MANITOU

HANDLING YOUR WORLD

647654 US (08/02/2023)

MI 15 G S2 US
MI 18 G S2 US
MI 20 G S2 US
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OPERATOR'S MANUAL

(ORIGINAL MANUAL)

IMPORTANT

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

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

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

WHENEVER YOU SEE THIS SYMBOL, IT MEANS:

⚠ IMPORTANT ⚠

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

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

CALIFORNIA PROPOSITION 65 WARNINGS

⚠ WARNING

This product can expose you to lead which is known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov

SILICA DUST HAZARD

Exposure to crystalline silica (found in sand, soil and rocks) has been associated with silicosis, a debilitating and often fatal lung disease. Comply with all applicable rules and regulations for the workplace. Wear approved respiratory protection or use water spray or other means if there is no other way to control the dust.

A Silica rule "29 CFR 1929.1153" by the U.S. Occupational Safety and Health (OSHA) indicates a signicant risk of chronic silicosis for workers exposed to inhaled crystalline silica over a working lifetime. Refer to the rule for more information regarding exposure limits and hazard prevention.

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1 - OPERATING AND SAFETY INSTRUCTIONS

2 - DESCRIPTION

3 - MAINTENANCE

4 - ATTACHMENTS

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1 - OPERATING AND SAFETY INSTRUCTIONS

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REDUCE 04 MANITOU

ASSISTANCE I 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

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INSTRUCTIONS TO THE COMPANY MANAGER

THE SITE

- Proper management of 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, authorized personnel can use the lift truck. This authorization 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 ⚠

On the basis of experience, there are a number of possible situations in which operating the lift truck is contra-indicated. Such foreseeable abnormal uses, the main ones being listed below, are strictly forbidden.

- The foreseeable abnormal behavior resulting from ordinary neglect, but does not result from any wish to put the machinery to any improper use.

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

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

- For certain machines, the foreseeable behavior of such persons as: apprentices, teenagers, handicapped persons, trainees tempted to drive a lift truck, operator tempted to operate a truck to win a bet, in competition or for their own personal experience.

The person in charge of the equipment must take these criteria into account when assessing 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 harmonized norm **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 define the lift truck's signaling and lighting equipment. Contact your dealer.
- Take into account climatic and atmospheric conditions of the site of utilization.
  - Protection against frost (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).
  - Adaptation of lubricants (ask your dealer for information).
  - Engine filtration (see: 3 - MAINTENANCE: FILTERS 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.

It is the same for the cooling liquid.

- 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 inflammable products...).

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 harmonized 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 recognized code of measurement for comparing the machines of different manufacturers. The actual doses received cannot therefore be measured under actual operating conditions at the user's premises.

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- The following are some tips for minimizing 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 tires in accordance with recommendations.
  - Ensure that the operators adapt their operating speed to suit the conditions on site.
  - As far as possible, arrange the site in such a way as to provide a flat running surface and remove obstacles and harmful potholes.

C - 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.

THE 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.
- The operator's manual and any plates or stickers which are no longer legible or are damaged, must be replaced immediately.

THE MAINTENANCE

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

⚠ IMPORTANT ⚠

Your 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)".

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INSTRUCTIONS FOR THE OPERATOR

PREAMBLE

⚠ 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 maneuvers 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, authorized personnel can use the lift truck. This authorization 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 authorize 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 must carry out daily maintenance (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS SERVICE).
- The operator must ensure tires are adapted to the nature of the ground (see area of the contact surface of the tires in the chapter: 2 - DESCRIPTION: TYRES). There are optional solutions, consult your dealer.
  - SAND tires.
  - LAND tires.
  - Snow chains.

⚠ IMPORTANT ⚠

Do not use the lift truck if the tires 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 tires is prohibited and is not guaranteed by the manufacturer, excepting prior authorization.

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 authorized exceptionally and under certain conditions (see current regulations in the country in which the lift truck is used).

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A - BEFORE STARTING THE LIFT TRUCK

- Perform the daily service (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS SERVICE).
- 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.

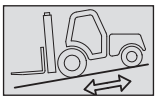
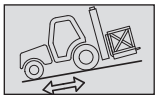
B - DRIVER'S OPERATING INSTRUCTIONS

⚠ IMPORTANT ⚠

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

- Whatever his experience, the operator is advised to familiarize 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.

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- Never stack loads on uneven ground, they may tip over.
- The load or the attachment must not be left just above a structure for long periods at a time because of the descending mast. In such a case, a constant watch must be kept and the height of the forks or the attachment readjusted if necessary.
- 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 jeopardizes the stability of the lift truck and its load, particularly if the load catches the wind badly.

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 traveling 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 maneuver (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 maneuver (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 maneuvered 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 towing it. Such operation may cause severe damage to the transmission. If necessary, to tow the lift truck in an emergency, the transmission must be placed in the neutral position (see: 3 - MAINTENANCE: G - OCCASIONAL MAINTENANCE).
- If using an emergency battery for start-up, use a battery with the same characteristics and respect battery polarity when connecting it. Connect at first the positive terminals before the negative terminals.

⚠ IMPORTANT ⚠

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

The electrolyte in the battery may produce an explosive gas. Avoid flames and generation of sparks close to the batteries.

Never disconnect a battery while it is charging.

INSTRUCTIONS

- Check the closing and locking of the hood(s).
- For lift trucks operating on gas carburization, open the gas bottle.
- Ensure that the forward/reverse selector is set to neutral.
- Turn the ignition key to the position I to activate the electrical and pre-heating 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.

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F - DRIVING THE LIFT TRUCK

SAFETY INSTRUCTIONS

⚠ IMPORTANT ⚠

Operators' attention is drawn to the risks involved in using the lift truck, in particular:
- Risk of losing control.
- Risk of losing lateral and frontal stability of the lift 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 cabin during the incident.
YOUR BEST PROTECTION IS TO STAY FASTENED IN THE CABIN.

- 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 300mm 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 palettes, cases, etc., are in good order and suitable for the load to be lifted.
- Familiarize 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 12km/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 maneuver 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 I.C. engine on 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 300mm from the ground and the carriage sloping backwards.
- For lift trucks with gearboxes, select the chosen gear (see: 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.

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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 meter 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, cowls, etc.).

INSTRUCTIONS

- Park the lift truck on flat ground or on an incline lower than 15%.
- Set the forward/reverse selector to neutral.
- Engage 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 I.C. engine idling for a few moments, to allow the coolant liquid and oil to lower the temperature of the I.C. engine and transmission. Do not forget this precaution, in the event of frequent stops or warm stalling of the I.C. 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, cowls…).
- For lift trucks operating on gas carburization, 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 300mm 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 respect this instruction on a slope will lead to excessive speed which may make the lift truck uncontrollable (steering, brakes) and 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 authorizes circulation with a front-mounted attachment, you must at least:
  - Protect and report any sharp and/or dangerous edges on the attachment (see: 4 - ADAPTABLE ATTACHMENTS IN OPTION ON THE RANGE: ATTACHMENT SHIELDS).
  - The attachment must not be loaded.
  - Make sure that the attachment does not mask the lighting range of the forward lights.
  - Make sure that current legislation in your country does not require other obligations.

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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 authorized by the manufacturer (consult the manufacturer's plate on your lift truck).
- The authorized gross vehicle weight must not exceed the maximum weight authorized 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

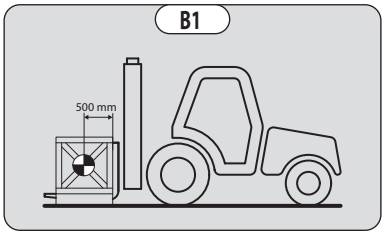
- Only attachments approved by MANITOU can be used on its lift trucks.
- Make sure the attachment is appropriate for the work to be done (see: 4 - ADAPTABLE ATTACHMENTS IN OPTION ON THE RANGE).
- Make sure the attachment is correctly installed and locked onto the lift truck carriage.
- Make sure that 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.

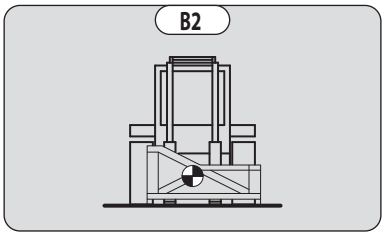
B - MASS OF LOAD AND CENTRE OF GRAVITY

- Before taking up a load, you must know its mass and its center of gravity.
- The load chart for your lift truck is valid for a load in which the longitudinal position of the center of gravity is 500mm or 600mm from the base of the forks (according to the model of lift truck) (fig. B1). For a higher center of gravity, contact your dealer.
- For irregular loads, determine the transverse center 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 center of gravity (e.g. liquids), take account of the variations in the center of gravity in order to determine the load to be handled and be vigilant and take extra care 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 (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

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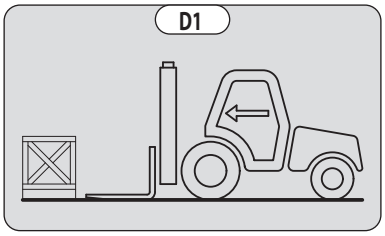
D - PICKING UP A LOAD ON THE GROUND

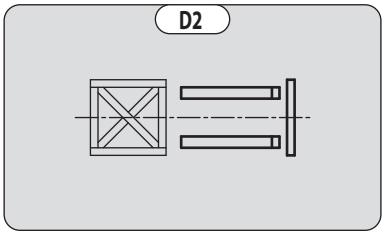
- Approach the lift truck perpendicular to the load, with the forks in a horizontal position (fig. D1).
- Adjust the spread and centering of the forks relative to the load to ensure its stability (fig. D2) (optional solutions exist, consult your dealer).
- Never lift a load with a single fork.

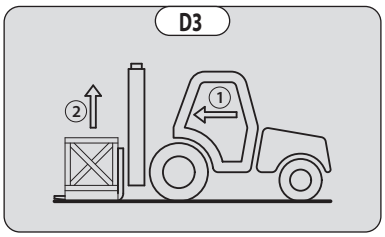
⚠ IMPORTANT ⚠

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).

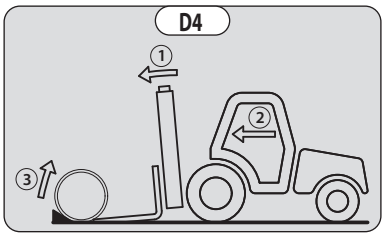






FOR A NON-PALLETISED LOAD

- 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.



E - PICKING UP AND LAYING DOWN A HIGH LOAD ON TIRES

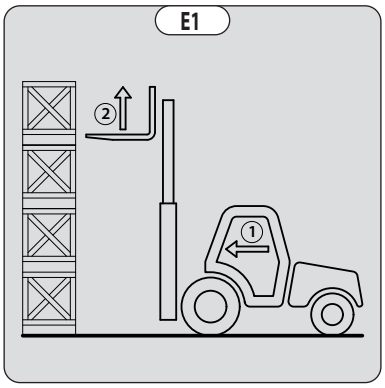
⚠ IMPORTANT ⚠

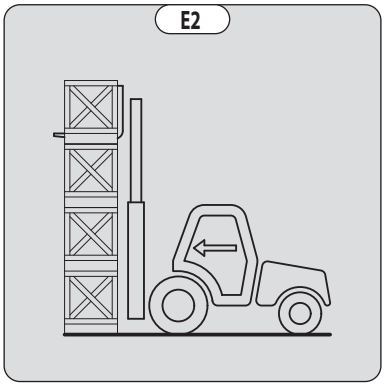
You must not raise the mast if you have not checked the transverse attitude of the lift truck (see: INSTRUCTIONS FOR HANDLING A LOAD: C - TRANSVERSE ATTITUDE OF THE LIFT TRUCK).

REMINDER: Make sure that the following operations can be performed with good visibility (see: OPERATIONS INSTRUCTIONS UNLADEN AND LADEN: D - VISIBILITY).

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).
- Maneuver 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.





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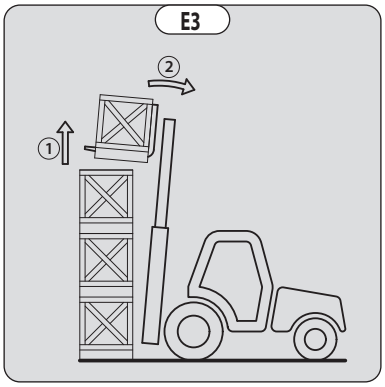
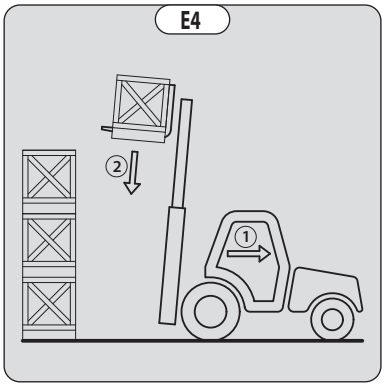
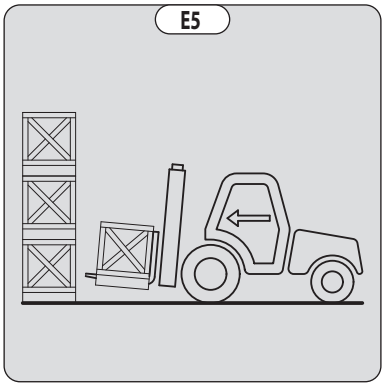
- Slightly lift the load (1) and incline the carriage (2) backwards to stabilize the load (fig. E3).
- Tilt the load sufficiently backwards to ensure its stability.
- Reverse the lift truck (1) very carefully and gently to free the load. Lower the mast (2) to bring the load into transport position (fig. E4).

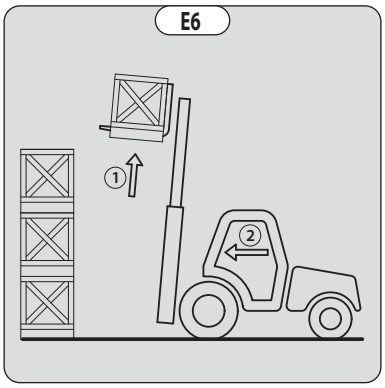


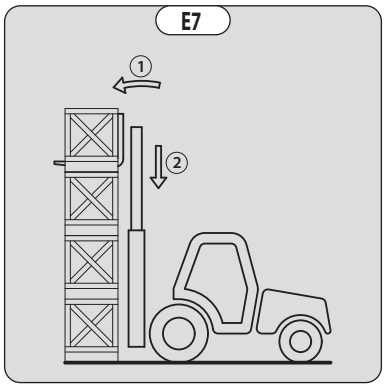


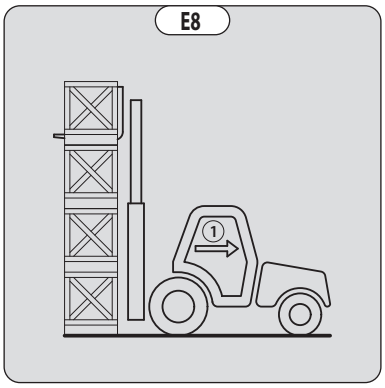
LAYING A HIGH LOAD ON TYRES

- 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.









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MAINTENANCE INSTRUCTIONS OF THE LIFT TRUCK

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 jeweler 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.
- Make sure that the disposal of process materials and of spare parts is carried out in total safety and in an ecological way.
- Be careful of the risk of burning and splashing (exhaust, radiator, engine, etc.).

MAINTENANCE

- Perform the periodic service (see: 3 - MAINTENANCE) to keep your lift truck in good working conditions. 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 - 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.

HYDRAULIC

- Any work on the load handling hydraulic circuit is forbidden except for the operations described in part: 3 - MAINTENANCE.
- Do not attempt to loosen couplings, hoses or any hydraulic component with the circuit 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 pressurized units.
Removing these accumulators and their pipework is dangerous.
Such operations must only be performed by approved personnel (consult your dealer).

ELECTRICITY

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

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WELDING

- Disconnect the battery before any welding operations on the 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 (see 3 - MAINTENANCE: G - OCCASIONAL MAINTENANCE).

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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 (see: OPERATING INSTRUCTIONS UNLADEN AND LADEN).
- Make sure the mast cylinder rods are all in retracted position.
- Release the pressure in the hydraulic circuits.

PROTECTING THE ENGINE

- Fill the tank with fuel (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS SERVICE).
- Empty and replace the cooling liquid (see: 3 - MAINTENANCE: F - EVERY 2000 HOURS SERVICE).
- Leave the engine running at idling speed for a few minutes, then switch off.
- Replace the engine oil and oil filter (see: 3 - MAINTENANCE: D - EVERY 500 HOURS SERVICE).
- Run the engine for a short time so that the oil and cooling liquid 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 tires are not in contact with the ground and release the handbrake.
- Protect cylinder rods which will not be retracted, from corrosion.
- Wrap the tires.

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.
- Perform the daily service (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS SERVICE).
- Put the handbrake on and remove the axle stands.
- Empty and replace the fuel and replace the fuel filter (see: 3 - MAINTENANCE: D - EVERY 500 HOURS SERVICE).
- Refit and set the tension in the drive belts (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Turn the engine over with the starter, to allow the oil pressure to rise.
- Reconnect the engine cut-off solenoid.
- Lubricate the lift truck completely (see: 3 - MAINTENANCE: SERVICING SCHEDULE).

⚠ IMPORTANT ⚠

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

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

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LIFT TRUCK DISPOSAL

⚠ IMPORTANT ⚠

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, that are easily recycled by melting, granulating or grinding.

RUBBER

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

GLASS

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

ENVIRONMENTAL PROTECTION

By entrusting the maintenance of your 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 organizes 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.

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2 - DESCRIPTION

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2 - DESCRIPTION

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SAFETY PLATES AND STICKERS

⚠ IMPORTANT ⚠

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

PLATES AND STICKERS

REF	PART NUMBER	DESCRIPTION
1	828054	- Trapping safety instruction
2	239594	- Sound power level 104dB
3	Consult your dealer	- Manufacturer's plate
4	828044	- Fork safety instruction
5	Consult your dealer	- Slinging instruction
6	24653	- Slinging point
7	300681	- Safety instruction
8	Consult your dealer	- Load chart (according to model) *
9	Consult your dealer	- Caution, risk of scalding
10	Consult your dealer	- Antifreeze instruction
11	289101	- Tie-down point
12	Consult your dealer	- Fuses and relays
13	50302796	- California proposition 65 warnings

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

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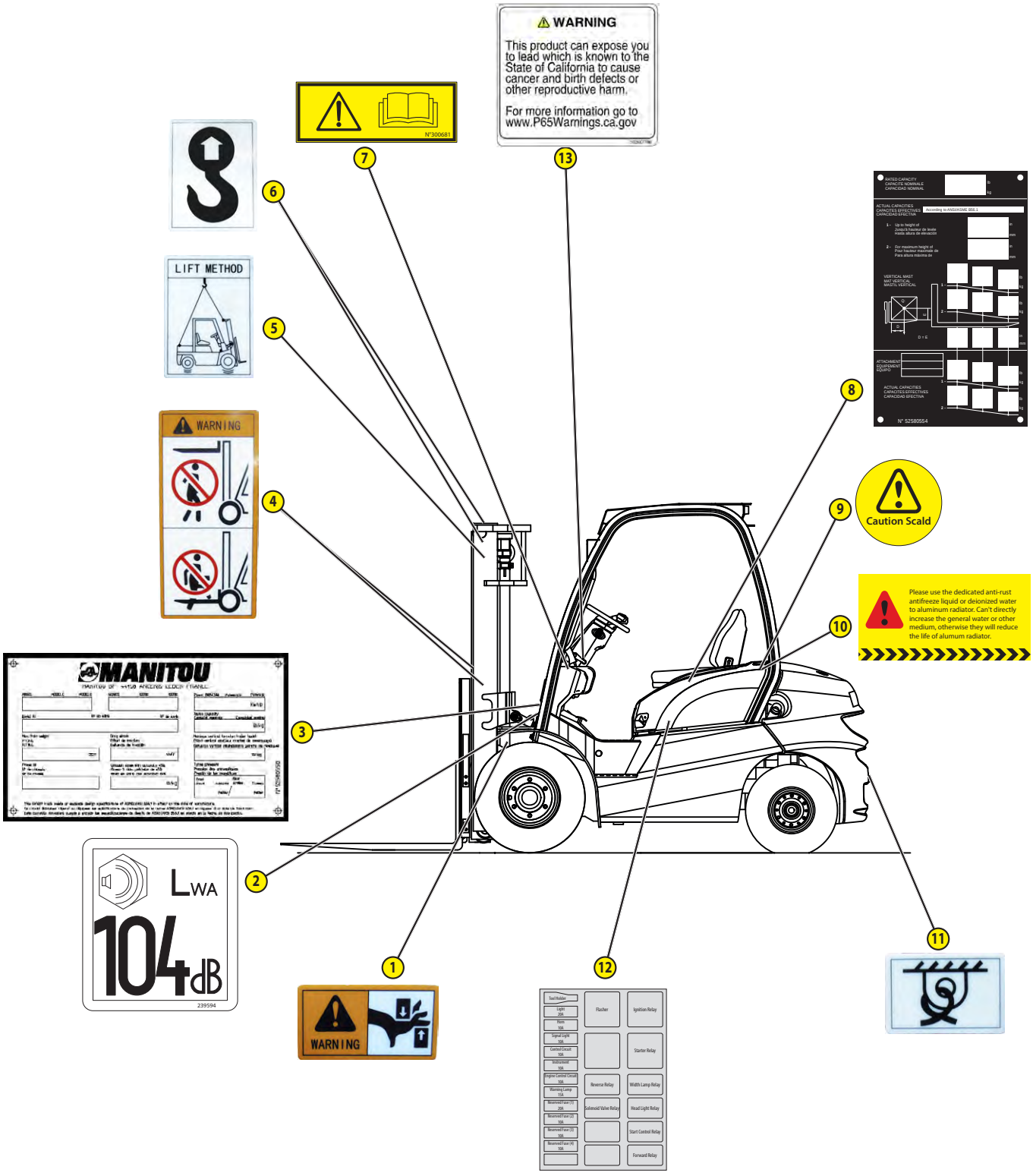

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IDENTIFICATION OF THE LIFT TRUCK

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

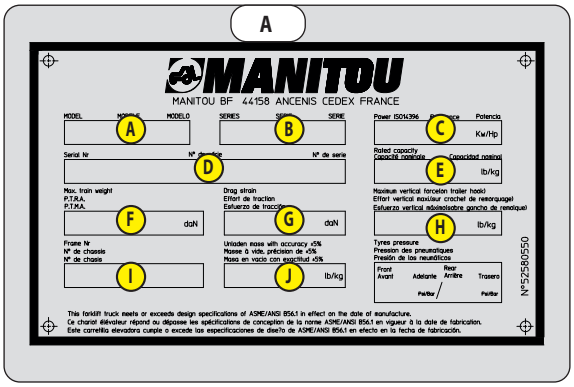
When you order parts, or when you require any technical information, always specify:

NOTE: 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.

