



RAISE YOUR EXPECTATIONS



LOADER

**MX T406 / T406+**

**MX T408 / T408+**

**MX T410 / T410+**

**MX T412 / T412+**

**MX T414**

**MX T417**

**MX T418**

**User Manual**

**Read carefully before using**



Dear user,

We thank you for placing your trust in us and hope that you will find your MX loader satisfactory in every way.

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

This loader user manual is a very important document, so please keep it for future reference as required. Make it available to any other users and hand it over to any new owner should your MX loader be sold on.

The illustrations and technical data shown in this document might not exactly correspond to your loader, though operating conditions will nevertheless remain the same.

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

The demonstration of the equipment to be delivered should include:

- The safety instructions.
- Hitching and unhitching the loader.
- Hitching and unhitching the implements.
- Full use of the controls.

**Should one of these four requirements be omitted, it is your responsibility to contact your dealership immediately.**

You can access the original manuals in English on the [www.m-x.eu](http://www.m-x.eu) website:  
Click on the English version of the site, then on "Documentation/User Manuals".

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**The loader is a complex machine.  
The operator must read this manual  
before using the loader for the first time.**



### **Familiarise yourself with:**

- *The safety instructions.*
- *Hitching and unhitching the loader.*
- *Hitching and unhitching the implements.*
- *Full use of the controls.*







# 1. Safety rules

- PPE (Personal Protective Equipment) must be worn (please refer to the "PPE table").
- Seat belts must be worn by the driver and passengers.
- Before each use, the operator must check that the loader is correctly hitched and that the implement is correctly locked (test by pressing hard to the ground).
- Only control the loader from the cab. Keep controlling until movements stop.
- The loader controls must be locked when travelling by road (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 mask the tractor's side lights and signalling lights.
- Do not leave the cab without stopping all control movements (control lever locked).
- Never leave the tractor with the loader lifted. 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. When lifting operations require the presence of a person near to the load, the MX loader must be fitted with a safety device (see the "SAFETY WHILE LIFTING AND DUMPING" chapter).
- Before use, the operator should be sure that the loader-tractor unit and the implement-loader unit are compatible. They should refer to the MX price list in effect with their dealer.
- The operator must use an implement designed and recommended by MX for the work to be carried out.
- **Carrying or lifting persons using the loader is forbidden.**
- Ensure tractor stability by using a suitable counterweight (see the "COUNTERWEIGHT" chapter).
- Restrict all movements with the load lifted, as the tractor may become unbalanced.
- The maximum front axle loading specified by the tractor manufacturer must not be exceeded.
- In order to limit stresses on the front axle and steering ram, and to limit tyre wear, move forwards or backwards when steering.
- The maximum loading on the front tyres specified by the tyre manufacturer must not be exceeded.
- Check tyre pressures regularly.
- Check periodically to ensure that the safety pins and bolts are in place. Do not replace them with any other items, such as: nails, wire, etc.
- For full use of the MX loader, the tractor must be fitted with a structure to protect against falling objects. If this is not the case, there are limits on the use of the MX loader (see the "LOADER USE LIMITS" section). CAUTION: the protective fitting must be in active position while working. If the tractor is fitted with a roll cage only, the loader must be equipped with a parallelogram.
- Watch out for overhead electricity and telephone lines, guttering, framework, etc. when moving with the loader in raised position.
- In compliance with standard EN 12525 + A2 2010, the controls for operating the loader and implements must be of the "sustained action" type, except for the floating position for lifting, which can be held in place by a notching system.
- Any fault diagnosis and/or removal of parts must be carried out by a professional who shall start by guaranteeing that the work will be carried out safely for him and his environment, notably in the case of work on a lifted loader.
- For all operations on the machine, pay attention to the risks of crushing or pinching, especially with moving parts.
- For all interventions at height on the machine, use stable and secured means. Stop the tractor engine if the loader is

hitched to the tractor.

- Keep the tractor-loader clean to avoid the risk of fire. Ensure 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 accumulate, especially around the engine and the exhaust area.

## 1.1 PPE Table (Personal Protective Equipment)

Symbol	Meaning	Example of risk
	Hand protection equipment must be worn.	Cuts, trapped fingers when unlocking the implement on the loader.
	Ear protection must be worn.	Bucket shake with cab-less tractor.
	Eye protection must be worn.	Spatter when high-pressure cleaning.
	Helmet must be worn.	Impacts to the head with the loader during maintenance on the tractor.
	Body protection equipment must be worn.	Spatter when high-pressure cleaning.
	Foot protection must be worn.	Crushed feet when setting up the parking stands.

## 1.2 Loader usage limits on a tractor with a roll cage with 2 uprights

Additional information for a tractor fitted with a roll cage with 2 uprights.

### 1.2.1 Warning

If the tractor is not fitted with a structure protecting against falling loads, the driver is exposed to constant risk when handling loads.

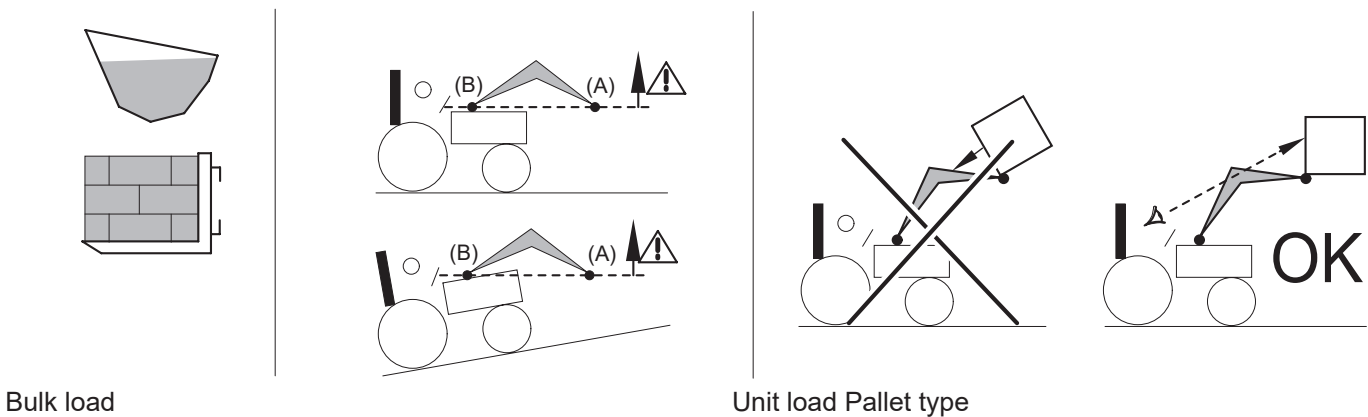
If the tractor is fitted with a roll cage only, the loader must be equipped with a parallelogram.

Reminder: only implements recommended by the MX loader manufacturer may be used.

## 1.2.2 Usage precautions

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

- Use the implement designed for the work to be carried out.
- Adjust the indicator rod according to the implement used.
- Ensure the stability and hold of the load in the implement.
- The maximum loading level of the implement must not exceed the lowest side for bulk loads, and not exceed the height of the backplate for unit loads (see Fig. 1).
- Move the tractor-loader unit carefully.
- Travel with the load at ground level and at moderate speed.
- During a lifting operation and when moving, keep your eyes on the load from when the implement's pivot point (A) passes the horizontal of the loader's pivot point (B) (see Fig. 2). If necessary, correct the position of the implement so that the load is never directed towards the driver (see Fig. 3).



