

R12

USER MANUAL

en 364001 AI - 1026
Translation of the original manual

Dear user,

We would like to thank you for your trust and hope that you will be completely satisfied with your MX front linkage.

By taking a few minutes to read this manual, you will be able to obtain the best results from your MX front linkage, extend its lifespan and work in complete safety.

The front linkage user manual is an important document; please keep it, along with the assembly instructions provided by your dealer, so that you can refer to them if necessary. Provide it to any other users and hand it over it to any new owner should your MX front linkage be sold on.

The illustrations and technical data shown in this document might not exactly match your front linkage; operating requirements will nevertheless remain the same.

 **WARNING:** The front linkage should be handed over to the user by the dealer.

The demonstration of the equipment to be delivered should include:

— Safety rules.

— Full use of the control levers.

 **WARNING:** If either of these two requirements are not met, contact your dealer immediately.

The original French 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.

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.

CONTENTS

1. **Safety rules** **6**
1.1. Safety warning pictogram 7
1.2. PPE Table (Personal Protective Equipment) 7
1.3. Non-compliance with safety and use rules 7
2. **Conditions of use** **9**
2.1. Implement hitching 9
2.2. Front notch and use on the ground 9
3. **Safety stickers** **10**
4. **Identification plate** **11**
5. **Description** **12**
6. **Setting front linkage to the working position** **13**
7. **Hitching a front implement** **16**
8. **Unhitching a front implement** **18**
9. **Setting the front linkage to the transport position** **20**
10. **Options** **22**
10.1. Shock Eliminator System 22
10.2. Power take-off 23
10.3. Auxiliary hydraulic line 25
10.4. 3-function selector 26
11. **Control** **28**
11.1. Using the MX loader control valve 28
11.2. Operating the auxiliary hydraulic line (depending on configuration) 28
12. **Maintenance** **29**
12.1. Power take-off 30
12.2. Filter removal and assembly procedure 30
13. **Recycling MX products** **31**
14. **Technical specifications** **32**

1. Safety rules

CAUTION: Before using the front loader, ensure that the MX front linkage is hydraulically locked and that the linkage arms are folded away or removed. (See the chapter "Setting the front linkage to the transport position").

— PPE (Personal Protective Equipment) must be worn (see the chapter "PPE table").

— Seat belts must be worn by the driver and passengers.

— The tractor – front linkage unit must only be operated by trained and experienced personnel.

— When the tractor is fitted with a front linkage and front loader, the user is required to unhitch the loader before using the MX front linkage (see the loader user manual for the unhitching procedure).

— Only operate the front linkage from the cab or using the MX factory-supplied external control levers. Ensure you remain in full control until all movement has finished.

— The control levers for operating the front linkage must be of the "hold to operate" type with the exception of the floating position, which may be maintained using a notching system.

— Do not leave the seat before locking all the control movements.

— You must ensure that nobody is in the area of the front linkage/implement unit whilst it is in use.

— Carrying or lifting persons using the front linkage is forbidden.

— Before moving with a front implement fitted, check and ensure that the tractor-front implement unit is stable by fitting a counterweight at the rear of the tractor. This should ensure that 20% of the gross weight (tractor-front implement) remains on the tractor's back axle for optimum safety while travelling and working.

— The maximum front-axle load specified by the tractor manufacturer must not be exceeded.

— The front tyre maximum safe load specified by the manufacturer must not be exceeded.

— Check tyre pressure regularly.

— An implement hitched to the front linkage must be able to be raised throughout the full range of the linkage’s travel. Any excess load preventing this movement is strictly forbidden.

— Before any operation, the user must ensure that the front linkage is in proper working order and can be used safely.

— When driving on the road with a front implement, the front linkage must always be in a raised position; compliance with road traffic rules (size, implement markings, etc.) is mandatory

— When driving on the road without a front implement, the front linkage must be in the transport position (see chapter "Setting the front linkage to transport position")

— If the tractor is to be stopped, whether briefly or for a longer period, the engine must be switched off and the linkage lowered.

— The tractor must never be towed using an anchoring point on the front linkage.

— Periodically check that the safety pins and bolts are in place. Do not replace them with any other items, such as nails or wire.