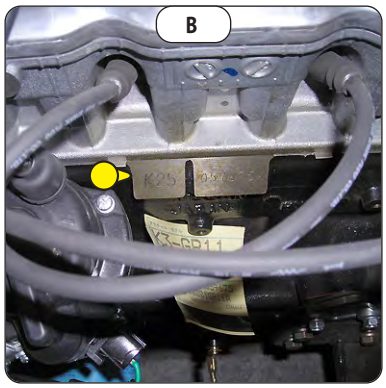
LIFT TRUCK MANUFACTURER'S PLATE (FIG. A)

- A - MODEL
- B - SERIES
- C - Power
- D - Serial Nr
- E - Rated capacity
- F - Max. train weight
- G - Drag strain
- H - Maximum vertical force
- I - Frame Nr
- J - Unladen mass



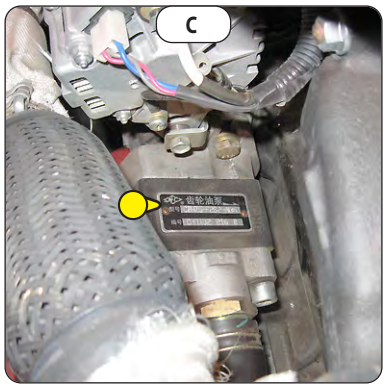
ENGINE (FIG. B)

- Engine Nr .....



HYDRAULIC POMP (FIG. C)

- Type .....
- Serial Nr .....



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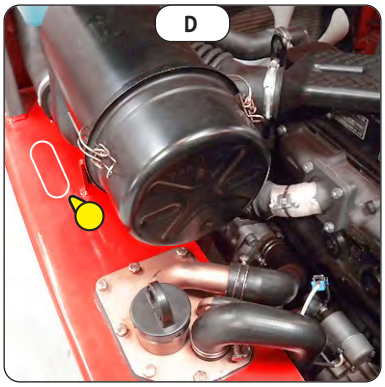
CHASSIS (FIG. D)

- Type .....
- Serial Nr .....



MAST (FIG. E)

- Mast identification Nr .....

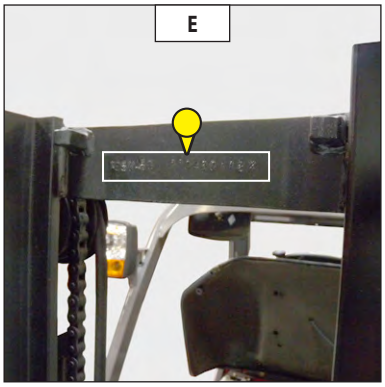
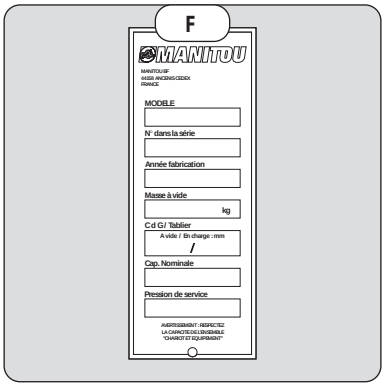


PLATE MANUFACTURER OF THE ATTACHMENT (FIG. F)

- Model .....
- Serial no. .....
- Year of manufacture .....



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CHARACTERISTICS

Désignation *Specifications*	1.1	Fabricant *Manufacturer*		MANITOU	MANITOU	MANITOU	MANITOU	MANITOU	MANITOU
	1.2	Type de modèle *Type of model*		MI 15 G US	MI 18 G US	MI 20 G US	MI 25 G US	MI 30 G US	MI 35 G US
	1.3	Propulsion : batterie, diesel, essence, GPL, secteur *Drive : battery, diesel, gasoline, LPG, mains*		GPL *LPG*	GPL *LPG*	GPL *LPG*	GPL *LPG*	GPL *LPG*	GPL *LPG*
	1.4	Type de conduite : manuel, accompagnant, debout, assis *Driving position : manuel, walking alongside, standing, seated*		Assis *Seated*	Assis *Seated*	Assis *Seated*	Assis *Seated*	Assis *Seated*	Assis *Seated*
	1.5	Capacité nominale / charge sur fourche (capacité de base) *Nominal load / Load on forks (basic capacity)*	Q lb. (kg)	3308 (1500)	3969 (1800)	4410 (2000)	5513 (2500)	6615 (3000)	7718 (3500)
	1.6	Centre de gravité de la charge *Load center of gravity*	c in (mm)	20 (500)	20 (500)	20 (500)	20 (500)	20 (500)	20 (500)
	1.8	Distance de la face d'appui de la charge au centre de l'essieu avant *Distance from the load-bearing surface to centre of front axle*	x in (mm)	16 (405)	16 (405)	18,3 (465)	18,3 (465)	18,9 (480)	19,1 (485)
	1.9	Empattement *Wheelbase*	y in (mm)	55,9 (1420)	55,9 (1420)	63 (1600)	63 (1600)	67 (1700)	67 (1700)
Poids *Weights*	2.1	Poids du chariot en ordre de fonctionnement *Kerb weight of truck*	lb (kg)	5976 (2710)	6406 (2905)	7982 (3620)	8588 (3895)	9900 (4490)	10452 (4740)
	2.2	Charge par essieu en charge avant *Front axle load laden*	lb (kg)	8026 (3640)	9173 (4160)	10871 (4930)	12491 (5665)	14465 (6560)	16008 (7260)
	2.2.1	Charge par essieu en charge arrière *Rear axle load laden*	lb (kg)	1257 (570)	1202 (545)	1521 (690)	1610 (730)	2051 (930)	2161 (980)
	2.3	Charge par essieu à vide avant *Front axle load unladen*	lb (kg)	2712 (1230)	2679 (1215)	3793 (1720)	3671 (1665)	3980 (1805)	3914 (1775)
	2.3.1	Charge par essieu à vide arrière *Rear axle load unladen*	lb (kg)	3263 (1480)	3726 (1690)	4190 (1900)	4917 (2230)	5920 (2685)	6538 (2965)
Train de roulement *Tyres*	3.1	Equipement de roues : bandage (V), superélastique (SE), pneumatique (L) *Tyre equipment : bandage (V), superelastic (SE), pneumatic (L)*		SE	SE	SE	SE	SE	SE
	3.2	Dimensions roues avant *Size of front wheels*	" ou mm	6.50-10 10PR	6.50-10 10PR	7.00-12 12PR	7.00-12 12PR	28-9-15 12PR	28-9-15 12PR
	3.3	Dimensions roues arrières *Size of rear wheels*	" ou mm	5.00-8 PR	5.00-8 PR	6.00-9 10PR	6.00-9 10PR	6.50-10 10PR	6.50-10 10PR
	3.5	Nombre de roues avant (x = roue motrice) *Number of front wheels (x = drive wheels)*		2x	2x	2x	2x	2x	2x
	3.5.1	Nombre de roues arrière (x = roue motrice) *Number of rear wheels (x = drive wheels*		2	2	2	2	2	2
	3.6	Voie (milieu des roues) avant *Front wheel gauge (middle of wheels)*	b10 in (mm)	35,5 (900)	35,5 (900)	38 (965)	38 (965)	39,6 (1005)	39,6 (1005)
	3.7	Voie (milieu des roues) arrière *Rear wheel gauge (middle of wheels)*	b11 in (mm)	36,2 (920)	36,2 (920)	38,3 (973)	38,3 (973)	38,4 (975)	38,4 (975)
Dimensions *Dimensions*	4.1	Inclinaison du mât en avant *Tilt of mast forward*	α(°)	6	6	6	6	6	6
	4.1.1	Inclinaison du mât en arrière *Tilt of mast backward*	β (°)	12	12	12	12	12	12
	4.2	Hauteur mât abaissé *Height mast lowered*	h1 in (mm)	84,5 (2145)	84,5 (2145)	86,1 (2185)	86,1 (2185)	86,7 (2200)	91,2 (2315)
	4.3	Levée libre *Free lift*	h2 in (mm)	6,1 (155)	6,1 (155)	5,5 (140)	5,5 (140)	5,7 (145)	5,7 (145)
	4.4	Hauteur de levée *Height of lift*	h3 in (mm)	130 (3300)	130 (3300)	130 (3300)	130 (3300)	130 (3300)	130 (3300)
	4.5	Hauteur mât déployé *Height mast extended*	h4 in (mm)	167,6 (4255)	167,6 (4255)	171,2 (4345)	171,2 (4345)	175,1 (4445)	175,1 (4445)
	4.7	Hauteur du protège conducteur (cabine) *Height of overhead guard (cab)*	h6 in (mm)	82,3 (2090)	82,3 (2090)	83,3 (2115)	83,3 (2115)	83,9 (2130)	83,9 (2130)
	4.8	Hauteur du siège *Seat height*	h7 in (mm)	45,7 (1160)	45,7 (1160)	46,9 (1190)	46,9 (1190)	47,9 (1215)	47,9 (1215)
	4.12	Hauteur d'attelage *Height of towing bar*	h10 in (mm)	12,4 (315)	12,4 (315)	14 (355)	14,2 (360)	14 (355)	14,2 (360)
	4.19	Longueur totale *Overall length*	l1 in (mm)	130,4 (3310)	132 (3350)	142,4 (3615)	145,2 (3685)	152,3 (3865)	155 (3935)
	4.20	Longueur au talon de fourche *Length to face of forks*	l2 in (mm)	88,3 (2240)	89,8 (2280)	97,1 (2465)	99,9 (2535)	107 (2715)	109,7 (2785)
	4.21	Largeur hors tout - Monte roues simples / Monte roues jumelées *Overall width – Single tires / Dual tires*	b1 in (mm)	42,5 / 59 (1080 / 1500)	42,5 / 59 (1080 / 1500)	45,5 / 62,8 (1155 / 1595)	45,5 / 62,8 (1155 / 1595)	48,2 / 67,9 (1225 / 1725)	48,2 / 67,9 (1225 / 1725)
	4.22	Section des bras de fourches *Section of fork arms*	e / s in (mm)	3,9 / 1,4 (100 / 35)	3,9 / 1,4 (100 / 35)	4,8 / 1,6 (122 / 40)	4,8 / 1,6 (122 / 40)	4,8 / 1,8 (122 / 45)	4,8 / 2 (122 / 50)
	4.22.2	Longueur des bras de fourches *Fork arms length*	l in (mm)	42,2 (1070)	42,2 (1070)	45,3 (1150)	45,3 (1150)	45,3 (1150)	45,3 (1150)
	4.23	Tablier porte fourche suivant norme ISO 2328 classe A/B *Fork carriage to ISO 2328 class A/B*		FEM 2A	FEM 2A	FEM 2A	FEM 2A	FEM 3A	FEM 3A
	4.24	Largeur du tablier porte fourches *Fork carriage width*	b3 in (mm)	39,4 (1000)	39,4 (1000)	40,9 (1038)	40,9 (1038)	43,3 (1100)	43,3 (1100)
	4.31	Garde au sol du mât *Ground clearance of mast*	m1 in (mm)	4,5 (115)	4,5 (115)	4,5 (115)	4,5 (115)	5,1 (130)	5,1 (130)
	4.32	Garde au sol au centre de l'empattement *Ground clearance at centre of wheelbase*	m2 in (mm)	5,9 (150)	5,9 (150)	6,9 (175)	6,9 (175)	7,9 (200)	7,9 (200)
	4.33	Largeur d'allée pour palette 1000x1200 en travers *Width of aisle for pallet 800x1200 crossways*	Ast in (mm)	146,3 (3713)	147,3 (3738)	156,9 (3983)	159,5 (4048)	167,7 (4257)	169,9 (4312)
	4.34	Largeur d'allée pour palette 800x1200 en longueur *Width of aisle for pallet 800x1200 lengthways*	Ast in (mm)	151,3 (3839)	152,2 (3864)	162 (4112)	164,6 (4177)	172,8 (4387)	175 (4442)
	4.35	Rayon de giration *Turning radius*	Wa in (mm)	78,2 (1985)	79,2 (2010)	86,7 (2200)	89,2 (2265)	96,9 (2460)	98,9 (2510)
	4.36	Rayon de braquage intérieur *Internal turning radius*	b13 in (mm)	2,2 (55)	2,2 (55)	5,7 (145)	5,7 (145)	6,3 (160)	6,3 (160)
Performances *Performances*	5.1	Vitesse de translation en charge *Travelling speed laden*	mph (km/h)	11,2 (18)	11,2 (18)	12,9 (20,8)	12,9 (20,8)	11,8 (19)	11,1 (17,9)
	5.1.1	Vitesse de translation à vide *Travelling speed unladen*	mph (km/h)	11,5 (18,5)	11,5 (18,5)	13,2 (21,3)	13,2 (21,3)	12,6 (20,3)	11,9 (19,2)
	5.2	Vitesse d'élévation en charge *Lifting speed laden*	ft/min (m/s)	86,6 (0,44)	86,6 (0,44)	102,4 (0,52)	102,4 (0,52)	39,4 (0,2)	35,4 (0,18)
	5.2.1	Vitesse d'élévation à vide *Lifting speed unladen*	ft/min (m/s)	100,4 (0,51)	100,4 (0,51)	114,2 (0,58)	114,2 (0,58)	108,3 (0,55)	53,1 (0,27)
	5.3	Vitesse de descente en charge *Lowering speed laden*	ft/min (m/s)	98,4 (0,5)	98,4 (0,5)	94,5 (0,48)	98,4 (0,5)	94,5 (0,48)	92,5 (0,47)
	5.3.1	Vitesse de descente à vide *Lowering speed unladen*	ft/min (m/s)	108,3 (0,55)	108,3 (0,55)	98,4 (0,5)	98,4 (0,5)	98,4 (0,5)	74,8 (0,38)
	5.5	Force de traction nominale en charge *Nominal towing power laden*	lbf (N)	4339 (19300)	4339 (19300)	4541 (20200)	4541 (20200)	4541 (20200)	4541 (20200)
	5.5.1	Force de traction nominale à vide *Nominal towing power unladen*	lbf (N)	2136 (9500)	2136 (9500)	3260 (14500)	3260 (14500)	3260 (14500)	3260 (14500)

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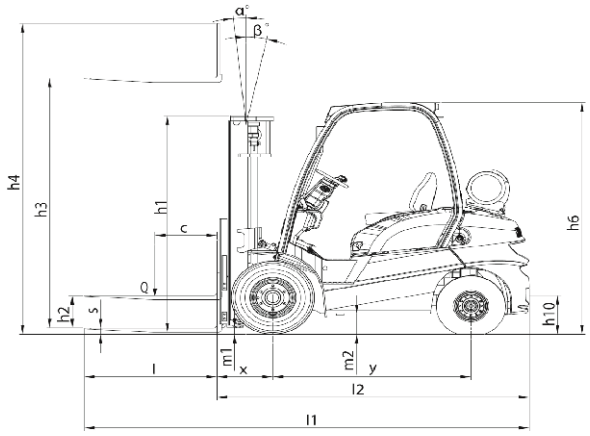
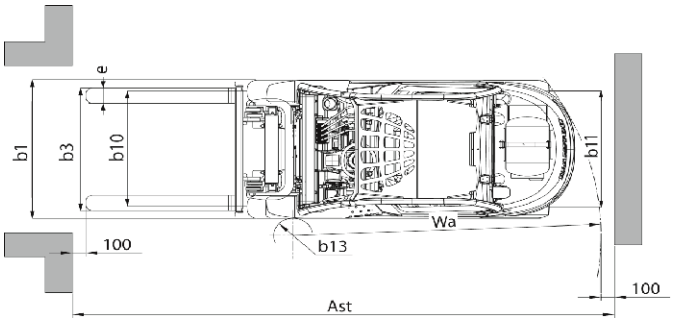
Performances *Performances*	5.7	Rampe en charge *Gradeability laden*	%	> 20	> 20	> 20	> 20	> 20	> 18
	5.7.1	Rampe à vide *Gradeability unladen*	%	> 20	> 20	> 20	> 20	> 20	> 20
	5.9	Temps d'accélération pour une conduite en charge *Acceleration time laden*	s	-	-	-	-	-	-
	5.9.1	Temps d'accélération pour une conduite à vide *Acceleration time unladen*	s	-	-	-	-	-	-
	5.10	Frein de service *Service brake*		Hydraulique *Hydraulic*	Hydraulique *Hydraulic*	Hydraulique *Hydraulic*	Hydraulique *Hydraulic*	Hydraulique *Hydraulic*	Hydraulique *Hydraulic*
Motorisation *Motors*	7.1	Fabricant du moteur / Type *Manufacturer / Type of engine*		Nissan K21 CERT	Nissan K21 CERT	Nissan K25 CERT	Nissan K25 CERT	Nissan K25 CERT	Nissan K25 CERT
	7.2	Puissance utile *Power delivery*	hp (KW)	54 (40)	54 (40)	61 (45,8)	61 (45,8)	61 (45,8)	61 (45,8)
	7.3	Régime nominal *Rated speed*		2700	2700	2700	2700	2700	2700
	7.4	Nombre de pistons / Cylindrée *Number of pistons / Cubic capacity*	cu.in. (cm3)	4 / 126 (2065)	4 / 126 (2065)	4 / 152 (2488)	4 / 152 (2488)	4 / 152 (2488)	4 / 152 (2488)
	7.5	Consommation de carburant suivant cycle VDI *Fuel consumption according to VDI cycle*	gph (L/h)	0,9 (3,53)	0,9 (3,53)	1,1 (4,35)	1,1 (4,35)	1,1 (4,35)	1,1 (4,35)
Divers *Miscellaneous*	8.2	Pression hydraulique de service pour accessoires *Hydraulic pressure for attachments*	Psi (Bar)	2321 (160)	2321 (160)	2321 (160)	2321 (160)	2321 (160)	2321 (160)
	8.3	Débit d'huile pour accessoires *Oil volume for attachments*	gpm (L / min)	13,7 (52)	13,7 (52)	19 (72)	19 (72)	19 (72)	19 (72)
	8.4	Niveau de bruit aux oreilles du conducteur suivant DIN 12053 *Sound level at driver's ear according to DIN 12053*	dB (A)	86	86	86	86	86	86
	8.5	Crochet d'attelage / Type DIN *Towing coupling design / DIN type*		-	-	-	-	-	-
		Accélération pondérée moyenne sur le corps du conducteur (suivant norme NF EN 13059) *Average weighted acceleration on driver's body (according to standard NF EN 13059)*	m/s^2	0,83	0,83	0,5	0,5	0,5	0,5
		Batterie *Battery*	V/Ah	12 / 60Ah	12 / 60Ah	12 / 60Ah	12 / 60Ah	12 / 60Ah	12 / 60Ah
		Capacité réservoir gaz *Gaz bottle capacity*	lb (kg)	29 (13)	29 (13)	29 (13)	29 (13)	29 (13)	29 (13)
		Fabricant transmission *Transmission manufacturer*		Okamura	Okamura	Okamura	Okamura	Okamura	Okamura
		Type *Type*		Powershift	Powershift	Powershift	Powershift	Powershift	Powershift
		Nombre de vitesses (F/R) *Number of gears (F/R)*		1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1