Bulk load

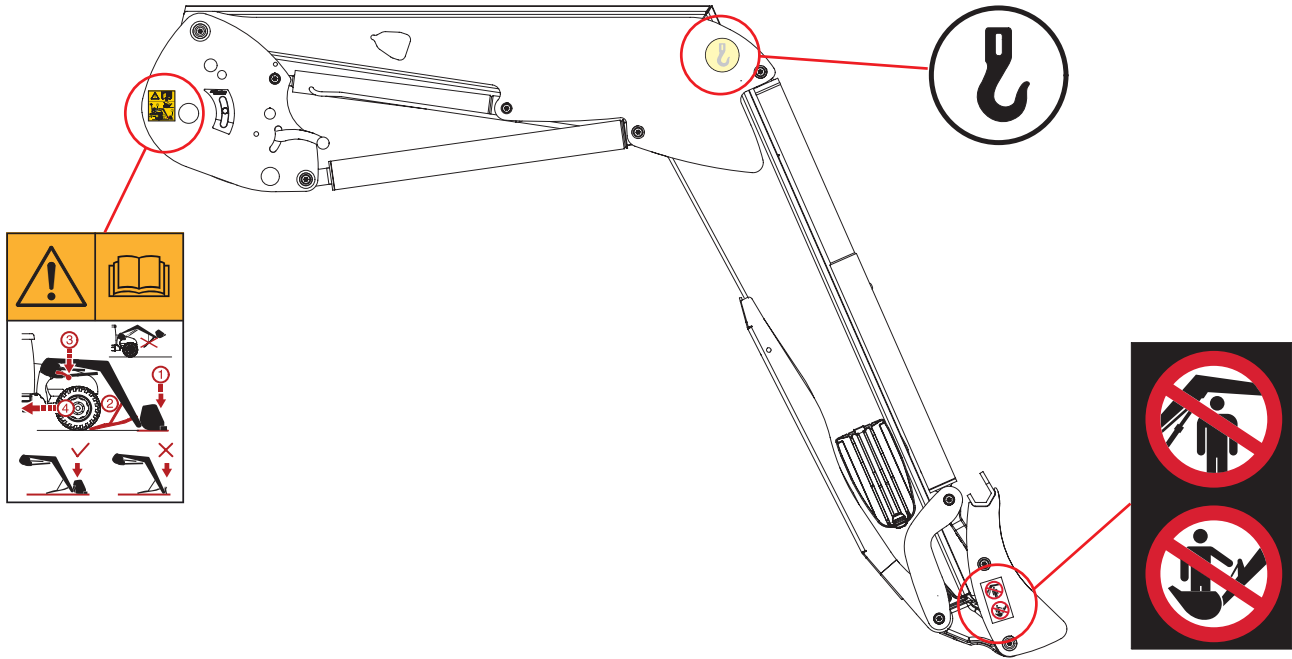
Unit load Pallet type




## 1.3 Non-compliance with instructions for safety and use

- MX products are designed to be used at the maximum hydraulic pressure indicated by the manufacturer for the tractor's specifications. Use of excess pressure will result in additional strain and will therefore invalidate the MX equipment warranty.
- Never make any changes to the hose connections.
- Breaking lead seals will void any liability on the part of MX for all its equipment.
- Any assembly of the MX loader which ignores the recommendations of the MX price list in force at the purchase date cancels the MX guarantee for the whole supply.
- 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 guarantee on all supplied items null and void.
- Use only 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 seeking prior approval in writing from MX. Failure to comply with these rules may make your MX loader hazardous. In the event of damage or injury, MX shall not be held responsible 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 shall not be held responsible for accidents that might result from actions contrary to these restrictions.

## 2. Safety stickers

Safety stickers are affixed to loaders. Ensure that these stickers are clean and legible; replace them if they become damaged.



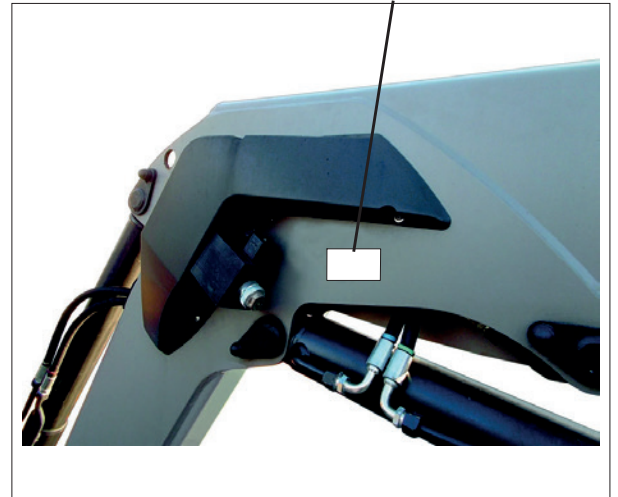
Symbol	Meaning
	Familiarise yourself with the safety instructions in the user manual before using or working on the loader. Follow the loader hitching and unhitching procedure given in the user manual.
	Use the anchoring points when handling the loader.
	Handling above people is prohibited. Use of the loader and implements for purposes other than the material handling for which they were designed is prohibited.



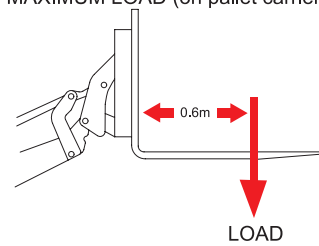
### 3. Identification plate

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.

<b>MX</b>	<b>CE</b>	<b>UK</b>	<b>CA</b>
Designation	<input type="text"/>		
Type/Model	<input type="text"/>		
Serial number	<input type="text"/>		
Year of manufacture	<input type="text"/>		
Maximum weight	<input type="text"/>	kg	
For Loader: Maximum Load (on pallet carrier)	<input type="text"/>	kg	
Manufactured by M-extend france SAS 19 rue de rennes 35690 ACIGNE - FRANCE			



MAXIMUM LOAD (on pallet carrier)

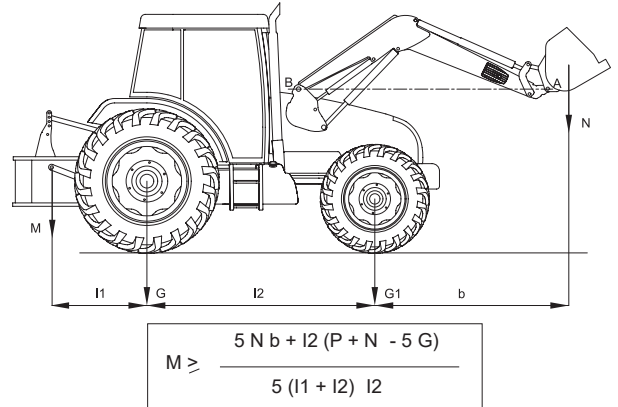


## 4. Counterweight

The stability of the tractor-loader unit 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) bears on the rear axle of the tractor for optimum working safety.

The formula below is used to calculate the counterweight (M) (standard EN12525 + A2 2010).

- G: Load on the rear axle, with no counterweight, with empty implement (kg).
- G1: Load on the front axle, without counterweight, with empty implement (kg).
- b: Distance from front axle to the implement's centre of gravity (mm).
- l1: Distance from the linkage arm pin to the rear axle (mm).
- l2: Wheelbase (mm).
- N: Usable load of the loader for implement pivot point (A) horizontal with the loader pivot point (B) (kg).
- P: G + G1 (kg).
- M: Counterweight (kg).



# 5. Control

Reminder: Never leave the tractor with the loader lifted.

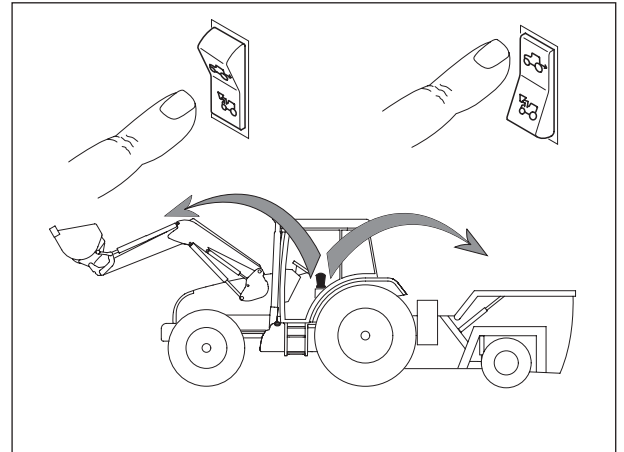
Every control valve with spool generates an internal leak required for proper operation.

## 5.1 Control using the tractor's control valves

Refer to the user manual for the tractor.

### 5.1.1 Front/rear control selector (optional)

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

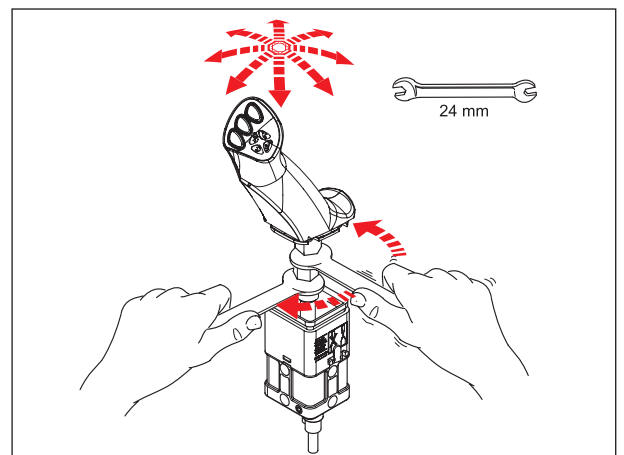


## 5.2 Control with the MX control valve

### 5.2.1 Handle setting \*

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

\* on Propilot and Flexpilot controls only.



## 5.3 Control with MX PROPILOT control valve

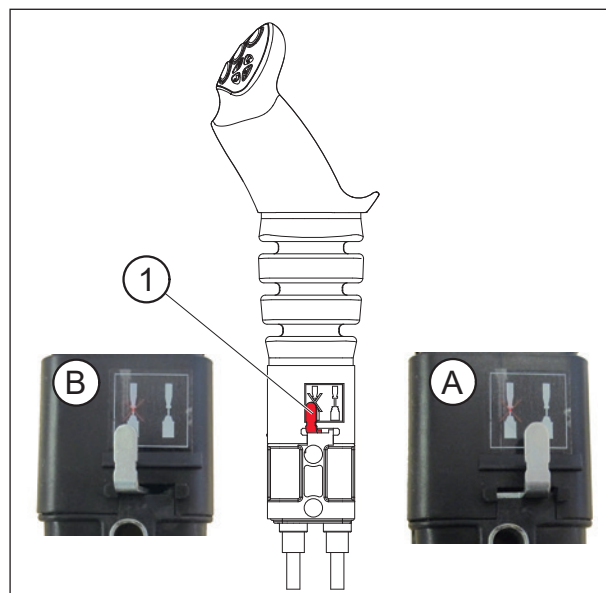
### 5.3.1 Safety

To prevent any accidental movement of the loader, the PROPILOT monolever can be locked.

