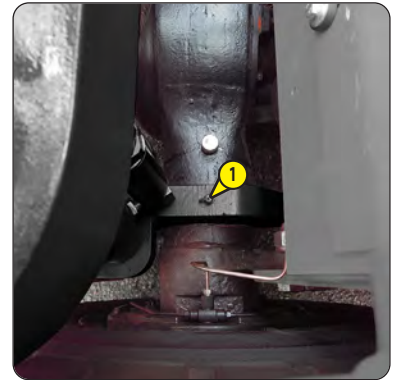
⚠ IMPORTANT ⚠

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

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

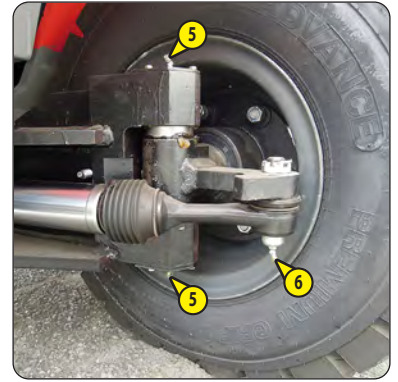
MAST

- 1 - Articulation axles at the foot of the mast (2 lubricators).
- 2 - Tilt cylinder head axles (2 lubricators).
- 3 - Tilt cylinder foot axles (2 lubricators).
- 4 - Fork carriage (according to model)



REAR AXLE

- 5 - Swivel pins (4 lubricators).
- 6 - Steering connecting rods (2 lubricators).
- 7 - Rear axle oscillation (2 lubricators).



CAB DOORS (OPTION)

- 8 - Cab door articulation axles (8 lubricators).



ADJUST

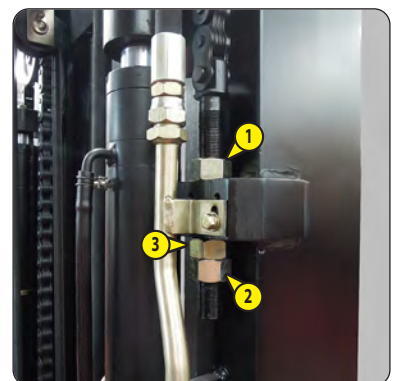
Tension and alignment of the mast lifting chains

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

⚠ IMPORTANT ⚠

*These checks are important for the good working operation of the mast.
In case of technical faults, consult your dealer.*

- Visually check the state of the mast and the forks.
- 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.



➡ 500H - PERIODIC MAINTENANCE - EVERY 500 HOURS OF SERVICE

GREASE

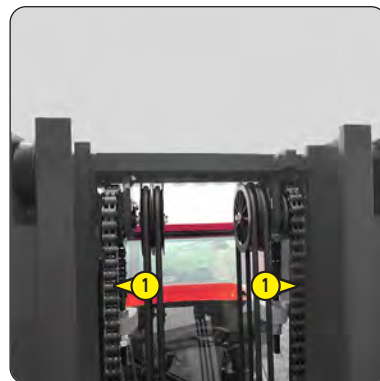
Mast lifting chains

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

⚠ IMPORTANT ⚠

In case of technical faults, consult your dealer.

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



REPLACE

Engine oil

REPLACE

Engine oil filter

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

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

MI-X...DCST3A S2

- Open the engine cover (⚡ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Unscrew the thumbscrews 1 and remove the housing 2.
- Remove the cover 3 to access filler cap 4.
- Clean the areas around the plugs and oil filter.

DRAINING THE OIL

- Remove the filler plug 4 to ensure that the oil is drained properly.
- Place a container under drain port 5 and unscrew the plug.

REPLACING THE ENGINE OIL FILTER

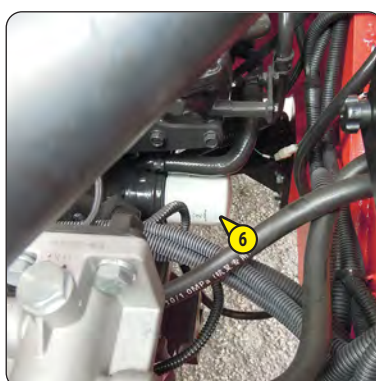
- Unscrew and discard the filter 6, together with its seal.
- Clean the filter holder with a clean, lint-free cloth.
- Lightly grease the seal before refitting the new filter (⚡ FILTER CARTRIDGES AND BELTS) on its bracket.
- Tighten the oil filter (tightening torque 15 to 17 N.m).