CHARACTERISTICS OF MASTS WITH ROLLERS AND LOAD CHARTS

MI 15 G S2 US
MI 18 G S2 US
MI 20 G S2 US
MI 25 G S2 US

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

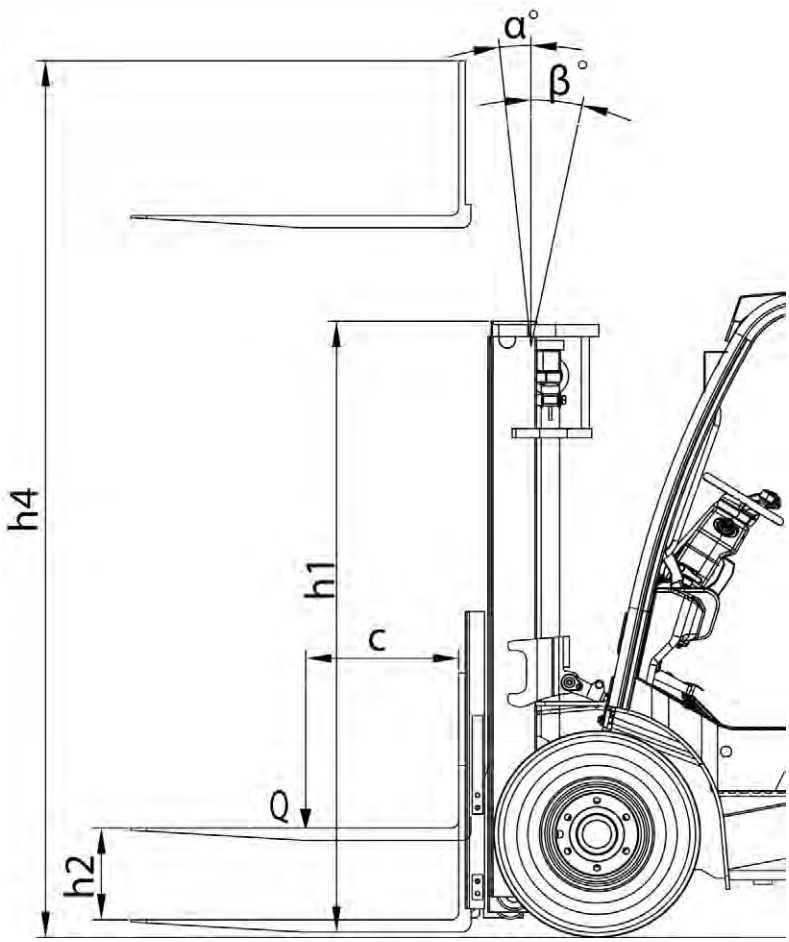
MI15 US MI18 US	Mât de levage *Mast fork height*	Levée libre *Free lift*		Hauteur du mât *Height mast*			Inclinaison *Tilt range*		VALEURS SUR FOURCHES *CAPACITY WITH FORKS*				VALEURS AVEC TDL INTEGRE *CAPACITY WITH INTEGRATED SIDESHIFT*			
									Hauteur à capacité maxi *Height at max capacity in (mm)*		Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)		Hauteur à capacité maxi *Height at max capacity in (mm)*		Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)	
	in (mm)	avec dosseret *with backrest* H2	sans dosseret *without backrest* H2	baissé *lowered* H1	déployé avec dosseret *extented with backrest* H4	déployé sans dosseret *extented without backrest* H4	AV *FWD*	AR *RWD*	3306 lb (1500 kg)	3968 lb (1800 kg)	3306 lb (1500 kg)	3968 lb (1800 kg)	3306 lb (1500 kg)	3968 lb (1800 kg)	3306 lb (1500 kg)	3968 lb (1800 kg)
Duplex visibilité totale *2 Stage wide-view*	130 (3300)	6,1 (155)		84,5 (2145)	167,6 (4255)	152,3 (3865)	6°	12°	130 (3300)	130 (3300)	3307,5 (1500)	3969 (1800)	130 (3300)	130 (3300)	3307,5 (1500)	3858,8 (1750)
	145,8 (3700)	6,1 (155)		94,4 (2395)	183,4 (4655)	168 (4265)	6°	12°	145,8 (3700)	145,8 (3700)	3307,5 (1500)	3969 (1800)	145,8 (3700)	145,8 (3700)	3307,5 (1500)	3858,8 (1750)
	157,6 (4000)	6,1 (155)		102,2 (2595)	195,2 (4955)	181,2 (4600)	6°	12°	157,6 (4000)	157,6 (4000)	3307,5 (1500)	3748,5 (1700)	157,6 (4000)	157,6 (4000)	3307,5 (1500)	3638,3 (1650)
Duplex levée libre *2 Stage full-free-lift*	130 (3300)	47,9 (1215)	62,1 (1575)	85,1 (2160)	167,3 (4245)	153,1 (3885)	6°	12°	130 (3300)	130 (3300)	3307,5 (1500)	3969 (1800)	130 (3300)	130 (3300)	3307,5 (1500)	3858,8 (1750)
	145,8 (3700)	55,8 (1415)	69,9 (1775)	93 (2360)	183,1 (4646)	168,8 (4285)	6°	12°	145,8 (3700)	145,8 (3700)	3307,5 (1500)	3969 (1800)	145,8 (3700)	145,8 (3700)	3307,5 (1500)	3858,8 (1750)
	157,6 (4000)	63,6 (1615)	77,8 (1975)	100,9 (2560)	194,8 (4945)	180,6 (4585)	6°	12°	157,6 (4000)	157,6 (4000)	3307,5 (1500)	3748,5 (1700)	157,6 (4000)	157,6 (4000)	3307,5 (1500)	3638,3 (1650)
Triplex levée libre *3 Stage full-free-lift*	169,4 (4300)	44,3 (1125)	55,2 (1400)	81,6 (2070)	207 (5255)	196,2 (4980)	6°	6°	157,6 (4000)	157,6 (4000)	2976,8 (1350)	3748,5 (1700)	157,6 (4000)	157,6 (4000)	2976,8 (1350)	3528 (1600)
	177,3 (4500)	46,3 (1175)	59,1 (1500)	83,5 (2120)	214,9 (5455)	202,1 (5130)	6°	6°	157,6 (4000)	157,6 (4000)	2866,5 (1300)	3748,5 (1700)	157,6 (4000)	157,6 (4000)	2866,5 (1300)	3528 (1600)
	185,2 (4700)	48,3 (1225)	62,4 (1585)	85,5 (2170)	224,8 (5705)	212 (5380)	6°	6°	157,6 (4000)	157,6 (4000)	2756,3 (1250)	3638,3 (1650)	157,6 (4000)	157,6 (4000)	2535,8 (1150)	3417,8 (1550)
	189,1 (4800)	48,9 (1240)	63 (1600)	87,5 (2220)	226,7 (5755)	213,9 (5430)	6°	6°	157,6 (4000)	157,6 (4000)	2756,3 (1250)	3638,3 (1650)	157,6 (4000)	157,6 (4000)	2535,8 (1150)	3417,8 (1550)
	197 (5000)	52,2 (1325)	66,4 (1685)	89,4 (2270)	234,6 (5955)	220,4 (5595)	6°	6°	157,6 (4000)	157,6 (4000)	2646 (1200)	2976,8 (1350)	157,6 (4000)	157,6 (4000)	2425,5 (1100)	2756,3 (1250)
	216,7 (5500)	60,1 (1525)	74,3 (1885)	97,3 (2470)	254,3 (6455)	240,1 (6095)	3°	6°	157,6 (4000)	157,6 (4000)	2094,8 (950)	2315,3 (1050)	157,6 (4000)	157,6 (4000)	1874,3 (850)	2094,8 (950)
	236,4 (6000)	69,9 (1775)	82,7 (2100)	107,2 (2720)	278 (7055)	265,2 (6730)	3°	6°	157,6 (4000)	157,6 (4000)	1543,5 (700)	1653,8 (750)	157,6 (4000)	157,6 (4000)	1323 (600)	1433,3 (650)
	256,1 (6500)	75,8 (1925)	86,7 (2200)	113,1 (2870)	293,7 (7455)	282,9 (7180)	3°	6°	-	-	-	-	-	-	-	-

ABAQUE DE CHARGE */ LOAD CHART* - Suivant Norme ASME B56.1 */ According to ASME B56.1*

MI20 US MI25 US	Mât de levage *Mast fork height*	Levée libre *Free lift*		Hauteur du mât *Height mast*			Inclinaison *Tilt range*		VALEURS SUR FOURCHES *CAPACITY WITH FORKS*				VALEURS AVEC TDL INTEGRE *CAPACITY WITH INTEGRATED SIDESHIFT*			
									Hauteur à capacité maxi *Height at max capacity in (mm)*		Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)		Hauteur à capacité maxi *Height at max capacity in (mm)*		Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)	
	in (mm)	avec dosseret *with backrest* H2	sans dosseret *without backrest* H2	baissé *lowered* H1	déployé avec dosseret *extented with backrest* H4	déployé sans dosseret *extented without backrest* H4	AV *FWD*	AR *RWD*	4410 lb (2000 kg)	5513 lb (2500 kg)	4410 lb (2000 kg)	5513 lb (2500 kg)	4410 lb (2000 kg)	5513 lb (2500 kg)	4410 lb (2000 kg)	5513 lb (2500 kg)
Duplex visibilité totale *2 Stage wide-view*	130 (3300)	5,5 (140)		86,1 (2185)	171,2 (4345)	156 (3960)	6°	12°	130 (3300)	130 (3300)	4410 (2000)	5512,5 (2500)	130 (3300)	130 (3300)	4410 (2000)	5512,5 (2500)
	145,8 (3700)	5,5 (140)		95,9 (2435)	187 (4745)	171,8 (4360)	6°	12°	145,8 (3700)	145,8 (3700)	4410 (2000)	5512,5 (2500)	145,8 (3700)	145,8 (3700)	4410 (2000)	5512,5 (2500)
	157,6 (4000)	5,5 (140)		103,8 (2635)	198,8 (5045)	183,6 (4660)	6°	12°	157,6 (4000)	157,6 (4000)	4410 (2000)	5512,5 (2500)	157,6 (4000)	157,6 (4000)	4410 (2000)	5512,5 (2500)
Duplex levée libre *2 Stage full-free-lift*	130 (3300)	43,7 (1110)	58,3 (1480)	85,1 (2160)	171,2 (4345)	156,8 (3980)	6°	12°	130 (3300)	130 (3300)	4410 (2000)	5512,5 (2500)	130 (3300)	130 (3300)	4410 (2000)	5512,5 (2500)
	145,8 (3700)	51,6 (1310)	66,2 (1680)	93 (2360)	187 (4745)	170,6 (4330)	6°	12°	145,8 (3700)	145,8 (3700)	4410 (2000)	5512,5 (2500)	145,8 (3700)	145,8 (3700)	4410 (2000)	5512,5 (2500)
	157,6 (4000)	59,5 (1510)	74,1 (1880)	100,9 (2560)	198,8 (5045)	184,4 (4680)	6°	12°	157,6 (4000)	157,6 (4000)	4410 (2000)	5512,5 (2500)	157,6 (4000)	157,6 (4000)	4410 (2000)	5512,5 (2500)
Triplex levée libre *3 Stage full-free-lift*	169,4 (4300)	41,6 (1055)	55,2 (1400)	82,7 (2100)	210,6 (5345)	197 (5000)	6°	6°	157,6 (4000)	157,6 (4000)	4079,3 (1850)	5292 (2400)	157,6 (4000)	157,6 (4000)	3858,8 (1750)	5181,8 (2350)
	177,3 (4500)	43,5 (1105)	57,9 (1470)	84,7 (2150)	220,4 (5595)	206,1 (5230)	6°	6°	157,6 (4000)	157,6 (4000)	3969 (1800)	5181,8 (2350)	157,6 (4000)	157,6 (4000)	3748,5 (1700)	5071,5 (2300)
	185,2 (4700)	45,5 (1155)	59,9 (1520)	86,7 (2200)	226,4 (5745)	212 (5380)	6°	6°	157,6 (4000)	157,6 (4000)	3858,8 (1750)	4851 (2200)	157,6 (4000)	157,6 (4000)	3638,3 (1650)	4740,8 (2150)
	189,1 (4800)	47,5 (1205)	61,9 (1570)	88,7 (2250)	230,3 (5845)	215,9 (5480)	6°	6°	157,6 (4000)	157,6 (4000)	3858,8 (1750)	4851 (2200)	157,6 (4000)	157,6 (4000)	3638,3 (1650)	4740,8 (2150)
	197 (5000)	49,4 (1255)	63,8 (1620)	90,6 (2300)	238,2 (6045)	223,8 (5680)	6°	6°	157,6 (4000)	157,6 (4000)	3748,5 (1700)	4299,8 (1950)	157,6 (4000)	157,6 (4000)	3528 (1600)	4189,5 (1900)
	216,7 (5500)	57,3 (1455)	71,7 (1820)	98,5 (2500)	257,9 (6545)	243,5 (6180)	3°	6°	157,6 (4000)	157,6 (4000)	2866,5 (1300)	3638,3 (1650)	157,6 (4000)	157,6 (4000)	2646 (1200)	3528 (1600)
	236,4 (6000)	67,2 (1705)	81,6 (2070)	108,4 (2750)	279,5 (7095)	265,2 (6730)	3°	6°	157,6 (4000)	157,6 (4000)	1984,5 (900)	2315,3 (1050)	157,6 (4000)	157,6 (4000)	1764 (800)	2205 (1000)
	256,1 (6500)	73,1 (1855)	86,7 (2200)	114,3 (2900)	297,3 (7545)	283,7 (7200)	3°	6°	157,6 (4000)	-	1764 (800)	-	157,6 (4000)	-	1543,5 (700)	-

ABAQUE DE CHARGE */ LOAD CHART* - Suivant Norme ASME B56.1 */ According to ASME B56.1*

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US



RATED CAPACITY

ACTUAL CAPACITIES
(According to ANSI/ASME B56.1)

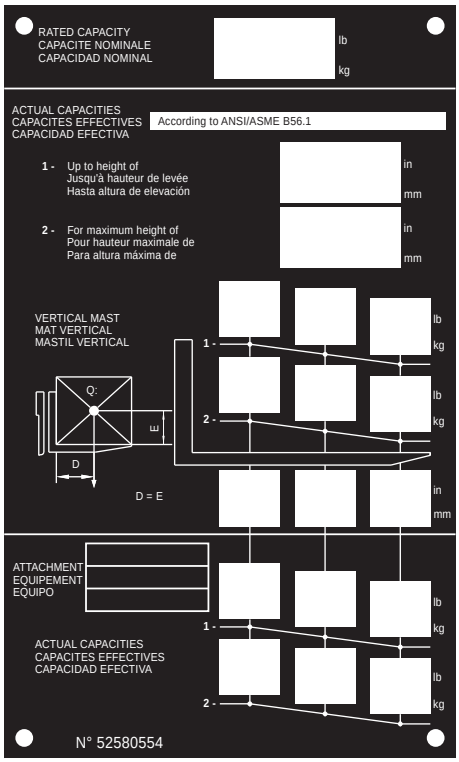
1 - Up to height of

2 - For maximum height of

VERTICAL MAST

EQUIPMENT

ACTUAL CAPACITIES



NOTE 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.

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

CHARACTERISTICS OF MASTS WITH ROLLERS AND LOAD CHARTS

MI 30 G S2 US
MI 35 G S2 US

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

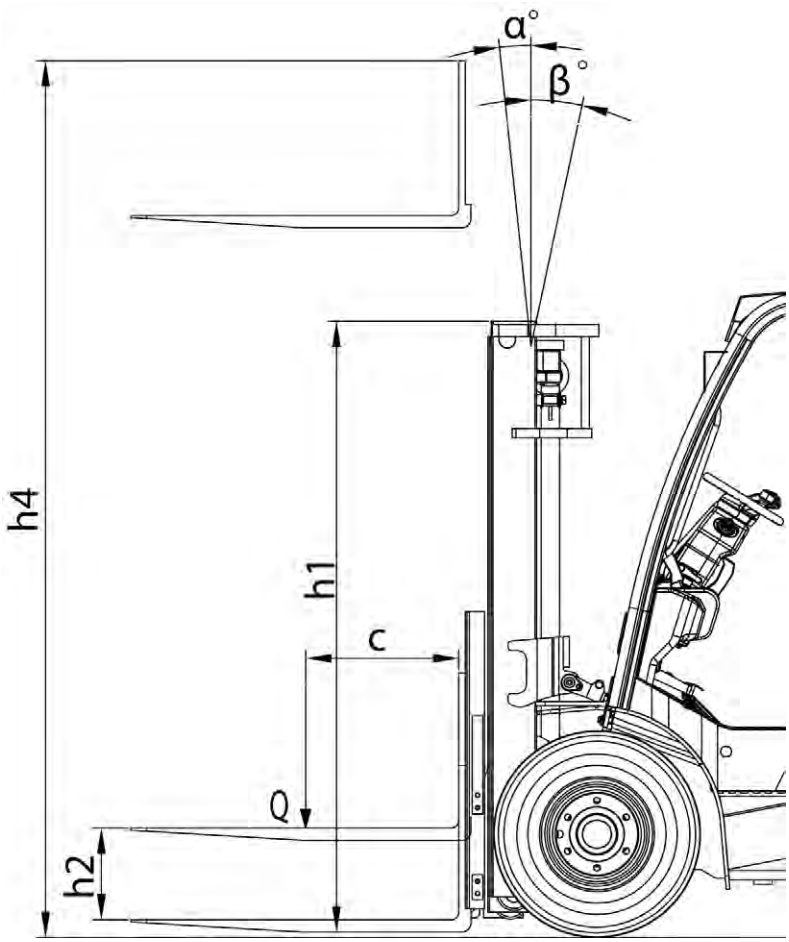
MI 30 US	Mât de levage *Mast fork height*	Levée libre *Free lift*		Hauteur du mât *Height mast*			Inclinaison *Tilt range*		VALEURS SUR FOURCHES *CAPACITY WITH FORKS*		VALEURS AVEC TDL INTEGRE *CAPACITY WITH INTEGRATED SIDESHIFT*	
									Hauteur à capacité maxi *Height at max capacity in (mm)*	Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)	Hauteur à capacité maxi *Height at max capacity in (mm)*	Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)
	in (mm)	avec dosseret *with backrest* H2	sans dosseret *without backrest* H2	baissé *lowered* H1	avec dosseret *extented with backrest* H4	déployé sans dosseret *extented without backrest* H4	AV *FWD*	AR *RWD*	6615 lb (3000 kg)	6615 lb (3000 kg)	6615 lb (3000 kg)	6615 lb (3000 kg)
Duplex visibilité totale *2 Stage wide-view*	130 (3300)	5,7 (145)		86,7 (2200)	175,1 (4445)	159 (4035)	6°	12°	130 (3300)	6615 (3000)	130 (3300)	6615 (3000)
	145,8 (3700)	5,7 (145)		96,5 (2450)	190,9 (4845)	174,7 (4435)	6°	12°	145,8 (3700)	6615 (3000)	145,8 (3700)	6615 (3000)
	157,6 (4000)	5,7 (145)		104,4 (2650)	202,7 (5145)	186,6 (4735)	6°	12°	157,6 (4000)	6615 (3000)	157,6 (4000)	6615 (3000)
Duplex levée libre *2 Stage full-free-lift*	130 (3300)	42,7 (1085)	58,1 (1475)	87,9 (2230)	175,1 (4445)	159,8 (4055)	6°	12°	130 (3300)	6615 (3000)	130 (3300)	6615 (3000)
	145,8 (3700)	50,6 (1285)	66 (1675)	95,7 (2430)	190,9 (4845)	175,5 (4455)	6°	12°	145,8 (3700)	6615 (3000)	145,8 (3700)	6615 (3000)
	157,6 (4000)	56,5 (1435)	71,9 (1825)	101,7 (2580)	202,7 (5145)	187,3 (4755)	6°	12°	157,6 (4000)	6615 (3000)	157,6 (4000)	6615 (3000)
Triplex levée libre *3 Stage full-free-lift*	169,4 (4300)	38,2 (970)	53,6 (1360)	83,3 (2115)	214,5 (5445)	199,2 (5055)	6°	6°	157,6 (4000)	6504,8 (2950)	157,6 (4000)	6284,3 (2850)
	177,3 (4500)	40,2 (1020)	55,6 (1410)	85,3 (2165)	224,4 (5695)	209 (5305)	6°	6°	157,6 (4000)	6394,5 (2900)	157,6 (4000)	6174 (2800)
	185,2 (4700)	42,2 (1070)	57,5 (1460)	87,3 (2215)	232,3 (5895)	214,9 (5455)	6°	6°	157,6 (4000)	6174 (2800)	157,6 (4000)	5953,5 (2700)
	189,1 (4800)	44,1 (1120)	59,5 (1510)	89,2 (2265)	234,2 (5945)	218,9 (5555)	6°	6°	157,6 (4000)	6174 (2800)	157,6 (4000)	5953,5 (2700)
	197 (5000)	46,1 (1170)	61,5 (1560)	91,2 (2315)	242,1 (6145)	226,7 (5755)	6°	6°	157,6 (4000)	5512,5 (2500)	157,6 (4000)	5292 (2400)
	216,7 (5500)	54 (1370)	69,3 (1760)	99,1 (2515)	261,8 (6645)	246,4 (6255)	3°	6°	157,6 (4000)	4079,3 (1850)	157,6 (4000)	3858,8 (1750)
	236,4 (6000)	63,8 (1620)	79,2 (2010)	108,9 (2765)	283,5 (7195)	268,1 (6805)	3°	6°	157,6 (4000)	3087 (1400)	157,6 (4000)	2866,5 (1300)
	256,1 (6500)	69,7 (1770)	85,1 (2160)	114,9 (2915)	301,2 (7645)	285,8 (7255)	3°	6°	-	-	-	-