— Any fault tracing (diagnostic) work and/or removal of parts may only be undertaken by a professional, who will start by ensuring that the work can be carried out safely for both themselves and their surroundings.

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 cab.
	Eye protection must be worn.	Splashes during high-pressure washing.
	Safety helmets must be worn.	Impacts to the head from the loader during tractor maintenance.
	Protective clothing must be worn.	Splashes during high-pressure washing.
	Safety footwear must be worn.	Crushing when positioning parking stands.

1.3. 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 MX loader assembly 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 void the MX warranty on all items supplied.

— Only use original 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 may not be held liable in any way.

— Warranty cover will cease immediately in the event of failure to observe the standards and instructions for MX loader use and maintenance as stipulated in the user manual. MX may not be held liable for any accident resulting from actions contrary to these restrictions.

2. Conditions of use

2.1. Implement hitching

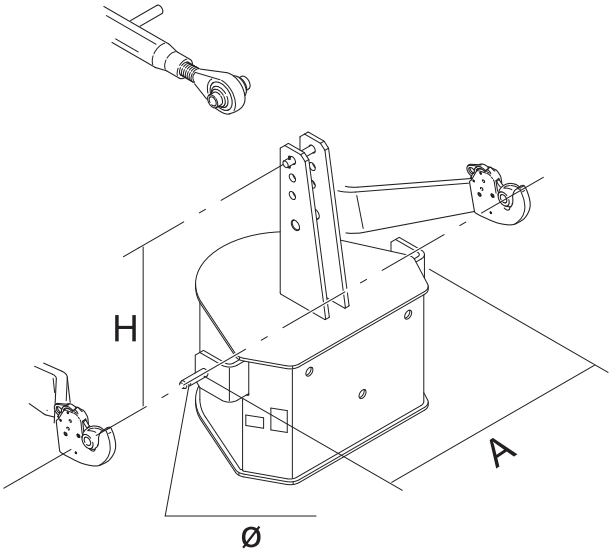
The front linkages are designed to receive implements which comply with the hitch dimensions specified in ISO 8759-1 for categories I and II.

The spacing between implement hitch points must be 683 mm for cat. 1 and 825 mm for cat. 2 (dimension A), with a 22 mm diameter hitch pin for cat. 1 and 28 mm for cat. 2.

The implement's vertical height must be between 460 and 610 mm (dimension H).

CAUTION: Hitching an implement with a dimension H under that specified above will overload the 3rd link bar, causing damage to it.

CAUTION: Hitching an implement with a dimension H over that specified above can cause damage to the front of the tractor (bonnet, guard, etc.) on lifting.



Cat. 1	Cat. 2
A = 683 mm	A = 825 mm
H = 460 - 610 mm	H = 460 - 610 mm
ø = 22 mm	ø = 28 mm

2.2. Front notch and use on the ground

The implement must be hitched as close as possible to the attachment points on the front linkage. The longitudinal overhang effectively generates considerable stress on the front linkage (leverage effect). The more compact the implement mounting, the less strain there will be on the equipment. Use of a compact implement also improves lifting performance.

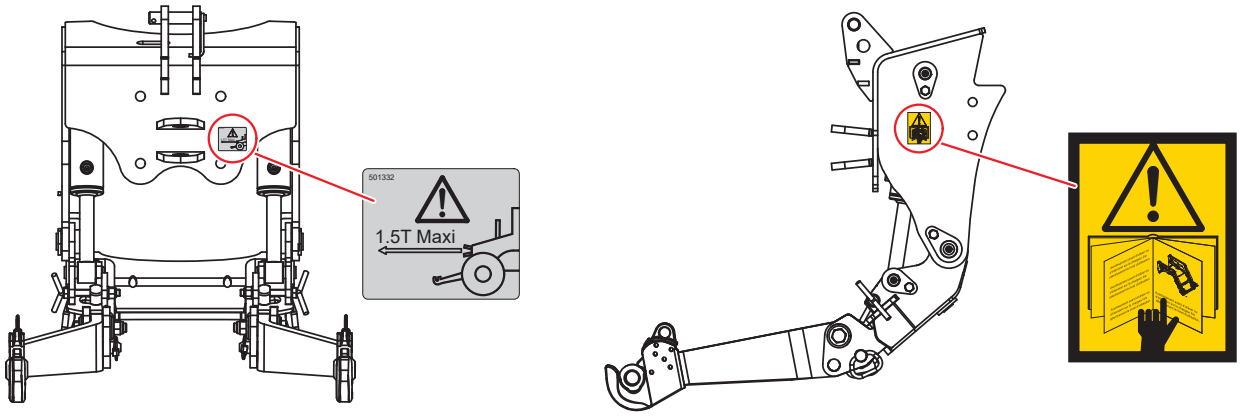
For pushing work (such as soil decompaction or dozer blade implements), it is strongly recommended that a push bar be fitted to reinforce the tractor from the front linkage to the rear trumpet housings.