Move the unlocking lever (1).

— (A): unlocked position.

— (B): locked position.



### 5.3.2 Movements

#### 1st function: along the "Y" axis

— Forward = loader lowering

(Double-action hydraulic ram operation).

— Forwards after notching = floating position

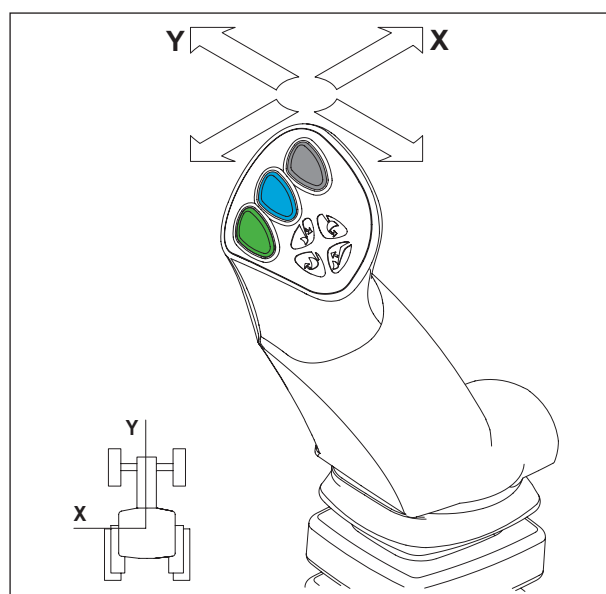
(Single-action hydraulic ram operation).

— Backwards = loader raised.

#### 2nd function: along the "X" axis

— To the left = implement crowding.

— To the right = implement dumping.



#### 3rd function: along the "X" axis

— Button (1) + crowding or dumping movement.

#### 4th function: along the "X" axis

— Button (2) + crowding or dumping movement.

#### FAST-LOCK

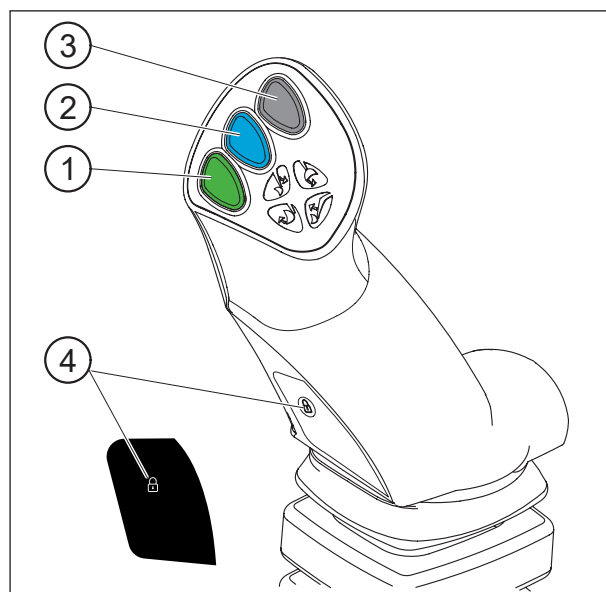
Automatic hitching/unhitching of the implement.

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

#### SPEED-LINK 2

Automatic hitching/unhitching of the implement with hydraulic and electric functions.

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



**NOTE:** Button (3) not used.

Button (4) only available with FAST-LOCK or SPEED-LINK 2.

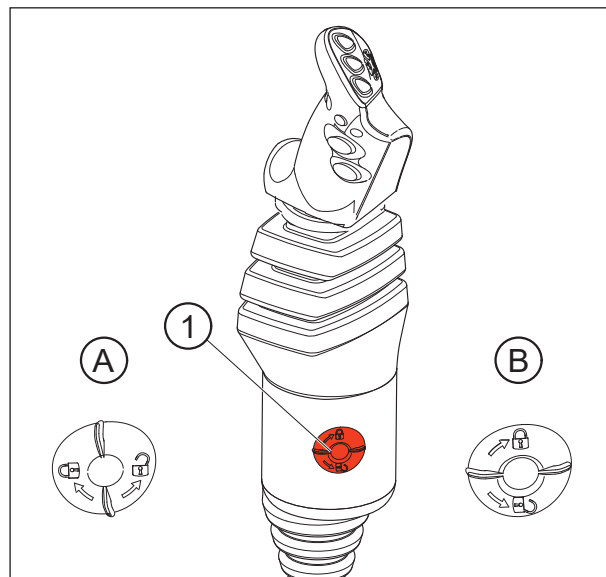
## 5.4 Control with MX FLEXPILLOT control valve

### 5.4.1 Safety

To prevent any accidental movement of the loader, the FLEXPILLOT monolever can be locked.

Turn the isolating thumbwheel (1):

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



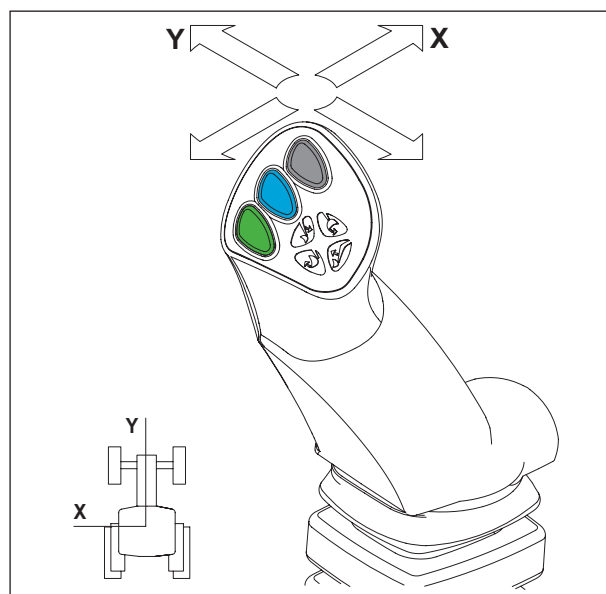
### 5.4.2 Movements

#### 1st function: along the “Y” axis

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

#### 2nd function: along the “X” axis

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



### 3rd function: along the "X" axis

— Button (1) + crowding or dumping movement.

### 4th function: along the "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

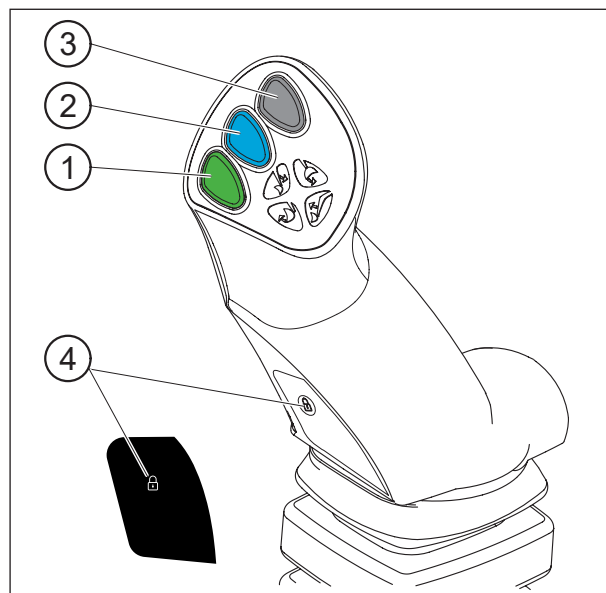
Automatic hitching/unhitching of the implement with hydraulic and electric functions.

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

### AUTO-LEVEL System

Implement position reset.

— Button (3).



**NOTE:** Button (4) operational only with FAST-LOCK or SPEED-LINK 2.

## 5.5 Control with MX e-PILOT S control valves

See separate instructions for e-PILOT S.

## 6. Loader unhitching

**!** This operation must be carried out by the driver, who must exit the cab and ensure all manoeuvres are prohibited while working on the loader.

Watch the unhitching/hitching video at [www.m-x.eu](http://www.m-x.eu)

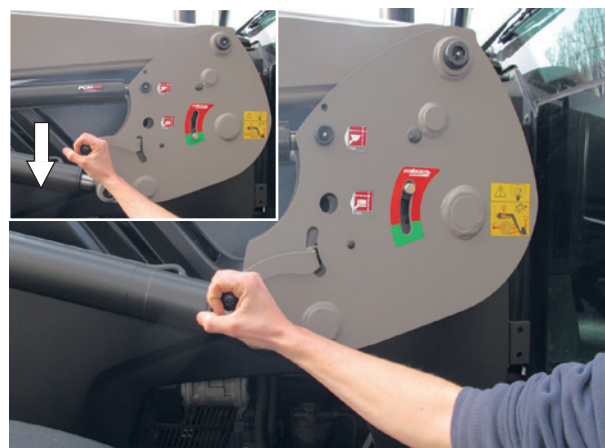
The loader must always be connected to an implement of at least 100 kg in order to unhitch it.

- 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 activate the 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.



