



T400 EVO

SERIES

USER MANUAL

Dear user,

Thank you for placing your trust in our product, and we hope you will find your MX loader satisfactory in every way.

By taking a few minutes to read this manual, you will obtain the best results from your MX loader, prolong its service life and ensure its safe operation.

Your loader user manual is an important document. Keep it in a safe place, along with the fitting instructions supplied by your dealer, so they can be consulted when necessary. These documents should be kept available to any other users, and provided to any new owner if you sell your MX loader.

The illustrations and technical data provided in this document might not exactly correspond to your loader; however, operating conditions remain the same.



WARNING: The loader should be handed over to the user by the dealer.

The demonstration of the equipment to be delivered should include:

- Safety rules.
- Hitching and unhitching the loader.
- Hitching and unhitching work implements.
- Full use of the controls.



WARNING: Should one of these 4 requirements be omitted, you must contact your dealer immediately.

The original manuals are available [on the MX website](#).

MX is a trademark of M-extend France SAS, SIREN 639 200 260, Rennes TCR, 19 Rue de Rennes, BP 83 221 - 35 690 Acigné, France.

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CAUTION: The operator must read this manual before using the loader for the first time.



- Any use that is not intended by the manufacturer is considered improper use and therefore constitutes misuse. The manufacturer cannot be held liable for any resulting damage.
- The safety information given in this manual does not replace safety codes, insurance requirements, local, state, or federal laws.

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1. Safety rules



DANGER: Carrying or lifting persons using the loader is forbidden.

- The PPE (Personal Protective Equipment) listed in the [PPE Table](#) must be worn when operating this machinery.
- Seat belts must be worn by the driver and passengers.
- Before each use, check that the loader is correctly hitched and that the implement is correctly locked in place (test by pressing down hard on it).
- Only operate the loader from the cab; operators must maintain full control until movements are completed.
- Lock the loader control levers in place when driving along public roads. For more information, please refer to the controls user manual.
- When approaching a junction, release the controls then raise the loader to at least 2 m above the ground to avoid endangering other road users. After passing the junction, return the loader to its initial position and lock the controls again.
- When driving on the road, do not conceal the tractor's side lights and indicators.
- Do not leave the cab without stopping all control lever movement (control lever locked).
- Never leave the tractor with the loader raised. After using the loader, park the tractor with the loader lowered to the ground.
- All persons must be kept away from the area in which the loader is moving while it is in operation. If lifting operations require the presence of someone in close proximity to the load, the MX loader must be fitted with a safety device. For more information, please refer to [Safety when lifting and dumping](#).
- Before use, ensure that the loader-tractor combination and the implement-loader combination are recommended. Advice can be obtained from the current MX price list, available from your dealer.
- Always use implements designed and recommended by MX for the work to be carried out.
- Ensure tractor stability by means of an appropriate counterweight. For more information, please refer to [Counterweight](#).
- Limit all movements with the load raised, in order to avoid any risk of unbalancing the tractor.
- Move forwards or backwards while steering in order to reduce stress on the axle, steering ram, and tyre wear.
- Do not exceed the permissible load on the front axle, as specified by the manufacturer.
- Do not exceed the maximum load specified by the tyre manufacturer for the front tyres.
- Check tyre pressure regularly.
- Periodically check that the safety pins and bolts are in place. Do not replace with any other object, such as nails or wires.
- To use the MX loader safely, the tractor must be fitted with a cab protection structure or 4-post roll cage to protect against falling objects. Caution: the protective fitting must be in operational position during work. If the tractor is only fitted with a 2-post front or back roll cage, please see [Loader usage limits on a tractor without cab or without 4-post roll cage](#) and [Operator Protective Guard OPG](#).
- Watch out for overhead electricity and telephone lines, guttering, framework, or any other tall structures when moving with the loader in its raised position.
- In compliance with Standard EN 12525 + A2 2010, loader and implement controls must be "sustained action", except for the floating position for lifting and/or dumping, which can be held in place by a notching system.

- Any fault diagnostics and/or removal of parts must only be carried out by a professional, who should start by ensuring that any work is carried out safely with minimal risk to themselves and their environment, especially in the case of work with a lifted loader.
- For all operations on the machine, the risks of crushing or pinching must be managed, especially with respect to moving parts.
- Keep the tractor-loader unit clean to avoid the risk of fire. Check that airborne particles (straw, grass, wood shavings, etc.) do not accumulate in areas which reach high temperatures. Inspect and clean areas where various materials can build up, especially around the engine and the exhaust area.
- Check that the tractor is safely stopped after use.
- Never lift the loader and/or implement if the implement is obstructed or restricted in any way.
- When pushing, loading or pulling, the maximum permissible working speed is 5 kph.

1.1. Safety warning pictogram

This safety pictogram is used throughout the manual to draw attention to the risk of material damage, injury or death. If this symbol is shown, read the warning message carefully. You must be familiar with the instructions and safety regulations before installing or using the equipment.

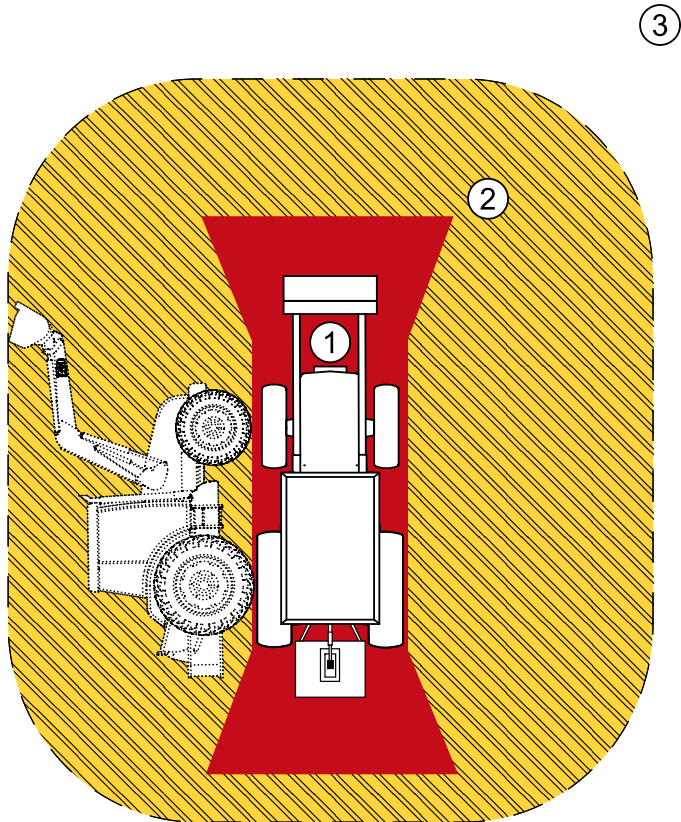
Pictogram	Term	Description
	DANGER	Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.
	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
	IMPORTANT	Indicates a situation that could result in damage to equipment or property if instructions are not followed correctly.
	NOTE	Provides useful information.

1.2. PPE Table (Personal Protective Equipment)

Symbol	Meaning	Example of risk
	Protective gloves must be worn.	Cuts, trapped fingers, when unlocking the implement on the loader.
	Hearing protection must be worn.	Bucket shaking in a tractor without a cab.
	Eye protection must be worn.	Splashes during high-pressure cleaning.
	Safety helmets must be worn.	Impacts to the head from the loader during tractor maintenance.
	Protective clothing must be worn.	Splashes during high-pressure cleaning.
	Safety footwear must be worn.	Crushing when positioning parking stands.

1.2.1. Hazardous areas around the tractor and front loader

Using a front loader creates hazardous areas around the equipment, posing risks both to the operator and to people nearby. Clear identification of these areas is essential to ensure safety during handling, movement or ground-level operations.



(1) Critical hazardous area (red) / (2) Peripheral hazardous area (striped orange) / (3) Working area

 **DANGER:** Keep hazardous areas clear and prohibit access to untrained persons. Constant vigilance is required.

Area	Description	Associated risks
(1) Critical hazardous area (red)	Immediate area around and under the tractor/loader unit.	Risk of serious injury or death in the event of the machine tipping, risk of mechanical crushing, reduced visibility for the operator, risk of entrapment in moving parts.
(2) Peripheral hazardous area (striped orange)	Area corresponding to the potential tipover area of the tractor fitted with a loader.	Risk of serious injury or death in the event of the machine tipping, risk of load falling on anyone within the area, reduced operator visibility.
(3) Working area (in relation to the type and layout of the farm)	Area encompassing all possible movements of the tractor and front loader during their operation.	Risk of collision, risk of crushing, limited operator field of view.

1.3. Loader usage limits on a tractor without a cab or without a 4-post rollcage

⚠ DANGER: If the tractor is not fitted with a structure protecting against falling loads (cab or 4-post rollcage), the driver is exposed to constant risk when handling loads.

For safe work, the following safety precautions must be observed:

- Use the implement designed for the work to be carried out.
- Adjust the indicator rod in accordance with the implement being used.
- Ensure the stability and security of the load in the implement.
- The implement's maximum load level must not exceed the lowest side when handling bulk materials, and must not exceed the height of the backplate when handling unit loads [see Fig. 1].
- Move the tractor-loader unit smoothly.
- Travel with the load at ground level and at moderate speed.
- During lifting operations and when moving, ensure that you keep the load in sight, from the moment the implement pivot point (A) passes above the horizontal line of the loader pivot point (B) [see Fig. 2]. If necessary, correct the implement's position so that the load is never directed towards the driver [see Fig. 3].

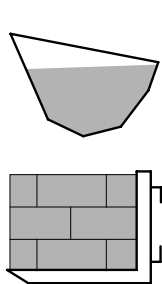


Fig. 1

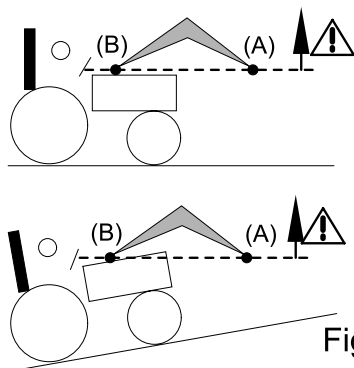


Fig. 2

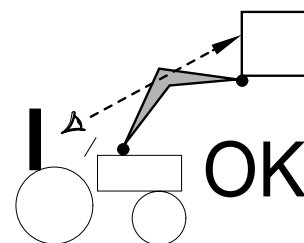
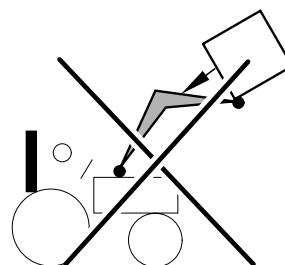


Fig. 3

⚠ DANGER: If the load is not properly secured, the operator is exposed to the risk of the load falling when the implement pivot point (A) passes above the horizontal line of the loader pivot point (B) [see Fig. 2].

⚠ DANGER: Do not crowd the loader when the implement pivot point (A) exceeds the horizontal line of the loader pivot point (B) [see Fig. 2].

1.4. Non-compliance with safety and use rules

- MX products are designed to be used at the maximum hydraulic pressure indicated by the manufacturer in the tractor's specifications. Use of higher pressure will result in additional stress and will invalidate the MX equipment warranty.
- Never modify the hose connections.
- Breaking the seals voids MX's liability for all items supplied.
- Any installation of an MX loader that does not comply with the recommendations set out in the MX price list in force on the date of purchase will void the MX warranty on all items supplied.

- Any modification to any item supplied by MX (implements, loader, frame, etc.), or installation or use of an implement or component not recommended by MX on the MX loader, will render the MX warranty on all supplied items null and void.
- Only use genuine MX spare parts. Do not carry out any modifications yourself or have anyone else do so on your MX loader and its implements (mechanical, electrical, hydraulic or pneumatic specifications) without obtaining MX's prior written approval. Failure to comply with these rules may make your MX loader hazardous. In the event of damage or injury, MX will not be held liable in any way.
- Warranty cover will cease immediately in the event of failure to observe the standards and instructions for use and maintenance of the MX loader as stipulated in the user manual. MX may not be held liable for any accident resulting from actions contrary to these restrictions.

2. OPG operator protective guard

2.1. Description

The tractor-loader assembly can be fitted with an OPG (Operator Protective Guard) to protect the operator against dropped unit loads, particularly when handling round bales.

The need to fit this device depends on the loader specifications (lifting capacities) and the tractor equipment (no cab or 4-post ROPS roll cage).

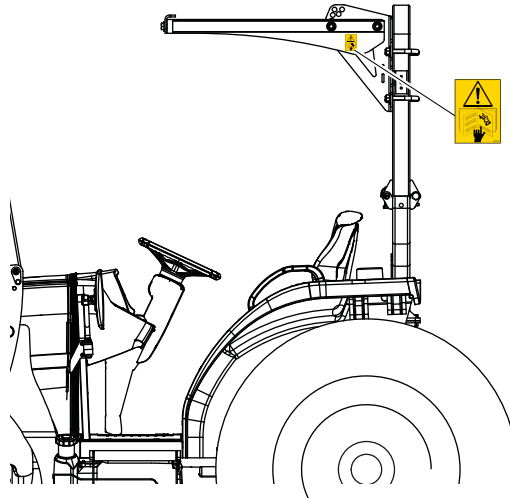
NOTE: The Operator Protective Guard (OPG) is not intended to replace the Roll-Over Protective Structure (ROPS) or the Falling Object Protective Structure (FOPS).

2.2. Safety instructions

- Make sure that the OPG is properly attached to the ROPS structure (fasteners tightened to the prescribed torque).
- Once fitted, the OPG should not be disassembled.
- Check that the OPG is in good condition (no cracks, warping, corrosion or loose components).
- The OPG is mechanically connected to the tractor's ROPS structure. **The ROPS-OPG assembly must always be in operating position.**
- Check that the total height of the tractor fitted with the OPG can pass under existing structures.
- Never make modifications to the OPG (threading holes, welds, cuts, etc.).
- The OPG does not replace the need for good driving practices (moderate speed, unit load held in place, etc.).
- The OPG only protects the driver's cab. Do not transport passengers on the tractor when handling the loader.
- Do not use the OPG as a point for securing, lifting, or attaching accessories.
- In the event of any impact or object falling on the OPG, stop using it immediately and arrange for a competent professional to check over the integrity of the structure.
- Do not stack loads beyond the implement's recommendations: unit loads must be lifted with the load secured in place. Unsecured loads pose a falling hazard.
- Caution: risk of head injury when accessing the driving position.
- When disposing of the OPG, ensure that it can no longer be used.
- The PPE (Personal Protective Equipment) listed in the [PPE Table](#) must be worn when operating this machinery.

2.3. Safety stickers

Ensure that these stickers are clean and legible; replace them if they become damaged. If a sticker needs replacing, clean the surface with isopropyl alcohol and affix the sticker using an appropriate tool.



Symbol

Meaning



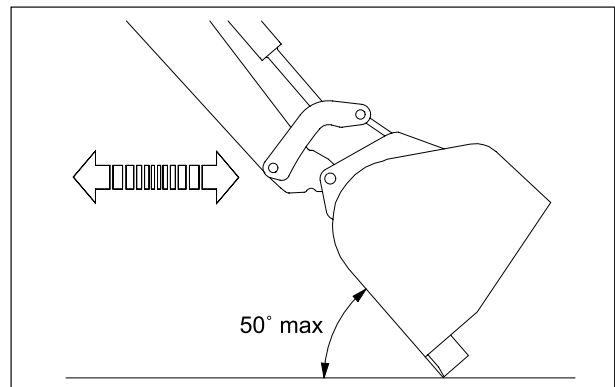
Read the safety and operating instructions for the OPG before using the tractor-front loader assembly.

