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YOUR DEALER

647178 EN (12/02/2014)

**MLT 629 Compact 20" ST3B
MLT 629 20" ST3B
MLT 629 24" ST3B
MLT 629 24" CE ST3B**

OPERATOR'S MANUAL
(ORIGINAL INSTRUCTIONS)



IMPORTANT

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

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

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

WHENEVER YOU SEE THIS SYMBOL IT MEANS:



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

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

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13/09/2013	ADDING MLT 629 24" CE ST3B
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1 - OPERATING AND SAFETY INSTRUCTIONS

2 - DESCRIPTION

3 - MAINTENANCE

4 - ADAPTABLE ATTACHMENTS IN OPTION ON THE RANGE

1 - OPERATING AND SAFETY INSTRUCTIONS

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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 ⚠

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

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

THE LIFT TRUCK

A - THE TRUCK'S SUITABILITY FOR THE JOB

- MANITOU has ensured that this lift truck is suitable for use under the standard operating conditions defined in this operator's manual, with a **STATIC** test coefficient **OF 1,33** and a **DYNAMIC** test coefficient **OF 1**, as specified in harmonised standard **EN 1459** for variable range 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, light at the jib head, etc. (according to the lift truck model).
- The operator must take into account the operating conditions to define the lift truck's signalling and lighting equipment. Contact your dealer.
- Take into account climatic and atmospheric conditions of the site of utilisation.
 - 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.

The same applies to 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 flammable products, etc.).
For use in these areas, specific equipment is available (ask your dealer for information).

- Our trucks comply with Directive 2004/108/EC concerning electromagnetic compatibility (EMC), and with the corresponding 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.
- 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 safety and that of others, you must not change the structure and settings of the various components used in your lift truck (hydraulic pressure, calibrating limiters, engine speed, addition of extra equipment, addition of counterweight, unapproved attachments, alarm systems, etc.) yourself. In this event, the manufacturer cannot be held responsible.

D - FRENCH ROAD TRAFFIC RULES

(or see current legislation in other countries)

- Only one certificate of conformity is issued. It must be kept in a safe place.
- The driving of non EC type-approved tractors 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 licence plate.
- The driving of EC type-approved tractors on the public highway is subject to the provisions of the highway code regarding agricultural tractors, defined in article R311-1 of the highway code. The lift truck must be registered.

SPECIAL INSTRUCTION APPLYING TO "EC TRACTOR" TYPE-APPROVED LIFT TRUCKS

- All EC tractor type-approved lift trucks are supplied with an "EC tractor" certificate complying with directive 2003/37/EC, to be retained by the owner, and a page of administrative details together with a CNIT number (national type approval code) for registration at the prefecture.
- The lift truck owner is responsible for carrying out the necessary procedures for obtaining the vehicle registration document within the time limit defined by the regulations.
- The operator must hold an HGV licence, unless granted an exemption.
- The lift truck must be driven on the public highway in accordance with the instructions given in the manual supplied with the lift truck (Gross weight, Gross combination weight, towing load, axle loads, maximum speeds, etc. according to type/version). The operator must be in possession of the lift truck's registration document.

⚠ IMPORTANT ⚠

*When towing a trailer or agricultural equipment, the travelling speed of the lift truck is limited to 25 km/h.
In this case, a "25" disc must be affixed to the rear of the convoy.*

E - LIFT TRUCK CAB PROTECTION

- All lift trucks comply with the requirements of ISO 3471 (wheel loader code) regarding cab rollover protection (ROPS) and ISO 3449 (Level II) regarding the protection of the cab against falling objects (FOPS).
- "EC TRACTOR" type-approved lift trucks comply, in addition, with Directive 79/622/EC (OECD Code 4) regarding cab rollover protection (ROPS).

⚠ IMPORTANT ⚠

*Structural damage or overturning, a modification, changes or a poorly executed repair can reduce the protective efficiency of the cab, cancelling its compliance.
Do not perform welding or drilling on the cab structure.
Consult your dealer to determine the limits of this structure without cancelling its compliance.*

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)".

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

- Only the operations and manoeuvres described in these 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.

⚠ IMPORTANT ⚠

*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.*

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 authorise the driving of the lift truck by another person.

C - MAINTENANCE

- The operator must immediately advise his superior if his lift truck is not in good working order or does not comply with the safety notice.
- The operator is prohibited from carrying out any repairs or adjustments himself, unless he has been trained for this purpose. He must keep the lift truck properly cleaned if this is among his responsibilities.
- The operator must carry out daily maintenance (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS SERVICE).
- The operator must ensure tyres are adapted to the nature of the ground (see area of the contact surface of the tyres in the chapter: 2 - DESCRIPTION: FRONT AND REAR TYRES). There are optional solutions, consult your dealer.
 - SAND tyres.
 - LAND tyres.
 - Snow chains.

⚠ IMPORTANT ⚠

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

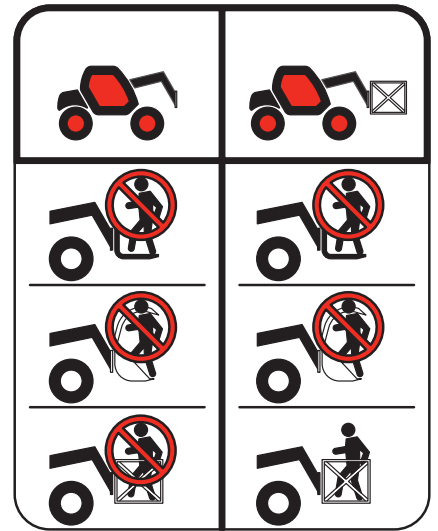
The fitting of foam inflated tyres is prohibited and is not guaranteed by the manufacturer, excepting prior authorisation.

D - MODIFICATION OF THE LIFT TRUCK

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

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).
- The pictogram posted at the operator station reminds you that:
Left-hand column
 - It is forbidden to lift people, with any kind of attachment, using a non PLATFORM-fitted lift truck.Right-hand column
 - With a PLATFORM-fitted lift truck, people can only be lifted using platforms designed by MANITOU for the purpose.
- MANITOU sells equipment specifically designed for lifting people (OPTION PLATFORM lift truck, contact your dealer).



OPERATING INSTRUCTIONS UNLADEN AND LADEN

A - BEFORE STARTING THE LIFT TRUCK

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

- 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 job to be done.
- Prolonged exposure to high noise levels may cause hearing problems. It is recommended to wear ear muffs to protect against excessive noise.
- 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.



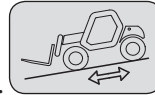
Under no circumstances must the seat be adjusted while the lift truck is moving.

- 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.

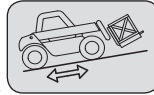
C - ENVIRONMENT

- 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 truck on a transverse slope, before lifting the boom, follow the instructions given in the paragraph: INSTRUCTIONS FOR HANDLING A LOAD: D - 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 and/or stabilizers before lifting or removing the load. If necessary, add sufficient wedging under the stabilizers.
- Make sure that the scaffolding, loading platform, pilings or ground is capable of bearing the load.
- Never stack loads on uneven ground, they may tip over.

⚠ IMPORTANT ⚠

If the load or the attachment must remain above a structure for a prolonged period of time, there is the risk that it will bear on the structure as the boom descends due to cooling of the oil in the cylinders.

To eliminate this risk:

- *Regularly check the distance between the load or the attachment and the structure and readjust this if necessary.*
- *If possible use the lift truck at an oil temperature as close as possible to ambient temperature.*

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

⚠ IMPORTANT ⚠

You must consult your local electrical agency.

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

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

D - VISIBILITY

- The safety of people within the lift truck's working area, as well as that of the lift truck itself and the operator are depend on good operator visibility of the lift truck's immediate vicinity in all situations and at all times.
- This lift truck has been designed to allow good operator visibility (direct or indirect by means of rear-view mirrors) of the immediate vicinity of the lift truck while travelling with no load and with the boom in the transport position.
- Special precautions must be taken if the size of the load restricts visibility towards the front:
 - moving in reverse,
 - site layout,
 - assisted by a person directing the manoeuvre (while standing outside the truck's area of travel), making sure to keep this person clearly in view at all times,
 - in any case, avoid reversing over long distances.
- Certain special accessories may require the truck to travel with the boom in the raised position. In such cases, visibility on the right hand side is restricted, and special precautions must be taken:
 - site layout,
 - assisted by a person directing the manoeuvre (while standing outside the truck's area of travel).
 - replacement of a suspended load by a load on a pallet.
- If visibility of your road is inadequate, ask someone to assist by directing the manoeuvre (while standing outside the truck's area of travel), making sure to keep this person clearly in view at all times.
- Keep all components affecting visibility in a clean, properly adjusted state and in good working order (e.g. windscreens, windows, windscreen wipers, windscreen washers, driving and work lights, rear-view mirrors).

E - STARTING THE LIFT TRUCK

SAFETY INSTRUCTIONS

⚠ IMPORTANT ⚠

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

- Never try to start the lift truck by pushing or 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).
- Check that the cab door is closed.
- Check that the forward/reverse selector is in neutral, and that the parking brake is applied.
- Press on the service brake pedal and maintain it down.
- Turn the ignition key to the position I to activate the electrical and pre-heating system.
- Whenever you switch on the lift truck, perform the automatic check on the longitudinal stability limiter and warning device (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS). Do not use the lift truck if it does not conform to the regulations.
- Check the fuel level on the indicator.
- Turn the ignition key fully, the engine should then start. Release the ignition key and let the engine run at idle.
- Do not engage the starter motor for more than 15 seconds and carry out the preheating between unsuccessful attempts.
- Make sure all the signal lights on the control instrument panel are off.
- Check all control instruments when the engine is warm and at regular intervals during use, so as to quickly detect any faults and to be able to correct them without any delay.
- If an instrument does not show the correct display, stop the engine and immediately carry out the necessary operations.

F - DRIVING THE LIFT TRUCK

SAFETY INSTRUCTIONS

⚠ IMPORTANT ⚠

The 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 300 mm from the ground, the boom retracted and the carriage sloping backwards.
- Only carry loads which are balanced and properly anchored to avoid any risk of a load falling off.
- Ensure that pallets, cases, etc, are in good order and suitable for the load to be lifted.
- Familiarise yourself with the lift truck on the terrain where it will be used.
- Ensure that the service brakes are working properly.
- The loaded lift truck must not travel at speeds in excess of 12 km/h.
- Drive smoothly at an appropriate speed for the operating conditions (land configuration, load on the lift truck).
- Do not use the hydraulic boom controls when the lift truck is moving.
- Never change the steering mode whilst driving.
- Do not manoeuvre the lift truck with the boom in the raised position unless under exceptional circumstances and then with extreme caution, at very low speed and using gentle braking. Ensure that visibility is adequate.
- Take bends slowly.
- In all circumstances make sure you are in control of your speed.
- On damp, slippery or uneven terrain, drive slowly.
- Brake gently, never abruptly.
- Only use the lift truck's forward/reverse selector from a stationary position and never do so abruptly.
- Do not drive with your foot on the brake pedal.
- Always remember that hydrostatic type steering is extremely sensitive to movement of the steering wheel, so turn it gently and not jerkily.
- Never leave the engine 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 bulky loads, since this operation requires particular precautions to be taken. It must only be used exceptionally and after risk analysis.
- The ignition switch has an emergency stop mechanism in case of an operating anomaly occurring in the case of lift trucks not fitted with a punch-operated cut-out.

INSTRUCTIONS

- Always drive the lift truck with the forks or attachment to the transport position, i.e. at 300 mm from the ground, the boom retracted and the carriage sloping backwards.
- For lift trucks with gearboxes, use the recommended gear (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Select the steering mode appropriate for its use and/or working conditions (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS) (as model of lift truck).
- Release the hand brake.
- Shift the forward/reverse selector to the selected direction of travel and accelerate gradually until the lift truck moves off.

⚠ IMPORTANT ⚠

*Starting and driving a lift truck on a slope can present a very real danger.
The lift truck being parked or stopped, scrupulously follow the following instructions for moving off:*

- *Press the service brake pedal.*
- *Engage 1st or 2nd gear and select forward or reverse.*
- *Check that there is nothing and no-one obstructing the lift truck's path.*
- *Release the service brake pedal and increase the engine revs.*

The risk is increased if the lift truck is laden or towing a trailer, requiring extreme vigilance.

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.
- Fully retract the boom.
- Lower the forks or attachment to rest on the ground.
- When using an attachment with a grab or jaws, or a bucket with hydraulic opening, close the attachment fully.
- Before stopping the lift truck after a long working period, leave the engine idling for a few moments, to allow the coolant liquid and oil to lower the temperature of the engine and transmission. Do not forget this precaution, in the event of frequent stops or warm stalling of the engine, or else the temperature of certain parts will rise significantly due to the stopping of the cooling system, with the risk of badly damaging such parts.
- Stop the engine with the ignition switch.
- Remove the ignition key.
- Lock all the accesses to the lift truck (doors, windows, cowls...).

H - DRIVING THE LIFT TRUCK ON THE PUBLIC HIGHWAY

(or see current legislation in other countries)

FRENCH ROAD TRAFFIC RULES

- The driving of non EC type-approved tractors 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 licence plate.
- The driving of EC type-approved tractors on the public highway is subject to the provisions of the highway code regarding agricultural tractors, defined in article R311-1 of the highway code. The lift truck must be registered.
- The lift truck must be driven on the public highway in accordance with the instructions given in the manual supplied with the lift truck (Gross weight, Gross combination weight, towing load, axle loads, maximum speeds, etc. according to type/version). The operator must be in possession of the lift truck's registration document.
- The operator must hold an HGV licence, unless granted an exemption.
- When towing a trailer or agricultural equipment, the travelling speed of the lift truck is limited to 25 km/h. In this case, a "25" disc must be affixed to the rear of the convoy. When driving with a trailer, the fact of not engaging 4th gear will ensure compliance with the towing speed limit (max. 25 km/h). On "POWERSHIFT" models, as 3rd gear is slower than on other models, it is preferable to use 5th gear and disable automatic upshifting to 6th gear (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

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.
- Select the steering mode "HIGHWAY TRAFFIC" (as model of lift truck) (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
- Fully retract the boom and set the attachment approximately 300 mm off the ground.
- Place the roll corrector in the central position, i.e. the transverse axis of the axles parallel to the chassis (as model of lift truck).
- Fully raise the stabilizers and turn the blocks inwards (according to model of lift truck).

⚠ IMPORTANT ⚠

Never coast 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 observe 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.

OPERATING THE LIFT TRUCK WITH A TRAILER

- For using a trailer, observe the regulations in force in your country (maximum travel speed, braking, maximum weight of trailer, etc.).
- Do not forget to connect the trailer's electrical equipment to that of the lift truck.
- The trailer's braking system must comply with current legislation.
- If pulling a trailer with assisted braking, the tractor lift truck must be equipped with a trailer braking mechanism. In this case, do not forget to connect the trailer braking equipment to the lift truck.
- The vertical force on the towing hook must not exceed the maximum authorised by the manufacturer (consult the manufacturer's plate on your lift truck).
- The authorised gross vehicle weight must not exceed the maximum weight authorised by the manufacturer (see: 2 - DESCRIPTION: CHARACTERISTICS).

IF NECESSARY, CONSULT YOUR DEALER.

A - CHOICE OF ATTACHMENTS

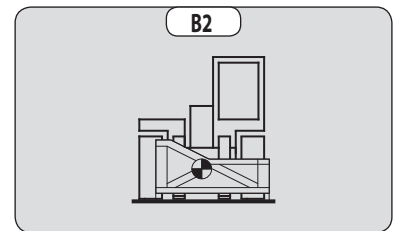
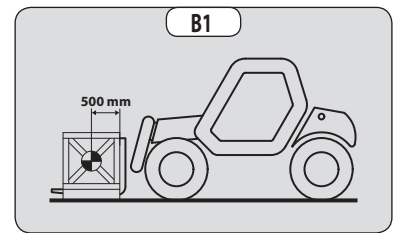
- Only attachments approved by MANITOU can be used on its lift trucks.
- Make sure the attachment is appropriate for the work to be done (see: 4 - ADAPTABLE ATTACHMENTS IN OPTION ON THE RANGE).
- If the lift truck is equipped with the Single side-shift carriage OPTION (TSDL), use only the authorised attachments (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, as the sling risks to slip (see: INSTRUCTIONS FOR HANDLING A LOAD: H - TAKING UP AND LAYING DOWN A SUSPENDED LOAD).
- Do not handle loads that are hung directly from the forks with straps (e.g.: big-bag), as there is a risk that the straps will shear against the sharp edges. Use an attachment designed for this purpose.

B - MASS OF LOAD AND CENTRE OF GRAVITY

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

⚠ IMPORTANT ⚠

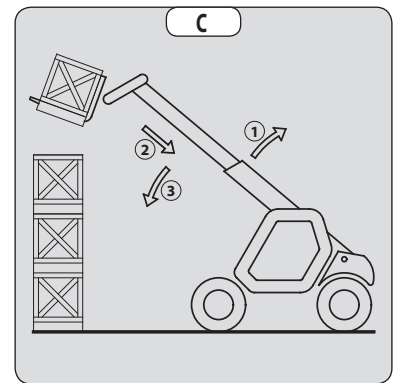
*It is forbidden to move a load heavier than the effective capacity defined on the lift truck load chart.
For loads with a moving centre of gravity (e.g. liquids), take account of the variations in the centre of gravity in order to determine the load to be handled and be vigilant and take extra care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



C - LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE

This device gives an indication of the longitudinal stability of the lift truck, and limits hydraulic movements in order to ensure this stability, at least under the following operating conditions:

- when the lift truck is at a standstill,
 - when the lift truck is on firm, stable and consolidated ground,
 - when the lift truck is performing handling and placing operations.
- Move the jib very carefully when approaching the authorized load limit (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).
 - Always watch this device during handling operations.
 - In the event that "AGGRAVATING" hydraulic movements are cut-off, only perform de-aggravating hydraulic movements in the following order (fig. C): if necessary, raise the jib (1), retract the jib as far as possible (2) and lower the jib (3) to set down the load.



⚠ IMPORTANT ⚠

*The instrument reading may be erroneous when the steering is at full lock or the rear axle is oscillated to its maximum extent.
Before lifting a load, make sure that the lift truck is not in either of these situations.*

D - TRANSVERSE ATTITUDE OF THE LIFT TRUCK

Depending on the model of lift truck

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

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

1 - LIFT TRUCK WITHOUT ROLL CORRECTOR USED ON TYRES

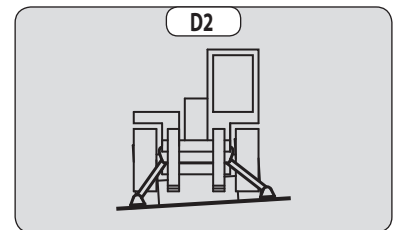
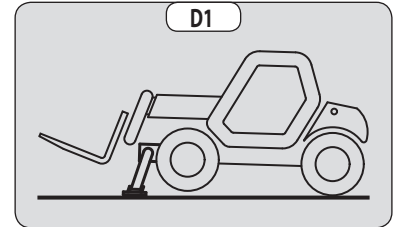
- Position the lift truck so that the bubble in the level is between the two lines (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

2 - LIFT TRUCK WITH ROLL CORRECTOR USED ON TYRES

- Correct the roll using the hydraulic control and check horizontality with the spirit level. The bubble in the level must be between the two lines (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

3 - LIFT TRUCK USED ON STABILIZERS

- Set the two stabilizers on the ground and raise the two front wheels of the lift truck (fig. D1).
- Correct the roll using the stabilizers (fig. D2) and check horizontality with the spirit level. The bubble of the level must be between the two lines (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS). In this position, the two front wheels must be off the ground.



E - TAKING UP A LOAD ON THE GROUND

- Approach the lift truck perpendicular to the load, with the jib retracted and the forks in a horizontal position (fig. E1).
- Adjust the fork spread and centring relative to the load to ensure stability (fig. E2) (optional solutions exist, consult your dealer).
- Never lift a load with a single fork.

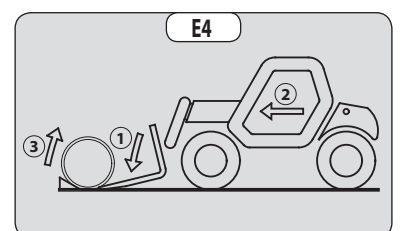
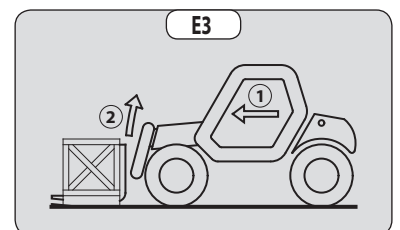
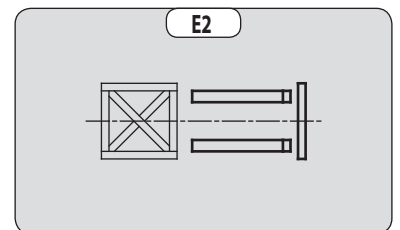
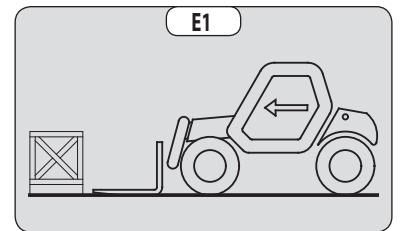
⚠ IMPORTANT ⚠

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

- Move the lift truck forward slowly (1) and insert the forks under the load as far as they will go (fig. E3). If necessary, slightly lift the jib (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. E4) (block the load if necessary).
- Continue to move the lift truck forwards (2) tilting the carriage (3) (fig. E4) backwards to position the load on the forks and check the load's longitudinal and lateral stability.



F - TAKING UP AND LAYING A HIGH LOAD ON TYRES

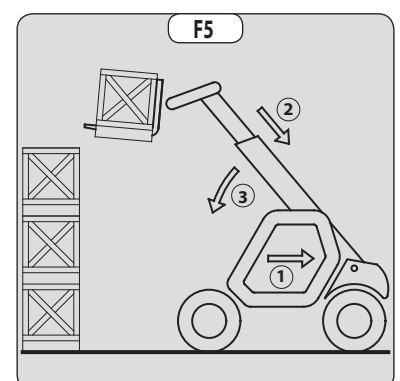
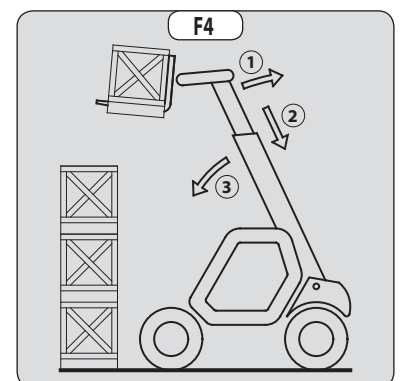
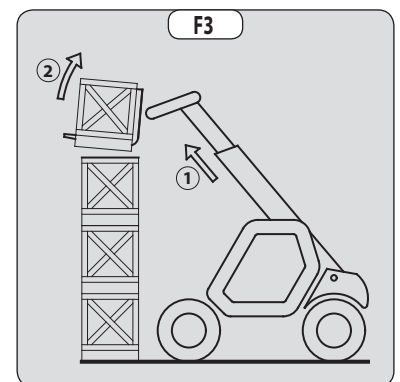
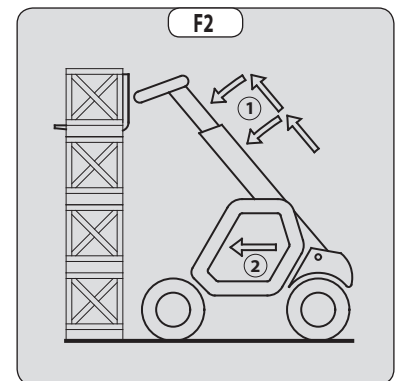
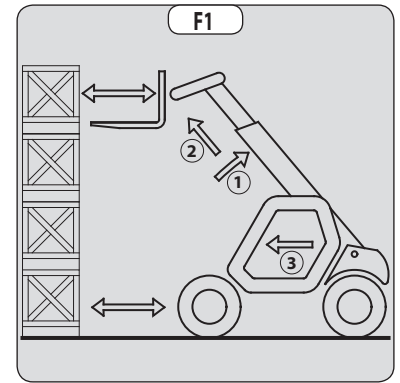
⚠ IMPORTANT ⚠

You must not raise the jib if you have not checked the transverse attitude of the lift truck (see: INSTRUCTIONS FOR HANDLING A LOAD: D - 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).

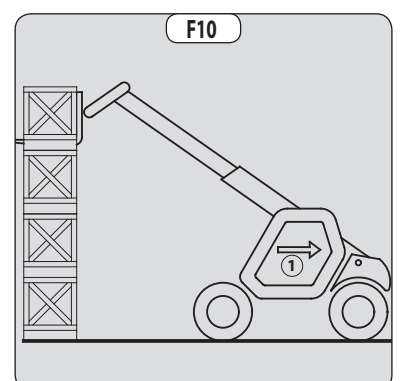
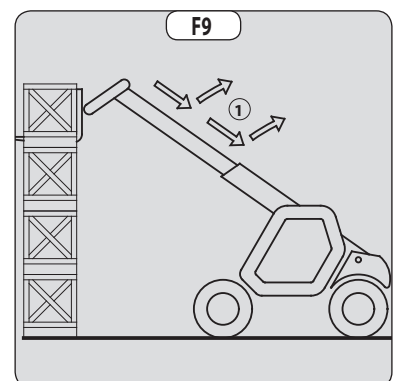
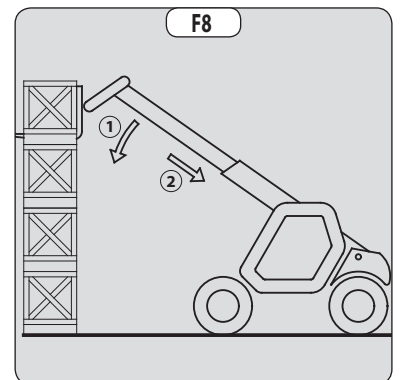
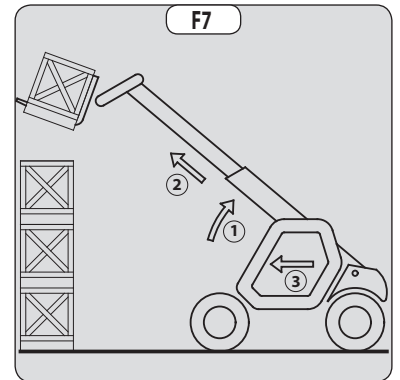
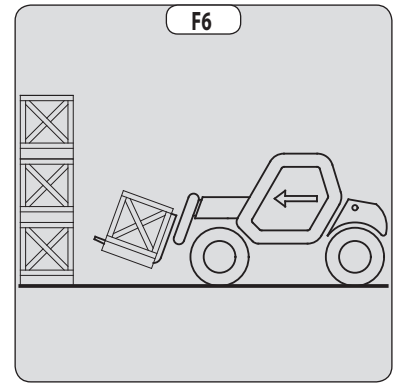
TAKING UP A HIGH LOAD ON TYRES

- Ensure that the forks will easily pass under the load.
- Lift and extend the jib (1) (2) until the forks are level with the load, moving the lift truck (3) forward if necessary (fig. F1), moving very slowly and carefully.
- Always remember to keep the distance necessary for inserting the forks under the load, between the stack and the lift truck (fig. F1) and use the shortest possible length of jib.
- Insert the forks under the load as far as they will go by alternately extending and lowering the jib (1) or, if necessary, moving the lift truck forward (2) (fig. F2). Apply the handbrake and place the forward/reverse selector in neutral.
- Slightly raise the load (1) and tilt the carriage (2) backwards to stabilize the load (fig. F3).
- Tilt the load sufficiently backwards to ensure its stability.
- Monitor the longitudinal stability limiter and warning device (see: INSTRUCTIONS FOR HANDLING A LOAD: C - LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE). If it is overloaded, set the load back down in the place from which it was taken.
- If possible lower the load without shifting the lift truck. Lift the jib (1) to release the load, retract (2) and lower the jib (3) to bring the load into the transport position (fig. F4).
- If this is not possible, back up the lift truck (1), manoeuvring very gently and carefully to release the load. Retract (2) and lower the jib (3) to bring the load into the transport position (fig. F5).



LAYING A HIGH LOAD ON TYRES

- Approach the load in the transport position in front of the stack (fig. F6).
- Apply the parking brake and place the forward/reverse selector in neutral.
- Raise and extend the jib (1) (2) until the load is above the stack, while monitoring the longitudinal stability limiter and warning device (see: INSTRUCTIONS FOR HANDLING A LOAD: C - LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE). If necessary, move the lift truck (3) forward (fig. F7), driving very slowly and carefully.
- Place the load in a horizontal position and lay it down on the pile by lowering and retracting the jib (1) (2) in order to position the load correctly (fig. F8).
- If possible, release the fork by alternately retracting and raising the jib (1) (fig. F9). Then set the forks into transport position.
- If this is not possible, reverse the lift truck (1) very slowly and carefully to release the forks (fig. F10). Then set them into transport position.



G - TAKING UP AND LAYING A HIGH LOAD ON STABILIZERS

Depending on the model of lift truck

⚠ IMPORTANT ⚠

You must not raise the jib if you have not checked the transverse attitude of the lift truck (see: INSTRUCTIONS FOR HANDLING A LOAD: D - 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).

The stabilizers are used to optimise the lift truck's lifting performances (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

POSITION THE STABILIZERS WITH THE FORKS IN TRANSPORT POSITION (UNLADEN AND LADEN)

- Set the forks in transport position in front of the elevation.
- Stay far enough away to have room for the jib to be raised.
- Apply the parking brake and place the forward/reverse selector in neutral.
- Set the two stabilizers on the ground and lift the two front wheels of the lift truck (fig. G1), while maintaining its transverse stability.

RAISE THE STABILIZERS WITH THE FORKS IN TRANSPORT POSITION (UNLADEN AND LADEN)

- Raise both stabilizers fully and at the same time.

LOWERING OF STABILISERS WITH JIB UP (UNLADEN AND LADEN).

⚠ IMPORTANT ⚠

This operation must be exceptional and performed with great care.

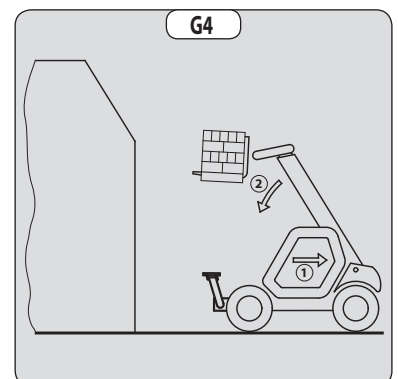
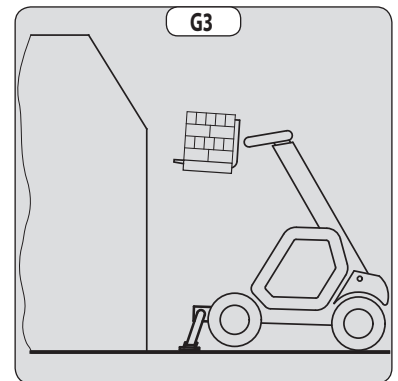
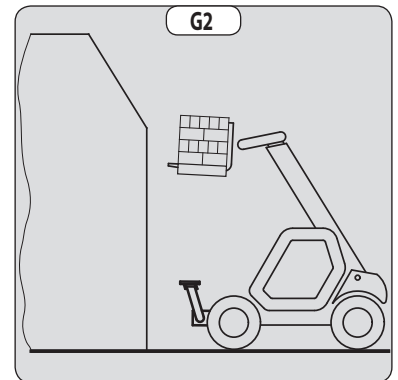
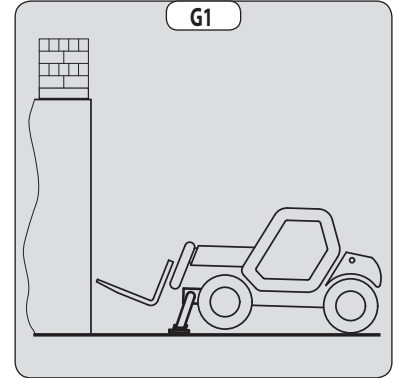
- Raise the jib and retract the telescopes completely.
- Set the lift truck in position in front of the elevation (fig. G2) moving very slowly and carefully.
- Apply the parking brake and place the forward/reverse selector in neutral.
- Move the stabilizers very slowly and gradually as soon as they are close to the ground or in contact with it.
- Lower the two stabilizers and lift the two front wheels of the lift truck (fig. G3). During this operation, transverse attitude must be permanently maintained: the bubble in the level must be kept between the two lines.

SETTING THE STABILIZERS WITH THE JIB UP (UNLADEN AND LADEN)

⚠ IMPORTANT ⚠

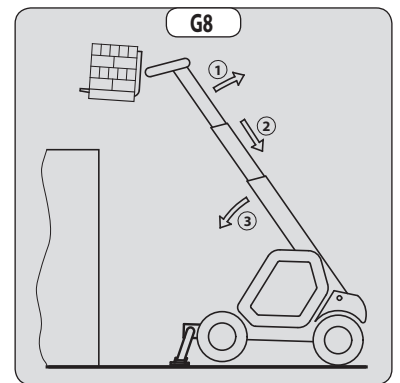
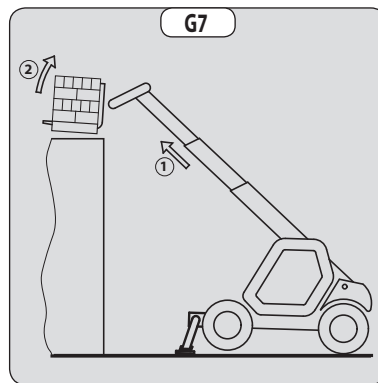
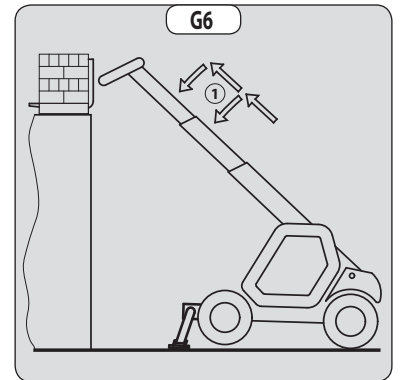
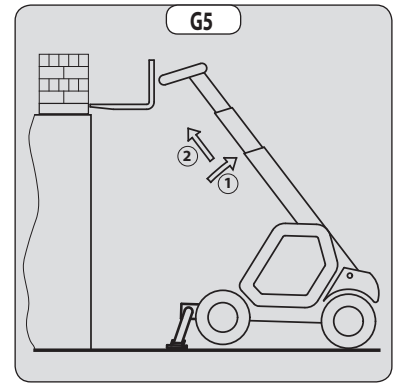
This operation must be exceptional and performed with great care.

- Keep the jib up and retract the telescopes completely (fig. G3).
- Move the stabilizers very slowly and gradually as soon as they are in contact with the ground and when they leave the ground. During this operation, the transverse attitude must be permanently maintained: the bubble in the level must be kept between the two lines.
- Raise both stabilizers completely.
- Release the parking brake and reverse the lift truck (1) very slowly and carefully, to release it and lower the forks (2) into transport position (fig. G4).



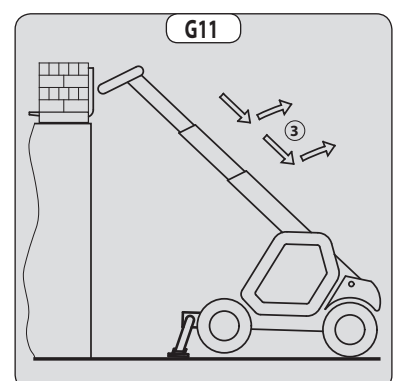
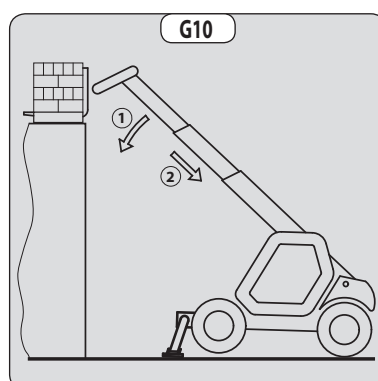
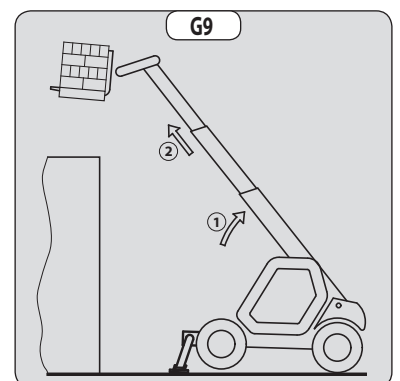
TAKING UP A HIGH LOAD ON STABILISERS

- Ensure that the forks will easily pass under the load.
- Check the position of the lift truck with respect to the load and make a test run, if necessary, without taking the load.
- Raise and extend the jib (1) (2) until the forks are at the level of the load (fig. G5).
- Insert the forks under the load as far as they will go by alternately extending and lowering the jib (1) (fig. G6).
- Lift the load slightly (1) and tilt the carriage (2) backwards to stabilise the load (fig. G7).
- Monitor the longitudinal stability limiter and warning device (see: INSTRUCTIONS FOR HANDLING A LOAD: C - LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE). If it is overloaded, set the load back down in the place from which it was taken.
- If possible lower the load without moving the lift truck. Raise the jib (1) to release the load, retract (2) and lower the jib (3) to set the load into transport position (fig. G8).



LAYING A HIGH LOAD ON STABILISERS

- Raise and extend the jib (1) (2) until the load is above the elevation (fig. G9), while monitoring the longitudinal stability limiter and warning device (see: INSTRUCTIONS FOR HANDLING A LOAD: C - LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE).
- Position the load horizontally and release it by lowering and retracting the jib (1) (2) to position the load correctly (fig. G10).
- Free the forks by alternating retracting and raising the jib (3) (fig. G11).
- If possible, set the jib in transport position without moving the lift truck.



H - TAKING UP AND LAYING DOWN A SUSPENDED LOAD

⚠ IMPORTANT ⚠

*Failure to follow the above instructions may lead the lift truck to loose stability and overturn.
MUST be used with a lift truck equipped with an operational hydraulic movement cut-out device.*

CONDITIONS OF USE

- The length of the sling or the chain shall be as short as possible to limit swinging of the load.
- Lift the load vertically along its axis, never by pulling sideways or lengthways.

HANDLING WITHOUT MOVING THE LIFT TRUCK

- Whether on stabilisers or on tyres, the lateral attitude must not exceed 1 % and the longitudinal attitude must not exceed 5%, the bubble of the level must be held at "0".
- Ensure that the wind speed is not higher than 10 m/s.
- Ensure that there is no one between the load and the lift truck.

I - TRAVELLING WITH A SUSPENDED LOAD

- Before moving, inspect the terrain in order to avoid excessive slopes and cross-falls, bumps and potholes, or soft ground.
- Ensure that the wind speed is not higher than 36 km/h.
- The lift truck must not travel at more than 0,4 m/s (1,5 km/h, i.e., one quarter walking speed).
- Drive and stop the lift truck gently and smoothly to minimise swinging of the load.
- Carry the load a few centimetres above the ground (max. 30 cm) the shortest possible jib length. Do not exceed the offset indicated on the load chart. If the load begins to swing excessively, do not hesitate to stop and lower the jib to set down the load.
- Before moving the lift truck, check the longitudinal stability limiter and warning device (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS), only the green LEDs and possible the yellow LEDs should be lit.
- During transport, the lift truck operator must be assisted by a person on the ground (standing a minimum of 3 m from the load), who will limit swinging of the load using a bar or a rope. Ensure that this person is always clearly in view.
- The lateral attitude must not exceed 5 %, the bubble in the level must be kept between the two "MAX" marks
- The longitudinal attitude must not exceed 15 %, with the load facing uphill, and 10%, with the load facing downhill.
- The jib angle must not exceed 45°.
- If the first red LED of longitudinal stability limiter and warning device (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS) comes on while travelling, gently bring the lift truck to a halt and stabilise the load. Retract the telescope to reduce the offset of the load.

PLATFORM OPERATING INSTRUCTIONS

For lift trucks fitted with a PLATFORM

⚠ IMPORTANT ⚠

Installation of the platform on the lift truck is only possible if the shields "operating the platform" of the lift truck and the platform are identical (see: 2 - DESCRIPTION: OPERATING THE PLATFORM).

A - AUTHORISATION FOR USE

- Operation of the platform requires further authorisation in addition to that of the lift truck.

B - LIFT TRUCK SUITABILITY FOR USE

- MANITOU has ensured that this platform is suitable for use under the normal operating conditions defined in this operator's manual, with a **STATIC** test coefficient **OF 1,25** and a **DYNAMIC** test coefficient **OF 1,1**, as specified in harmonised standard **EN 280** for "mobile elevating work platforms".
- Before commissioning, the company manager must make sure that platform is appropriate for the work to be done, and perform certain tests (in accordance with current legislation).

C - PRECAUTIONS WHEN USING THE PLATFORM

- Wear suitable clothing when using the platform, avoid loosely-fitting garments.
- Never operate the platform when hands or feet are wet or soiled with greasy substances.
- Remain alert at all times when using the platform. Do not listen to the radio or music using headphones or earphones.
- For increased comfort, adopt the correct position at the platform's operator station.
- The platform's guard rail exempts the operator from wearing a safety harness under normal operating conditions. As a result, you are responsible for deciding whether to wear a safety harness.
- 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.).
- Safety helmets must be worn.
- The operator must always be in the normal operator's position. It is prohibited to have arms or legs, or generally any part of the body, protruding from the basket.
- Ensure that any materials loaded onto the platform (pipes, cables, containers, etc.) cannot fall out. Do not pile these materials to the point where it is necessary to step over them.

D - USING THE PLATFORM

- However experienced they may be, operators must acquaint themselves with the emplacement and operation of all control instruments prior to operating the platform.
- Check before use that the platform has been correctly assembled and locked onto the lift truck.
- Check before operating the platform that the access gate has been properly locked.
- The platform should be operated in an area free of any obstructions or danger when it is lowered to the ground.
- The operator using the platform must be aided on the ground by a person with adequate training.
- You should stay within the limits set out in the platform load chart.
- The lateral stresses are limited pressure (see: 2 - DESCRIPTION: CHARACTERISTICS).
- It is strictly forbidden to hang a load from the platform or the lift truck jib without a specially designed attachment (see: INSTRUCTIONS FOR HANDLING A LOAD: H - TAKING UP AND LAYING DOWN A SUSPENDED LOAD).
- The platform cannot be used as a crane or a lift for permanently transporting people or materials, nor as jacks or supports.
- The lift truck must not be moved with one (or more) person(s) in the platform.
- It is forbidden to transport people on the platform using the hydraulic controls in the lift truck's driver's cab (except in case of rescue).
- The operator must not climb onto or off the platform when it is not on ground level (jib retracted and in the down position).
- The platform must not be fitted with attachments that increase the unit's wind load.
- Do not use ladders or improvised structures in the platform to gain extra height.
- Do not climb onto the sides of the platform to gain extra height.

E - ENVIRONMENT

⚠ IMPORTANT ⚠

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

RATED VOLTAGE	DISTANCE ABOVE GROUND OR FLOOR IN METRES
50 < U < 1000	2,30 M
1000 < U < 30000	2,50 M
30000 < U < 45000	2,60 M
45000 < U < 63000	2,80 M
63000 < U < 90000	3,00 M
90000 < U < 150000	3,40 M
150000 < U < 225000	4,00 M
225000 < U < 400000	5,30 M
400000 < U < 750000	7,90 M

⚠ IMPORTANT ⚠

It is strictly forbidden to use the platform when the wind speed exceeds 45 km/h.

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

BEAUFORT scale (wind speed at a height of 10 m on a flat site)						
Force	Type of wind	Speed (knots)	Speed (km/h)	Speed (m/s)	Effects on Land	Sea conditions
0	Calm	0 - 1	0 - 1	< 0,3	- Smoke rises vertically.	- Sea is like a mirror.
1	Light air	1 - 3	1 - 5	0,3 - 1,5	- Smoke indicates direction of wind.	- Ripples with appearance of scale, no foam crests.
2	Light breeze	4 - 6	6 - 11	1,6 - 3,3	- Wind felt on face, leaves rustle.	- Short wavelets, but pronounced.
3	Gentle breeze	7 - 10	12 - 19	3,4 - 5,4	- Leaves and small twigs in constant motion.	- Very small waves, crests begin to break.
4	Moderate breeze	11 - 16	20 - 28	5,5 - 7,9	- Wind raises dust and loose pieces of paper; small branches are moved.	- Small waves, becoming longer, numerous whitecaps.
5	Fresh breeze	17 - 21	29 - 38	8 - 10,7	- Small trees in leaf begin to sway.	- Wavelets form on inland waters; moderate waves, taking longer form.
6	Strong breeze	22 - 27	39 - 49	10,8 - 13,8	- Large branches in motion, whistling heard in overhead wires, umbrella use becomes difficult.	- Larger waves forming, whitecaps everywhere, some spray.
7	Near gale	28 - 33	50 - 61	13,9 - 17,1	- Whole trees in motion, inconvenience felt when walking against the wind.	- Sea heaps up; white foam from breaking waves begins to be blown in streaks along the direction of the wind.
8	Gale	34 - 40	62 - 74	17,2 - 20,7	- Wind breaks twigs off trees; impedes progress.	- Moderately high waves of greater length; edges of crests begin to break into spindrift.
9	Strong gale	41 - 47	75 - 88	20,8 - 24,4	- Wind damages roofs (chimneys, slates, etc.).	- High waves, crests of waves begin to topple, streaks of foam; reduced visibility.
10	Storm	48 - 55	89 - 102	24,5 - 28,4	- Seldom experienced inland; trees uprooted; considerable structural damage occurs.	- Very high waves; white streaks of foam; reduced visibility.
11	Violent storm	56 - 63	103 - 117	28,5 - 32,6	- Very rare, widespread damage.	- Exceptionally high waves able to hide medium sized ships from view, reduced visibility.
12	Hurricane	64 +	118 +	32,7 +	- Devastating damage.	- Sea completely white; air filled with foam and spray, very reduced visibility.

F - MAINTENANCE

⚠ IMPORTANT ⚠

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

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

In France, a general periodic inspection every 6 months (order of 1 March 2004).

INSTRUCTIONS FOR USING THE RADIO-CONTROL

For lift trucks with RC radio control

HOW TO USE THE RADIO-CONTROL

SAFETY INSTRUCTIONS

- This radio-control consists of electronic and mechanical safety elements. It cannot receive commands from another transmitter because the internal encoding is unique to each radio-control.