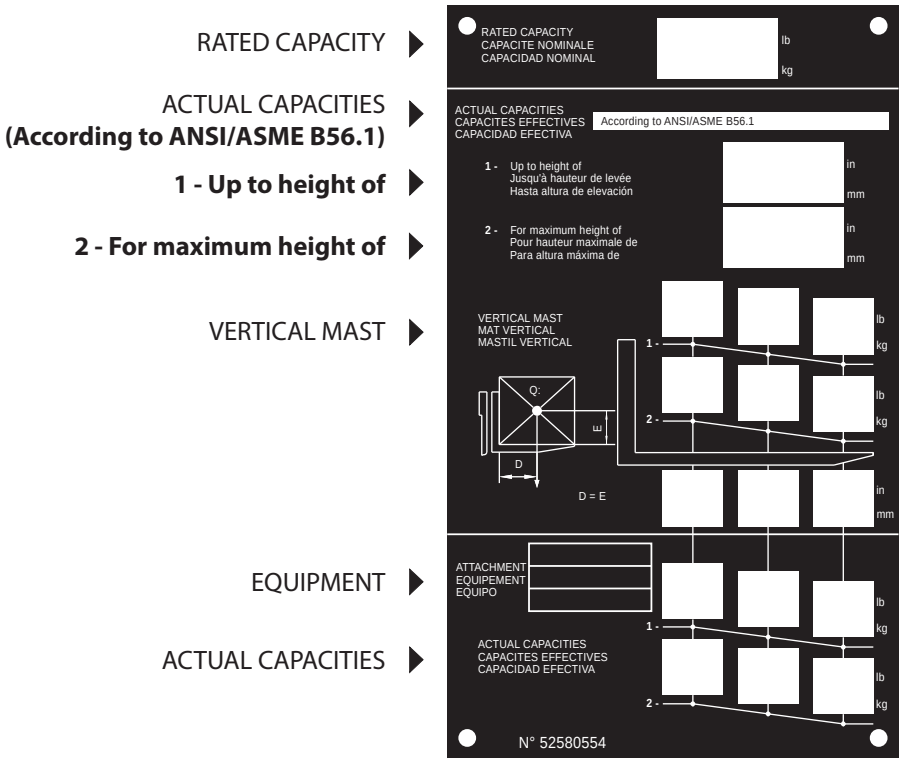
ABAQUE DE CHARGE */ LOAD CHART* - Suivant Norme ASME B56.1 */ According to ASME B56.1*

MI 35 US	Mât de levage *Mast fork height*	Levée libre *Free lift*		Hauteur du mât *Height mast*			Inclinaison *Tilt range*		VALEURS SUR FOURCHES *CAPACITY WITH FORKS*		VALEURS AVEC TDL INTEGRE *CAPACITY WITH INTEGRATED SIDESHIFT*	
									Hauteur à capacité maxi *Height at max capacity in (mm)*	Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)	Hauteur à capacité maxi *Height at max capacity in (mm)*	Capacité à hauteur maxi CDG à 20 in. (500mm) *Load capacity at 20 in. (500mm)* lb (kg)
	in (mm)	avec dosseret *with backrest* H2	sans dosseret *without backrest* H2	baissé *lowered* H1	déployé avec dosseret *extented with backrest* H4	déployé sans dosseret *extented without backrest* H4	AV *FWD*	AR *RWD*	7717 lb (3500 kg)	7717 lb (3500 kg)	7717 lb (3500 kg)	7717 lb (3500 kg)
Duplex visibilité totale *2 Stage wide-view*	130 (3300)	5,7 (145)		91,2 (2315)	175,1 (4445)	162,1 (4115)	6°	12°	130 (3300)	7717,5 (3500)	130 (3300)	7717,5 (3500)
	145,8 (3700)	5,7 (145)		101,1 (2565)	190,9 (4845)	177,9 (4515)	6°	12°	145,8 (3700)	7717,5 (3500)	145,8 (3700)	7717,5 (3500)
	157,6 (4000)	5,7 (145)		107 (2715)	202,7 (5145)	189,7 (4815)	6°	12°	157,6 (4000)	7717,5 (3500)	157,6 (4000)	7717,5 (3500)
Duplex levée libre *2 Stage full-free-lift*	130 (3300)	46,7 (1185)	59,1 (1500)	91,8 (2330)	175,1 (4445)	162,7 (4130)	6°	12°	130 (3300)	7717,5 (3500)	130 (3300)	7717,5 (3500)
	145,8 (3700)	54,6 (1385)	67 (1700)	99,7 (2530)	190,9 (4845)	178,5 (4530)	6°	12°	145,8 (3700)	7717,5 (3500)	145,8 (3700)	7717,5 (3500)
	157,6 (4000)	60,5 (1535)	72,9 (1850)	105,6 (2680)	202,7 (5145)	190,3 (4830)	6°	12°	157,6 (4000)	7717,5 (3500)	157,6 (4000)	7717,5 (3500)
Triplex levée libre *3 Stage full-free-lift*	169,4 (4300)	42,2 (1070)	54,6 (1385)	87,3 (2215)	214,5 (5445)	202,1 (5130)	6°	6°	157,6 (4000)	7607,3 (3450)	157,6 (4000)	7607,3 (3450)
	177,3 (4500)	44,1 (1120)	56,5 (1435)	89,2 (2265)	224,4 (5695)		6°	6°	157,6 (4000)	7497 (3400)	157,6 (4000)	7276,5 (3300)
	185,2 (4700)	46,1 (1170)	58,5 (1485)	91,2 (2315)	232,3 (5895)	217,9 (5530)	6°	6°	157,6 (4000)	7276,5 (3300)	157,6 (4000)	7056 (3200)
	189,1 (4800)	48,1 (1220)	60,5 (1535)	93,2 (2365)	234,2 (5945)	221,8 (5630)	6°	6°	157,6 (4000)	7276,5 (3300)	157,6 (4000)	7056 (3200)
	197 (5000)	50 (1270)	62,4 (1585)	95,2 (2415)	242,1 (6145)	229,7 (5830)	6°	6°	157,6 (4000)	6615 (3000)	157,6 (4000)	6394,5 (2900)
	216,7 (5500)	55,9 (1420)	68,4 (1735)	101,1 (2565)	261,8 (6645)	249,4 (6330)	3°	6°	157,6 (4000)	4851 (2200)	157,6 (4000)	4630,5 (2100)
	236,4 (6000)	65,8 (1670)	78,2 (1985)	110,9 (2815)	283,5 (7195)	271,1 (6880)	3°	6°	157,6 (4000)	3528 (1600)	157,6 (4000)	3307,5 (1500)
	256,1 (6500)	71,7 (1820)	84,1 (2135)	116,8 (2965)	301,2 (7645)	288,8 (7330)	3°	6°	157,6 (4000)	3307,5 (1500)	157,6 (4000)	3087 (1400)

ABAQUE DE CHARGE */ LOAD CHART* - Suivant Norme ASME B56.1 */ According to ASME B56.1*

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US





NOTE 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.

FRONT AND REAR TIRES

FRONT		PRESSURE (psi / bar) TYRE LOAD (lbs / kg)	MI 15 G S2 US	MI 18 G S2 US	MI 20 G S2 US	MI 25 G S2 US	MI 30 G S2 US	MI 35 G S2 US
ADVANCE	6.50-10/5.00	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	7.00-12/5.00	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	28x9-15/7.00	PRESSURE					SOLID	SOLID
		unladen						
		laden						
	6.50-10/5.00 JUM	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	7.00-12/5.00 JUM	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	28x9-15/7.00 JUM	PRESSURE					SOLID	SOLID
		unladen						
		laden						
CHENG SHIN	6.50-10 10PR	PRESSURE	115 / 7,9	115 / 7,9				
		unladen						
		laden						
	7.00-12 12PR	PRESSURE			125 / 8,6	125 / 8,6		
		unladen						
		laden						
	28x9-15 12PR	PRESSURE					120 / 8,3	120 / 8,3
		unladen						
		laden						
	6.50-10 10PR JUM	PRESSURE	125 / 8,6	125 / 8,6				
		unladen						
		laden						
	7.00-12 12PR JUM	PRESSURE			125 / 8,6	125 / 8,6		
		unladen						
		laden						
	28x9-15 12PR JUM	PRESSURE					120 / 8,3	120 / 8,3
		unladen						
		laden						

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

FRONT		PRESSURE (psi / bar) TYRE LOAD (lbs / kg)	MI 15 G S2 US	MI 18 G S2 US	MI 20 G S2 US	MI 25 G S2 US	MI 30 G S2 US	MI 35 G S2 US
CONTINENTAL	6.50-10/5.00 SC20 M+S	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	7.00-12/5.00 SC20 M+S	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	28x9-15/7.00	PRESSURE					SOLID	SOLID
		unladen						
		laden						
	6.50-10 14PR	PRESSURE	145 / 10	145 / 10				
		unladen						
		laden						
	7.00-12 16PR	PRESSURE			145 / 10	145 / 10		
		unladen						
		laden						
	28x9-15 14PR	PRESSURE					145 / 10	145 / 10
		unladen						
		laden						
	6.50-10/5.00 NM	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	7.00-12/5.00 NM	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	28x9-15/7.00 NM	PRESSURE					SOLID	SOLID
		unladen						
		laden						

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

REAR		PRESSURE (psi / bar) TYRE LOAD (lbs / kg)	MI 15 G S2 US	MI 18 G S2 US	MI 20 G S2 US	MI 25 G S2 US	MI 30 G S2 US	MI 35 G S2 US
ADVANCE	5.00-8/3.00	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	6.00-9/4.00	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	6.50-10/5.00	PRESSURE					SOLID	SOLID
		unladen						
		laden						
CHENG SHIN	5.00-8 10PR	PRESSURE	145 / 10	145 / 10				
		unladen						
		laden						
	6.00-9 10PR	PRESSURE			125 / 8,6	125 / 8,6		
		unladen						
		laden						
	6.50-10 10PR	PRESSURE					115 / 7,9	115 / 7,9
		unladen						
		laden						
CONTINENTAL	5.00-8/3.00 SC20 M+S	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	6.00-9/4.00 SC20 M+S	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	6.50-10/5.00 SC20 M+S	PRESSURE					SOLID	SOLID
		unladen						
		laden						
	5.00-8 8PR	PRESSURE	120 / 8,25	120 / 8,25				
		unladen						
		laden						
	6.00-9 12PR	PRESSURE			102 / 7	102 / 7		
		unladen						
		laden						
	6.50-10 14PR	PRESSURE					145 / 10	145 / 10
		unladen						
		laden						
	5.00-8/3.00 NM	PRESSURE	SOLID	SOLID				
		unladen						
		laden						
	6.00-9/4.00 NM	PRESSURE			SOLID	SOLID		
		unladen						
		laden						
	6.50-10/5.00 NM	PRESSURE					SOLID	SOLID
		unladen						
		laden						

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

		PRESSURE (psi / bar)	LOAD (lbs / kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD SOIL	LOOSE SOIL	HARD SOIL	LOOSE SOIL
ADVANCE	5.00-8/3.00	SOLID					
	6.00-9/4.00	SOLID					
	6.50-10/5.00	SOLID					
	7.00-12/5.00	SOLID					
	28x9-15/7.00	SOLID					

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

		PRESSURE (psi / bar)	LOAD (lbs / kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD SOIL	LOOSE SOIL	HARD SOIL	LOOSE SOIL
CHENG SHIN	5.00-8 10PR	145 / 10					
	6.00-9 10PR	125 / 8,6					
	6.50-10 10PR	115 / 7,9					
	7.00-12 12PR	125 / 8,6					
	28x9-15 12PR	120 / 8,3					

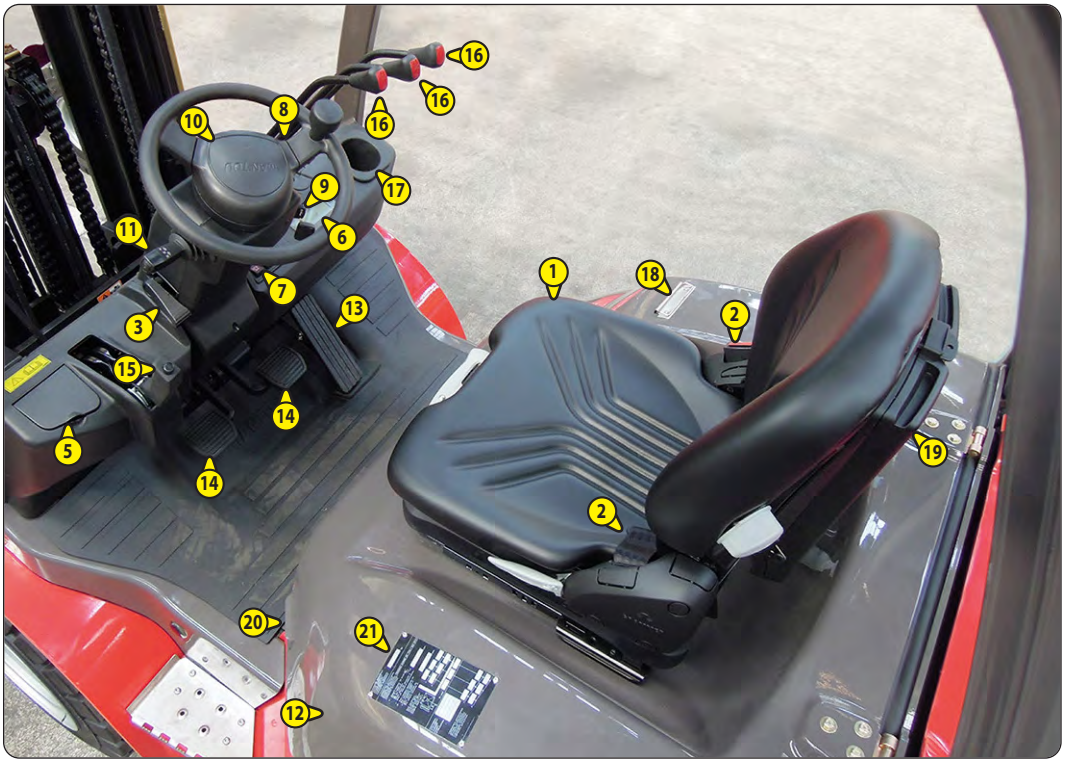
647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

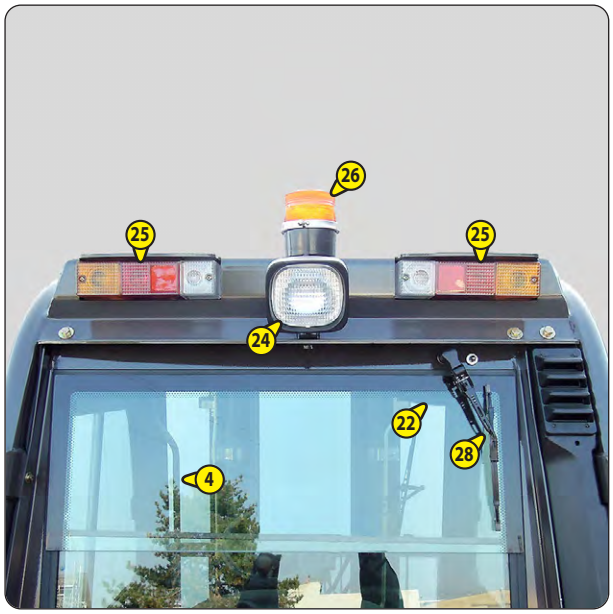
		PRESSURE (psi / bar)	LOAD (lbs / kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD SOIL	LOOSE SOIL	HARD SOIL	LOOSE SOIL
CONTINENTAL	5.00-8/3.00	SOLID					
	6.00-9/4.00	SOLID					
	6.50-10/5.00	SOLID					
	7.00-12/5.00	SOLID					
	28x9-15/7.00	SOLID					

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

		PRESSURE (psi / bar)	LOAD (lbs / kg)	GROUND CONTACT PRESSURE (kg/cm2)		GROUND CONTACT AREA (cm2)	
				HARD SOIL	LOOSE SOIL	HARD SOIL	LOOSE SOIL
CONTINENTAL	5.00-8 8PR	120 / 8,25					
	6.00-9 12PR	102 / 7					
	6.50-10 14PR	145 / 10					
	7.00-12 16PR	145 / 10					
	28x9-15 14PR	145 / 10					

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US





647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

DESCRIPTION

NOTE: All the terms such as: RIGHT, LEFT, FRONT, REAR are meant for an observer seated on driver's seat and looking in front of him.

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

1 - DRIVER'S SEAT

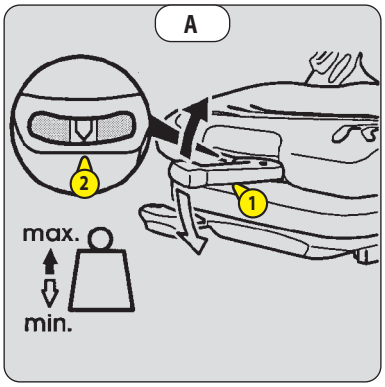
DESIGNED FOR MAXIMUM COMFORT, THIS SEAT CAN BE ADJUSTED AS FOLLOWS.

WEIGHT ADJUSTMENT (FIG. A)

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

- Pull the weight adjustment lever 1 fully out.
- Move the weight adjustment lever 1 up to increase the weight or down to reduce it.
- There are ten possible positions between the min and max weights. Before each run, return the lever to the central position. The max. or min. position is indicated by a freely travelling lever.
- The driver's weight is correctly adjusted when the jib is in the centre of indicator 2.
- - After completing weight adjustment, fully lower the lever 1.

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

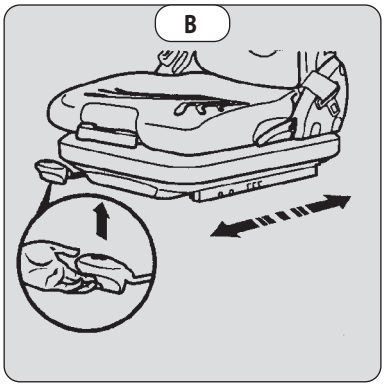


LONGITUDINAL ADJUSTMENT (FIG. B)

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

⚠ IMPORTANT ⚠

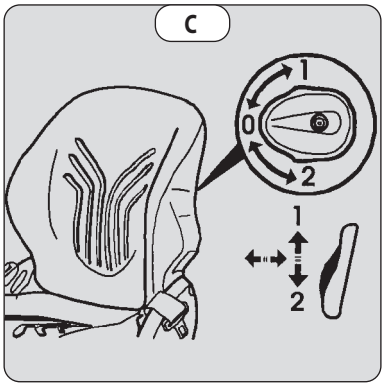
Only operate the lever by its recessed section and do not grasp from below, at the risk of crushing the hand.



LUMBAR ADJUSTMENT (FIG. C)

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

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

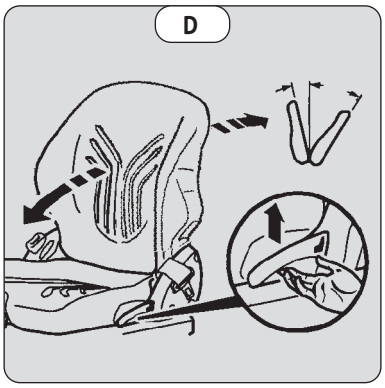


ANGLE ADJUSTMENT OF THE BACK-REST (FIG. D)

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 swing 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 rocking head-rest 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.

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2 - SAFETY 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 the seat belt is not twisted.
- Place the seat belt at hip level.
- Attach the seat belt and check that it locks.

3 - STEERING WHEEL TILTING KNOB

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

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

4 - DRIVING SEAT ACCESS HANDLE

5 - BRAKING OIL TANK ACCESS PANEL

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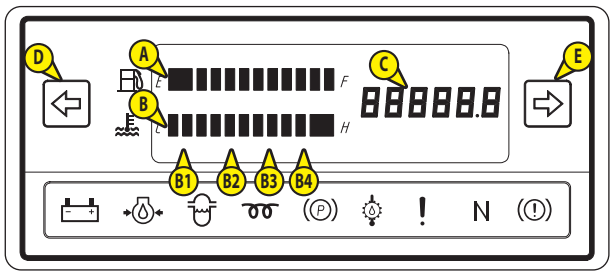
CONTROL INSTRUMENTS (FIRST VERSION)



A - FUEL GAUGE

Displays the gasoline level. Dual fuel machines only.

B - ENGINE WATER TEMPERATURE

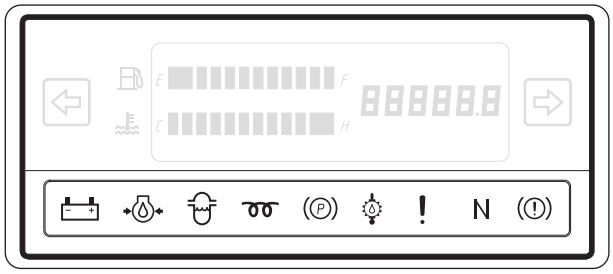
Zone B1: 0 - 50 °C / 32 - 122 °F	Use the lift truck with moderation, wait for temperature to increase before normal operation.
Zone B2: 60 - 105 °C / 140 - 221 °F	Use lift truck normally.
Zone B3: 110 °C / 230°F	Use lift truck with moderation, monitor the temperature.
Zone B4: 120 °C / 248°F	Stop the lift truck, look for the cause of overheating.