2.4. Maintenance

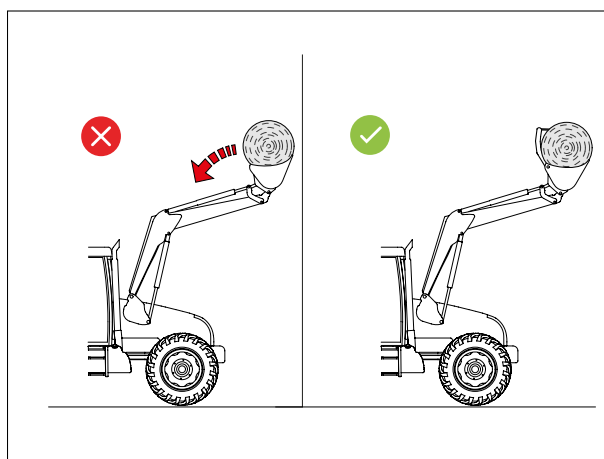
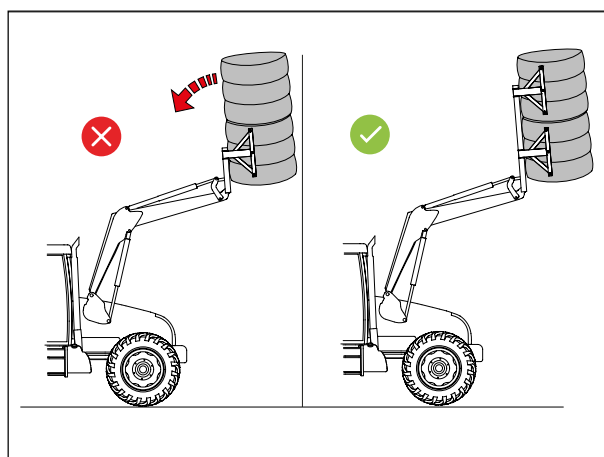
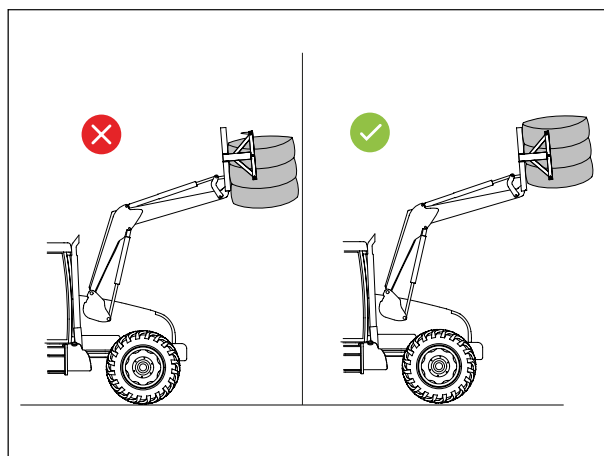
- Perform monthly inspections looking for cracks, warping, corrosion and loose fasteners.
- Check the tightening torque of the fasteners once a month, using the manufacturer's recommended values.
- A damaged OPG should be replaced immediately.
- When replacing an OPG, mount the structure using the original fasteners.
- Clean the OPG regularly to prevent dirt or corrosive substances from building up.

3. Rules of use

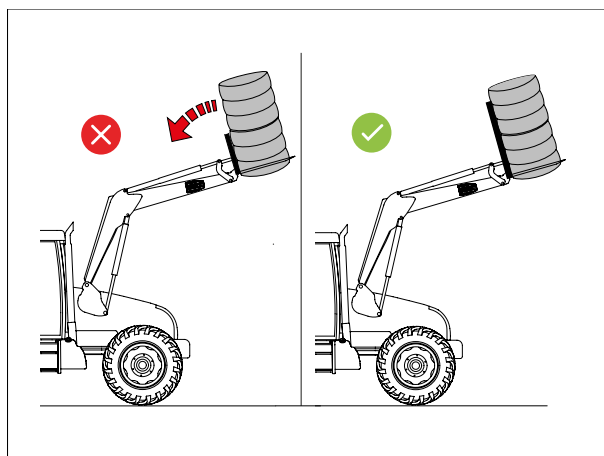
- Each implement has been designed for a specific use and has its own strength limitations.
- Land clearing and stump removal are to be avoided. Such work must be carried out using specialised machinery and is beyond the capabilities of an agricultural loader.
- Use the tractor's traction to penetrate the material to be moved, rather than relying on momentum, which subjects the loader and tractor to significant strain.
- Take care not to put excessive strain on the hydraulic components if the load to be handled is too heavy. The same applies when the rams are fully extended. Release the spool valve control levers.
- Always work with a centred load.
- Always work smoothly and carefully.
- For ground levelling, work at slow speed with an implement-to-ground angle of no more than 50°.



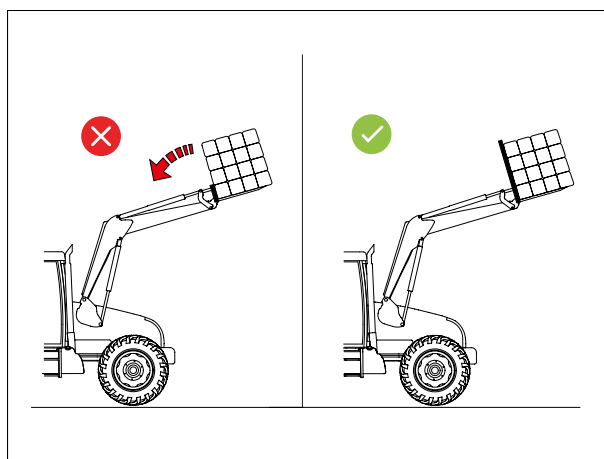
- When handling bales, check that the bale is held correctly before lifting the loader.



- Use the implement designed for the work to be carried out.



- Do not exceed the height of the backplate.



4. Bale unstacking procedure



CAUTION: Using a front loader to unstack agricultural bales (round or rectangular) requires strict adherence to the following instructions, in order to avoid the risk of load dropping or equipment tipping over.

4.1. Safety instructions

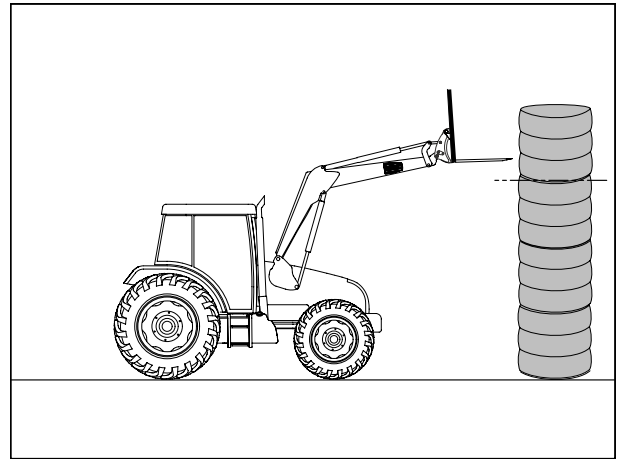
- Never handle more bales than recommended for the implement.
- When moving, check that the implement does not pose a danger.
- Avoid any unstacking operations on a slope or unstable ground without taking specific safety precautions (reduce the load, lower the implement).
- Never leave a handled bale unattended or without placing it on the ground.
- Do not allow anyone to be present in the hazardous areas around the equipment during operation.
- Avoid moving with bales when the load is raised. When stacking or unstacking, move at low speed and lower the load as soon as possible.
- Continuously monitor the load during operation.
- Do not exceed the maximum authorised capacity.
- Never attempt to handle a stack of bales that exceeds the loader and implement's maximum lifting height.
- Before leaving the tractor, the operator must check that the implement is on the ground, slightly tipped.

Before each use:

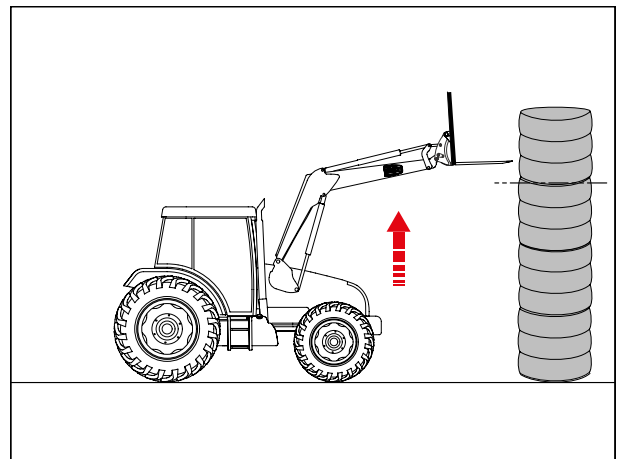
- Check that the implement being used (bale grab, bale fork) is compatible with the implement carrier and is properly locked in place.
- Visually inspect the general condition of the implement: arms straight, no cracks or warping, hydraulic mechanism functioning.
- Check tine condition: maximum effective number, good condition and securely attached.
- Check loader and tractor stability (counterweights fitted if necessary, tyres correctly inflated, stabilisation if on a slope).
- Assess the stability of the stacked bales before commencing handling.

4.2. Unstacking operations

- Approach the stack of bales slowly, at the appropriate height.

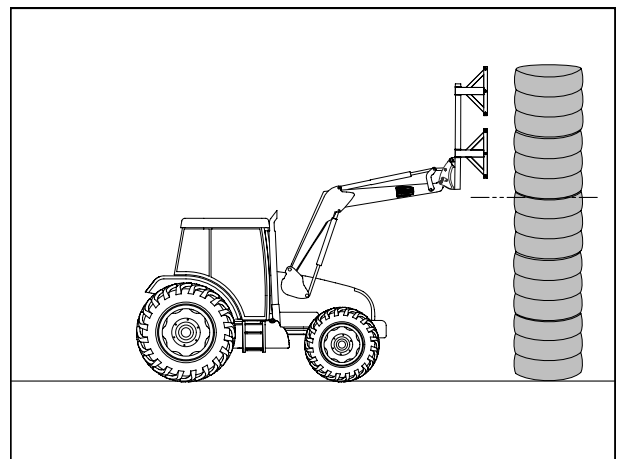


- Position the implement precisely, at the level of the top bale only.

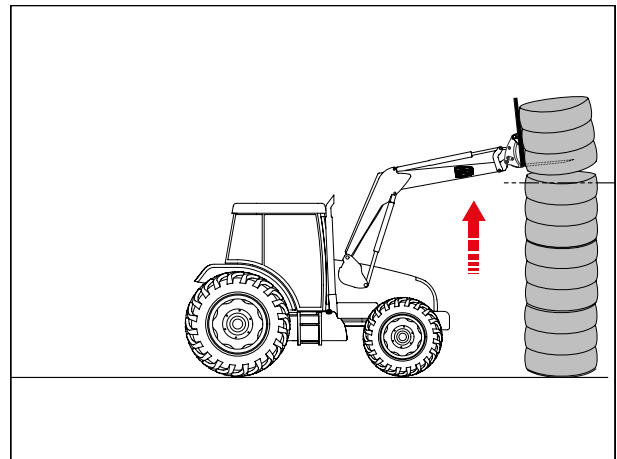


Certain specific implements are designed to handle multiple bales simultaneously. If you are using this type of implement:

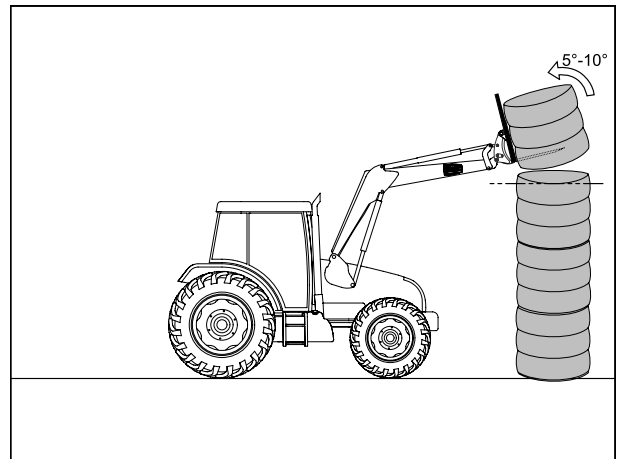
- You must follow the manufacturer's recommendations (maximum number of bales, loading configuration).
- Check the lifting capacity of the loader and the tractor before carrying out any multiple handling operations.
- Check that the entire load is securely held.
- Check the even and stable distribution of the grabbed bales.



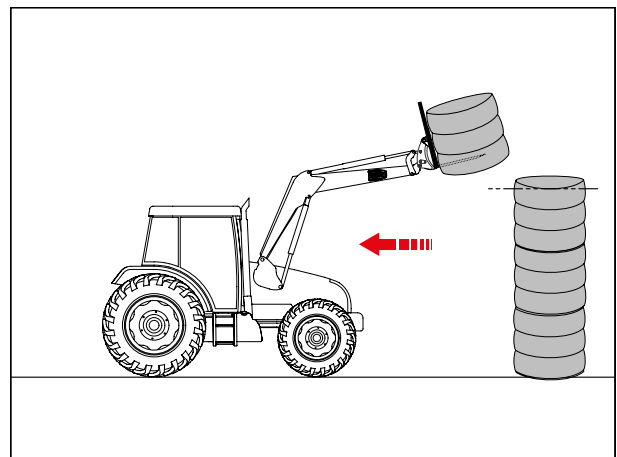
- Grip the bale firmly and lift the load slowly.



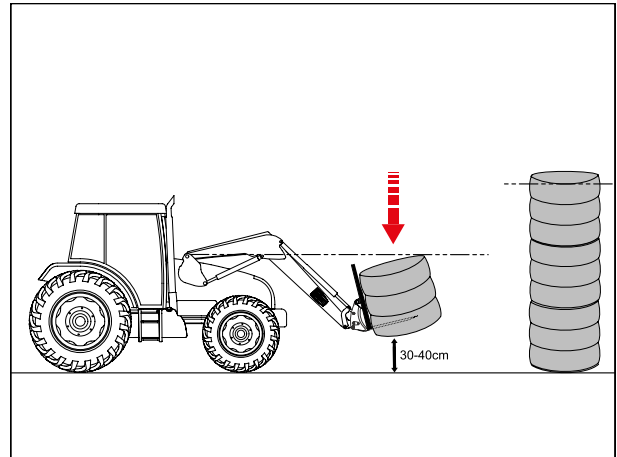
- Crowd the implement slightly to secure the load (5° to 10° back from horizontal).



- Reverse slowly in a straight line until the bale is completely clear of the stack.



- Slowly lower the bale (to approx. 30-40 cm from the ground).



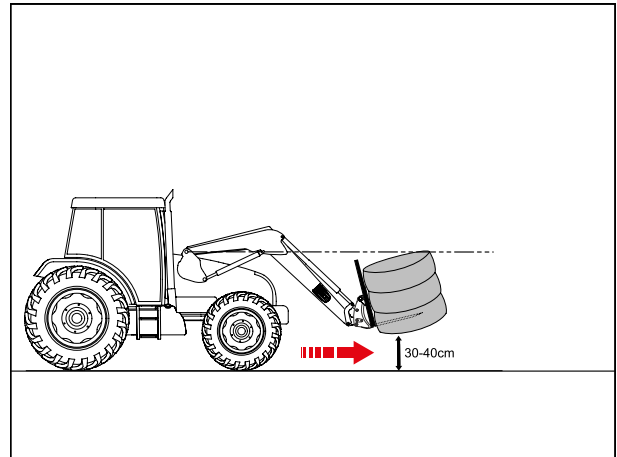
- Move the bale slowly, keeping the implement in a low position (approx. 30 to 40 cm from the ground), slightly crowded (5-10°).