⚠ IMPORTANT ⚠

If it is used improperly or incorrectly, there is a risk of danger to:

- *The physical and mental health of the user or others.*
- *The lift truck and other neighbouring items.*

All those working with this radio-control:

- *Must be qualified in line with current regulations and trained accordingly.*
- *Must follow this instruction manual as closely as possible.*

- The system is used to control the lift truck remotely via radio waves. Commands are also transmitted if the lift truck is out of sight (behind an obstacle or a building for example), this is why:
 - After stopping the truck and removing the key switch (only possible when it is stationary), always place the transmitter in a safe, dry place.
 - Before performing any installation, servicing or repair work, always switch off power sources (in particular, electric welding devices and electric head units on hydraulic distributors must be disconnected at each section).
 - Never remove or alter the safety devices (such as the hand-guard frame, key, emergency stop button, etc.).

⚠ IMPORTANT ⚠

Never drive the lift truck if it is not continuously and perfectly within view of the operator!

- Before leaving the transmitter, the operator must make sure that it cannot be used by an unauthorized third person: either by removing the key button from the transmitter or locking it in an inaccessible place.
- The user must ensure that the instruction manual is accessible at all times and that operators have read and understood it.

INSTRUCTIONS

- Take up position in a stable place with no risk of slipping.
- Before using the transmitter, make sure there is nobody within the working area.
- Only use the transmitter with its carrying device or installed correctly on the platform.

⚠ IMPORTANT ⚠

When you remove the transmitter, remove the accumulator and key button so that it cannot be used accidentally or deliberately by anyone else.

PROTECTIVE DEVICES

- The lift truck will be immobilised within a maximum of 450 milliseconds (approx. 0.5 second):
 - If the emergency stop button of the transmitter is pressed (50 milliseconds), or that of the lift truck.
 - If the transmission distance of the radio waves is exceeded.
 - If the transmitter is faulty.
 - If an interfering radio signal is received from elsewhere.
 - If the accumulator is removed from its housing in the transmitter.
 - If the battery reaches the end of its autonomy.
 - If the transmitter is switched off by turning the key switch to the off position.
- These protective devices are provided for the safety of personnel and property and must never be altered, removed or bypassed in any way whatsoever!
- The hand-guard frame prevents external action on a manipulator (e.g. if the transmitter is dropped, or if the operator leans on a guard-rail).
- An electronic safety device prevents radio transmission from being initiated if the manipulators are not mechanically and electrically at rest and if the internal combustion engine speed selector is not set to idle.

⚠ IMPORTANT ⚠

In an emergency, press the transmitter emergency stop button immediately ; then follow the manual's instructions (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS).

LIFT TRUCK MAINTENANCE INSTRUCTIONS

GENERAL INSTRUCTIONS

- Ensure the area is sufficiently ventilated before starting the lift truck.
- Wear clothes suitable for the maintenance of the lift truck, avoid wearing jewellery and loose clothes. Tie and protect your hair, if necessary.
- Stop the engine and remove the ignition key, when an intervention is necessary.
- Read the operator's manual carefully.
- Carry out all repairs immediately, even if the repairs concerned are minor.
- Repair all leaks immediately, even if the leak concerned is minor.
- 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.).

PLACING THE JIB SAFETY WEDGE

- The lift truck is equipped with a jib safety wedge (see: 2 - DESCRIPTION: INSTRUMENTS AND CONTROLS) that must be installed on the rod of the lifting cylinder when working beneath the jib.

FITTING THE WEDGE

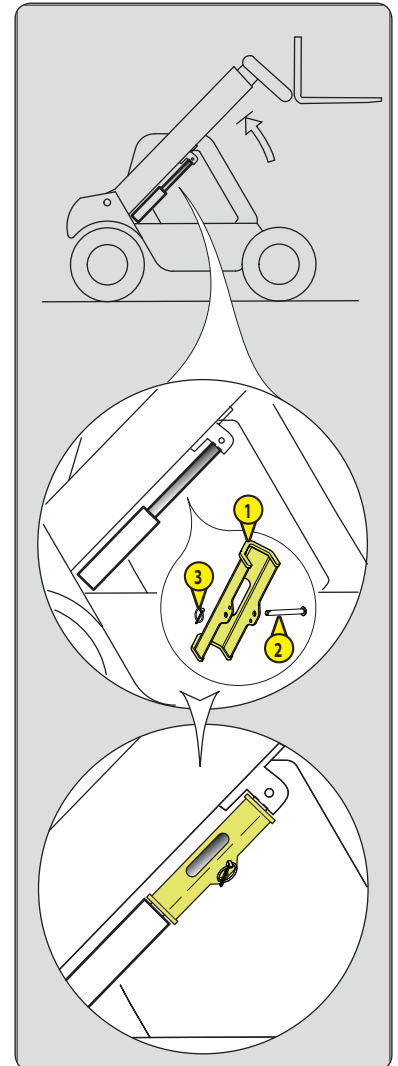
- Fully raise the jib.
- Place the safety wedge 1 on the rod of the lifting cylinder and secure with the rod 2 and the pin 3.
- Slowly lower the jib then stop the hydraulic movements before it comes into contact with the wedge.

REMOVING THE WEDGE

- Fully raise the jib.
- Remove the pin and the rod.
- Return the safety wedge to the storage location provided on the lift truck.

⚠ IMPORTANT ⚠

Only use the wedge supplied with the lift truck.



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 unions, hoses or any hydraulic component with the circuit under pressure.

⚠ IMPORTANT ⚠

BALANCING VALVE: It is dangerous to change the setting and remove the balancing valves or safety valves which may be fitted to your lift truck cylinders. The HYDRAULIC ACCUMULATORS that may be fitted on your lift truck are pressurised units. Removing these accumulators and their pipework is a dangerous operation and 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 drop metallic items on the battery.
- Disconnect the battery before working on the electrical circuit.

WELDING

- Disconnect the battery before any welding operations on the lift truck.
- When carrying out electric welding work on the lift truck, connect the negative cable from the equipment directly to the part being welded, so as to avoid high tension current passing through the alternator.
- Never carry out welding or work which gives off heat on an assembled tyre. The heat would increase the pressure which could cause the tyre 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).

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.

For these operations, we recommend the use of a MANITOU protective product, reference 603726.

Instructions for using the product are given on the packaging.



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.

PREPARING THE LIFT TRUCK

- Clean the lift truck thoroughly.
- Check and repair any fuel, oil, water or air leaks.
- 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 jib 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).
 - Add the protective product to the engine oil.
 - 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.
 - Remove the injectors and spray the protective product into each cylinder for two seconds with the piston in low neutral position.
 - Turn the crankshaft once slowly and refit the injectors (see engine REPAIR MANUAL).
 - Remove the intake hose from the manifold or turbocharger and spray the protective product into the manifold or turbocharger.
 - Cap the intake manifold or turbocharger hole with waterproof adhesive tape.
 - Remove the exhaust pipe and spray the protective product into the exhaust manifold or turbocharger.
 - Refit the exhaust pipe and block the outlet with waterproof adhesive tape.
- NOTE: The spray time is noted on the product packaging and must be increased by 50 % for turbo engines.
- Open the filler plug, spray the protective product around the rocker arm shaft and refit the filler plug.
 - Cap the fuel tank using waterproof adhesive tape.
 - Remove the drive belts and store them in a safe place.
 - Disconnect the engine cut-off solenoid on the injection pump and carefully insulate the connection.

PROTECTING THE LIFT TRUCK

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

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

BRINGING THE LIFT TRUCK BACK INTO SERVICE

- Remove the waterproof adhesive tape from all the holes.
- Refit the intake hose.
- 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: C - EVERY 250 HOURS SERVICE).
- 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 jib's hydraulic movements, concentrating on the ends of travel for each cylinder.

LIFT TRUCK DISPOSAL

MANITOU complies with the regulations deriving from Directive 2000/53/EC relating to lift truck end-of-life. This lift truck contains no substances or materials forbidden by Directive 2000/53/EC.

NOTE: 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

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

GLASS

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

ENVIRONMENTAL PROTECTION

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

WORN OR DAMAGED PARTS

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

USED OIL

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

USED BATTERIES

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

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

2 - DESCRIPTION

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2 - DESCRIPTION

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1) **DÉCLARATION «CE» DE CONFORMITÉ (originale)**
« EC » DECLARATION OF CONFORMITY (original)

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

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

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

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

**MLT 629 Compact 20" ST3B
MLT 629 20" ST3B
MLT 629 24" ST3B
MLT 629 24" CE ST3B**

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

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

2006/42/CE

8) Pour les machines annexe IV , *For annex IV machines* :

9) Numéro d'attestation, *Certificate number* :

10) Organisme notifié, *Notified body* :

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

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

17) Fait à, *Done at* :

18) Date, *Date* :

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

20) Fonction, *Function* :

21) Signature, *Signature* :

- bg :** 1) удостоверение за « CE » съответствие (оригинална), 2) Фирмата, 3) Адрес, 4) Техническо досие, 5) Фабрикант на описаната по-долу машина, 6) Обявява, че тази машина, 7) Отговаря на следните директиви и на тяхното съответствие национално право, 8) За машините към допълнение IV, 9) Номер на удостоверението, 10) Наименувана фирма, 15) хармонизирани стандарти използвани, 16) стандарти или технически правила, използвани, 17) Изработено в, 18) Дата, 19) Име на разписалия се, 20) Функция, 21) Функция.
- cs :** 1) ES prohlášení o shodě (původní), 2) Název společnosti, 3) Adresa, 4) Technická dokumentace, 5) Výrobce níže uvedeného stroje, 6) Prohlašuje, že tento stroj, 7) Je v souladu s následujícími směrniciemi a směrniciemi transponovanými do vnitrostátního práva, 8) Pro stroje v příloze IV, 9) Číslo certifikátu, 10) Notifikační orgán, 15) harmonizované normy použity, 16) Norem a technických pravidel používaných, 17) Místo vydání, 18) Datum vydání, 19) Jméno podepsaného, 20) Funkce, 21) Podpis.
- da :** 1) EF Overensstemmelseserklæring (original), 2) Firmaet, 3) Adresse, 4) tekniske dossier, 5) Konstruktor af nedenfor beskrevne maskine, 6) Erklærer, at denne maskine, 7) Overholder nedennævnte direktiver og disses gennemførelse til national ret, 8) For maskiner under bilag IV, 9) Certifikat nummer, 10) Bemyndigede organ, 15) harmoniserede standarder, der anvendes, 16) standarder eller tekniske regler, 17) Udfærdiget i, 18) Dato, 19) Underskrivers navn, 20) Funktion, 21) Underskrift.
- de :** 1) EG-Konformitätserklärung (original), 2) Die Firma, 3) Adresse, 4) Technischen Unterlagen, 5) Hersteller der nachfolgend beschriebenen Maschine, 6) Erklärt, dass diese Maschine, 7) den folgenden Richtlinien und deren Umsetzung in die nationale Gesetzgebung entspricht, 8) Für die Maschinen laut Anhang IV, 9) Bescheinigungsnummer, 10) Benannte Stelle, 15) angewandten harmonisierten Normen, 16) angewandten sonstigen technischen Normen und Spezifikationen, 17) Ausgestellt in, 18) Datum, 19) Name des Unterzeichners, 20) Funktion, 21) Unterschrift.
- el :** 1) Δήλωση συμμόρφωσης CE (πρωτότυπο), 2) Η εταιρεία, 3) Διεύθυνση, 4) τεχνικό φάκελο, 5) Κατασκευάστρια του εξής περιγραφόμενου μηχανήματος, 6) Δηλώνει ότι αυτό το μηχάνημα, 7) Είναι σύμφωνο με τις εξής οδηγίες και τις προσαρμογές τους στο εθνικό δίκαιο, 8) Για τα μηχανήματα παραρτήματος IV, 9) Αριθμός δήλωσης, 10) Κοινοποιημένος φορέας, 15) εναρμονισμένα πρότυπα που χρησιμοποιούνται, 16) Πρότυπα ή τεχνικούς κανόνες που χρησιμοποιούνται, 16) Είναι σύμφωνο με τα εξής πρότυπα και τεχνικές διατάξεις, 17) Έν, 18) Ημερομηνία, 19) Όνομα του υπογράφοντος, 20) Θέση, 21) Υπογραφή.
- es :** 1) Declaración DE de conformidad (original), 2) La sociedad, 3) Dirección, 4) expediente técnico, 5) Constructor de la máquina descrita a continuación, 6) Declara que esta máquina, 7) Está conforme a las siguientes directivas y a sus transposiciones en derecho nacional, 8) Para las máquinas anexo IV, 9) Número de certificación, 10) Organismo notificado, 15) normas armonizadas utilizadas, 16) Otras normas o especificaciones técnicas utilizadas, 17) Hecho en, 18) Fecha, 19) Nombre del signatario, 20) Función, 21) Firma.
- et :** 1) EÜ vastavusdeklaratsioon (algupärane), 2) Äriühing, 3) Aadress, 4) Tehniline dokumentatsioon, 5) Seadme tootja, 6) Kinnitab, et see toode, 7) On vastavuses järgmistele direktiividele ja nende riigisisesesse õigusesse ülevõtmiseks vastuvõetud õigusaktidega, 8) IV lisas loetletud seadmete puhul, 9) Tunnistuse number, 10) Sertifitseerimisasutus, 15) kasutatud ühtlustatud standardite, 16) Muud standardites või spetsifikatsioonides kasutatakse, 17) Väljaandmise koht, 18) Väljaandmise aeg, 19) Allkirjastaja nimi, 20) Amet, 21) Allkiri.
- fi :** 1) EY-vaatimustenmukaisuusvakuutus (alkuperäiset), 2) Yritys, 3) Osoite, 4) teknisen eritelmän, 5) Jäljessä kuvatun koneen valmistaja, 6) Vakuuttaa, että tämä kone, 7) Täyttää seuraavien direktiivien sekä niitä vastaavien kansallisten säännösten vaatimukset, 8) Liitteen IV koneiden osalta, 9) Todistuksen numero, 10) Ilmoitettu laitos, 15) yhdenmukaistettuja standardeja käytetään, 16) muita standardeja tai eritelmiä, 17) Paikka, 18) Aika, 19) Allekirjoittajan nimi, 20) Toimi, 21) Allekirjoitus.
- ga :** 1) « EC » dearbhú comhréireachta (bunaidh), 2) An comhlacht, 3) Seoladh, 4) comhad teicniúil, 5) Déantóir an innill a thuaireáscítear thíos, 6) Dearbhaíonn sé go bhfuil an t-inneall, 7) Go gclóinn sé le na teoracha seo a leanas agus a trasúimh isteach in ndlí náisiúnta, 8) Le haghaidh innill an agusín IV, 9) Uimhir teastais, 10) Comhlacht a chuireadh i bhfios, 15) caighdeán comhchuibhithe a úsáidtear, 16) caighdeán eile nó sonraíochtaí teicniúla a úsáidtear, 17) Déanta ag, 18) Dáta, 19) Ainm an tsintheora, 20) Feidhm, 21) Síniú.
- hu :** 1) CE megfelelő ségi nyilatkozat (eredeti), 2) A vállalat, 3) Cím, 4) műszaki dokumentáció, 5) Az alábbi gép gyártója, 6) Kijelenti, hogy a gép, 7) Megfelel az alábbi irányelveknek valamint azok honosított előírásainak, 8) A IV. melléklet gépeihez, 9) Bizonylati szám, 10) Értesített szervezet, 15) felhasznált harmonizált szabványok, 16) egyéb felhasznált műszaki szabványok és előírások hivatkozásai, 17) Kelt (hely), 18) Dátum, 19) Aláíró neve, 20) Funkció, 21) Aláírás.
- is :** 1) Samræmisvottorð ESB (upprunalega), 2) Fyrirtækið, 3) Aðsetur, 4) Tæknilegar skrá, 5) Smíðar tækisins sem lýst er hér á eftir, 6) Staðfestir að tækið, 7) Samræmist eftirfarandi stöðlum og staðfarlslu þeirra með hljóðsjón af þjóðarrétti, 8) Fyrir tækin í aukakafla IV, 9) Staðfestingarnúmer, 10) Tilkynnt til, 15) samhæfða staðla sem notaðir, 16) önnur staðlar eða forskriftir notað, 17) Staður, 18) Dagsetning, 19) Nafn undirritaðs, 20) Staða, 21) Undirskrift.
- it :** 1) Dichiarazione CE di conformità (originale), 2) La società, 3) Indirizzo, 4) fascicolo tecnico, 5) Costruttore della macchina descritta di seguito, 6) Dichiara che questa macchina, 7) È conforme alle direttive seguenti e alle relative trasposizioni nel diritto nazionale, 8) Per le macchine Allegato IV, 9) Numero di Attestazione, 10) Organismo notificato, 15) norme armonizzate applicate, 16) altre norme e specifiche tecniche applicate, 17) Stabilità a, 18) Data, 19) Nome del firmatario, 20) Funzione, 21) Firma.
- lt :** 1) CE atitikties deklaracija (originalas), 2) Bendrovė, 3) Adresas, 4) Techninė byla, 5) Žemiau nurodytas įrenginio gamintojas, 6) Pareiškia, kad šis įrenginys, 7) Atitinka toliau nurodytas direktyvas ir į nacionalinius teisės aktus perkeltas jų nuostatas, 8) IV priedas dël mašinu, 9) Sertifikato Nr, 10) Paskelbtoji įstaiga, 15) suderintus standartus naudojamus, 16) kiti standartai ir technines specifikacijos, 17) Pasirašyta, 18) Data, 19) Pasirašiusio asmens vardas ir pavardė, 20) Pareigos, 21) Parašas.
- lv :** 1) EK atbilstības deklarācija (oriģināls), 2) Uzņēmums, 3) Adrese, 4) tehniskās lietas, 5) Tālāk aprakstītās iekārtas ražotājs, 6) Apliecina, ka šī iekārta, 7) Ir atbilstoša tālāk norādītajām direktīvām un to transpozīcijai nacionālajā likumdošanā, 8) Iekārtām IV pielikumā, 9) Apliecības numurs, 10) Reģistrētā organizācija, 15) lietotajiem saskaņotajiem standartiem, 16) lietotajiem tehniskajiem standartiem un specifikācijām, 17) Sastādīts, 18) Datums, 19) Parakstītāja vārds, 20) Amats, 21) Paraksts.
- mt :** 1) Dikjarazzjoni ta' Konformità KE (originali), 2) Il-kumpanija, 3) Indirizz, 4) fajl tekniku, 5) Manifattriċi tal-magna deskritta hawn isfel, 6) Tiddikjara li din il-magna, 7) Hija konformi hija konformi mad-Direttivi segwenti u l-ligijiet li jimplimentawhom fil-ligi nazzzjonali, 8) Ghall-magni fl-Anness IV, 9) Numru taċ-certifikat, 10) Entità nnotifikata, 15) l-istandards armonizzati użati, 16) standards tekniċi u specifikazzjonijiet oħra użati, 17) Magħmul f', 18) Data, 19) Isem il-firmatarju, 20) Kariga, 21) Firma.
- nl :** 1) EG-verklaring van overeenstemming (oorspronkelijke), 2) Het bedrijf, 3) Adres, 4) technisch dossier, 5) Constructeur van de hierna genoemde machine, 6) Verklaart dat deze machine, 7) In overeenstemming is met de volgende richtlijnen en hun omzettingen in het nationale recht, 8) Voor machines van bijlage IV, 9) Goedkeuringsnummer, 10) Aangezegde instelling, 15) gehanteerde geharmoniseerde normen, 16) andere gehanteerde technische normen en specificaties, 17) Opgemaakt te, 18) Datum, 19) Naam van ondergetekende, 20) Functie, 21) Handtekening.
- no :** 1) CE-samsvarserklæring (original), 2) Selskapet, 3) Adresse, 4) tekniske arkiv, 5) Fabrikant av følgende maskin, 6) Erklærer at denne maskinen, 7) Oppfyller kravene i følgende direktiver, med nasjonale gjennomføringsbestemmelser, 8) For maskinene i tillegg IV, 9) Attestnummer, 10) Notifisert organ, 15) harmoniserte standarder som brukes, 16) Andre standarder og spesifikasjoner brukt, 17) Utstedt i, 18) Dato, 19) Underskriverens navn, 20) Stilling, 21) Underskrift.
- pl :** 1) Deklaracja zgodności CE (oryginalne), 2) Spółka, 3) Adres, 4) dokumentacja technicznej, 5) Wykonawca maszyny opisanej poniżej, 6) Oświadczca, że ta maszyna, 7) Jest zgodna z następującymi dyrektywami i odpowiadającymi przepisami prawa krajowego, 8) Dla maszyn załącznik IV, 9) Numer certyfikatu, 10) Jednostka certyfikująca, 15) zastosowanych norm zharmonizowanych, 16) innych zastosowanych norm technicznych i specyfikacji, 17) Sporządzono w, 18) Data, 19) Nazwisko podpisującego, 20) Stanowisko, 21) Podpis.
- pt :** 1) Declaração de conformidade CE (original), 2) A empresa, 3) Morada, 4) processo técnico, 5) Fabricante da máquina descrita abaixo, 6) Declara que esta máquina, 7) Está em conformidade às diretivas seguintes e às suas transposições para o direito nacional, 8) Para as máquinas no anexo IV, 9) Número de certificado, 10) Entidade notificada, 15) normas harmonizadas utilizadas, 16) outras normas e especificações técnicas utilizadas, 17) Elaborado em, 18) Data, 19) Nome do signatário, 20) Cargo, 21) Assinatura.
- ro :** 1) Declarație de conformitate CE (originală), 2) Societatea, 3) Adresa, 4) cãrtii tehnice, 5) Constructor al mașinii descrise mai jos, 6) Declară că prezenta mașină, 7) Este conformă cu directivele următoare și cu transpunerea lor în dreptul național, 8) Pentru mașinile din anexa IV, 9) Număr de atestare, 10) Organism notificat, 15) standardele armonizate utilizate, 16) alte standarde și specificații tehnice utilizate, 17) Intocmit la, 18) Data, 19) Numele persoanei care semnează, 20) Funcția, 21) Semnătura.
- sk :** 1) ES vyhlásenie o zhode (pôvodný), 2) Názov spoločnosti, 3) Adresa, 4) technickej dokumentácie, 5) Výrobca nižšie opísaného stroja, 6) Vyhlasuje, že tento stroj, 7) Je v súlade s nasledujúcimi smernicami a smernicami transponovanými do vnútroštátneho práva, 8) Pre stroje v prílohe IV, 9) Číslo certifikátu, 10) Notifikačný orgán, 15) použité harmonizované normy, 16) použité iné technické normy a predpisy, 17) Miesto vydania, 18) Dátum vydania, 19) Meno podpisujúceho, 20) Funkcia, 21) Podpis.
- sl :** 1) ES Izjava o ustreznosti (izvirna), 2) Družba, 3) Naslov, 4) tehnične dokumentacije, 5) Proizvajalac tukaj opisanega stroja, 6) Izjavlja, da je ta stroj, 7) Ustreza naslednjim direktivam in njihovi transpoziciji v državno pravo, 8) Za stroje priloga IV, 9) Številka potrdila, 10) Obvestilo organu, 15) uporabljene harmonizirane standarde, 16) druge uporabljene tehnične standarde in zahteve, 17) V, 18) Datum, 19) Ime podpisnika, 20) Funkcija, 21) Podpis.
- sv :** 1) CE-försäkran om överensstämmelse (original), 2) Företaget, 3) Adress, 4) tekniska dokumentationen, 5) Konstruktör av nedan beskrivna maskin, 6) Försäkrar att denna maskin, 7) Överensstämmer med nedanstående direktiv och införlivandet av dem i nationell rätt, 8) För maskinerna i bilaga IV, 9) Nummer för godkännande, 10) Organism som underrättats, 15) Harmoniserade standarder som använts, 16) andra tekniska standarder och specifikationer som använts, 17) Upprättat i, 18) Datum, 19) Namn på den som undertecknat, 20) Befattning, 21) Namnteckning.

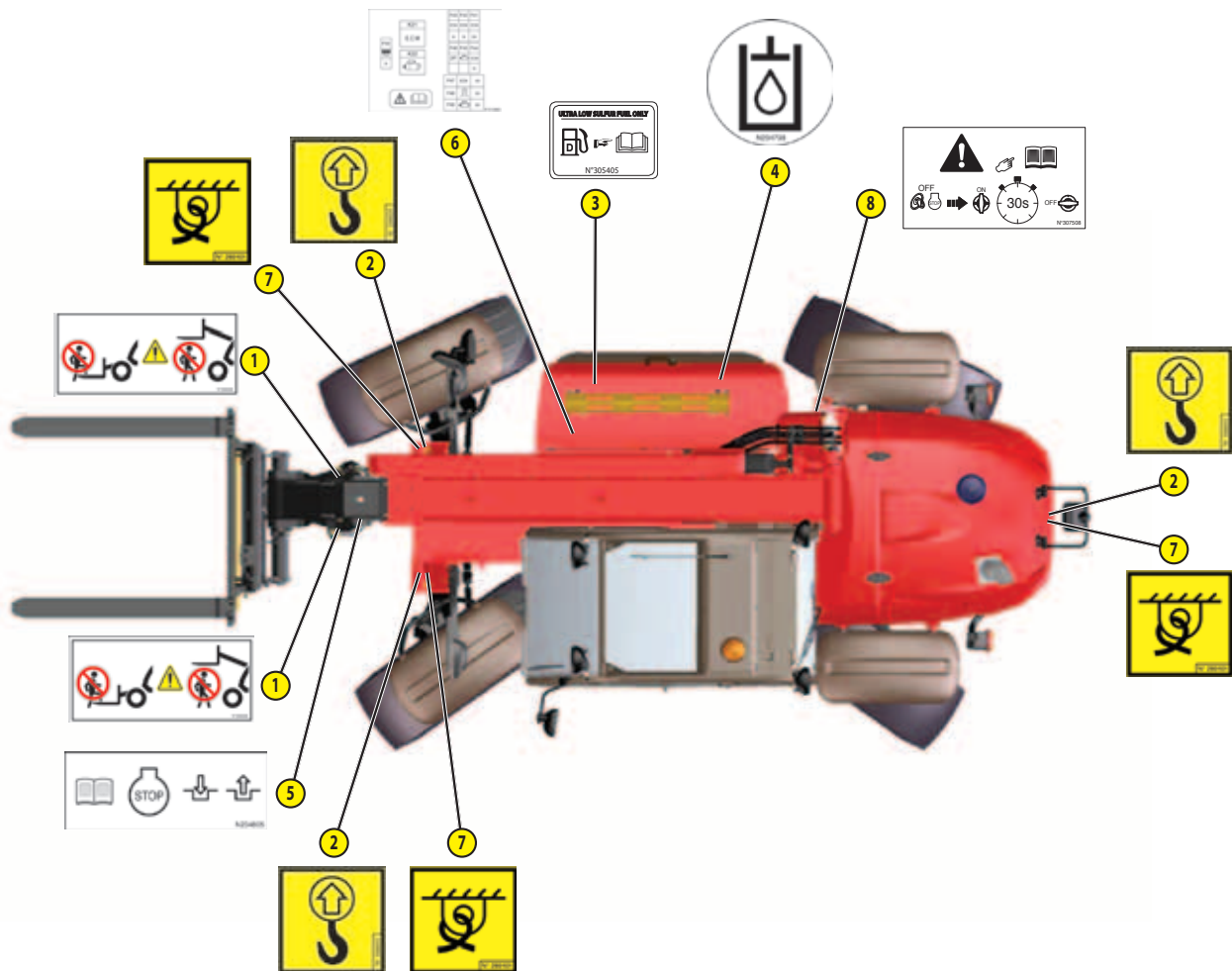
SAFETY PLATES AND STICKERS

⚠ IMPORTANT ⚠

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

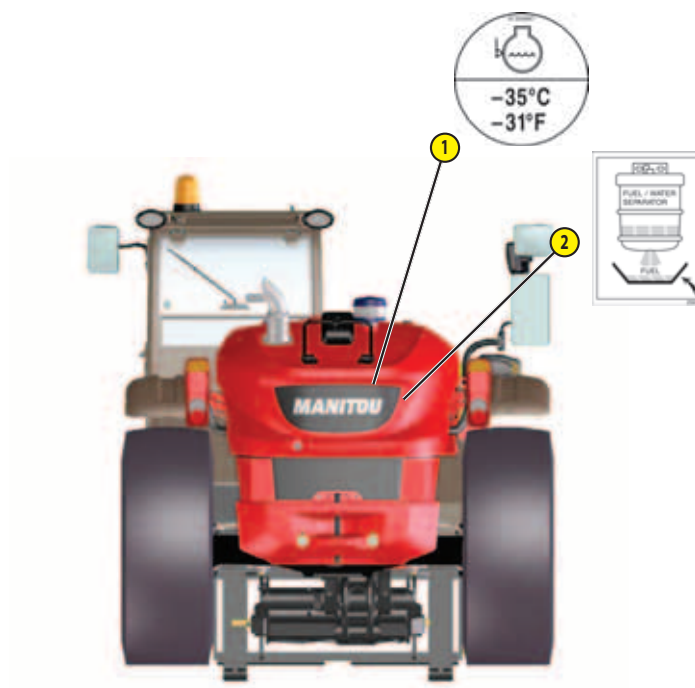
EXTERNAL PLATES AND STICKERS

REF	PART NUMBER	DESCRIPTION
1	296998	- Maniscopic safety instruction
2	24653	- Slinging point
3	305405	- Diesel
4	234798	- Hydraulic oil
5	234805	- Hydraulic coupling instruction
6	313963	- Engine fuse
7	289101	- Tie-down point
8	307508	- Battery cut-off instruction



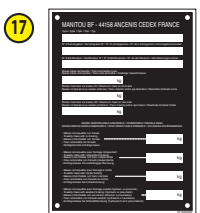
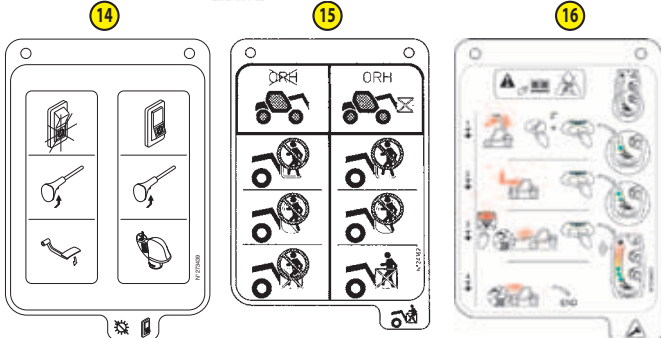
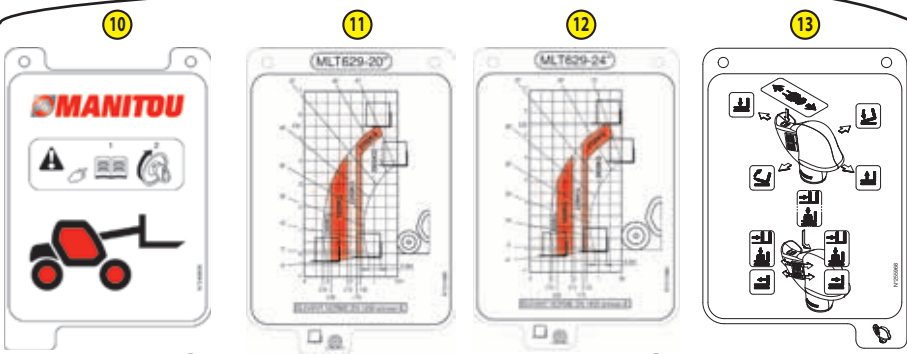
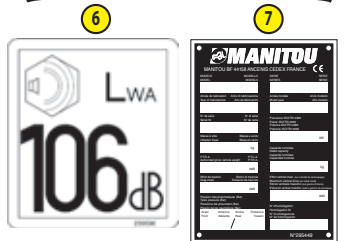
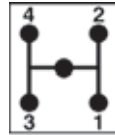
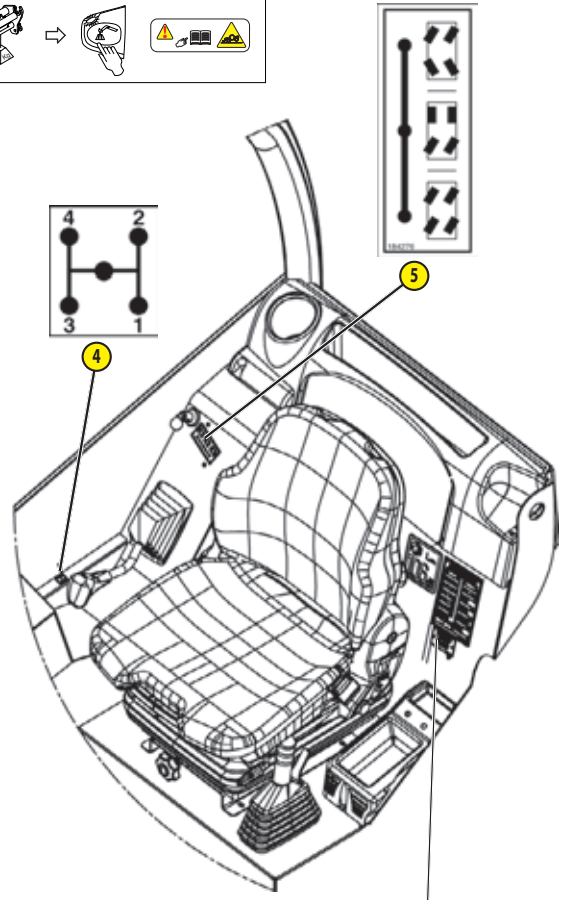
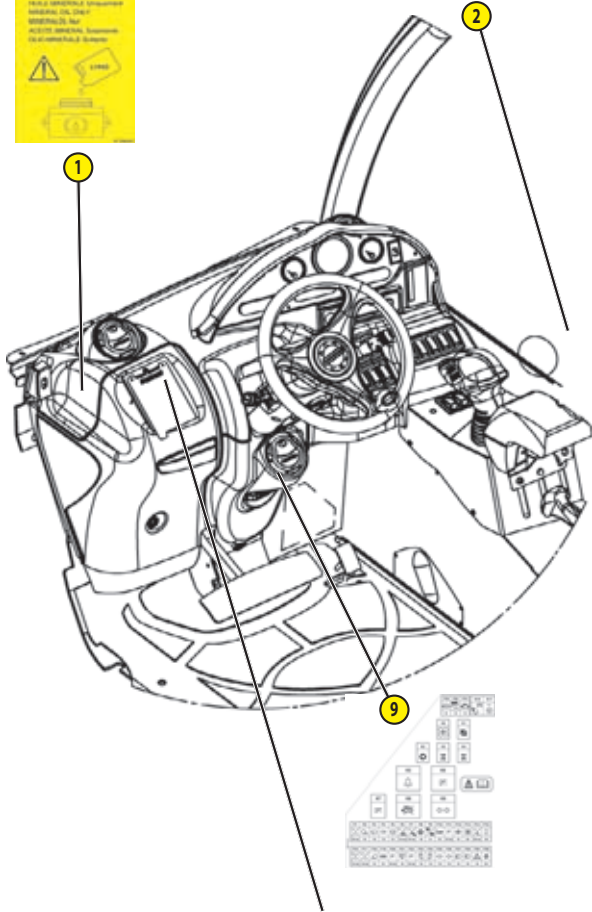
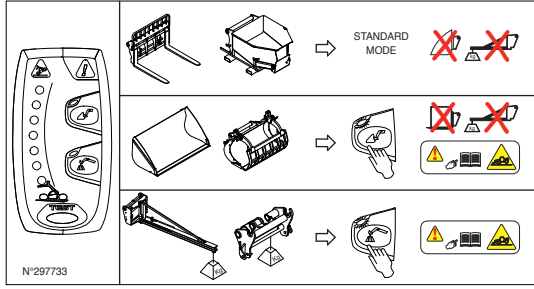
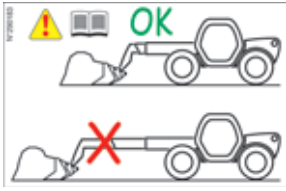
STICKERS AND PLATES UNDER THE ENGINE HOOD

REF	PART NUMBER	DESCRIPTION
1	293887	- Anti-freeze
2	259398	- Water/diesel separator



STICKERS AND PLATES IN THE CAB

REF	PART NUMBER	DESCRIPTION
1	268491	- Brake fluid instruction
2	290183	- Bucket instruction on telescope
3	297733	- Operating mode management instruction
4	33460	- Gear lever
5	184276	- Steering selection control
6	239596	- Sound power level 106dB
7	Consult your dealer	- Manufacturer's plate
8	193032	- Cab compliance
9	311408	- Fuses
10	240805	- Reach chart sheet
11	Consult your dealer	- Load chart (depending on the model)
12	Consult your dealer	- Load chart (depending on the model)
13	255968	- Manipulator function
14	273439	- Transmission cut-off switch function
15	241621	- Safety instruction
16	294831	- Reset procedure
17	Consult your dealer	- Lift truck certification plate



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.

LIFT TRUCK MANUFACTURER'S PLATE

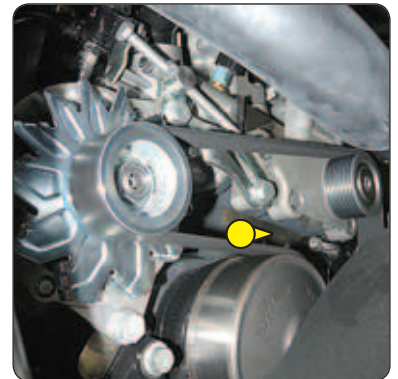
- 1 - MODEL
- 2 - SERIES
- 3 - Year of manufacture
- 4 - Model year
- 5 - Serial No.
- 6 - Power ISO/TR 14396
- 7 - Empty ground
- 8 - Authorised gross vehicle weight
- 9 - Rated capacity
- 10 - Drag strain
- 11 - Maximum vertical force (on trailer hook)
- 12 - Tyre pressure (bar)
- 13 - Homologation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

MANITOU			
MANITOU BF 44158 ANGENIS CEDEX FRANCE			
MODELLO	SERIE	MODELLO	SERIE
1	2	3	4
5	6	7	8
9	10	11	12
13			

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

I.C. ENGINE

- Model
- Serial No.



GEAR BOX

- Type
- MANITOU reference
- Serial No.



FRONT AXLE

- Type
- Serial No.
- MANITOU reference



REAR AXLE

- Type
- Serial No.
- MANITOU reference



CAB

- Type
- Serial No.



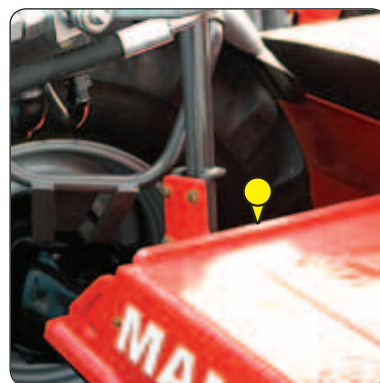
BOOM

- MANITOU reference
- Date of manufacture



CHASSIS

- Lift truck serial no.



CONNECTION MANUFACTURER'S PLATE

- Model
- Serial no.
- Year of manufacture



CHARACTERISTICS

MLT 629 Compact 20" ST3B

I.C. ENGINE		
Type		PERKINS 854E-E34TA JR82239
Fuel		Diesel
Number of cylinders		4 in line
Suction		Turbocharged
Injection system		Direct
Ignition sequence		1.3.4.2
Capacity	cm ³	3400
Bore and stroke	Mm	99 x 110
Compression ratio		17:1
Nominal speed laden	rpm	2200
Idling speed slow unladen	rpm	850
Max. speed unladen	rpm	2350
Power ISO/TR 14396	cv - kW	102 - 75
Power SAE J 1995	cv - kW	102 - 75
Maximum torque ISO/TR 14396	Nm	420 to 1400 rpm
Air cleaner	µm	3
Type of cooling		By water/air
Fan		Puller

TRANSMISSION		
Gear box		TURNER POWERTRAIN SYSTEMS
- Type		Mechanical
- Forward/ reverse switch		Electro-hydraulic
- Torque converter		SACHS
- Number of forward speeds		4
- Number of reverse speeds		4
Angle gear box		-
Front axle		DANA
- Differential		Without locking
Rear axle		DANA
- Differential		Without locking
Drive wheels		4RM Permanent
- Switch for 2/4 drive wheels		No
Front tires		DUNLOP
- Size		400/70-20 T37 150B TUBELESS
- Pressure	bar	2,75
Rear tires		DUNLOP
- Size		400/70-20 T37 150B TUBELESS
- Pressure	bar	2,75

ELECTRIC CIRCUIT		
Battery	STANDARD OPTION	12 V - 145 Ah - 900 A EN
Alternator		12 V - 100 A
- Type		ISKRA AAK-EF
Starter		12 V - 3,2 kW
- Type		ISKRA AZE

BRAKE CIRCUIT		
Service brake		Non-servo hydraulic brake
- Type of brake		Multidisk brake immersed in oil
- Type of control		Foot-operated for the front and rear axles
Parking brake		Mechanical
- Type of brake		Multidisc brake immersed in oil
- Type of control		Manual

SOUND AND VIBRATION		
Sound pressure level in the driver's cab LpA (according to NF EN 12053)	dB(A)	76 (cab closed); 00 (cab open)
Sound pressure (according to directive 2009/76)	dB(A)	00 (cab closed); 00 (cab open)
Sound pressure level ensured in the LwA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	dB(A)	105 (measured); 106 (guaranteed)
Sound level in motion (according to directive 2009/63)	dB(A)	
Average weighted acceleration on driver's body (according to NF EN 13059)	m/s ²	1,0
The average weighted acceleration transmitted to the driver's hand/ arm system (as per ISO 5349-2)	m/s ²	< 2,5
Standard seat vibration	m/s ²	00 (lightweight operator); 00 (heavyweight operator)

HYDRAULIC CIRCUIT			
Hydraulic pump		CASAPPA	
- Type		Gear pump	
		1st casing	2nd casing
- Capacity	cm ³	31,4	-
- Max. rating capacity unladen	L/min	83,0	-
- Flow rate at 1600 rpm	L/min	56,5	
Filtration			
- Return	µm	10	-
- Suction	µm	125	-
Maximum service pressure		260	
- Telescoping circuit	bar	190 / 260	
- Lifting circuit	bar	260 / 260	
- Tilt circuit	bar	260 / 190	
- Stabilizer system	bar	-	
- Roll corrector circuit	bar	-	
- Attachment circuit	bar	260	
- Steering circuit	bar	140	

HYDRAULIC MOVEMENTS			
Longitudinal stability limiter and warning device		Electronic	
Lifting motions (boom retracted)			
- Unladen lifting	s - m/min	7,34 - 31,2	
- Laden lifting	s - m/min	7,47 - 30,6	
- Unladen lowering	s - m/min	5,56 - 41,2	
- Laden lowering	s - m/min	5,19 - 44,1	
Telescoping motions (boom raised)			
- Unladen extending	s - m/min	4,8 - 22	
- Laden extending	s - m/min	4,85 - 22,3	
- Unladen retracting	s - m/min	3,02 - 35,4	
- Laden retracting	s - m/min	3,34 - 32	
Tilting movements			
- Unladen digging	s - °/s	3,72 - 41,4	
- Forward tilting unladen	s - °/s	3,52 - 43,8	

SPECIFICATIONS AND WEIGHTS			
Speed of movement for lift truck in standard configuration on flat ground (except particular conditions)			
- Forward unladen	1	km/h	4,5
	2	km/h	7,2
	3	km/h	15,3
	4	km/h	27,3
- Rear unladen	1	km/h	4,5
	2	km/h	7,2
	3	km/h	15,3
	4	km/h	27,3
Standard attachment			PFB
- Weight with forks		Kg	105
- Weight of forks (each one)		Kg	72,5
Rated capacity with standard attachment		Kg	2900
Tipping load at maximum reach on tyres		Kg	1650
Distance from the center of gravity from the load to the lug of the forks		Mm	500
Standard lifting height		Mm	5500
Weight of lift truck without attachment		Kg	5775
Weight of lift truck with standard attachment			
- Unladen		Kg	6025
- At rated load		Kg	8925
Weight per axle with standard attachment (transport position)			
- Front unladen		Kg	2735
- Rear unladen		Kg	3290
- Front rated load		Kg	7945
- Rear rated load		Kg	980
Weight per axle with standard attachment (boom extended)			
- Front rated load		Kg	6605
- Rear rated load		Kg	720
Drag strain on the coupling hook			
- Unladen (sliding)		daN	4060
- At rated load (transmission setting)		daN	6270
Pull strain with open carrier (according to ISO 8313)		daN	3990

CHARACTERISTICS

MLT 629 20" ST3B

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Sound pressure level in the driver's cab LpA (according to NF EN 12053)	dB(A)	76 (cab closed); 00 (cab open)
Sound pressure (according to directive 2009/76)	dB(A)	00 (cab closed); 00 (cab open)
Sound pressure level ensured in the LwA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	dB(A)	105 (measured); 106 (guaranteed)
Sound level in motion (according to directive 2009/63)	dB(A)	
Average weighted acceleration on driver's body (according to NF EN 13059)	m/s ²	1,0
The average weighted acceleration transmitted to the driver's hand/ arm system (as per ISO 5349-2)	m/s ²	< 2,5
Standard seat vibration	m/s ²	00 (lightweight operator); 00 (heavyweight operator)

HYDRAULIC CIRCUIT			
Hydraulic pump		CASAPPA	
- Type		Gear pump	
		1st casing	2nd casing
- Capacity	cm ³	31,4	-
- Max. rating capacity unladen	L/min	83,0	-
- Flow rate at 1600 rpm	L/min	56,5	
Filtration			
- Return	µm	10	-
- Suction	µm	125	-
Maximum service pressure		260	
- Telescoping circuit	bar	190 / 260	
- Lifting circuit	bar	260 / 260	
- Tilt circuit	bar	260 / 190	
- Stabilizer system	bar	-	
- Roll corrector circuit	bar	-	
- Attachment circuit	bar	260	
- Steering circuit	bar	140	

HYDRAULIC MOVEMENTS			
Longitudinal stability limiter and warning device		Electronic	
Lifting motions (boom retracted)			
- Unladen lifting	s - m/min	7,34 - 31,2	
- Laden lifting	s - m/min	7,47 - 30,6	
- Unladen lowering	s - m/min	5,56 - 41,2	
- Laden lowering	s - m/min	5,19 - 44,1	
Telescoping motions (boom raised)			
- Unladen extending	s - m/min	4,8 - 22	
- Laden extending	s - m/min	4,85 - 22,3	
- Unladen retracting	s - m/min	3,02 - 35,4	
- Laden retracting	s - m/min	3,34 - 32	
Tilting movements			
- Unladen digging	s - °/s	3,72 - 41,4	
- Forward tilting unladen	s - °/s	3,52 - 43,8	