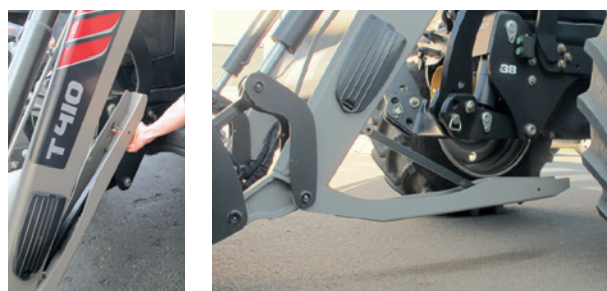


## Setting the parking stands on first use

1. Position the implement flat on the ground.



2. Lower the parking stand.

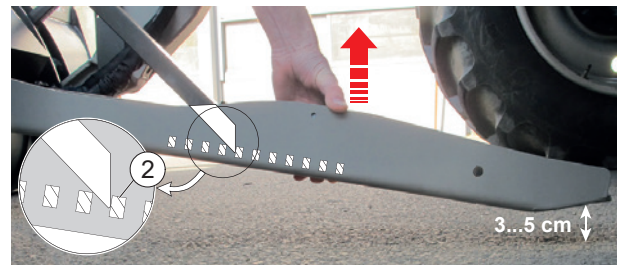


3. Remove the rod stop (1) and position the parking stand on the ground.

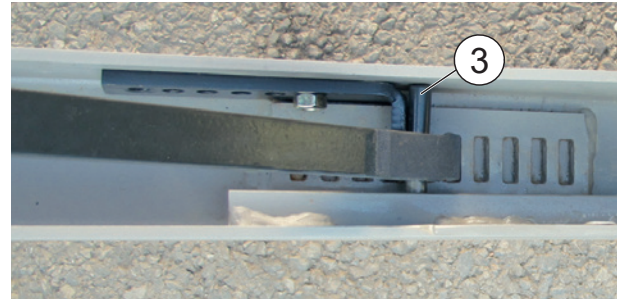




4. Select the notch (2) that gives a gap of between 3 and 5 cm to the ground when you manually raise the parking stand.



5. In this position, lift the stop to meet the locking pin (3).



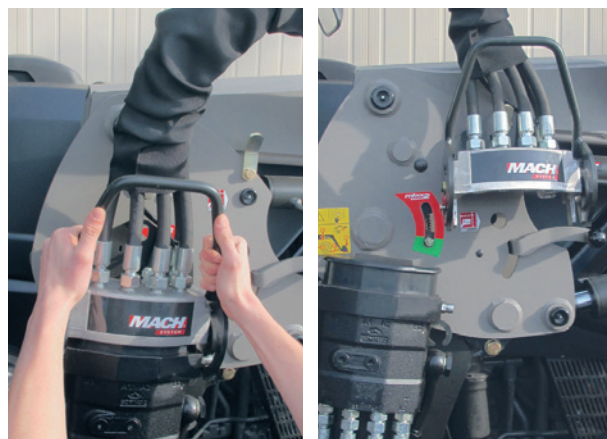
6. Perform the same procedure for the other parking stand.

— Disconnect the hydraulics and the electrics. Loader with MACH System:

- Unlock the housing of the MACH System by pressing the safety latch on the left, then lift the handle.

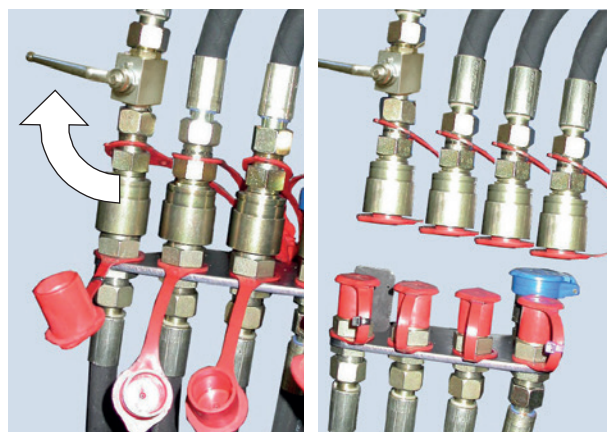


— Hook the MACH System housing onto its support.



— Disconnect the hydraulics and the electrics. Loader without MACH System:

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



— On the right side, pull the unlocking handle 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 one motion, then slowly until the loader is resting on its parking stands.



- Check the stability of the whole assembly.



## 7. Loader hitching

**!** This operation must be carried out by the driver, who must exit the cab and ensure all manoeuvres are prohibited while working on the loader.

Watch the unhitching/hitching video at [www.m-x.eu](http://www.m-x.eu)

- 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.
- 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.



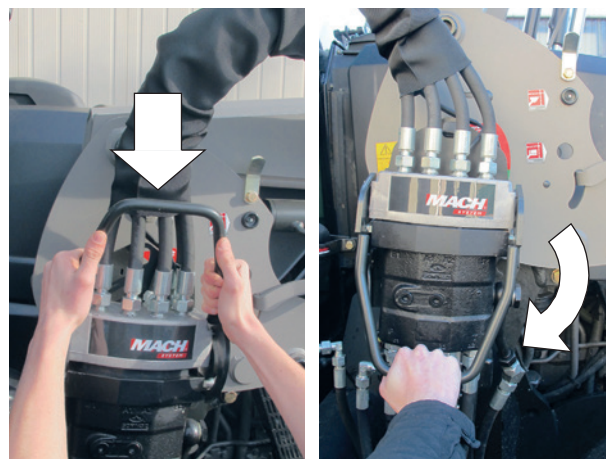
- The loader is **locked** when the locking indicators are in the **green zone**.

**IMPORTANT:** If the indicators are still in the red zone, please refer to the section "Two-step hitching".

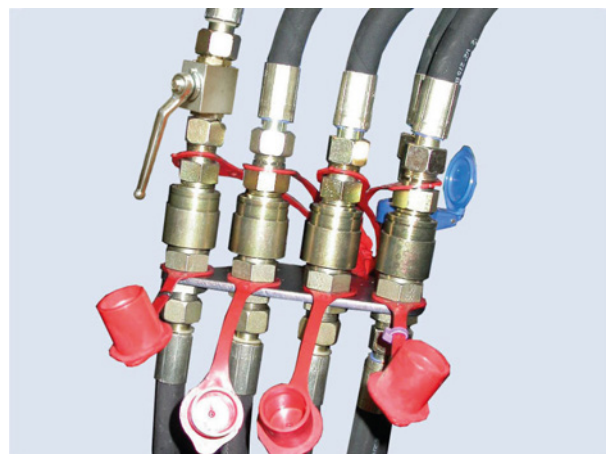




- Connect the hydraulics and the electrics. Loader with MACH System:
  - Ensure that the male and female couplings are clean before hitching. Clean them if necessary.
  - Take the housing in both hands and, with its back facing away, lift the control valve cover onto the guide bars and engage vertically.



- Connect the hydraulics and the electrics. Loader without MACH System:
  - Remove the caps
  - Connect the hydraulic couplers
  - Open the valve.



- Raise and lock the right and left parking stands.

**IMPORTANT:** Check that each parking stand is correctly locked.

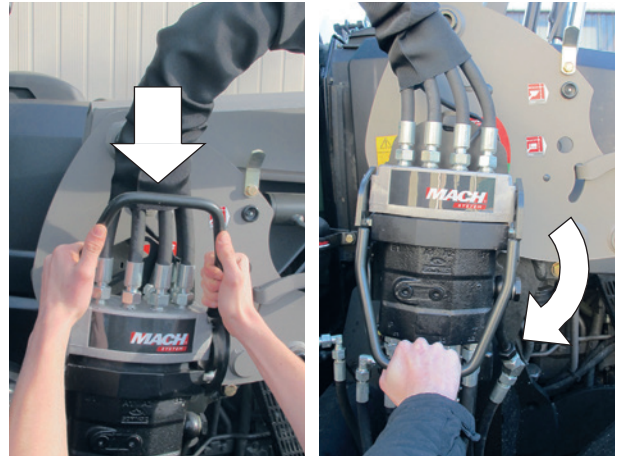


- Pre-work check: apply ground force to the implement (raising the front wheels of the tractor) to check the loader is correctly hitched.

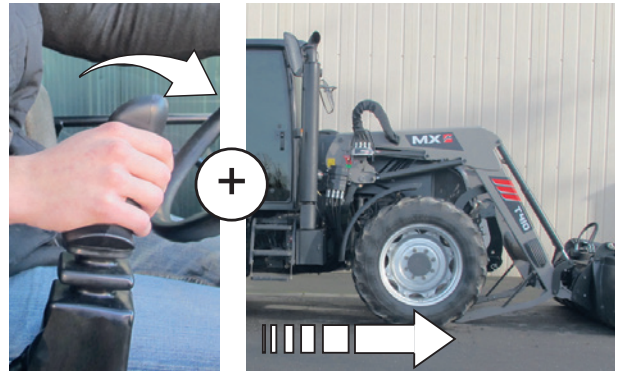


## 7.1 Two-step hitching

1. Connect the hydraulics and the electrics.



2. Move the lever forwards to the notched floating position + move the tractor forwards. If necessary, turn the wheels.



3. Gently activate lifting. The loader is locked (indicator shows green).



4. Raise and lock the right and left parking stands.



5. Check: apply ground force to the implement.





## 8. Implement unhitching

**!** This operation must be carried out by the driver, who must exit the cab and ensure all manoeuvres are prohibited while working on the loader.