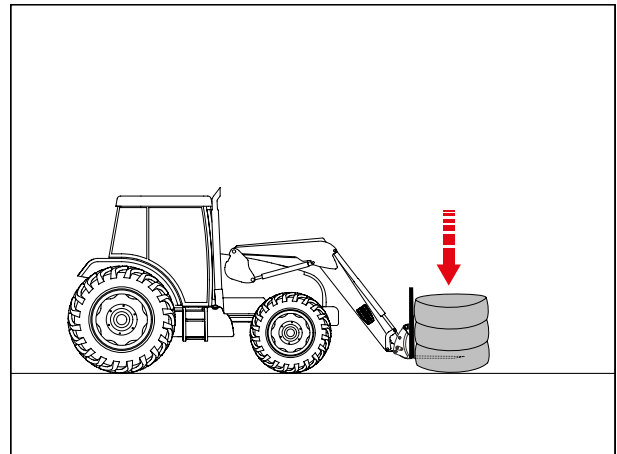
CAUTION: Always adjust your speed to suit the terrain conditions.



CAUTION: Keep the bale in the lowered position to ensure stability and to avoid any risk of tipping over.



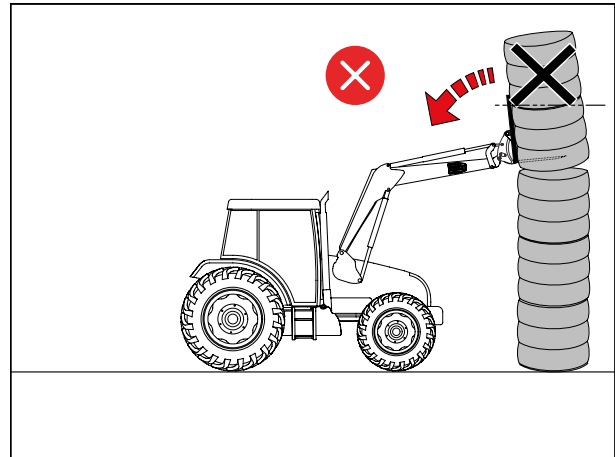
- Lower the bale and tip slowly towards the ground, placing it on a flat and stable surface.



4.3. Reasonably foreseeable misuse

⚠ CAUTION: Handling a bale beyond the implement's recommended limits exposes the operator to the risk of unsecured upper bales falling, posing a serious danger to both the operator and anyone nearby.

⚠ CAUTION: Never attempt to handle a stack of bales that exceeds the loader and implement's maximum lifting height. This poses a risk of tipping over, load loss and uncontrolled falling of bales

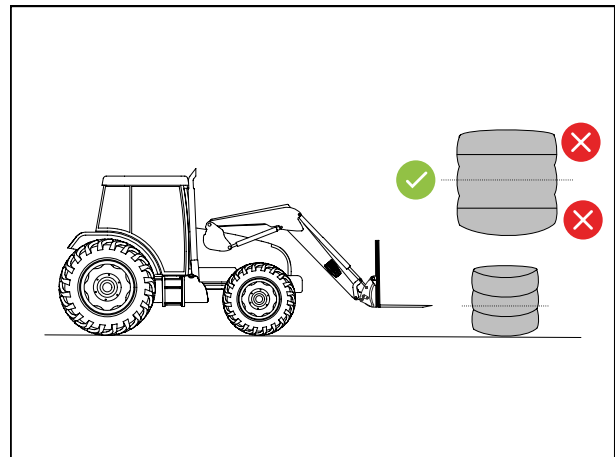


Comply with the recommended number of stackable bales. The implement must be used in accordance with its rated capacity:

- If the implement is designed to handle single bales only, never spear a bale beneath the top bale.
- If the implement is designed for a maximum of two bales, never spear the third bale or below in a stack.

4.4. Recommended spearing area

For reasons of safety and mechanical strength, bales must only be speared in the central area, as clearly indicated in the diagram. It is essential to avoid the upper and lower areas, as the material there is more prone to tearing or warping. The central area ensures optimal load distribution and reduces the risk of breakage or disengagement.



5. Using the pallet fork and carrier implement



CAUTION: The pallet fork and carrier implement allows palletised loads to be handled using the front loader. It hitches onto the implement carrier via a standard locking system (Euro, MX, etc.). Improper use poses risks to the operator and their surroundings. The following instructions must be observed for safe operation.

5.1. Safety instructions

- Never use the implement for non-palletised loads.
- Do not lift multiple stacked pallets.
- Avoid, as much as possible, handling the load in reverse with the implement raised.
- Prevent access to the hazardous areas around the loader during operation.
- Do not intervene manually near the implement when it is moving.
- On sloping ground, adjust your speed, keep the implement low, and avoid stopping suddenly.
- If there is any doubt about the stability of the load or pallet, do not proceed with lifting.
- Do not exceed the implement's maximum authorised capacity.
- The maximum implement loading level must not exceed backplate height.
- Do not use the forks to scrape the ground when reversing.
- Never use the forks to push a load.

Before each use of the pallet fork and carrier implement:

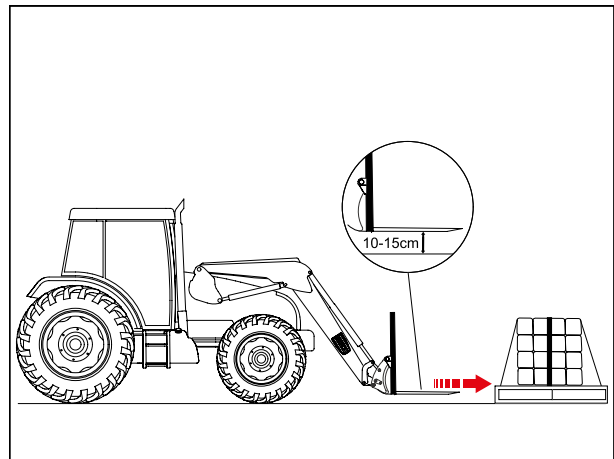
- Check that the implement is compatible with the implement carrier being used.
- Check that the implement is securely locked onto the implement carrier.
- Visually inspect the condition of the implement: forks straight, no cracks or warping, welds intact.
- Check the condition of the pallets to be handled (load integrity and stability).
- Check that the implement has undergone the regulatory periodic inspection (at least every 6 months for a lifting accessory) and that this has been documented.
- Adjust the forks to the maximum spacing compatible with the pallet, for optimal stability.
- Check that the forks are properly fitted to the frame and correctly locked in place before use.
- Check that the working area is clear and that there is good visibility.
- Check that the forks are fully inserted under the pallet before any lifting operation.
- Make sure that your loader is fitted with a lifting and dumping safety device when using the pallet fork and carrier implement.

5.2. Safe use of the pallet fork and carrier implement



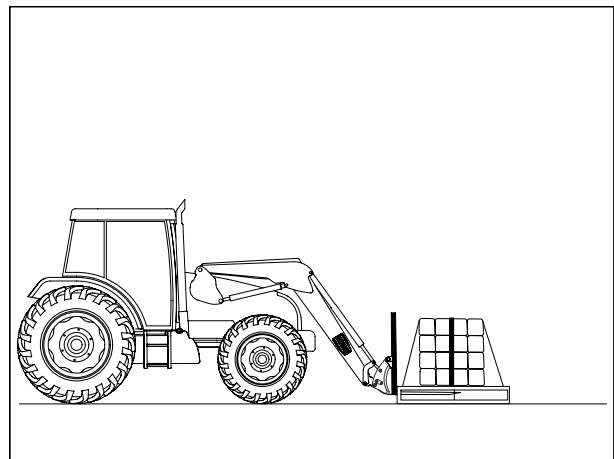
CAUTION: Check that the forks are properly aligned with the pallet.

- Approach the pallet at low speed, with the forks lowered to approximately 10-15 cm from the ground.



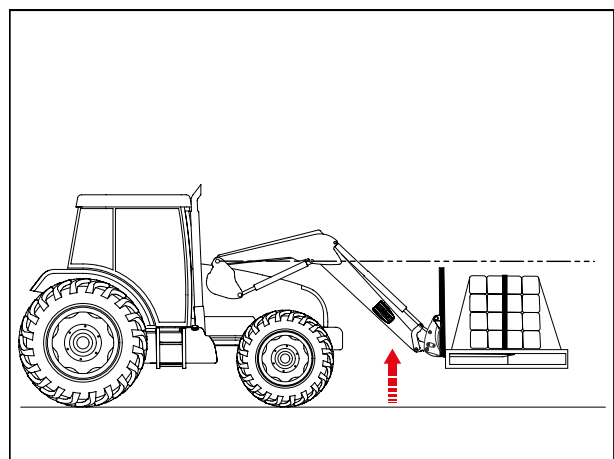
CAUTION: Check that the forks extend beyond half the length of the pallet.

- Fully insert the forks under the pallet, without impacting it.

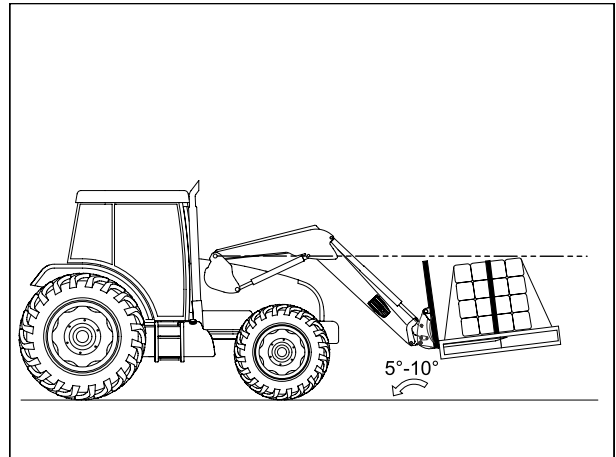


CAUTION: Even at low speeds, turning too sharply can cause the load to fall.

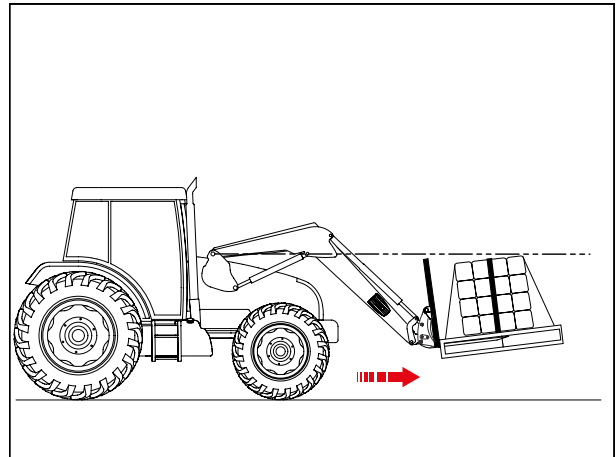
- Raise the load only to the height necessary for moving it.



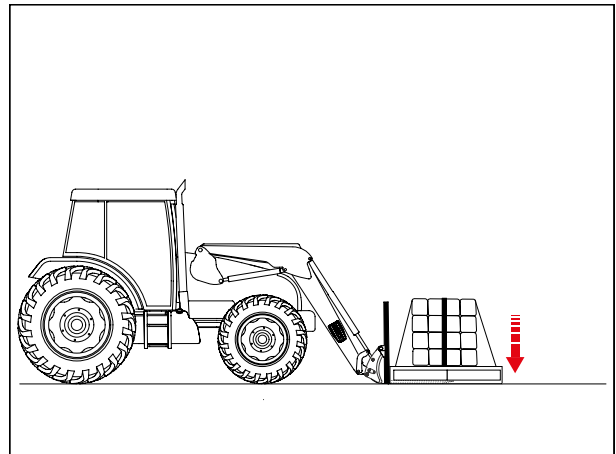
- Tilt the implement slightly backwards (dumping function) to secure the load (5° to 10° back from horizontal).



- Move slowly, avoiding any sudden movements, while keeping the load low and stable.

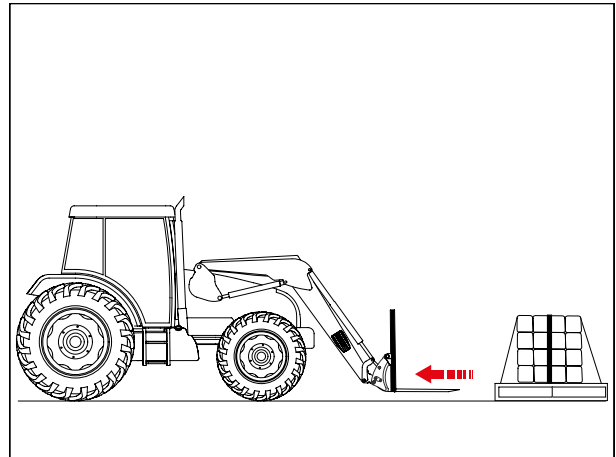


- Set the load down by lowering the pallet to the ground.



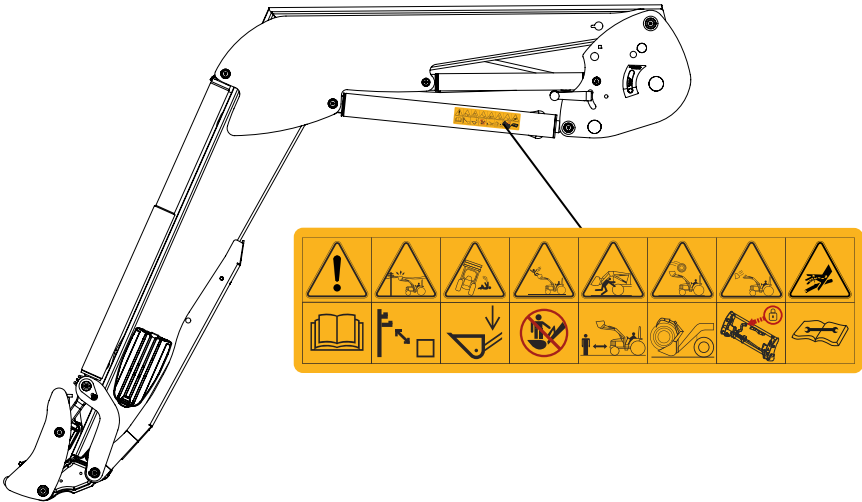
IMPORTANT: Check that the implement is fully disengaged before crowding or lifting.

— Reverse slowly to disengage the forks.



6. Safety stickers

Safety stickers are affixed to loaders. Ensure that these stickers are clean and legible; replace them if they become damaged. If a sticker needs replacing, clean the surface with isopropyl alcohol and affix the sticker using an appropriate tool.



⚠ DANGER: Failure to follow these rules may result in serious injury or death.

Symbol	Meaning
	Read the safety rules and operating instructions in the user manual before using the product.
	Maintain a minimum safety distance from the high-voltage cables.
	Drive with the loader in the low position.

Symbol	Meaning
	Do not climb on the implement.
	Do not stand beneath the load.
	Use an implement suitable for the work to be carried out, and use it in accordance with the manufacturer's recommendations.
	Check that the implement is properly locked before use.
	Please read the instructions in the user manual before carrying out hydraulic maintenance operations.

7. Identification plate

The identification plate is located inside the loader's right arm. The serial number and loader model shown on this plate must be quoted in any request for spare parts information or technical assistance.