SPECIFICATIONS AND WEIGHTS			
Speed of movement for lift truck in standard configuration on flat ground (except particular conditions)			
- Forward unladen	1	km/h	4,5
	2	km/h	7,2
	3	km/h	15,3
	4	km/h	27,3
- Rear unladen	1	km/h	4,5
	2	km/h	7,2
	3	km/h	15,3
	4	km/h	27,3
Standard attachment			PFB
- Weight with forks		Kg	105
- Weight of forks (each one)		Kg	72,5
Rated capacity with standard attachment		Kg	2900
Tipping load at maximum reach on tyres		Kg	1650
Distance from the center of gravity from the load to the lug of the forks		Mm	500
Standard lifting height		Mm	5500
Weight of lift truck without attachment		Kg	5775
Weight of lift truck with standard attachment			
- Unladen		Kg	6025
- At rated load		Kg	8925
Weight per axle with standard attachment (transport position)			
- Front unladen		Kg	2735
- Rear unladen		Kg	3290
- Front rated load		Kg	7945
- Rear rated load		Kg	980
Weight per axle with standard attachment (boom extended)			
- Front rated load		Kg	6605
- Rear rated load		Kg	720
Drag strain on the coupling hook			
- Unladen (sliding)		daN	4060
- At rated load (transmission setting)		daN	6270
Pull strain with open carrier (according to ISO 8313)		daN	3990

CHARACTERISTICS

MLT 629 24" ST3B

I.C. ENGINE		
Type		PERKINS 854E-E34TA JR82239
Fuel		Diesel
Number of cylinders		4 in line
Suction		Turbocharged
Injection system		Direct
Ignition sequence		1.3.4.2
Capacity	cm ³	3400
Bore and stroke	Mm	99 x 110
Compression ratio		17:1
Nominal speed laden	rpm	2200
Idling speed slow unladen	rpm	850
Max. speed unladen	rpm	2350
Power ISO/TR 14396	cv - kW	102 - 75
Power SAE J 1995	cv - kW	102 - 75
Maximum torque ISO/TR 14396	Nm	420 to 1400 rpm
Air cleaner	µm	3
Type of cooling		By water/air
Fan		Puller

TRANSMISSION		
Gear box		TURNER POWERTRAIN SYSTEMS
- Type		Mechanical
- Forward/ reverse switch		Electro-hydraulic
- Torque converter		SACHS
- Number of forward speeds		4
- Number of reverse speeds		4
Angle gear box		-
Front axle		DANA
- Differential		Without locking
Rear axle		DANA
- Differential		Without locking
Drive wheels		4RM Permanent
- Switch for 2/4 drive wheels		No
Front tires		MICHELIN
- Size		460/70-R24 XMCL 159A8
- Pressure	bar	2,7
Rear tires		MICHELIN
- Size		460/70-R24 XMCL 159A8
- Pressure	bar	2,7

ELECTRIC CIRCUIT		
Battery	STANDARD OPTION	12 V - 145 Ah - 900 A EN
Alternator		12 V - 100 A
- Type		ISKRA AAK-EF
Starter		12 V - 3,2 kW
- Type		ISKRA AZE

BRAKE CIRCUIT		
Service brake		Non-servo hydraulic brake
- Type of brake		Multidisk brake immersed in oil
- Type of control		Foot-operated for the front and rear axles
Parking brake		Mechanical
- Type of brake		Multidisk brake immersed in oil
- Type of control		Manual

SOUND AND VIBRATION		
Sound pressure level in the driver's cab LpA (according to NF EN 12053)	dB(A)	76 (cab closed); 00 (cab open)
Sound pressure (according to directive 2009/76)	dB(A)	00 (cab closed); 00 (cab open)
Sound pressure level ensured in the LwA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	dB(A)	105 (measured); 106 (guaranteed)
Sound level in motion (according to directive 2009/63)	dB(A)	
Average weighted acceleration on driver's body (according to NF EN 13059)	m/s ²	1,0
The average weighted acceleration transmitted to the driver's hand/ arm system (as per ISO 5349-2)	m/s ²	< 2,5
Standard seat vibration	m/s ²	00 (lightweight operator); 00 (heavyweight operator)

HYDRAULIC CIRCUIT			
Hydraulic pump		CASAPPA	
- Type		Gear pump	
		1st casing	2nd casing
- Capacity	cm ³	31,4	-
- Max. rating capacity unladen	L/min	83,0	-
- Flow rate at 1600 rpm	L/min	56,5	
Filtration			
- Return	µm	10	-
- Suction	µm	125	-
Maximum service pressure		260	
- Telescoping circuit	bar	190 / 260	
- Lifting circuit	bar	260 / 260	
- Tilt circuit	bar	260 / 190	
- Stabilizer system	bar	-	
- Roll corrector circuit	bar	-	
- Attachment circuit	bar	260	
- Steering circuit	bar	140	

HYDRAULIC MOVEMENTS			
Longitudinal stability limiter and warning device		Electronic	
Lifting motions (boom retracted)			
- Unladen lifting	s - m/min	7,34 - 31,9	
- Laden lifting	s - m/min	7,47 - 31,3	
- Unladen lowering	s - m/min	5,56 - 42,1	
- Laden lowering	s - m/min	5,19 - 45,1	
Telescoping motions (boom raised)			
- Unladen extending	s - m/min	4,79 - 21,4	
- Laden extending	s - m/min	4,99 - 22,3	
- Unladen retracting	s - m/min	3,38 - 31,6	
- Laden retracting	s - m/min	3,17 - 33,7	
Tilting movements			
- Unladen digging	s - °/s	3,72 - 41,4	
- Forward tilting unladen	s - °/s	3,52 - 43,8	

SPECIFICATIONS AND WEIGHTS			
Speed of movement for lift truck in standard configuration on flat ground (except particular conditions)			
- Forward unladen	1	km/h	5,2
	2	km/h	8,3
	3	km/h	17,7
	4	km/h	31,4
- Rear unladen	1	km/h	5,2
	2	km/h	8,3
	3	km/h	17,7
	4	km/h	31,4
Standard attachment			PFB
- Weight with forks		Kg	105
- Weight of forks (each one)		Kg	72,5
Rated capacity with standard attachment		Kg	2900
Tipping load at maximum reach on tyres		Kg	1690
Distance from the center of gravity from the load to the lug of the forks		Mm	500
Standard lifting height		Mm	5550
Weight of lift truck without attachment		Kg	5975
Weight of lift truck with standard attachment			
- Unladen		Kg	6225
- At rated load		Kg	9125
Weight per axle with standard attachment (transport position)			
- Front unladen		Kg	2835
- Rear unladen		Kg	3390
- Front rated load		Kg	8045
- Rear rated load		Kg	1080
Weight per axle with standard attachment (boom extended)			
- Front rated load		Kg	6705
- Rear rated load		Kg	820
Drag strain on the coupling hook			
- Unladen (sliding)		daN	4060
- At rated load (transmission setting)		daN	6270
Pull strain with open carrier (according to ISO 8313)		daN	3990

CHARACTERISTICS

MLT 629 24" CE ST3B

I.C. ENGINE		
Type		PERKINS 854E-E34TA JR82239
Fuel		Diesel
Number of cylinders		4 in line
Suction		Turbocharged
Injection system		Direct
Ignition sequence		1.3.4.2
Capacity	cm ³	3400
Bore and stroke	Mm	99 x 110
Compression ratio		17:1
Nominal speed laden	rpm	2200
Idling speed slow unladen	rpm	850
Max. speed unladen	rpm	2350
Power ISO/TR 14396	cv - kW	102 - 75
Power SAE J 1995	cv - kW	102 - 75
Maximum torque ISO/TR 14396	Nm	420 to 1400 rpm
Air cleaner	µm	3
Type of cooling		By water/air
Fan		Puller

TRANSMISSION		
Gear box		TURNER POWERTRAIN SYSTEMS
- Type		Mechanical
- Forward/ reverse switch		Electro-hydraulic
- Torque converter		SACHS
- Number of forward speeds		4
- Number of reverse speeds		4
Angle gear box		-
Front axle		DANA
- Differential		Without locking
Rear axle		DANA
- Differential		Without locking
Drive wheels		4RM Permanent
- Switch for 2/4 drive wheels		No
Front tires		MICHELIN
- Size		460/70-R24 XMCL 159A8
- Pressure	bar	2,7
Rear tires		MICHELIN
- Size		460/70-R24 XMCL 159A8
- Pressure	bar	2,7

ELECTRIC CIRCUIT		
Battery	STANDARD OPTION	12 V - 145 Ah - 900 A EN
Alternator		12 V - 100 A
- Type		ISKRA AAK-EF
Starter		12 V - 3,2 kW
- Type		ISKRA AZE

BRAKE CIRCUIT		
Service brake		Non-servo hydraulic brake
- Type of brake		Multidisk brake immersed in oil
- Type of control		Foot-operated for the front and rear axles
Parking brake		Mechanical
- Type of brake		Multidisk brake immersed in oil
- Type of control		Manual

SOUND AND VIBRATION		
Sound pressure level in the driver's cab LpA (according to NF EN 12053)	dB(A)	76 (cab closed); 00 (cab open)
Sound pressure (according to directive 2009/76)	dB(A)	00 (cab closed); 00 (cab open)
Sound pressure level ensured in the LwA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	dB(A)	105 (measured); 106 (guaranteed)
Sound level in motion (according to directive 2009/63)	dB(A)	
Average weighted acceleration on driver's body (according to NF EN 13059)	m/s ²	1,0
The average weighted acceleration transmitted to the driver's hand/ arm system (as per ISO 5349-2)	m/s ²	< 2,5
Standard seat vibration	m/s ²	00 (lightweight operator); 00 (heavyweight operator)

HYDRAULIC CIRCUIT			
Hydraulic pump		CASAPPA	
- Type		Gear pump	
		1st casing	2nd casing
- Capacity	cm ³	31,4	-
- Max. rating capacity unladen	L/min	83,0	-
- Flow rate at 1600 rpm	L/min	56,5	
Filtration			
- Return	µm	10	-
- Suction	µm	125	-
Maximum service pressure		260	
- Telescoping circuit	bar	190 / 260	
- Lifting circuit	bar	260 / 260	
- Tilt circuit	bar	260 / 190	
- Stabilizer system	bar	-	
- Roll corrector circuit	bar	-	
- Attachment circuit	bar	260	
- Steering circuit	bar	140	

HYDRAULIC MOVEMENTS			
Longitudinal stability limiter and warning device		Electronic	
Lifting motions (boom retracted)			
- Unladen lifting	s - m/min	7,34 - 31,9	
- Laden lifting	s - m/min	7,47 - 31,3	
- Unladen lowering	s - m/min	5,56 - 42,1	
- Laden lowering	s - m/min	5,19 - 45,1	
Telescoping motions (boom raised)			
- Unladen extending	s - m/min	4,79 - 21,4	
- Laden extending	s - m/min	4,99 - 22,3	
- Unladen retracting	s - m/min	3,38 - 31,6	
- Laden retracting	s - m/min	3,17 - 33,7	
Tilting movements			
- Unladen digging	s - °/s	3,72 - 41,4	
- Forward tilting unladen	s - °/s	3,52 - 43,8	

SPECIFICATIONS AND WEIGHTS			
Speed of movement for lift truck in standard configuration on flat ground (except particular conditions)			
- Forward unladen	1	km/h	5,2
	2	km/h	8,3
	3	km/h	17,7
	4	km/h	49,1
- Rear unladen	1	km/h	5,2
	2	km/h	8,3
	3	km/h	17,7
	4	km/h	31,4
Standard attachment			PFB
- Weight with forks		Kg	105
- Weight of forks (each one)		Kg	72,5
Rated capacity with standard attachment		Kg	2900
Tipping load at maximum reach on tyres		Kg	1690
Distance from the center of gravity from the load to the lug of the forks		Mm	500
Standard lifting height		Mm	5550
Weight of lift truck without attachment		Kg	6005
Weight of lift truck with standard attachment			
- Unladen		Kg	6255
- At rated load		Kg	9155
Weight per axle with standard attachment (transport position)			
- Front unladen		Kg	2720
- Rear unladen		Kg	3535
- Front rated load		Kg	8035
- Rear rated load		Kg	1120
Weight per axle with standard attachment (boom extended)			
- Front rated load		Kg	6875
- Rear rated load		Kg	680
Drag strain on the coupling hook			
- Unladen (sliding)		daN	4060
- At rated load (transmission setting)		daN	6270
Pull strain with open carrier (according to ISO 8313)		daN	3990

TIRES

MLT 629 Compact 20" ST3B		PRESSURE (bar)	LOAD PER TYRE (kg)			
DUNLOP	400/70-20 T37 150B TUBELESS		2,75	FRONT UNLADEN	FRONT LADEN	REAR UNLADEN
MICHELIN	400/70R20 XMCL 149A8 TUBELESS	3,8	1350	3950	1650	500

MLT 629 20" ST3B		PRESSURE (bar)	LOAD PER TYRE (kg)			
DUNLOP	400/70-20 T37 150B TUBELESS		2,75	FRONT UNLADEN	FRONT LADEN	REAR UNLADEN
MICHELIN	400/70R20 XMCL 149A8 TUBELESS	3,8	1350	3950	1650	500

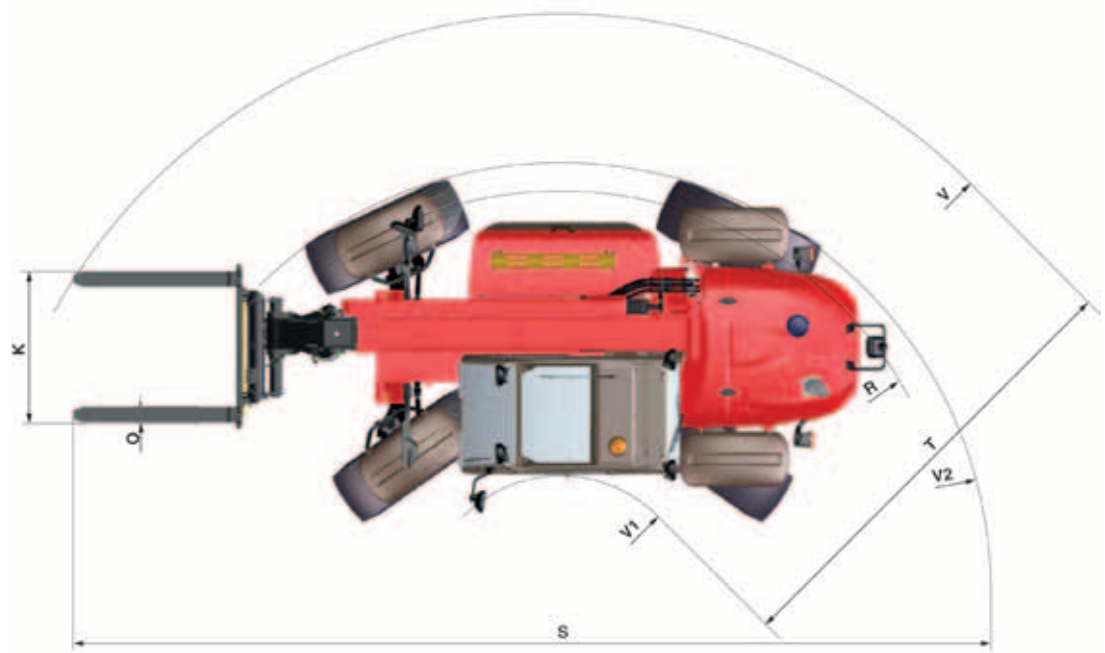
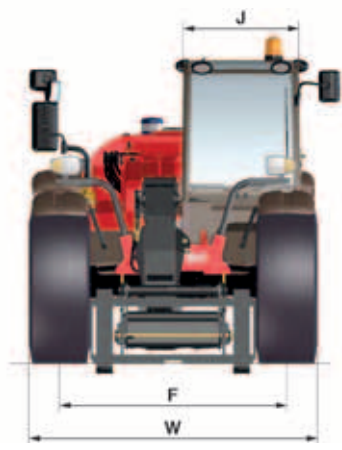
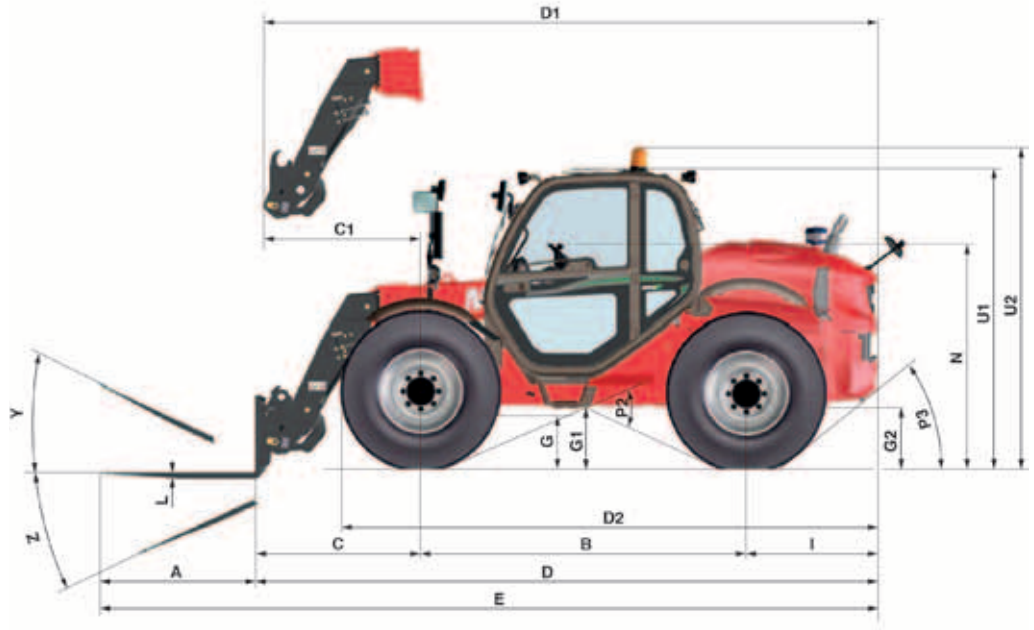
MLT 629 24" ST3B MLT 629 24" CE ST3B		PRESSURE (bar)	LOAD PER TYRE (kg)			
DUNLOP	405/70R24 EM SPT9 158A2 TUBELESS		3,5	FRONT UNLADEN	FRONT LADEN	REAR UNLADEN
GOODYEAR	460/70R24 IT520 150A8 TUBELESS	2,8	1400	4000	1700	550
	15,5/80-24 SGI 12PR TUBELESS	3,8				
	445/70R24 IT510 151G TUBELESS	2,4				
MICHELIN	460/70R24 XMCL 159A8 TUBELESS	2,7				

		PRESSURE (bar)	LOAD (kg)	GROUND CONTACT PRESSURE (kg/cm ²)		GROUND CONTACT AREA (cm ²)	
				HARD SOIL	LOOSE SOIL	HARD SOIL	LOOSE SOIL
				DUNLOP	400/70-20 T37 150B TUBELESS	2,75	500
1350	6,70	2,15	198				618
1650	7,10	2,27	232				724
3950	9,71	3,04	402				1286
405/70R24 EM SPT9 158A2 TUBELESS	3,5	550	5,96		2,07	93	268
		1400	5,79		2,22	242	632
		1700	5,86		2,24	290	759
		4000	6,50		2,49	615	1605
GOODYEAR	460/70R24 IT520 150A8 TUBELESS	2,8	550	3,51	1,09	158	505
			1400	6,03	1,59	232	883
			1700	6,69	1,75	254	970
			4000	9,80	2,52	408	1585
	15,5/80-24 SGI 12PR TUBELESS	3,8	550	7,73	2,15	70	250
			1400	7,46	2,00	187	696
			1700	7,94	2,16	214	786
			4000	11,30	3,05	353	1309
	445/70R24 IT510 151G TUBELESS	2,4	550	8,23	2,48	67	222
			1400	8,19	2,48	171	564
			1700	8,20	2,48	207	684
			4000	8,18	2,48	440	1450
MICHELIN	400/70R20 XMCL 149A8 TUBELESS	3,8	500	4,10	1,20	122	418
			1350	6,28	1,88	215	720
			1650	6,85	2,05	241	804
			3950	9,97	3,05	396	1297
	460/70R24 XMCL 159A8 TUBELESS	2,7	550	4,70	1,20	117	460
			1400	4,91	1,69	285	829
			1700	5,40	1,81	315	937
			4000	8,20	2,49	488	1607

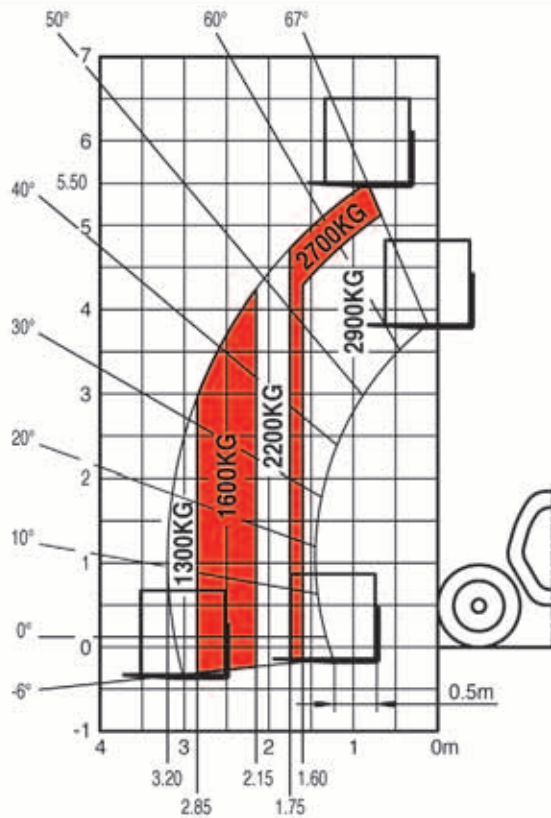
DIMENSIONS AND LOAD CHARTS

MLT 629 Compact 20" ST3B

A	mm	1200
B	mm	2520
C	mm	1307
C1	mm	1260
D	mm	4837
D1	mm	4790
D2	mm	4075
E	mm	6037
F	mm	1600
F1	mm	1600
G	mm	400
G1	mm	365
G2	mm	365
I	mm	1010
J	mm	866
K	mm	1260
L	mm	45
N	mm	1415/1455
O	mm	125
P2	°	41
P3	°	34,5
R	mm	3385
S	mm	7356
T	mm	3520
U1	mm	2060
U2	mm	2320
V	mm	4770
V1	mm	1250
V2	mm	3589
W	mm	2007
Y	°	11,8
Z	°	142,3



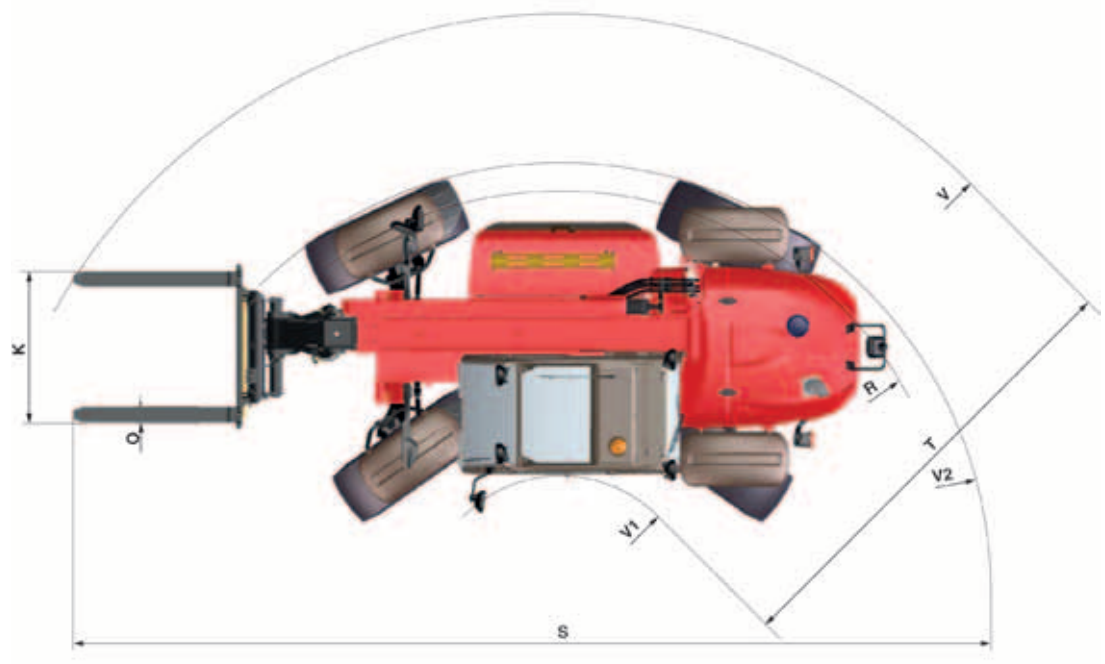
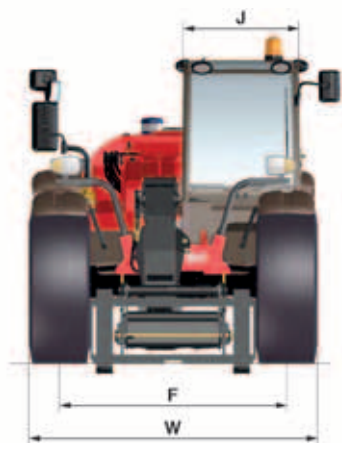
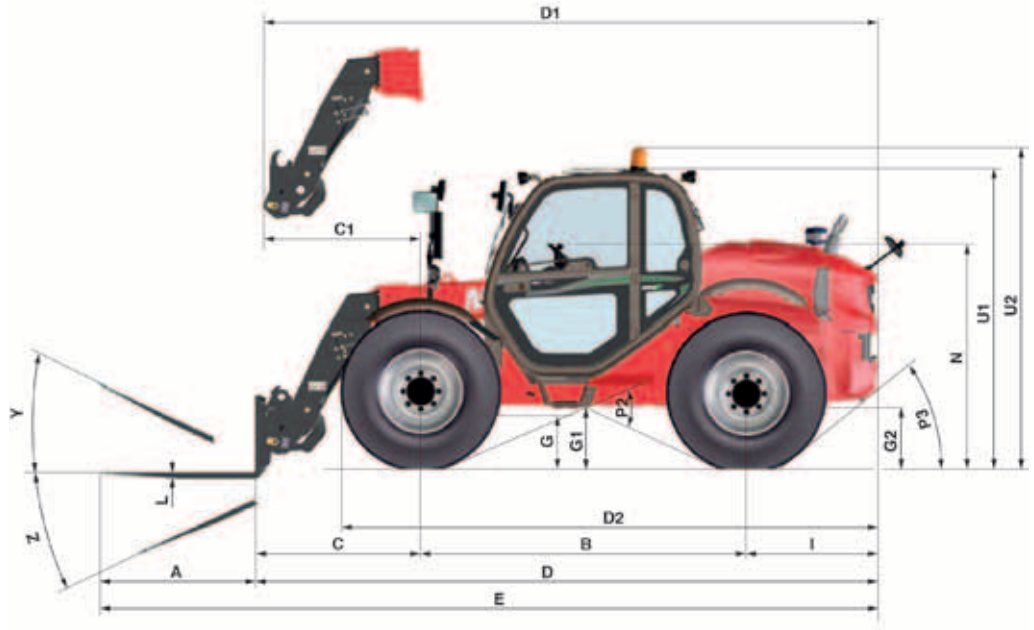
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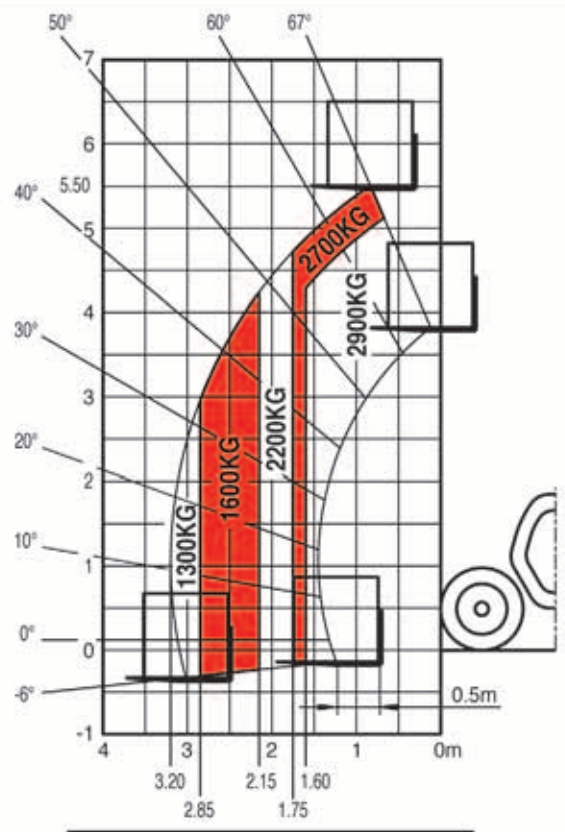
DIMENSIONS AND LOAD CHARTS

MLT 629 20" ST3B

A	mm	1200
B	mm	2520
C	mm	1307
C1	mm	1260
D	mm	4837
D1	mm	4790
D2	mm	4075
E	mm	6037
F	mm	1600
F1	mm	1600
G	mm	400
G1	mm	365
G2	mm	365
I	mm	1010
J	mm	866
K	mm	1260
L	mm	45
N	mm	1565/1605
O	mm	125
P2	°	41
P3	°	34,5
R	mm	3385
S	mm	7356
T	mm	3520
U1	mm	2210
U2	mm	2470
V	mm	4770
V1	mm	1250
V2	mm	3589
W	mm	2007
Y	°	11,8
Z	°	142,3



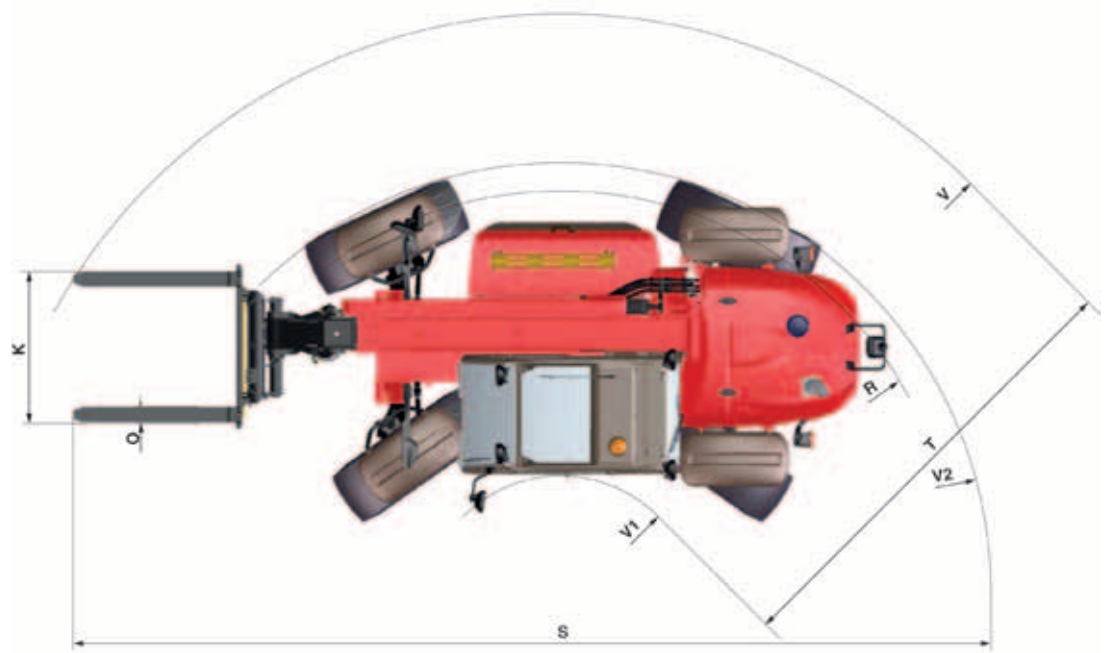
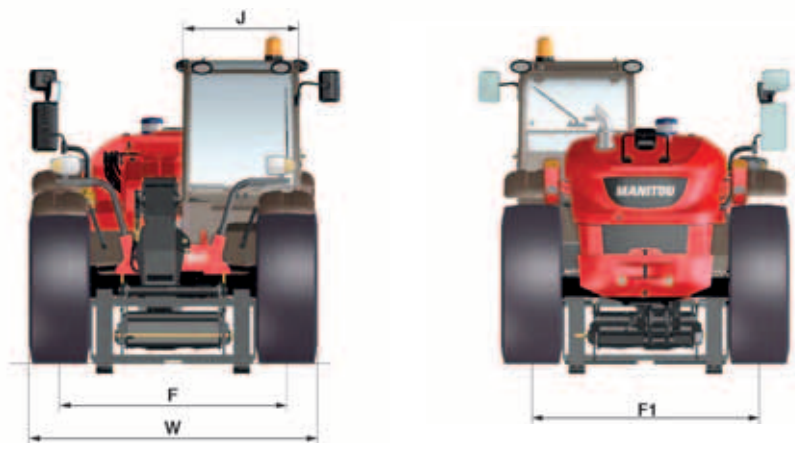
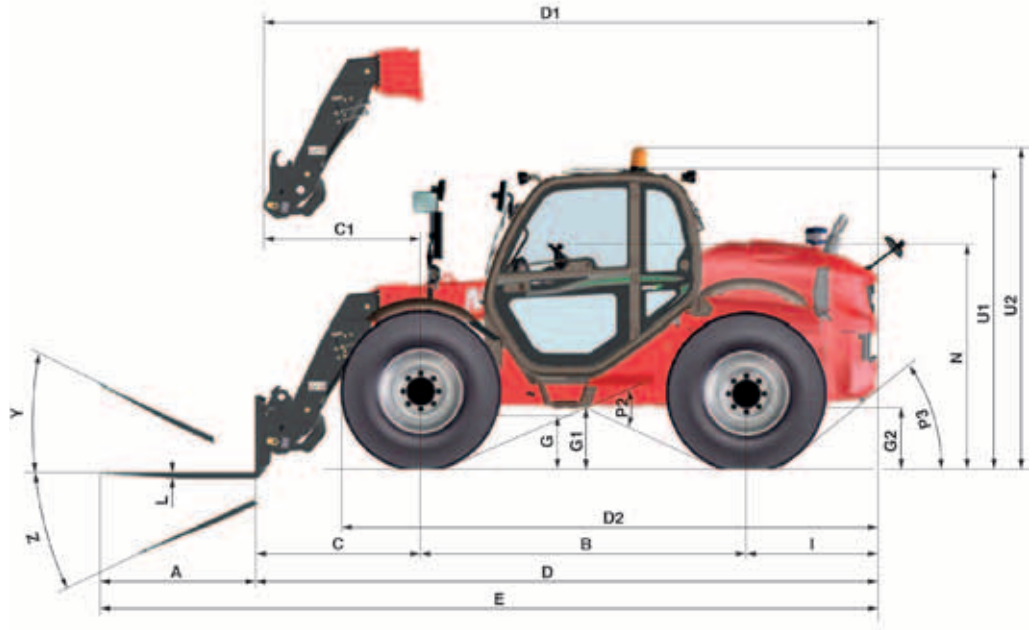
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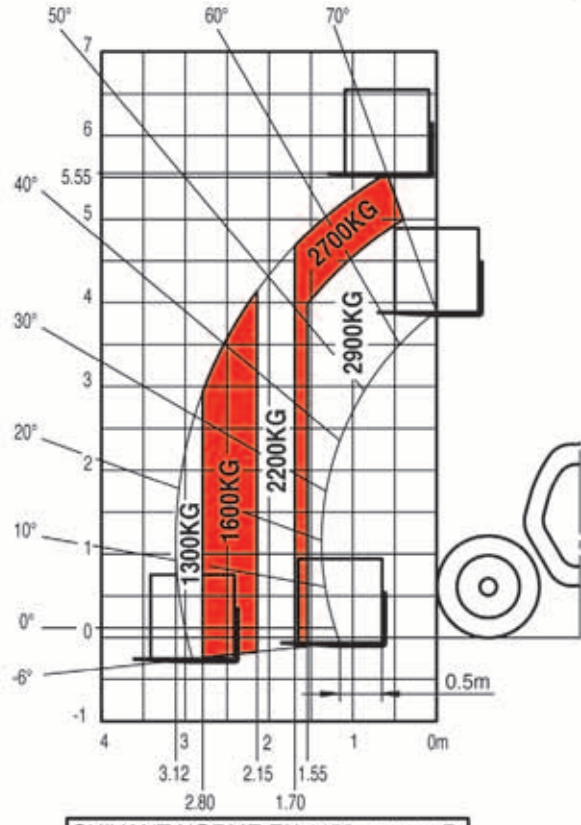
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A	mm	1200
B	mm	2520
C	mm	1307
C1	mm	1260
D	mm	4837
D1	mm	4790
D2	mm	4153
E	mm	6037
F	mm	1720
F1	mm	1720
G	mm	490
G1	mm	455
G2	mm	455
I	mm	1010
J	mm	866
K	mm	1260
L	mm	45
N	mm	1655/1695
O	mm	125
P2	°	50
P3	°	40,5
R	mm	3405
S	mm	7395
T	mm	3545
U1	mm	2300
U2	mm	2560
V	mm	4750
V1	mm	1205
V2	mm	3628
W	mm	2165
Y	°	11,8
Z	°	142,3

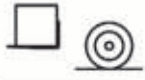


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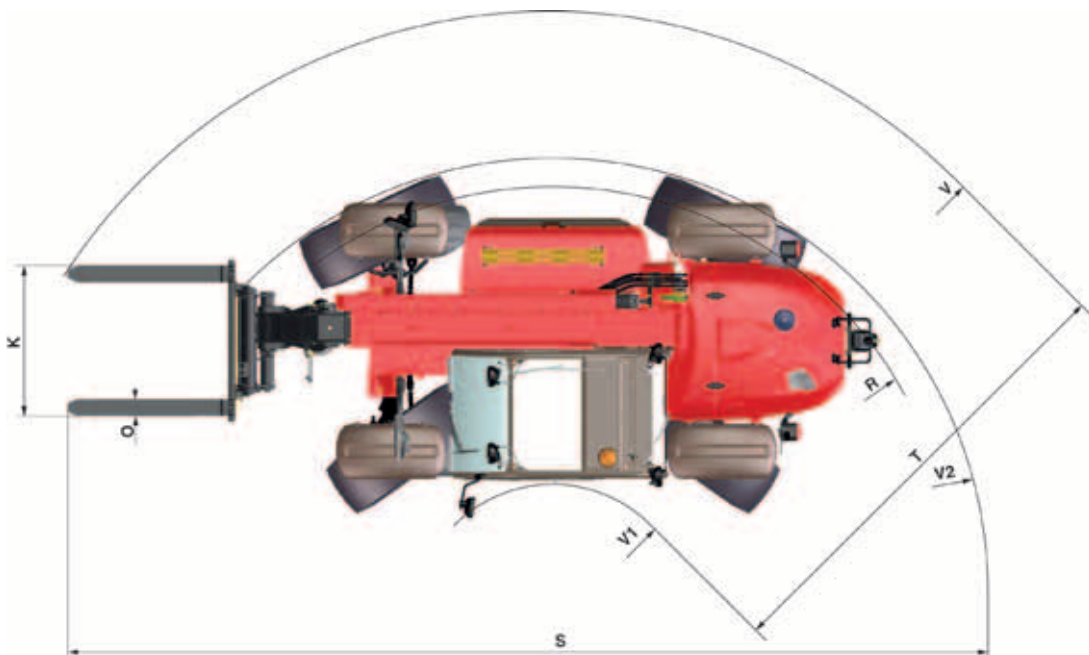
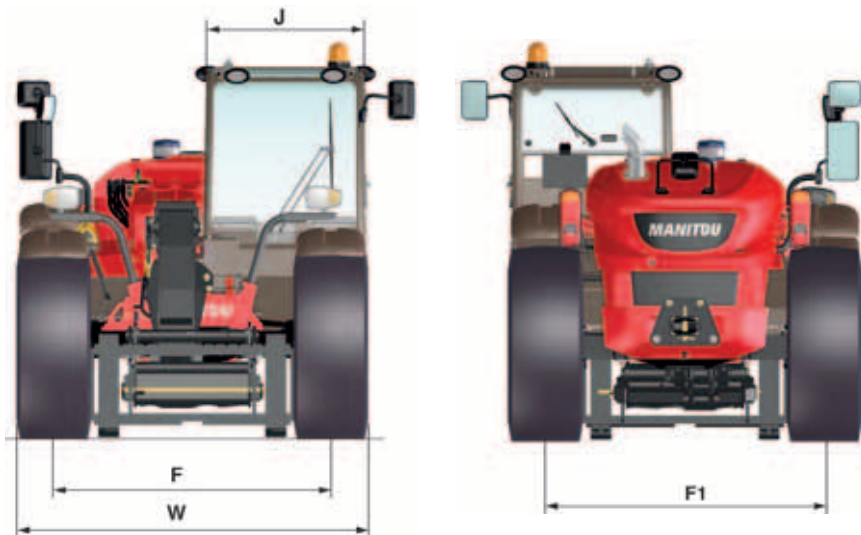
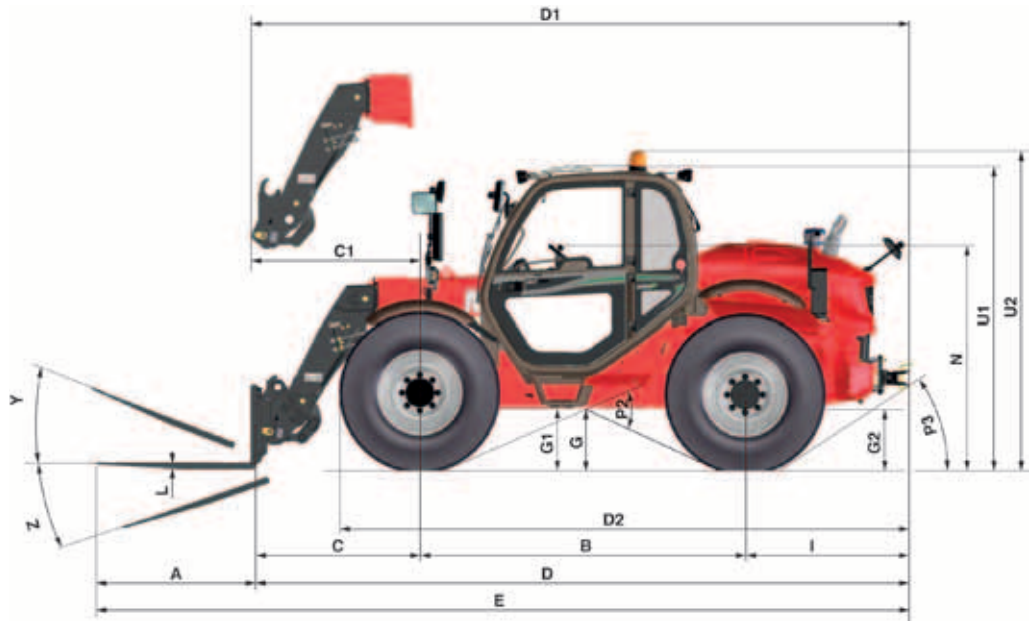


SUIVANT NORME EN 1459 annexe B.

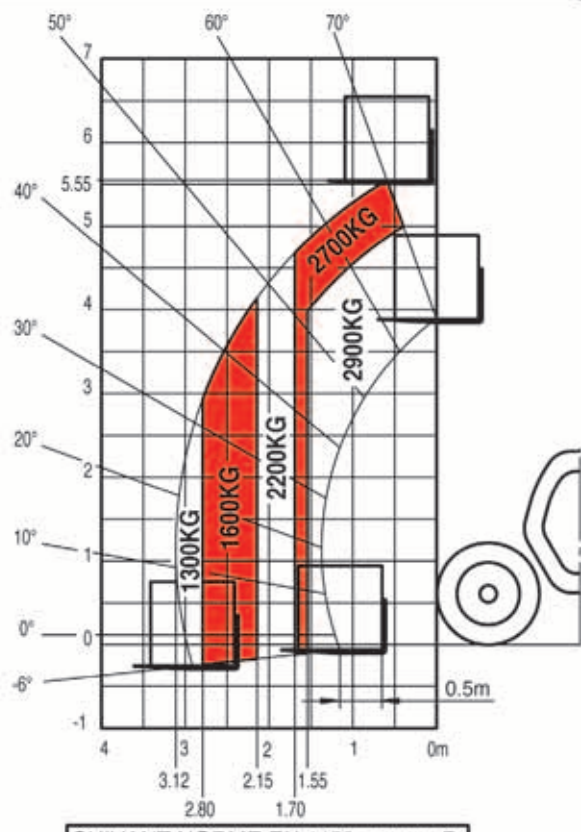
N°311686



A	mm	1200
B	mm	2520
C	mm	1307
C1	mm	1260
D	mm	5087
D1	mm	5040
D2	mm	4403
E	mm	6287
F	mm	1720
F1	mm	1720
G	mm	490
G1	mm	455
G2	mm	455
I	mm	1260
J	mm	980
K	mm	1260
L	mm	45
N	mm	1655/1695
O	mm	125
P2	°	50
P3	°	40,5
R	mm	3405
S	mm	7395
T	mm	3545
U1	mm	2300
U2	mm	2560
V	mm	4750
V1	mm	1205
V2	mm	3628
W	mm	2165
Y	°	11,8
Z	°	142,3

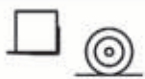


MLT629-24"



SUIVANT NORME EN 1459 annexe B.