### 8.1 Implement carrier with manual unlocking

- Choose a level and solid surface.
- Position the implement horizontally, 0.30 m above the ground.
- Engage the hand brake.
- Switch off the tractor's engine.
- Release the pressure in the hydraulic circuits to be disconnected.

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

- Disconnect the hydraulics.
  - Mach 2: Unlock.
  - Couplings: Fit protective caps onto the male and female couplings.

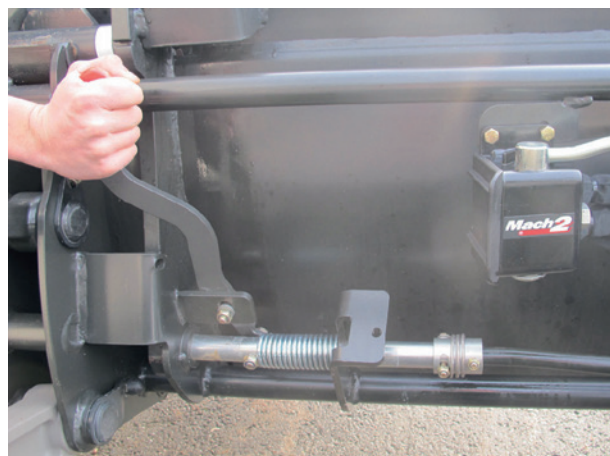
- Place the hoses on the front of the implement.

- Unlocking the implement.  
Stand to the left of the loader, **NEVER IN FRONT**, and pull the lever fully towards you.





- Pull the lever towards you until it stays engaged.



- Set the implement onto the ground, lightly dumping to release the implement carrier from the implement.

## 8.2 FAST-LOCK implement carrier

- 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.



**NOTE:** If the implement has one or more hydraulic functions, start by disconnecting the hoses.

### 8.3 SPEED-LINK 2 implement carrier

- Lift the loader to clear the implement from the ground.
- Increase the operating life of the couplings by ensuring that the implement's hydraulic functions 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 depressurizing the 3rd function hydraulic circuit.



## 9. Implement hitching

**!** This operation must be carried out by the driver, who must exit the cab and ensure all manoeuvres are prohibited while working on the loader.

### 9.1 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.

- Approach the loader in line with the implement.
- Fit the implement carrier onto the implement.
- Crowd and continue to advance until the locking lever trips.

- Turn off 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.





- Ensure that the male and female couplings are clean before connection. Clean them if necessary.
- Connect the hoses for implements with hydraulic functions.



## 9.2 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 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.



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

## 9.3 SPEED-LINK 2 implement carrier

- Before attaching an implement, make sure that the locks are in "open" position. The locking indicator located at the rear of the SPEED-LINK 2 frame is red.
- Align the loader with the implement, fit the implement carrier onto the implement, crowd slightly and lift the loader to raise 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 depressurizing the 3rd function hydraulic circuit.

**⚠ CAUTION:** Checks to be carried out before moving:  
Press the implement down on the ground (the tractor's front wheels lift) to check correct locking.  
Operate each moving part fully, in each direction, to check the tightness of the hydraulic circuit and the correct routing of the hoses.

## 10. Models of implement carrier frames

### 10.1 MX implement carrier frame



### 10.2 EURO implement carrier frame



### 10.3 MX/EURO implement carrier frame

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

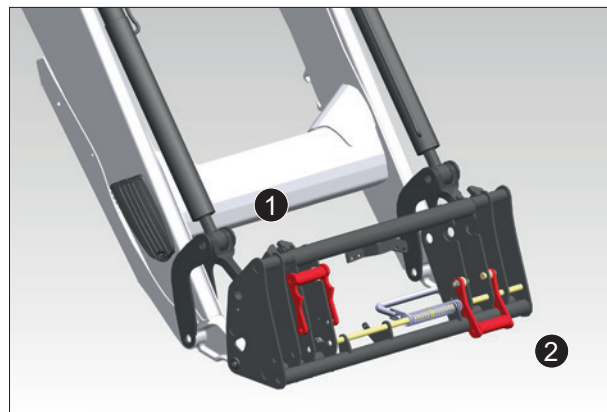
- Remove the pins,
- Tilt the hitching shoes downwards,
- Check that the hitching shoes are held in position by the spring rods,
- Refit the pins in their initial location.



## 10.4 EURO/SMS implement carrier frame

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

- Tilt the two stops downwards.



## 10.5 MX/Faucheux-Blanc implement carrier frame

To switch from MX position (1) to the Faucheux-Blanc position (2),

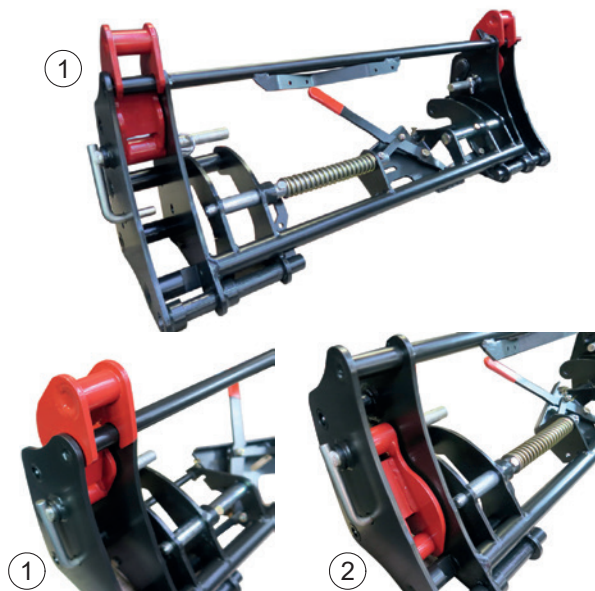
- Remove the hitching shoes from their storage position,
- Fit them in the hitching position and add the 4 fastening pins,
- Fit the clip pins on the fastening pins.



## 10.6 EURO/Sigma 4 implement carrier frame

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

- Remove the pins,
- Put the shoes in their storage position,
- Refit the pins in their initial location.

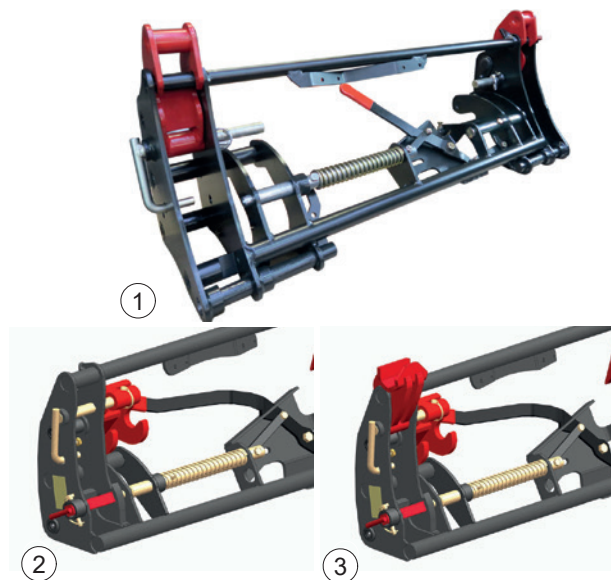




## 10.7 MX/Euro/TENIAS implement carrier frame

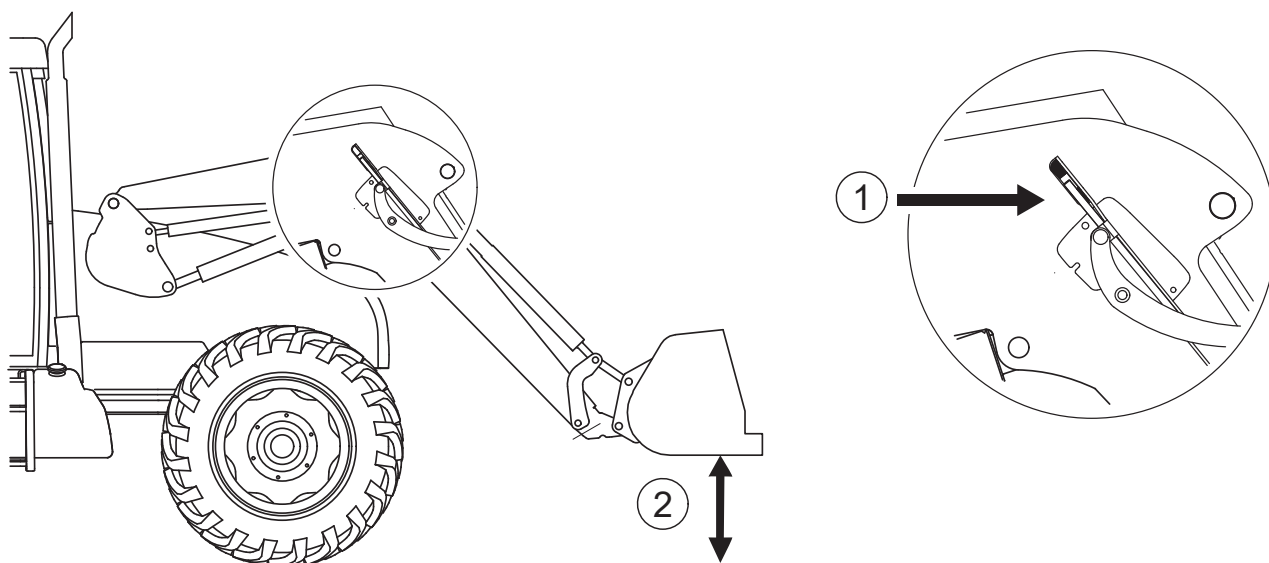
To switch from the TENIAS (1) position to the Euro (2) or MX (3) position,

- Remove the pins,
- Fit the shoes in the required position,
- Refit the pins in their initial location.