MX

CE

UK
CA

Designation

Type/Model

Serial number

Year of manufacture

Maximum weight

kg

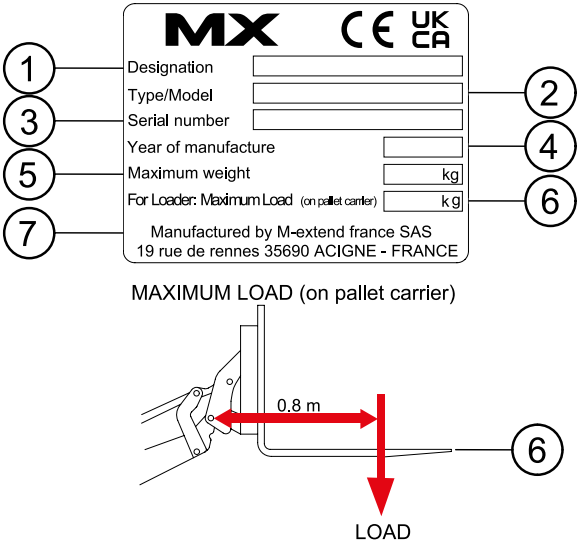
For Loader: Maximum Load (on pallet carrier)

kg

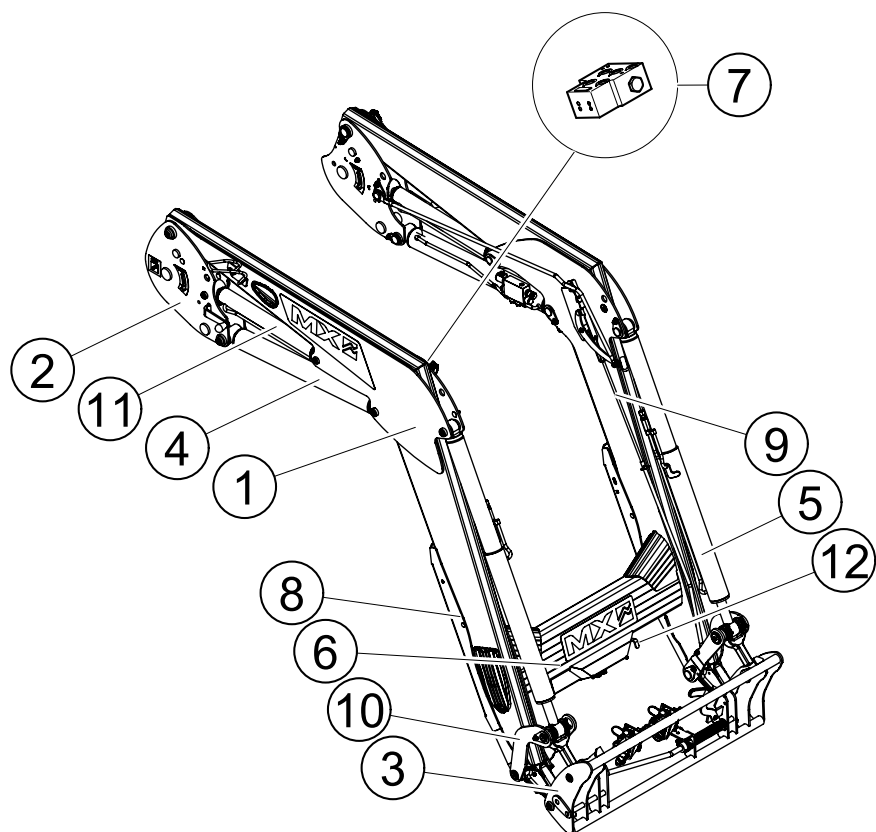
Manufactured by M-extend france SAS
19 rue de rennes 35690 ACIGNE - FRANCE



Mark- ing	Description
(1)	Product designation
(2)	Product type/model
(3)	Serial number
(4)	Year of manufacture
(5)	Max. product weight
(6)	Maximum safe working load on pallet fork and carrier
(7)	Manufacturer's address



8. Description

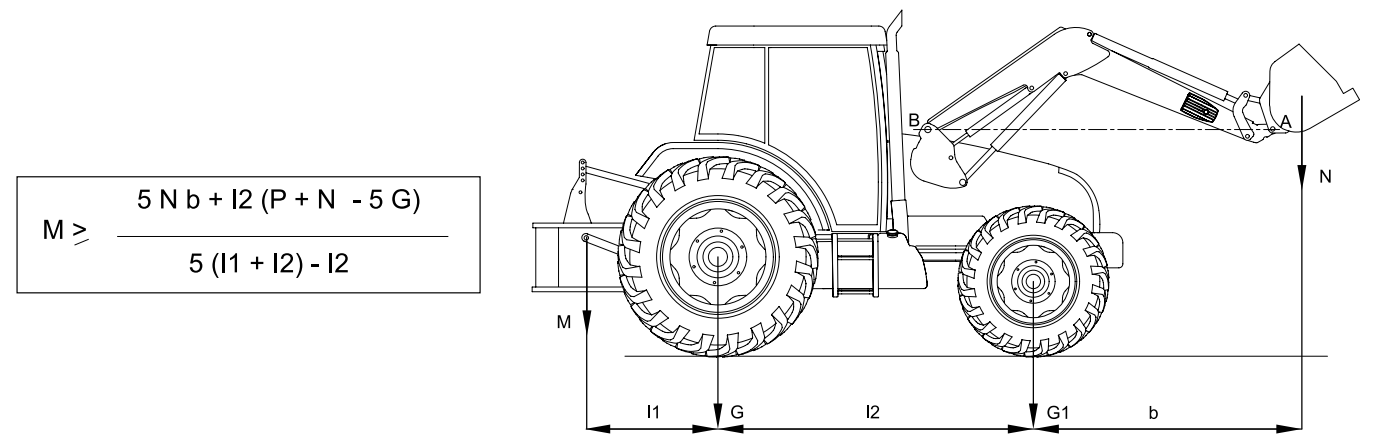


Marking	Description
(1)	Boom
(2)	Half-frame
(3)	Implement carrier
(4)	Lift ram
(5)	Dumping ram
(6)	Cross-bar
(7)	Hydraulic unit
(8)	Parking stands
(9)	Indicator rod
(10)	Crank
(11)	Hydraulic parallelogram (PCH) ram
(12)	EASY PLUG (decompression function)

9. Counterweight

Tractor-loader unit stability can only be ensured with a counterweight installed on the rear of the tractor. This should ensure that 20% of the gross weight (tractor, loader, implement, maximum load and counterweight) remains on the rear axle of the tractor, for optimal working safety.

The formula includes the information shown below and is used to calculate the mass (M) of the counterweight (standard EN12525 + A2 2010).



Letter	Correspondence
G	Load on rear axle, no counterweight, implement empty (kg)
G1	Load on front axle, no counterweight, implement empty (kg)
b	Distance from front axle to the implement's centre of gravity (mm)
I1	Distance from linkage arm pin to rear axle (mm)
I2	Wheelbase (mm)
N	Loader payload for implement pivot point (A), horizontally level with loader pivot point (B) (kg)
P	G + G1 (kg)
M	Counterweight (kg)

NOTE: the counterweight must not exceed the axle loads recommended by the manufacturer.

10. Commissioning the loader - checklist



CAUTION: All loader test operations must be carried out by the operator from their cab. All persons must be kept away from the area in which the loader is being operated. When checking the loader controls, check that the control levers are in neutral.



CAUTION: For tractor maintenance operations, the tractor engine must be turned off; it is strongly recommended that you unhitch the loader. Unhitching is a simple, quick operation that provides the best guarantees of safety and efficiency for tractor maintenance.

After hitching the loader, carefully check all the functions before use. In the event of a malfunction, take the necessary corrective measures.

- Check that the loader is correctly hitched to the tractor. For more information, please refer to [Loader Hitching](#).
- Check the stability of the loader-tractor unit. For more information, please refer to [Counterweight](#).
- Check the condition of the fasteners. Replace, clean and re-tighten if necessary. For more information, please refer to [Maintenance](#).
- Check there is no interference between the loader and the tractor. Make sure that the wheels do not touch the loader with steering at full lock. Adjust the spacing or limit the turning angle, if necessary.
- Check that the indicator rod is working correctly.
- Ensure that all maintenance operations are carried out correctly and in accordance with the maintenance schedule. For more information, please refer to [Maintenance](#).
- Test all loader functions at both maximum load and low speed to check that the hydraulic circuit is properly sealed and that the hoses are correctly positioned. For more information, please refer to [Maintenance](#).
- Bleed the air from the hydraulic system by pressurising the functions several times.
- Check the tractor oil level and top up, if necessary.
- Check that the implement is correctly hitched to the loader. For more information, please refer to [Implement Hitching](#). Press the implement down on the ground (until the tractor's front wheels lift up) to check that it locks in place correctly. If the loader is fitted with the SPEED-LINK or FAST-LOCK option, alternate between "locked" and "released" several times. Check that the indicator rod is correctly adjusted. For more information, please refer to [Level Indicator](#).
- Check the loader's mechanical condition (any cracks, warping, end stop matting, clearance, parking stands, etc.).

10.1. Setting the parking stands on first use

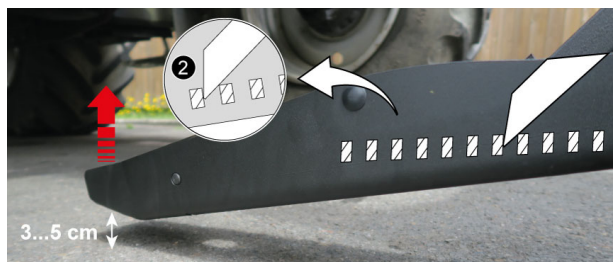
- Lower the parking stand.



- Remove the rod stop (1) and position the parking stand on the ground.



- Select the notch (2) that gives a gap of between 3 and 5 cm to the ground when you manually raise the parking stand.



- In this position, lift the stop to meet the locking pin (3).
- Perform the same procedure for the other parking stand.



10.2. Static test procedure

Check the structural integrity of the front loader and its compliance with the technical specifications before use:

- Examine the loader's overall structure for cracks, faulty welds, or warping.
- Check the fasteners (bolts, nuts, rivets) to make sure they are properly tightened and show no signs of damage.
- Check the condition of the loader and pivot points for wear or excessive play. For more information, please refer to [Maintenance](#).
- Check that the loader complies with the technical specifications. For more information, please refer to [Technical Specifications](#).
- Check the rams and hydraulic components (hoses, connectors, etc.) for damage or wear.

10.3. Dynamic test procedure



DANGER: All loader tests must be carried out by the operator from the cab. All other persons must be kept away from the area in which the loader is being operated.

Test the loader's operational performance and safety under actual conditions of use:

- Hitch the loader with an implement to the tractor. For more information, please refer to [Loader Hitching](#) and [Implement Hitching](#).
- Raise and lower the loader to various heights to check that everything is moving smoothly.
- Load the implement with the maximum authorised weight and check the loader's ability to lift and hold the load. For more information, please refer to [Technical Specifications](#).
- Check the hydraulic rams and pipes for leaks.
- Check that the lifting/dumping safety system is working properly. For more information, please refer to [Safety when lifting and dumping](#). (OPTION)

11. Control

 **WARNING:** Never leave the tractor with the loader raised.

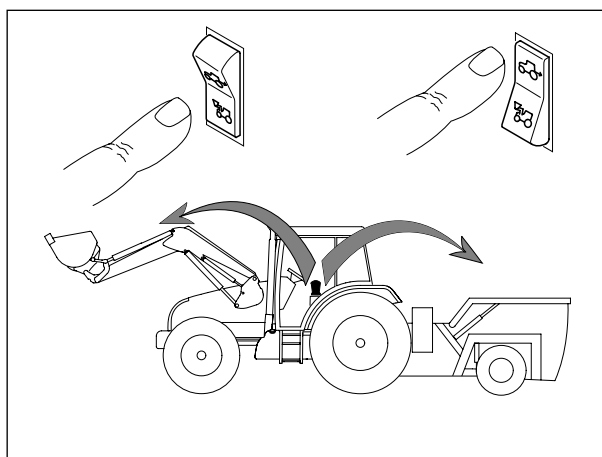
Every spool control valve generates an internal leak required for proper operation.

11.1. Control using the tractor's control valves

See the tractor's user manual.

11.2. Front/rear control selector (optional)

Using the tractor's original joystick, the user in the cab controls either the MX loader or the rear couplings.

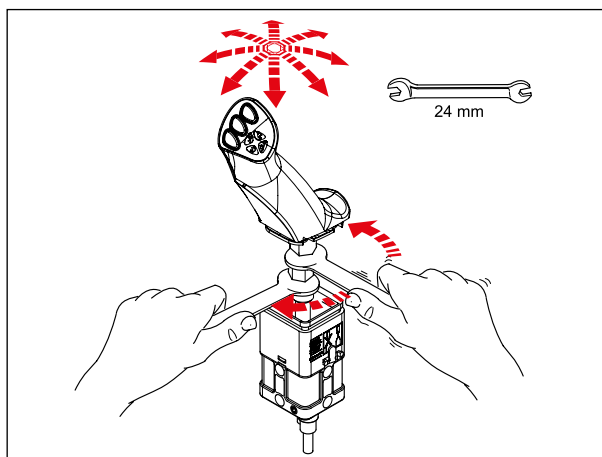


11.3. Control with the MX control valve

11.3.1. Handle setting

To ensure comfortable loader control, the handle's position can be adjusted.

NOTE: This adjustment is only available on Propilot and Flexpilot controls.

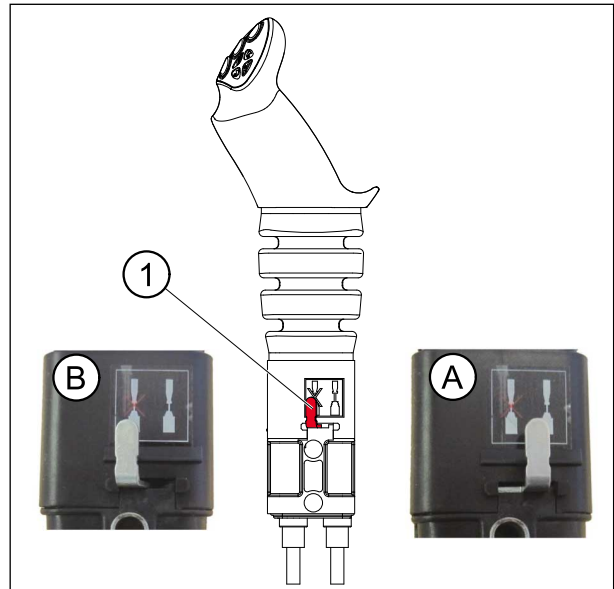


11.4. Control with MX PROPILOT control valve

11.4.1. Safety

To prevent any accidental movement of the loader, the PROPILOT monolever can be locked. Move the unlocking tab (1) to lock the monolever in place.

- (A): unlocked position.
- (B): locked position.



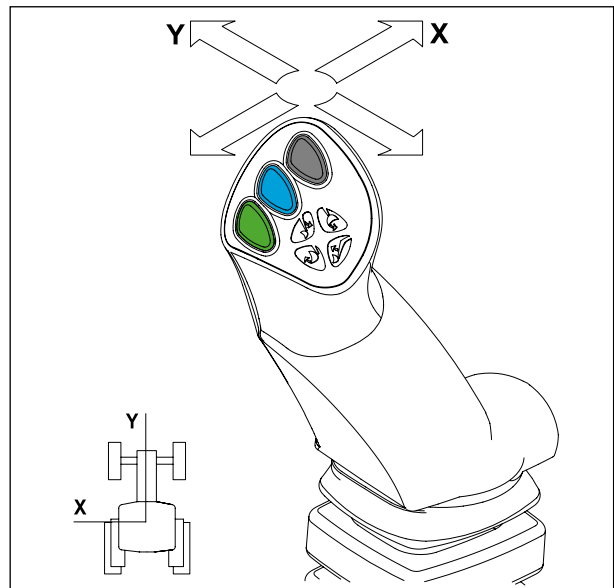
11.4.2. Movements

1st function: along y-axis

- Forwards = loader lowering (Double-action hydraulic ram operation).
- Forwards after notching = floating position (Single-action hydraulic ram operation).
- Backwards = loader raised.