FILLING WITH OIL

- Refit and tighten the drain plug 5 (tightening torque 30 to 40 N.m).
- Fill up with oil (⚡ 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 from the drain plug and the oil filter.
- Stop the engine; wait a few minutes
- Check the correct level between the two notches on dipstick 7.
- Top up the level if necessary.



MI...DST3B S2

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Unscrew the thumbscrews 1 and remove the housing 2.
- Remove the cover 3 to access filler cap 4.
- Clean the areas around the plugs and oil filter.

DRAINING THE OIL

- Remove the filler plug 4 to ensure that the oil is drained properly.
- Place a container under drain plug (5) and unscrew the plug.

REPLACING THE ENGINE OIL FILTER

- Unscrew and discard the filter 6, together with its seal.
- Clean the filter holder with a clean, lint-free cloth.
- Lightly grease the seal before refitting the new filter (➤ FILTER CARTRIDGES AND BELTS) on its bracket.
- Tighten the oil filter (tightening torque 15 to 17 N.m).

FILLING WITH OIL

- Refit and tighten the drain plug 5 (tightening torque 30 to 40 N.m).
- Fill up with oil (➤ LUBRICANTS AND FUEL) through filler port 7.

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 from the drain plug and the oil filter.
- Stop the engine; wait a few minutes
- Check the correct level between the two notches on dipstick 8.
- Top up the level if necessary.



⚠ IMPORTANT ⚠*Dispose of the drain oil in an ecological manner.*

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Clean the areas around the plugs and oil filter.

DRAINING THE OIL

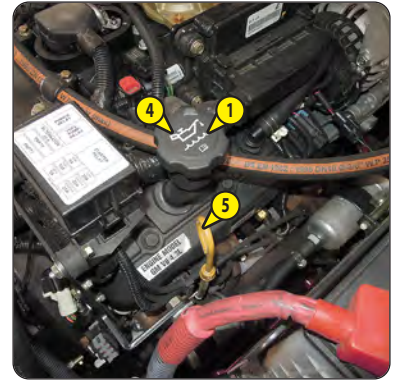
- Remove the filler plug 1 to ensure that the oil is drained properly.
- Place a container under drain port 2 and unscrew the plug.

REPLACEMENT OF THE FILTER

- Unscrew and discard the filter 3, together with its seal.
- Clean the filter holder with a clean, lint-free cloth.
- Lightly grease the seal before refitting the new filter (➤ FILTER CARTRIDGES AND BELTS) on its bracket.
- Tighten the oil filter (tightening torque 30 N.m).

FILLING WITH OIL

- Refit and tighten the drain plug 2 (tightening torque 30 to 40 N.m).
 - Fill up with oil (➤ 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 from the drain plug and the oil filter.
 - Stop the engine; wait a few minutes
 - Check the correct level between the two notches on dipstick 5.
 - Top up the level if necessary.

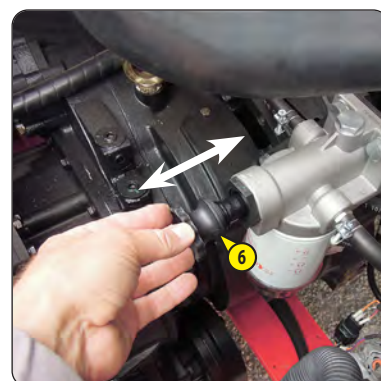
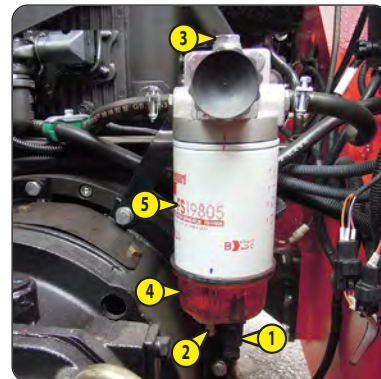
**REPLACE** MI-X..D C ST3A S2**Fuel filter**

- Switch off the lift truck's ignition.
- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Unscrew the thumbscrews 1 and remove the housing 2.
- Lift cover 3 to gain access to the fuel filter.
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Unscrew and discard the filter 1, together with its seal.
- Clean the inside of the filter head using a brush immersed in clean diesel oil.
- Lubricate the seal of the new filter (➤ FILTER CARTRIDGES AND BELTS).
- Refit the new filter onto its support bracket, hand-tighten it only and lock it with a quarter-turn.
- Then replace the fuel pre-filter.