N°311686



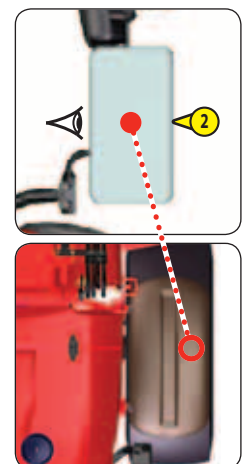
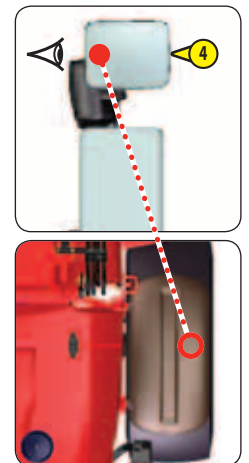
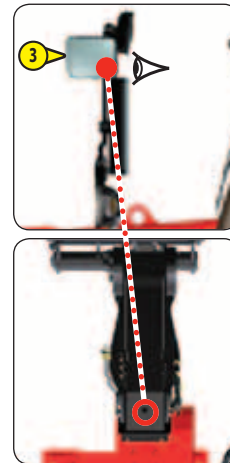
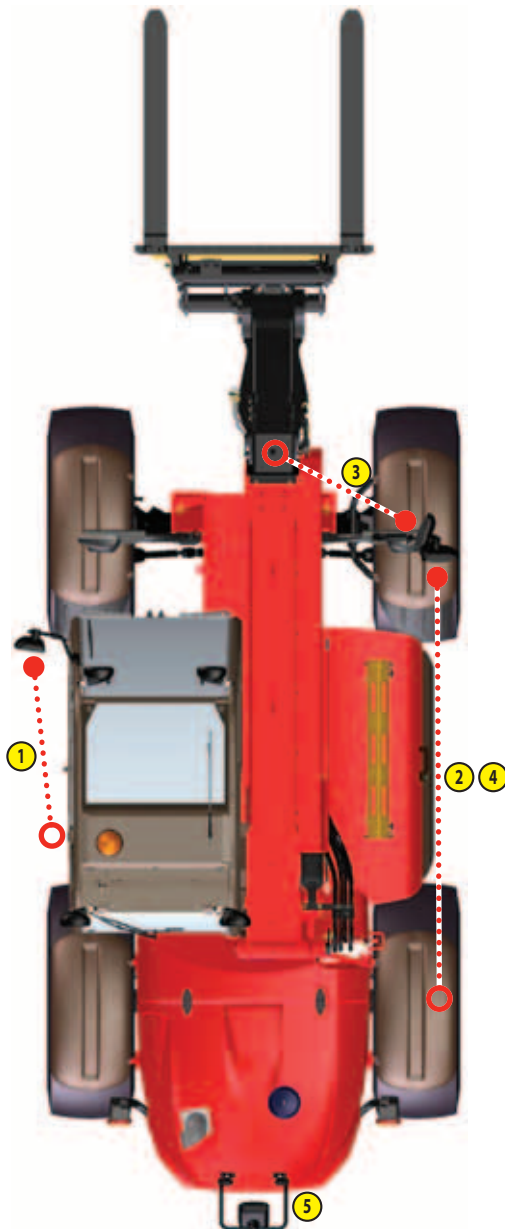
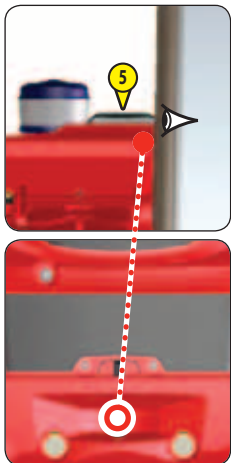
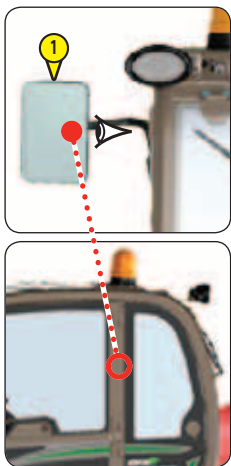
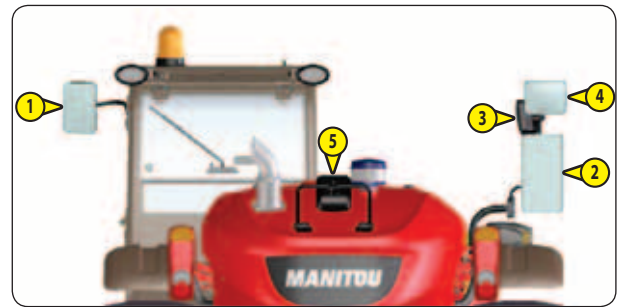
We use the European standard EN15830 concerning the visibility of the operator.

- Follow the instructions for optimizing operator visibility of the immediate vicinity (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: INSTRUCTIONS TO THE OPERATOR: DRIVING INSTRUCTIONS UNLADEN AND LADEN: D - VISIBILITY).

DESCRIPTION AND ADJUSTMENT OF REAR-VIEW MIRRORS

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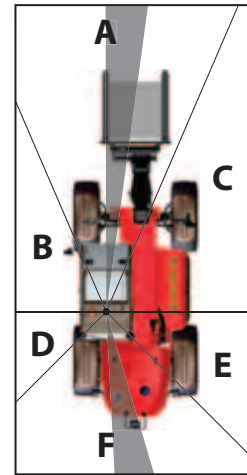
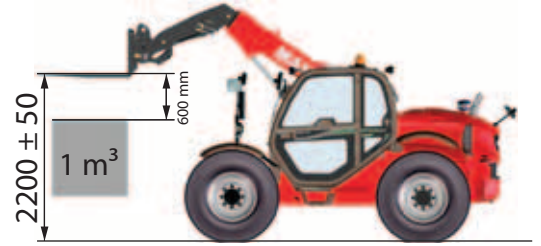
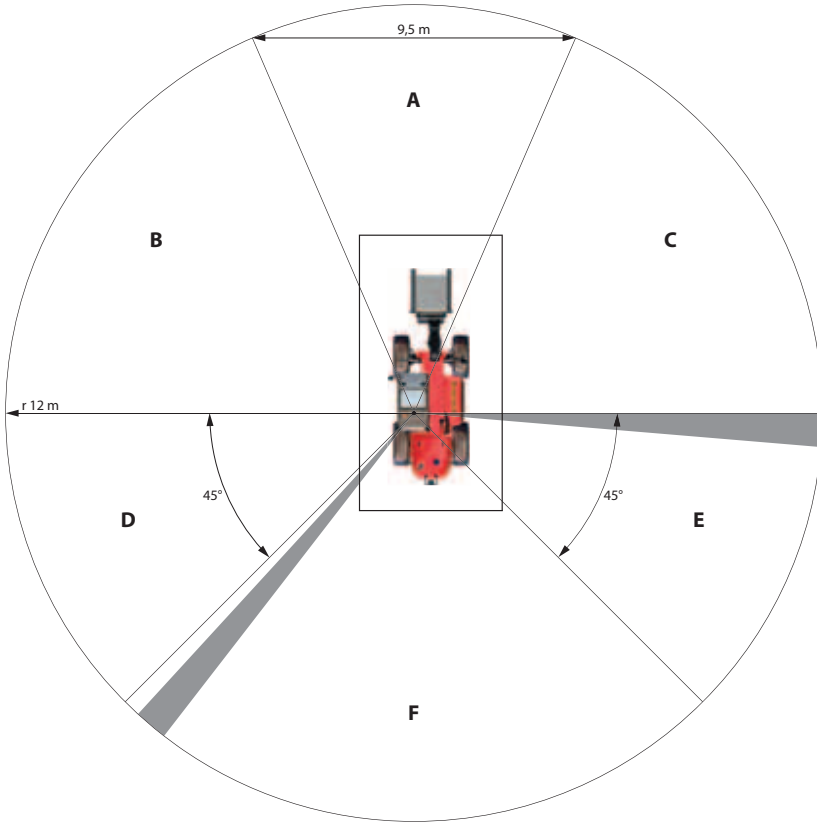
- Place the lift truck on level ground with the I.C. engine stopped, and the jib retracted and lowered as far as possible.
- Note the position of the reference points ●...○ in the illustrations, to see and correctly adjust the rear-view mirrors.



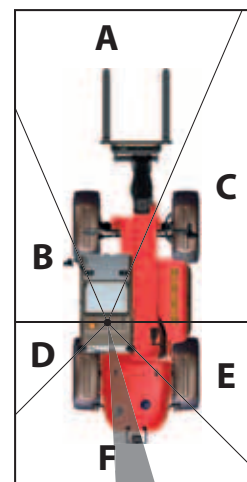
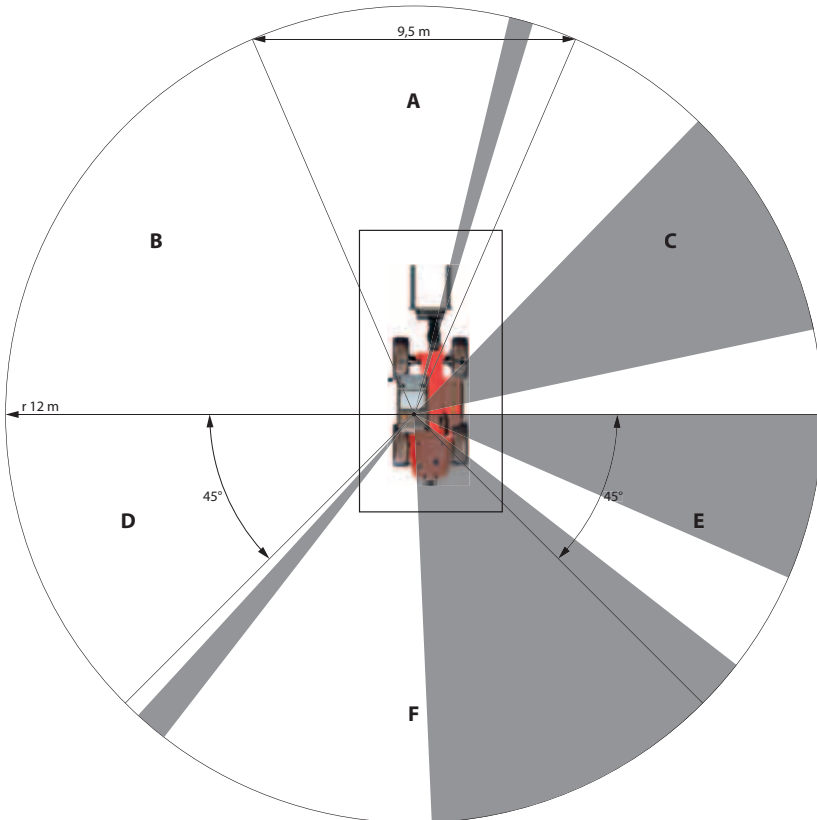
DIRECT AND/OR INDIRECT VISIBILITY BLIND SPOT ZONES

According to the EN15830, both plans indicate the zones of masking on the trial circle of visibility (r 12m) and the rectangular outline in 1m of the forklift truck.

HANDLING SUSPENDED LOADS



LOADING THE TRAILER



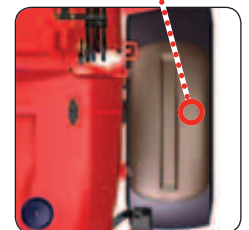
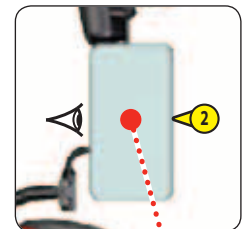
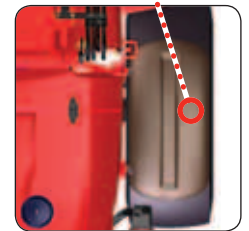
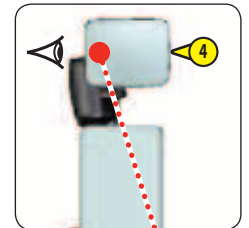
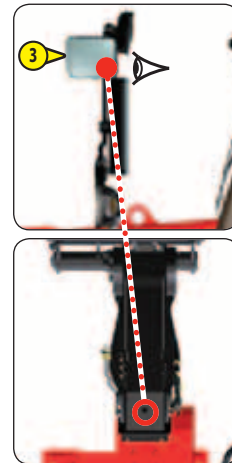
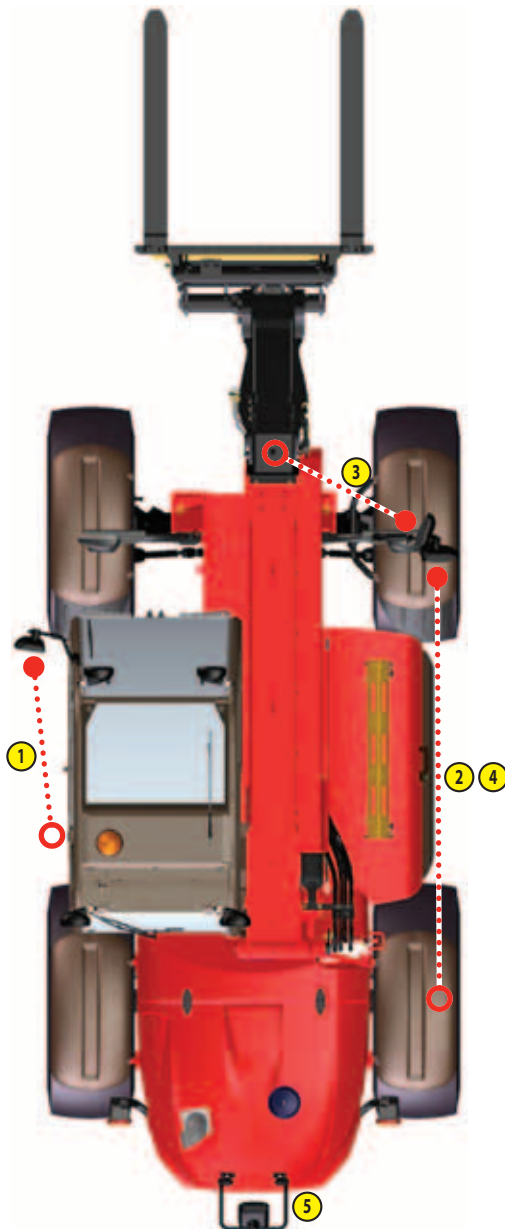
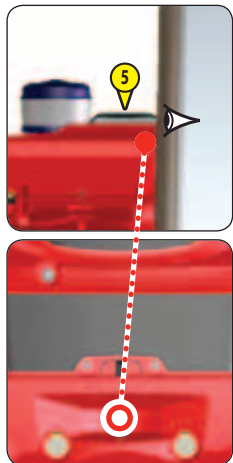
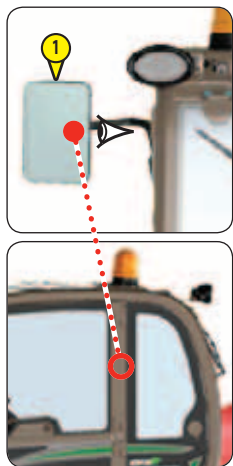
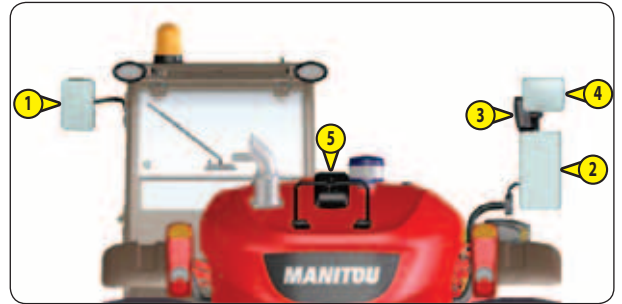
Our lift trucks conform to European standard EN15830 with regard to operator visibility.

- Follow the instructions for optimizing operator visibility of the immediate vicinity (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: INSTRUCTIONS TO THE OPERATOR: DRIVING INSTRUCTIONS UNLADEN AND LADEN: D - VISIBILITY).

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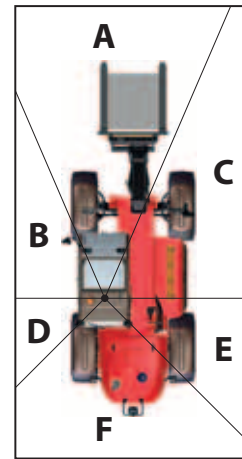
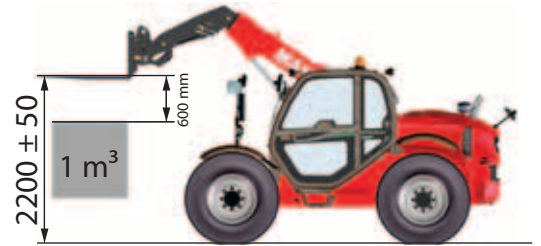
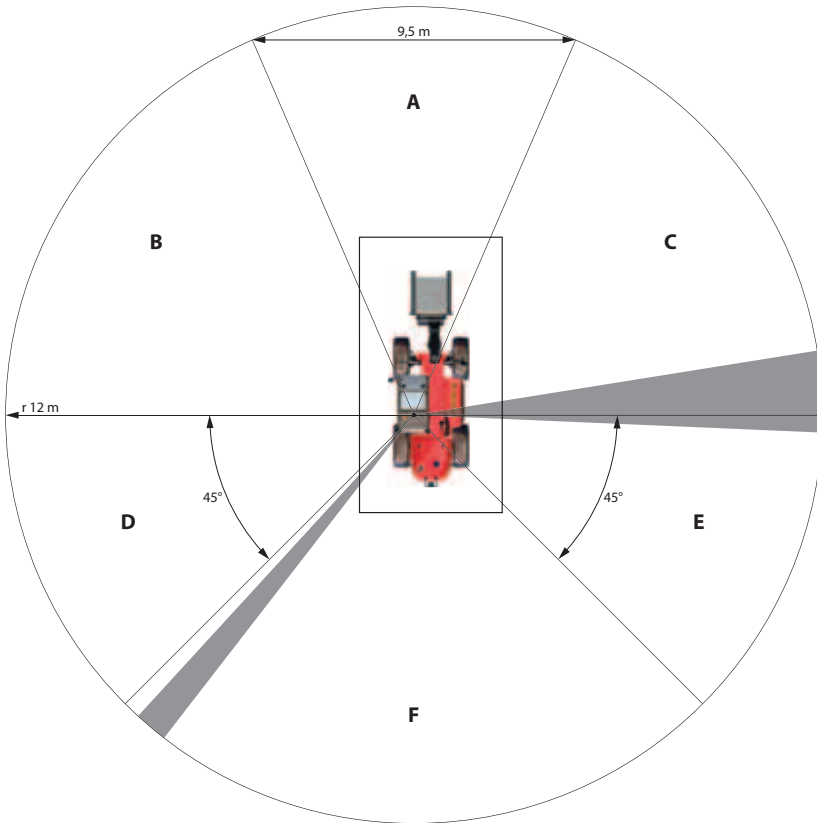
- Place the lift truck on level ground with the I.C. engine stopped, and the jib retracted and lowered as far as possible.
- Note the position of the reference points ●...○ in the illustrations, to see and correctly adjust the rear-view mirrors.



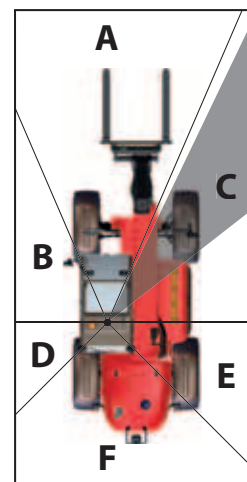
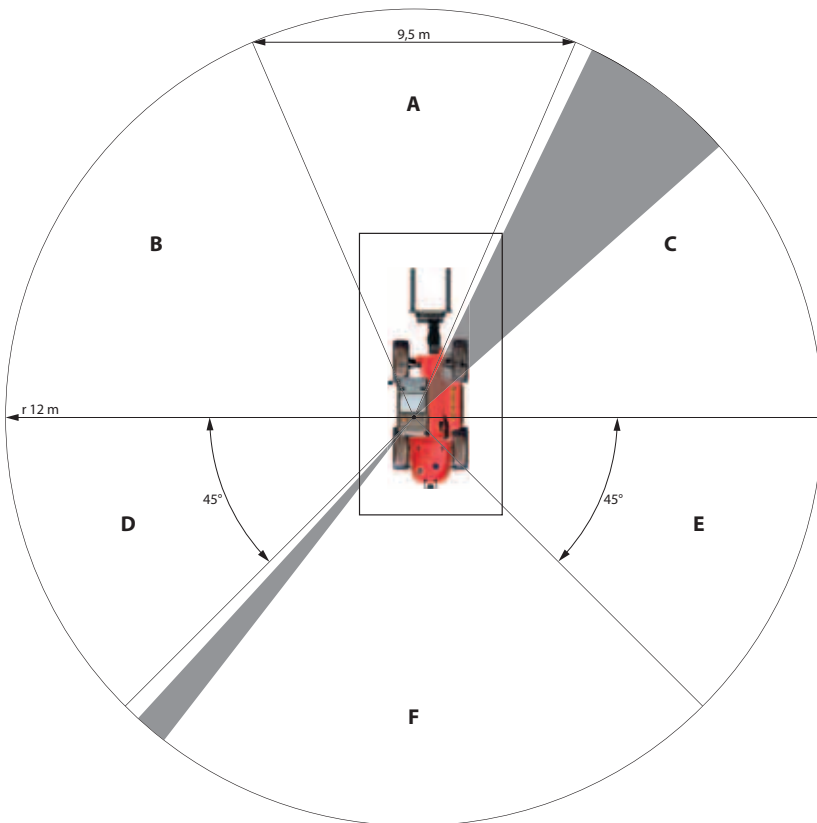
DIRECT AND/OR INDIRECT VISIBILITY BLIND SPOT ZONES

In accordance with EN15830, the two diagrams indicate blind spot zones on the visibility test circle (r 12m) and the 1m rectangular zone around the lift truck.

HANDLING SUSPENDED LOADS



LOADING THE TRAILER



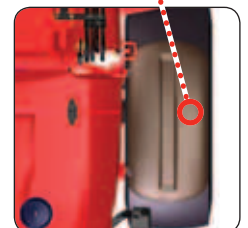
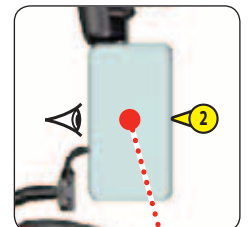
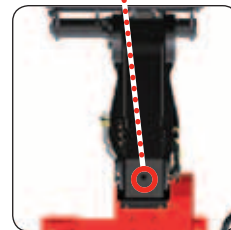
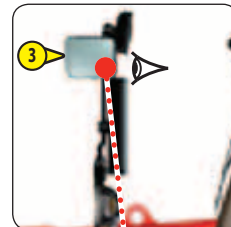
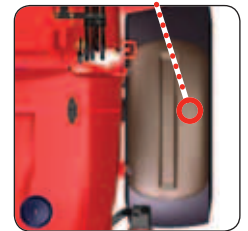
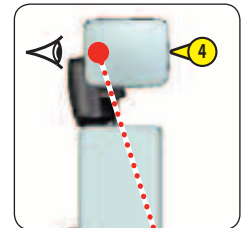
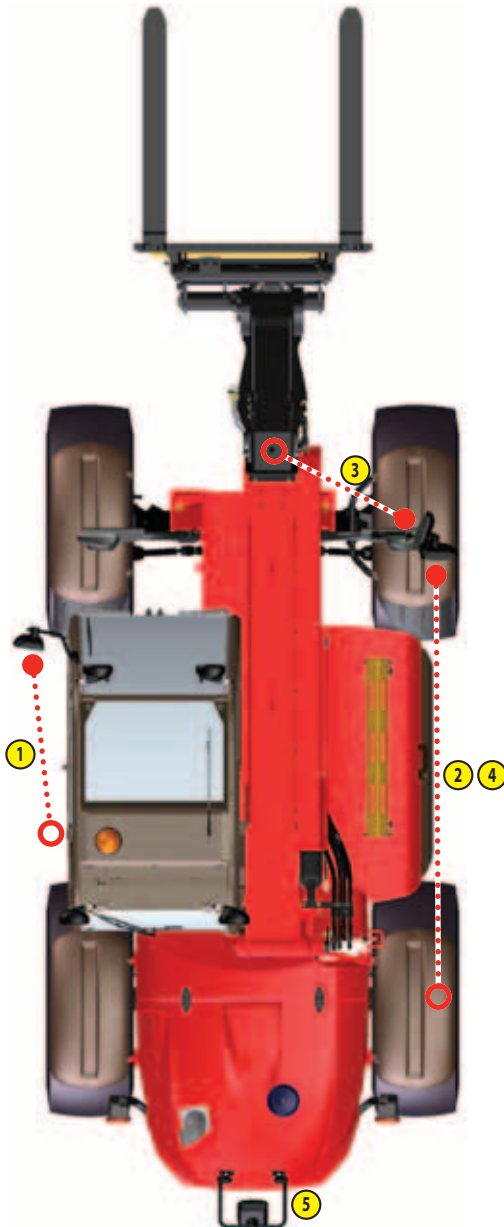
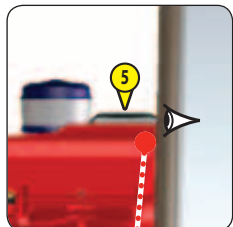
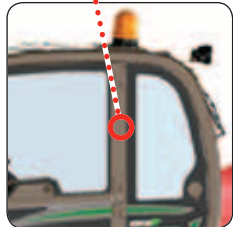
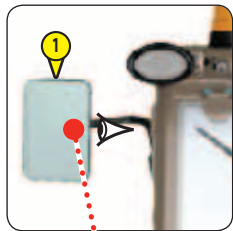
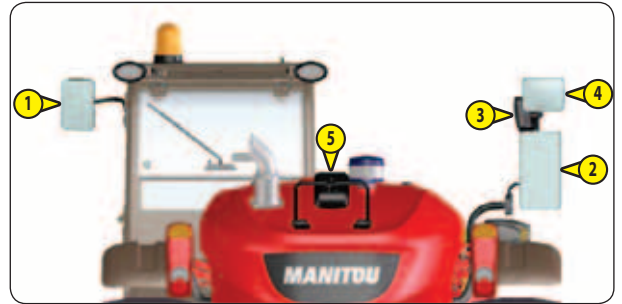
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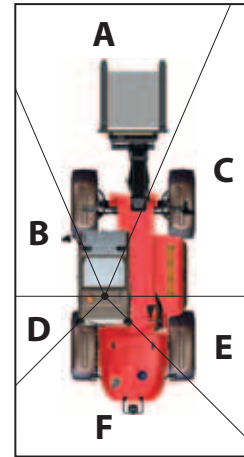
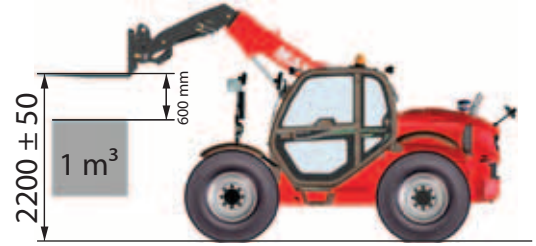
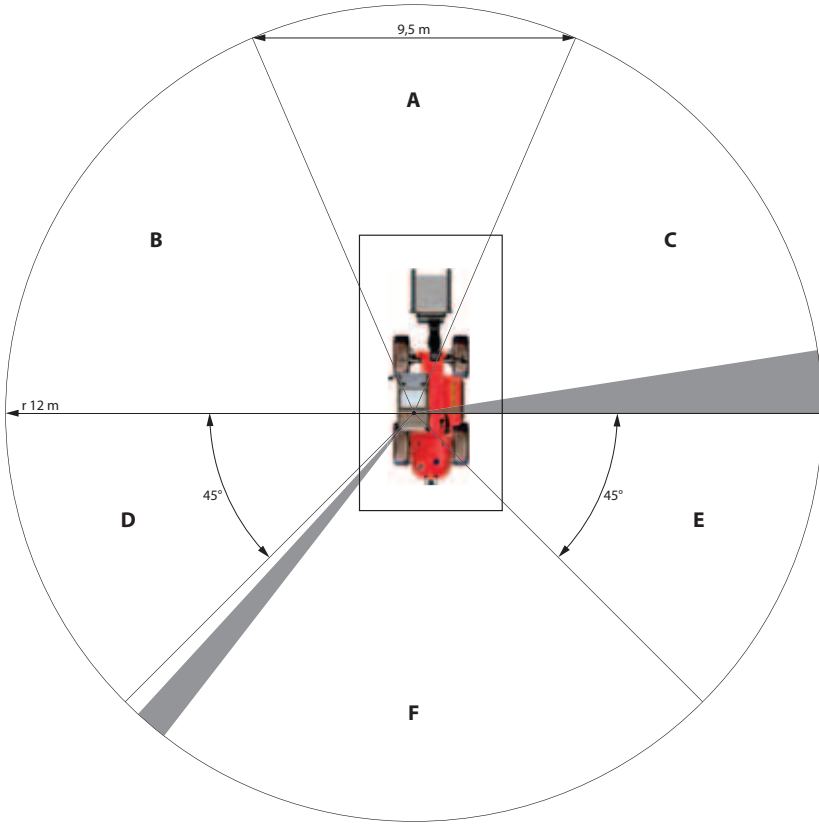
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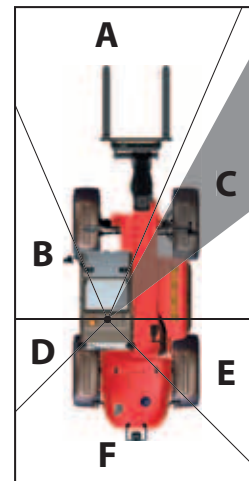
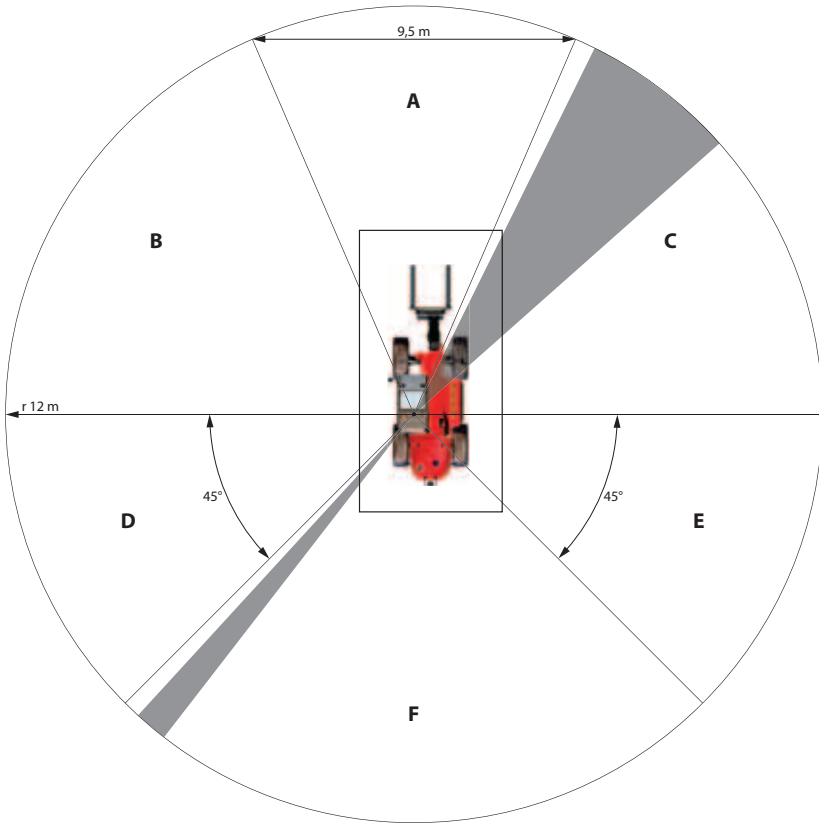
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HANDLING SUSPENDED LOADS



LOADING THE TRAILER



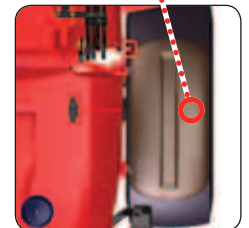
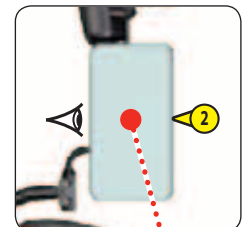
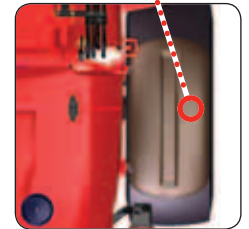
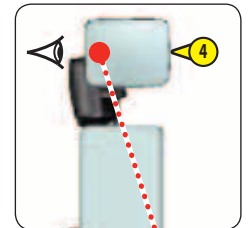
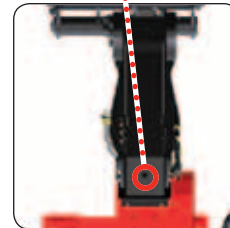
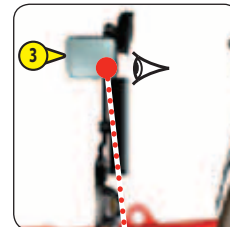
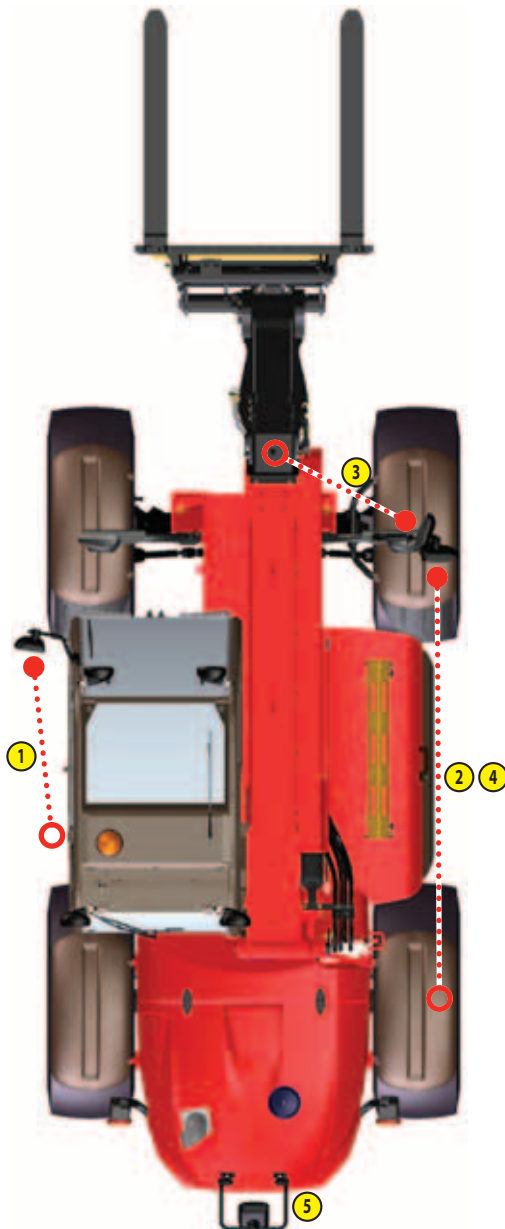
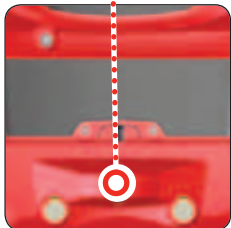
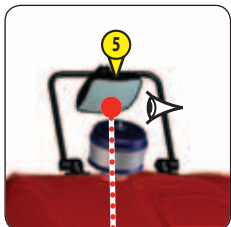
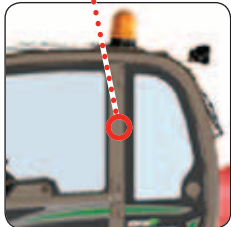
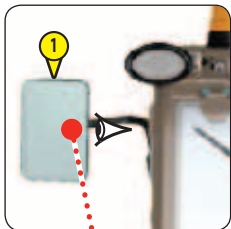
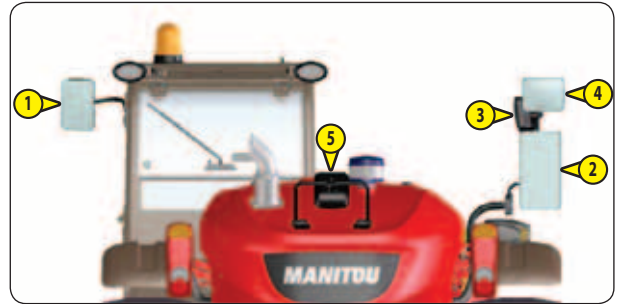
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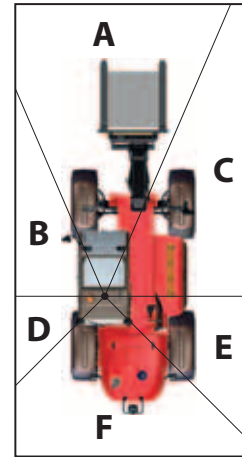
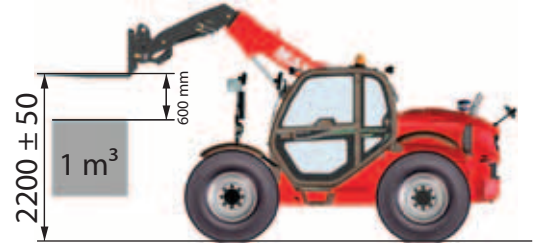
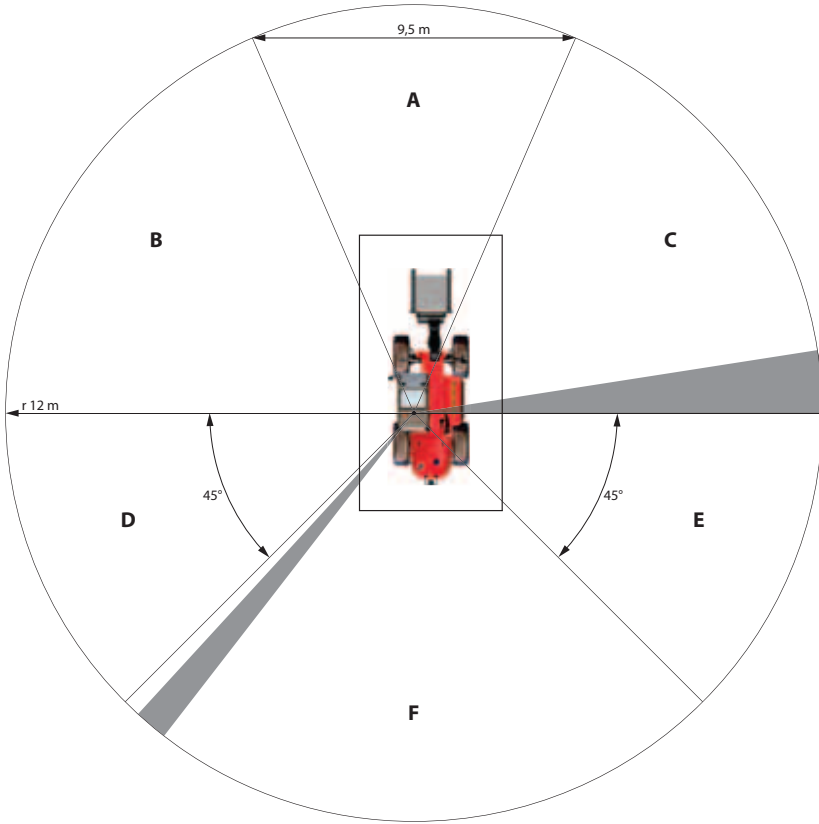
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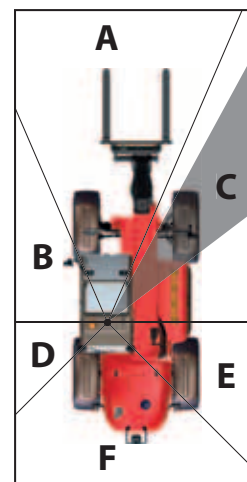
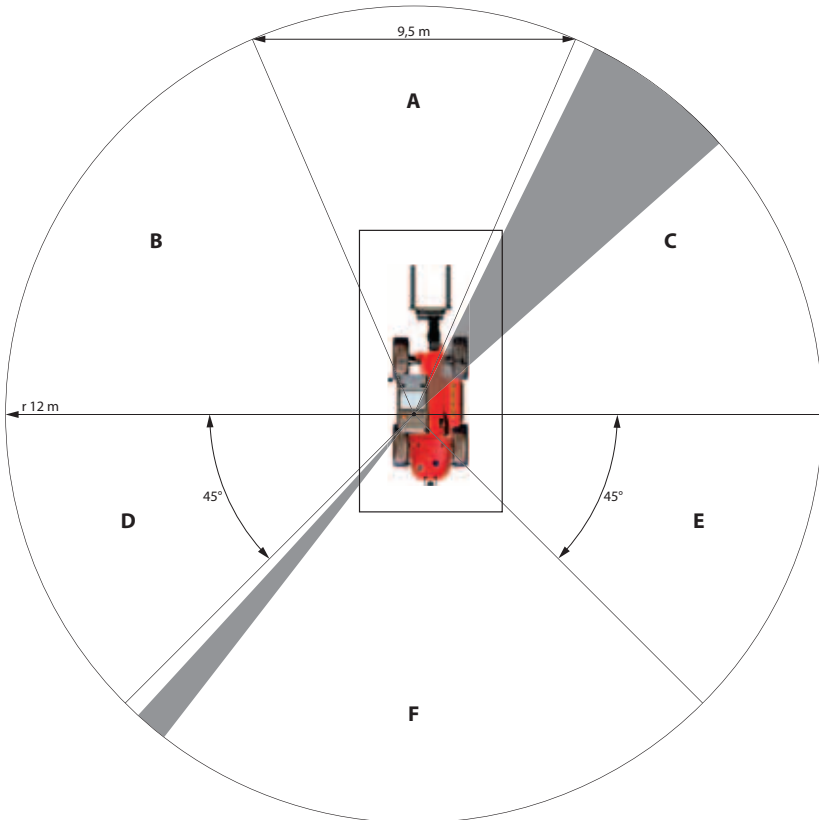
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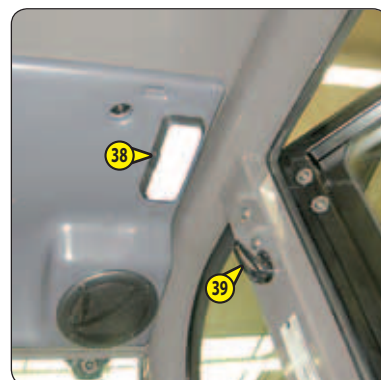
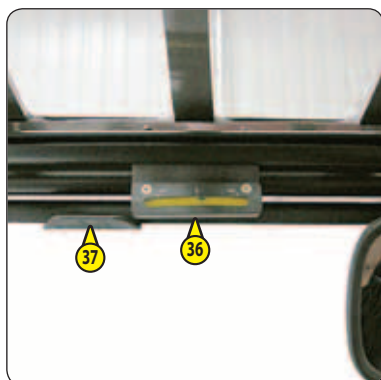
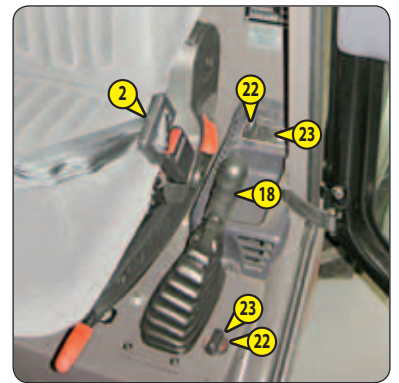
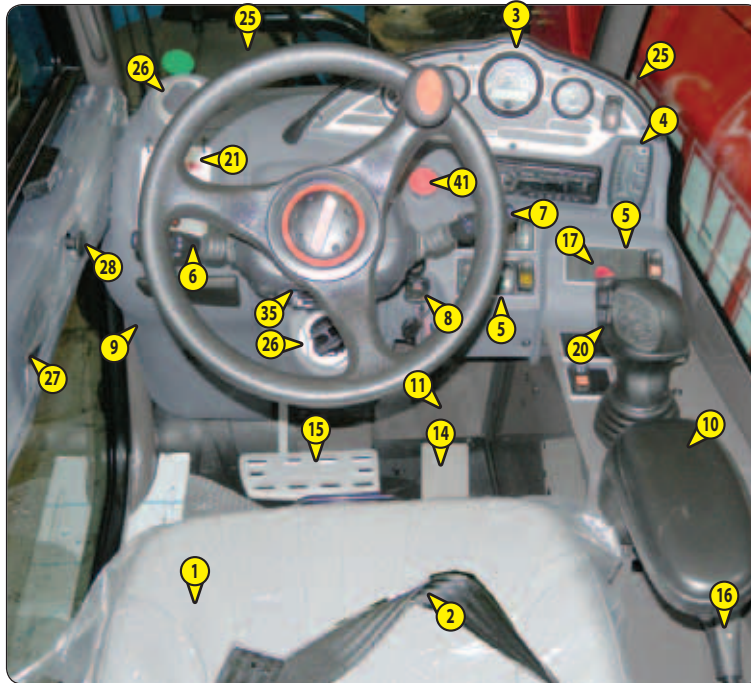
HANDLING SUSPENDED LOADS



LOADING THE TRAILER



INSTRUMENTS AND CONTROLS



DESCRIPTION

- 1 - DRIVER'S SEAT
- 2 - SEAT BELT
- 3 - CONTROL PANEL
- 4 - LONGITUDINAL STABILITY ALARM DEVICE
- 5 - SWITCHES
- 6 - LIGHTING, HORN AND INDICATOR LIGHTS SWITCH
- 7 - FRONT AND REAR WINDSCREEN WIPER SWITCH
- 8 - IGNITION SWITCH
- 9 - BRAKE OIL AND WINDSCREEN WASHER TANK ACCESS PANEL
- 10 - ARMREST
- 11 - FUSE AND RELAY ACCESS PANEL
- 12 - FUSES AND RELAYS IN THE CAB
- 13 - FUSES AND RELAYS UNDER THE ENGINE HOOD
- 14 - ACCELERATOR PEDAL
- 15 - SERVICE BRAKE PEDAL AND TRANSMISSION CUT-OFF
- 16 - GEAR LEVER AND TRANSMISSION CUT-OFF
- 17 - FORWARD/NEUTRAL/REVERSE GEAR SELECTION
- 18 - PARKING BRAKE LEVER
- 19 - STEERING SELECTION
- 20 - HYDRAULIC CONTROLS
- 21 - FUNCTION FILES
- 22 - HEATER CONTROL
- 23 - AIR-CONDITIONING CONTROLS (AIR-CONDITIONING OPTION)
- 24 - CAB VENTILATION FILTER
- 25 - WINDSCREEN DEMISTER VENTS
- 26 - HEATING VENTS
- 27 - DOOR LOCK
- 28 - LOCKING HANDLE FOR UPPER HALF-DOOR
- 29 - UNLOCKING BUTTON FOR UPPER HALF-DOOR
- 30 - HANDLE FOR REAR WINDOW OPENING
- 31 - DOCUMENT HOLDER
- 32 - FRONT HEADLIGHTS (NOT ILLUSTRATED)
- 33 - REAR LIGHTS (NOT ILLUSTRATED)
- 34 - ROTATING BEACON LIGHT (NOT ILLUSTRATED)
- 35 - STEERING WHEEL ADJUSTMENT LEVER
- 36 - LEVEL INDICATOR
- 37 - SUN VISOR
- 38 - ROOF LIGHT
- 39 - HOOK
- 40 - CIGARETTE LIGHTER
- 41 - EMERGENCY STOP BUTTON
- 42 - BOOM SAFETY WEDGE (NOT ILLUSTRATED)
- 43 - BATTERY CUT-OFF (NOT ILLUSTRATED)
- 44 - NUMBER PLATE (NOT ILLUSTRATED)
- 45 - EMERGENCY EXIT

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.