2nd function: along x-axis

- To the left = implement crowding.
- To the right = implement dumping.



3rd function: along x-axis

— Button (1) + crowding or dumping movement.

4th function: along x-axis

— Button (2) + crowding or dumping movement.

FAST-LOCK

Automatic hitching/unhitching of the implement.

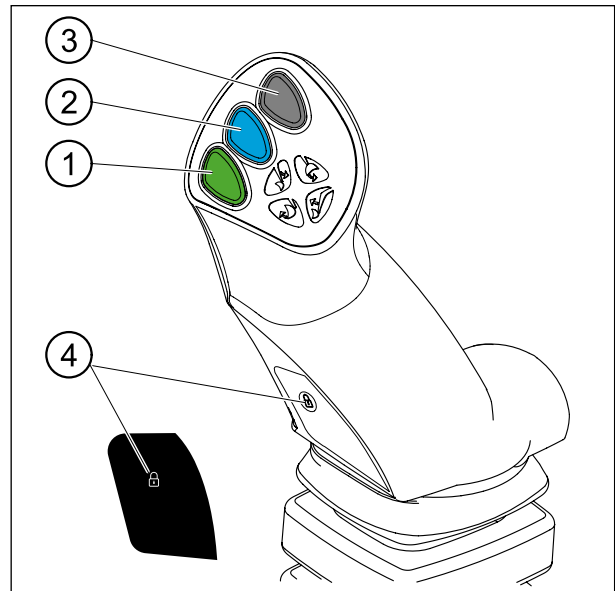
— Button (1) + (4) + crowding or dumping movement.

SPEED-LINK 2

Automatic implement hitching/unhitching with hydraulic and electric functions.

— Button (1) + (4) + crowding or dumping movement.

NOTE: Button (3) is not used, button (4) is only available with the FAST-LOCK or SPEED-LINK 2 option.



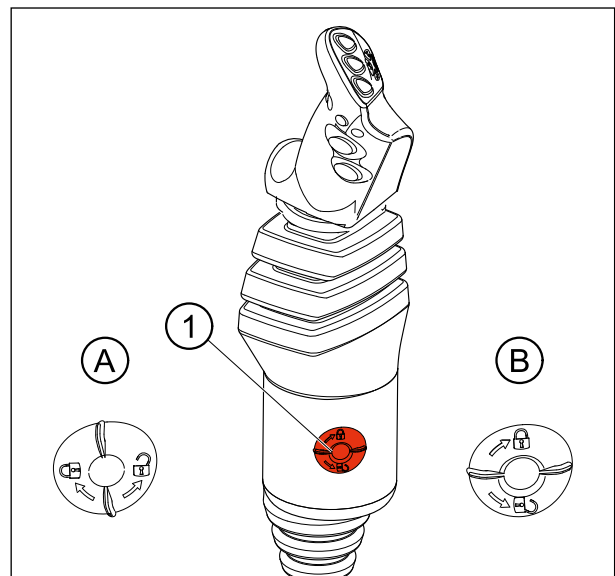
11.5. Control with MX FLEXPILLOT control valve

11.5.1. Safety

To prevent any accidental movement of the loader, the FLEXPILLOT monolever can be locked. Turn the isolating thumbwheel (1) to lock it in place:

— (A): unlocked position.

— (B): locked position.



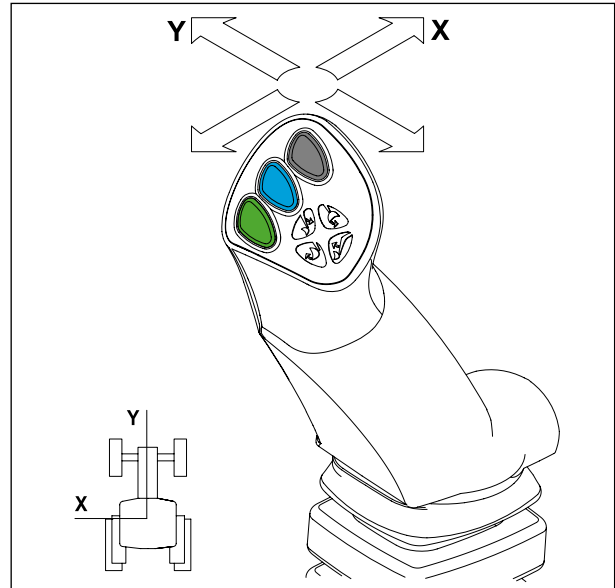
11.5.2. Movements

1st function: along y-axis

- Forwards = loader lowering (Double-action hydraulic ram operation).
- Forwards after notching = floating position (Single-action hydraulic ram operation).
- Backwards = loader raised.

2nd function: along x-axis

- To the left = implement crowding.
- To the right = implement dumping.



3rd function: along x-axis

- Button (1) + crowding or dumping movement.

4th function: along x-axis

- Button (2) + crowding or dumping movement.

FAST-LOCK

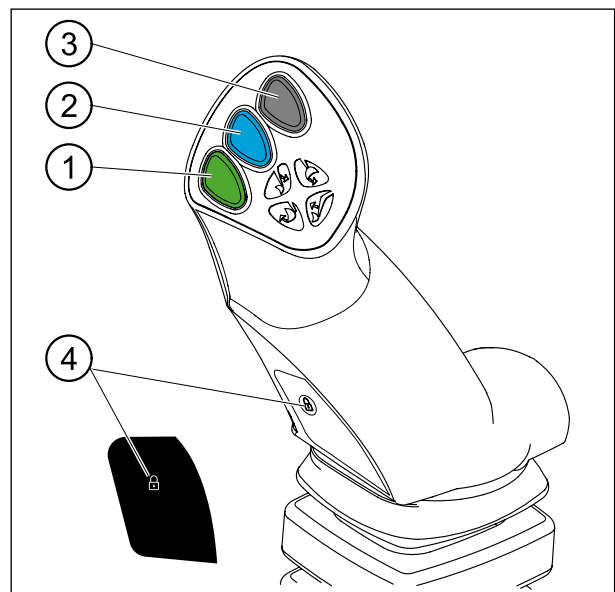
Automatic hitching/unhitching of the implement.

- Button (1) + (4) + crowding or dumping movement.

SPEED-LINK 2

Automatic implement hitching/unhitching with hydraulic and electric functions.

- Button (1) + (4) + crowding or dumping movement.



NOTE: Button (3) is not used, button (4) is only available with the FAST-LOCK or SPEED-LINK 2 option.

11.6. Control with MX e-PILOT S control valve

See manual specific to e-PILOT S.

12. Loader unhitching



WARNING: This operation must be carried out by the driver, who must leave the cab and not perform any manoeuvres while working on the loader.

The loader must always be hitched to an implement weighing at least 100 kg to unhitch it.

- Choose a level and solid surface.
 - Lower the loader in double-action mode until the front axle is slightly raised, with the implement flat on the ground.
 - Then actuate in notched floating position.
 - Return to neutral. With the lifting rams fully filled, exposure to the sun will restrict any unwanted movement in the loader and ensure proper hitching.
 - Apply the hand brake.
 - Stop the engine.
 - Get down from the tractor.
-
- On the left side, pull the unlocking handle sharply downwards.

IMPORTANT: The locking indicator is in the red zone.



- Lower the left and right parking stands.



- Disconnect the hydraulics and the electrics:

Loader with MACH System:

- Unlock the MACH System housing by pressing the safety latch on the left.
- Lift the handle.

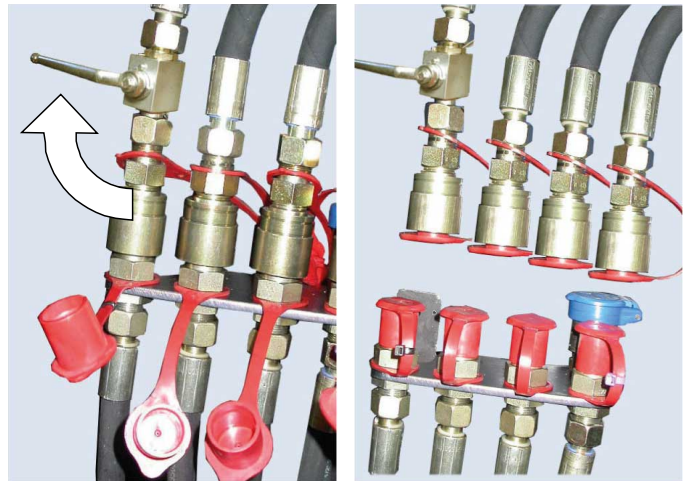


- Hook the MACH System housing onto its support.



Loader without MACH System

- Close the valve and disconnect the hydraulic couplings.
- Install protective caps (clean) on the male and female couplings and stow the hoses on the loader.



- Pull the unlocking handle, located on the right side, sharply downwards.

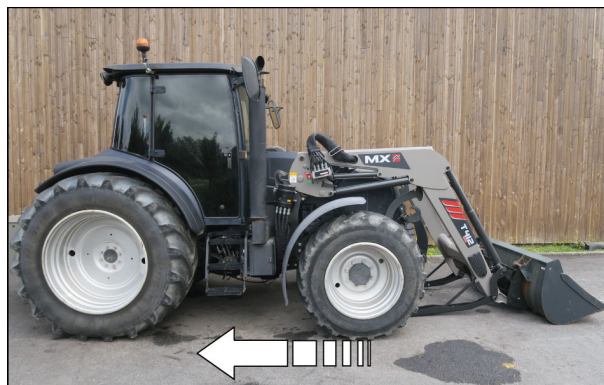
IMPORTANT: The locking indicator is in the red zone.



- Go back to the driving position and check that the locking indicators on the left and right hitching frames are in the red zone.



- Reverse the tractor in a slight, sharp movement, then continue reversing slowly until the loader is resting on its parking stands.



- Check that the unhitched loader is stable.



13. Loader hitching



WARNING: This operation must be carried out by the driver, who must leave the cab and not perform any manoeuvres while working on the loader.

- Check that the locking indicators on the left and right frames are in the red zone, and that no object is present to inhibit the loader connection.

NOTE: The bracket heads are provided with a ramp and a roller for raising the loader to the hitch.



- Move the tractor forwards, guiding the loader frame onto the bracket until the catches automatically trip.



- The loader is locked when the locking indicators are in the green zone.

IMPORTANT: If the indicators are still in the red zone, please refer to the [Two-step hitching](#) section.



- Connect the hydraulics and the electrics:

Loader with MACH System:

- Ensure that the male and female couplings are clean before hitching. If necessary, clean them.
- Take the housing in both hands.
- With the back of the housing facing away, lift the control valve cover.
- Then engage the guide bars vertically.
- Pull down the handle.



Loader without MACH System

- Remove the caps.
- Connect the hydraulic couplings.
- Open the valve.



- Raise and lock the right and left parking stands.

IMPORTANT: Check that each parking stand is correctly locked.



- Pre-work check: apply ground force to the implement (raising the front wheels of the tractor) to check the loader is correctly hitched.

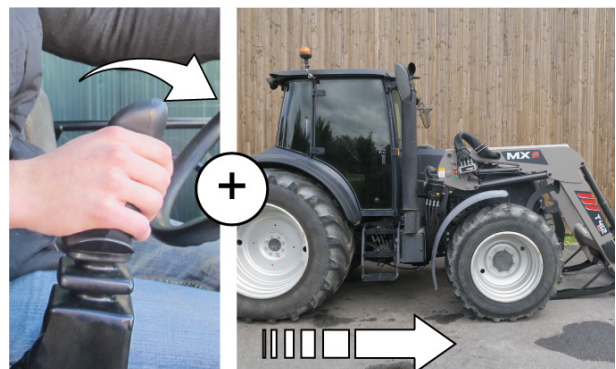


13.1. Two-step hitching

- Connect the hydraulics and the electrics.



- Move the lever forwards to the notched floating position while moving the tractor forwards, turning the wheels if necessary.



- Gently activate lifting. The loader is locked when the indicator is in the green zone.



- Raise and lock the right and left parking stands.



- Apply ground force to the implement.



14. Implement unhitching



WARNING: This operation must be carried out by the driver, who must leave the cab and not perform any manoeuvres while working on the loader.

14.1. Implement carrier with manual unlocking

- Choose a level and solid surface.
- Place the unloaded implement with the implement at rest (grab, rotor, etc.) in a horizontal position 0.30 m above the ground.
- Engage the hand brake.
- Stop the tractor's engine.
- Decompress the hydraulic circuits to be disconnected.

NOTE: If the loader has a solenoid valve, switch on the ignition and press the control button.



If your loader is equipped with the EASY PLUG function:



DANGER: Before activating the decompression function, ensure that the implement is not loaded and that its accessories (grab, rotor, etc.) are not active.

- Pull the decompression handle.



- Disconnect the hydraulics:

With Mach 2

- Release the valve.
- Put the hoses on the front of the implement.

With couplings

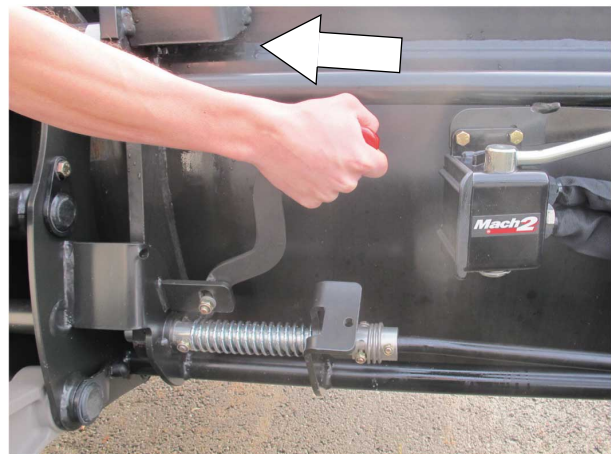
- Fit protective caps onto the male and female couplings.
- Put the hoses on the front of the implement.



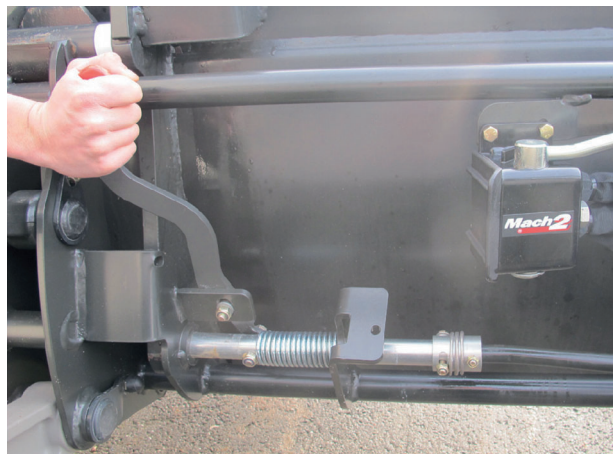
- To unlock the implement, stand to the left of the loader and pull the lever fully towards you.



CAUTION: Never stand in front of the loader when unlocking the implement.



- Pull the lever towards you until it stays engaged.



- Set the implement down on the ground by lightly dumping to release the implement carrier from the implement.

14.2. FAST-LOCK implement carrier

NOTE: If the implement has one or more hydraulic functions, decompress the hoses before disconnecting them.

- Lift the loader to clear the implement from the ground.
- With the implement horizontal, press the green and padlock buttons while moving the monolever to the right (dumping).
- The implement is now unlocked.
- Set the implement onto the ground, lightly dumping to release the implement carrier frame from the implement.