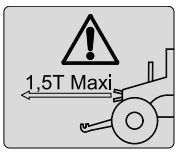
CAUTION: The conditions of use for implement hitching and use on the ground must be strictly complied with. Any deviation from the conditions may cause serious damage for which MX may not be held liable.

3. Safety stickers

A safety sticker is affixed to the front linkage. Ensure that this sticker remains clean and legible; replace it if damaged.

When changing a sticker, clean the surface used for the sticker with isopropyl alcohol and affix the sticker using a special tool.

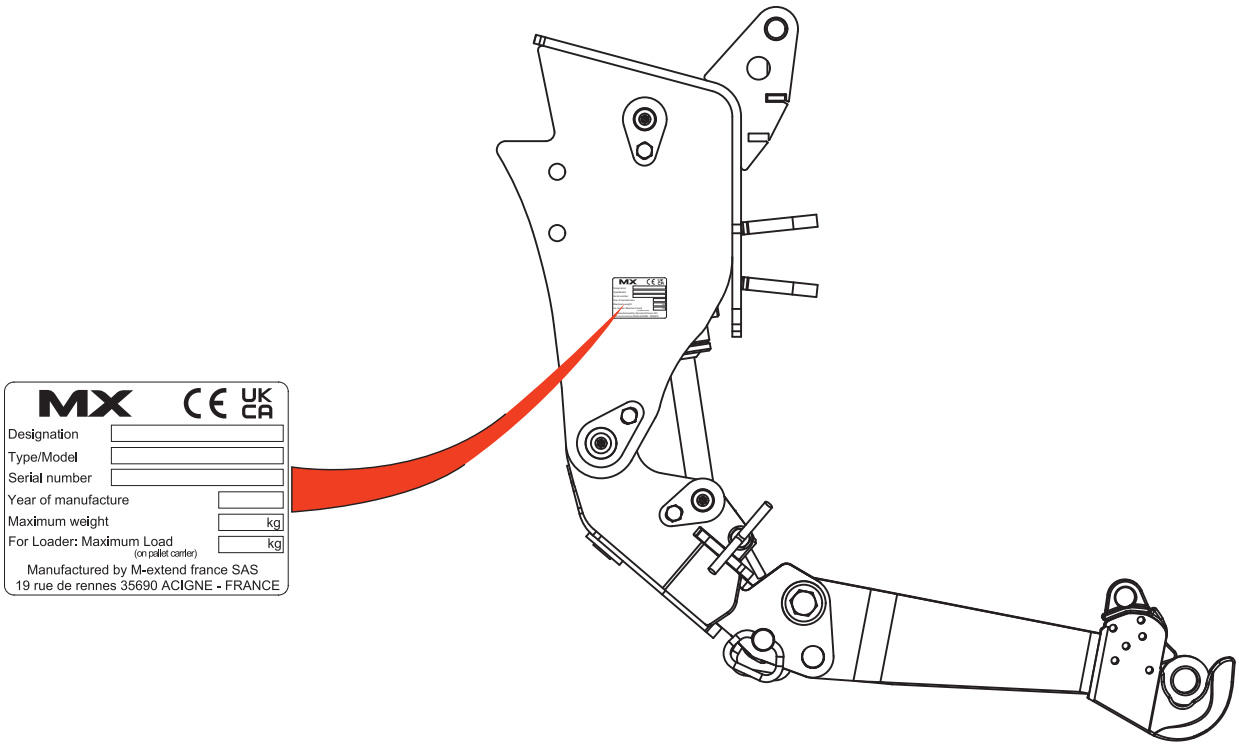


Symbol	Meaning
	Read the safety rules in the user manual before using the product.
	Maximum tensile stress indication 1.5T.