1 - DRIVER'S SEAT

DRIVER'S SEAT (STANDARD)

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

SEAT HEIGHT ADJUSTMENT

- Sit down correctly in the seat.
- Turn the knob 1 according to the desired height, clockwise to rise, anti-clockwise to lower, ensuring that the green indicator lamp 2 remains visible.
- If indicator lamp 2 is red, re-adjust the height.

NOTE: The seat is designed so as not to require adjustment according to the driver's weight.

LONGITUDINAL ADJUSTMENT

- Pull the locking lever 3 upwards.
- Slide the seat to the desired position.
- Release the lever and be sure it returns to the lock position.

ANGLE ADJUSTMENT OF THE BACK-REST

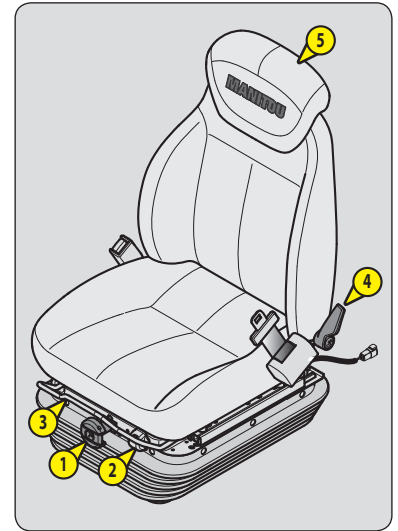
- Support the back-rest, push the lever 4 backward and tilt the back-rest to the desired position.

⚠ IMPORTANT ⚠

If you do not support the back-rest when making adjustments, it swings completely forwards.

EXTENDING THE HEAD-REST

- The height of the head-rest 5 can be adjusted by pulling it upwards (the notches will click) up to the stop.
- The head-rest can be removed by applying sufficient pressure to pull it off the stop.



LOW FREQUENCY DRIVER'S PNEUMATIC SEAT (OPTION)

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

SEAT HEIGHT ADJUSTMENT

- Sit down correctly in the seat.
- Switch on lift truck ignition.
- Pull or push lever 1 according to the desired height, making sure that the green indicator lamp 2 remains visible.
- If indicator lamp 2 is red, re-adjust the height.

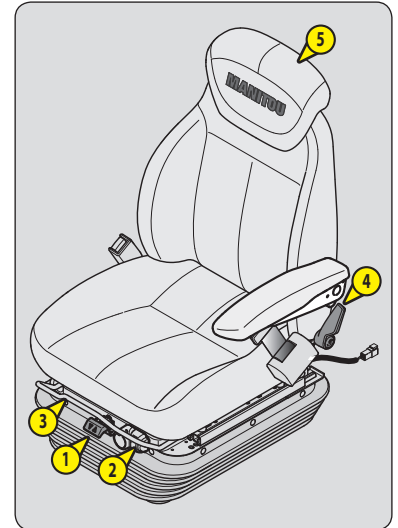
NOTE: The seat is designed so as not to require adjustment according to the driver's weight.

LONGITUDINAL ADJUSTMENT

- Pull the locking lever 3 upwards.
- Slide the seat to the desired position.
- Release the lever and be sure it returns to the lock position.

ANGLE ADJUSTMENT OF THE BACK-REST

- Support the back-rest, push the lever 4 backward and tilt the back-rest to the desired position.



⚠ IMPORTANT ⚠

If you do not support the back-rest when making adjustments, it swings completely forwards.

EXTENDING THE HEAD-REST

- The height of the head-rest 5 can be adjusted by pulling it upwards (the notches will click) up to the stop.
- The head-rest can be removed by applying sufficient pressure to pull it off the stop.

DRIVER'S PNEUMATIC SEAT (OPTION)

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

SEAT HEIGHT ADJUSTMENT

- Sit down correctly in the seat.
- Switch on lift truck ignition.
- Pull or push lever 1 according to the desired height, making sure that the green indicator lamp 2 remains visible.
- If indicator lamp 2 is red, re-adjust the height.

NOTE: The seat is designed so as not to require adjustment according to the driver's weight.

LONGITUDINAL ADJUSTMENT

- Swing lever 3 upwards.
- Slide the seat to the desired position.
- Release the lever and be sure it returns to the lock position.

HORIZONTAL DAMPER

In certain conditions (e.g. driving with a trailer) it is advised that a horizontal shock absorber be used. The driver's seat is thus better able to absorb jerks in the direction of travel.

- Swing lever 3 downwards to block the horizontal damper.

ANGLE ADJUSTMENT OF THE BACK-REST

- Support the back-rest, push the lever 4 backward and tilt the back-rest to the desired position.

⚠ IMPORTANT ⚠

If you do not support the back-rest when making adjustments, it swings completely forwards.

EXTENDING THE HEAD-REST

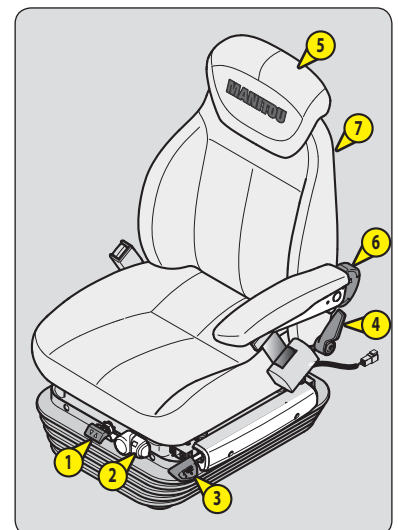
- The height of the head-rest 5 can be adjusted by pulling it upwards (the notches will click) up to the stop.
- The head-rest can be removed by applying sufficient pressure to pull it off the stop.

LUMBAR ADJUSTMENT

- Turn knob 6 anti-clockwise to select one of the 5 lumbar support settings.

SEAT HEATING

- Switch 7 operates the heating of the seat cushion and the back-rest.



DELUXE PNEUMATIC DRIVER'S SEAT (OPTION)

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

WEIGHT ADJUSTMENT (FIG. A)

It is advised that you adjust the seat according to your weight when sitting.

- Switch on lift truck ignition.
- Briefly pull or push lever 1. Adjustment is automatic.

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

SEAT HEIGHT ADJUSTMENT (FIG. B)

When weight adjustment has been carried out, you can then modify seat height.

- Keep the ignition on in the lift truck.
- Pull or push lever 1 and adjust the seat height.

⚠ IMPORTANT ⚠

To avoid causing any damage, do not activate the compressor for over 1 minute.

SEAT BACK-REST ANGLE ADJUSTMENT (FIG. C)

The back-rest angle of the seat may be adjusted to suit the individual.

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

SEAT DEPTH ADJUSTMENT (FIG. D)

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

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

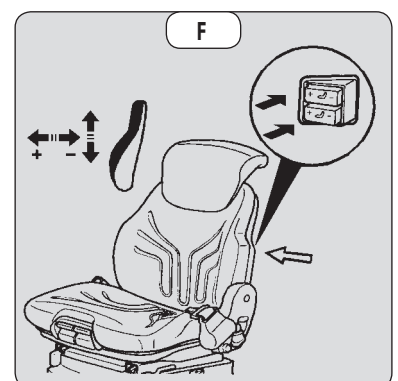
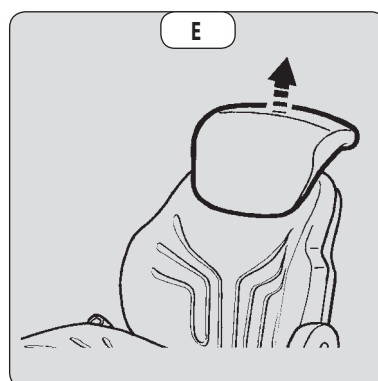
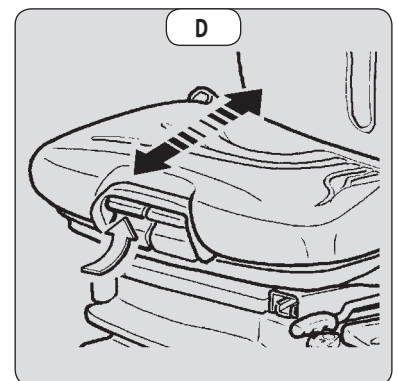
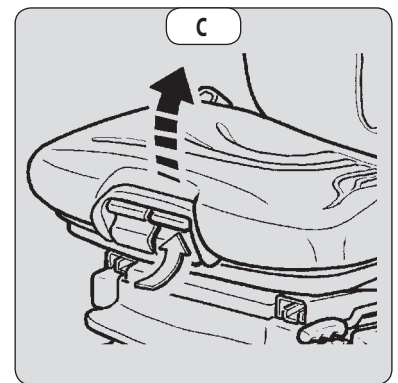
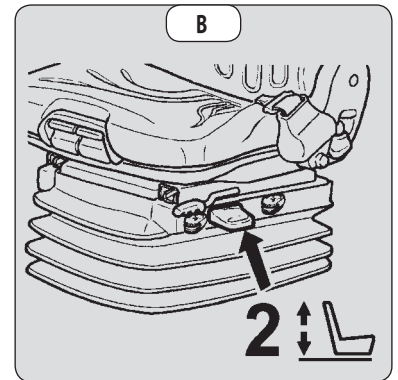
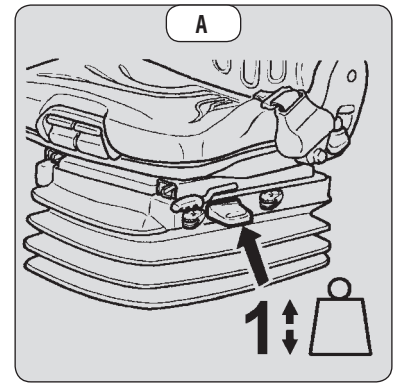
EXTENDING THE HEAD-REST (FIG. E)

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

LUMBAR ADJUSTMENT (FIG. F)

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

- Press the raise and lower switches to adjust the curvature of the seat back to your requirements.



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



If you do not support the back-rest when making adjustments, it swings completely forwards.

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

HORIZONTAL SHOCK ABSORBER (FIG. H)

In certain conditions (e.g. driving with a trailer) it is advised that a horizontal shock absorber be used. The driver's seat is thus better able to absorb jerks in the direction of travel.

- Position 1: Horizontal shock absorber fitted.
- Position 2: Horizontal shock absorber removed.

DAMPING (FIG. I)

The damping of the seat can be adjusted to suit the nature of the terrain. The comfort of the seat is thus adjustable to suit your requirements.

- Position 1: Soft damping.
- Position 2: Hard damping.

LONGITUDINAL ADJUSTMENT (FIG. J)

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

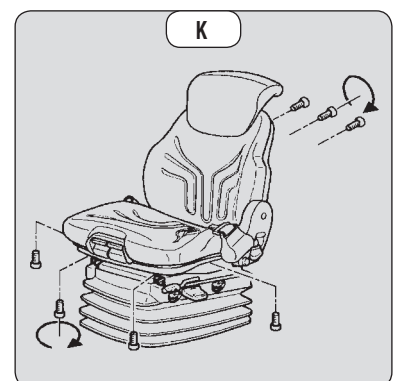
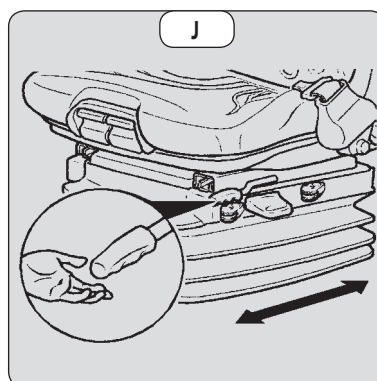
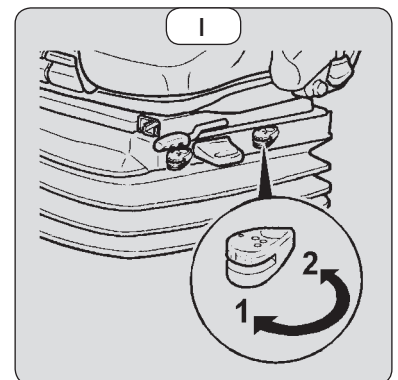
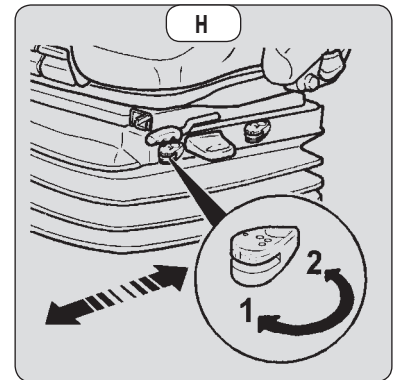
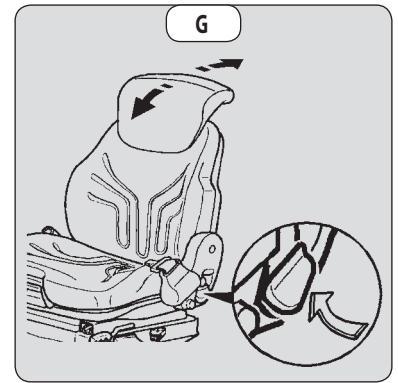
MAINTENANCE (FIG. K)



A rocking head-rest increases the risk of an accident!

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

- To clean or change the cushions, simply remove them from the seat frame.
- Avoid wetting the cushion fabric when cleaning. Check the resistance of the fabric on a small hidden area before using any fabric or plastic cleaner.



2 - SEAT BELT



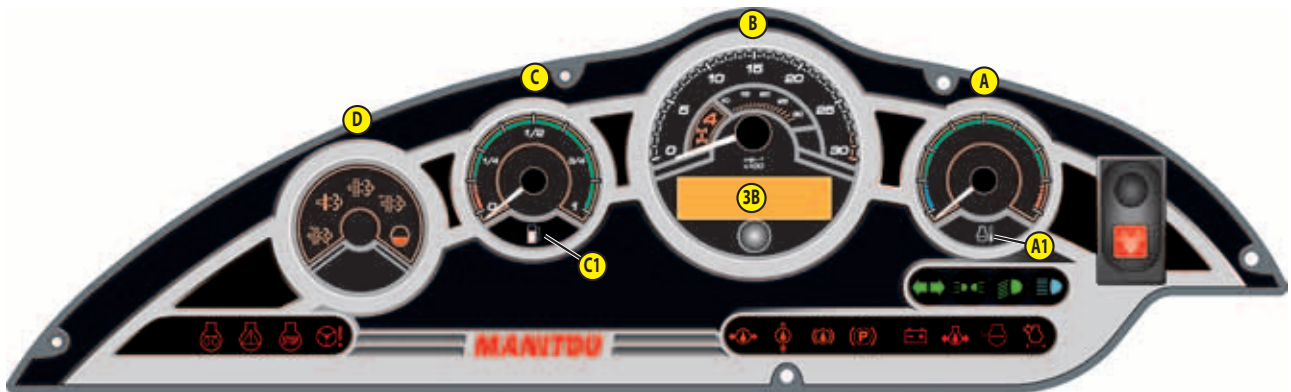
*In no event should the lift truck be used if the seat belt is defective (fixing, locking, cuts, tears, etc.).
Repair or replace the seat belt immediately.*

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

3 - CONTROL PANEL

- 3A - CONTROL PANEL
- 3B - SCREEN DISPLAY

3A - CONTROL PANEL



⚠ IMPORTANT ⚠

A permanently lit or flashing warning lamp, with the engine running, is the sign of an operating fault. The lighting of some lamps may be accompanied by an audible signal. Do not ignore this warning, consult your dealer without delay. If one of the warning lamps comes on while the lift truck is in motion, stop the lift truck under the safest possible conditions.

When activating the electrical system of the lift truck, all the red and orange lamps and the panel's buzzer must light to indicate their good working order. If one of the red lamps or the buzzer does not function, carry out the necessary repairs.

A - I.C. ENGINE WATER TEMPERATURE

If indicator lamp A1 lights up when the lift truck is running, this means that the coolant temperature is high. Stop the engine immediately and seek the cause of the cooling system malfunction.

B - REV COUNTER

C - FUEL LEVEL

Indicator lamp C1 indicates that you are in reserve and that your running time is limited.

D - MODULE 5 LAMPS

AUTOMATIC EXHAUST PARTICLE FILTER REGENERATION DISABLED INDICATOR LAMP

The indicator lamp lights up when the lift truck is running to indicate deactivation of the automatic regeneration of the exhaust particle filter.

HIGH EXHAUST GAS TEMPERATURE INDICATOR LAMP

If the indicator lamp lights up while the lift truck is running, it indicates high exhaust gas temperature.

SOOT LEVEL INDICATOR LAMP

The indicator lamp lights up while the lift truck is running to indicate the soot level.

"STATIONARY LIFT TRUCK" EXHAUST PARTICLE FILTER REGENERATION INDICATOR LAMP

The indicator lamp lights up while the lift truck is running to indicate that "stationary lift truck" exhaust particle filter regeneration is in progress.

WATER DETECTED IN FUEL INDICATOR LAMP

If the indicator lamp lights up when the lift truck is running, stop the I.C. engine immediately and consult your dealer.

SIGNAL LIGHTS

ENGINE PREHEAT INDICATOR LAMP

Preheat is necessary. When the lift truck is switched on, the indicator lamp lights up for 2 seconds and off as soon as preheat is ended. Start the lift truck's I.C. engine.



I.C. ENGINE PREHEATING FAULT INDICATOR LAMP

If the indicator lamp lights up on or flashes while the lift truck is in operation, a diagnostic fault has been detected. The lift truck will operate in reduced mode. Consult your dealer without delay.



I.C. CUT-OFF ENGINE INDICATOR LAMP

If the indicator lamp lights up or flashes, when the lift truck is running, stop the I.C. engine immediately and consult your dealer.



STEERING SYSTEM OIL PRESSURE WARNING INDICATOR LAMP

If the indicator lamp lights up when the lift truck is running, stop the I.C. engine immediately and look for the cause (possible leak, etc.).



GEAR BOX OIL PRESSURE WARNING INDICATOR LAMP

The indicator lamp and buzzer come on when there is an abnormal drop in gear box pressure, in forward gear. Stop the I.C. engine and look for the cause (gear box oil level, possible leak, radiator, etc.).

NOTE: The signal light operates in forward travel conditions only, the signal should not be taken into account when the I.C. engine is running at idle or is stopped.



GEAR BOX OIL TEMPERATURE WARNING INDICATOR LAMP

The indicator lamp and buzzer come on when the gearbox oil temperature is abnormally high. Stop the I.C. engine and look for the cause (gear box oil level, possible leak, radiator, etc.).



BRAKING OIL LEVEL WARNING INDICATOR LAMP

If the indicator lamp and buzzer come on, when the lift truck is running, stop the I.C. engine immediately and look for the cause (braking oil level, possible leak, etc.). In the event of an abnormal dropping of the level, consult your dealer.



PARKING BRAKE INDICATOR LAMP

This indicator lamp lights up when the parking brake is applied.



BATTERY LOAD WARNING INDICATOR LAMP

If the indicator lamp and buzzer come on when the lift truck is running, stop the I.C. engine immediately and look for the cause (electric circuit, alternator belt, alternator, etc.).



I.C. ENGINE OIL PRESSURE INDICATOR LAMP

If the indicator lamp lights up when the lift truck is running, stop the I.C. engine immediately and look for the cause (see oil level in I.C. engine crankcase).

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



I.C. ENGINE WATER LEVEL WARNING INDICATOR LAMP

If the indicator lamp and buzzer come on when the lift truck is running, stop the I.C. engine immediately and look for the cause (coolant level, possible leak, radiator, etc.).



AIR FILTER OR HYDRAULIC RETURN FILTER CLOGGING WARNING INDICATOR LAMP

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



INDICATOR LIGHTS INDICATOR LAMP



SIDELIGHTS INDICATOR LAMP



LOW BEAM LIGHTS INDICATOR LAMP





MAIN BEAM LIGHTS INDICATOR LAMP

3B - SCREEN DISPLAY












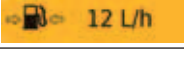

Turn on the lift truck ignition using the ignition key.

Please wait while the initialization  screen appears.

The  screen displays and displays:


- The direction of travel (F for forward/R for reverse/N for neutral).
- The hour meter.
- The clock.
- Perform a short press  on the A button to switch from one screen to another, perform a long press  to enter the menu




Main screen. 		To set the time : make a short press to increase the value or a long press to move to the next digit.	
↓			
Daily hour meter screen. 		Remise à zéro.	
↓			
Engine fault screen. 		Fault code display. 	
↓			
ECU fault screen. 		Fault code display. 	
↓			
Instantaneous consumption screen. 			
↓			
Main screen. 			


WARNINGS

Warnings may be shown during lift truck operation.

The  Wait screen displays once “stationary lift truck” exhaust particle filter regeneration is activated.
 - The screen returns to the main screen when regeneration is complete.

The  NOTICE screen displays for 3 seconds if the requirements for “stationary lift truck” exhaust particle filter regeneration are not met (see: 3 - MAINTENANCE: OCCASIONAL MAINTENANCE).

The  Ch. oil screen displays for 3 seconds to indicate that the engine oil needs changing (see: 3 - MAINTENANCE: B - EVERY 500 HOURS SERVICE).

The  Oil ok screen displays for 3 seconds to indicate that the engine oil has been changed (see: 3 - MAINTENANCE: B - EVERY 500 HOURS SERVICE).

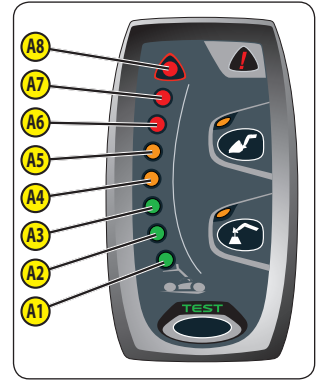
4 - LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE

⚠ IMPORTANT ⚠

The operator must respect the lift truck's load chart, and the operating mode according to the attachment.

This device warns the operator of the lift truck's longitudinal stability limits. However, lateral stability can reduce the load chart in the upper part, and this reduction is not detected by the device.

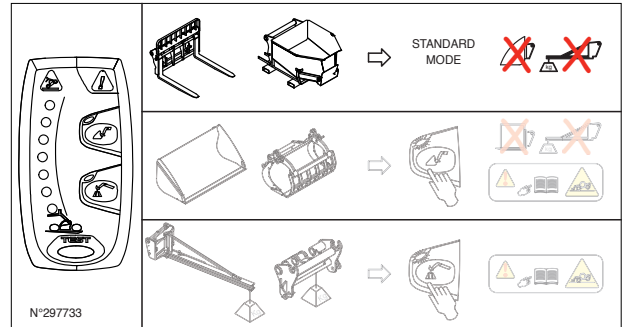
Depending on the type of work required, the longitudinal stability limiter and warning device allows the operator to operate the lift truck in complete safety.



A - "HANDLING" MODE

Use on forks.



- By default, the device is in "HANDLING" MODE when the lift truck is started-up, unless the "SUSPENDED LOAD" MODE was selected prior to engine shutdown.
 - A1 - A2 - A3: There is a significant reserve of longitudinal stability.
 - A4 - A5: The lift truck is nearing the limit of longitudinal stability. The alarm sounds simultaneously with a very slow intermittent sound. Move with care.
 - A6: The lift truck is near at the limit of longitudinal stability. The alarm sounds with a slow intermittent sound. Move with care.
 - A7: The lift truck is very near at the limit of longitudinal stability. The alarm sounds with a fast intermittent sound. Move with extreme care.
 - A8: The lift truck is at the authorized limit of longitudinal stability. The alarm sounds with a very fast intermittent sound. All "AGGRAVATING" hydraulic movements are cut-off. Cut-off may be preceded by an automatic slowing of the hydraulic movement. Only make de-aggravating hydraulic movements in the following order: retract and raise the boom.



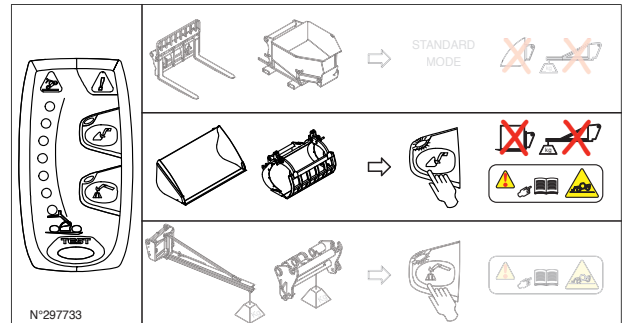
NOTE: When the boom is retracted, the function for cutting-off "AGGRAVATING" hydraulic movements is disconnected.

B - "BUCKET" MODE

Use with bucket.



- Place the lift truck in the transport position.
- Press the button  for 2 seconds, "BUCKET" MODE is confirmed by an audible beep and the lamp lighting up.
- Return to "HANDLING" MODE by pressing the button , or exiting the cab (loss of driver presence) for a few seconds, or shutting down the engine.
 - A1 - A2 - A3: There is a significant reserve of longitudinal stability.
 - A4 - A5: The lift truck is approaching the limit of longitudinal stability, move with care.
 - A6: The lift truck is approaching the limit of longitudinal stability. An audible beep is sounded. Move with care.
 - A7: The lift truck is very close to the limit of longitudinal stability. Move with extreme care.
 - A8: The lift truck is at the authorized limit of longitudinal stability. Boom raising and lowering movements are cut-off, the other movements remain available. Cut-off may be preceded by an automatic slowing of hydraulic movement.

NOTE: When the boom is retracted, the function for cutting-off "AGGRAVATING" hydraulic movements is disconnected.



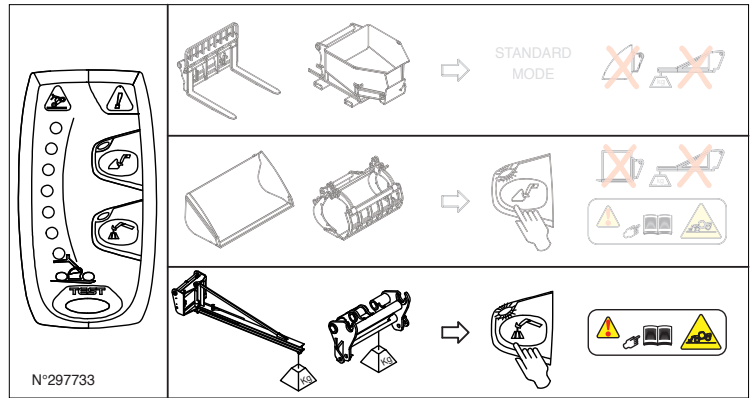
C - "SUSPENDED LOAD" MODE

Providing a higher margin of safety, use with short boom.

- Place the lift truck in the transport position.
- Press the button , for 2 seconds, "SUSPENDED LOAD" MODE is validated by an audible beep and the lighting of the lamp.
- Return to "HANDLING" MODE by pressing the  button.

- A1 - A2 - A3: There is a significant reserve of longitudinal stability.
- A4 - A5: The lift truck is nearing the limit of longitudinal stability. The alarm sounds simultaneously with a very slow intermittent sound. Move with care.
- A6: The lift truck is near at the limit of longitudinal stability. The alarm sounds with a slow intermittent sound. Move with care.
- A7: The lift truck is very near at the limit of longitudinal stability. The alarm sounds with a fast intermittent sound. Move with extreme care.
- A8: The lift truck is at the authorized limit of longitudinal stability. The alarm sounds with a very fast intermittent sound. All "AGGRAVATING" hydraulic movements are cut-off. Cut-off may be preceded by an automatic slowing of the hydraulic movement. Only make de-aggravating hydraulic movements in the following order: retract and raise the boom.

NOTE: When the boom is retracted, the function for cutting-off "AGGRAVATING" hydraulic movements is disconnected.



D - DISABLING "AGGRAVATING" HYDRAULIC MOVEMENT CUT-OFF

⚠ IMPORTANT ⚠


Remain very vigilant during this operation. The only information available to the operator is the lift truck's dynamic stability.

In certain cases, in order to get out of a difficult situation, the operator can bypass this safety system. Button D temporarily disables the cutting-off of "AGGRAVATING" hydraulic movements.

- Hold down button D, lamp D1 will light, and at the same time and with extreme care, carry out the required "AGGRAVATING" hydraulic movement. The combined use of these two actions is limited to 60 seconds.



E - TESTING OF THE LONGITUDINAL STABILITY LIMITER AND WARNING DEVICE

- Short press the  button to verify at any time that the longitudinal stability alarm is working.
- Correct operation: All the LEDs light for two seconds and an audible beep is sounded.

NOTE: This test does not check the proper adjustment of the longitudinal stability limiter that must be inspected daily or after every 10 hours of service (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS SERVICE).



F - WARNING INDICATOR LAMP

The warning  indicator lamp and a beep indicate a fault.

- To view this error code (see: 2 - DESCRIPTION: 3B - SCREEN DISPLAY).

G - STRAIN GAUGE

⚠ IMPORTANT ⚠

Disassembly or calibration of the strain gauge is prohibited, this must only be done by specially trained personnel, consult your dealer.



5 - SWITCHES

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

A - REAR FOG LIGHT

B - FRONT AND REAR WORKING LIGHTS

C - WORKING LIGHT IN BOOM HEAD

D - ROTATING BEACON LIGHT

E - ROOF WINDSCREEN WIPER

F - STEERING SELECTION

See: 2 - DESCRIPTION: 19 - STEERING SELECTION.

G - TRANSMISSION CUT-OFF

The switch selects transmission cut-off to the service brake pedal or the hydraulic control lever.

- Position 1: Indicator light on, transmission cut-off to service brake pedal activated.
- Position 2: Indicator light off, transmission cut-off to forward/reverse selector effected.

USE OF TRANSMISSION CUT-OFF

Transmission cut-off to brake pedal (position 1).

- When loading.

Transmission cut-off to forward/reverse selector (position 2).

- When driving.
- For inching and continuous stop/start (delicate handling).
- To optimize hydraulic movements.
- Start-up on a slope.

NOTE: In all cases transmission cut-off can be activated using the gear lever.

H - OPTION HYDRAULIC EASY ATTACHMENT CONNECTION

See: 2 - DESCRIPTION: DESCRIPTION AND USE OF THE OPTIONS.

I - OPTION REAR WINDOW DEFROSTER

J - OPTION ELECTRICAL BOOM PROVISION

See: 2 - DESCRIPTION: DESCRIPTION AND USE OF THE OPTIONS.

K - OPTION HYDRAULIC ATTACHMENT LOCKING OR OPTION HEAD TELESCOPE ELECTROVALVE

See: 2 - DESCRIPTION: DESCRIPTION AND USE OF THE OPTIONS.

L - NEUTRALIZATION OF HYDRAULIC MOVEMENTS

When driving on the road, it is highly recommended (mandatory in Germany) that you cut-off all the hydraulic movements. The indicator lamp shows when it is in use.

M - OPTION BOOM SUSPENSION

See: 2 - DESCRIPTION: DESCRIPTION AND USE OF THE OPTIONS.

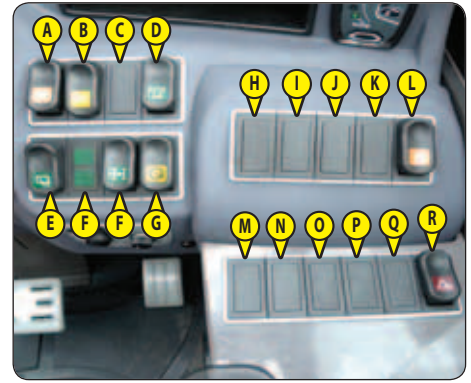
N - OPTION

O - OPTION BLUE WORKING HEAD LIGHT

P - OPTION

Q - OPTION

R - HAZARD WARNING LIGHTS



S - EXHAUST PARTICLE FILTER REGENERATION



- S1: DISABLE AUTOMATIC REGENERATION
- S2: "STATIONARY LIFT TRUCK" REGENERATION (see: 3 - MAINTENANCE: H2 - "STATIONARY LIFT TRUCK" EXHAUST PARTICLE FILTER)

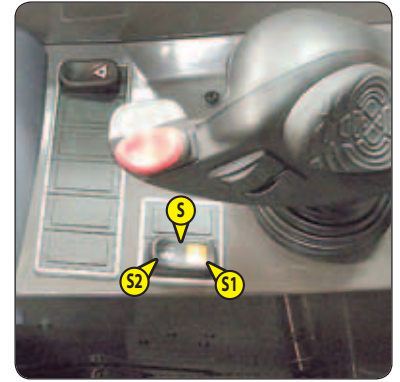
S1: DISABLE AUTOMATIC REGENERATION













⚠ IMPORTANT ⚠

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

By default, exhaust particle filter automatic regeneration is enabled each time the lift truck is started.

- To disable automatic regeneration of the exhaust particle filter, hold down the bottom of the switch. The indicator lamp  lights up and an audible beep confirms that it has been disabled.
- To re-enable automatic regeneration of the exhaust particle filter, hold down the bottom of the switch again. The indicator lamp  goes out to confirm that it has been re-enabled.



MANAGEMENT OF EXHAUST PARTICLE FILTER REGENERATION	
INDICATIONS	ACTIONS
 + 1 short beep. Moderate soot level.	The indicator lamp  lights up and the engine idling speed increases, indicating that automatic regeneration is in progress. NOTE: Ideally, wait until automatic regeneration is completed before switching off the ignition.
 +  + 1 short beep Moderate soot level, automatic regeneration disabled.	Enable automatic regeneration at the earliest possible time.
 +  + 1 long beep. High soot level.	Reduced lift truck efficiency, only "stationary lift truck" regeneration can be performed (see: 3 - MAINTENANCE: OCCASIONAL MAINTENANCE).
 +  +  + 1 long beep High soot level, automatic regeneration disabled.	
 +  +  + 1 short beep Very high soot level, particle filter clogged.	<i>Reduced lift truck efficiency, shut down the lift truck and contact your dealer.</i>

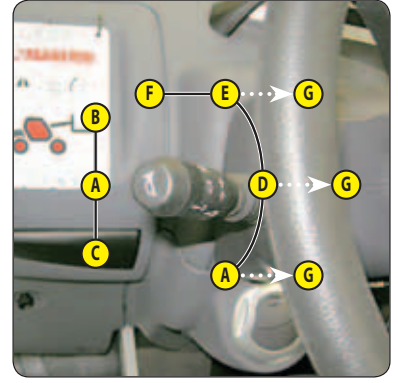
6 - LIGHTING, HORN AND INDICATOR LIGHTS SWITCH

The switch controls the visual and sound alarms.

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

Pressing the switch sounds the horn.

NOTE: The positions D - E - F - G can be carried out without the ignition being on.



7 - FRONT AND REAR WINDSCREEN WIPER SWITCH

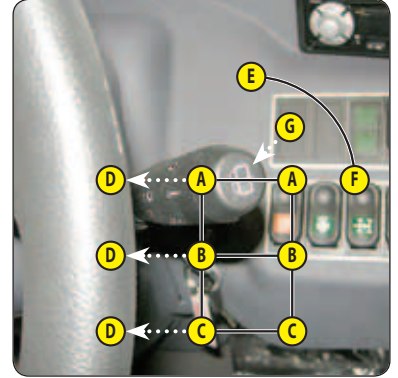
FRONT WINDSCREEN WIPER

- A - Front windscreen wiper off.
- B - Front windscreen wiper low speed setting.
- C - Front windscreen wiper high speed setting.
- D - Front windscreen wiper intermittent setting.

REAR WINDSCREEN WIPER

- E - Rear windscreen wiper off.
- F - Rear windscreen wiper on.
- G - Rear windscreen washer, pulse driven (not used).

NOTE: These functions will only work when the ignition is switched on.



8 - IGNITION SWITCH

The ignition switch has five positions:

- P - Ignition off, parking position.
- O - Ignition switched off and engine stopped.
- I - Ignition + preheat.
- II - Not used.
- III - The engine starts, return to position I as soon as the key is released.

9 - BRAKING OIL AND WINDSCREEN WASHER TANK ACCESS PANEL

- Loosen screw 1 and lift up the braking oil and windscreen washer tank access panel (see: 3 - MAINTENANCE: B - EVERY 50 HOURS OF SERVICE).



10 - ARMREST

- The armrest is adjustable in height, loosen screw 1 and set the armrest to the desired height.



11 - FUSE AND RELAY ACCESS PANEL

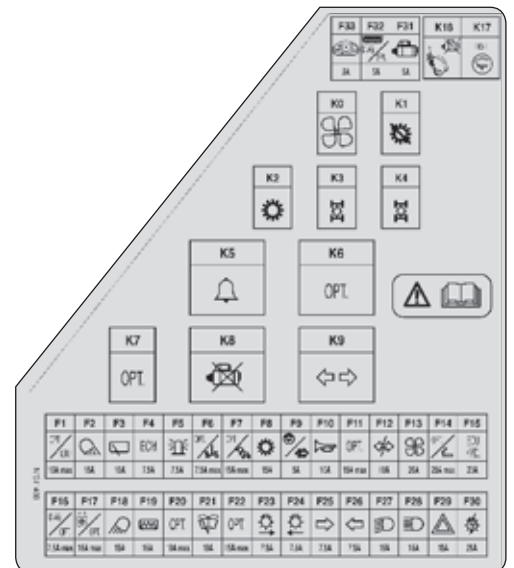
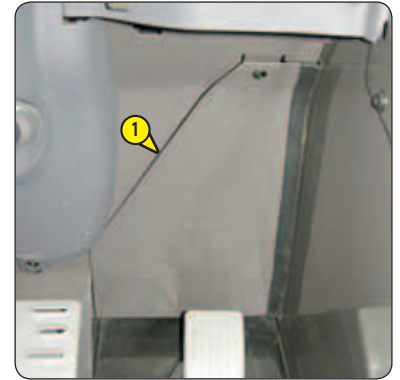
12 - FUSES AND RELAYS IN THE CAB

A sticker on the inside of the access panel gives a clear display of the use of the components described below.

- Remove access panel 1 to gain access to the fuses and relays. Replace a used fuse with a new fuse of the same quality and capacity. Never reuse a repaired fuse.

MINIFUSE

- F1 - Compensation cylinders insulation (7,5A).
- F2 - Working tail light (15A).
- F3 - Rear screen wiper(10A).
 - Roof screen wiper (10A).
- F4 - I.C. engine stop electrovalve (7,5A).
- F5 - Rotating beacon light (7,5A).
- F6 - Wheel alignment (5A).
- F7 - Longitudinal stability limiter and warning device (15A).
 - Disabling "aggravating" hydraulic movement cut-off (15A).
 - Boom retraction and angle sensor (15A).
 - OPTION Blue working head light (15A).
- F8 - Forward/neutral/reverse gear selection (15A).
 - Transmission cut-off (15A).
 - Reversing lights (15A).
 - OPTION Reversing sound alarm (15A).
- F9 - Control panel (5A).
- F10 - Sound alarm (10A).
 - Stop switch (10A).
- F11 - OPTION Boom head light (15A).
- F12 - Indicator lights power supply (10A).
- F13 - Heating (20A).
- F14 - Cigar lighter (10A).
- F15 - Hydraulic movement control unit power supply (20A).
- F16 - Diagnostic socket (7,5A).
 - OPTION Air-conditioning (7,5A).
- F17 - OPTION Rear hydraulic provision (10A).
 - OPTION Anti-theft provision (10A).
 - OPTION Anti-theft system (10A).
 - OPTION Anti-start system (10A).
 - OPTION Self-cleaning fan (10A).
- F18 - Front working light (15A).
- F19 - OPTION Rear window defrosting (15A).
- F20 - OPTION Pneumatic seat(10A).
 - OPTION Hydraulic easy attachment connection (10A).
- F21 - Front windscreen wiper and windscreen washer (10A).
- F22 - OPTION Boom suspension (10A).
 - OPTION Electrical boom provision (10A).
 - OPTION Boom head electrovalve (10A).
 - OPTION Boom head electrovalve + hydraulic attachment-locking (10A).
- F23 - Right sidelights (7,5A).
 - Sidelights indicator lamp (7,5A).
 - Control instrument panel lighting (7,5A).
- F24 - Left sidelights (7,5A).
 - OPTION Number plate lighting (7,5A).
- F25 - Right indicator lights (7,5A).
- F26 - Left indicator lights (7,5A).
- F27 - Low beam lights (15A).
 - Low beam lights indicator lamp (15A).
 - Rear fog lamp (15A).
- F28 - Main beam lights (15A).
 - Main beam lights indicator lamp (15A).



- F29 - Hazard warning lights (15A).
Roof light (15A).
Clock (15A).
OPTION (+) permanent (15A).
- F30 - Lights, horn and indicator lights switch (25A).
- F31 - Starter (5A).
- F32 - Diagnostic socket + ECM (5A).
- F33 - VDO power supply module (2A).



RELAYS

- K0 - OPTION Air-conditioning.
- K1 - Transmission cut-off relay to hydraulic controls.
- K2 - Transmission cut-off relay.
- K3 - Reverse gear relay.
- K4 - Forward gear relay.
- K5 - Buzzer.
- K6 - OPTION.
- K7 - OPTION.
- K8 - Safety system starting switch relay.
- K9 - Flashing unit.
- K10 - OPTION Boom suspension cut-off relay.
- K11 - OPTION Boom suspension power supply relay.
- K12 - OPTION Boom suspension / insulation switching relay.
- K17 - Indicator lamp module relay.
- K18 - Neutral security system switch relay.

13 - FUSES AND RELAYS UNDER THE ENGINE HOOD

- Open engine hood 1 in order to gain access to the fuses and relays. Replace a used fuse with a new fuse of the same quality and capacity. Never reuse a repaired fuse.

RELAYS

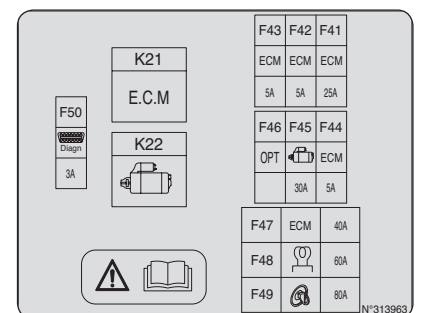
- K21 - Engine computer power supply relay.
- K22 - Starter control relay.

MAXIFUSE

- F47 - Engine computer power supply relay (40A).
- F48 - Engine Preheat Module (60A).
- F49 - Ignition switch (80A).

MINIFUSE

- F41 - Engine computer voltage power supply (25A).
- F42 - Engine computer control power supply (5A).
- F43 - Lambda probe (5A).
- Water in fuel presence (5A).
- Dashboard power supply (5A).
- F44 - K21 Relay solenoid (5A).
- F45 - K22 Relay (starter control) solenoid (30A).
- F46 - OPTION air-conditioning (30A).
- F50 - Diagnostic plug (3A).



15 - SERVICE BRAKE PEDAL AND TRANSMISSION CUT-OFF

The pedal works on the front and rear wheels via a hydraulic brake system, and allows the lift truck to be slowed down and stopped. Depending on the position of the transmission cut-off switch, it enables the free travel to cut off transmission (see: 2 - DESCRIPTION: 5 - SWITCH PANEL).

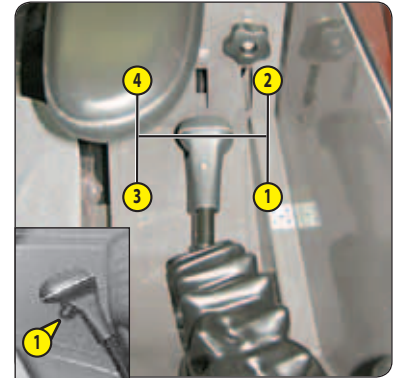
16 - GEAR LEVER AND TRANSMISSION CUT-OFF

In order to change speeds, it is necessary to cut the transmission by pressing the button 1 on the lever.

- 1st gear: To the right, backwards.
- 2nd gear: To the right, forwards.
- 3rd gear: To the left, backwards.
- 4th gear: To the left, forwards.

USING THE GEARS ON THE GEAR BOX

On those lift trucks with torque converter, it is not necessary to automatically start up in 1st gear and progress up the gears.



⚠ IMPORTANT ⚠

The choice of transmission gear ratio should be made carefully according to the nature of the work being carried out.

A poor choice may result in the extremely rapid rise of the gear box oil temperature through excessive slipping of the converter, which could lead to serious damage of the gear box (it is essential to stop and change the working conditions if the transmission oil temperature indicator lamp lights up).

This poor choice may also result in the lift truck's performance deteriorating in forward gear. When the forward force increases, the forward speed in the r gear (for example, in 3rd gear) may be lower than the forward speed that could be obtained with the r-1 gear (in 2nd instead of 3rd).

In general, we would advise you to use the following gears according to the nature of the work being carried out.

- On the road: Set off in 3rd gear and go up to 4th if the conditions and state of the road permit it. In hilly areas, set off in 2nd gear and go up to 3rd if the conditions and state of the road permit it.
- With a trailer on the road: Set off in 2nd gear and switch to 3rd if the conditions and state of the road permit it.
- Handling: 3rd gear.
2nd gear in restricted spaces.
- Earth moving: 1st gear.
- Loading (reclaiming with bucket, manure fork, etc.): 2nd gear.

17 - 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 (position A).

REVERSE: Pull the knob backwards (position B).

NEUTRAL: The knob must be in the intermediate position to start the lift truck (position C).

NOTE: The reverse lights indicate that the lift truck is running in reverse motion. An OPTIONAL audible reversing alarm can also be fitted.



SAFETY FOR MOVING THE LIFT TRUCK

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

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

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

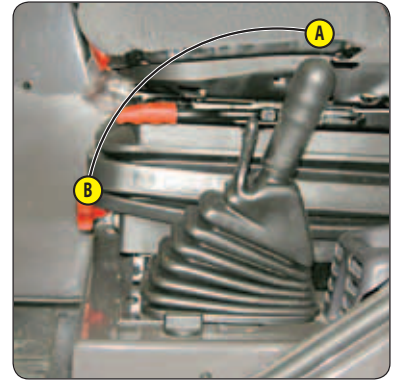
- 1 - Set the forward/reverse selector to neutral,
- 2 - engage the parking brake,
- 3 - get out of the lift truck.