14.3. SPEED-LINK 2 implement carrier

- Lift the loader to clear the implement from the ground.
- To increase the operating life of the couplings, make sure that the hydraulic functions of the implement are not pressurized: for example, by slightly opening the grab.
- Press the green and padlock buttons while moving the monolever to the right (dumping).
- The implement is now unlocked.
- The locking indicator located at the back of the SPEED#LINK 2 frame is red.
- Set the implement onto the ground, lightly dumping to release the implement carrier frame from the implement.



NOTE: It is possible to use an implement with a maximum of one DA function but not fitted with the SPEED-LINK 2 connection. If necessary, disconnect the two couplings on the rear SPEED-LINK 2 frame housing, after depressurising the 3rd function hydraulic circuit.

15. Implement hitching

WARNING: This operation must be carried out by the driver, who must leave the cab and not perform any manoeuvres while working on the loader.

15.1. Implement carrier frame with manual locking

- Ensure that the unlocking lever is in the hitching position (lever to the rear). The pins are back in, the springs are compressed.

CAUTION: Check that the implement's hoses are well clear of the hitching area.



- Align the loader with the implement.
- Slot the implement carrier in the implement.
- Crowd and continue to advance until the locking lever trips.



- Stop the engine.
- Decompress the hydraulic lines supplying the implement.

NOTE: If the loader has a solenoid valve, switch on the ignition and press the control button.



If your loader is equipped with the EASY PLUG function:

- Pull the decompression handle.



- Ensure that the male and female couplings are clean before connection. If necessary, clean them.
- Connect the hoses for implements with hydraulic function.



CAUTION:

Checks to be carried out before moving:

- Press the implement down on the ground (until the tractor's front wheels lift up) to check that it locks in place correctly.
- Operate each moving part fully, in each direction, to check the integrity of the hydraulic circuit and the correct positioning of the hoses.



15.2. FAST-LOCK implement carrier

- “Open” position, to allow space for the implement parts.
- Align the loader with the implement.
- Fit the implement carrier onto the implement.
- Crowd lightly and lift the loader to clear the implement from the ground.
- Press the green and padlock buttons while moving the dumping lever to the left (crowding).
- The implement is now locked.

NOTE: If the implement has one or more hydraulic functions, connect the hoses.



15.3. SPEED-LINK 2 implement carrier

- Before attaching an implement, check that the locks are in the "open" position. The locking indicator located at the back of the SPEED#LINK 2 frame is red.
- Align the loader with the implement, fit the implement carrier onto the implement, crowd slightly and raise the loader to lift the implement from the ground.
- Press the green and padlock buttons while moving the dumping lever to the left (crowding). The implement is now locked.
- The locking indicator is green.

NOTE: It is possible to use an implement with a maximum of one DA function but not fitted with the SPEED-LINK 2 connection. If necessary, connect the two couplings on the rear SPEED-LINK 2 frame housing after depressurising the 3rd function hydraulic circuit.



16. Models of implement carrier

16.1. MX implement carrier



16.2. EURO implement carrier



16.3. MX/EURO implement carrier

To switch from the MX (1) position to the Euro (2) position:

- Remove the pins.
- Tilt the hitching shoes downwards.
- Ensure that the hitching shoes are held in position by the spring rods.
- Put the pins back to their initial position.



16.4. EURO/SMS implement carrier

To switch from the SMS (1) position, to the Euro (2) position:

- Tilt the 2 stops downwards.



16.5. EURO/Sigma 4 implement carrier

To switch from the Euro (1) position to the Sigma 4 (2) position:

- Remove the pins.
- Mount the hitching shoes in their stowage position.
- Put the pins back to their initial position.



16.6. Euro/TENIAS implement carrier

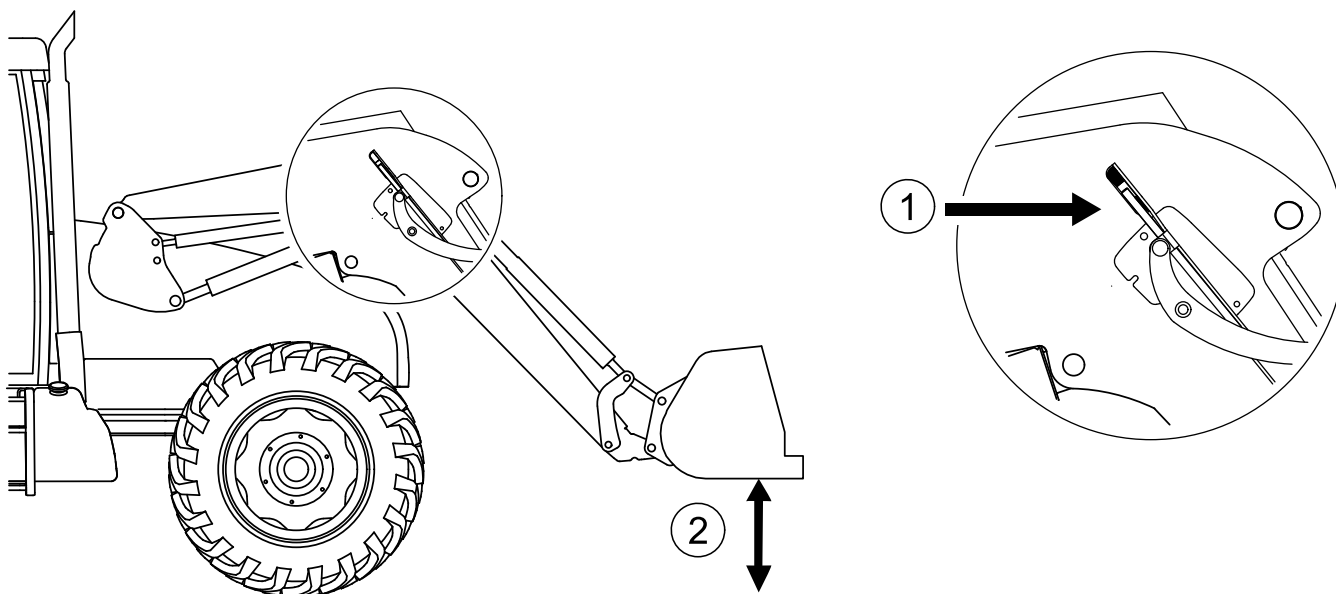
To switch from the TENIAS (1) position to the Euro (2) position:

- Remove the pins.
- Mount the hitching shoes in position.
- Put the pins back to their initial position.



17. Level indicator

The level indicator allows implement positioning to be checked as the loader is lowering. It is located on the left side of the loader. It can be adjusted to suit the implement being used.



(1) Indicator / (2) Bucket parallel to the ground

18. FAST-LOCK System

The FAST-LOCK System (optional) on the implement carrier frame allows implements to be hitched and unhitched from the cab.

Locked position (1).



Unlocked position (2).

NOTE: For EURO-SMS and MX-EURO implement carriers, the axis movement is different: the two locking pins move towards the centre of the implement carrier.



19. SPEED-LINK 2 System

The SPEED-LINK 2 System (optional) on the implement carrier allows implements with hydraulic and electrical functions to be hitched and unhitched from the cab.

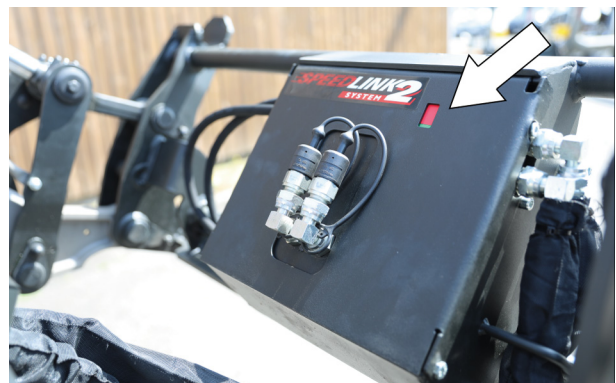
- SPEED-LINK 2 equipment, loader side (1).



- SPEED-LINK 2 equipment, implement side (2).



- A red/green indicator on the back of the SPEED-LINK 2 box indicates the locking status of the implement to the driver in the cab.



20. PCH System

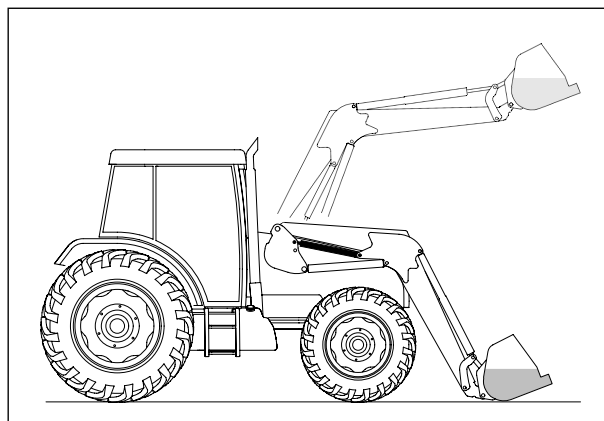
The Hydraulic Compensation Parallelogram (PCH) operates automatically. The system is fitted with hydraulic safety features to protect it from any malfunction. Two user positions of the PCH System are available

- (1) “Bucket” position
- (2) “Pallet” position



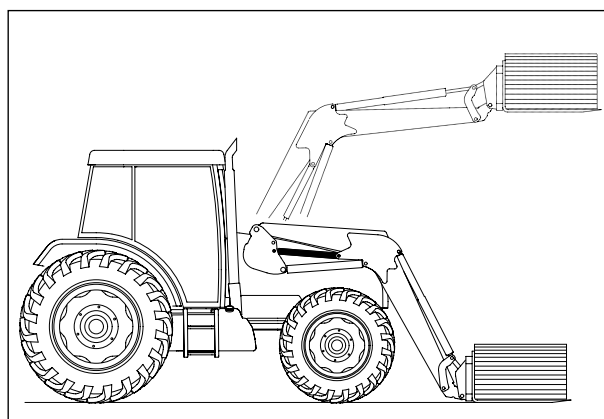
20.1. “Bucket” position

The PCH system maintains the bucket at the same angle while the loader is lifting or lowering. This means that loaded materials will not spill out, either forwards or backwards.



20.2. “Pallet” position

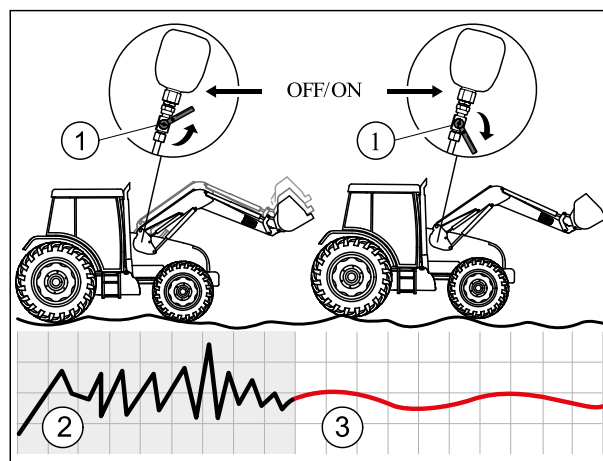
The PCH system keeps the pallet attachment level while the loader is lifting or lowering. This means that material loaded level on the ground will remain horizontal.



21. SHOCK ELIMINATOR System

Shocks are eliminated during movement or when stopping the loader suddenly when lowering (optional). This system softens impacts on the tractor and jolting in the cab. The Shock Eliminator can be isolated using the valve (1).

NOTE: The SHOCK ELIMINATOR can be activated or deactivated directly from the cab (electrical isolation option).



(2) Without the SHOCK ELIMINATOR system

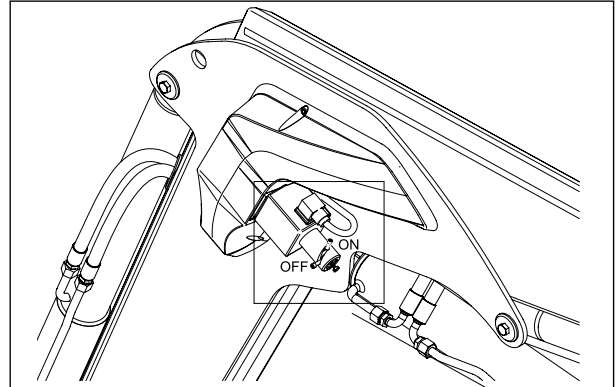
(3) With the SHOCK ELIMINATOR system

22. Bucket operation restrictor

The dumping restrictor (optional) is located at the end of the 3rd function solenoid valve, inside the right arm of the loader.

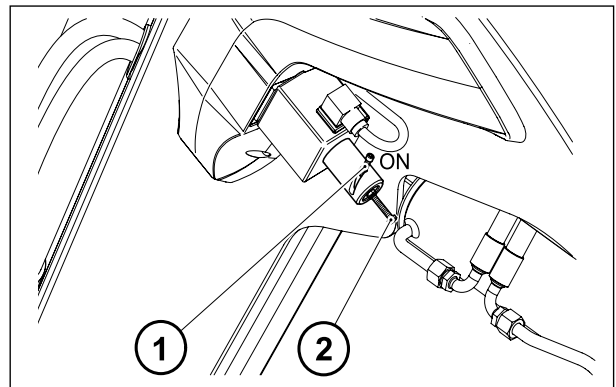
22.1. On/Off

- ON: the restrictor is in operation and the bucket operates slowly.
- OFF: The restrictor is not in operation and the bucket operates normally.



22.2. Adjustment

- Switch the restrictor to the "ON" position.
- Loosen screw (1).
- Adjust the dumping speed using screw (2).
- Retighten screw (1).
- Check the speed after adjustment.



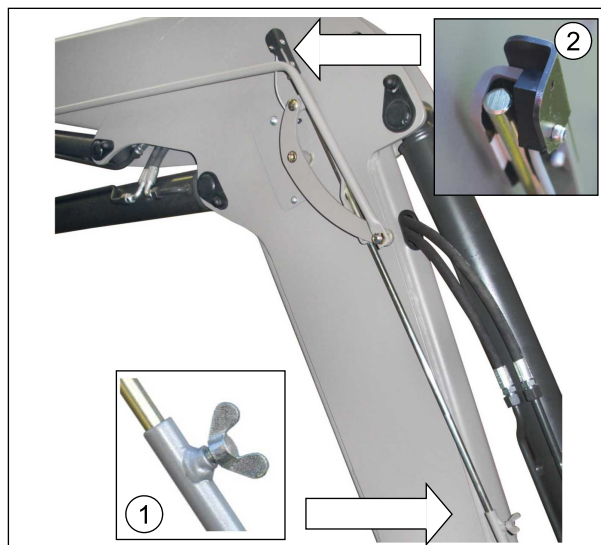
23. AUTO-LEVEL System

Automatic implement level reset, using the AUTO-LEVEL System (optional), is available for loaders controlled with MX "e-PILOT S" control valves.

23.1. Implement position adjustment

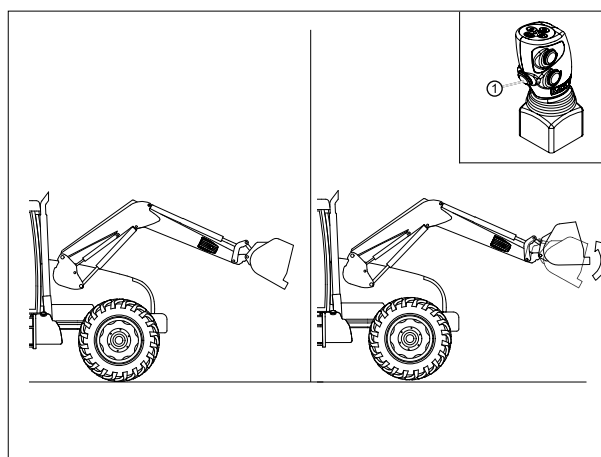
The implement position is adjusted using the indicator rod control. [See pictures opposite]

- Position the implement as required.
- Lower the implement to the ground.
- Loosen the wing nut (1).
- Position the end of the rod in front of the sensor (2).
- Tighten the wing nut (1).