C - HOUR METER

D - GREEN LEFT-HAND INDICATOR LIGHT

E - GREEN RIGHT-HAND INDICATOR LIGHT

SIGNAL LIGHTS (FIRST VERSION)



When activating the electrical system of the lift truck, all the , , and N indicator lamps must light to indicate their correct operation. If one of the red lamps or the buzzer is not working, carry out the necessary repairs.

BATTERY LOAD LAMP

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 LAMP

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.

UNUSED LAMP

UNUSED LAMP

PARKING BRAKE LAMP

This lamp comes on when the parking brake is applied.

TRANSMISSION OIL TEMPERATURE LAMP

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.

FAULT WARNING LAMP

If this lamp comes on while the lift truck is in operation, a diagnostic fault has been detected.

E.g.: The lamp will light if the driver vacates the driver's seat while the forward/reverse selector is engaged.

NEUTRAL INDICATOR LAMP

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.

UNUSED LAMP

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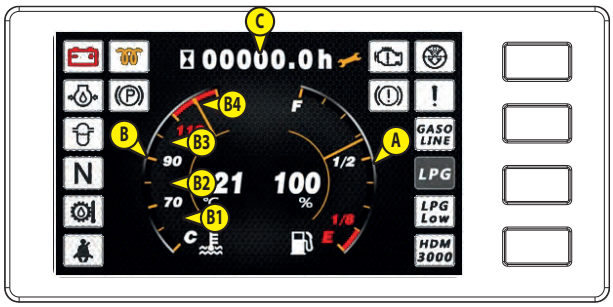
CONTROL INSTRUMENTS (SECOND VERSION)



A - FUEL GAUGE

Displays the gasoline level. Dual fuel machines only.

B - ENGINE WATER TEMPERATURE

Zone B1: 0 - 50 °C / 32 - 122 °F	Use the lift truck with moderation, wait for temperature to increase before normal operation.
Zone B2: 60 - 105 °C / 140 - 221 °F	Use lift truck normally.
Zone B3: 110 °C / 230°F	Use lift truck with moderation, monitor the temperature.
Zone B4: 120 °C / 248°F	Stop the lift truck, look for the cause of overheating.

C - HOUR METER

D - GREEN LEFT-HAND INDICATOR LIGHT

E - GREEN RIGHT-HAND INDICATOR LIGHT

SIGNAL LIGHTS (FIRST VERSION)

When activating the electrical system of the lift truck, all the , , and N indicator lamps must light to indicate their correct operation. If one of the red lamps or the buzzer is not working, carry out the necessary repairs.

BATTERY LOAD LAMP

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 LAMP

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.

UNUSED LAMP

UNUSED LAMP

PARKING BRAKE LAMP

This lamp comes on when the parking brake is applied. If the parking brake is released without operator on the seat, a sound alarm will be heard.

TRANSMISSION OIL TEMPERATURE LAMP

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.

FAULT WARNING LAMP

If this lamp comes on while the lift truck is in operation, a diagnostic fault has been detected.

E.g.: The lamp will light if the driver vacates the driver's seat while the forward/reverse selector is engaged.

NEUTRAL INDICATOR LAMP

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.

AIR FILTER INDICATOR

If this lamp comes on while the lift truck is in operation, switch off the engine immediately. Check for any obstructions in the air intake circuit. Clean the air filter.

UNUSED LAMP

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SEATBELT WARNING LAMP

This lamp comes on when the seatbelt is not locked

From 2023-04-15 :
When the operator unfasten the seatbealt when the parking brake is released, the machine stops and an audio warning is set on.

OPS LAMP

This lamp comes on when the driver is not seated properly.

From 2023-04-15 :
When the operator leave the seat or unfasten the seatbealt when the parking brake is released, the machine stops and an audio warning is set on.

GASOLINE LAMP (DUAL FUEL)

This lamp comes on when the engine is running on gasoline.

LPG LAMP

This lamp comes on when the engine is running on LPG.

LPG LOW LEVEL LAMP

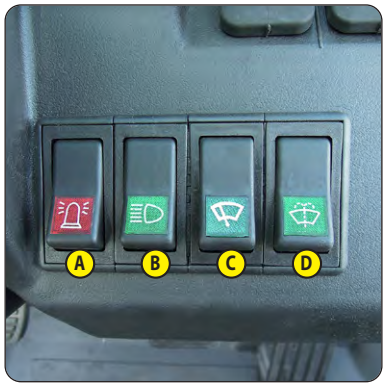
This lamp comes on when the LPG level is low.

FAULT DIAGNOSIS LAMP

This lamp comes on when the fauld diagnosis tool is connected.

7 - SWITCHES

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



A - REVOLVING LIGHT

B - WORKING TAIL LIGHT

C - OPTION : FRONT WINDSCREEN WIPER

D - OPTION : FRONT WINDSCREEN WASHER

E - OPTION : REAR WINDSCREEN WIPER

F - OPTION : DUAL FUEL SWITCH

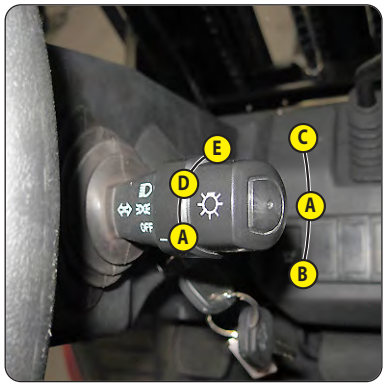
- Press to switch fuel type.
- Set the switch to neutral to cut the fuel input.
- The engine can start on either LPG or gasoline. Set the switch on the fuel type wanted before starting the engine.

G - OPTION : LOW LPG TANK LEVEL LED

8 - LIGHT AND INDICATOR SWITCH

A - OFF Lights off, direction indicators not flashing.
B - The right hand indicator lights flash.
C - The left hand indicator lights flash.
D - The sidelights and the rear lights are on.
E - Headlights and rear lights on.

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



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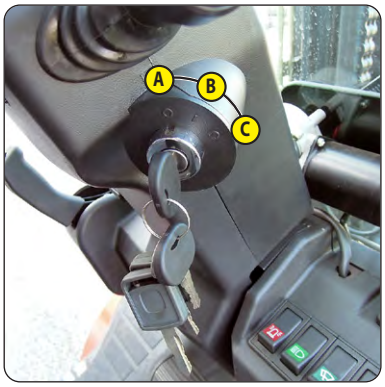
9 - IGNITION SWITCH



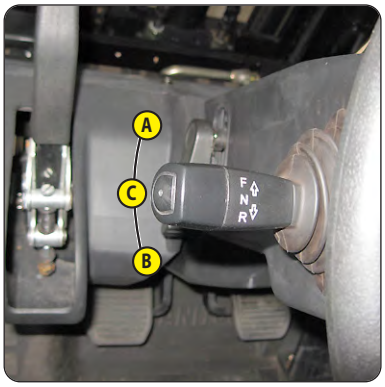
This switch has 3 positions:

A - Ignition off, parking position.
B Ignition.
C - The engine starts, and returns to position B as soon as the key is released.

10 - HORN

This push button sounds the horn.

11 - FORWARD/NEUTRAL/REVERSE GEAR SELECTION



When operating this control, the lift truck should be travelling at slow speed (less than 0.62mph - 1 km/h) and not accelerating. When the reverser is in the neutral position a mechanical lock prevents an accidental shifting movement.

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

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

SAFETY FOR MOVING THE LIFT TRUCK

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

1 - Sit down correctly in the driver's seat and fasten the seatbelt,
2 - Release the parking brake.
3 - Engage forward or reverse movement.

To stop the lift truck, he must observe the following sequence:

1 - Set the forward/reverse selector to neutral.
2 - Engage the parking brake,
3 - Unfasten the seatbelt and 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.

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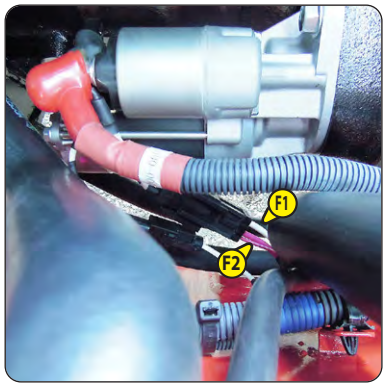
12 - FUSES AND RELAYS UNDER THE ENGINE COVER

⚠ IMPORTANT ⚠

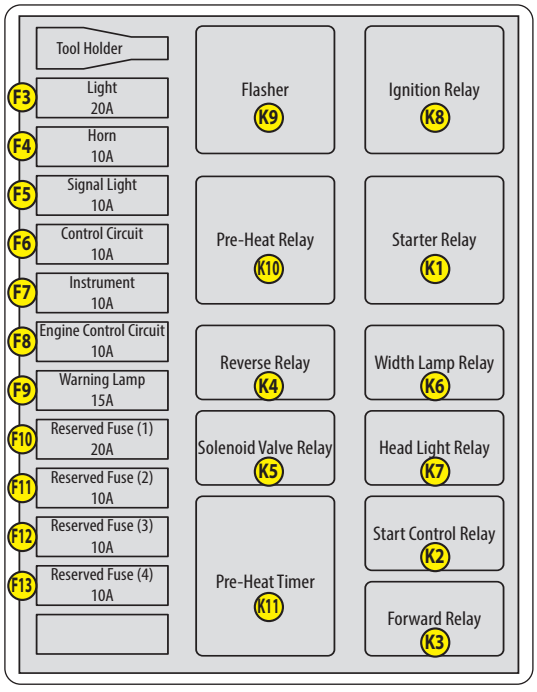
Always replace a faulty fuse with another of equivalent rating. Never use a fuse that has been repaired.

- Open the engine cover.
- Remove cover 1 to access fuses F3 to F14 and to relays JQ1 to JQ8 and SG.



F1	55A	Starter
F2	55A	Fuse box
F3	20A	Rear sidelights Front headlights
F4	10A	Horn
F5	10A	Stop lights Direction indicators
F6	10A	Control circuit
F7	10A	Control panel
F8	10A	Engine control unit
F9	15A	Rotating beacon light Rear working lights
F10		Not used
F11		Not used
F12		Not used
F13		Not used

K1		Starter relay.
K2		Starter control relay.
K3		Forward gear relay.
K4		Reverse gear relay.
K5		Electrovalve relay.
K6		Sidelight relay.
K7		Front headlight relays.
K8		Ignition relay.
K9		Rotating beacon light relay.
K10		Not used.
K11		Not used.



13 - ACCELERATOR PEDAL

14 - SERVICE BRAKE PEDALS AND TRANSMISSION CUT-OFF

⚠ IMPORTANT ⚠

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

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.

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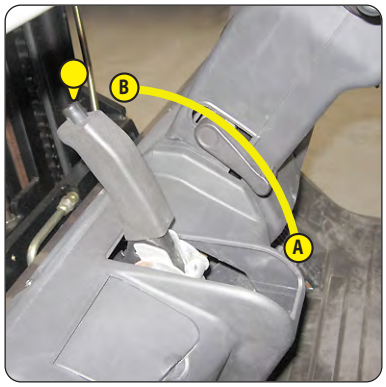
15 - PARKING BRAKE LEVER



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).

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

From 2023-04-15 :
When the operator unfasten the seatbelt, the machine stops and an audio warning is set on.

16 - HYDRAULIC CONTROLS

⚠ IMPORTANT ⚠

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

Use the hydraulic controls carefully without jerking, to avoid accidents caused by shaking the lift truck.

LIFTING THE LOAD

- The lever A backwards when lifting.
- The lever A forwards when lowering.

TILTING THE MAST

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

OPTION ATTACHMENT

- The lever C forwards or backwards.

OPTION ADDITIONAL ACCESSORY

- Lever D forwards or backwards.

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

17 - STORAGE TRAY

18 - DOCUMENT CLIP

19 - DOCUMENT HOLDER

Ensure that the operator's manual is in its place in the document holder.

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20 - ENGINE COVER OPENING HANDLE

LIFTING THE ENGINE COVER

- If necessary tilt the steering wheel forward to lift the engine cover.
- Lift handle 1, keep in the raised position and gently lift the engine cover until the safety catch of gas strut 2 locks in place.

LOWERING THE ENGINE COVER

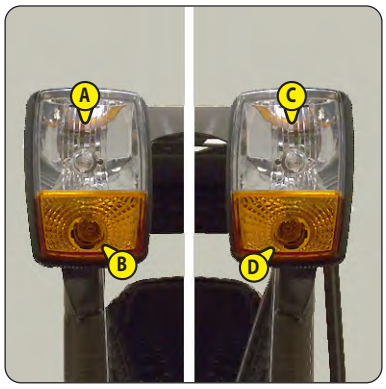
- Release the safety catch 2 and gently lower the engine cover.
- Check that the engine cover is properly closed.

NOTE: On the cab version, open the side doors and the rear sliding widow before lifting the engine cover.

21 - CHARTS

22 - REAR-VIEW MIRROR

23 - FRONT LIGHTS



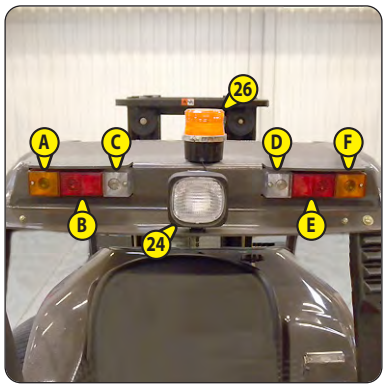
A Front right-hand headlight.

B - Right-hand indicator.

C Front left-hand headlight.

D - Left-hand indicator.

24 - WORKING TAIL LIGHT



25 - REAR LIGHTS

A - Left-hand indicator.

B Left-hand sidelight.

Left-hand stop light

C - Left-hand reversing light.

D - Right-hand reversing light.

E Right-hand sidelight.

Right-hand stop light

F - Right-hand indicator

26 - REVOLVING LIGHT

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27 - FRONT WINDSCREEN WIPER AND WINDSCREEN WASHER (OPTION)

28 - REAR WINDSCREEN WIPER (OPTION)

29 - DOOR OPEN LEVER (OPTION)

30 - DOOR HANDLE (OPTION)

31 - CAB DOOR SLIDING WINDOW (OPTION)

32 - SLIDING REAR WINDOW OPENING (OPTION)

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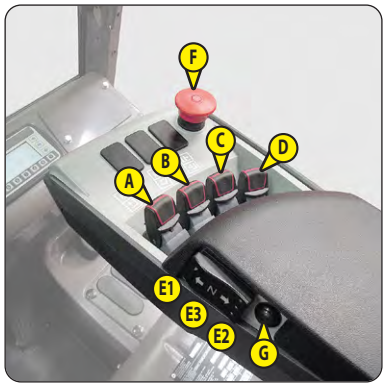
33 - MINI LEVERS HYDRAULIC CONTROLS (OPTION)



⚠ IMPORTANT ⚠

Do not attempt to alter the hydraulic system pressure by interfering with the pressure regulating valve. In the event of suspected malfunction, contact your dealer.

ANY ALTERATION MAY RENDER THE WARRANTY NULL AND VOID.

Use the hydraulic controls carefully without jerking, to avoid accidents caused by shaking the lift truck.

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

LIFTING THE LOAD

- The mini-lever A backwards when lifting.
- The mini-lever A forwards when lowering.

TILTING THE MAST

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

CARRIAGE SIDE-SHIFT

- The mini-lever C backwards to move sideways to the right.
- The mini-lever C forwards to move sideways to the left.

ATTACHMENT (OPTION)

- The mini-lever C forwards or backwards.

FORWARD/NEUTRAL/REVERSE GEAR SELECTION

When operating this control, the lift truck should be travelling at slow speed and not accelerating.

- FORWARD: Push the knob forward E1.
- REVERSE: Pull the knob backwards E2.
- NEUTRAL: The knob must be in the intermediate position to start the lift truck E3.

NOTE: The reversing lights and the acoustic reversing alarm indicate that the lift truck is running in reverse.

SAFETY FOR MOVING THE LIFT TRUCK

The operator must observe the following sequence to move the truck forwards or backwards:

- 1 - Sit down correctly in the driver's seat and fasten the seatbelt,
- 2 - Switch on the ignition,
- 3 - Release the parking brake,
- 4 - Engage forward or reverse movement.

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

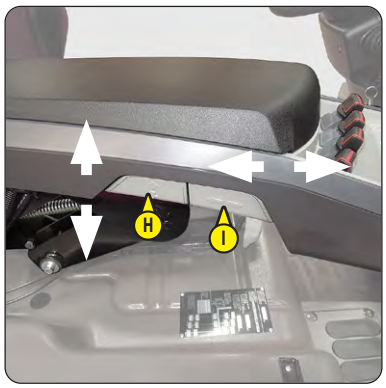
- 1 - Set the forward/reverse selector to neutral,
- 2 - Apply the parking brake,
- 3 - Switch off the ignition,
- 4 - Unfasten the seatbelt and get out of the lift truck.

If these sequences are not followed you must then return the reversing gear to the neutral position and repeat the sequence.

EMERGENCY STOP BUTTON

⚠ IMPORTANT ⚠

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



In case of danger, switches off the electrical power supply circuit.

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

HORN

- Press the red button G to operate the horn.

ADJUSTING THE ARMREST

The armrest is adjustable in height and length.

- Press the button H to adjust in height.
- Press the button I to régler in length.

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 EXCLUSIVELY BY MANITOU AND ITS DEALER NETWORK.

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

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FORKLIFT TRUCK MAINTENANCE

DAILY AND WEEKLY MAINTENANCE

⚠ IMPORTANT ⚠

THE OPERATOR IS 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

⚠ IMPORTANT ⚠

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

PERIODIC SERVICE

⚠ IMPORTANT ⚠

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

MAINTENANCE SCHEDULE

This schedule enables the operator to keep up with the periodic service 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.

10H - DAILY SERVICE OR EVERY 10 HOURS OF SERVICE

50H - WEEKLY SERVICE OR EVERY 50 HOURS OF SERVICE

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MANDATORY FIRST 500 HOURS OR 6 MONTHS SERVICE

FIRST 500 HOURS BEFORE THE FIRST 6 MONTHS

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

FIRST 6 MONTHS BEFORE THE FIRST 500 HOURS

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

➲ MANDATORY SERVICE

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PERIODIC SERVICE

MAINTENANCE SCHEDULE

	OR					
WHEN DUE ➲	FIRST 6 MONTHS	FIRST 500 HOURS	500 H or 6 MONTHS	1000 H or 1 YEAR	1500 H or 1½ YEAR	2000 H or 2 YEARS
PERIODIC SERVICE ➲	MANDATORY SERVICE	MANDATORY SERVICE + ❶	❶	❶+❷	❶	❶+❷+❸
MACHINE COUNTER ➲						
DATE OF SERVICING ➲						

WHEN DUE ➲	2500 H or 2 ½ YEARS	3000 H or 3 YEARS	3500 H or 3 ½ YEARS	4000 H or 4 YEARS	4500 H or 4 ½ YEARS	5000 H or 5 YEARS	5500 H or 5 ½ YEARS
PERIODIC SERVICE ➲	❶	❶+❷	❶	❶+❷+❸	❶	❶+❷	❶
MACHINE COUNTER ➲							
DATE OF SERVICING ➲							

WHEN DUE ➲	6000 H or 6 YEARS	6500 H or 6 ½ YEARS	7000 H or 7 YEARS	7500 H or 7 ½ YEARS	8000 H or 8 YEARS	8500 H or 8 ½ YEARS	9000 H or 9 YEARS
PERIODIC SERVICE ➲	❶+❷+❸	❶	❶+❷	❶	❶+❷+❸	❶	❶+❷
MACHINE COUNTER ➲							
DATE OF SERVICING ➲							

➲ ❶ 500H - PERIODIC SERVICE - EVERY 500 HOURS OF SERVICE OR 6 MONTH

** Consult your dealer.*

*** Engine service, consult your dealer.*

**** To be performed after the first 50 hours of operation and then every 500 hours.*

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➲ ❷ 1000H -PERIODIC SERVICE - EVERY 1,000 HOURS OF SERVICE OR 1 YEAR

**** Consult your dealer.***

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

➲ ❸ 2000H -PERIODIC SERVICE - EVERY 2,000 HOURS OF SERVICE OR 2 YEARS

**** Consult your dealer***

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

➲ OCCASIONAL MAINTENANCE AND OPERATION

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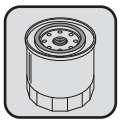
FILTER CARTRIDGES AND BELTS