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

18 - PARKING BRAKE LEVER

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

- To apply the parking brake, pull the lever backwards (position A).
- To loosen the parking brake, release and push the lever forwards (position B).



19 - STEERING SELECTION

A - GREEN WHEEL ALIGNMENT LIGHTS

⚠ IMPORTANT ⚠

Before selecting one of the three possible steering positions, bring all 4 wheels into alignment with regards to the lift truck axle.

Never change the steering mode whilst driving.

These lights come on to indicate the alignment of the wheels in relation to the lift truck. The A1 indicator lamp for the front wheels and the A2 indicator lamp for the rear wheels.



B - STEERING SELECTION LEVER

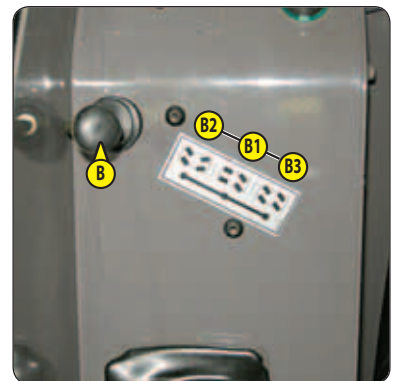
- B1 - Front drive wheels (highway traffic).
- B2 - Front and rear drive wheels in opposite direction (short steering lock).
- B3 - Front and rear drive wheels in the same direction (crab steering).

CONTROL FOR ALIGNMENT OF THE WHEELS

⚠ IMPORTANT ⚠

Before driving on roads, it is necessary to check the alignment of the rear wheels and to drive in front wheel steer. The control of the alignment of the rear wheels must be regularly done with the help of the green lights, while driving the lift truck.

In case of anomalies, consult your dealer.



C - SWITCH FOR ALIGNMENT OF THE WHEELS

This switch enables the use or not of the device for alignment of the wheels. The indicator lamp indicates its use.

- Press switch C (indicator lamp on).
- Shift the steering selection lever B into position B2 (short steering lock).
- Turn the steering wheel and bring the rear wheels into alignment until the A2 indicator lamp lights up.
- Shift the steering selection lever B into position B1 (highway traffic).
- Turn the steering wheel and bring the front wheels into alignment until the A1 indicator lamp lights up.

20 - HYDRAULIC CONTROLS

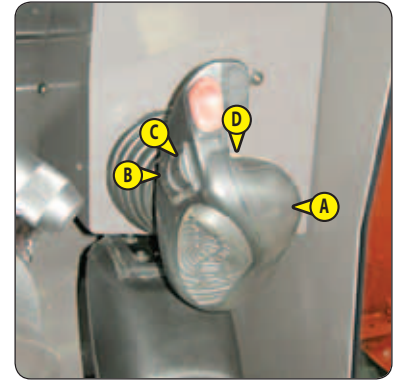
⚠ IMPORTANT ⚠

*Do not attempt to alter the hydraulic system pressure. 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.

NOTE: If necessary use the steering to reset the hydraulic control steering accumulator.

- A - Lifting and tilting control lever.
- B - Telescoping control button.
- C - Attachment control button.
- D - Boom head electrovalve OPTION control button.



LIFTING THE LOAD

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

TILT OF CARRIAGE

- The lever A to the left for reverse tilt.
- The lever A to the right for forward tilt.

TELESCOPING

- Button B forwards for extending.
- Button B backwards for retracting.

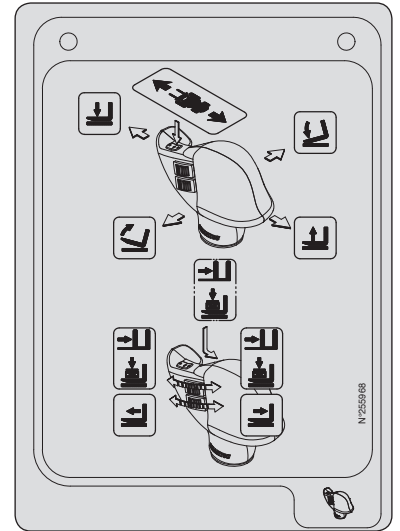
ATTACHMENT

- The button C forwards or backwards.

OPTION HEAD TELESCOPE ELECTROVALVE

- Button D (see: 2 - DESCRIPTION: DESCRIPTION AND USE OF OPTIONS).

NOTE: When driving on the road, it is highly recommended (mandatory in Germany) that you cut-off all the hydraulic movements (see 2 - DESCRIPTION 5 - SWITCHES).



21 - FUNCTION FILES

These files contain the description of the hydraulic controls and the load charts for the attachments used on the lift truck.

22 - HEATER CONTROL

A - FAN CONTROL

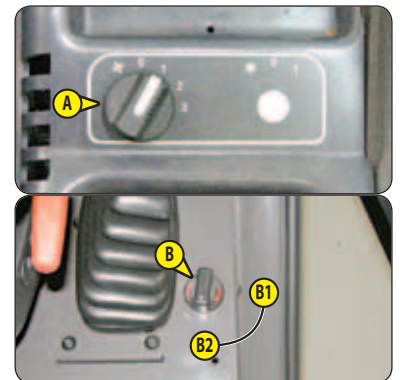
This 3-speed control allows the air to be ventilated through the air vents.

B - TEMPERATURE CONTROL

Allows the temperature inside the cab to be adjusted.

- B1 - The fan pumps in the air at ambient temperature.
- B2 - The fan pumps in warm air.

The intermediate positions allow the temperature to be adjusted



⚠ IMPORTANT ⚠

The air conditioning only works if the lift truck has been started up.

When using your air conditioning unit you must work with the cab closed off.

In winter: So as to ensure correct operation and complete efficiency of the air conditioning unit, start up the compressor once a week, if only for a short spell, so as to lubricate the internal seals.

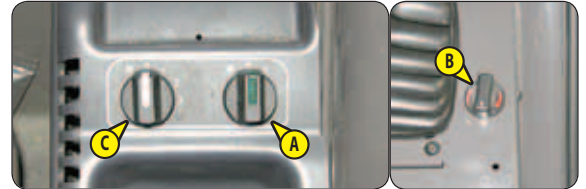
In cold weather: Warm the I.C. engine before switching on the compressor, so as to allow the coolant that has collected in a liquid state at the lowest point of the compressor circuit to turn into gas under the effect of the heat given off by the I.C. engine, as the compressor is liable to be damaged by coolant in a liquid state.

If your air conditioning does not seem to be working correctly, have it examined by your dealer (see 3 - MAINTENANCE: F - EVERY 2000 HOURS OF SERVICE).

Never try to repair any faults yourself.

DESCRIPTION OF THE AIR CONDITIONING CONTROLS

- A - Air conditioning system ON/OFF control switch with indicator lamp. Only works when control switch "C" set to 1, 2 or 3.
- B - Air temperature control.
- C - Air flow and fan speed control. When this control is set to "0" the air conditioning system will not work.



NOTE: Possible losses of water under the lift truck are due to

condensate discharges caused by the drying effect of the installation, especially with high outside temperatures and high relative humidity.

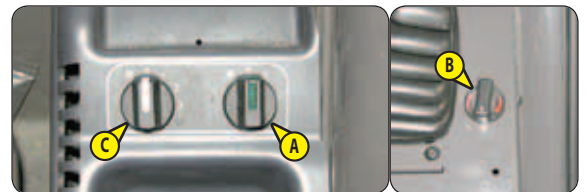
For the air conditioning to perform properly, the air intakes must not be blocked by frost, snow or leaves.

When the facility is running, at least one of the cab air grilles must be open so as to avoid any risk of freezing the evaporator.

HEATING MODE

The controls must be adjusted in the following way:

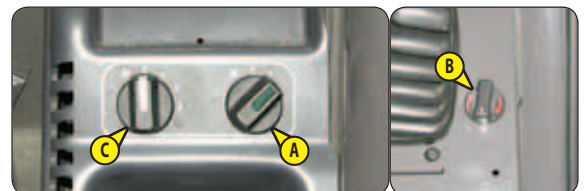
- A - Control with indicator lamp off.
- B - At the required temperature.
- C - To the desired position 1, 2 or 3.



CONDITIONED AIR MODE

The controls must be adjusted in the following way:

- A - Control with indicator lamp on.
- B - At the required temperature.
- C - To the desired position 1, 2 or 3.

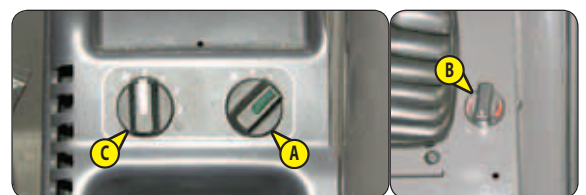


DEMISTING MODE

The controls must be adjusted in the following way:

- A - Control with indicator lamp on.
- B - At the required temperature.
- C - To the desired position 1, 2 or 3.

NOTE: Direct the ventilators onto the cab's windows for increased efficiency.



24 - CAB VENTILATION FILTER

See: 3 - MAINTENANCE: D - EVERY 500 HOURS SERVICE.

25 - WINDSCREEN DEMISTER VENTS

For optimum effectiveness, close the heating ventilators.

26 - HEATING VENTS

These heating vents enable the air to be directed to the interior of the cabin and onto the side windows.

27 - DOOR LOCK

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

28 - LOCKING HANDLE FOR UPPER HALF-DOOR

29 - UNLOCKING BUTTON FOR UPPER HALF-DOOR

30 - HANDLE FOR REAR WINDOW OPENING

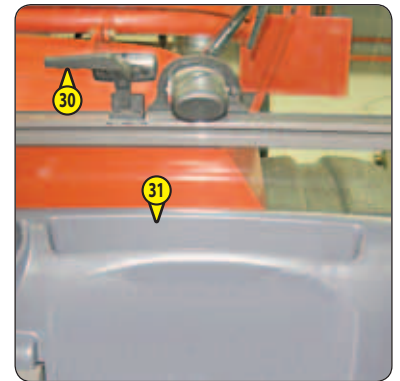
EMERGENCY EXIT

Use the rear window as an emergency exit, if it is impossible to leave the cab by the door.

NOTE: There is an OPTIONAL rear window stay.

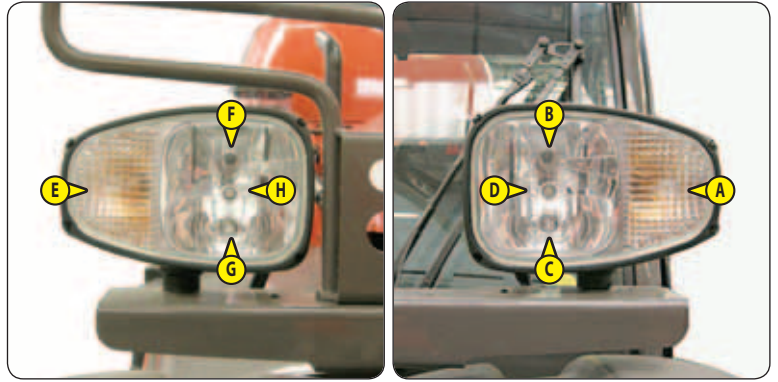
31 - DOCUMENT HOLDER

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



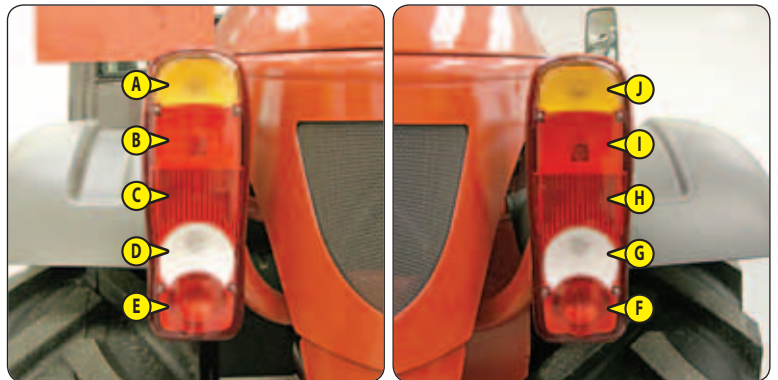
32 - FRONT HEADLIGHTS

- A - Left front indicator.
- B - Left front dipped headlight.
- C - Left front main beam.
- D - Left front sidelight.
- E - Right front indicator.
- F - Right front dipped headlight.
- G - Right front main beam.
- H - Right front sidelight.



33 - REAR LIGHTS

- A - Left rear indicator.
- B - Left rear stoplight.
- C - Rear left headlight.
- D - Left rear reverse light.
- E - Left rear fog light.
- F - Right rear fog light.
- G - Right rear reverse light.
- H - Rear right headlight.
- I - Right rear stoplight.
- J - Right rear indicator.



34 - ROTATING BEACON LIGHT

The magnetic rotating beacon light must be clearly visible on the roof of the cab and plugged-in to socket 1.



35 - STEERING WHEEL ADJUSTMENT LEVER

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.



36 - LEVEL INDICATOR

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



37 - SUN VISOR

38 - ROOF LIGHT

39 - HOOK

40 - CIGARETTE LIGHTER

41 - EMERGENCY STOP BUTTON

In the event of danger, it lets you stop the I.C. engine and thereby cut out all hydraulic movements.

⚠ IMPORTANT ⚠

*Warning, hydraulic movements suddenly stop when using this button.
If possible, stop the lift truck before using the emergency stop.*

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

42 - BOOM SAFETY WEDGE

⚠ IMPORTANT ⚠

Only use the wedge supplied with the lift truck.

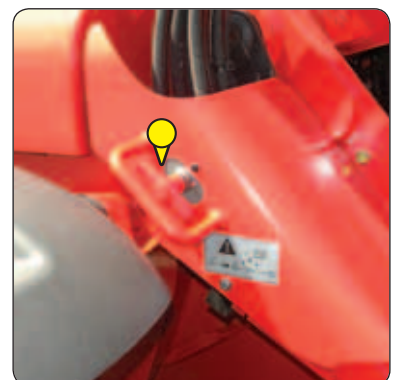
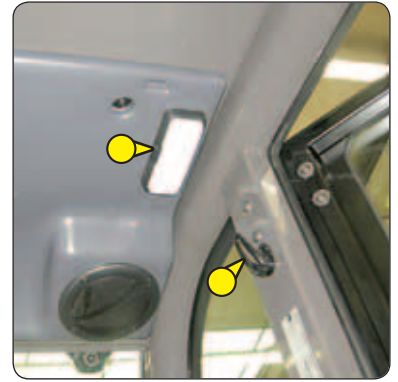
The lift truck is equipped with a boom safety wedge that must be installed on the rod of the lifting cylinder when working beneath the boom (see: 1 - OPERATING AND SAFETY INSTRUCTIONS).

43 - BATTERY CUT-OFF

For quickly disconnecting the battery when working on the electric circuit or when soldering, for example.

⚠ IMPORTANT ⚠

Operate the battery cut-off no less than 30 seconds after turning off the ignition with the ignition key.



44 - NUMBER PLATE

MLT 629 24" CE ST3B



45 - EMERGENCY EXIT

MLT 629 24" CE ST3B

EMERGENCY HAMMER

Use the emergency hammer to break one of the windows in the event that it is impossible to exit the cab by the door or by opening the rear window.



TOWING PIN AND HOOK

⚠ IMPORTANT ⚠

Do not tow a trailer or an attachment that is not in perfect working order.

Using a trailer that is not in good condition may affect the steering and braking of the lift truck and therefore the safety of the whole unit.

If a third party helps in coupling or uncoupling the trailer, this person must remain permanently visible to the driver and wait until the lift truck has stopped, the parking brake is on and the I.C engine is switched off before performing the operation.

Located at the rear of the lift truck, this device is used to attach a trailer. Its capacity is limited for each lift truck by the authorized gross vehicle weight, tractive effort and maximum vertical force on the coupling point. This information is given on the manufacturer's plate fixed to each lift truck (see: 2 - DESCRIPTION: IDENTIFICATION OF THE LIFT TRUCK).

- To use a trailer, see current regulations in your country (maximum running speed, braking, maximum weight of trailer, etc.).
- Verify the trailer's condition before using it (tire condition and pressures, electrical connection, hydraulic hose, brake system...).

1 - TOWING PIN (STANDARD)

⚠ IMPORTANT ⚠

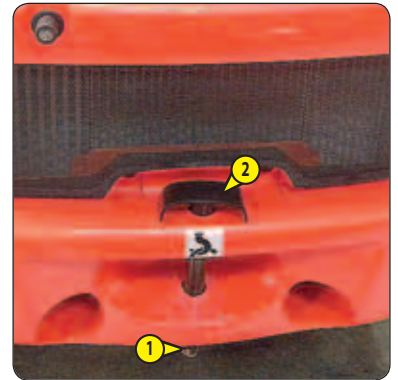
Be careful not to get your fingers caught or crushed during this operation.

Do not forget to put pin back in place.

When decoupling, make sure that the trailer is independently supported.

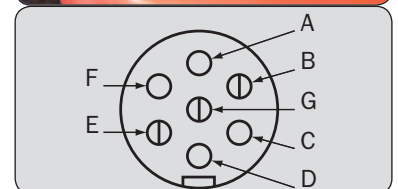
COUPLING AND UNCOUPLING THE TRAILER

- To couple the trailer, position the lift truck as close as possible to the trailer ring.
- Put the parking brake on and switch off the I.C. engine.
- Remove the clip 1, lift the trailer pin 2 and place or remove the trailer ring.



2 - REAR ELECTRIC SOCKET (STANDARD)

- Connect the male plug to the female socket 1 on the lift truck and make sure the lights of the trailer or the light bar are working properly.
 - A - Left rear indicator.
 - B - OPTION Rear fog lights.
 - C - Ground.
 - D - Right rear indicator.
 - E - Right rear headlight.
 - F - Rear stoplight.
 - G - Rear left headlight + number plate.



3 - CONNECTING THE BRAKE SYSTEM (OPTION)

- Connect the brake hose to the provided brake unit 1 on the lift truck.
- Make sure the trailer brakes are working properly and test the effects of braking before taking the trailer onto the public highway.



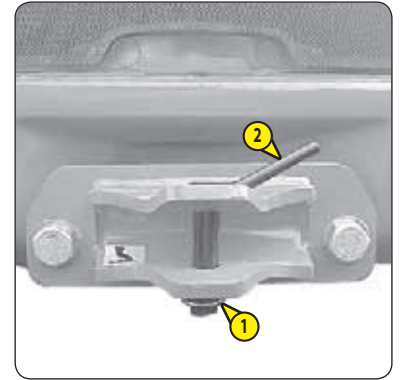
4 - PROJECTING HOOK (OPTION)

⚠ IMPORTANT ⚠

- Be careful not to get your fingers caught or crushed during this operation.*
- Do not forget to put pin back in place.*
- When decoupling, make sure that the trailer is independently supported.*

COUPLING AND UNCOUPLING THE TRAILER

- To couple the trailer, position the lift truck as close as possible to the trailer ring.
- Put the parking brake on and switch off the I.C. engine.
- Remove the clip 1, lift the trailer pin 2 and place or remove the trailer ring.



5 - COUPLING LADDER (OPTIONAL)

⚠ IMPORTANT ⚠

- Be careful not to get your fingers caught or crushed during this operation.*
- Do not forget to put the axles and the pins back in place.*
- When decoupling, make sure that the trailer is independently supported.*

COUPLING AND UNCOUPLING THE TRAILER

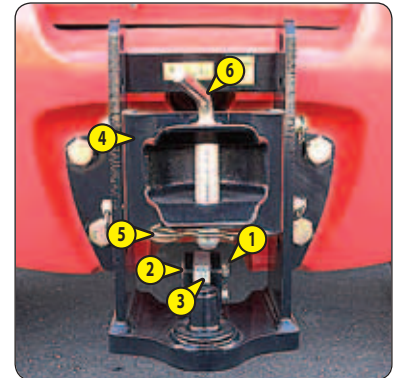
- To couple the trailer, position the lift truck as close as possible to the trailer ring.
- Put the parking brake on and switch off the I.C. engine.

ON THE FIXED PIN

- Remove pin 1, remove rod 2 and raise latch 3.
- Insert or remove the trailer ring, lower latch 3 and refit rod 2.

ON THE COUPLING LADDER

- Set the coupling fitting 4 according to the height of the trailer ring.
- Remove the clip 5, lift the trailer pin 6 and place or remove the trailer ring.



6 - HYDRAULIC TRAILER HOOK (OPTIONAL)

⚠ IMPORTANT ⚠

*Never use the trailer hook to raise the rear of the lift truck (when changing the rear wheel for example).
When decoupling, make sure that the trailer is independently supported.*

- Raise the hydraulic trailer hook to release the hook lock 1 by pressing the upper part of switch 2.
- Pull the knob 3, retain this position and press the lower part of switch 2 to lower the trailer hook.
- Release knob 3.
- Couple or decouple the trailer.
- Raise the trailer hook by pressing the upper part of switch 2 and then lower the hook to verify that the lock pin is in proper contact with hook 1 lock.



7 - CHASSIS-MOUNTED FRONT TOWING HOOK

MLT 629 24" CE ST3B

⚠ IMPORTANT ⚠

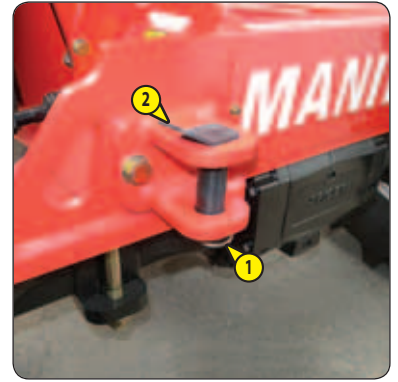
Be careful not to get your fingers caught or crushed during this operation.

Do not forget to put clip 1 back in place.

When uncoupling, make sure that the trailer is supported independently.

COUPLING AND UNCOUPLING THE TRAILER

- To couple the trailer, position the lift truck as close as possible to the trailer ring.
- Put the handbrake on and switch off the I.C. engine.
- Remove the clip 1, lift the trailer pin 2 and place or remove the trailer ring.



8 - AUTOMATIC TRAILER HOOK (OPTION)

MLT 629 24" CE ST3B

COUPLING THE TRAILER

- Remove the automatic towing pin using lever 1.
- Move the lift truck backwards so that the trailer ring slots into the automatic hook.

NOTE: The pin closes automatically when the trailer ring touches the end of the fitting.

The pin can be lowered by hand using lever 1.

UNCOUPLING THE TRAILER

⚠ IMPORTANT ⚠

When uncoupling, make sure that the trailer is supported independently.

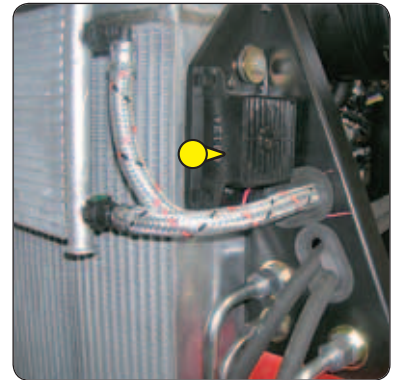
- Remove the pin using lever 1 to uncouple the trailer.



DESCRIPTION AND USE OF THE OPTIONS

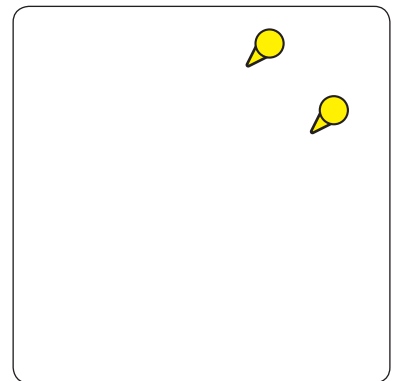
- 1 - REVERSE SOUND ALARM
- 2 - NUMBER PLATE
- 3 - NUMBER PLATE LIGHTING
- 4 - REAR REFLECTORS
- 5 - MODCOD ANTI-THEFT SYSTEM
- 6 - FINTRONIC ANTI-START SYSTEM
- 7 - MODCLE ANTI-START SYSTEM
- 8 - BOOM ELECTRICAL PROVISION
- 9 - EXTERIOR DRAIN-BACK
- 10 - HYDRAULIC ATTACHMENT-LOCKING
- 11 - HEAD TELESCOPE ELECTROVALVE
- 12 - HEAD TELESCOPE ELECTROVALVE + HYDRAULIC ATTACHMENT LOCKING
- 13 - SINGLE OR DUAL EFFECT REAR HYDRAULIC CONTROL PROVISION
- 14 - ATTACHMENT HYDRAULIC CONTROL FORCED OPERATION
- 15 - BOOM SUSPENSION
- 16 - ATTACHMENT EASY HYDRAULIC CONNECTION
- 17 - ANGULAR SECTOR ON BOOM

1 - REVERSE SOUND ALARM



2 - NUMBER PLATE

3 - NUMBER PLATE LIGHTING



4 - REAR REFLECTORS



5 - MODCOD ANTI-THEFT SYSTEM

OPERATION

- Switch on the lift truck: the red indicator 1 will flash.
- Enter your user code followed by "V" to validate: the green indicator 2 will come on.
- Start the lift truck within the next 60 seconds; otherwise the anti-theft system will be reactivated and the red indicator 1 will flash.

NOTE: If you make a mistake when entering the code, press key "A" to cancel and re-enter the code in full.

If you wait more than 5 seconds between key presses or do not complete entering the code, the anti-theft system will be reactivated and the red indicator will flash.

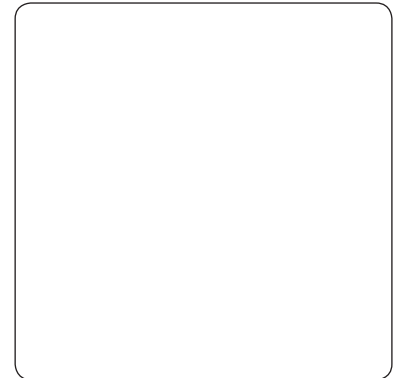


6 - FINTRONIC ANTI-START SYSTEM

OPERATION

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

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

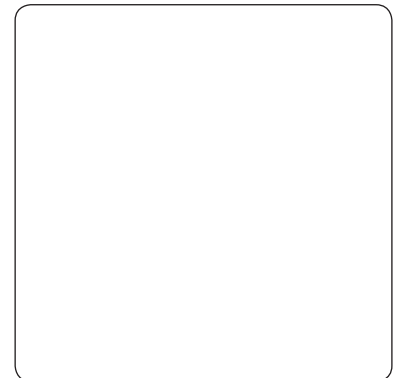


7 - MODCLE ANTI-START SYSTEM

OPERATION

- Switch on lift truck ignition, red LED 1 will flash.
- Apply key 2 to its base 3, and withdraw the moment the system emits a continuous beep, and LED 1 turns green.
- Start the lift truck within the next 20 seconds; otherwise the anti-theft system will be reactivated and red LED 1 will flash.

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

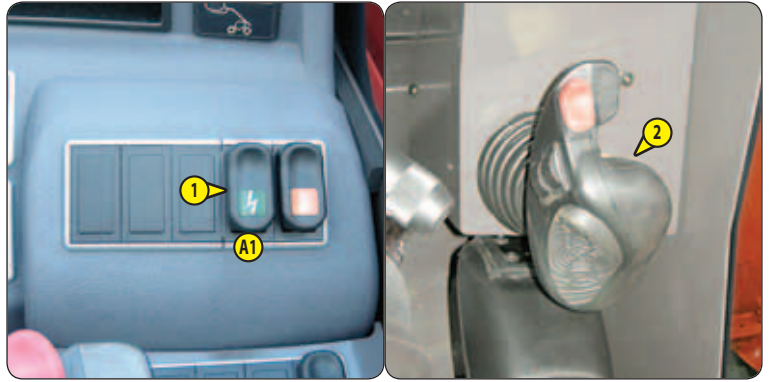


8 - BOOM ELECTRICAL PROVISION

Enables an electrical function to be used at the head of the boom foot.

OPERATION

- Set switch 1 to position A1 to enable the predisposition, the indicator lights up to show that it is enabled.
- Press button 2 to use.



9 - EXTERIOR DRAIN-BACK

Enables connection of an attachment for which drain-back is required.



10 - HYDRAULIC ATTACHMENT-LOCKING

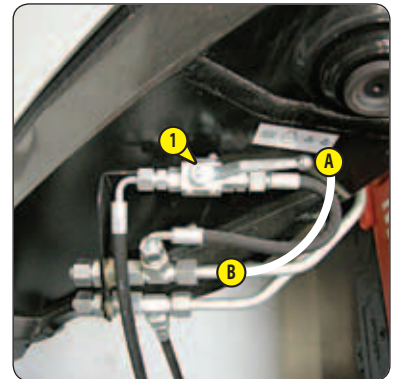
Enables the attachment to be locked onto the carriage and a hydraulic attachment to be used by the same hydraulic circuit.

ATTACHMENT LOCKING CONTROL

- Set valve 1 to position A and place switch 2 in position B (indicator lamp on).
- Push button 3 forward to lock the attachment and backward to release it.

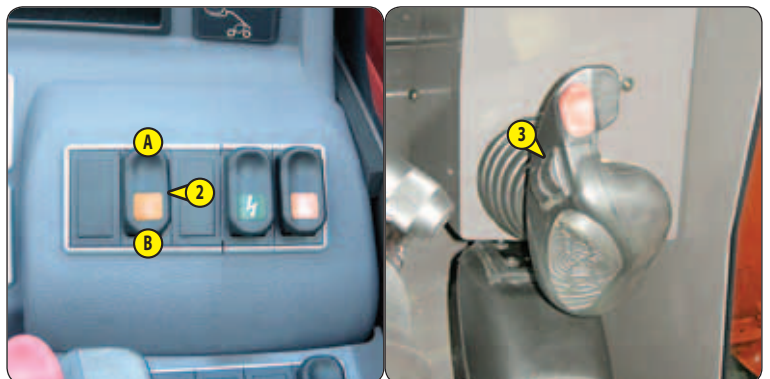
⚠ IMPORTANT ⚠

After locking the attachment, return switch 2 to position A (indicator lamp off) to prevent accidental release of the attachment.



HYDRAULIC ATTACHMENT CONTROL

- Set valve 1 to position B and press switch 2 in position B (indicator lamp on).
- Push button 3 forward or backward.

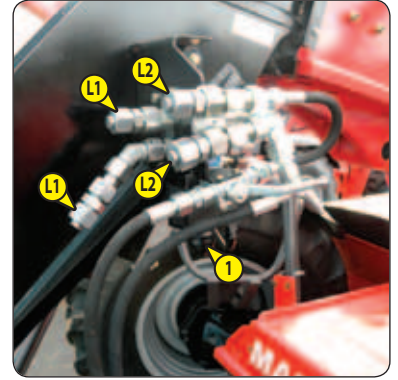


11 - HEAD TELESCOPE ELECTROVALVE

Enables use of two hydraulic functions on the attachment circuit.

⚠ IMPORTANT ⚠

To make connection of the rapid connectors easier, decompress the hydraulic circuit by pressing button 1 on the electrovalve.

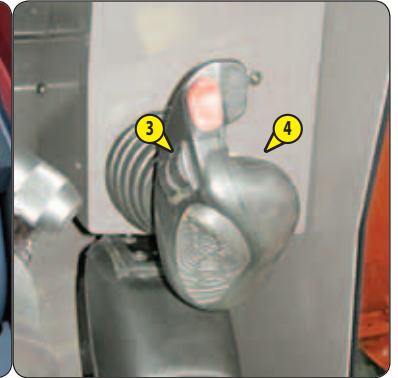
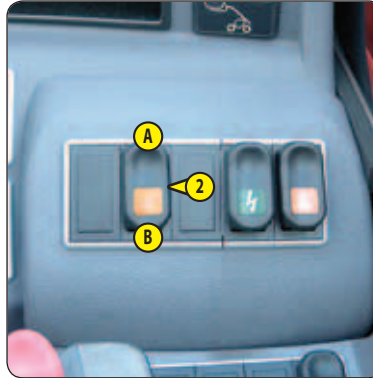


ATTACHMENT LINE L1 CONTROL

- Set switch 2 to position A (indicator lamp off).
- Push button 3 forward or backward.

ATTACHMENT LINE L2 CONTROL

- Set switch 2 to position B (indicator lamp on).
- Hold down button 4 and push button 3 forwards or backwards.



12 - HEAD TELESCOPE ELECTROVALVE + HYDRAULIC ATTACHMENT LOCKING

The addition of these two options on the attachment line allows two hydraulic functions to be used and locks the attachment onto the carriage.

⚠ IMPORTANT ⚠

To make connection of the rapid connectors easier, decompress the hydraulic circuit by pressing button 1 on the electrovalve.

ATTACHMENT LINE L1 CONTROL

- Set switch 2 to position A (indicator lamp off).
- Push button 3 forward or backward.

ATTACHMENT LINE L2 CONTROL + HYDRAULIC ATTACHMENT LOCKING

LOCKING AN ATTACHMENT

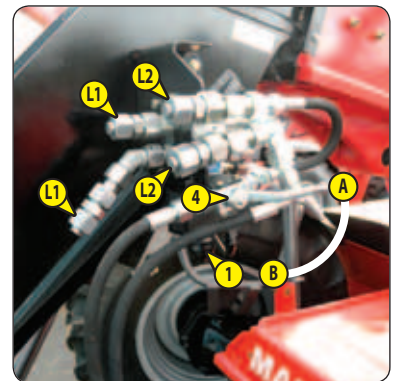
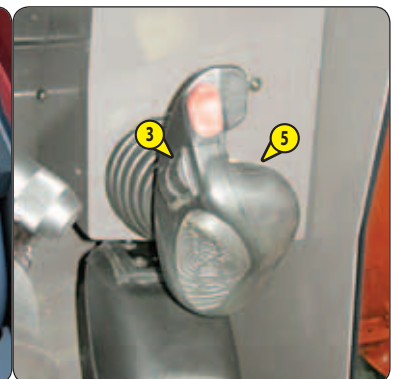
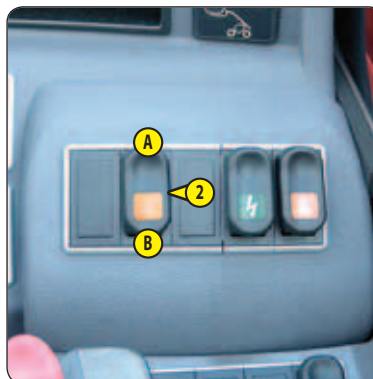
- Set valve 4 to position A.
- Set switch 2 to position B (indicator lamp on).
- Hold down button 5 and push button 3 forward to lock the attachment and backward to release it.

⚠ IMPORTANT ⚠

Once the attachment is locked, return valve 4 to position B to prevent accidental release of the attachment.

HYDRAULIC ATTACHMENT

- Set switch 2 to position B (indicator lamp on).
- Hold down button 5 and push button 3 forwards or backwards.



13 - SINGLE OR DUAL EFFECT REAR HYDRAULIC CONTROL PROVISION

Enables the use of a hydraulic attachment at the rear of the lift truck (e.g. a trailer with hydraulic tipping).

OPERATION

- Press button 1, the blue light 2 comes on to indicate that the rear hydraulic circuit is in use.
- Move button 3 forwards or backwards.



14 - ATTACHMENT HYDRAULIC CONTROL FORCED OPERATION

⚠ IMPORTANT ⚠

This OPTION must only be used with an attachment requiring continuous hydraulic movement of type: brush, supply bucket, mixer, spray... It is strictly forbidden in handling operations and at all other events (winch, crane boom, crane boom with winch, hook, etc.).

CONTINUOUS HYDRAULIC MOVEMENT OF THE ATTACHMENT

- Make sure the potentiometer C is set to 0%.
- Switch button A to the front or the back (depending on the type of attachment), press button B and release button A. The red indicator 1 flashes to indicate that it is in operation.
- Set the required flow rate using potentiometer C.
- To stop continuous hydraulic movement of the attachment, move switch A forwards or backwards or press button B. Indicator 1 goes out.
- Set potentiometer C to 0%.

⚠ IMPORTANT ⚠

Never leave the driver's cab without resetting the potentiometer C to 0 %. Before starting the lift truck, make sure the potentiometer is set to 0 %.

NOTE: If the operator leaves the driver's cab, the continuous hydraulic movement will automatically stop and must be restarted.



15 - BOOM SUSPENSION

The boom is suspended to reduce shaking of the lift truck on rough ground (e.g. moving straw in a field).

OPERATION

- Set the forks or attachment on the ground and relieve the front wheels a few centimeters only.
- Press switch 1 to position A, the visual indicator comes on indicating that boom suspension is activated.
- Press switch 1 to position B, the visual indicator goes out indicating that boom suspension is deactivated.

⚠ IMPORTANT ⚠

Boom suspension is active to a lifting height of 3m00 from the axis of articulation of the carriage with respect to the ground with the boom retracted.

When you move beyond this height or make another hydraulic movement (tilting, telescoping, attachment), boom suspension is momentarily deactivated and the visual indicator of switch 1 goes out.

- When the I.C. engine is off, boom suspension is automatically deactivated.



16 - ATTACHMENT EASY HYDRAULIC CONNECTION

For easily connecting and disconnecting the attachment.

OPERATION

- Press for two seconds on push-button 1 to release the attachment circuit hydraulic pressure.
- Connect or disconnect the rapid connectors of the hydraulic attachment (see: 4 - OPTIONAL ATTACHMENTS FOR USE WITH THE RANGE: PICKING UP THE ATTACHMENTS).



17 - ANGULAR SECTOR ON BOOM

The angular sector displays the boom angle, and thus improves the reading of the load charts.



3 - MAINTENANCE

TABLE OF CONTENTS

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:

- Legally -to be held responsible in the event of an accident.
- Technically - to cause operating malfunctions or shorten the life of the lift truck.

⚠ IMPORTANT ⚠

***THE USE OF COUNTERFEIT PARTS OR COMPONENTS NOT APPROVED BY THE MANUFACTURER,
WILL CAUSE YOU TO LOSE THE BENEFIT OF THE CONTRACTUAL GUARANTEE.***

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 ⚠

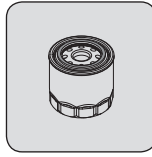
ORIGINAL REPLACEMENT PARTS ARE DISTRIBUTED EXCLUSIVELY BY MANITOU AND ITS DEALER NETWORK.

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

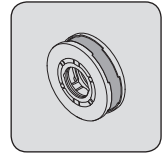
FILTERS CARTRIDGES AND BELTS

I.C. ENGINE

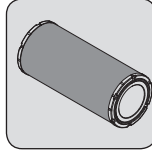
I.C. ENGINE OIL FILTER
Part number: 798424
Change: 500 H



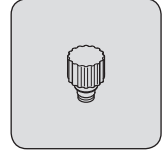
ENGINE CRANKCASE VENTILATION FILTER
Part number: 797650
Change: 1000 H



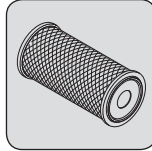
DRY AIR FILTER CARTRIDGE
Part number: 797903
Change: 500 H
Up to machine N°: 923416



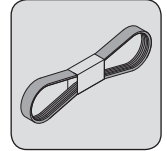
FUEL TANK BREATHER
Part number: 266219
Change: 1000 H



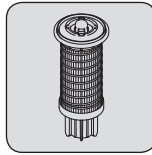
DRY AIR FILTER CARTRIDGE
Part number: 563416
Change: 500 H
From machine N°: 923417



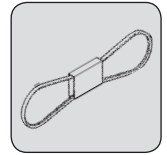
ALTERNATOR BELT
Part number: 797318
Change: 3000 H



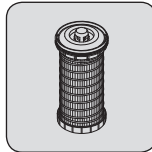
FUEL PRE-FILTER CARTRIDGE
Part number: 798466
Change: 500 H



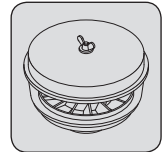
COMPRESSOR BELT
(AIR-CONDITIONING OPTION)
Part number: 273977



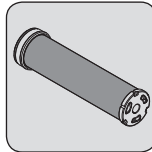
FUEL FILTER CARTRIDGE
Part number: 296854
Change: 500 H



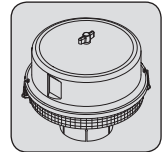
CYCLONIC PRE-FILTER (OPTION)
Part number: 489768
Clean: 10 H



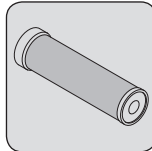
SAFETY DRY AIR FILTER CARTRIDGE
Part number: 797904
Change: 1000 H
Up to machine N°: 923416



AUTOMATIC VACUUM-CLEANING PRE-FILTER
(OPTION)
Part number: 240334
Clean: 10 H

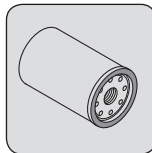


SAFETY DRY AIR FILTER CARTRIDGE
Part number: 563415
Change: 1000 H
From machine N°: 923417



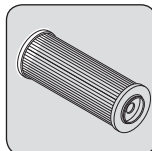
TRANSMISSION

GEAR BOX OIL FILTER
Part number: 561749
Change: 500 H

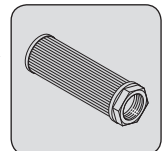


HYDRAULIC

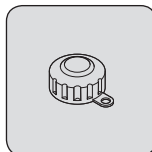
HYDRAULIC RETURN OIL FILTER CARTRIDGE
Part number: 749205
Change: 500 H



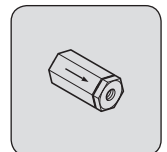
SUCTION STRAINER FOR HYDRAULIC OIL TANK
Part number: 224726
Clean: 1000 H



HYDRAULIC OIL TANK FILTER CAP
Part number: 62415
Change: 1000 H

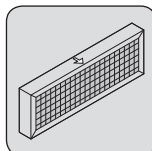


DISTRIBUTOR CONTROL HEAD FILTER
Part number: 254780
Change: 1000 H

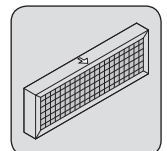


CAB

EXTERIOR CAB VENTILATION FILTER
Part number: 601645
Clean: 500 H



INTERIOR CAB VENTILATION FILTER
Part number: 601645
Clean: 50 H
Change: 250 H



LUBRICANTS AND FUEL

⚠ 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 organized with the dealer, a diagnostic analysis of engine, transmission and axle oils may be requested depending on the rate of use.

(*) RECOMMENDED FUEL SPECIFICATION:

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

- Type of diesel fuel EN590
- Type of diesel fuel ASTM D975

I.C. ENGINE				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
I.C. ENGINE	8,5 Litres	MANITOU Oil GOLD	20 l	786745
		"API CJ-4 ; ACEA E9"	209 l	787729
COOLING CIRCUIT	25 Liters	Cooling liquid (protection - 35°)	4 l	894967
			20 l	894968
			210 l	894969
FUEL TANK	104 Liters	Diesel fuel (*)		

TRANSMISSION				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
GEAR BOX	15,5 Liters	MANITOU Oil Automatic transmission	1 l	62148
			20 l	546332
			55 l	546217
			209 l	546195
			1000 l	720148

BOOM				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
BOOM PADS		MANITOU Grease BLACK multi-purpose	400 g	545996
			1 kg	161590
			5 kg	499235
GREASING OF THE BOOM		MANITOU Grease BLUE multi-purpose	400 g	161589
			1 kg	720683
			5 kg	554974
			20 kg	499233
			50 kg	489670

HYDRAULIC				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
HYDRAULIC OIL TANK	98 Liters	MANITOU Oil Hydraulic ISO VG 46	5 l	545500
			20 l	582297
			55 l	546108
			209 l	546109

BRAKE				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
BRAKE CIRCUIT		MANITOU Oil Mineral brake fluid	1 l	490408

CAB			
ORGANS TO BE LUBRICATED	RECOMMENDATION	PACKAGING	PART NUMBER
CAB DOOR	MANITOU Grease BLUE multi-purpose	400 g	161589
		1 kg	720683
		5 kg	554974
		20 kg	499233
		50 kg	489670
WINDSCREEN WASHER TANK	Windscreen washer fluid	1 l	490402
		5 l	486424

FRONT AXLE				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
FRONT AXLE DIFFERENTIAL	5,5 Liters	MANITOU Oil Special immersed brakes	5 l	545976
			20 l	582391
			209 l	546222
			1000 l	720149
TRANSFER BOX	1,1 Liter	MANITOU Oil	2 l	499237
FRONT WHEELS REDUCERS	0,75 Liter	SAE80W90 Mechanical transmission	5 l	720184
			20 l	546330
			55 l	546221
FRONT WHEELS REDUCERS PIVOTS		MANITOU Grease BLUE multi-purpose	209 l	546220
			400 g	161589
			1 kg	720683
			5 kg	554974
			20 kg	499233
			50 kg	489670

REAR AXLE				
ORGANS TO BE LUBRICATED	CAPACITY	RECOMMENDATION	PACKAGING	PART NUMBER
REAR AXLE DIFFERENTIAL	6,35 Liters	MANITOU Oil Special immersed brakes	5 l	545976
			20 l	582391
			209 l	546222
			1000 l	720149
REAR WHEELS REDUCERS	0,75 Liter	MANITOU Oil SAE80W90 Mechanical transmission	2 l	499237
			5 l	720184
			20 l	546330
			55 l	546221
			209 l	546220
REAR WHEELS REDUCERS PIVOTS REAR AXLE OSCILLATION		MANITOU Grease BLUE multi-purpose	400 g	161589
			1 kg	720683
			5 kg	554974
			20 kg	499233
			50 kg	489670

SERVICING SCHEDULE

⚠ IMPORTANT ⚠

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

(2): Every 10 hours during the first 50 hours then a last service at 250 hours.

(3): Contact your manufacturer.