## 11. Level indicator

The level indicator enables implement positioning as the loader is descending. 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

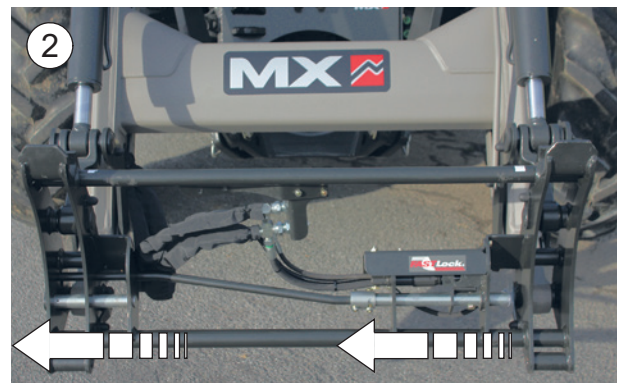
## 12. FAST-LOCK System

The FAST-LOCK System (optional) on the implement carrier frame allows implements without hydraulic or electrical functions to be hitched and unhitched from the cab.

Locked position (1).



Unlocked position (2).





## 13. SPEED-LINK 2 System

The SPEED-LINK 2 System (optional) on the implement carrier frame 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.



## 14. PCH System

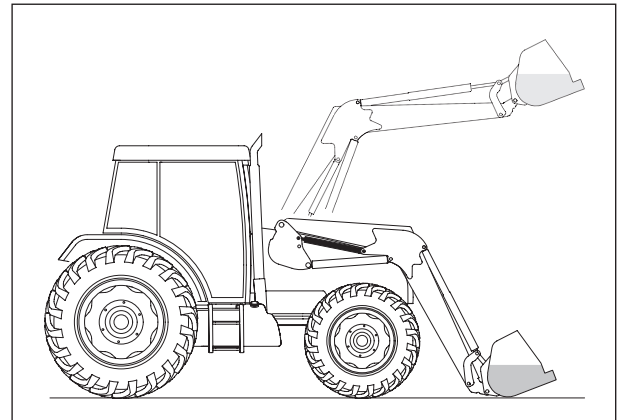
The Hydraulic Compensation Parallelogram (PCH) operates automatically (optional). The system is fitted with hydraulic safety features to protect it from any malfunction. Two user positions of the PCH System are available.



- (1) "Bucket" position
- (2) "Pallet" position

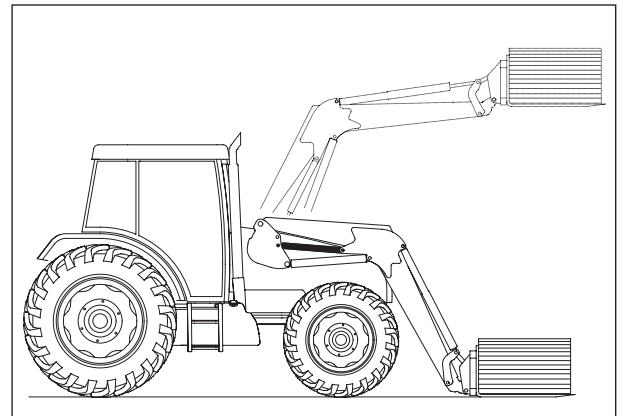
### 14.1 "Bucket" position

The PCH System keeps 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.



### 14.2 "Pallet" position

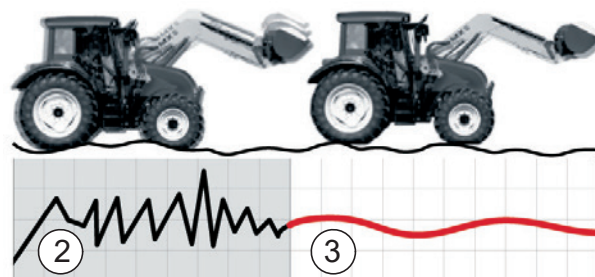
The PCH System keeps the pallet attachment level while the loader is lifting or lowering. This means that material loaded level on the ground will remain horizontal.



# 15. 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).



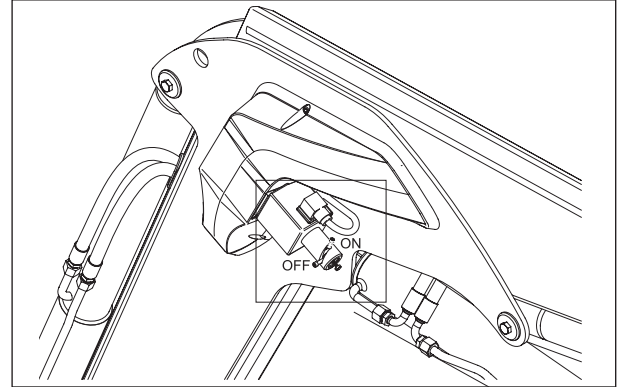
(2) Without SHOCK ELIMINATOR  
(3) With SHOCK ELIMINATOR

## 16. 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.

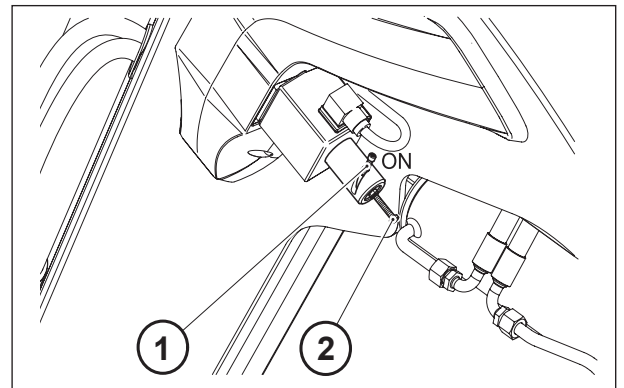
### 16.1 On/Off

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



### 16.2 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.



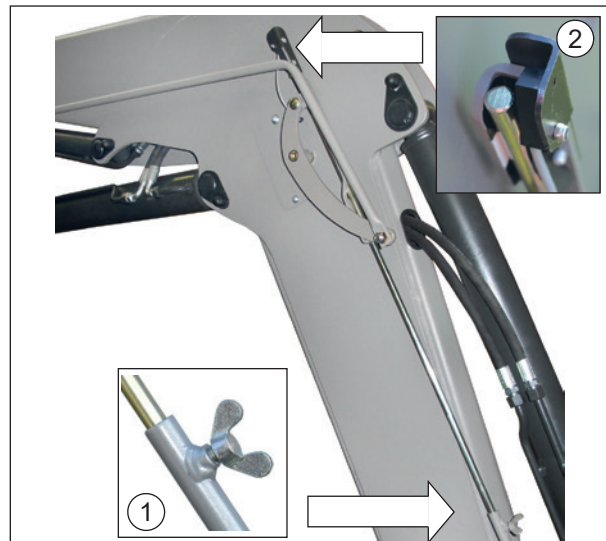
## 17. AUTO-LEVEL System

Automatic implement level reset, using the AUTO-LEVEL System (optional), is available for loaders controlled using the tractor's original control valve or by MX "Flexpilot" or "e-PILOT S" control valves.

### 17.1 Implement position adjustment

The implement position is adjusted at the indicator rod. See pictures opposite.

- Put the implement into the desired position.
- Lower the implement to the ground.
- Loosen the wingnut (1).
- Position the end of the rod in front of the sensor (2).
- Tighten the wingnut (1).



### 17.2 Automatic implement position reset

#### Flexpilot control:

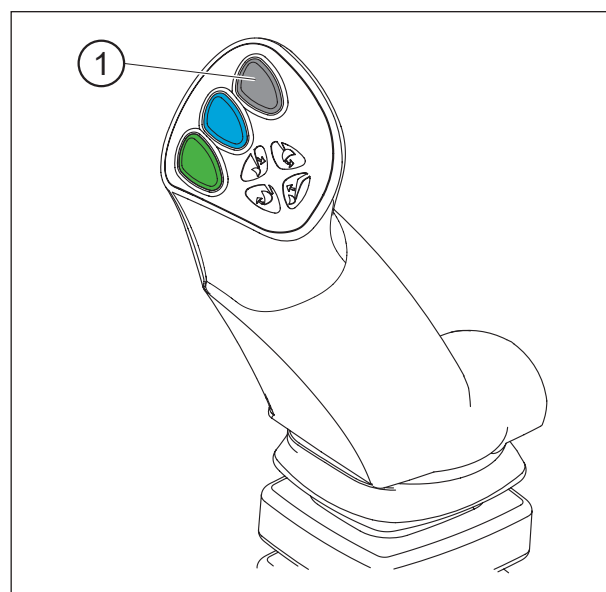
The AUTO-LEVEL System operates in the crowding direction.