➲ ❷ 500H - PERIODIC SERVICE - EVERY 500 HOURS OF SERVICE OR 6 MONTHS



ENGINE OIL FILTER
Part no.: 749613

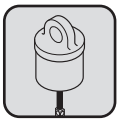
ALTERNATOR BELT
Part no.: 826638

DRY AIR FILTER CARTRIDGE
Part no.: 957663

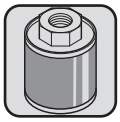
➲ ❸ 1000H - PERIODIC SERVICE - EVERY 1,000 HOURS OF SERVICE OR 1 YEARS

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

HYDRAULIC RETURN OIL FILTER
Part no.: 898540



CAP FILTER FOR HYDRAULIC OIL TANK
Part no.: 950189



SUCTION STRAINER FOR HYDRAULIC OIL TANK
Part no.: 898568

METAL TRANSMISSION OIL FILTER
Part no.: 940867

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⚠ IMPORTANT ⚠

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

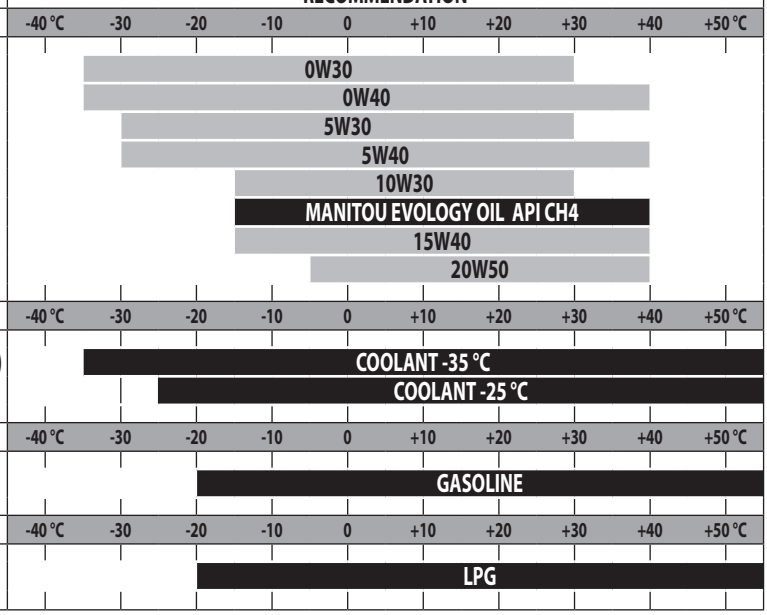
DIAGNOSTIC ANALYSIS OF OILS

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

RECOMMENDATION

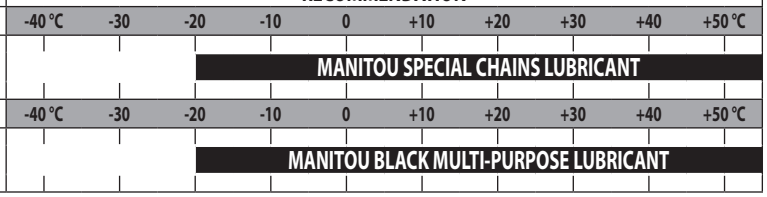
ENGINE

DESCRIPTION	CAPACITY	RECOMMENDATION
ENGINE	3,8 L (1 gallon)	0W30 0W40 5W30 5W40 10W30 MANITOU EVOLOGY OIL API CH4 15W40 20W50
COOLING CIRCUIT	11 L (2.90 gallons)	COOLANT -35 °C COOLANT -25 °C
FUEL TANK		GASOLINE
GAS CYLINDER	13 kg (28.65 lbs)	LPG



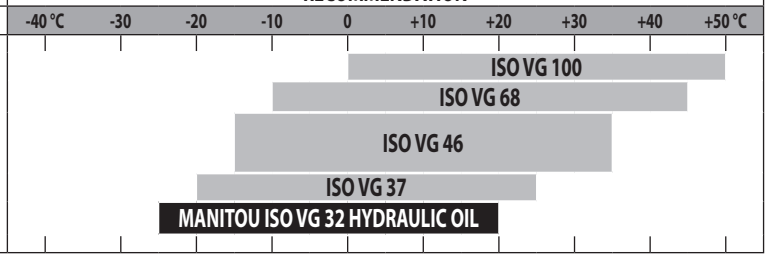
MAST

DESCRIPTION	RECOMMENDATION
MAST LIFTING CHAINS	MANITOU SPECIAL CHAINS LUBRICANT
GREASING OF THE MAST	MANITOU BLACK MULTI-PURPOSE LUBRICANT



HYDRAULICS

DESCRIPTION	CAPACITY	RECOMMENDATION
HYDRAULIC OIL TANK	40 L (10.56 gallons)	ISO VG 100 ISO VG 68 ISO VG 46 ISO VG 37 MANITOU ISO VG 32 HYDRAULIC OIL



CAB (OPTION)

DESCRIPTION	RECOMMENDATION
WINDSCREEN WASHER TANK	WINDSCREEN WASHER LIQUID
CAB DOOR	MANITOU BLUE MULTI-PURPOSE LUBRICANT

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REAR AXLE	
DESCRIPTION	RECOMMENDATION
	-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
SWIVEL PINS / STEERING CONNECTING ROD REAR AXLE OSCILLATION / REAR WHEEL BEARINGS	MANITOU BLUE MULTI-PURPOSE LUBRICANT

BRAKES		
DESCRIPTION	CAPACITY	RECOMMENDATION
BRAKE SYSTEM	1,5 L (1.58 qt.)	BRAKE FLUID DOT3

TRANSMISSION		
DESCRIPTION	CAPACITY	RECOMMENDATION
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
TRANSMISSION	4 L (4,22 qt.)	MANITOU OIL DEXTRON III AUTOMATIC TRANSMISSION
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
DIFFERENTIAL MI 15 .. / MI 18 ..	5,8 L (1.53 gallons)	MANITOU OIL SAE80W90 MECHANICAL TRANSMISSION
		-40 °C -30 -20 -10 0 +10 +20 +30 +40 +50 °C
DIFFERENTIAL MI 20 .. / MI 25 .. / MI 30 .. / MI 35 ..	6,5 L (1.71 gallons)	MANITOU OIL SAE80W90 MECHANICAL TRANSMISSION

PACKAGING

OIL						
PRODUCT	PACKAGING / PART NO.					
	1 L	2 L	5 L	20 L	55 L	209 L
- MANITOU EVOLOGY OIL 15W40 API CJ4			661706	582357	582358	582359
- MANITOU ISO VG 32 HYDRAULIC OIL			744638	744637		744636
- BRAKE FLUID DOT3	473014					
- MANITOU OIL SAE80W90		499237		546330	546221	546220
- MANITOU OIL DEXRON-III	781630			781631		

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	720683	554974	499233	489670
- MANITOU SPECIAL CHAINS LUBRICANT	554271					

LIQUID						
PRODUCT	PACKAGING / PART NO.					
	1 L	2 L	5 L	20 L	55 L	209 L
- COOLANT -35 °C		554002	554003			
- COOLANT -25 °C		473076	470077			
- WINDSCREEN WASHER LIQUID	490402		486424			

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CHECK — Engine oil level

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

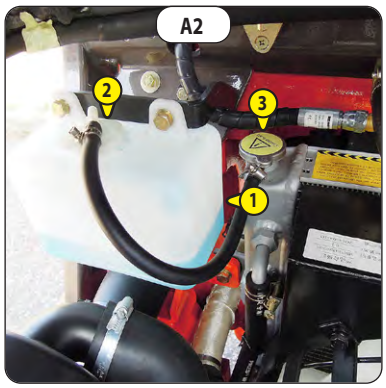
- Raise the engine cover (◅ 2 DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove the dipstick 1 (fig. A1/1).
- Wipe the dipstick and check the correct level between the MINI and MAXI marks.
- If necessary, add oil (◅ 3 MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 2 (fig. A1/2).
- Visually check that there is no leakage or seepage of oil in the engine.

CHECK — Cooling liquid level

⚠ IMPORTANT ⚠

To avoid any risk of spraying or scalding, wait until the engine has cooled down before removing the cooling system filler plug. If the cooling fluid is very hot, add only hot cooling fluid (176°F / 80°C). In an emergency, you can use water as a coolant. In such a case, the cooling system fluid should be changed as soon as possible (see 3 - MAINTENANCE: F – EVERY 2000 HOURS OF SERVICE).

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



- Raise the engine cover (◅ 2 DESCRIPTION: INSTRUMENTS AND CONTROLS).
- The liquid must be at the MAXIMUM level on the expansion pan 1 (fig. A2).
- If necessary, add cooling liquid (◅ 3 MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 2 (fig. A2).
- Check visually 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.
- Slowly turn the cap of the radiator 3 (fig. A2) up to the safety stop.
- Allow the pressure and the steam to escape.
- Press down and turn the cap so as to release it.
- Add cooling fluid through the filler port (◅ 3 MAINTENANCE: LUBRICANTS AND FUEL).
- Lubricate slightly the filler neck in order to facilitate the setting and the removal of the radiator cap.

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CHECK — Hydraulic oil level

⚠ IMPORTANT ⚠

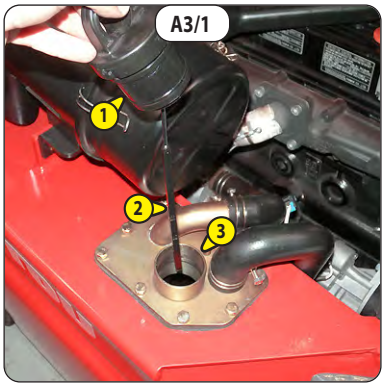
Use a clean funnel and clean the underside of the oil drum before filling.
Consult your dealer in case of abnormal operation of the hydraulic controls.

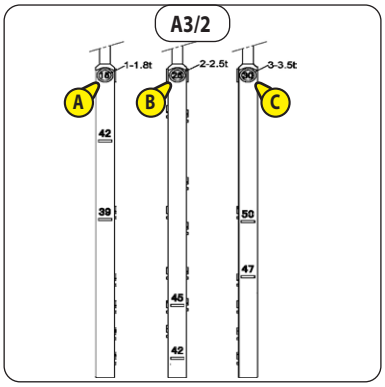
Place the lift truck on level ground with the engine stopped, the mast tilted backward and lowered as far as possible.

- Raise the engine cover (◁ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove cap 1 (fig. A3/1).
- Refer to the dipstick 2 (fig. A3/1 and A3/2): A MI 15 G S2 US / MI 18 G S2 US
  B MI 20 G S2 US / MI 25 G S2 US
  C MI 30 G S2 US / MI 35 G S2 US
- The level is correct when it is between the MIN and MAX markings on the dipstick.
- Top up if necessary (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Add oil through filler port 3 (fig. A3/1).
- Put back the cap 1 (fig. A3/1).
- Visually check that there is no leakage in the tank and pipes.

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

- Check the operation of the hydraulic controls (◁ 2 - DESCRIPTION: 16 - HYDRAULIC CONTROLS).





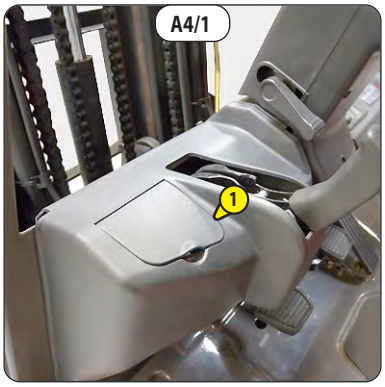
CHECK — Brake fluid level

⚠ IMPORTANT ⚠

If the brake fluid level is abnormally low, consult your dealer.
Consult your dealer in case of abnormal operation of the brakes.

Place the lift truck on level ground.

- Lift up the braking fluid reservoir access panel 1 (fig. A4/1).
- Visually check the level.
- The level is correct when it is at the MAX level on the tank.
- If necessary, add fluid through filler port 2 (fig. A4/2) (◁3 MAINTENANCE: LUBRICANTS AND FUEL).
- Visually check that there is no leakage in the tank and pipes.
- Check the operation of the service brakes (◁ 2 - DESCRIPTION: 14 – SERVICE BRAKE AND TRANSMISSION CUT OFF PEDALS).
- Check the proper operation of the parking brake (◁ 2 - DESCRIPTION: 15 – PARKING BRAKE LEVER).



➲ 50H - WEEKLY SERVICE OR EVERY 50 HOURS OF SERVICE

CLEAN — Dry air filter cartridge

In case of use in a heavily dust laden atmosphere, the cartridge inspection and cleaning frequency must be reduced.

⚠ IMPORTANT ⚠

The cartridge must not be cleaned more than seven times, after which the cartridge must be changed. Never operate the lift truck with the air filter removed or damaged. Respect the safety distance of 30mm (1,18 in) between the air jet and the cartridge to avoid tearing or making a hole in the cartridge. The cartridge must not be blown anywhere near the air filter box. Never clean the cartridge by tapping it against a hard surface. Your eyes must be protected during this intervention.
Do not clean the dry air filter cartridge by washing it in liquid. Do not clean by any means the safety cartridge located inside the filter cartridge, change it for a new one if it is dirty or damaged.

- For the disassembly and reassembly of the cartridge, ◁ 3 MAINTENANCE: D – EVERY 500 HOURS OF SERVICE.
- Clean the filter cartridge using a compressed air jet (max. pressure 3 bar / 43,5 Psi) directed from the top to the bottom and from the inside towards the outside at a minimum distance of 30 mm (1,18 in) from the cartridge wall.
- Cleaning is completed when there is no more dust on the cartridge.
- Clean the cartridge seal surfaces with a damp, clean lint-free cloth and grease with a silicone lubricant (MANITOU reference: 479292).
- Check visually the outer condition of the air filter and its mounts. Verify the condition of the hoses and their mounts also.

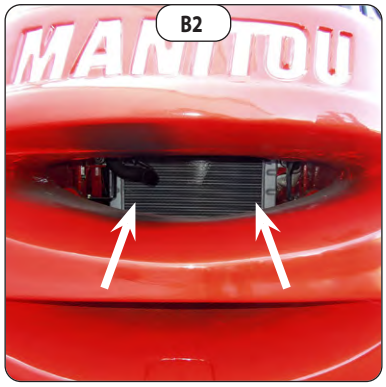
CLEAN — Radiator core

⚠ 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.

- Raise the engine cover (◁ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

In order to prevent the radiator becoming clogged, clean it with a compressed air jet directed from inside to outside. This is the only effective way of removing the impurities.



CHECK — Wheel nut torques

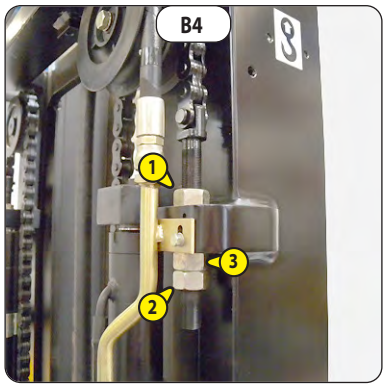
- Check the condition of the tyres, to detect cuts, protuberances, wear, etc.
- Check the torque load of the wheel nuts. Non compliance with this instruction can cause damage and rupture to the wheel bolts and distortion to the wheels.

ADJUST — Tension and alignment of mast lifting chains

⚠ IMPORTANT ⚠

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

Place the lift truck on level ground with the mast in a vertical position and the forks raised approximately 7,87 in / 200 mm.



- Visually check the state of the mast and the forks.
- Check the alignment of the mast lifting chains between the carriage's chain fasteners and the chain rollers.
- Manually verify the chain tension, if necessary adjust as following while ensuring that the carriage is perpendicular to the mast.
- Loosen the nut 1 (fig. B4).
- Loosen the lock nut 2 (fig. B4) of the chain tension adjuster.
- Adjust the tension by tightening or loosening the nut 3 (fig. B4) while checking the alignment of the lifting chains.
- Then block the lock nut 2 and the nut 3 (fig. B4).
- Retighten the nut 1 (fig. B4).

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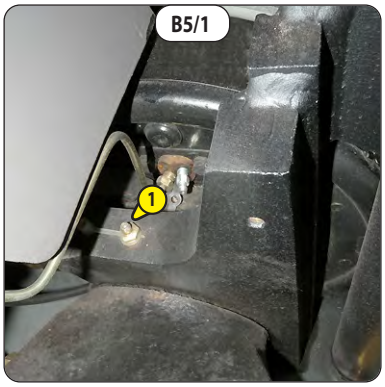
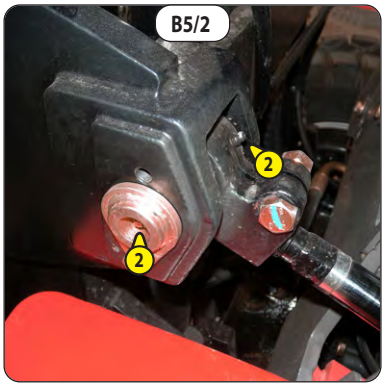
To be carried out weekly, if the lift truck has been operated for less than 50 hours during the week.

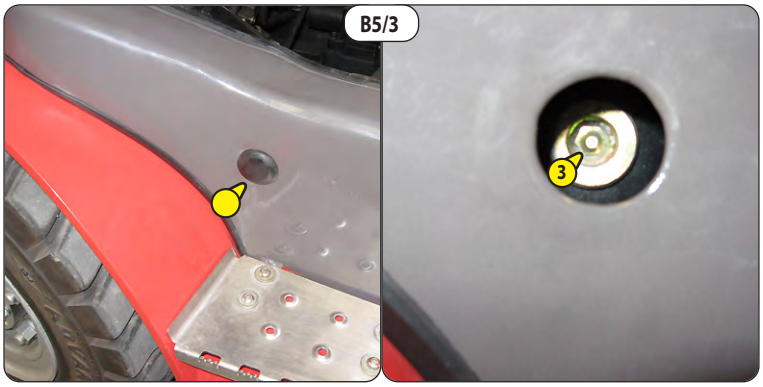
⚠ IMPORTANT ⚠

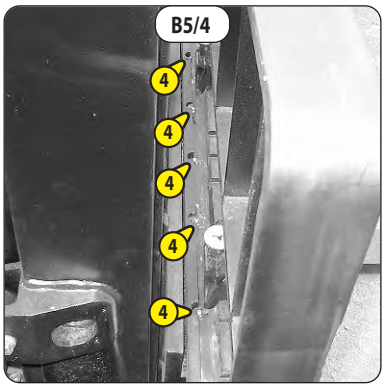
In the event of prolonged use in an extremely dusty or oxidising atmosphere, reduce this interval to 10 working hours or every day.

- Clean and lubricate the following points with grease (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove the surplus of grease.
  1 - Lubricators of the hinge axles at the foot of the mast (2 lubricators) (fig. B5/1).
  2 - Lubricators of the tilt cylinder head axles (4 lubricators) (fig. B5/2).
  3 - Lubricators of the tilt cylinder foot axles (2 lubricators) (fig. B5/3).
  4 - Lubricators of the side-shift carriage (5 lubricators) (fig. B5/4).B6 -









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CHECK — Windscreen washer liquid level (option)

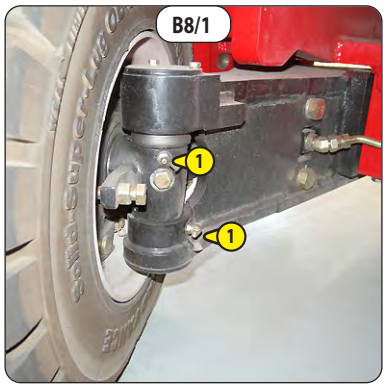
- Remove the storage tray 1 (fig. B6/1).
- Visually check the level (fig. B6/2).
- If necessary add windscreen washer liquid (◁ 3 MAINTENANCE: LUBRICANTS AND FUEL) through filler port 2 (fig. B6/2).

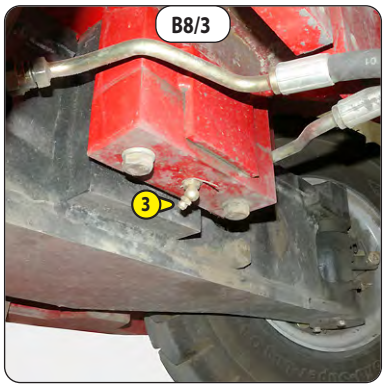
GREASE — Cab door (option)

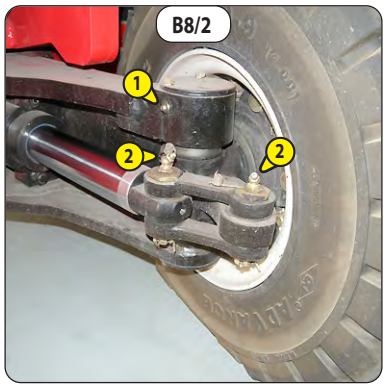
- Clean and lubricate the points 1 (4 lubricators) (fig. B7) with grease (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove the surplus of grease.

GREASE — Rear axle

- Clean and lubricate the following points with grease (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove the surplus of grease.
- 1 Swivel pin lubricators (6 lubricators) (fig. B8/1 and B8/2).
- 2 Steering rod lubricators (4 lubricators) (fig. B8/2).
- 3 Rear axle oscillation pin lubricators (2 lubricators) (fig. B8/3).







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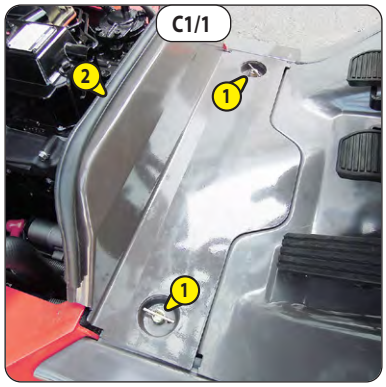
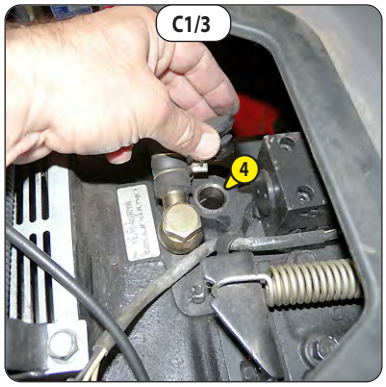
CHECK — Transmission seal

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

- Raise the engine cover (◁ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove the floor mat.
- Undo screws 1 (fig. C1/1) to remove the floor 2 (fig. C1/1).
- Visually check that there is no leakage or seepage of oil from the transmission.
- If needed, remove dipstick 3 (fig. C1/2).
- Wipe the dipstick and check the correct level between the MINI and MAXI marks.
- If necessary, add oil (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 4 (fig. C1/3).
- Visually check that there is no leakage or seepage of oil from the transmission.