4. Identification plate

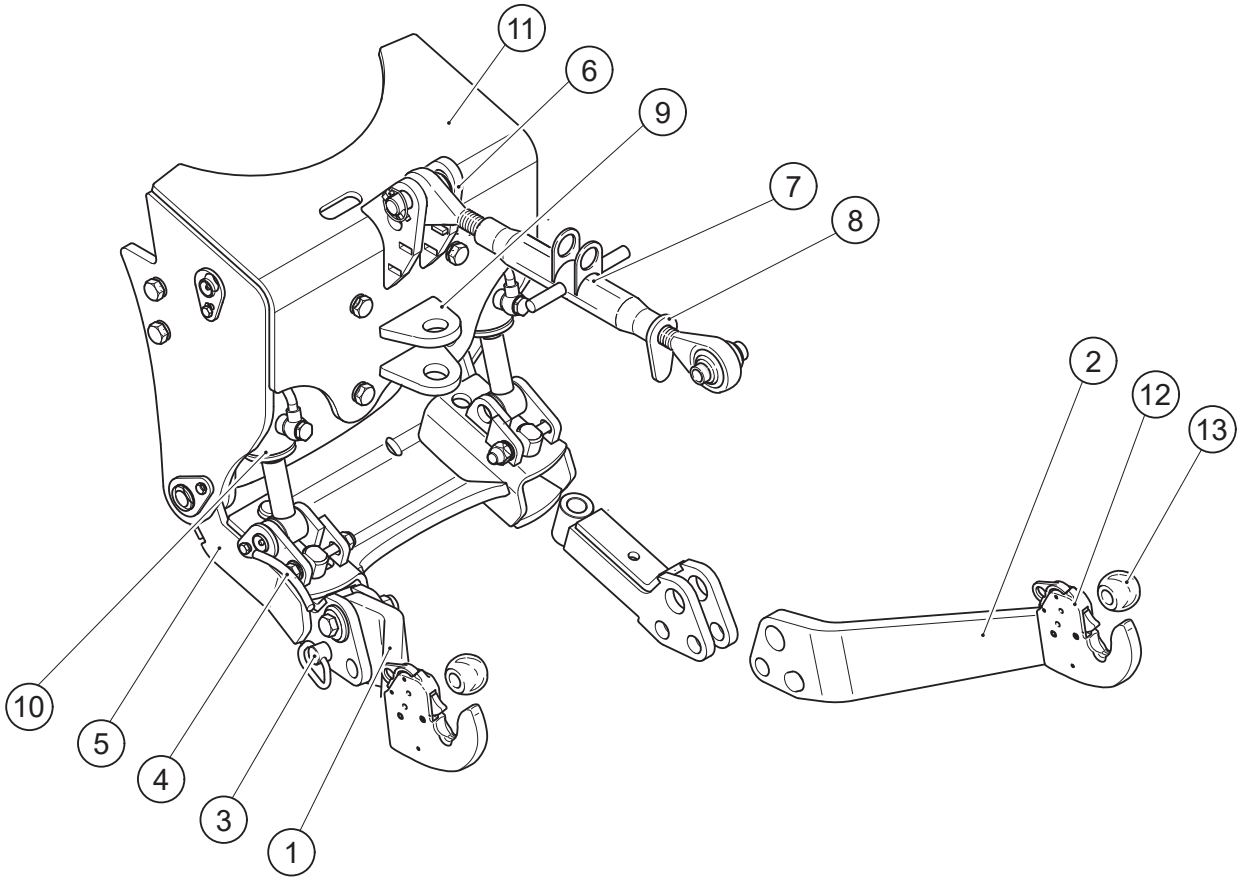
The identification plate is located on the right-hand side of the front linkage frame.

The serial number and front linkage model shown on this plate must be quoted in any request for information, spare parts or technical support.