REPLACE MI-X..D C ST3A S2**Fuel pre-filter**

- Carefully clean the outside of the pre-filter and its holder, to prevent dust from getting into the system.
- Disconnect the wiring harness 1.
- Place a container under the pre-filter and drain it through drain plug 2.
- Open bleed screw 3 to ensure the oil is drained properly.
- Unscrew the tank 4.
- Unscrew the pre-filter 5 and discard it together with its seals.
- Clean the inside of the pre-filter head and the housing, using a brush immersed in clean diesel oil.
- Refit the assembly with a new pre-filter and new seals (⇐ FILTER CARTRIDGES AND BELTS).
- Re-prime the fuel circuit with the hand pump 6 on the fuel pre-filter.
- Start up the engine and check for leaks.
- If necessary, bleed the fuel supply system (⇐ OCCASIONAL MAINTENANCE).

**CHECK** MI.. GS2**Engine idling speed *****CHECK** MI.. GS2**Ignition setting *****CHECK** MI.. GS2**Spark plug *****CHECK** MI.. GS2**Ignition rotor and head *****CHECK** MI.. GS2**LPG carburettor *****CHECK** MI.. GS2**LPG pressure relief valve *****CLEAN** MI.. GS2**LPG pressure relief valve filter *****BLEED** MI.. GS2**LPG vaporiser pressure regulator *****CHECK****Speeds of hydraulic movements *****CHECK****Condition of hoses and flexible pipes *****CHECK****Condition of cylinders (leakage, rods) *****CHECK****Fork wear ****** Consult your dealer.**

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

ALSO PERFORM THE 500 HOUR PERIODIC MAINTENANCE OPERATIONS.

CHECK

Safety belt

⚠ IMPORTANT ⚠

*If the seat belt is defective (fixing, locking, cuts, tears, etc.), the lift truck must not be used.
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.

LUBRICATE

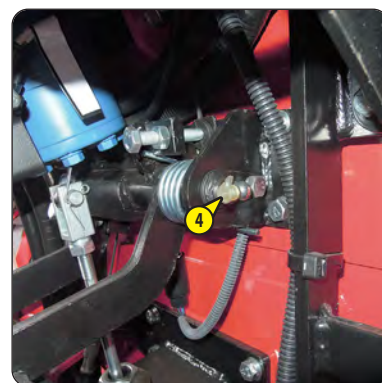
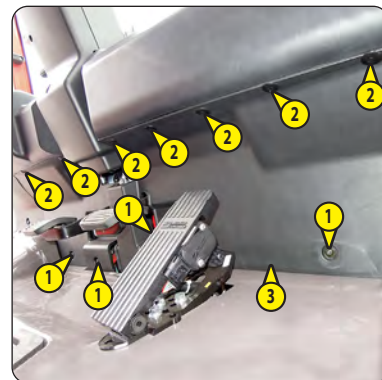
Service brake pedal axle

⚠ IMPORTANT ⚠

In the event of prolonged use in an extremely dusty or oxidizing atmosphere, reduce this interval to 500 hours of service or every year.

In case of technical faults, consult your dealer.

- Remove the floor mat.
- Unscrew the screws 1.
- Remove the clips 2 in order to remove the casing 3.
- Clean, then lubricate the lubricator 4 located at the end of the brake pedal axle (⚠ LUBRICANTS AND FUEL) and remove any excess grease.



- Switch off the lift truck's ignition.
- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Unscrew the thumbscrews 1 and remove the housing 2.
- Lift cover 3 to gain access to the fuel filter.
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Unscrew and discard the filter 1, together with its seal.
- Clean the inside of the filter head using a brush immersed in clean diesel oil.
- Lubricate the seal of the new filter (➤ FILTER CARTRIDGES AND BELTS).
- Refit the new filter onto its support bracket, hand-tighten it only and lock it with a quarter-turn.
- Then replace the fuel pre-filter.



- Carefully clean the outside of the pre-filter and its holder, to prevent dust from getting into the system.
- Disconnect the wiring harness 1.
- Open bleed screw 2 to ensure proper emptying.
- Place a receptacle under the drain plug 3 and unscrew by two to three turns.
- Re-tighten bleed screw 2 once the pre-filter is emptied.
- Unscrew and discard the pre-filter 4, together with its seal.
- Clean the inside of the filter head using a brush immersed in clean diesel oil.
- Lubricate the seal of the new filter (➤ FILTER CARTRIDGES AND BELTS).
- Refit the new filter onto its support bracket, hand-tighten it only and lock it with a quarter-turn.
- Reconnect the wiring harness 1.
- Turn on the lift truck's ignition and wait for the boost pump to stop to bleed the fuel supply system.
- Start up the engine and check for leaks.