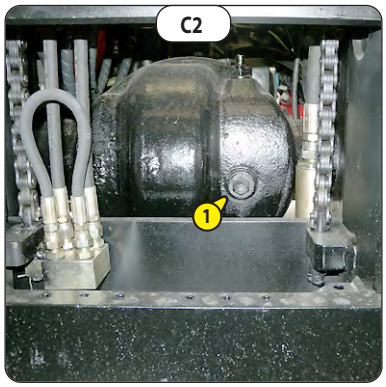




CHECK — Differential seal

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

- Visually check that there is no leakage or seepage of oil from the differential.
- If needed, remove level plug 1 (fig. C2). The oil should be flush with the edge of the hole.
- Add oil (◁ 3 MAINTENANCE: LUBRICANTS AND FUEL) through the same hole.
- Replace and tighten the level plug 1 (fig. C2). ➲ 1 500H - PERIODIC SERVICE - EVERY 500 HOURS OF SERVICE OR 6 MONTHS



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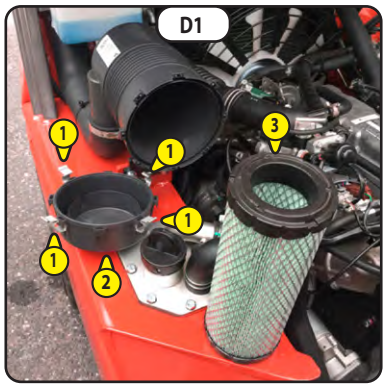
➲ ❶ 500H - PERIODIC SERVICE - EVERY 500 HOURS OF SERVICE OR 6 MONTH

REPLACE Dry air filter cartridge



Pre-filtration cartridges are available for use in a heavily dust laden atmospheres (◅ 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS). The cartridge checking and cleaning interval must also be reduced (to 250 hours in a heavily laden dust atmosphere and with pre-filtration).

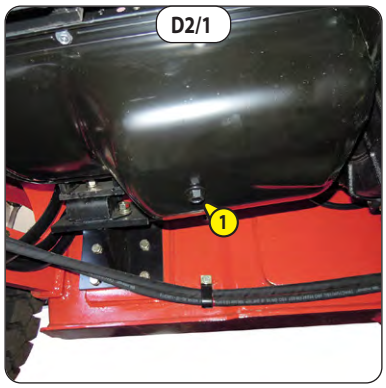
⚠ IMPORTANT ⚠

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

- Raise the engine cover (◅ 2 DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Release the bolts 1 (fig. D1) and remove cover 2 (fig. D1).
- Gently remove the cartridge 3 (fig. D1), taking care to avoid spilling the dust.
- Leave the safety cartridge in place.
- The following parts must be cleaned with a damp, clean lint-free cloth.
- The inside of the filter and cover.
- The inside of the filter inlet hose.
- The gasket surfaces in the filter and in the cover.
- Check pipes and connections between the air filter and the engine.
- Before mounting check the state of the new cartridge (◅ 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Introduce the cartridge into the filter axis and push it in, pressing the edges and not the middle.
- Refit the cover 2 (fig. D1).

REPLACE Engine oil***

REPLACE Engine oil filter***



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

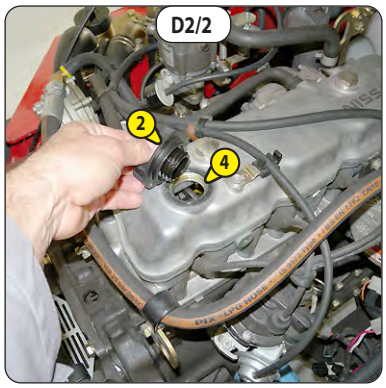
DRAINING THE OIL

- Raise the engine cover (◅ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Place a container under drain plug 1 (fig. D2/1) and unscrew the plug.
- Remove filler cap 2 (fig. D2/2) in order to ensure that the oil is drained properly.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

REPLACEMENT OF THE FILTER



- Remove engine oil filter 3 (fig. D2/3); discard the filter and the filter seal.
- Clean the filter bracket with a clean, lint-free cloth.
- Lightly grease the new oil filter seal and fit the new oil filter (◅ 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS) on the filter bracket.

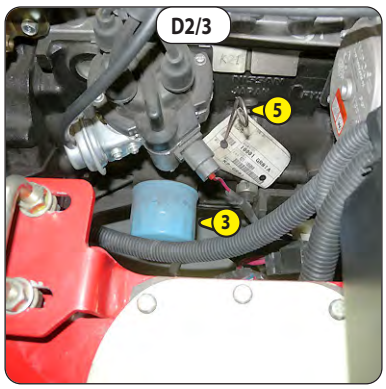
⚠ IMPORTANT ⚠

Tighten the oil filter by hand pressure only and lock the filter in place by a quarter turn.

FILLING UP THE OIL

- Refit and tighten drain plug 1 (fig. D2/1).
- Fill up with oil (◅ 3 - MAINTENANCE: LUBRICANTS AND FUEL) by filler port 4 (fig. D2/2).

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



- Wait a few minutes to allow the oil to flow into the sump.
- Start the engine and let it run for a few minutes.
- Check for possible leaks at the drain plug and the oil filter.
- Stop the engine, wait a few minutes and check the level between the MAX and MIN marks on dipstick 5 (fig. D2/3).
- Top up the level if necessary.

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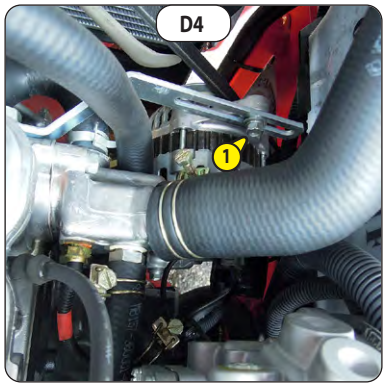
ADJUST — Alternator/fan/crankshaft belt tension***

⚠ IMPORTANT ⚠

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

- Raise the engine cover (◁ 2 DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Check the belt for signs of wear and cracks and change if necessary (◁ 3 MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Check the belt tension between the pulleys of the crankshaft and of the alternator.
- Under pressure applied by the thumb (22 lbf / 98 N), the tension should be between 0,433 in / 11 mm et 0,512 in / 13 mm.
- Adjust if necessary.
- Undo screws 1 (fig. D4) by two to three thread turns.
- Swivel the alternator assembly so as to obtain the belt tension required.
- Re-tighten the screws 1 (fig. D4).

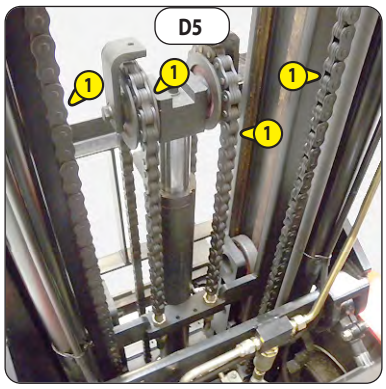


GREASE — Mast lifting chains

⚠ IMPORTANT ⚠

In case of technical faults, consult your dealer.

- Wipe the mast lifting chains 1 (fig. D5) with a clean, lint-free cloth, then examine them closely so as to detect any signs of wear.
- Vigorously brush the chains to get rid of any foreign matter, with a hard nylon brush and clean diesel fuel.
- Rinse the chains by means of a paint brush impregnated with clean diesel fuel and dry them with a compressed air jet.
- Moderately lubricate the chains (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL).



CHECK — Hydraulic movements speed*

CHECK — Hose and flexible pipes condition*

CHECK — Cylinders condition*

CHECK — Engine minimum rpm**

CHECK — Ignition timing**

CHECK — Spark plug**

CHECK — Rotor and ignition head**

CHECK — LPG vacuum valve filter**

CHECK — LPG vacuum valve**

CHECK — LPG vaporizer pressure regulator**

CHECK — LPG carburetor**

** Consult your dealer.*

*** Engine service, consult your dealer.*

**** To be performed after the first 50 hours of operation and then every 500 hours.*

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REPLACE — Transmission oil
CLEAN — Metal transmission oil filter

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

- Raise the engine cover (◁ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove the floor mat.
- Undo the screws 1 (fig. E1/1) to remove the floor 2 (fig. E1/1).

DRAINING THE OIL

- Place a container under drain plug 3 (fig. E1/2) and unscrew the plug.
- Remove filler plug 4 (fig. E1/4) in order to ensure that the oil is drained properly.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

CLEANING THE METAL OIL FILTER

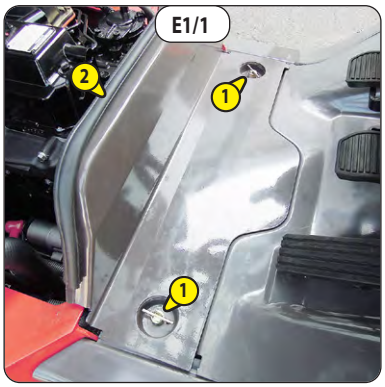
- Remove the plate 5 (fig. E1/2) and set aside the O-ring joint 6 (fig. E1/3) and the thrust washers 7 (fig. E1/3).
- Allow the rest of the oil to drain away.
- Clean the metal filter 8 (fig. E1/3) with a compressed air jet.
- Clean the magnetic part 9 (fig. E1/3).
- Reassemble the unit.

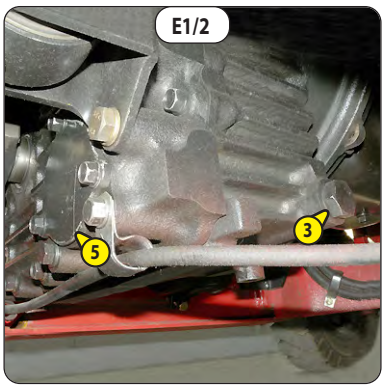
FILLING UP THE OIL

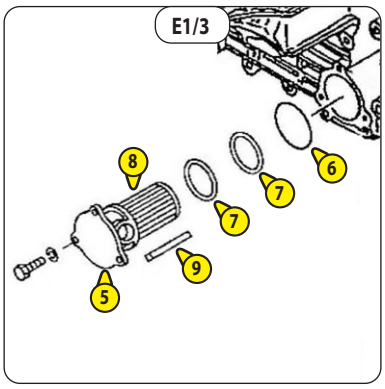
- Refit and tighten drain plug 3 (fig. E1/2).
- Fill up with oil (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 10 (fig. E1/4).

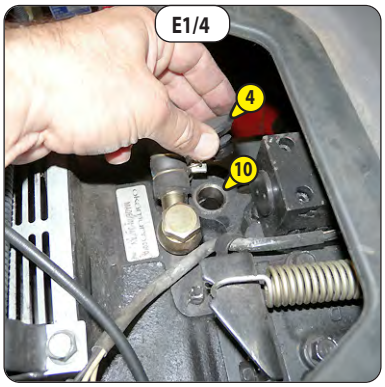
NOTE: For this operation, we recommend you use a funnel fitted with a hose.

- 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 any possible leaks from the oil filter drain plug.
- Stop the engine, wait a few minutes and check the level between the MAX and MIN marks on dipstick 11 (fig. E1/5).
- Top up the level if necessary.









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REPLACE — Hydraulic oil

CLEAN — Filter cap for hydraulic oil tank

CLEAN — Suction strainer for hydraulic oil tank

REPLACE — Hydraulic return oil filter

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

⚠ IMPORTANT ⚠

Before any intervention, thoroughly clean the area surrounding the drain plugs and the plate on the hydraulic tank.

DRAINING THE OIL

- Place a container under drain plug 1 (fig. E3/1) and unscrew the plug.
- Remove filler plug 2 (fig. E3/2) in order to ensure that the oil is drained properly.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

CLEANING G OF FILTER PLUG

- Remove the filler plug cover 3 (fig. E3/3) by twisting through a quarter turn.
- Remove and clean the filter 4 (fig. E3/3).
- Clean the filter holder 5 (fig. E3/3).
- Put the filter and the cover back in place on the holder.

CLEANING THE STRAINER

- Disconnect the hoses 6 (fig. E3/4).
- Undo the screws 7 (fig. E3/4) and remove the holder 8 (fig. E3/4).
- Unscrew suction strainer 9 (fig. E3/5), clean it using a compressed air jet, check its condition and replace it, if necessary (◁ 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Refit the suction strainer.

REPLACEMENT OF THE OIL FILTER

- Unscrew the hydraulic return oil filter 10 (fig. E3/5) and replace with a new one (◁ 3 - MAINTENANCE: FILTERS AND CARTRIDGES).
- Refit the access panel 8 (fig. E3/4).
- Re-connect the hoses 6 (fig. E3/4).

FILLING UP THE OIL

- Clean and refit drain plug 1 (fig. E3/1) (tightening torque 29 to 39 N.m (21.39 to 28.76 ft-lb.).
- Fill up with oil (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 11 (fig. E3/2).

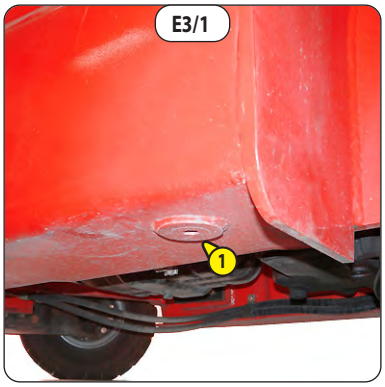
⚠ IMPORTANT ⚠

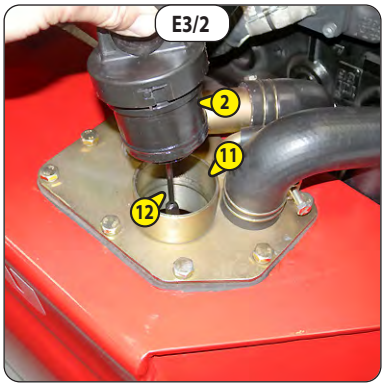
Use a clean container and funnel and clean the underside of the oil drum before filling.

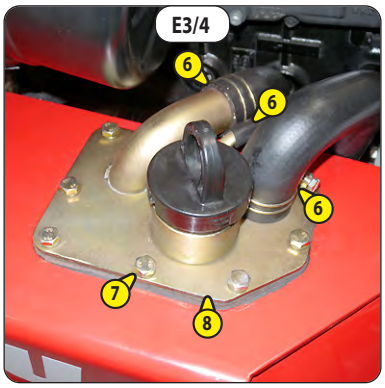
- Check the oil level on the dipstick 12 (fig. E3/2) (◁ 3 - MAINTENANCE: A – DAILY OR EVERY 10 HOURS OF SERVICE)
- Check for any possible leaks at the drain plug.

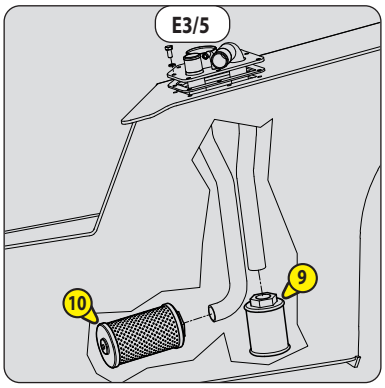
HYDRAULIC CIRCUIT DECONTAMINATION

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









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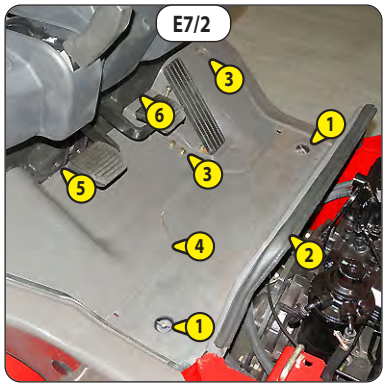
GREASE — Brake pedal axles

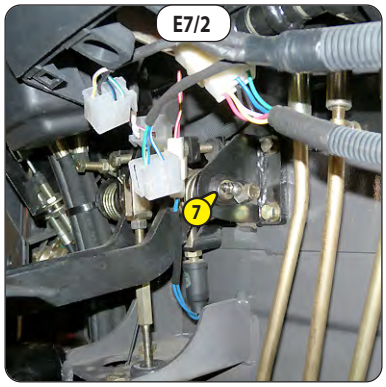
⚠ IMPORTANT ⚠

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

In case of technical faults, consult your dealer.

- Raise the engine cover (◁ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Remove the floor mat.
- Undo the screws 1 (fig. E7/1) to remove the floor 2 (fig. E7/1).
- Unscrew screws 3 (fig. E7/1) to remove the floor 4 (fig. E7/1).
- Unscrew screws 5 (fig. E7/1) to remove the casing 6 (fig. E7/1).
- Clean, then lubricate the lubricator 7 (fig. E7/2) located at the end of the brake pedal axle (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) and remove any excess grease.





CHECK — Seat belt

⚠ IMPORTANT ⚠

Under no circumstances should you use the lift truck if the seat belt is faulty (fixing, locking, it has cuts or tears, etc). Repair or replace the seat belt immediately.

After an accident, immediately replace the seat belt.

SEAT BELT WITH TWO ANCHORING POINTS

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

REELED SEAT BELT WITH TWO ANCHORING POINTS

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

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CHECK	Rear view mirror*
CHECK	Structure*
CHECK	Harnesses and cables*
CHECK	Light, signals and warning indicators*
CHECK	Fork wear*
CHECK	Attachment condition*
ADJUST	Brakes*
REPLACE	Brake fluid*
CHECK	Valve clearance**
CHECK	Engine silent blocks**
CHECK	Engine speeds**
CHECK	Engine minimum rpm**

** Consult your dealer.*

*** Engine service, consult your dealer.*

647654 US (08/02/2023)
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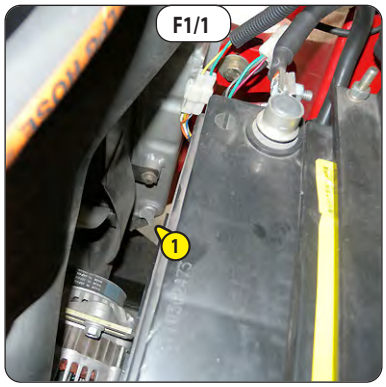
REPLACE — Cooling fluid

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

DRAINING THE LIQUID

- Raise the engine cover (◅ 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Open radiator drain valve 1 (fig. F1/1).
- Undo engine block drain plug 2 (fig. F1/2).
- Remove expansion tank filling plug 3 (fig. F1/3) and empty the tank.
- Remove radiator filler cap 4 (fig. F1/4).
- Let the cooling circuit drain entirely while ensuring that the ports do not get clogged.
- Check the condition of the hoses as well as the fastening devices and change the hoses if necessary.
- Rinse the circuit with clean water and use a cleaning agent if necessary.

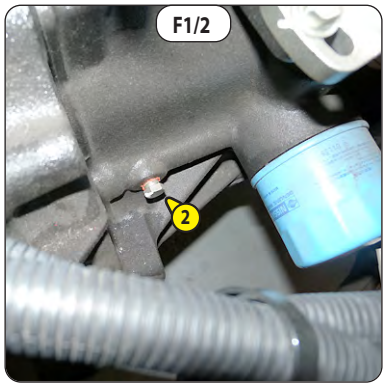


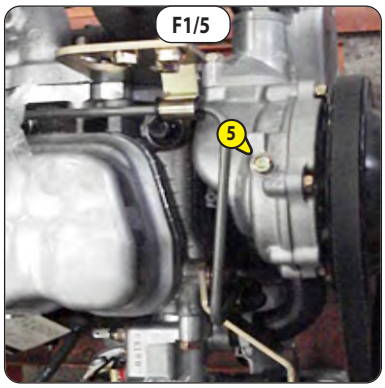
FILLING THE LIQUID

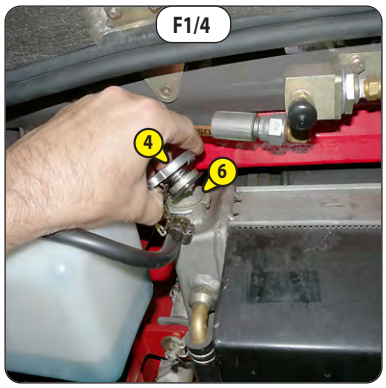
⚠ IMPORTANT ⚠

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.

- Close radiator drain valve 1 (fig. F1/1).
- Retighten engine block drain plug 2 (fig. F1/2).
- Remove bleeder screw 5 (fig.F1/5).
- Slowly fill the circuit with the cooling fluid (◅ 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 6 (fig. F1/4).
- Replace bleeder screw 5 (fig.F1/5) when the liquid comes out of this hole.
- Refit radiator filler plug 4 (fig. F1/4).
- Fill the expansion tank to the maximum level through the filler port 7 (fig. F1/3).
- Run the engine at idle for a few minutes.
- Check for any possible leaks.
- Check the level and refill if necessary.
- Refit expansion tank filler plug 3 (fig. F1/3).