23.2. Automatic implement position reset

The AUTO-LEVEL System operates both ways. If the implement is in the dumped or crowded position, keep the BLACK button (1) pressed until the joystick vibrates. The implement's position is reset.



24. AUTO-UNLOAD System

The bucket/grab synchronisation (optional) operates both ways:

- Opening the grab/Tipping the bucket.
- Crowding the bucket/Closing the grab.

The AUTO-UNLOAD System only operates if the loader is fitted with a 3rd function.

NOTE: To optimise use of the AUTO-UNLOAD System, we recommend activating the system while dumping into a trailer, when the implement is in the horizontal position.

e-PILOT S control: see manual specific to e-PILOT S.



25. EASY PLUG

The decompression function (optional) releases the pressure in the implement carrier hoses in order to facilitate the connection/disconnection of the MACH 2 housing or the couplings.



DANGER: Before activating the decompression function, ensure that the implement is not loaded and that its accessories (grab, rotor, etc.) are not active.

— Pull the decompression handle.



— Connect the hoses.



— Close the MACH 2 housing.



26. Work headlights

 **DANGER:** The work headlights are incompatible with the lifting and dumping safety system.

The work headlight kit (optional) consists of two LED lights positioned above the lift rams. This kit is used to illuminate the front of the loader for maintenance or handling operations in reduced visibility (dark building, night work, handling with lifted loader, etc.).

NOTE: The LED lights can be tilted to better illuminate the required area.



The lighting kit switch is located in the cab.



27. Safety when lifting and dumping

IMPORTANT: This device is essential for working when people are present near the load (optional).

Compliant with Standard EN 12525 + A2 2010, it can be disengaged for working when no one is near to the load. The movements can then be carried out, with no loss of power or speed of execution.

Uniquely, this equipment is compatible with the Shock Eliminator and the notched floating position.

27.1. Extract from Front Loader Standard EN12525 + A2 2010:

"4.4.4 Protection against unintended lowering

If the front loader is also designed for lifting operations requiring the presence of someone near the load when the loader is in raised position, the hydraulic circuit of the lifting arm cylinders must be fitted with a safety device in compliance with Annex E, with the aim of preventing unintended lowering of the lifting arm, and which must remain active in the event of rupture of the power supply of the control circuit.

If this safety device can be switched on/off or activated/deactivated for operations that do not require the presence of someone near the load, then the following additional specifications apply:

- it must be possible to either switch the safety device on/off or to activate/deactivate it from the cab;
- it must be possible to switch the safety device on or to activate it from the ground without needing to be near the load;
- the control device for switching the safety device off or deactivating it must be designed and positioned in such a way that the operator cannot activate it accidentally;
- the status (on/off or activated/deactivated) of the safety device must be clearly indicated and clearly visible from both the cab and the loading area.

In compliance with 7.1.2, the correct operating method must be explained, including the warnings, in the instruction manual.

The loader must be fitted with a warning stating that for lifting operations requiring the presence of someone near the load, the safety device must be switched on (activated) when the loader is in the raised position (see 7.2).

Information for using front loaders that are not designed for lifting operations requiring the presence of an operator near the load when the loader is in raised position must comply with 7.1.4 and 7.2."

"Annex E (normative)

Test method and acceptance criteria for means to avoid unintended lowering

E.1 Terms and definitions

E.1.1

failure-simulating device

hydraulic valves used to simulate a rupture of the loader's hydraulic piping.

E.1.2

test load

weight $(50 \pm 10)\%$ of nominal lifting capacity specified by the loader manufacturer.

E.2 Test procedure

The test specified in E.2.1 to E.2.2 must be carried out in accordance with each of the following conditions:

- position held after lowering the test load to a height of (1 ± 0.1) m (static test);
- position held after raising the test load to a height of (1 ± 0.1) m (static test);

and at oil temperatures of the hydraulic system between 40°C and 50°C.

E.2.1 The discharge device between the lifting rams and the control valve must be open

E.2.2 Complete lowering of the load must be measured at the implement's pivot point

E.3 Acceptance criteria

Complete lowering measured in E.2.2, during the first 10 seconds, must not exceed:

- 100 mm, in the event of a manual stop or deactivation of the safety device;
- 300 mm, in the case of a continuously activated safety device.

After 5 min, lowering must not exceed an additional 100 mm."

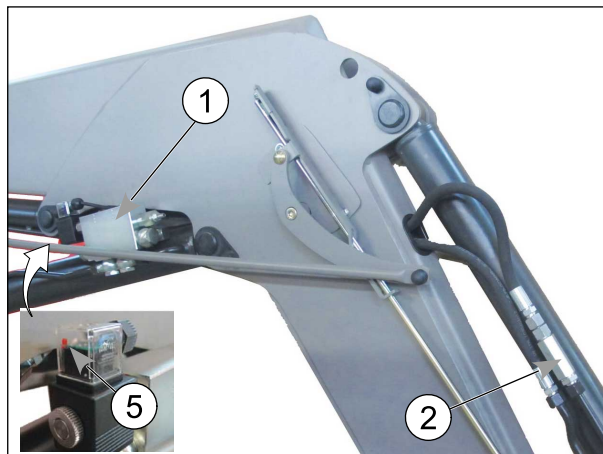
27.2. Use of the lifting and dumping safety device

The hydraulic circuit of the lifting and dumping rams is fitted with a safety device (1) and (2).

NOTE: By default, the safety device is activated.

When the user presses the button in the cab (3) (secure button), the safety device is deactivated and the red indicator lights are illuminated on:

- the button in the cab (3).
- the external button (4).
- the 2 solenoid valve connectors of the lifting rams (5).



Button function (3):

- Press (A): deactivates the safety device.
- Press (B): activates the safety device.

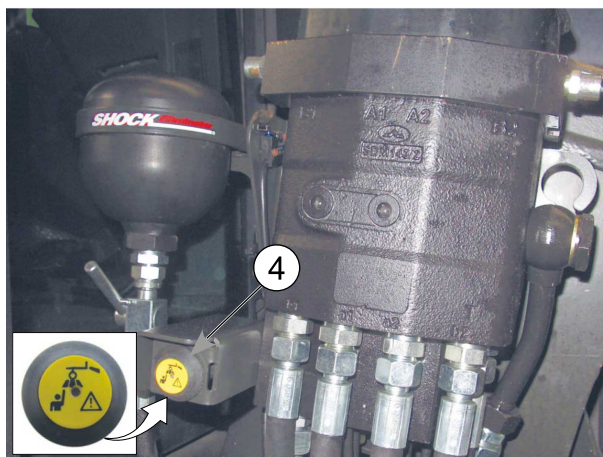
NOTE: As soon as the tractor is switched off, the safety device is automatically activated.



DANGER: The safety device should only be deactivated if there is nobody in the vicinity of the load. In this case, the maintained floating position and the Shock Eliminator are compatible. By pressing buttons (3) or (4), the safety device is re-activated (red indicator lights off).



Button (4) is only used to reactivate the safety device from outside the cab. In this case, the red indicator lights go off.



28. Maintenance



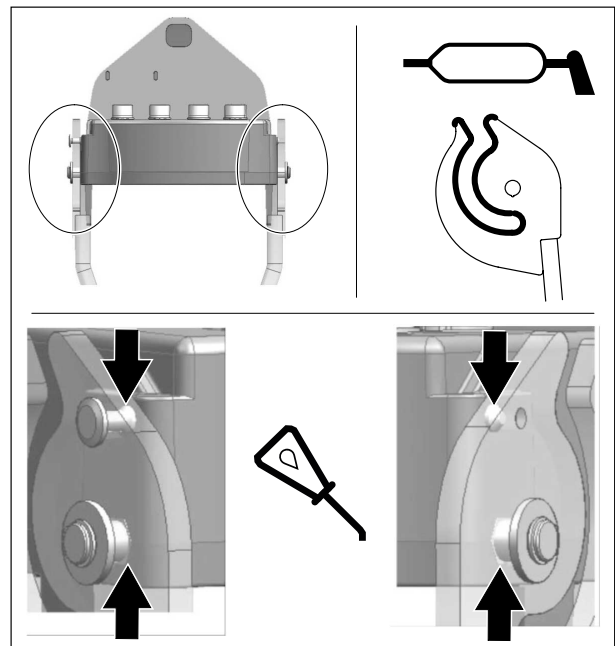
WARNING: Drain the tractor's hydraulic circuit regularly and change the filters in accordance with the manufacturer's recommendation.

Contaminated oil no longer lubricates and can cause damage to all hydraulic components (pumps, control valves, rams, etc.); even clear-looking oil may be worn out.

- Maintenance operations must be performed by competent people, authorised by the dealer. If not, these operations come under the sole responsibility of the person carrying out the work.
- It is mandatory to wear PPE (Personal Protective Equipment) for all maintenance operations. For more information, please refer to the PPE table, see [Safety rules](#).
- Switch off the tractor engine before carrying out any maintenance work on the loader and/or implements.
- For loader maintenance operations, never work on mechanical parts under stress, a pressurised hydraulic circuit or part, or an electrical circuit that is switched on.
- For tractor maintenance operations, it is strongly recommended that you unhitch the loader. Unhitching is a simple, quick operation that provides the best guarantees of safety and efficiency for tractor maintenance.
- For any work with the loader lifted, the loader must be locked in position:
 - Unlocking the MACH System for a loader with MACH System.
 - Closing the lifting rams supply valve for a loader without MACH System.

For more information, please refer to [Unhitching the loader](#).

Lubricate the MACH System locking system every 3 months.

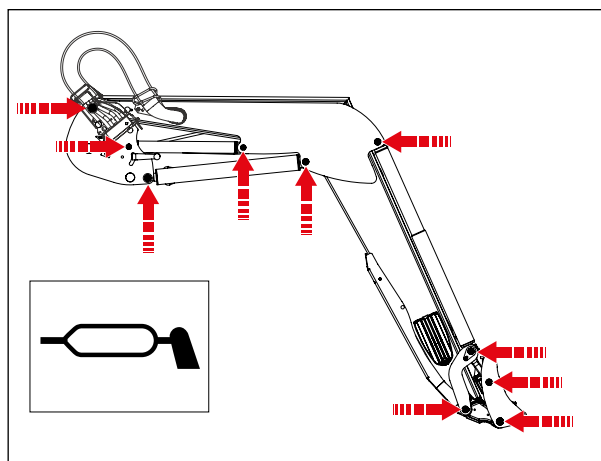


Grease every 10 hours and after each wash, especially after a high-pressure wash, as water drives out the grease. [See the lubricating points opposite.]

NOTE: NLGI 2 grease is recommended for maintenance.

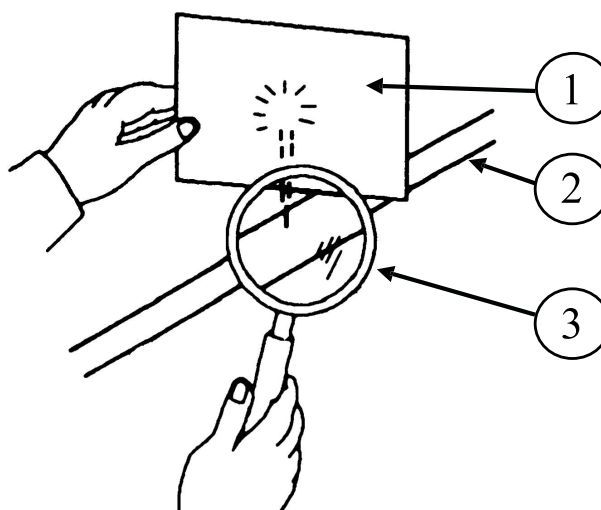
Clean the implement and the front of the loader after each use. Slurry acid, fertiliser and silage can damage paint, steel and pivot points.

CAUTION: When using a pressure washer, avoid spraying water on electric components.



DANGER: Oil escaping under pressure can have sufficient force to penetrate the skin and cause serious injury. Before disconnecting the hoses, ensure that you have released all the pressure. Before pressurising the system, check that all fittings are tight and that the hoses and hydraulic circuit are not damaged.

DANGER: Oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than your hands, to detect suspected leaks. If you are injured by a pressurised leak, seek immediate medical attention. An infection or serious reaction may develop if appropriate medical treatment is not immediately provided.



(1) Cardboard / (2) Hydraulic circuit / (3) Magnifying glass

Every month, or more frequently with heavy use, check:

- The condition of the loader and/or implement pivot points. As required, replace wear bushes and/or the pins.
- Wear bushes must be replaced if they are less than 1 mm thick.
- The tractor's hydraulic oil level and hydraulic circuit sealing. If you find any internal or external leaks on hydraulic components (rams, pipes, connectors, Mach, couplings, etc.), contact your dealer.
- Hose condition: replace them if any cracks or oil seepages appear.
- Correct operation of the monolever (cables, play, locking, etc.).
- Electric cabling condition. Contact your dealer if any connectors or cables become damaged.
- Mechanical condition (any cracks, warping, end stop matting, clearance, parking stands, etc.). Contact your dealer if there is any abnormal wear.

IMPORTANT: All fasteners/screws needing to be tightened must be inspected, replaced, if necessary, cleaned and refastened to the locking compound (excluding brackets). Tighten the screws to the tightening torque recommended in the table below (Do not use an air gun to screw or tighten the screw/fasteners on the tractor).

Check the loader and implement tightness after 10 and 50 hours work, then every 100 hours or every time the tractor engine is drained. Contact your dealer if there is any loosening.

Tightening torque

Class of bolt	stud marking (ISO 898)	Thread											
		M5	M6	M7	M10	M12	M14	M16	M18	M20	M22	M24	M27
8.8	○	5.2	9	21.6	43	73	117	180	259	363	495	625	915
10.9	□	7.6	13.2	31.8	63	108	172	264	369	517	704*	890	1304
12.9	△	8.9	15.4	37.2	73	126	201	309	432	605	824	1041	1526

For cast steel (Nm) $\pm 15\%$

* Unless otherwise specified

28.1. Bracket maintenance specifics



DANGER:

To avoid any risk of serious or fatal accidents:

- Regularly check that the fasteners and screws are properly tightened; refer to the checking table below.
- All fasteners requiring retightening must be inspected and, if necessary, replaced.
- Impact wrenches must not be used to screw or tighten the fasteners used on the tractor or on the parts of our supplied product.

Bolted linkage	Inspection schedule			
	Indication on the tractor hour counter			Interval
	100 hrs or first tractor service from new*	600 hrs or second tractor service *	3000h	
Check that the fasteners between the tractor and our supplied product, and on our parts, are tightened to the recommended torque.	x	x		Then every 600 hrs
Check that bracket fasteners are tightened to the recommended torque.	x		x	Then every 3,000 hrs

*Whichever is the sooner.

28.2. Troubleshooting



WARNING: Maintenance operations must be performed by qualified people, authorised by the dealer. If not, these operations come under the sole responsibility of the person carrying out the work.

Any fault diagnostics and/or removal of parts must be carried out by a professional who should start by ensuring that any work is carried out safely with minimal risk to themselves and their environment, especially in the case of work on a lifted loader.

It is strongly recommended to unhitch the loader to ensure safety and maintenance efficiency. For any maintenance operation on a loader and/or its implements:

- Switch off the tractor's engine.
- It is mandatory to wear PPE.
- The loader must be on the ground with the implement and any accessories (grab, rotor, etc.) at rest.
- Decompress the hydraulic circuit.