REPLACE

Dry air filter cartridge

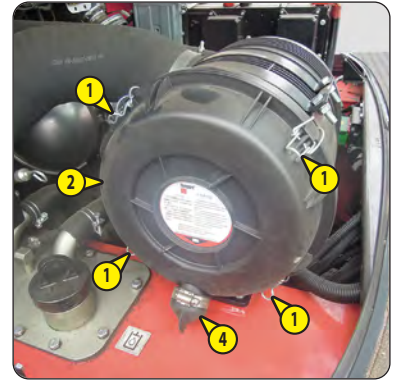
In very dusty atmospheres, the cartridge replacement frequency must be reduced to 250 hours.

However, there are pre-filtration elements (⇐ FILTER CARTRIDGES AND BELTS); if necessary, contact your dealer.

⚠ IMPORTANT ⚠

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

- Open the engine cover (⇐ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Release the locks 1 and remove the cover 2.
- Gently remove the cartridge 3 taking care to avoid spilling the dust.
- Leave the safety cartridge in place.
- Carefully clean the following parts with a clean, damp, lint-free cloth:
 - The inside of the filter and its cover and the inlet hose.
 - The gasket surfaces of the filter and the cover.
- Check the condition and attachment of the hoses between the air filter and the engine
- Check the condition and connection of the clogging indicator on the filter.
- Check the condition of the new filter cartridge (⇐ FILTER CARTRIDGES AND BELTS).
- Introduce the cartridge into the filter axis, pressing on the edges and not the middle.
- Refit the cover, with the valve 4 directed downwards.



REPLACE

Gear box oil

REPLACE

Gear box oil filter

CLEAN

Metal gear box oil filter

Place the lift truck on level ground with the engine stopped and the gear box oil still warm.

- Open the engine cover (⇐ DESCRIPTION: INSTRUMENTS AND CONTROLS).

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

MI-X...DCST3A S2
MI..GS2

DRAINING THE OIL

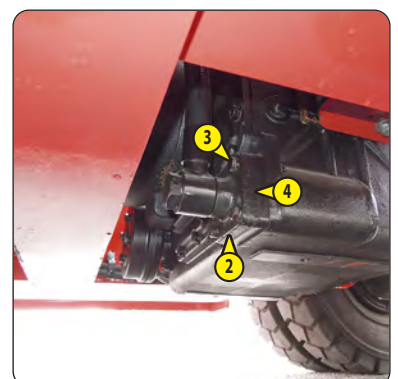
- Remove gauge 1 to ensure proper emptying.
- Place a container under the plate 2.
- Unscrew the screws 3 and remove the metal oil filter 4, together with its seal.

CLEANING THE METAL OIL FILTER

- Clean the metal oil filter 4 with a compressed air jet.
- Refit the unit.

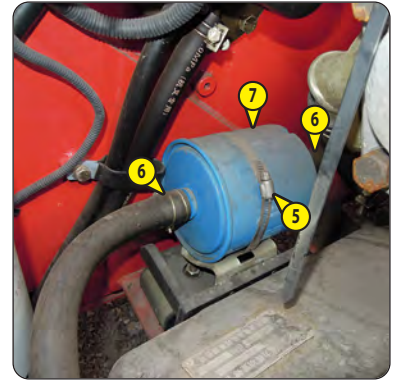
REPLACING THE OIL FILTER

- Undo the filter fastening clamp 5.
- Disconnect the hoses 6.
- Replace the hydraulic return oil filter 7 with a new filter (⇐ FILTER CARTRIDGES).
- Refit the unit.



FILLING WITH OIL

- Fill up with oil (⚠ LUBRICANTS AND FUEL) through filler port 8.
- 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.
- Reinsert dipstick 4 and remove it again.
- Check the correct level between the two marks on the dipstick.
- Start the engine and let it run for a few minutes.
- Check for possible leaks.
- Stop the engine, wait a few minutes and check the level between the two marks.
- Top up the level if necessary.



MI..D ST3B S2

DRAINING THE OIL

- Remove gauge 1 to ensure proper emptying.
- Place a container under drain plug (2) and unscrew the plug.

REPLACING THE OIL FILTER

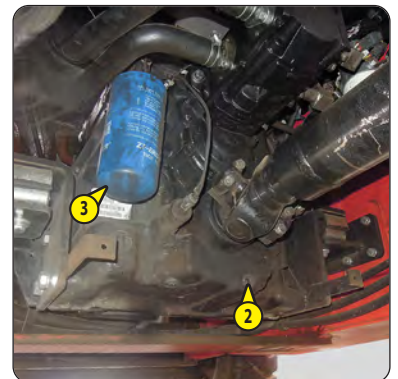
- Unscrew and discard the filter 3, together with its seal.
- Lubricate the seal of the new filter (⚠ FILTER CARTRIDGES AND BELTS).
- Refit the new filter onto its support bracket, hand-tighten it only and lock it with a quarter-turn.