- If the implement is dumped, press and hold the black button (1) on the loader monolever: the implement automatically stops at the pre-set position.
- Release the black button (1).

#### e-PILOT S control:

The AUTO-LEVEL System operates both ways.

- crowding and dumping. If the implement is dumped when the AUTO-LEVEL System is activated, the loader crowds. If the implement is crowded, the loader dumps.
- See manuals specific to e-PILOT S.





## 18. 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.

e-PILOT S control: see manual specific to e-PILOT S (function: AUTO-UNLOAD System).

**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.



## 19. Safety when lifting and dumping

In compliance with standard EN 12525 + A2 2010, it can be disengaged for working when no one is near 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.

### 19.1 Extract from the Front Loaders standard EN12525 + A2 2010:

#### "4.4.4 Protection against unintentional 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 rams must, in compliance with Annex E, be fitted with a safety device to prevent accidental lowering of the lifting arm. This device must remain active in the event of a failure of the control circuit's power supply.

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 switch on/off or activate/deactivate the safety device from the driving position;
- it must be possible to switch on or activate the safety device from the ground without being close to the load;
- the operating device to switch off or deactivate the safety device must be designed and located so that the operator cannot operate it unintentionally;
- the status (on/off or activated/deactivated) of the safety device must be clearly indicated and clearly visible from the driving position and from the loading area.

In compliance with 7.1.2, the correct operating method, along with appropriate warnings, must be explained 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 on the use of 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 of avoiding unintentional lowering

E.1 Terms and definitions

E.1.1

discharge device

hydraulic valve(s) used to simulate a break in the loader's hydraulic lines.

E.1.2

test load

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

### E.2 Test procedure

The test specified from E.2.1 to E.2.2 must be carried out according to 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 lifting the test load to a height of (1 ± 0.1) m (static test);  
and at hydraulic system oil temperatures of 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 The total downward movement of the load must be measured at the implement's pivot point

### E.3 Acceptance criterion

The total downward movement measured in E.2.2, during the first 10 seconds, must not exceed:

- 100 mm, if the safety device is switched off or manually deactivated;
- 300 mm, if the safety device is permanently activated.

After 5 min, additional downward movement must not exceed 100 mm. "

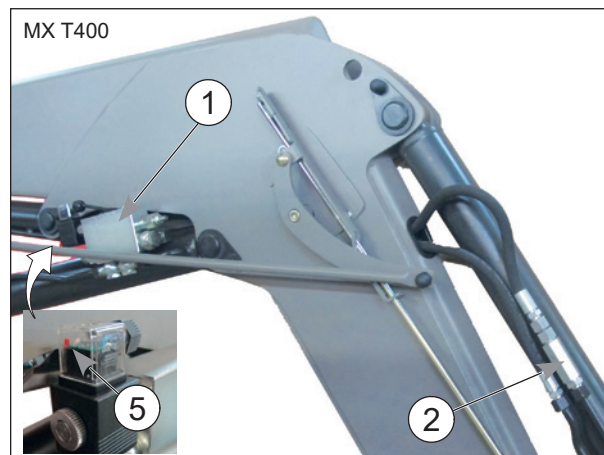
## 19.2 Use of the lifting and dumping safety device

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

### 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 in-cab button (3),
- the external button (4) ,
- the two lifting-ram solenoid valve connectors (5) .



Button function (3):

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

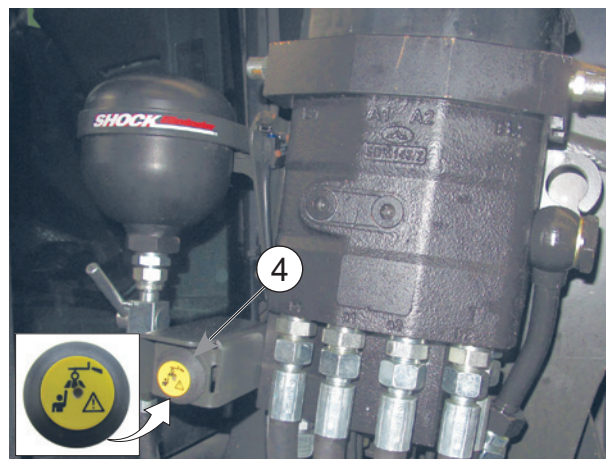
**NOTE:** As soon as the tractor is switched off, the safety device is automatically actuated.

**⚠ CAUTION:** Deactivation of the safety device is only permitted when there is no-one 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 reactivated (red indicator lights off).



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



## 20. Maintenance

**⚠ Drain the tractor's hydraulic circuit regularly and change the filters in accordance with the manufacturer's recommendation.**  
**Contaminated oil ceases to lubricate, causing wear to all the hydraulic components (pumps, control valves, rams). Even clear oil may be spent.**

Maintenance operations must be performed by **competent persons, authorised by the dealer**. If this is not the case, these operations shall come under the sole responsibility of the person carrying out the work.

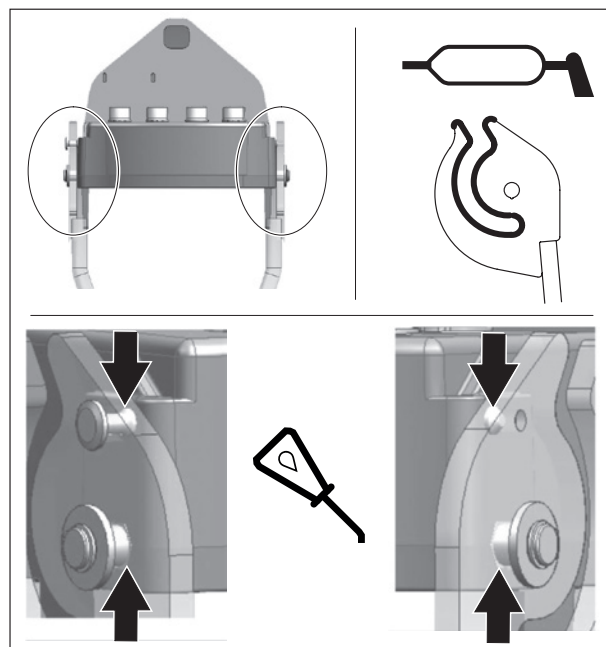
PPE (Personal Protective Equipment) must be worn during all maintenance operations (please refer to the "PPE table". See the "Safety Rules" chapter).

For loader maintenance operations, never work on mechanical parts under stress or on a pressurised circuit, hydraulic part, or electrical circuit that is switched on.

For tractor maintenance operations, it is strongly recommended to 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 lifted loader, the loader must be locked in position:  
Unlocking the MACH System, or closure of the lifting rams supply valve for a loader without MACH System. (See the "LOADER UNHITCHING" chapter).

Lubricate the MACH System locking system every 3 months.



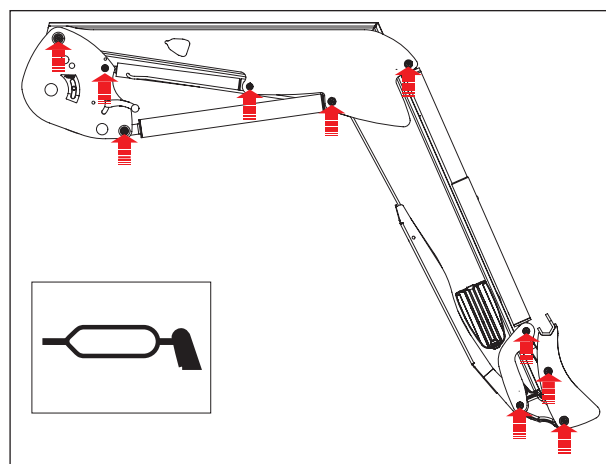
Lubricate every 10 hours and after each wash (**water drives grease out**), particularly after using a pressure washer.

See the lubrication points opposite.

Recommended type of grease for maintenance: NLGI 2

When using a pressure washer, do not direct the jet of water onto the electric components.

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



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

- The condition of the loader's pivot points. As required, replace wear bushes and/or the pins.
- The wear rings must be replaced if they are less than 1 mm thick.
- The tractor's hydraulic oil level and the sealing of the hydraulic system. If you find any internal or external leaks on hydraulic components (rams, pipes, connectors, Mach, couplings, etc.), contact your dealer.
- Condition of the hoses: replace them if any cracks or oil seepages appear.
- The correct operation of the monolever (cables, play, locking, etc.).
- The condition of the electric cabling. Contact your dealer if any connectors or cables are damaged.
- The mechanical condition (any cracks, distortion, end stop matting, play, parking stands, etc.)
- Contact your dealer if there is any abnormal wear.
- Disposal: please contact your dealer or a company specialising in materials recycling.
- Check the tightness of the bracket after 10 and 50 hours work, then every 100 hours or at each engine draining of the tractor. Contact your dealer if there is any loosening.

**IMPORTANT:** Any fasteners/screws needing to be retightened must be inspected, replaced if necessary, cleaned and reassembled using thread locking compound.