A = ADJUST, C = CHECK, G = GREASE, N = CLEAN, P = BLEED, R = REPLACE, V = DRAIN	PAGE	(1)	DAILY OR EVERY 10 HOURS OF SERVICE	EVERY 50 HOURS OF SERVICE	EVERY 250 HOURS OF SERVICE	EVERY 500 HOURS OF SERVICE OR EVERY YEAR	EVERY 1000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 2000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 3000 HOURS OF SERVICE	EVERY 4000 HOURS OF SERVICE	OCCASIONALLY
I.C. ENGINE											
- I.C. engine oil level	3-10		C								
- Cooling liquid level	3-10	C	C								
- Fuel level	3-10	C	C								
- Fuel pre-filter	3-10		C								
- Cyclonic pre-filter (option)	3-11		N								
- Dry air filter cartridge	3-14/31	R		C/N		R					
- Radiator core	3-14	N		N							
- Compressor belt tension (OPTION Air-conditioning)	3-20	C/A			C/A						
- I.C. engine oil	3-24	V				V					
- I.C. engine oil filter	3-24	R				R					
- Fuel pre-filter cartridge	3-25	R				R					
- Fuel filter cartridge	3-26	R				R					
- Engine crankcase ventilation filter	3-30						R				
- Fuel tank	3-31						N				
- Fuel tank breather	3-31						R				
- Safety dry air filter cartridge	3-31						R				
- I.C. engine silent blocks							C (3)				
- I.C. engine rates							C (3)				
- Valves clearances		C					C (3)				
- Cooling liquid	3-36							V			
- Radiator								C (3)			
- Water pump and the thermostat								C (3)			
- Alternator and the starter motor								C (3)			
- Turbocompressor								C (3)			
- Alternator belt	3-38								R		
- Fuel circuit	3-40										P
- "Stationary lift truck" exhaust particle filter	3-41										N
TRANSMISSION											
- Gear box oil level	3-15			C							
- Gear box oil filter	3-26	R				R					
- Gear box oil	3-32	V					V				
- Gear box sump strainer	3-32	N					N				
- Silent blocks in the gear box							C (3)				
- Gear box controls							C (3)				
- Transmission pressure								C (3)			
- Wear of the brake pads and the brake disk										C (3)	
TYRES											
- Tires pressure	3-15	C		C							
- Wheel nuts torque	3-15	C		C							
- Wheel nuts tightening torque	3-37	C						C			
- Wheel	3-42										R
BOOM											
- Boom pads	3-11		G (2)								
- Boom	3-16	G		G							
- Boom pads wear							C (3)				
- Condition of boom unit		C						C (3)			
- Bearings and articulation rings								C (3)			
HYDRAULIC											
- Hydraulic oil level	3-18	C		C							
- Hydraulic return oil filter cartridge	3-27	R				R					
- Hydraulic oil	3-33						V				
- Suction strainer for hydraulic oil tank	3-33						N				
- Filter cap for hydraulic oil tank	3-33						R				
- Distributor control head filter	3-33						R				
- Hydraulic pump tubular filter							N (3)				
- Condition of hoses and flexible pipes							C (3)				

A = ADJUST, C = CHECK, G = GREASE, N = CLEAN, P = BLEED, R = REPLACE, V = DRAIN		PAGE	(1)	DAILY OR EVERY 10 HOURS OF SERVICE	EVERY 50 HOURS OF SERVICE	EVERY 250 HOURS OF SERVICE	EVERY 500 HOURS OF SERVICE OR EVERY YEAR	EVERY 1000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 2000 HOURS OF SERVICE OR EVERY TWO YEARS	EVERY 3000 HOURS OF SERVICE	EVERY 4000 HOURS OF SERVICE	OCCASIONALLY
- Condition of cylinders (leakage, shafts)								C (3)				
- Hydraulic circuit pressures									C (3)			
- Hydraulic oil tank									N (3)			
BRAKE												
- Brake oil level	3-18	C			C							
- Parking brake	3-21	C/A				C/A						
- Parking brake lever mechanism	3-27	G					G					
- Brake oil									V (3)			
- Brake system									P (3)			
- Brake system pressure									C (3)			
- Brake									A (3)			
STEERING												
- Steering									C (3)			
- Steering swivel joints											C (3)	
CAB												
- Windscreen washer liquid level	3-18	C			C							
- Cab door	3-16	G			G							
- Cab ventilation filters	3-19/21	R			N	R						
- Condenser core (OPTION Air-conditioning)	3-19	C/N			C/N							
- Cab ventilation filter (air-conditioning option)	3-27						N					
- Seat belt	3-34							C				
- Condition of the rear view mirrors								C (3)				
- Structure								C (3)				
- Air conditioning (OPTION)	3-37								N/C			
ELECTRICITY												
- Longitudinal stability limiter and warning device	3-12/43	C	C									XXX
- Condition of wiring harness and cables								C (3)				
- Lights and signals								C (3)				
- Warning indicators								C (3)				
- Front headlights	3-44											A
- Battery failure	3-44											R
FRONT AXLE												
- Front wheels reducers pivots	3-16	G			G							G/C (3)
- Transfer box oil level	3-22					C						
- Front axle differential oil level	3-22					C						
- Front wheels reducers oil level	3-22					C						
- Transfer box oil	3-27	V					V					
- Front axle differential oil	3-28	V					V					
- Front wheels reducers oil	3-34	V						V				
- Wear of front axle brake discs												C (3)
- Front wheels reducers universal joint												C (3)
- Front wheels reducers clearance												C (3)
- Set of transfer box rolling bearings												C (3)
REAR AXLE												
- Rear wheels reducers pivots	3-16	G			G							G/C (3)
- Rear axle oscillation	3-16	G			G					G/C (3)		
- Rear axle differential oil level	3-22					C						
- Rear wheels reducers oil level	3-22					C						
- Rear axle differential oil	3-28	V					V					
- Rear wheels reducers oil	3-34	V						V				
- Wearing of rear axle brake discs												C (3)
- Rear wheels reducers universal joint												C (3)
- Rear wheels reducers clearance												C (3)
CHASSIS												
- Structure								C (3)				
- Bearings and articulation rings									C (3)			
ATTACHMENTS												
- Forks wear		C					C (3)					
- Attachment carriage								C (3)				
- Condition of attachments								C (3)				
LIFT TRUCK												
- Tow the lift truck	3-45											XXX
- Sling the lift truck	3-45											XXX
- Transport the lift truck on a platform	3-46											XXX

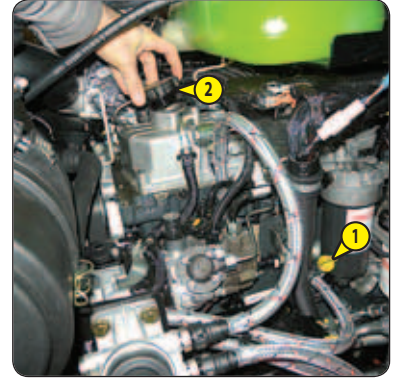
A - DAILY OR EVERY 10 HOURS SERVICE

A1 - ENGINE OIL LEVEL

CHECK

Place the lift truck on level ground with the I.C. engine stopped, and let the oil drain into the sump.

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



A2 - COOLING LIQUID LEVEL

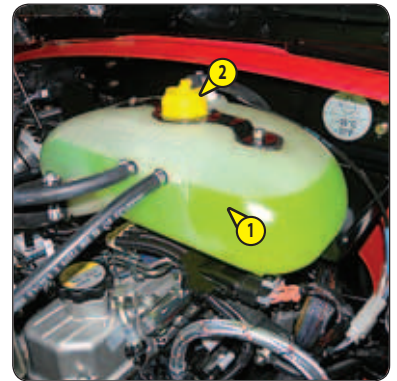
CHECK

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

⚠ IMPORTANT ⚠

To avoid any risk of spraying or burning, wait until the engine has cooled down before removing the cooling circuit filler plug. If the cooling liquid is very hot, add only hot cooling liquid (80°C). In an emergency, you can use water as a cooling liquid, then change the cooling circuit liquid as soon as possible (see: 3 - MAINTENANCE: F1 - COOLING LIQUID).

- Open the engine bonnet.
- The liquid must be at the MAXIMUM level on the expansion tank 1.
- If necessary, add cooling liquid (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 2.
- Visually check that there is no leakage in the radiator and pipes.



A3 - FUEL LEVEL

CHECK

Keep the fuel tank full, to reduce as much as possible any condensation due to the atmospheric conditions.

⚠ IMPORTANT ⚠

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

- Check the fuel gauge on the instrument panel.
- If necessary, add diesel (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Open the side bonnet.
- Remove cap 1.
- Fill the fuel tank with clean diesel filtered through the filler port 2.
- Refit the cap.
- Visually check that there is no leakage in the tank and pipes.



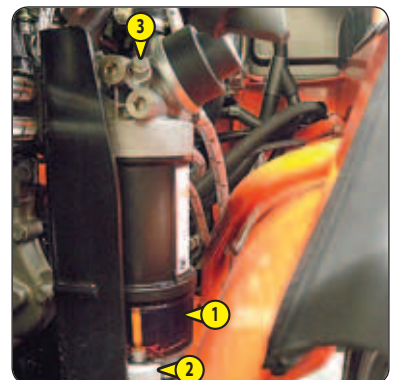
A4 - FUEL PRE-FILTER

CHECK

⚠ IMPORTANT ⚠

Carefully clean the outside of the pre-filter and its holder, to prevent dust from getting into the system.

- Open the engine bonnet.
- Check for the presence of water in pre-filter tank 1 and drain if necessary.
- Place a receptacle under the drain plug 2 and loosen by two to three turns.
- Open bleed screw 3.
- Allow the diesel fuel to flow out until it is free from impurities and water.
- Retighten drain plug 2 and bleed screw 3.



A5 – CYCLONIC PRE-FILTER (OPTION)

CLEAN

The cleaning interval is given as a guide, however the prefilter must be emptied as soon as impurities reach the MAXI level on the tank.

⚠ IMPORTANT ⚠

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

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



A6 – BOOM PADS

CLEAN - GREASE

To be carried out every 10 hours during the first 50 hours service, then once at 250 hours.

⚠ IMPORTANT ⚠

If the lift truck is used in an abrasive environment (dust, sand, coal) Use lubricating varnish (MANITOU reference: 483536). Please consult your dealer. Fully extend the boom.


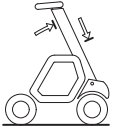



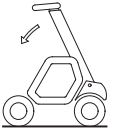







- Apply the grease with a brush (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) to the 4 sides of the telescope(s).
- Telescope the boom several times in order to spread the coat of grease evenly.
- Remove the surplus of grease.



⚠ IMPORTANT ⚠

Use the test button  only when requested to do so, applying short presses (less than 1 second) and long presses (5 seconds) as instructed. If in doubt during the test procedure, exit cleanly by short pressing the “BUCKET”  MODE or “SUSPENDED LOAD”  mode buttons. These tests are essential for checking correct operation and adjustment of the various device components.

- Place the lift truck on flat, level ground with the wheels straight.
- Hold down the test button. 

<p>STAGE 1</p> <p>↓</p>	 <ul style="list-style-type: none"> - An audible beep. - First green LED flashing. - Test button lit. 	<p>⇒</p>  <ul style="list-style-type: none"> - Place the lift truck without any attachment, with the boom fully retracted and raised. 	<p>⇒</p> <p>Short press the test button.</p>  <p>⇒</p>	<p>TEST OK</p> <ul style="list-style-type: none"> - One audible beep and progresses to stage 2. <p>TEST NOT OK</p> <ul style="list-style-type: none"> - Two audible beeps and lighting of warning indicator lamp . - Exit test mode. - Go to stage 4.
<p>STAGE 2</p> <p>↓</p>	 <ul style="list-style-type: none"> - First green LED continuously lit. - Second green LED flashing. - Test button lit. 	<p>⇒</p>  <ul style="list-style-type: none"> - Lower the boom with the engine running at full revs and the hydraulic control at the maximum setting. Lowering slows until movement is cut-off. 	<p>⇒</p> <p>Short press the test button.</p>  <p>⇒</p>	<p>TEST OK</p> <ul style="list-style-type: none"> - One audible beep and progresses to stage 3. <p>TEST NOT OK</p> <ul style="list-style-type: none"> - Two audible beeps and lighting of warning indicator lamp . - Exit test mode. - Go to stage 4.
<p>STAGE 3</p> <p>↓</p>	 <ul style="list-style-type: none"> - First and second green LEDs continuously lit. - Third green LED flashing. - Test button lit. 	<p>⇒</p> <ul style="list-style-type: none"> - Lower the boom until the movement is cut off. - Request, in the following order: a reverse tilt, a forward tilt (dumping) and a telescope extension. None of these 3 movements should be possible. 	<p>⇒</p> <p>Short press the test button.</p>  <p>⇒</p>	<p>TEST OK</p> <ul style="list-style-type: none"> - Conformity of aggravating movement cut-off. - Exit test mode. All the LEDs will light for 2 seconds and an audible beep will be sounded. <p>TEST NOT OK</p> <ul style="list-style-type: none"> - Fault warning light comes on . - Exit test mode. - Go to stage 4.
<p>STAGE 4</p> <p>↓</p>	 <ul style="list-style-type: none"> - The fault warning light remains permanently on until the error is repaired. 	<p>⇒</p> <ul style="list-style-type: none"> - The fault indicator  lamp accompanied by a beep indicates a fault. - To view this error code (see: 2 - DESCRIPTION: 3B - SCREEN DISPLAY). <p>NOTE: A defective fuse can generate several error codes. If this is the case, check the fuses (see: 2 - DESCRIPTION: 12 - FUSES AND RELAYS IN THE CAB)</p> <ul style="list-style-type: none"> - If error codes 520499, 520742, 520743 or 520754 are displayed, adjusting the longitudinal stability limiter and warning device may solve the problem (see: 3 - MAINTENANCE: G - OCCASIONAL MAINTENANCE) <p>NOTE: For the stage 3 test, specify the non-conforming aggravating hydraulic movements, if necessary.</p>		

B - EVERY 50 HOURS SERVICE

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

B1 – DRY AIR FILTER CARTRIDGE

CHECK - CLEAN

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

⚠ IMPORTANT ⚠

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

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

Never 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 clogged or damaged.

- For the disassembly and reassembly of the cartridge, see: 3 - MAINTENANCE: D3 - DRY AIR FILTER CARTRIDGE.
- Clean the filter cartridge using a compressed air jet (max. pressure 3 bar) directed from the top to the bottom and from the inside towards the outside at a minimum distance of 30 mm from the cartridge wall.
- Cleaning is completed when there is no more dust on the cartridge.
- 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.

B2 – RADIATOR CORES

CLEAN

⚠ IMPORTANT ⚠

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

- Open the engine bonnet.
- If necessary, clean the suction grid on the engine bonnet.
- Using a soft cloth, clean the radiator cores in order to remove as much dirt as possible.
- Clean the radiator using a compressed air jet directed from the engine towards the radiator in the opposite direction to the cooling air flow.



B3 – GEAR BOX OIL LEVEL

CHECK

Park the lift truck on level ground with the boom raised, the engine cold and stopped. Carry out the control within 5 minutes of the engine being stopped.

⚠ IMPORTANT ⚠

Raise the boom and place the boom safety wedge on the rod of the lifting cylinder (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: LIFT TRUCK MAINTENANCE INSTRUCTIONS).

- Remove the plastic cap 1.
- Pull out dipstick 2.
- Wipe the dipstick and check the correct level between the two MIN and MAX marks.
- If necessary, add oil (see: 3 - MAINTENANCE: E3 - GEAR BOX OIL).
- Visually check that there is no leakage or seepage of oil in the transmission.



B4 – TYRE PRESSURE AND WHEEL NUT TORQUES

CHECK

⚠ IMPORTANT ⚠

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

- Check the condition of the tires, 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.
- Check and restore tire pressures if necessary (see: 2 - DESCRIPTION: TYRES).

NOTE: There is an OPTIONAL wheel toolkit.

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



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

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

BOOM

- 1 - Boom axle lubricator (1 lubricator).
- 2 - Lubricators of the carriage axle (2 lubricators).
- 3 - Lubricator of the tilt cylinder foot axle (1 lubricator).
- 4 - Lubricator of the tilt cylinder head axle (1 lubricator).
- 5 - Lubricators of the carriage connecting rod axles (3 lubricators).
- 6 - Lubricator of the lifting cylinder foot axle (1 lubricator).
- 7 - Lubricator of the lifting cylinder head axle (1 lubricator).
- 8 - Lubricator of the compensation cylinder foot axle (1 lubricator).
- 9 - Lubricator of the compensation cylinder head axle (1 lubricator).

CAB DOOR

- 10 - Door lubricators (3 lubricators).

FRONT AND REAR WHEEL REDUCTION GEAR PIVOTS

- 11 - Lubricators of the wheel reduction gear pivot pins (8 lubricators).

REAR AXLE OSCILLATION

- 12 - Rear axle oscillation lubricators (2 lubricators).



B6 – HYDRAULIC OIL LEVEL

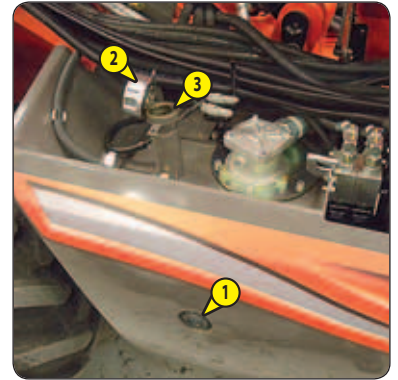
CHECK

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

⚠ IMPORTANT ⚠

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

- Check dipstick 1, the correct level must stand at the level of the red point.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Open the side bonnet.
- Remove cap 2.
- Add oil through filler port 3.
- Refit the cap.
- Visually check that there is no leakage in the tank and pipes.



B7 – BRAKE OIL LEVEL

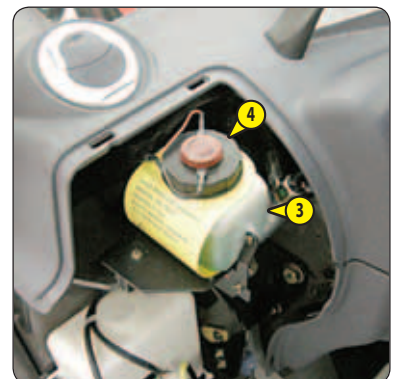
CHECK

Place the lift truck on level ground.

⚠ IMPORTANT ⚠

If the braking oil level is abnormally low, consult your dealer.

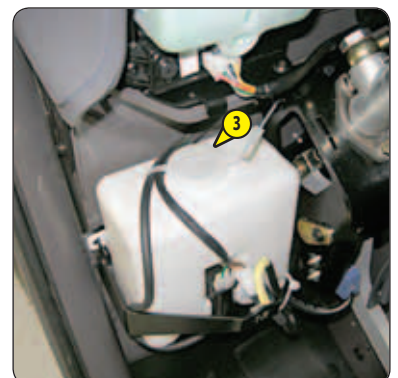
- Loosen screw 1 and lift up the brake fluid and windscreen washer tank access panel 2.
- The level is correct when it is at the MAX level on the tank 3.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) via the filler port.
- Pivot the tank 3 to access filler cap 4.
- Visually check that there is no leakage in the tank and pipes.



B8 – WINDSCREEN WASHER LIQUID LEVEL

CHECK

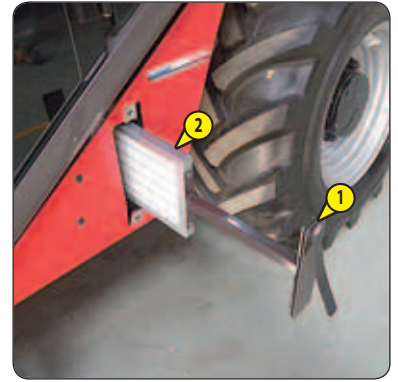
- Loosen screw 1 and lift up the brake fluid and windscreen washer tank access panel 2.
- Visually check the level.
- If necessary, add windscreen washer fluid (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) via filler port 3.



B9 – CAB VENTILATION FILTER (AIR-CONDITIONING OPTION)

CLEAN

- Lift out protective casing 1.
- Lift out cab ventilation filter 2.
- Clean the filter with a compressed air jet.
- Check its condition and change if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Refit the filter and protective casing.



B10 – CONDENSER CORE (AIR-CONDITIONING OPTION)

CHECK - CLEAN

⚠ IMPORTANT ⚠

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

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



C - EVERY 250 HOURS OF SERVICE

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

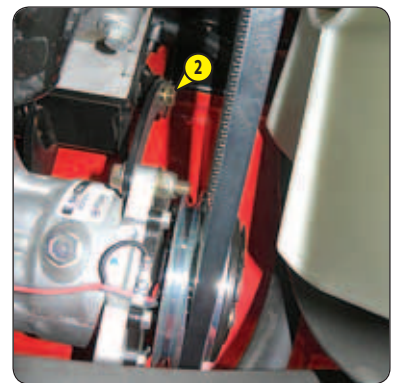
C1 - COMPRESSOR BELT TENSION (AIR-CONDITIONING OPTION)

CHECK - ADJUST

⚠ IMPORTANT ⚠

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

- Remove the protective casing 1.
- Check the belt for signs of wear and cracks and change if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Check the belt tension between the pulleys of the fan and the compressor.
- Under a normal pressure exerted with the thumb (45 N), the belt should move approximately 10 mm.
- Adjust if necessary.
- Loosen screw 2 to obtain the required belt tension.
- Retighten screw 2.



C2 – PARKING BRAKE

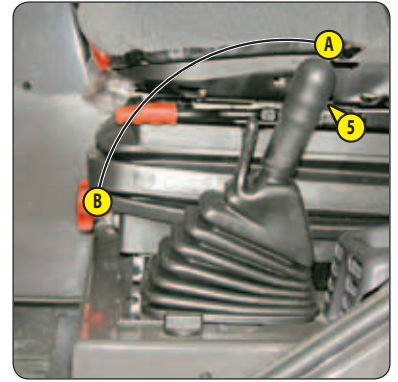
CHECK - ADJUST

Place the lift truck on a minimum slope of 15 % with the rated load in the transport position.

- Check the tightening adjustment by locking the parking brake in position A.
- The adjustment is correct when the lift truck is held stationary on a slope.
- Adjust if necessary.

ADJUSTING THE PARKING BRAKE CABLE ON THE FRONT AXLE

- Press and release the brake pedal, then release the parking brake in position B.
- Remove the shroud 1.
- Unscrew the nuts 2.
- Adjust the cable by tightening or loosening the nuts 2 to obtain a play of 1,5 mm between the cams 3 and the stops 4.

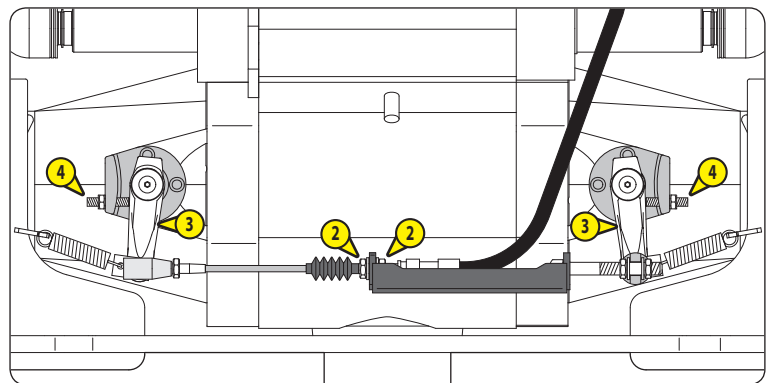


⚠ IMPORTANT ⚠

The manufacturer's settings of the stops must never be changed.

ADJUSTING THE PARKING BRAKE

- Leave the parking brake in position B.
- Progressively tighten the end piece of the lever 5 and recheck braking.
- Repeat the operation until the correct braking adjustment is obtained.



C3 – CAB VENTILATION FILTER (AIR-CONDITIONING OPTION)

CHANGE

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



C4 – TRANSFER BOX OIL LEVEL

CHECK

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

- Remove access panel 1.
- Remove the level plug 2 the oil should be flush with the edge of the hole.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) by the same hole.
- Refit and tighten the level plug 2 (tightening torque 34 to 49 N.m).
- Refit access panel 1.

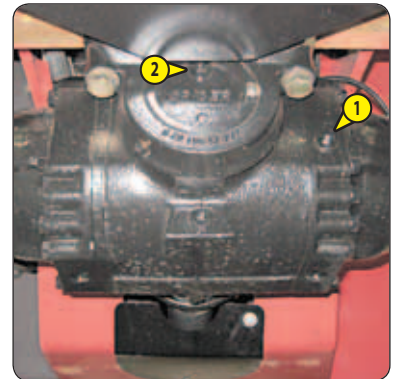


C5 – FRONT AND REAR AXLE DIFFERENTIAL OIL LEVEL

CHECK

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

- Remove the level plug 1, the oil should be flush with the edge of the hole.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 2.
- Refit and tighten the level plug 1 (tightening torque 34 to 49 N.m).
- Repeat this operation for the rear axle differential.

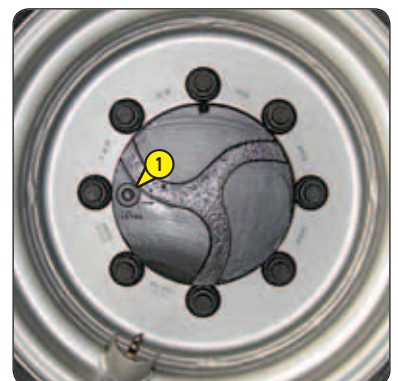


C6 – FRONT AND REAR WHEEL REDUCTION GEAR OIL LEVEL

CHECK

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

- Check the level on each front wheel reducer.
- Place level plug 1 in a horizontal position.
- Remove the level plug; the oil should be flush with the edge of the hole.
- If necessary, add oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) by the same hole.
- Refit and tighten the level plug 1 (tightening torque 34 to 49 N.m).
- Repeat this operation on each rear wheel reducer.



D - EVERY 500 HOURS OF SERVICE OR EVERY YEAR

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

D1 - ENGINE OIL

DRAIN

D2 - I.C. ENGINE OIL FILTER

CHANGE

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

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

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

DRAINING THE OIL

- Place a container under the drain port and unscrew the drain plug 1.
- Take drain hose 2.
- Place the end of the drain hose in the container and screw the hose fully to the drain connector 1.
- Remove filling plug 3 to ensure that the oil is drained properly.


REPLACEMENT OF THE FILTER

- Unscrew and discard the engine oil filter 4, together with its seal.
- Clean the filter bracket with a clean, lint-free cloth.
- Lightly grease the new seal before refitting the new oil filter (see: 3 - MAINTENANCE: FILTERS, CARTRIDGES AND BELTS) on its bracket.

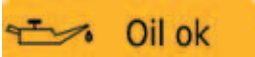

FILLING UP THE OIL


- Remove, clean and refit drain hose 2.
- Refit and tighten the drain plug 1.
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 3.
- Wait a few minutes to allow the oil to flow into the sump.
- Start the engine and let it run for a few minutes.
- Check for possible leaks from the drain plug and the oil filter.
- Stop the engine, wait a few minutes and check the correct level between the two level marks on the dipstick 5.
- Top up the level if necessary.

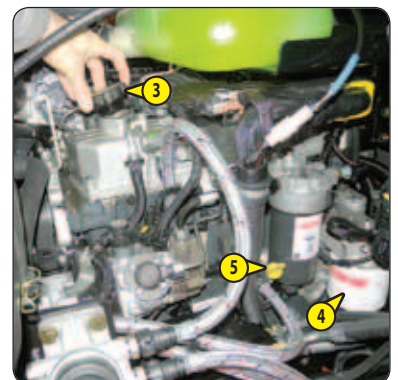
500 HOURS MAINTENANCE INITIALIZATION

- Once the oil has been drained, dismiss the screen  by carrying out the following steps (engine stopped, ignition in position 1):

- 1 - Depress the accelerator pedal to maximum for between 15 and 20 seconds.
- 2 - Release the accelerator pedal for between 15 and 20 seconds.
- 3 - Depress the accelerator pedal to maximum for between 15 and 20 seconds.
- 4 - Release the accelerator pedal for between 15 and 20 seconds.
- 5 - Depress the accelerator pedal to halfway for between 15 and 20 seconds.

- The help screen  and indicator lamp  display for 3 seconds to indicate that maintenance is complete.
- The hour counter can now reset and begin countdown of the next 500 hours.

NOTE: If the screen  is displayed before 500 hour maintenance is due, replace the engine oil. This is due to a large number of automatic exhaust particle filter regenerations and "stationary lift truck" exhaust particle filter regenerations.



D3 – DRY AIR FILTER CARTRIDGE

CHANGE

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

⚠ IMPORTANT ⚠

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

- Open the engine bonnet.
- Loosen the bolts and remove cover 1.
- Gently remove the cartridge 2 taking care to avoid spilling the dust.
- Leave the safety cartridge in place.
- 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 and the connection and state of the clogging indicator on the filter.
- Before mounting check the condition of the new cartridge (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Insert the cartridge within the axis of the filter and push it home, pressing against the outer edge and not the center.
- Reassemble the cover, guiding the valve downwards.



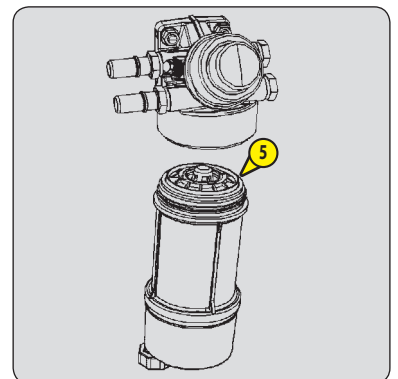
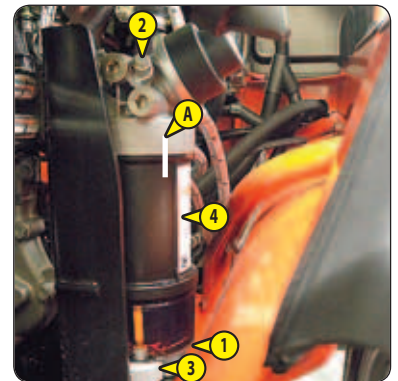
D4 – FUEL PRE-FILTER CARTRIDGE

CHANGE

⚠ IMPORTANT ⚠

Carefully clean the outside of the pre-filter and its holder, to prevent dust from getting into the system.

- Open the engine bonnet.
- Scribe a mark A between the head and the housing of the pre-filter.
- Place a receptacle under the drain plug 1 and loosen it by two to three turns.
- Open bleed screw 2 to ensure proper emptying.
- Retighten bleed screw 2 once the pre-filter is emptied.
- Disconnect electrical wiring harness 3 from the fuel pre-filter.
- Unscrew the body of the pre-filter 4.
- Remove cartridge 5 by unscrewing it and discard it together with its seal.
- Clean the inside of the pre-filter head and housing using a brush immersed in clean diesel oil.
- Refit the assembly with a new cartridge and a new seal lubricated with clean engine oil beforehand (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Correctly position the cartridge in the pre-filter housing and screw the assembly by hand only onto the head of the pre-filter until mark A is aligned.
- Replace the fuel filter cartridge.



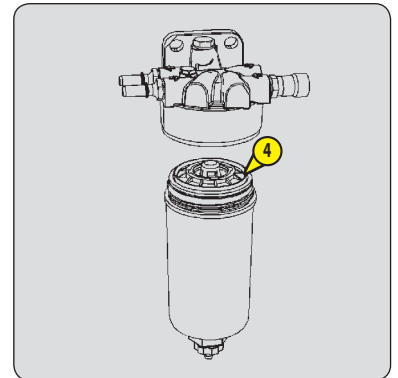
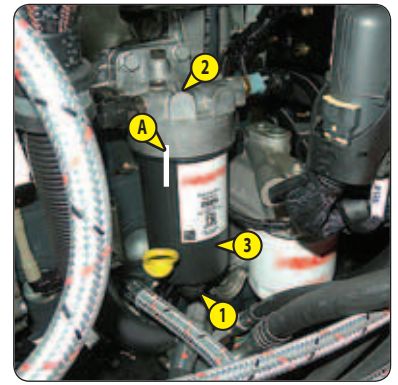
D5 – FUEL FILTER CARTRIDGE

CHANGE

⚠ IMPORTANT ⚠

Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.

- Open the engine bonnet.
- Scribe a mark A between the head and the housing of the filter.
- Place a receptacle under the drain plug 1 and loosen it by two to three turns.
- Open bleed screw 2 to ensure proper emptying.
- Retighten bleed screw 2 once the filter is emptied.
- Undo the filter housing 3.
- Remove cartridge 4 by unscrewing it and discard it together with its seal.
- Clean the inside of the filter head and housing using a brush immersed in clean diesel oil.
- Refit the assembly with a new cartridge and a new seal lubricated with clean engine oil beforehand (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Correctly position the cartridge in the filter housing and screw the assembly by hand only onto the head of the pre-filter until mark A is aligned.
- Bleed the fuel circuit (see: 3 - MAINTENANCE: H1 - FUEL SYSTEM).



D6 – GEAR BOX OIL FILTER

CHANGE

- Remove the shroud 1.
- Unscrew and discard gear box oil filter 2.
- Carefully clean the filter head with a clean, lint-free cloth.
- Lightly oil the new seal and fit it to the filter.
- Fill up the new gear box oil filter (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS) with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).
- Refit the filter, making sure that the seal is correctly positioned and tightened.

⚠ IMPORTANT ⚠

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

- Refit cover plate 1.



D7 – HYDRAULIC RETURN OIL FILTER CARTRIDGE

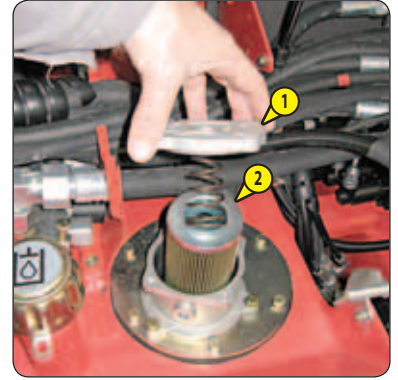
CHANGE

Stop the I.C. engine and remove the pressure from the circuits by acting on the hydraulic controls.

⚠ IMPORTANT ⚠

Thoroughly clean the outside of the filter and its surroundings before any intervention in order to prevent any risk of polluting the hydraulic circuit.

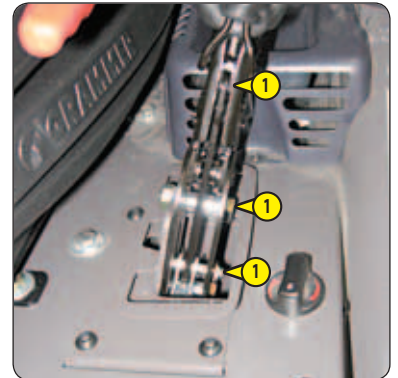
- Open the side bonnet.
- Unscrew the fastening screws of the cover 1.
- Remove the hydraulic return oil filter cartridge 2 and replace with a new one (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Make sure that the cartridge is correctly positioned and refit the cover 1.



D8 – PARKING BRAKE LEVER MECHANISM

GREASE

- Clean and grease articulation axles 1 with grease (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL).



D9 – CAB VENTILATION FILTER

CLEAN

- Lift out protective casing 1.
- Lift out cab ventilation filter 2.
- Clean the filter with a compressed air jet.
- Check its condition and change if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Refit the filter and protective casing.



D10 – TRANSFER BOX OIL

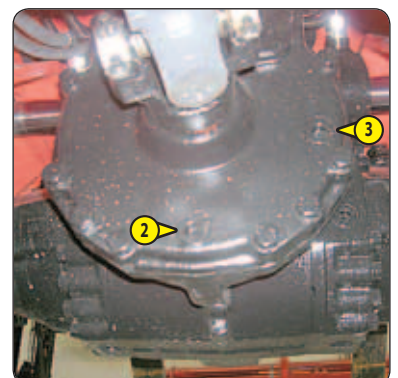
DRAIN

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

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

- Remove access panel 1.
- Place a container under drain plug 2 and unscrew the plug.
- Remove level and filling plug 3 to ensure proper emptying.
- Refit and tighten the drain plug 2 (tightening torque 34 to 49 N.m).
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 3.
- 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 the filler port plug 3 (tightening torque 34 to 49).



D11 – FRONT AND REAR AXLE DIFFERENTIAL OIL

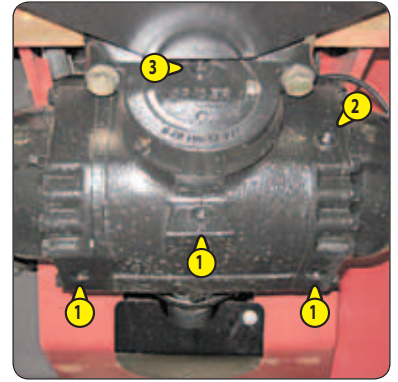
DRAIN

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

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

- Place a container under the drain plugs 1 and unscrew them.
- Remove level plug 2 and filling plug 3 to ensure that the oil is drained properly.
- Refit and tighten the drain plugs 1 (tightening torque 34 to 49 N.m).
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 3.
- The level is correct when the oil level is flush with the edge of opening 2.
- Check for any possible leaks at the drain plugs.
- Refit and tighten level plug 2 (tightening torque 34 to 49 N.m) and filler plug 3 (tightening torque 34 to 49 Nm).
- Repeat this operation for the rear axle differential.



E - EVERY 1000 HOURS OF SERVICE OR TOW YEAR

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

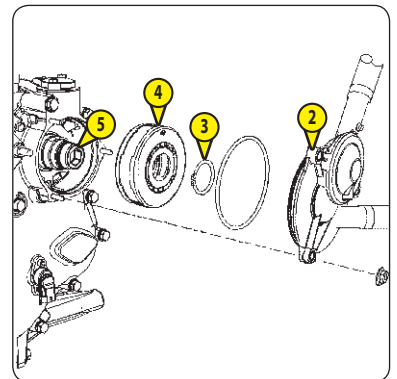
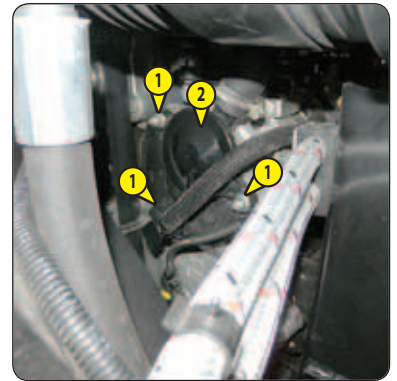
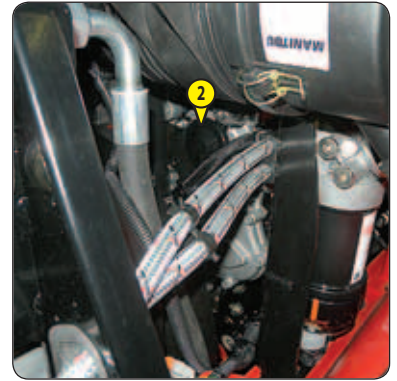
E1 – ENGINE CRANKCASE VENTILATION FILTER

CHANGE

- Open the engine bonnet.
- Carefully clean the outside of the filter and its holder, to prevent dust from getting into the system.
- Remove the air filter.
- Undo the nuts 1 and remove the cover 2.
- Remove the circlips 3, extract the filter 4 and discard it together with the seal of the cover 2.
- Refit a new seal on the cover and insert a new filter (see: 3 - MAINTENANCE: FILTER CARTRIDGES AND BELTS).

NOTE: Ensure that the flats of the filter 4 and shaft 5 are aligned.

- Put back the circlips 3, refit the cover 2 and tighten the nuts 1 (tightening torque 25 N.m).



E2 – FUEL TANK

CLEAN

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

⚠ IMPORTANT ⚠

While carrying out these operations, do not smoke or work near a flame.

Never try to carry out a weld or any other operation by yourself, this could provoke an explosion or a fire.

- Inspect the parts susceptible to leaks in the fuel circuit and in the tank both visually and by touch.
- In the event of a leak, contact your dealer.
- Place a container under drain plug 1 and unscrew the plug.
- Remove filling plug 2 to ensure that the oil is drained properly.
- Rinse out with ten liters of clean diesel through filler port 3.
- Refit and tighten the drain plug (tightening torque 72 to 88 N.m).
- Unscrew the breather 4 and replace with a new one (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS) (tightening torque 5 ± 2 N.m).
- Fill the fuel tank with clean diesel filtered through the filler port.
- Refit the filler plug.
- If necessary, bleed the fuel supply system (see: 3 - MAINTENANCE: H1 - FUEL SUPPLY SYSTEM).

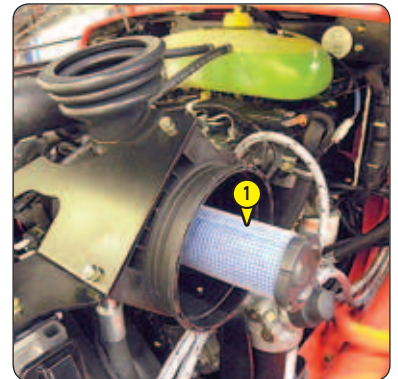


E3 – SAFETY DRY AIR FILTER CARTRIDGE

CHANGE

- For the disassembly and reassembly of the dry air filter cartridge, see: 3 - MAINTENANCE: D3 - AIR FILTER CARTRIDGE.
- Gently remove the dry air filter safety cartridge 1, taking care to avoid spilling the dust.
- Clean the gasket surface on the filter with a damp, clean lint-free cloth.
- Check the condition of the new safety cartridge before fitting (see: 3 - MAINTENANCE: FILTERS AND BELTS).
- Insert the cartridge in the filter axis and push it home, pressing against the outer edge and not the center.

NOTE: The periodicity for changing the safety cartridge is given for information only. It must be changed for every two changes of the dry air filter cartridge.



E4 – GEAR BOX OIL

DRAIN

E5 – GEAR BOX SUMP STRAINER

CLEAN

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

⚠ IMPORTANT ⚠

*Raise the boom and place the boom safety wedge on the rod of the lifting cylinder (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: LIFT TRUCK MAINTENANCE INSTRUCTIONS).
Dispose of the drain oil in an ecological manner.*

DRAINING THE OIL

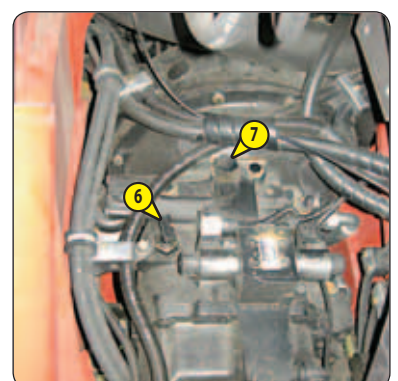
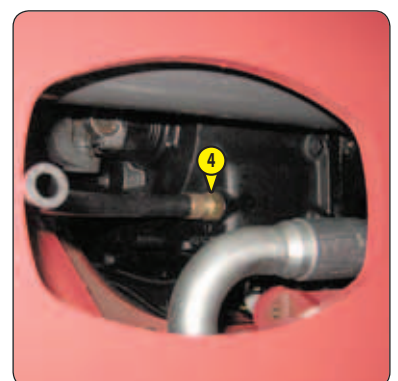
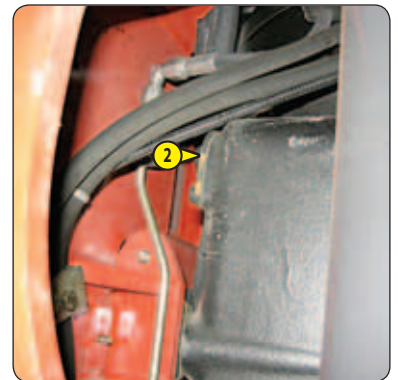
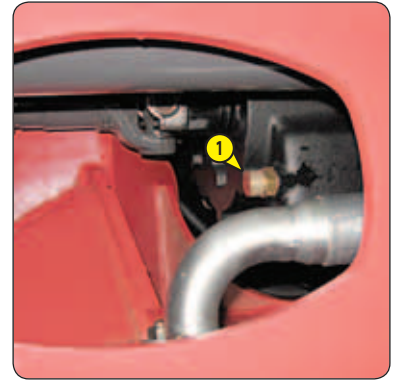
- Place a container under drain plug 1 and under cover 2 and unscrew the drain plug.
- Open the side bonnet.
- Take the drain hose 3 and screw fully onto the drain port 4.
- Remove shroud 5.
- Remove dipstick 6 and unscrew filling plug 7 in order to ensure that the oil is drained properly.

CLEANING THE STRAINER

- Remove cover 2 and set aside the O-ring joint and sealing washer.
- Allow the rest of the oil to drain away.
- Remove and clean the strainer using a compressed air jet.
- Clean the magnetic section on the plate.
- Refit the assembly and tighten up plate 2 (tightening torque 18 to 31 N.m).

FILLING UP THE OIL

- Unscrew, clean and refit drain hose 3.
- Refit and tighten the drain plug 1 (tightening torque 34 to 54 N.m).
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through the filler port 7 and refit the plug.
- Start the engine and let it run for a few minutes.
- Check any possible leaks from the drain plug or cover.
- Stop the engine, and within 5 minutes of the I.C. engine being stopped, check the correct level between the two MIN and MAX indicators on dipstick 6.
- Top up the level if necessary.
- Refit cover plate 5.



E6 – HYDRAULIC OIL

DRAIN

E7 – SUCTION STRAINER FOR HYDRAULIC OIL TANK

CLEAN

E8 – FILTER CAP FOR HYDRAULIC FLUID TANK

CHANGE

E9 – DISTRIBUTOR CONTROL HEAD FILTER

CHANGE

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

⚠ IMPORTANT ⚠

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

*Use a clean container and funnel and clean the top of the oil drum before filling.
Dispose of the drain oil in an ecological manner.*

DRAINING THE OIL

- Place a container under drain plug 1 and unscrew the plug.
- Open the side bonnet.
- Remove level and filling plug 2 to ensure that the oil is drained properly and discard.

CLEANING THE STRAINER

- Disconnect the hose 3 and remove the inspection panel 4.
- Remove and clean the suction strainer using a compressed air jet, check its condition and replace if necessary (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Refit the strainer and access panel 4, making sure the seal and hose 3 are in the correct positions.

REPLACING THE DISTRIBUTOR CONTROL HEAD FILTER

- Remove the half clamp 7.
- Undo the two couplings 8 and replace the filter 9.

⚠ IMPORTANT ⚠

NOTE: Be careful to mount the filter 9 in the same direction as the arrow.

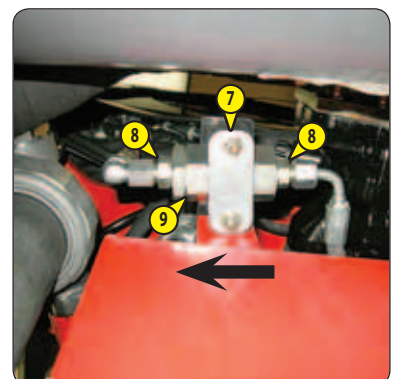
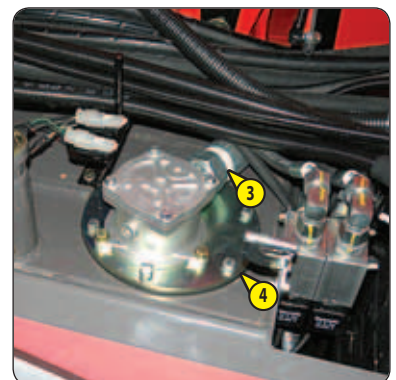
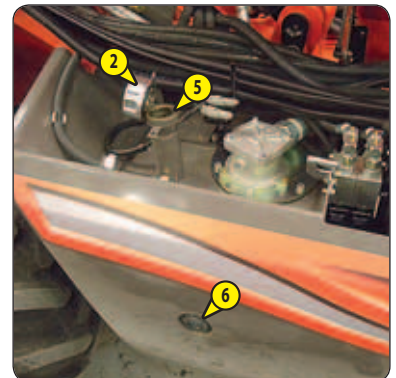
- Refit half clamp 7.