CLEANING THE METAL OIL FILTER

- Unscrew the filter 4.
- Clean the filter with a compressed air jet.
- Refit the unit.

FILLING WITH OIL

- Fill up with oil (⚠ LUBRICANTS AND FUEL) through filler port 5.
- Wait a few minutes to allow the oil to flow into the sump.
- Reinsert dipstick 1 and remove it again.
- Check the correct level between the two marks on the dipstick.
- Start the engine and let it run for a few minutes.
- Check for possible leaks.
- Stop the engine, wait a few minutes and check the level on the dipstick.
- Top up the level if necessary.



REPLACE

Hydraulic oil

REPLACE

Hydraulic return oil filter

CLEAN

Hydraulic oil tank filter cap

CLEAN

Hydraulic oil tank suction strainers

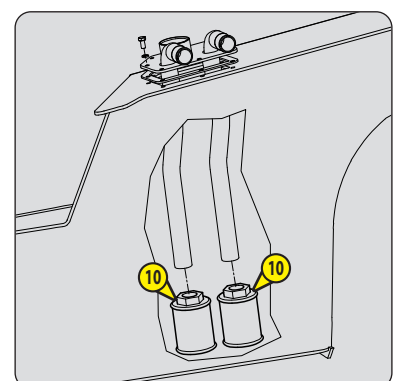
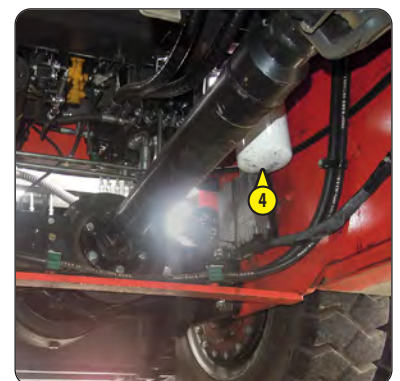
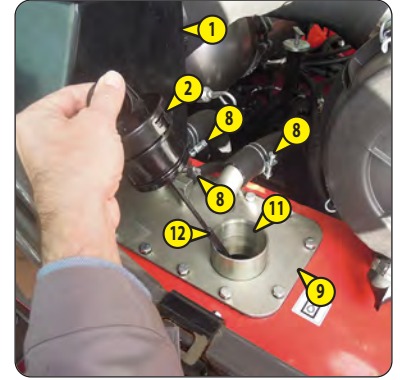
Place the lift truck on level ground with the engine stopped, the mast tilted backward and lowered as far as possible.

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove the air intake housing 1 to gain access to the inspection cover.

⚠ IMPORTANT ⚠

Discard the waste oil in an ecological manner.

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



DRAINING THE OIL

- Remove the filler plug 2 to ensure that the oil is drained properly.
- Place a container under drain plug (3) and unscrew the plug.

REPLACING THE OIL FILTER

- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Unscrew and discard the filter 4, together with its seal.
- Clean the inside of the filter head.
- Lubricate the seal of the new filter (➤ FILTER CARTRIDGES AND BELTS).
- Refit the new filter onto its support bracket, hand-tighten it only and lock it with a quarter-turn.

FILTER PLUG CLEANING

- Remove the cover 5 of filler plug 2 by twisting through a quarter turn.
- Remove and clean the filter 6.
- Clean the filter mounting 7.
- Refit the unit.

CLEANING OF STRAINERS

- Disconnect the hoses 8.
- Remove the access panel 9.
- Unscrew the suction strainers 10 in the bottom of the tank.
- Clean the strainers with a compressed air jet.
- Check the condition of the strainers and replace if necessary (➤ FILTER CARTRIDGES AND BELTS).
- Refit the unit.

FILLING UP THE OIL

- Clean and refit the drain plug 3 (tightening torque 29 to 39 N.m).
- Fill up with oil (➤ LUBRICANTS AND FUEL) through filler port 11.
- Check the oil level on dipstick 12 (➤ 10H - DAILY MAINTENANCE).
- Check for any possible leaks at the drain plug.

HYDRAULIC CIRCUIT DECONTAMINATION

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

⚠ IMPORTANT ⚠

It is sometimes necessary to bleed the circuits at the pump inlets when an air bubble has formed during draining. In this case, refer to your dealer.