Tighten fasteners/screws in accordance with the tightening torque recommended in the table below. (Fasteners/screws used on the tractor must not be tightened using an air gun.)

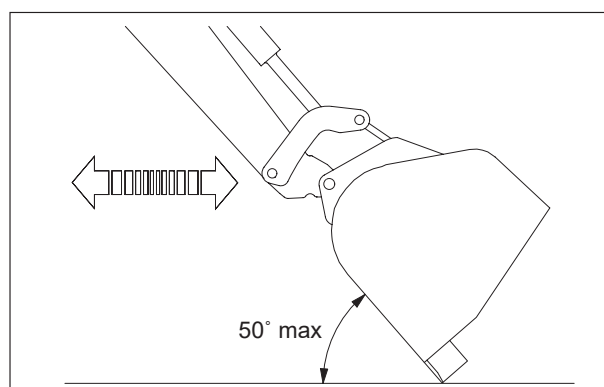
— Tightening torques (Nm)

Class of bolt	Dowel marking (ISO 898)	Thread											
		M 5	M 6	M 8	M 10	M 12	M 14	M 16	M 18	M 20	M 22	M 24	M 27
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

## 21. Directions for use

- Each implement has been designed for a specific use and has its own resistance limits.
- Land clearing and stump pulling are prohibited. This work must be done with specialized machinery and is not appropriate for the agricultural loader.
- Use the tractor's driving power to penetrate into the material to be moved rather than speed, which subjects the loader and tractor to high stresses.
- When the load to be moved is too big, do not force on the hydraulic components. The same applies when the rams are fully extended. Release the control valve levers.
- For ground levelling, work at slow speed with an implement-to-ground angle of 50° at most.

**NOTE:** Work flexibly and carefully.





## 22. Recycling MX products

### Hydraulic system

- At the end of their service life, MX products must be drained of hydraulic oil by an authorised service technician.
- The hydraulic hoses must be removed before the equipment can be recycled.
- All MX product owners are obliged 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 the containers or drums provided for this purpose and be sent to approved disposal facilities.
- For hydraulic hoses, the steel connectors can be separated from the rubber hoses.
- The steel end caps will be recycled as scrap by approved facilities.
- The rubber hoses will 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 will be removed and then disposed of via approved channels for recovery.



### Recycling of decontaminated MX products

- Decontaminated MX products will be sent to approved iron and metal recycling channels.

## 23. SAFETY LIFT RAM STOP ON LOADER

**!** 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.



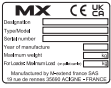
**!** Do not continue to lower once it is against the safety stop.

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



### 23.1 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.



**Compliance plate.**

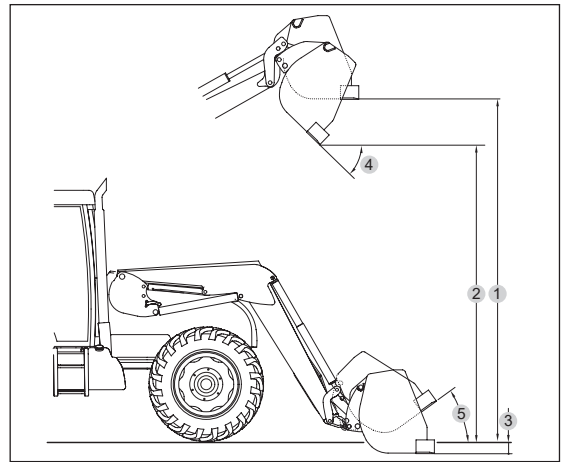
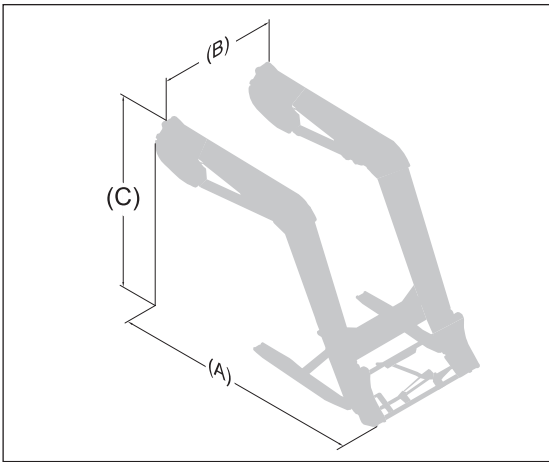


Do not exceed Rated Operating Load (ROL).



crush zone.

**24. Technical specifications**



	T406	T406+	T408	T408+	T410	T410+	T412	T412+	T414	T417/ T418
Length (A)	2.30 m	2.30 m	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	1.18 m	1.18 / 1.38 m
Height (C)	1.72 m	1.72 m	1.78 m	1.78 m	1.83 m	1.83 m	1.87 m	1.87 m	2.05 m	2.05 m
Min. weight (with no option)	460 kg	461 kg	480 kg	500 kg	535 kg	550 kg	550 kg	550 kg	630 kg	660 / 697 kg
Max. weight	590 kg	590 kg	632 kg	632 kg	680 kg	680 kg	707 kg	707 kg	821 kg	844 / 827 kg
<b>Max. height at implement pivot*</b>	<b>3.75 m</b>	<b>3.75 m</b>	<b>3.85 m</b>	<b>3.85 m</b>	<b>4.00 m</b>	<b>4.00 m</b>	<b>4.15 m</b>	<b>4.15 m</b>	<b>4.50 m</b>	<b>4.60 m</b>
Max. height under horizontal bucket (1) #	3.50 m	3.50 m	3.60 m	3.60 m	3.75 m	3.75 m	3.90 m	3.90 m	4.25 m	4.35 m
Max. height under dumped bucket (2) #	2.95 m	2.95 m	3.05 m	3.05 m	3.20 m	3.20 m	3.35 m	3.35 m	3.70 m	3.80 m
Digging depth (3) #	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m	0.20 m
Dumping angle at full height (4) #	52°	52°	55°	55°	55°	55°	55°	55°	50°	50°
Crowding angle (5) #	47°	47°	52°	52°	52°	52°	52°	52°	51°	51°
Lifting force at implement pivot*	1900 kg	2200 kg	2100 kg	2400 kg	2400 kg	2750 kg	2750 kg	3100 kg	2670 kg	3430 kg
Lift capacity at implement pivot over the entire lifting range*	1500 kg	1750 kg	1890 kg	2200 kg	2190 kg	2500 kg	2450 kg	2780 kg	2320 kg	3050 kg
Payload on pallet at 0.60 m out on forks										
On the ground	1450 kg	1690 kg	1850 kg	2010 kg	2080 kg	2420 kg	2410 kg	2610 kg	2360 kg	3040 kg
At 2 m above ground	1380 kg	1650 kg	1740 kg	2040 kg	2000 kg	2310 kg	2290 kg	2490 kg	2200 kg	2860 kg
At 3 m above ground	1350 kg	1620 kg	1650 kg	1950 kg	1980 kg	2270 kg	2230 kg	2430 kg	2150 kg	2700 kg
<b>At max. height</b>	<b>1350 kg</b>	<b>1620 kg</b>	<b>1630 kg</b>	<b>1930 kg</b>	<b>1960 kg</b>	<b>2250 kg</b>	<b>2200 kg</b>	<b>2400 kg</b>	<b>2150 kg</b>	<b>2650 kg</b>
Lifting time	3.9 sec	4.6 sec	4.6 sec	5.4 sec	5.4 sec	6.2 sec	6.2 sec	7.1 sec	6.4 sec	8.2 sec
Dumping time	0.7 sec	0.9 sec	1 sec	1 sec	1 sec	1.4 sec	1.4 sec	1.4 sec	1.4 sec	1.4 sec

**NOTE:** Specifications determined at 190 bar pressure and with a flow rate of 60 litres/min.

Data may vary depending on the type of tractor being equipped. \* Figures provided for a general purpose bucket.

Only payloads are counted. The figures at ground level and at the implement pivot axis are not to be used.

# 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** T406 or T408 or T408+ or T410 or T410+ or T412 or T412+ or T414 or T417 or T418 or TX420 or TX425 or TX430

or

**Front loader** U403 or U404 or U405 or U406 or U406+ or U407 or U408 or U408+ or U409 or U410 or U410+ or U412 or U412+ or U414

or

**Front loader** A104 or A106 or A110 or F303 or F304

or

**Front loader** C1 or C1s or C2u or C2 or C2+ or C3u or C3 or C3+ or C4 or C4+

or

**Loader implement** BMS or BRDS or BQU or BF + GF or CGU or TR 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** BD1202 or BD 1402 or BD 2002 or BD 2402 or BD 3102

or

**Manubal** L 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 R08 or R10 or R12 or R16 or R20 or R28 or R38 or R53

or

**Weight** M250 or M400 or MM600 or MM900 or MM1200 or MM1500 or MM400AD or MBX

or

**Multibumper**

serial number:

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

included in the list of serial numbers 49999 11 001 to 499999 24 365,

is in conformity with the Machinery Directive 2006/42/EC

(and satisfies standard NF EN 12525+A2 of May 2010).

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, 7 November 2022.

**F. Martin**  
**CEO**













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