Troubleshooting

Problem	Reason	Solution
Lifting or dumping inoperative.	The hydraulic couplings are not connected properly.	Check connection, replace, if necessary.
	The tractor oil level is too low.	Check and top up the tractor oil level.
	The loader control valve or feed control valve pressure limiter is stuck in the open position.	Contact your dealer.
	Malfunction of the tractor's hydraulic pump.	Contact your dealer.
Implement ram inoperative.	The couplings are not connected properly.	Check connection, replace, if necessary.
	Electric cabling fault.	Inspect and replace, if necessary.
	The solenoid valve has seized up.	Contact your dealer.
	The ram seal is damaged (leaking).	Contact your dealer.
	Faulty couplings.	Replace the couplings.
Dumping and lifting ram control levers operate in reverse.	The hydraulic hoses are not connected properly.	Connect the hoses as indicated.
	The cable control is not connected properly.	Contact your dealer.
Air is present in the hydraulic system (foaming).	The tractor oil level is too low.	Check and top up the tractor oil level.
	Air leak on the suction side of the hydraulic pump.	Contact your dealer.
Lifting is slow or jerky.	The tractor oil level is too low or the oil is cold.	Check and top up the tractor oil level. Allow the oil to reach operating temperature.
	Air is present in the hydraulic system	Bleed the hydraulic system. Contact your dealer if the problem persists.
	The load weight is higher than the maximum load specified for the loader.	Reduce the load in the implement; see Technical Specifications .
	The couplings are not fully locked together.	Check the connection and repair or replace the couplings, if necessary.
	The tractor engine speed is too low (low hydraulic pump speed).	Increase the tractor engine speed to improve loader performance.
	The control valve lever cables have seized up or are faulty.	Contact your dealer.

Troubleshooting (continued)

Problem	Reason	Solution
	The MACH SYSTEM housing is not fully locked in place	Check that the MACH SYSTEM housing is correctly locked in place (handle pushed as far as it will go).
	Ram leakage.	Contact your dealer
	Irregular operation of the pressure limiter or pressure limiter set to a value that is too low.	Contact your dealer.
	Hose/pipe twisted or clamped.	Contact your dealer.
	Insufficient hydraulic pump capacity on the tractor	Contact your dealer.
Insufficient lifting capacity.	Pressure limiter is incorrectly adjusted.	Contact your dealer.
	The load weight is higher than the maximum load specified for the loader.	Reduce the load in the implement; see Technical Specifications .
	Tractor engine speed too low.	Increase the engine speed.
	Faulty tractor hydraulic pump.	Contact your dealer
The loader lowers itself with the control levers in neutral.  CAUTION: some tolerance is permissible (between 0 and 8 cm)	Leak in the lifting rams.	Contact your dealer.
	Abnormal internal leakage in the lever control valve.	Contact your dealer.
	The loader control lever valve spool does not return to the neutral position.	Contact your dealer.
The loader control lever valve spool does not return to the neutral position. NOTE: Check that the control levers are in neutral.	The control lever spool does not move freely (contamination).	Contact your dealer.
	The neutral position of the cable monolever is incorrectly adjusted.	Contact your dealer.
	The control lever or cable system has seized up.	Contact your dealer.
External oil leak.	Damaged hydraulic hoses, pipes, threaded connectors or seals.	Contact your dealer.
	Loose hydraulic hoses.	Retighten the hoses.
	Damaged seals on the lever control valve.	Contact your dealer
	Leaking ram or damaged ram rod.	The ram should be replaced. Contact your dealer.
	The loader control lever valve or the solenoid valve is damaged/worn.	Contact your dealer.
The ram rods are bending.	Excessively fast backward motion scraping.	The ram should be replaced. Contact your dealer.
	Sudden and exceptionally high load during use.	The ram should be replaced. Contact your dealer.
Shock absorption is not working.	Faulty accumulator.	The accumulator needs refilling; contact your dealer.

Troubleshooting (continued)

Problem	Reason	Solution
NOTE: SHOCK ELIMINATOR is only an option. First, check that SHOCK ELIMINATOR has been fitted. NOTE: In some configurations, this may be mandatory.	The lifting/dumping safety option is fitted and active on the loader.	The SHOCK ELIMINATOR option is not compatible with the lifting/dumping safety option.
	The SHOCK ELIMINATOR valve (optional) is closed or faulty.	The valve needs replacing; contact your dealer.
	The solenoid valve is faulty/not activated.	Check that the solenoid valve is connected and supplied with 12 V. Contact your dealer if the problem persists.
The hydraulic 3rd function is inoperative.	The solenoid valve is faulty/not activated.	Check that the solenoid valve is connected and supplied with 12 V. Contact your dealer if the problem persists.
The hydraulic 4th function is inoperative.	The solenoid valve is faulty/not activated.	Check that the solenoid valve is connected and supplied with 12 V. Contact your dealer if the problem persists.
The hydraulic implement locking is inoperative (FAST-LOCK or SPEED-LINK option).	The solenoid valve is faulty/not activated.	Check that the solenoid valve is connected and supplied with 12 V. Contact your dealer if the problem persists.

29. Recycling MX products

Disposal: please contact your dealer or a company specialising in materials recycling.

Hydraulic system

- End-of-life MX products must have their hydraulic oil drained by an authorised technician.
- The hydraulic hoses must be removed before the equipment can be recycled.
- All MX product owners are required to comply with these environmentally-friendly precautions if they decide to dismantle their end-of-life products themselves.

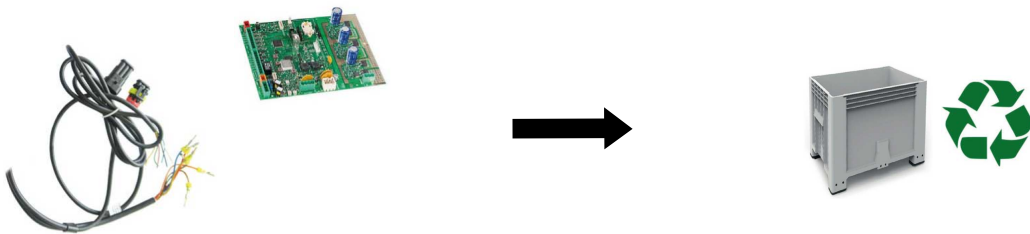
Disposal of hazardous waste (oils and hoses)

- Hydraulic oils must be stored in containers or drums provided for this purpose and sent to approved disposal facilities.
- For hydraulic hoses, the steel connectors can be separated from the rubber hoses.
- The steel end caps must be recycled as scrap by approved facilities.
- The rubber hoses must be placed in watertight containers and sent for processing by approved facilities.



High-tech MX product components and electrical and electronic equipment

- Waste electrical and electronic equipment (WEEE) present in MX products must be removed and disposed of by authorised services for recovery.



Recycling of decontaminated MX products

- Decontaminated MX products must be sent to authorised services for iron and metal recycling.

30. Safety lift ram stop on loader



WARNING: The lift ram stop must remain permanently attached to the loader. Install the lift ram safety stop before carrying out any work or maintenance operation under the raised loader arms. Failure to comply could result in death or serious injury.

Only supplied in case of specific local safety regulations (Code of Practice, ...).

- Empty loader bucket and place it in fully dumped position.
- Raise the loader until the safety ram stop can be positioned on the lift rod.
- Stop the engine. Install the safety ram stop and strap it onto the lift rod (1) .
- Slowly lower loader fully down against the safety stop.

IMPORTANT: Do not continue to lower once it is against the safety stop.

Except for operation under the raised loader arms, install the ram safety stop as in (2) position.

Safety stickers

Safety stickers have to be affixed to the loader. The Loader should prominently display pictorial and/or written signs that warn against serious safety risks.

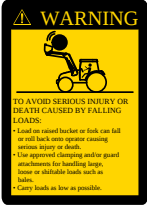
Symbol

Meaning

Manufactured by : **MX**
19 rue de Rennes - BP 83221 - 35080 Aigné - FRANCE

Tractor model _____
Loader Model _____
Serial Number _____
Counterweight requirement _____ kg
Rated Operating Load _____ kg
WARNING - DO NOT EXCEED
Date of supply _____

Compliance plate.

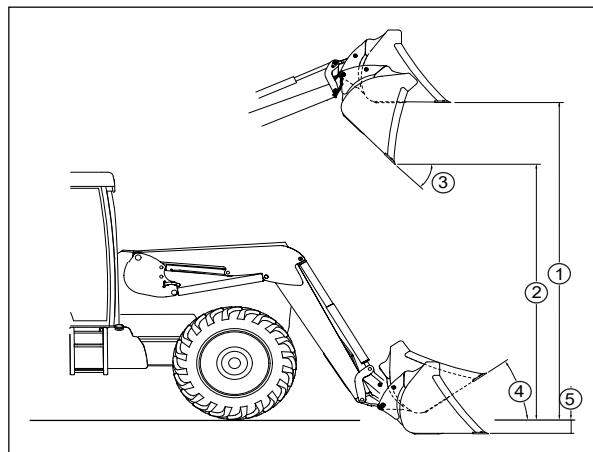
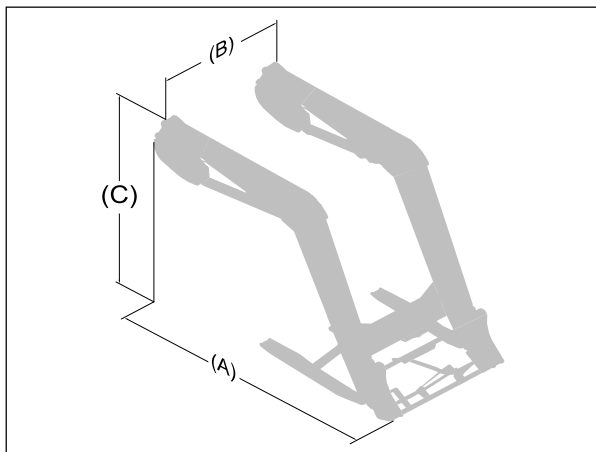


Do not exceed Rated Operating Load (ROL).



Crush zone.

31. Technical specifications



	T408evo	T408+evo	T410evo	T410+evo	T412evo	T412+evo	T414evo	T417evo T418evo
Tractor power	80 - 130	80 - 130	90 - 180	90 - 180	110 - 230	110 - 230	120 - 160	150 - 300
Parallelogram	YES (PCH)	YES (PCH)	YES (PCH)	YES (PCH)	YES (PCH)	YES (PCH)	YES (PCH)	YES (PCH)
Dimensions								
Length (A)	2.40 m	2.40 m	2.50 m	2.50 m	2.60 m	2.60 m	2.75 m	2.75 m
Width (B)	1.18 m	1.18 m	1.18 m	1.18 m	1.18 m	1.18 m	1.18 m	1.18 m / 1,38 m
Height (C)	1.78 m	1.78 m	1.83 m	1.83 m	1.87 m	1.87 m	2.05 m	2.05 m
Lift heights								
Max. height at implement pivot*	3.85 m	3.85 m	4.00 m	4.00 m	4.15 m	4.15 m	4.50 m	4.60 m
Max. height under horizontal bucket (1) #	3.60 m	3.60 m	3.75 m	3.75 m	3.90 kg	3.90 kg	4.25 m	4.35 kg
Max. height under dumped bucket (2) #	3.05 m	3.05 m	3.20 m	3.20 m	3.35 m	3.35 m	3.70 m	3.80 m
Working angles								
Dumping angle at full height (3) #	55°	55°	55°	55°	55°	55°	50°	50°
Crowding angle (4) #	52°	52°	52°	52°	52°	52°	52°	52°
Digging depth (5) #	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m
Lifting force at implement pivot*	2,410 kg	2,840 kg	2,590 kg	3,010 kg	2,840 kg	3,270 kg	2,670 kg	3,420 kg
Lift capacity at implement pivot over the entire lifting range*	2,070 kg	2,440 kg	2,220 kg	2,590 kg	2,420 kg	2,780 kg	2,210 kg	2,910 kg
Payload at 0.80 m from implement pivot**								
On the ground	2,230 kg	2,495 kg	2,345 kg	2,750 kg	2,650 kg	3,075 kg	2,490 kg	3,230 kg
At 2 m above ground	2,010 kg	2,390 kg	2,125 kg	2,490 kg	2,395 kg	2,780 kg	2,230 kg	2,950 kg
At 3 m above ground	1,905 kg	2,275 kg	2,015 kg	2,365 kg	2,265 kg	2,635 kg	2,150 kg	2,795 kg
At max. height	1,890 kg	2,180 kg	2,010 kg	2,345 kg	2,225 kg	2,535 kg	2,100 kg	2,735 kg
Lifting time	4.3 s	5 s	5.1 s	5.8 s	5.8 s	6.6 s	6 s	7.8 s
Dumping time	0.9 s	0.9 s	0.9 s	1.2 s	1.2 s	1.2 s	1.1 s	1.2 s
Max. weight	642 kg	647 kg	689 kg	699 kg	714 kg	719 kg	820 kg	833 kg 830 kg

Specifications determined at 195 bar and a flow rate of 60 litres/min. Data may vary depending on the type of tractor being equipped.

Values given for an earth bucket.

* Only payloads are counted. The values at ground level and at the implement pivot cannot be used.

** The payload is calculated using a 180 kg implement.

DECLARATION OF CONFORMITY



The manufacturer:

M-extend France SAS

Registered office: 19, Rue de Rennes, 35690 Acigné (France).

Registered with the RCS of Rennes under number 639 200 260.

Hereby declares that the material :

Front loader T408evo or T408+evo or T410evo or T410+evo or T412evo or T412+evo or T414evo or T417evo or T418evo or TX420 or TX425 or TX430

or

Front loader U503 or U504 or U505 or U506 or U506+ or U507 or U508 or U508+ or U509 or U510 or U510+ or U511 or U512 or U512+ or U514 or U514+

or

Front loader A104 or A106 or A110 or F303 or F304

or

Front loader C401 or C401XL or C402 or C402XL or C403 or C405 or C407 or C403 PRO or C404 PRO or C405 PRO or C406 PRO or C407 PRO or C408 PRO

or

Loader implement BMS or BRDS or BQU or BF + GF or CGU or TR or TRu or BMSC or CGC or TRC or BT or BR or BC or BF or BMSU or BRU or BFU or CL or BRC or BFC or LC or CG or BP or SG or BB or PCS or LS or PG

or

Implement for telescopic handler loader BMSA or CGA or BTA or TR or BCA or BCDA

or

Feeding bucket BD or GDT

or

Manubal L40 or L400 or L400HD or L500 or L6000 or C30 or C40 or U40 or V40 or V60 or V500 or W500 or V400HD or V5000HD or V7000HD

or

Front linkage R04 or R05 or R06 or R08 or R09 or R10 or R12 or R16 or R20 or R28 or R38

or

Weight M250 or M400 or MM600 or MM900 or MM1200 or MM1500 or MM400AD or MBX or MXS 250 or MXS 400 or MXS 600 or BOX 100L or BOX 150L or MBX XS

or

Multibumper

or

Safety Component OPG

serial number:

please write in the box above the serial number given on the equipment's nameplate.

included in the list of serial numbers 000001001 to 999999365,
is in conformity with the Machinery Directive 2006/42/EC
and with the Supply of Machinery (Safety) Regulations 2008.

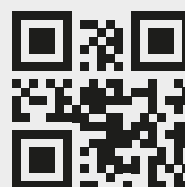
M-extend France SAS, 19 rue de Rennes at Acigné (35690), is authorised to prepare the technical file.

Acigné, 13 October 2025.

B. Gauchenot
CEO



M-extend France : 19 rue de Rennes - 35690 ACIGNÉ



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