CHECK	Engine speeds *
CHECK	Engine valve clearances *
CHECK	Engine silent blocks *
CHECK	Gear box silent blocks *
CHECK	Condition of wheels and tyres *
CHECK	Brake *
CHECK	Condition of wiring harnesses and cables *
CHECK	Lights and signals *
CHECK	Warning indicators *
CHECK	Condition of the rear view mirrors *
CHECK	Cab structure *
CHECK	Frame structure *
CHECK	Condition of attachments *

*** Consult your dealer.**

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

ALSO PERFORM THE 500 HOUR AND 1000 HOUR PERIODIC MAINTENANCE OPERATIONS.

CHECK

Wheel nut tightening torques

- 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: 441 to 588 N.m $\pm$ 15%
 - Rear wheels: 441 to 588 N.m $\pm$ 15 %

CLEAN

Fuel tank

⚠ 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.

- Place the lift truck on level ground with the engine stopped.
- Check any possible leaks in the fuel system and tank.
- In the event of a leak, never carry out any welding or other operation yourself; contact your dealer.
- Remove the filler plug 1 to ensure that the oil is drained properly.
- Place a container under drain plug (2) and unscrew the plug.
- Rinse out with ten litres of clean diesel through filler port 3.
- Refit and tighten the drain plug 2 (tightening torque 29 to 39 N.m).
- Fill the fuel tank with clean, filtered diesel.
- Refit the filler plug 1.
- If necessary, bleed the fuel supply system (⚡ OCCASIONAL MAINTENANCE).



REPLACE

Coolant

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

⚠ 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.

MI-X...DCST3A S2

MI...DST3B S2

- Place the lift truck on level ground with the engine stopped and cold.
- Open the engine cover (⚡ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Unscrew the thumbscrews 1 and remove the housing 2.
- Lift cover 3 to gain access to the radiator hoses.

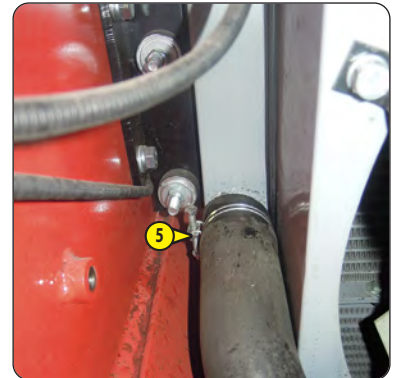


DRAINING THE LIQUID

- Remove the filler plug 4 to ensure that the oil is drained properly.
- Place a container under the lower radiator hose 5 and remove it.
- 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 fasteners and change them if necessary.
- Rinse the circuit with clean water and use a cleaning agent if necessary.

FILLING WITH LIQUID

- Refit the radiator hose 5.
- Slowly fill the system with the coolant (⚠ LUBRICANTS AND FUEL) through the filler port 6.
- Run the engine at idle for a few minutes.
- Check for any possible leaks.
- Check the coolant level (up to 15 mm below the filler port opening 6).
- Lubricate slightly the filler neck in order to facilitate the setting and the removal of the radiator cap.
- Put back the radiator filler cap 4.



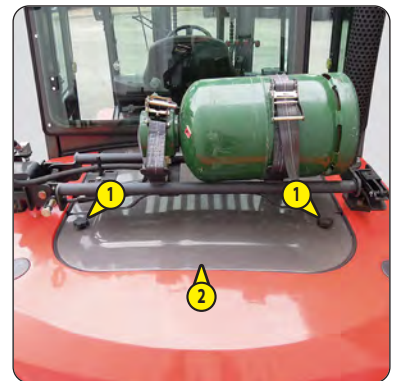
MI..GS2

DRAINING THE LIQUID

- Open the engine cover (⚠ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Unscrew the thumbscrews 1 and remove the housing 2.
- Remove the expansion tank plug 3.
- Remove radiator filler cap 4.
- Place a container under the lower radiator hose 5 and remove it.
- 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 fasteners and change them if necessary.
- Rinse the circuit with clean water and use a cleaning agent if necessary.

FILLING WITH LIQUID

- Refit the radiator hose 5.
- Slowly fill the system with the coolant (⚠ LUBRICANTS AND FUEL) through the filler port 6.
- Put back the radiator filler cap 4.
- Fill the expansion tank to the maximum level through the filler port 7.
- Run the engine at idle for a few minutes.
- Check for any possible leaks.
- Check the level in the expansion tank and top-up if necessary.
- Refit the expansion tank filler plug 3.



REPLACE

Dry air filter safety cartridge

⚠ IMPORTANT ⚠

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

- For disassembly of the dry air filter cartridge (◀ 2 1000 HOURS - PERIODIC MAINTENANCE).
- Carefully remove the dry air filter safety cartridge 1, taking care to avoid spilling the dust.
- Clean the gasket surface of the safety cartridge with a clean, damp, lint-free cloth.
- Check the condition of the new safety cartridge (◀ FILTER CARTRIDGES AND BELTS).
- Introduce the safety cartridge into the filter axis, pressing on the edges and not the middle.
- For reassembly of the dry air filter cartridge (◀ 2 1000 HOURS - PERIODIC MAINTENANCE).