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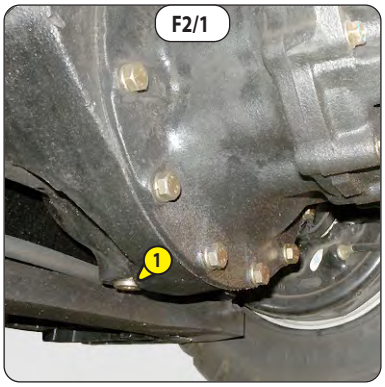
REPLACE — Differential oil

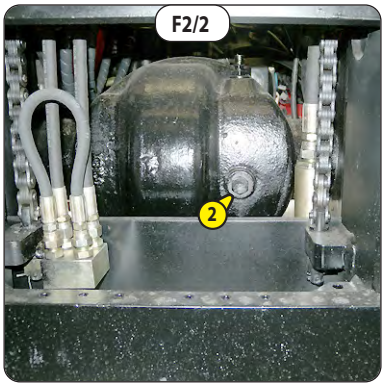
Place the lift truck on level ground with the engine stopped and the d oil still warm.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

- Place a container under drain plug 1 (fig. F2/1) and unscrew the plug.
- Remove level and filling plug 2 (fig. F2/2) in order to ensure that the oil is drained properly.
- Refit and tighten drain plug 1 (fig. F2/1).
- Fill up with oil (◁ 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filling port 2 (fig. F2/2).
- The level is correct when the oil level is flush with the edge of the hole.
- Check for any possible leaks at the drain plug.
- Refit and tighten level and filling plug 2 (fig. F2/2).





CHECK — Wheel nuts tightening torque

- Check the tightening torque of the wheel nuts with a torque wrench.

WHEEL NUT TIGHTENING TORQUES

- Front wheels
  - 157-176 N.m (115.8-129.8 ft-lb.) MI 15 G S2 US / MI 18 G S2 US
  - 441-588 N.m (325.28-433.7 ft-lb.) MI 20 G S2 US / MI 25 G S2 US / MI 30 G S2 US / MI 35 G S2 US
- Rear wheels:
  - 157-176 N.m (115.8-129.8 ft-lb.)

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REPLACE	LPG vacuum valve filter**
CHECK	Injection pump**
CHECK	Injectors**
CHECK	Radiator**
CHECK	Water pump and thermostat**
CHECK	Alternator**
CHECK	Mast unit condition*
CHECK	Chain rollers*
CHECK	Mast guide rollers*
CHECK	Mast bearing roller*
CHECK	Mast wearing plates thickness*
CHECK	Steering*
CHECK	Bearings and articulation rings*
CHECK	Hydraulic pressures and outputs*

** Consult your dealer*

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

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REPLACE — LPG cylinder

⚠ IMPORTANT ⚠

Comply with the following instructions when changing the LPG cylinder:
- Choose a well ventilated location provided for this purpose.
- Do not leave the truck next to a source of heat, a flame or an electrical appliance in operation.
- Switch off the truck's ignition and switch off its lights.
- Do not smoke.
- Wear gloves.

REMOVING THE LPG CYLINDER

- Close the LPG cylinder valve 1 (fig. G1/1).
- Allow the engine to stop of its own accord before switching off the ignition, so as to remove all fuel from the supply system.
- Switch off the ignition.
- Unscrew the lower ring 2 (fig. G1/1) clockwise until the pins 3 (fig. G1/2) are lowered, then unlock the upper ring 4 (fig. G1/1) by turning in the same direction.
- Lift the safety catch 5 (fig. G1/3) and lower the pivot bracket 6 (fig. G1/3) of the LPG cylinder.
- Loosen the strap and remove the LPG cylinder.

INSTALLATION OF THE LPG CYLINDER.

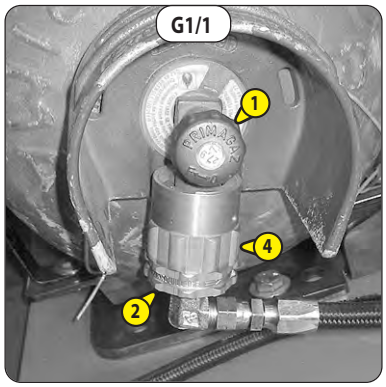
⚠ IMPORTANT ⚠

In case of fire, close the LPG cylinder valve before any intervention.

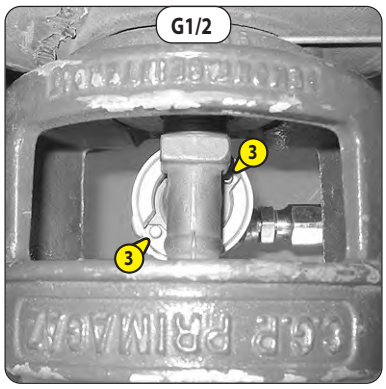
- Install the full cylinder on its support with the valve facing down.
- Tighten the strap around the cylinder.
- Refit the pivot bracket 6 (fig. G1/3) of the LPG cylinder and lock in order to secure the bracket.
- Attach the quick coupler to the cylinder by turning the upper ring 4 (fig. G1/1) anti-clockwise.
- Hold the upper ring and tighten the lower ring in the same direction until the pins 3 (fig. G1/2) are fully raised.
- Ensure that the supply hose is correctly positioned.
- Open the LPG cylinder valve.
- Check the circuit for leaks, I particular at connections.
- Check that no gas can be smelt in the vicinity of the lift truck before starting the engine.

The engine is now ready to be started up.

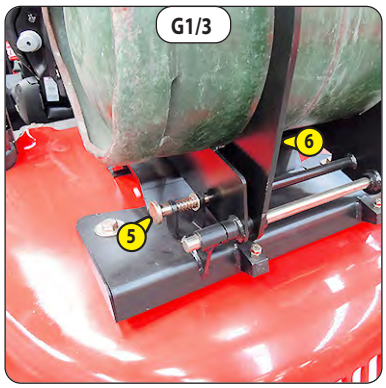
NOTE: If the engine will not start or does not run smoothly, check for possible leaks in the circuit. If in doubt, consult your dealer. When stopping the engine for a prolonged length of time, allow it to stop of its own accord by shutting-off the LPG cylinder before switching off the ignition, in order to eliminate all fuel from the supply system.



G1/1



G1/2



G1/3

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⚠ IMPORTANT ⚠

In the event of a wheel being changed on the public highway, make sure of the following points:

- Stop the lift truck, if possible on even and hard ground.
- Shut-down the lift truck (◅ 1 - OPERATING AND SAFETY INSTRUCTIONS: DRIVING INSTRUCTIONS UNLADEN AND LADEN).
- Switch on the hazard warning lights (option).
- Immobilize the lift truck in both directions on the axle opposite to the wheel to be changed.
- Loosen the nuts of the wheel to be changed until they can be easily removed.

REAR WHEEL

For this operation, we advise you to use the hydraulic jack (MANITOU Part number 505507).

- Place the jack under the counterweight. It must be situated in the middle and under the flat part of the counterweight (fig. G2/1).
- Lift the wheel until it lifts off the ground and fit security wedges under the rear axle (fig. G2/2).
- 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.
- Refit the nuts by hand, if necessary grease them.
- Remove the security wedges and lower the lift truck with the jack.
- Tighten the wheel nuts with a torque wrench (◅ 3 - MAINTENANCE: A DAILY OR EVERY 10 HOURS OF SERVICE for tightening torque).

FRONT WHEEL

- Lift the carriage and tilt the mast backwards.
- Put wedges under the foot of the mast on the side of the wheel to be changed (fig. G2/3).
- Tilt the mast forwards to lift the wheel.
- Place wedges under the chassis as near as possible to the wheel (fig. G2/4).
- 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.
- Refit the nuts by hand, if necessary grease them.
- Remove the wedges under the axle and lower the lift truck.
- Tighten the wheel nuts with a torque wrench (◅ 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS OF SERVICE for tightening torque).


G2/1


G2/2


G2/3


G2/4

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⚠ IMPORTANT ⚠

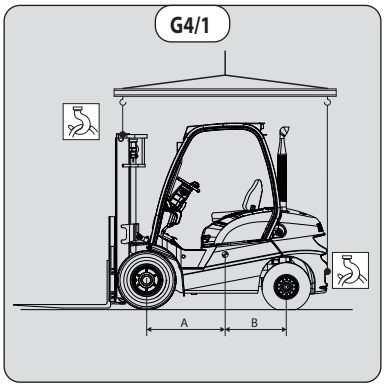
Do not tow the lift truck at more than 25 km/h (9.32 mph.).

- Place the reversing gear in neutral
- Release parking 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.

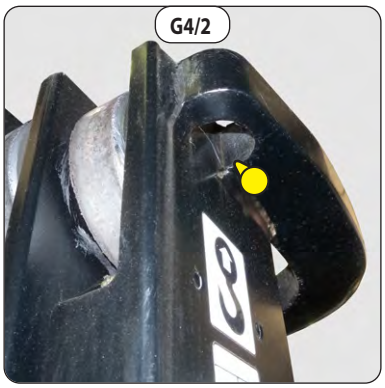
SLING Lift truck

- Take into account the position of the lift truck center of gravity when lifting (fig. G4/1).
  - A = 776 mm (30.55 in.) B = 644 mm (25.35 in.) MI 15 G S2
  - A = 826 mm (32.51 in.) B = 594 mm (23.38 in.) MI 18 G S2
  - A = 840 mm (33.07 in.) B = 760 mm (29.92 in.) MI 20 G S2
  - A = 916 mm (36.06 in.) B = 684 mm (26.92 in.) MI 25 G S2
  - A = 1017 mm (40.03 in.) B = 683 mm (26.88 in.) MI 30 G S2
  - A = 1063 mm (41.85 in.) B = 637 mm (14.44 in.) MI 35 G S2
- Place the hooks in the fastening points provided (fig. G4/2) and around the uprights of the guard (fig. G4/3).

G4/1



G4/2



G4/3

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MI 15/a18/20/25/30/35 S2 US

⚠ IMPORTANT ⚠

Ensure that the safety instructions connected to the platform are respected 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 (◁ 2 - DESCRIPTION: CHARACTERISTICS).

Ensure that the platform is of sufficient size and load capacity for transporting the lift truck. Check also the allowable ground contact pressure of the platform relative to the lift truck.

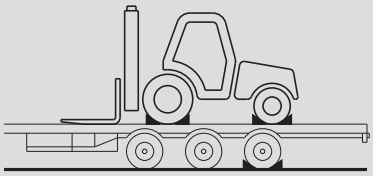
LOADING THE LIFT TRUCK

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

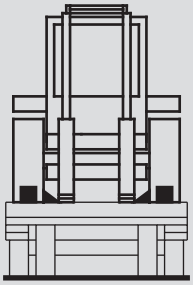
STOWING THE LIFT TRUCK

- Fix the chocks to the platform at the front and at the back of each tyre (fig. G5/1).
- Also fix the chocks to the platform on the inside of each tyre (fig. G5/2).
- Stow the lift truck onto the semi-trailer with sufficiently strong ropes. To the front by passing above the articulation fittings 1 (fig. G5/3) of the mast and to the back onto the towing pin 2 (fig. G5/4).
- Tighten the ropes (fig. G5/5).

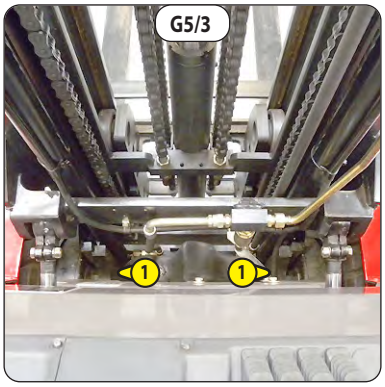
G5/1



G5/2

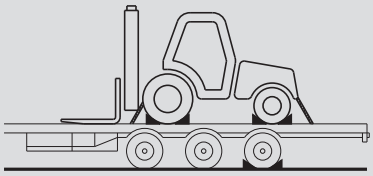


G5/3



G5/4

G5/5



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4 - ATTACHMENTS

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4 - ATTACHMENTS

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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.

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TECHNICAL SPECIFICATIONS OF ATTACHMENTS

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

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

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

STANDARDISED SIDE-SHIFT CARRIAGE

MI 15/18 G S2 US

	HC 15/18 *	HC 15/18 **	HC 15/18 ***
PART NO.			
Rated capacity	3968 lbs / 1800 kg	3968 lbs / 1800 kg	3968 lbs / 1800 kg
Side-shift	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm
Width	37.40 in / 950 mm	37.40 in / 950 mm	37.40 in / 950 mm
Weight	92.59 lbs / 42 kg	92.59 lbs / 42 kg	92.59 lbs / 42 kg

STANDARDISED SIDE-SHIFT CARRIAGE

MI 20/25 G S2 US

	HC 20/25 *	HC 20/25 **	HC 20/25 ***
PART NO.			
Rated capacity	5512 lbs / 2500 kg	5512 lbs / 2500 kg	5512 lbs / 2500 kg
Side-shift	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm
Width	38.90 in / 988 mm	38.90 in / 988 mm	38.90 in / 988 mm
Weight	97 lbs / 44 kg	97 lbs / 44 kg	97 lbs / 44 kg

STANDARDISED SIDE-SHIFT CARRIAGE

MI 30/35 G S2 US

	HC 30/35 *	HC 30/35 **	HC 30/35 ***
PART NO.			
Rated capacity	7716 lbs / 3500 kg	7716 lbs / 3500 kg	7716 lbs / 3500 kg
Side-shift	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm
Width	41.34 in / 1050 mm	41.34 in / 1050 mm	41.34 in / 1050 mm
Weight	150 lbs / 68 kg	150 lbs / 68 kg	150 lbs / 68 kg

647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US

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

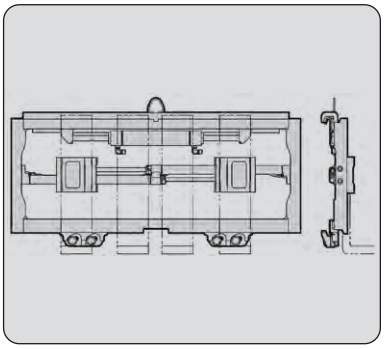
**: Double mast with free-acting lift (DLL)

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

FORK POSITIONER WITH SIDE-SHIFT

MI 15/18 G S2 US

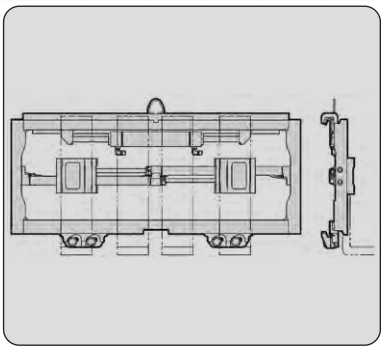
	55K-FPS-A253 *	55K-FPS-A253 **	55K-FPS-A253 ***
PART NO.	**916212**	**916213**	**916214**
Rated capacity	5512 lbs / 2500 kg	5512 lbs / 2500 kg	5512 lbs / 2500 kg
Side-shift	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm
Spacing	1.97-35.91 in / 50-912 mm	1.97-35.91 in / 50-912 mm	1.97-35.91 in / 50-912 mm
Width	40.94 lbs / 1040 mm	40.94 lbs / 1040 mm	40.94 lbs / 1040 mm
Weight	145.5 lbs / 66 kg	145.5 lbs / 66 kg	145.5 lbs / 66 kg



FORK POSITIONER WITH SIDE-SHIFT

MI 20/25 G S2 US

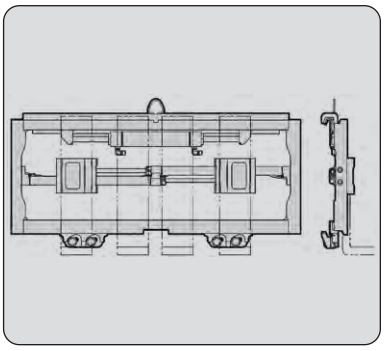
	55K-FPS-A253 *	55K-FPS-A253 **	55K-FPS-A253 ***
PART NO.	**916212**	**916213**	**916214**
Rated capacity	5512 lbs / 2500 kg	5512 lbs / 2500 kg	5512 lbs / 2500 kg
Side-shift	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm
Spacing	1.97-35.91 in / 50-912 mm	1.97-35.91 in / 50-912 mm	1.97-35.91 in / 50-912 mm
Width	40.94 lbs / 1040 mm	40.94 lbs / 1040 mm	40.94 lbs / 1040 mm
Weight	145 lbs / 66 kg	145 lbs / 66 kg	145 lbs / 66 kg



FORK POSITIONER WITH SIDE-SHIFT

MI 30/35 G S2 US

	65K-FPS-B198 *	65K-FPS-B198 **	65K-FPS-B198 ***
PART NO.	**916215**	**916216**	**916217**
Rated capacity	7716 lbs / 3500 kg	7716 lbs / 3500 kg	7716 lbs / 3500 kg
Side-shift	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm	2 x 3.94 in / 2 x 100 mm
Spacing	1.97-38.39 in / 50-912 mm	1.97-38.39 in / 50-912 mm	1.97-38.39 in / 50-912 mm
Width	40.87 in / 1038 mm	40.87 in / 1038 mm	40.87 in / 1038 mm
Weight	180 lbs / 82 kg	180 lbs / 82 kg	180 lbs / 82 kg



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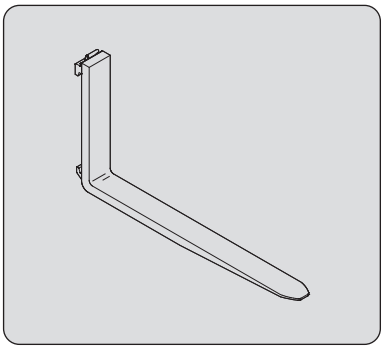
STANDARDIZED FORK

MI 15/18 G S2 US

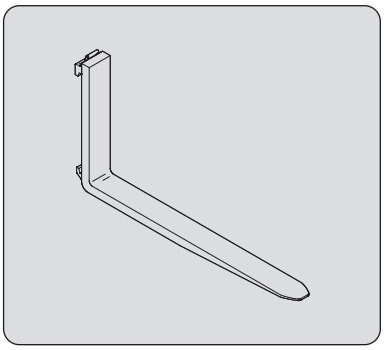
PART NO.	**916182**
Section	3.94 x 1.38 x 42.13 in 100 x 35 x 1070 mm
Weight	85.98 lbs / 39 kg



STANDARDIZED FORK

MI 20/25 G S2 US

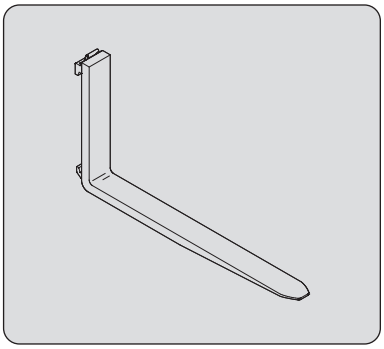
PART NO.	**916183**
Section	4.80 x 1.57 x 45.28 in 122 x 40 x 1150 mm
Weight	127.87 lbs / 58 kg



STANDARDIZED FORK

MI 30 G S2 US

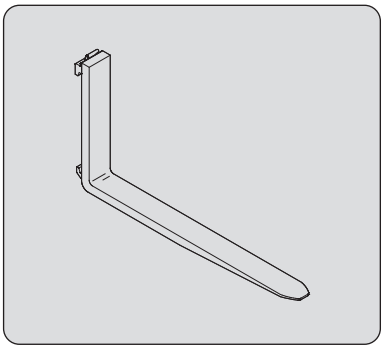
PART NO.	**916184**
Section	4.92 x 1.77 x 45.28 in 125 x 45 x 1150 mm
Weight	156.53 lbs / 71 kg



STANDARDIZED FORK

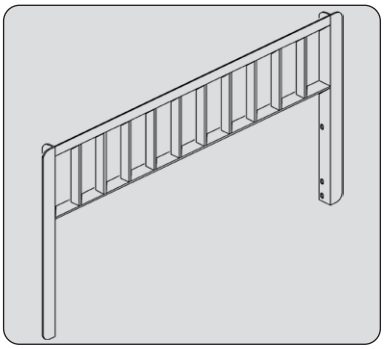
MI 35 G S2 US

PART NO.	**916185**
Section	4.92 x 1.97 x 45.28 in 125 x 50 x 1150 mm
Weight	176.37 lbs / 80 kg



LOAD BACK REST

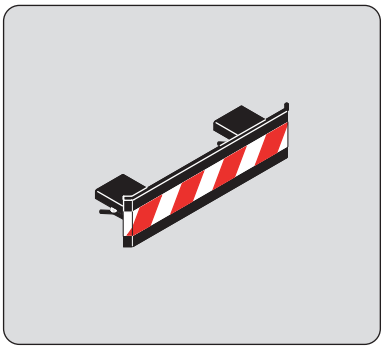
PART NO.	**916197**	**916198**	**916199**
Width	39.37 in / 1000 mm	40.87 in / 1038 mm	43.31 in / 1100 mm
Weight			



ATTACHMENT SHIELDS

FORK PROTECTOR

PART NO. **227801**



647654 US (08/02/2023)
MI 15/a18/20/25/30/35 S2 US