FILLING UP THE OIL

- Clean and refit the drain plug 1 (tightening torque 29 to 39 N.m).
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through filler port 5.
- Note the oil level on dipstick 6, the oil level should be at the level of the red point.
- Check for any possible leaks at the drain plugs.
- Replace filler plug with a new filler plug 2 (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS).
- Close the side bonnet.

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.



⚠ IMPORTANT ⚠

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

SEAT BELT WITH TWO ANCHORING POINTS

Check the following points:

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

REELED BELT WITH TWO ANCHORING POINTS

Check the points listed above together with the following points:

- Correct winding of the belt.
- Condition of the reel guards.
- Roller locking mechanism by giving the strap a sharp tug.

NOTE: After an accident, replace the seat belt.

E11 – FRONT AND REAR WHEEL REDUCTION GEAR OIL

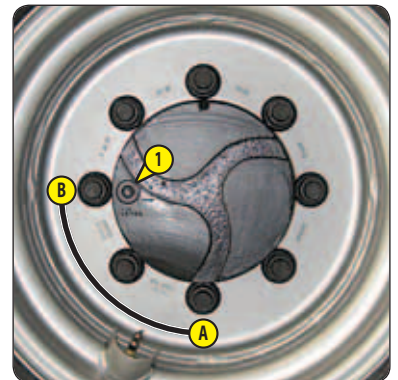
DRAIN

Place the lift truck on level ground with the I.C. engine stopped and the reducer’s oil still warm.

⚠ IMPORTANT ⚠

Dispose of the drain oil in an ecological manner.

- Drain and change each front wheel reducer.
- Place drain plug 1 in position A.
- Place a container under the drain plug and unscrew the plug.
- Let the oil drain fully.
- Place the drain port in position B, i.e. in a level port.
- Fill up with oil (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) through level port 1.
- The level is correct when the oil level is flush with the edge of the hole.
- Refit and tighten the drain plug 1 (tightening torque 34 to 49 N.m).
- Repeat this operation on each rear wheel reducer.



F - EVERY 2000 HOURS OF SERVICE OR TOW YEAR

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

F1 - COOLING LIQUID

DRAIN

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 I.C. engine stopped and cold.

⚠ IMPORTANT ⚠

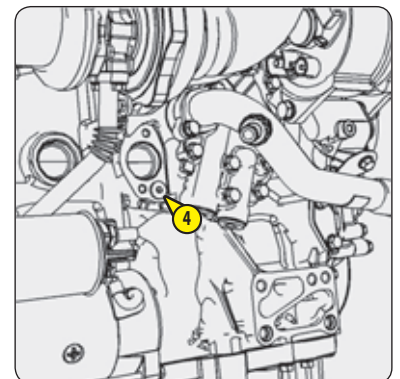
The engine does not contain any corrosion resistor and must be filled during the whole year with a mixture containing 25% of ethylene glycol-based antifreeze.

DRAINING THE LIQUID

- Open the engine bonnet.
- Remove fixing bar 1.
- Push cover plate 2 forwards.
- Set a container under drain plug 3 on the radiator and drain plug 4 of the engine block and loosen them.
- Remove expansion pan filler plug 5 from expansion pan 6.
- 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

- Tighten drain plugs 3 (tightening torque 20 N.m) and 4 (tightening torque 40 N.m).
- Slowly refill the circuit with cooling liquid (see: 3 - MAINTENANCE: LUBRICANTS AND FUEL) to mid-height on expansion pan 6 via filler port 7.
- Refit the filler plug 5.
- Refit cover plate 2 and fixing bar 1.
- Run the engine at idle for a few minutes.
- Check for any possible leaks.
- Check the level and refill if necessary.



- Check the condition of the tires, to detect cuts, protuberances, wear, etc.
- Check the tightening torque of the wheel nuts with a torque wrench.
 - Front tires: 630 N.m ± 15%
 - Rear tires: 630 N.m ± 15%

F3 – AIR CONDITIONING (OPTION)**CLEANING CONDENSER AND EVAPORATOR COILS (*)****CLEANING CONDENSATE TRAY AND RELIEF VALVE (*)****COLLECTING COOLANT TO REPLACE FILTER-DRIER (*)****REFILLING WITH COOLANT AND CHECKING THE THERMOSTATIC CONTROL AND PRESSURE SWITCHES (*)**

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

(*): (CONSULT YOUR DEALER).

⚠ IMPORTANT ⚠

DO NOT ATTEMPT TO REPAIR ANY PROBLEMS YOURSELF. ALWAYS REFER TO YOUR DEALER WHEN REFILLING CIRCUITS, AS THEY HOLD THE CORRECT SPARE PARTS, AS WELL AS HAVING THE NECESSARY TECHNICAL KNOWLEDGE AND TOOLS.

In the event of inhalation, take the victim into fresh air, give oxygen or artificial respiration if necessary and call a doctor.

In the event of contact with the skin, wash immediately with copious amounts of water and remove any contaminated garments.

In the event of contact with the eyes, rinse with clear water for 15 minutes and call a doctor.

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



G - EVERY 3000 HOURS OF SERVICE

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

G1 - ALTERNATOR BELT

CHANGE

- Open the engine bonnet.
- Remove the protective casing 1.

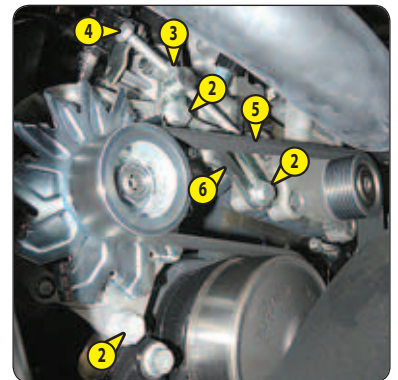
REMOVING THE BELT

- Loosen screws 2 by two to three turns.
- Release lock nut 3, and undo screw 4 sufficiently to be able to swivel the alternator and release the alternator belt 5.

NOTE: Take advantage of belt removal to check the correct operation of the pulleys and bearings (noise, rubbing, play,...).

REFITTING THE BELT

- Refit a new alternator belt (see: 3 - MAINTENANCE: FILTERS CARTRIDGES AND BELTS), passing it around the fan blades and ensuring that it is properly seated in the grooves of each pulley.
- Tighten screw 4 to tension the belt until the adjustment lug 6 is in contact with the fixing screw 2.
- Retighten screws 2 (tightening torque 50 N.m).
- Undo the screws 4 by two turns and block the lock nut 3.
- Refit the protective casing 1.



H - OCCASIONAL MAINTENANCE

H1 - FUEL SYSTEM

BLEEDING

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

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

⚠ IMPORTANT ⚠

Fuel under high pressure that comes into contact with the skin can penetrate the skin and cause burns.

Spraying fuel under high pressure can cause a fire.

Failure to follow the inspection and maintenance instructions may result in serious injury.

⚠ IMPORTANT ⚠

Never work on the high pressure system.

Failure to follow this instruction may result in serious damage to the engine.

The high pressure fuel system must be adjusted and repaired only by approved and suitably trained technicians.



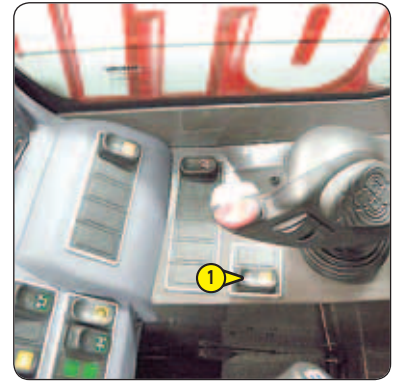
Ensure that the level of fuel in the tank is sufficient and bleed in the following order:

- Open the engine bonnet.
- Check the condition of the fuel system.
- Operate the hand pump 1 approximately 80 times to remove air from the low pressure system.
- The I.C. engine is ready to be started up.
- Run the engine at idle for 5 minutes immediately after bleeding the fuel feed circuit, in order to ensure that the injection pump has been bled thoroughly.

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

⚠ IMPORTANT ⚠

Exhaust particle filter cleaning is an automated procedure activated by the operator when the following indicator lights are displayed:



- Park the lift truck in a safe and adequately ventilated place.
- Check the following points:
 - forward/reverse selector in neutral,
 - parking brake applied,
 - boom angle less than 5°,
 - engine water temperature greater than 70 °C,
 - accelerator pedal released,
 - high exhaust gas temperature indicator lamp off.
- Check that there is sufficient fuel.
- Start the lift truck and run the engine for a few minutes to bring it up to its operating temperature.
- Press down on the top of switch 1 for more than two seconds to begin the regeneration procedure.
- The indicator lamps + switch off.
- The indicator lamps + light up, accompanied by an audible beep, confirming that ‘stationary lift truck’ particle filter cleaning is in progress.
- The **Wait** “wait” screen is displayed throughout “stationary lift truck” particle filter cleaning and disappears when the procedure is complete. If this is not the case, the screen displays **NOTICE** for 3 seconds to indicate a procedural fault. Should this occur, re-check the lift truck position and, if necessary, consult your dealer.
- The engine runs at 2000 rpm during the procedure.

⚠ IMPORTANT ⚠

The exhaust particle filter regeneration procedure must only be stopped where absolutely necessary.

The procedure is halted automatically if the operator:

- presses the accelerator pedal,
- or selects forward or reverse gear,
- or releases the parking brake.

- The time taken for exhaust particle filter regeneration to complete varies (between 15 and 30 minutes) according to various criteria, such as:
 - the level of clogging of the filter,
 - the ambient temperature,
 - the fuel quality and type of engine oil,
 - the number of exhaust particle filter automatic regeneration requests previously cancelled.
- The engine will return to its initial idling speed to indicate that the procedure has finished.

⚠ IMPORTANT ⚠

Once the exhaust particle filter regeneration procedure is completed, leave the engine idling for a few minutes to lower the temperature before switching off the ignition.

For this operation, we advise you to use the hydraulic jack MANITOU reference 505507 and the safety support MANITOU reference 554772.

⚠ IMPORTANT ⚠

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

- Stop the lift truck, if possible on firm, level ground.
- Shut down the lift truck (see: 1 - OPERATING AND SAFETY INSTRUCTIONS: DRIVING INSTRUCTIONS UNLADEN AND LADEN).
- Switch on the hazard warning lights.
- 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.
- Place the jack under the flared axle tube, as near as possible to the wheel and adjust the jack.
- Raise the wheel until it is clear of the ground and place the safety support under the axle.
- Completely unscrew the wheel nuts and remove them.
- Free the wheel by reciprocating movements and roll it to the side.
- Slip the new wheel on the wheel hub.
- Hand-tighten the nuts, grease them if necessary.
- Remove the safety support and lower the lift truck with the jack.
- Tighten the wheel nuts with a torque wrench (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS OF SERVICE for tightening torque).



According to the use of the lift truck, the device may require to be periodically reset.

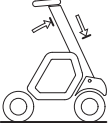










This operation can be easily performed by means of the following procedure.

- Provide a fork carrier or a bucket and a load corresponding to at least half the lift truck's rated capacity.
- Preferably perform the reset when the lift truck is still cold (before it is used) or ensure that the temperature of the rear axle is not more than 50°C.
- Place the lift truck on flat, level ground with the wheels straight.

⚠ IMPORTANT ⚠

Carefully follow the boom positioning instructions. Two audible beeps and lighting of the warning indicator light will inform you **⚠** if the instructions have not been followed correctly. In doubt, contact your dealer.

When the reset is complete, check correct operation of the longitudinal stability limiter and warning device (see: 3 - MAINTENANCE: A - DAILY OR EVERY 10 HOURS OF SERVICE).

<p>STAGE 1 START ↓</p>	 <p>→</p> <p>Simultaneously press and hold down the "BUCKET" MODE  and TEST  buttons.</p> <ul style="list-style-type: none"> - Without attachments. - Boom fully retracted and raised. - Two audible beeps will sound and all the LEDs will flash twice to confirm the start of the procedure.
<p>STAGE 2 ↓</p>	 <p>→</p> <ul style="list-style-type: none"> - Without attachments. - Carriage tilted fully backwards. - Boom fully retracted and in the down position a few centimeters off the ground. <p>→</p> <p>Short press the test button. </p>
<p>STAGE 3 ↓</p>	 <p>→</p>  <p>→</p> <ul style="list-style-type: none"> - With the fork carrier or the bucket and a load (keep boom retracted to allow all other hydraulic movements). - Boom fully retracted and in the down position a few centimeters off the ground. <p>→</p> <p>Short press the test button. </p> <p>Two audible beeps will sound and all the LEDs will flash twice to confirm the end of the procedure.</p> <p>⚠ IMPORTANT ⚠</p> <p><i>Keep the load as close to the ground as possible throughout this operation.</i></p> <ul style="list-style-type: none"> - Hold down the disable the "aggravating" hydraulic movement cut-off button  (indicator lamp lit), and telescope the boom until the rear wheels leave the ground. <p>NOTA: This stage consists in unloading the rear axle. It can be done using a jack but without bearing on the rear axle.</p>
<p>STAGE 4 FINISH</p>	 <p>→</p>  <ul style="list-style-type: none"> - On completion of the reset procedure, the lift truck is in an overloaded state. Retract the telescope to remedy the situation. - All LEDs lit. - A continuous audible beep.

H5 – FRONT HEADLIGHTS

ADJUSTING

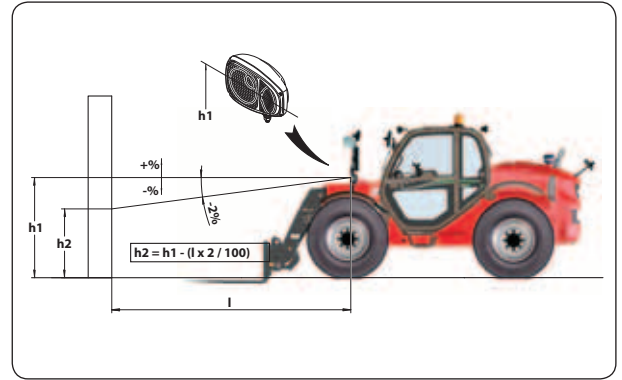
RECOMMENDED SETTING

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

Set to - 2% of the dipped beam in relation to the horizontal line of the headlamp.

ADJUSTING PROCEDURE

- Place the unladen lift truck in the transport position and perpendicular to a white wall on flat, level ground.
- Check the tire pressures (see: 2 - DESCRIPTION: CHARACTERISTICS).
- Place the forward/reverse selector in neutral and release the parking brake.



CALCULATING THE HEIGHT OF THE DIPPED BEAM (H2)

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

H6 – BATTERY FAILURE

CHANGE

⚠ IMPORTANT ⚠

Operate the battery cut-off no less than 30 seconds after turning off the ignition with the ignition key.

Handling and servicing a battery can be dangerous, take the following precautions:

- *Wear protective goggles.*
- *Keep the battery horizontal.*
- *Never smoke or work near a naked flame.*
- *Work in a well-ventilated area.*

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



- Open the bonnet.
- Bring a floating battery of the same type as the one used for the lift truck and battery cables.
- Connect the floating battery while respecting the polarity (-) (+).
- Start the lift truck and remove the cables as soon as the engine is running.
- Change the battery 2.

⚠ IMPORTANT ⚠

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

- Place the forward/reverse selector in neutral and the gear shift in neutral (according to model of lift truck).
- Release the hand brake.
- Switch on the hazard warning lights.
- If the I.C. engine is not running there will be no steering or braking assistance. Operate the steering and pedal slowly avoiding sudden jerky movements.

H8 – LIFT TRUCK

SLINGING

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

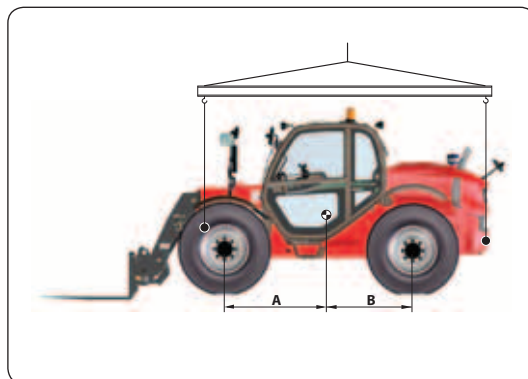
A = 1377 mm B = 1143 mm MLT 629 Compact 20" ST3B

A = 1377 mm B = 1143 mm MLT 629 20" ST3B

A = 1373 mm B = 1147 mm MLT 629 24" ST3B

A = 1424 mm B = 1096mm MLT 629 24" CE ST3B

- Place the hooks in the fastening points 1 provided.



⚠ 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 of the dimensions and the weight of the lift truck (see: 2 - DESCRIPTION: CHARACTERISTICS).

Ensure that the platform is of sufficient size and loading capacity for transporting the lift truck. Also check the allowable ground contact pressure of the platform relative to the lift truck.

⚠ IMPORTANT ⚠

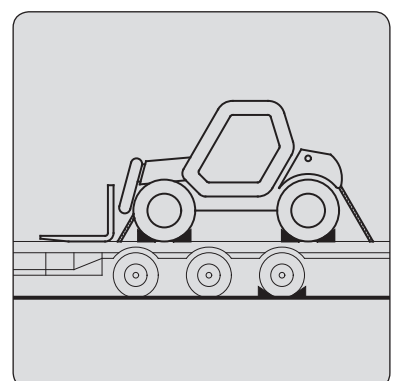
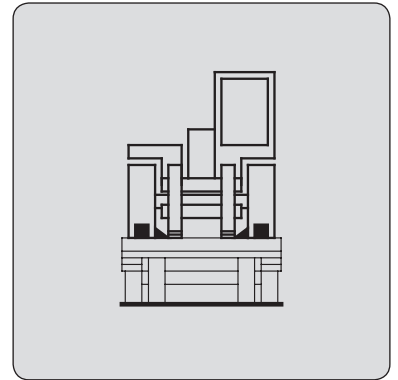
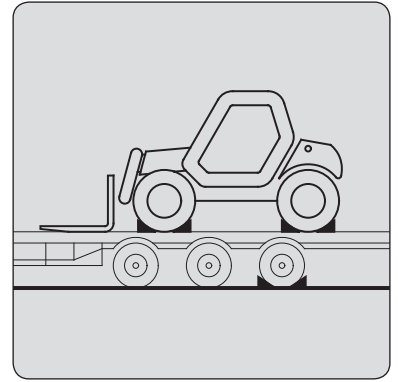
For lift trucks equipped with a turbo-charged I.C. engine, block off the exhaust outlet to avoid rotation of the turbo shaft without lubrication when transporting the vehicle.

LOADING THE LIFT TRUCK

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

STOWING THE LIFT TRUCK

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



***4 - O P T I O N A L
A T T A C H M E N T S
F O R U S E W I T H
T H E R A N G E***

TABLE OF CONTENTS

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INTRODUCTION

- Your lift truck must be used with interchangeable equipment. These items are called: ATTACHMENTS.
- A wide range of attachments, specially designed and perfectly suitable for your lift truck is available and guaranteed by MANITOU.

⚠ 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's liability will be denied in case of modification or of attachment adaptation carried out without his knowing it.

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

⚠ IMPORTANT ⚠

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

In the event of the attachment having less capacity than the lift truck, never exceed this limit.

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

⚠ IMPORTANT ⚠

Depending on their size, certain attachments may, when the boom is lowered and retracted, come into contact with the front tyres and cause damage to them, if reverse tilt is activated in the forward tilt direction.

TO REMOVE THIS RISK, EXTEND THE TELESCOPE TO A SUFFICIENT EXTENT FOR THE PARTICULAR LIFT TRUCK AND ATTACHMENT SO THAT THIS CONTACT IS NOT POSSIBLE.

SUSPENDED LOAD

⚠ IMPORTANT ⚠

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

(see: 1 - OPERATING AND SAFETY INSTRUCTIONS: LOAD HANDLING INSTRUCTIONS: H - TAKING-UP AND SETTING-DOWN A SUSPENDED LOAD).

PICKING UP THE ATTACHMENTS

1 - ATTACHMENT WITHOUT HYDRAULICS AND HAND LOCKING DEVICE

TAKING UP AN ATTACHMENT

- Ensure that the attachment is in a position facilitating the locking to the carriage. If it is not correctly oriented, take the necessary precautions in order to move it safely.
- Check that the locking pin and the clip are in position in the bracket (fig. A).
- Place the lift truck with the boom fully lowered in front of and parallel to the attachment, tilt the carriage forwards (fig. B).
- Bring the carriage under the locking tube of the attachment, slightly lift the boom, incline the carriage backwards in order to position the attachment (fig. C).
- Lift the attachment off the ground to facilitate locking.

HAND LOCKING

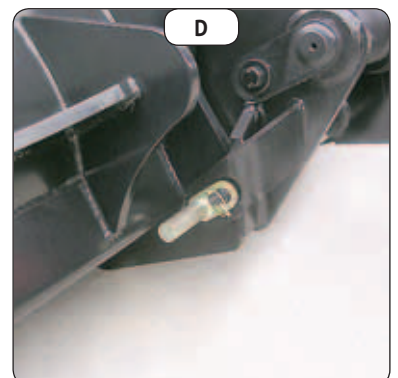
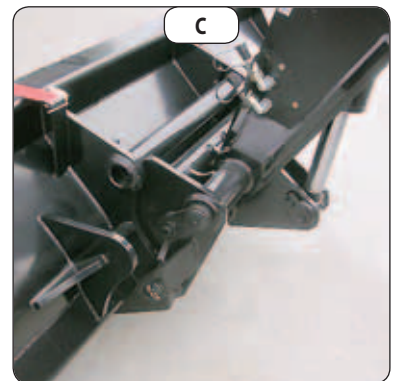
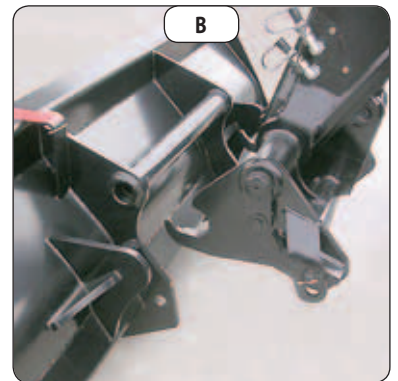
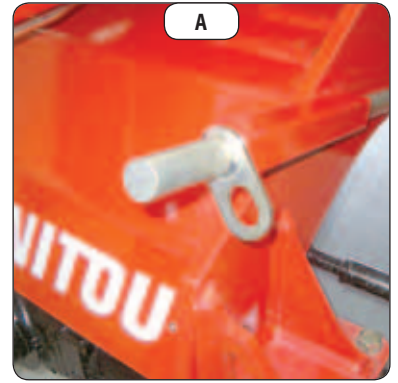
- Take the locking pin and the clip on the bracket (fig. A) and lock the attachment (fig. D). Do not forget to refit the clip.

HAND RELEASING

- Proceed in the reverse order of paragraph HAND LOCKING while making sure you put back the locking pin and the clip in the bracket (fig. A).

LAYING AN ATTACHMENT

- Proceed in the reverse order of paragraph TAKING UP AN ATTACHMENT while making sure you place the attachment flat on the ground and in closed position.



HYDRAULIC ATTACHMENT AND MANUAL LOCKING DEVICE

TAKING UP AN ATTACHMENT

- Ensure that the attachment is in a position facilitating the locking to the carriage. If it is not correctly oriented, take the necessary precautions in order to move it safely.
- Check that the locking pin and the clip are in position in the bracket (fig. A).
- Place the lift truck with the boom fully lowered in front of and parallel to the attachment, tilt the carriage forwards (fig. B).
- Bring the carriage under the locking tube of the attachment, slightly lift the boom, incline the carriage backwards in order to position the attachment (fig. C).
- Lift the attachment off the ground to facilitate locking.

MANUAL LOCKING AND CONNECTION OF THE ATTACHMENT

⚠ IMPORTANT ⚠

Make sure that the rapid connectors are clean and protect the holes which are not used, with the caps provided.

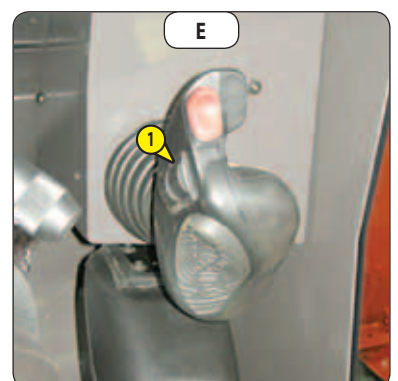
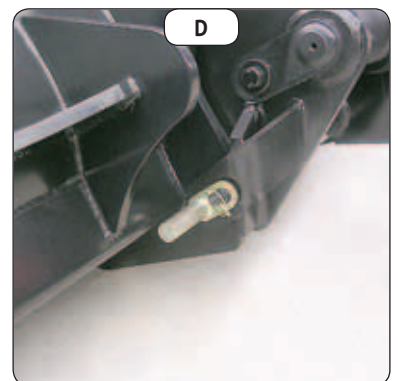
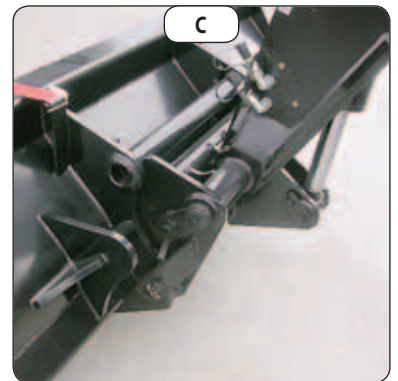
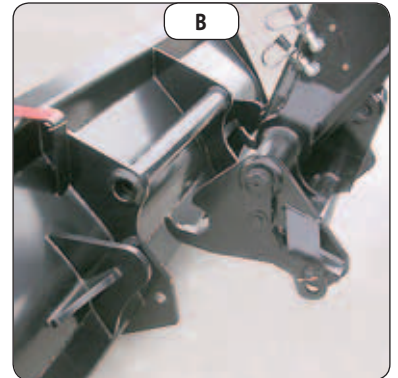
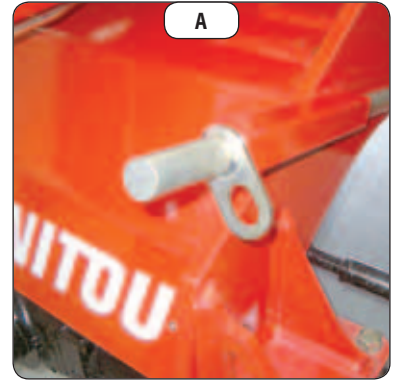
- Take the locking pin and the clip on the bracket (fig. A) and lock the attachment (fig. D). Do not forget to refit the clip.
- Stop the I.C. engine and keep the ignition on the lift truck.
- Remove the pressure of the hydraulic circuit by operating switch 1 (fig. E) on the distributor lever backwards and forwards 4 or 5 times.
- Connect the rapid connectors according to the logic of the attachment's hydraulic movements.

HAND RELEASING AND DISCONNECTING THE ATTACHMENT

- Proceed in the reverse order of paragraph HAND LOCKING AND CONNECTING THE ATTACHMENT while making sure you put back the locking pin and the clip in the bracket (fig. A).

LAYING AN ATTACHMENT

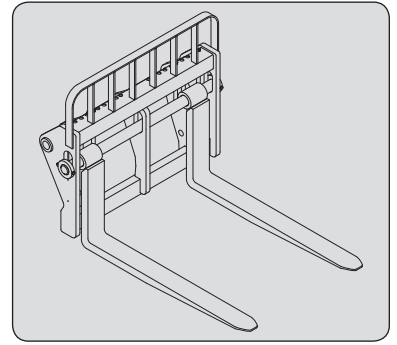
- Proceed in the reverse order of paragraph TAKING UP AN ATTACHMENT while making sure you place the attachment flat on the ground and in closed position.



TECHNICAL SPECIFICATIONS OF ATTACHMENTS

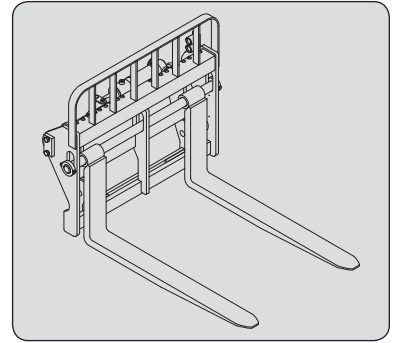
FLOATING FORK CARRIAGE

	TFF 29 MT-1040	TFF 29 MT-1300
PART NUMBER	653340	653341
Rated capacity	2900 kg	2900 kg
Width	1040 mm	1300 mm
Weight	285 kg	315 kg



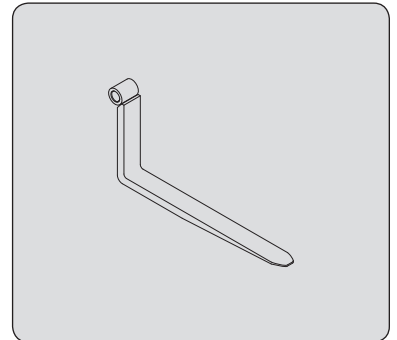
FLOATING FORK SIDE-SHIFT CARRIAGE

	TFF 29 MT-1040 DL	TFF 35 MT-1300 DL
PART NUMBER	751378	751379
Rated capacity	2900 kg	2900 kg
Side-shift	2x100 mm	2x100 mm
Width	1040 mm	1300 mm
Weight	335 kg	365 kg



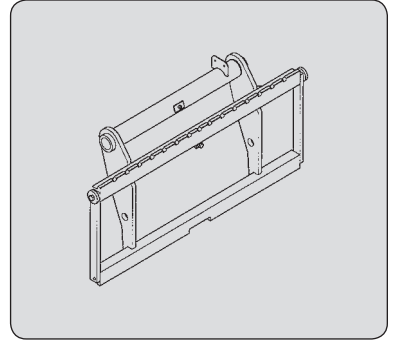
FLOATING FORK

	211922
PART NUMBER	211922
Section	125x50x1200 mm
Weight	71 kg



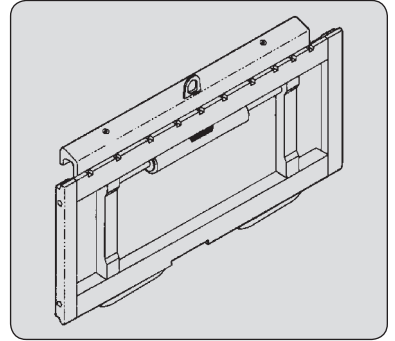
STANDARDISED TILTING FORK CARRIAGE

	PFB 35 N MT-1260 S2	PFB 35 N MT-1470 S2	PFB 35 N MT-1580 S2
PART NUMBER	653744	653745	653746
Rated capacity	3500 kg	3500 kg	3500 kg
Width	1260 mm	1470 mm	1580 mm
Weight	95 kg	120 kg	125 kg



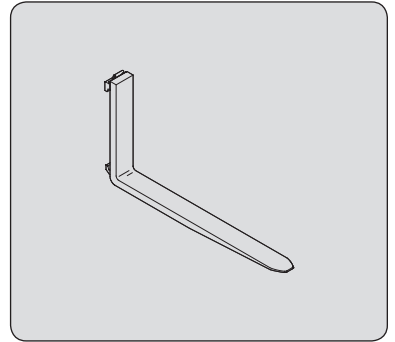
STANDARDISED SIDE-SHIFT CARRIAGE

	TDL 3T5 L1260 FEM3	TDL 5T L1470 FEM3	TDL 5T L1580 FEM3
PART NUMBER	751372	751373	751374
Rated capacity	3500 kg	5000 kg	5000 kg
Side-shift	2x100 mm	2x100 mm	2x100 mm
Width	1260 mm	1470 mm	1580 mm
Weight	79 kg	167 kg	177 kg



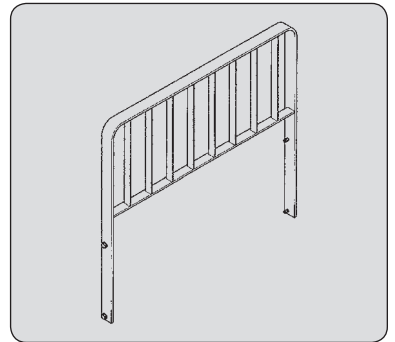
STANDARDISED FORK

	415618
PART NUMBER	415618
Section	125x45x1200 mm
Weight	72 kg



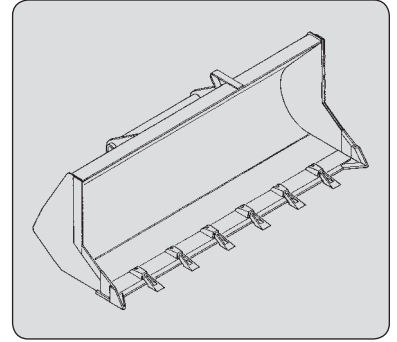
LOAD BACK REST

	556008	555325	556010
PART NUMBER	556008	555325	556010
Width	1260 mm	1470 mm	1580 mm
Weight	39 kg	41 kg	42 kg



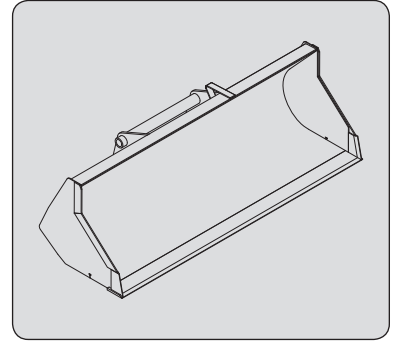
BUILDING BUCKET

	MLT 629 20" CBC 750 L2100 S2	MLT 629 24" CBC 800 L2250 S3
PART NUMBER	654475	654471
Rated capacity	768 l	814 l
Width	2100 mm	2250 mm
Weight	342 kg	385 kg



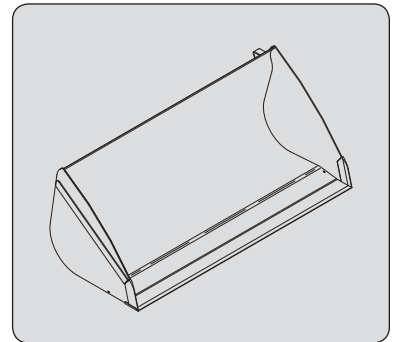
LOADING BUCKET

	MLT 629 20" CBR 850 L2100	MLT 629 24" CBR 900 L2250 S2
PART NUMBER	653047	653749
Rated capacity	843 l	904 l
Width	2100 mm	2250 mm
Weight	358 kg	390 kg



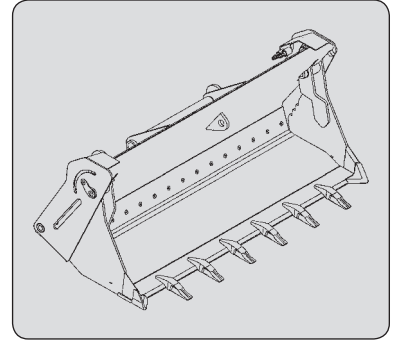
GRAIN BUCKET

	CBA 1500 L2050 S3	CBA 1800 L2250 S3	MLT 629 24" CBA 2000 L2450 S3
PART NUMBER	570546	570550	570551
Rated capacity	1505 l	1820 l	1998 l
Width	2050 mm	2250 mm	2450 mm
Weight	509 kg	571 kg	607 kg



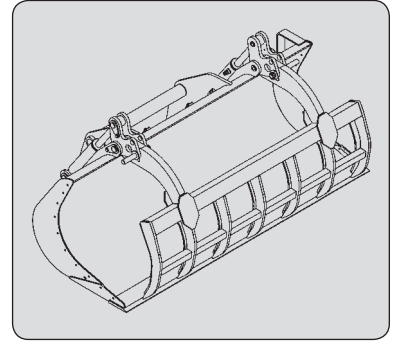
BUCKET 4X1

	CB4x1-700 L1950
PART NUMBER	751402
Rated capacity	700 l
Width	1950 mm
Weight	640 kg



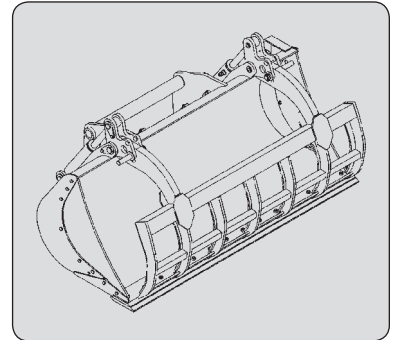
BUCKET WITH GRAB

	CBG 1950 S5	CBG 2100 S4	MLT 629 24" CBG 2300 S5
PART NUMBER	784634	751410	784636
Rated capacity	1 m ³	1,1 m ³	1,2 m ³
Width	1950 mm	2100 mm	2300 mm
Grab	7	7	8
Weight	595 kg	585 kg	660 kg



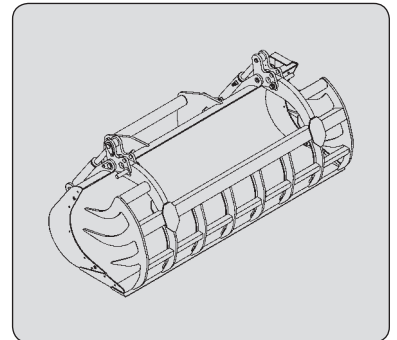
GRAB BUCKET (NON-HAZARDOUS INDUSTRIAL WASTE)

	CBG 1950 DIB S5
PART NUMBER	788675
Rated capacity	1 m ³
Width	1950 mm
Grab	7
Weight	690 kg



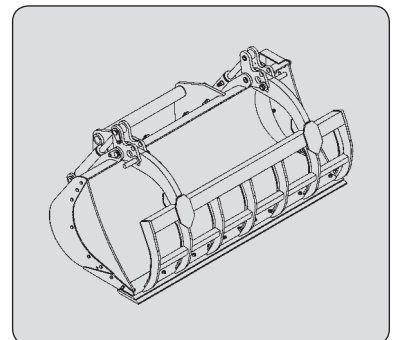
BUCKET WITH GRAB (CLOSED GRAB)

	MLT 629 24" CBG 2300 GF S5
PART NUMBER	784638
Rated capacity	1,2 m ³
Width	2300 mm
Grab	8
Weight	700 kg



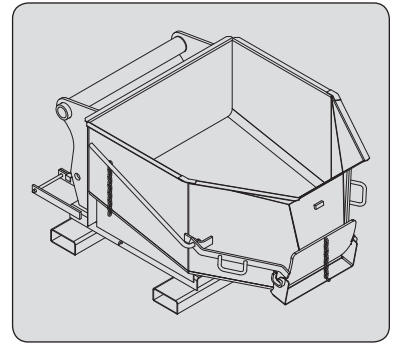
BUCKET WITH GRAB (SIDES CLOSED AND REVERSING AND DISMOUNTABLE CUTTING EDGE)

	CBG 1950 JFD-LDR S5	CBG 2100 JFD-LDR S4	MLT 629 24" CBG 2300 JFD-LDR S5
PART NUMBER	784635	751413	784637
Rated capacity	1 m ³	1,1 m ³	1,2 m ³
Width	1950 mm	2100 mm	2300 mm
Grab	7	7	8
Weight	655 kg	660 kg	715 kg



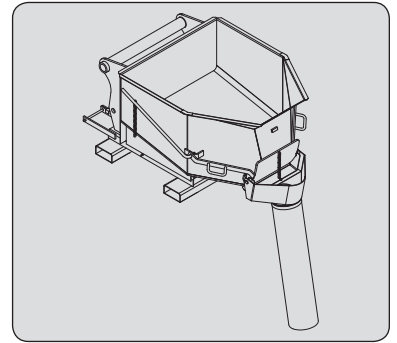
CONCRETE BUCKET (ADAPTABLE ON FORKS)

	BB 500 S4	BBH 500 S4
PART NUMBER	654409	751462
Rated capacity	500 l/1300 kg	500 l/1300 kg
Width	1100 mm	1100 mm
Weight	205 kg	220 kg



CONCRETE BUCKET WITH SPOUT (ADAPTABLE ON FORKS)

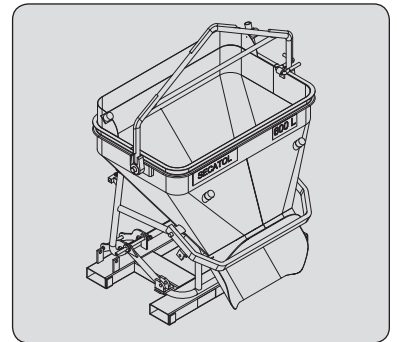
	BBG 500 S4	BBHG 500 S4
PART NUMBER	654411	751464
Rated capacity	500 l/1300 kg	500 l/1300 kg
Width	1100 mm	1100 mm
Weight	220 kg	235 kg



SPOUT BUCKET (ADAPTABLE ON FORKS)

	GL 300 S2	GL 400 S2
PART NUMBER	174371	174372
Rated capacity	300 l/725 kg	400 l/969 kg
Weight	150 kg	166 kg

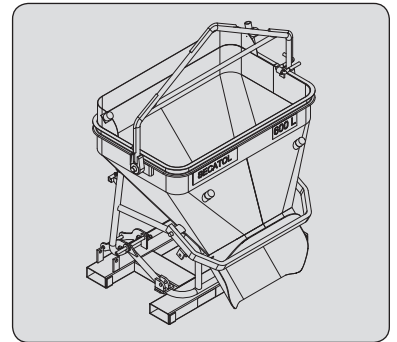
HYDRAULIC KIT TO OPEN THE SPOUT
PART NUMBER 653750



SPOUT BUCKET (ADAPTABLE ON FORKS)

	GL 600 S2	GL 800 S2
PART NUMBER	174373	174374
Rated capacity	600 l/1440 kg	800 l/1920 kg
Weight	290 kg	325 kg

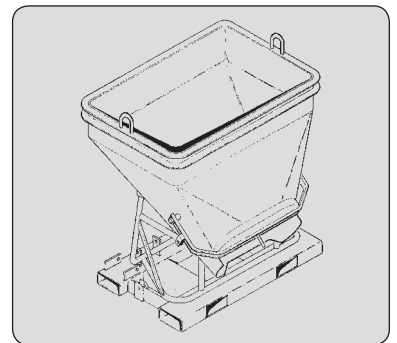
HYDRAULIC KIT TO OPEN THE SPOUT
PART NUMBER 653750



SPOUT BUCKET (ADAPTABLE ON FORKS)

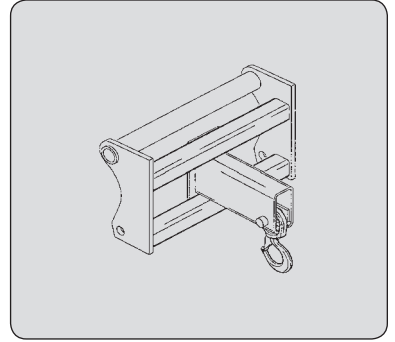
	GL 1000 S2	GL 1500 S2
PART NUMBER	174375	174376
Rated capacity	1000 l/2440 kg	1500 l/3591 kg
Weight	360 kg	409 kg

HYDRAULIC KIT TO OPEN THE SPOUT
PART NUMBER 653750



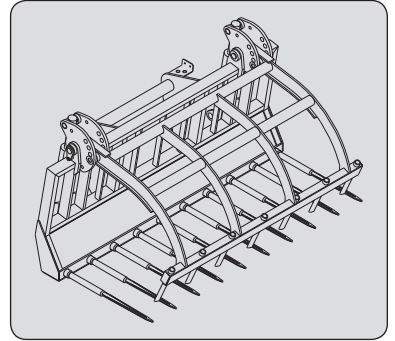
CRANE JIB

PART NUMBER	PC 50 708544
Rated capacity	5000 kg
Weight	120 kg



MANURE FORK WITH GRAB

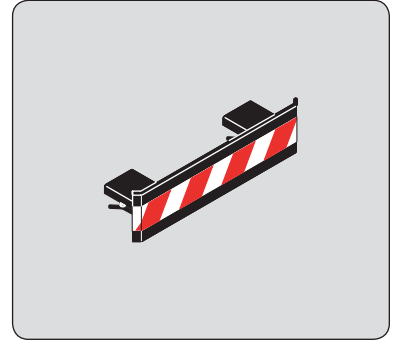
	FFGR 30 MT 1950 S3	FFGR 30 MT 2100 S5
PART NUMBER	556844	556843
Rated capacity	1580 Kg	1700 Kg
Width	1950 mm	2100 mm
Finger	9	10
Grab	7	7
Weight	530 kg	567 kg



ATTACHMENT SHIELDS

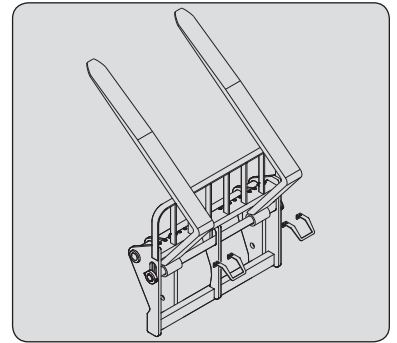
FORK PROTECTOR

PART NUMBER 227801



FORK BLOCK FOR FLOATING FORK CARRIAGE

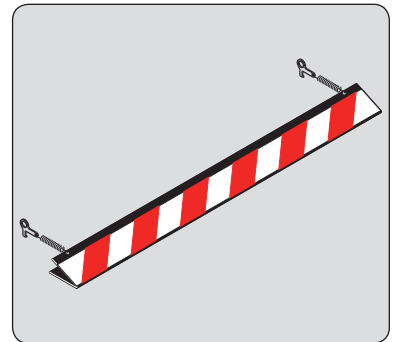
PART NUMBER 261210



BUCKET PROTECTOR

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

	PART NUMBER	206734	206732	206730
Width		1375 mm	1500 mm	1650 mm
	PART NUMBER	235854	206728	206726
Width		1850 mm	1950 mm	2000 mm
	PART NUMBER	223771	223773	206724
Width		2050 mm	2100 mm	2150 mm
	PART NUMBER	206099	206722	223775
Width		2250 mm	2450 mm	2500 mm



MANURE FORK PROTECTOR

PART NUMBER 230689