REPLACE

Front axle differential oil

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

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

- Raise the mast to gain access to the plugs.
- Place a container under drain plug (1) and unscrew the plug.
- Remove level plug 2 and filling plug 3 to ensure that the oil is drained properly.
- Refit and tighten the drain plug 1 (tightening torque 34 to 49 N.m).
- Fill up with oil (◀ LUBRICANTS AND FUEL) through filler port 2.
- The level is correct when the oil level is flush with the edge of opening 3.
- Check for any possible leaks at the drain plug.
- Refit and tighten the level and filling plug 2 and the level plug 3 (tightening torque 34 to 49 N.m).



CHECK	Radiator *
CHECK	Water pump and thermostat *
CHECK	Alternator and starter *
CHECK	Alternator belt *
CHECK	Turbocharger *
CHECK	Injection pump *
CHECK	Injectors *
CHECK	Swivel pins *
CHECK	Steering connecting rods *
CHECK	Rear axle oscillation *
CHECK	Steering *
CHECK	Rear axle *
CHECK	Brake wear *
CHECK	Mast lifting chains *
CHECK	Condition of boom assembly *
CHECK	Mast lifting chain pulleys *
CHECK	Mast guide rollers *
CHECK	Mast bearing rollers *
CHECK	Thickness of the mast wearing plates *
CHECK	Attachment carriage *
CHECK	Hydraulic circuit pressures *
CHECK	Hydraulic circuit flow rates *
CHECK	Bearings and bushings *
CLEAN	Hydraulic oil tank and strainer *
CLEAN	Air-conditioning (option) *

*** Consult your dealer.**

⚠ 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.
- Shut down the lift truck (➤ OPERATING INSTRUCTIONS UNLADEN AND LADEN).
- Switch on the 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 no. 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 using a torque wrench for the tightening torque. (➤ 3 2000 HOURS - PERIODIC MAINTENANCE)



FRONT WHEEL

- Lift the carriage and tilt the mast backwards.
- Immobilise under the foot of the mast on the side where the wheel is being changed.
- Tilt the mast forwards to lift the wheel.
- Place wedges under the chassis as near as possible to the wheel.
- Completely unscrew the wheel nuts and remove them.
- Free the wheel 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 using a torque wrench for the tightening torque. (➤ 3 2000 HOURS - PERIODIC MAINTENANCE)



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.



REPLACING THE BATTERY

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Identify the faulty battery A or B
- Unscrew the nut 1 to release the battery retaining strap 2.
- Disconnect the battery terminals 3.
- Remove the faulty battery A or B.
- Place a new battery of the same type as the one used for the lift truck, observing the (+) and (-) polarity.
- Refit the retaining strap 2.

BREAKDOWN REPAIR USING A BACK-UP BATTERY

- Open the engine cover (➤ DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Bring a back-up battery of the same type as the one used for the lift truck, together with battery cables.
- Connect the back-up battery with the battery cables, observing the (-) and (+) polarity.
- Start the lift truck and remove the cables as soon as the engine is running.

TOW

Lift truck

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

⚠ IMPORTANT ⚠

Do not tow the lift truck at more than 25 km/h.

- Set the forward/reverse selector to neutral.
- Release the hand brake.
- Switch on the hazard warning lights.
- Since there will be no steering or braking hydraulic assistance, operate the steering and pedal slowly, avoiding sudden or jerky movements.

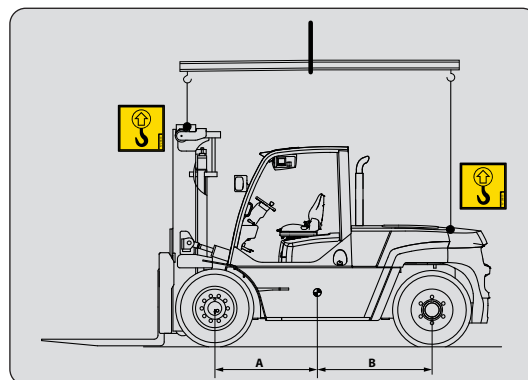
SLING

Lift truck

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

A = 1,169 mm	B = 1,131 mm	MI-X 50L D C ST3A S2
A = 1,268 mm	B = 1,032 mm	MI-X 60L D C ST3A S2
A = 1,363 mm	B = 937 mm	MI-X 70L D C ST3A S2
A = 1,170 mm	B = 1,130 mm	MI 50L D ST3B S2
A = 1,269 mm	B = 1,031 mm	MI 60L D ST3B S2
A = 1,363 mm	B = 937 mm	MI 70L D ST3B S2
A = 1,169 mm	B = 1,131 mm	MI 50L G S2
A = 1,268 mm	B = 1,032 mm	MI 60L G S2
A = 1,363 mm	B = 937 mm	MI 70L G S2

- Place the hooks in the fastening points 1 provided.



⚠ 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 (⇐ 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.

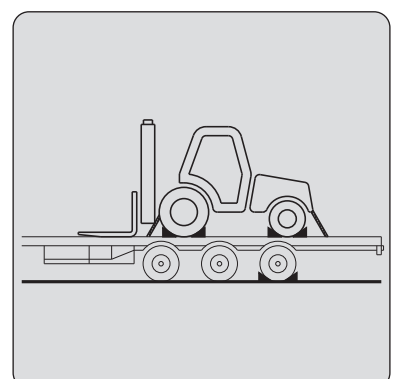
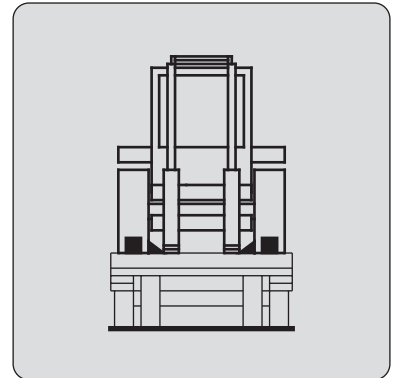
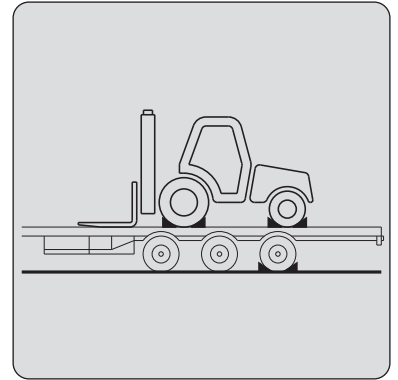
For lift trucks equipped with a turbo-charged engine, block off the exhaust outlet to avoid rotation of the turbo shaft without lubrication when transporting the vehicle.

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 (⇐ OPERATING 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, to the anchoring points 1
 - At the rear, to the slinging and anchoring pin 2.
- Tighten the ropes.



4 - OPTIONAL ADAPTABLE ATTACHMENTS FOR THE RANGE

4 - OPTIONAL ADAPTABLE ATTACHMENTS FOR THE RANGE

<u>INTRODUCTION</u>	<u>5</u>
<u>TECHNICAL SPECIFICATIONS OF ATTACHMENTS</u>	<u>6</u>
<u>ATTACHMENT SHIELDS</u>	<u>7</u>

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.

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

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

TECHNICAL SPECIFICATIONS OF ATTACHMENTS

STANDARDIZED FORK

MI 50L ...

MI 60 ...

PART NO.

Section

Weight

52522264

150 x 60 x 1220 mm

kg

52522269

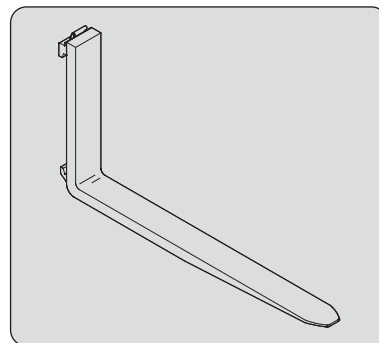
150 x 60 x 1520 mm

kg

52522270

150 x 60 x 2000 mm

kg



PART NO.

Section

Weight

52525433

150 x 60 x 2440 mm

kg

STANDARDIZED FORK

MI 70 ...

PART NO.

Section

Weight

52525432

150 x 65 x 1220 mm

kg

52525434

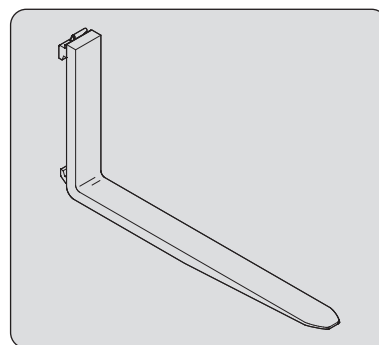
150 x 65 x 1520 mm

kg

52525435

150 x 65 x 2000 mm

kg



PART NO.

Section

Weight

52525436

150 x 65 x 2440 mm

kg

ATTACHMENT SHIELDS

FORK PROTECTOR

PART NO.

227801