5. Description

MX R12



Marking	Description
(1)	Right arm
(2)	Left arm
(3)	Pin
(4)	Control handle
(5)	Linkage frame
(6)	3rd link yoke
(7)	3rd link bar
(8)	Lever locknut
(9)	Towing clevis (use a 30 mm diameter pin)
(10)	Ram
(11)	Frame
(12)	Hitching hook
(13)	Coupling ball

6. Setting front linkage to the working position

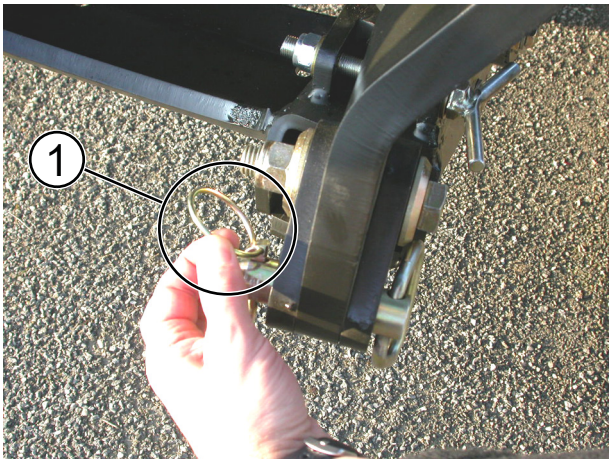
CAUTION: This operation must be carried out by the driver who must leave the cab and ensure all controls are locked out while they are working on the front linkage.

— Select a level and solid location

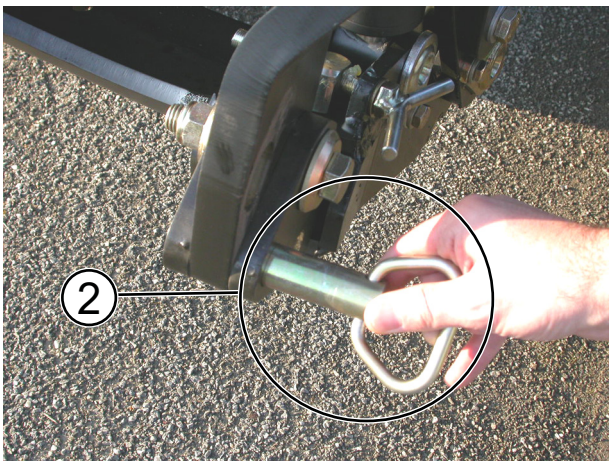
Note: The tractor engine must be switched off and the hand brake applied.



— Leave the tractor and remove the locking pin (1) from the arm.



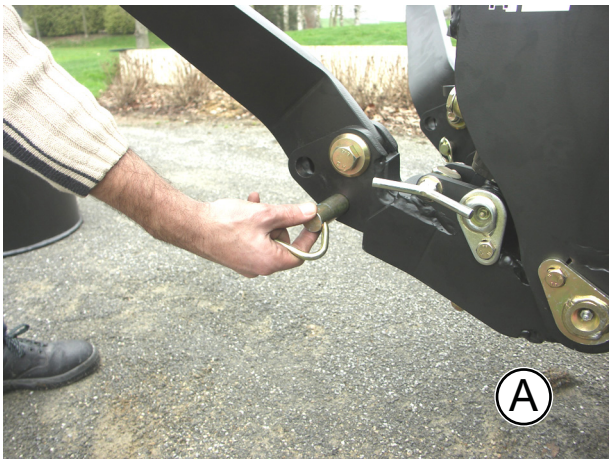
— Hold the arm and remove the pin (2).

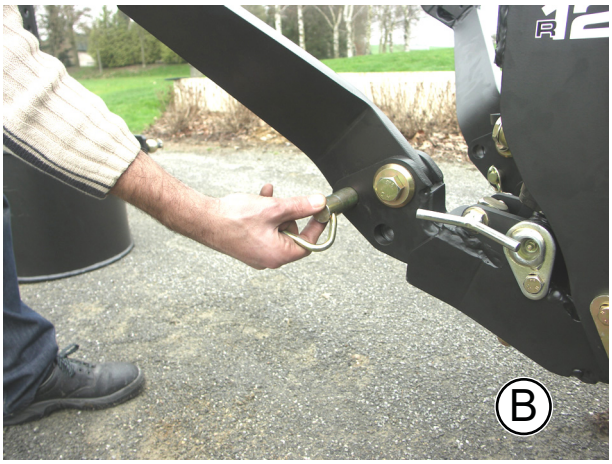


— Pivot the arm forward until it is in the required position.

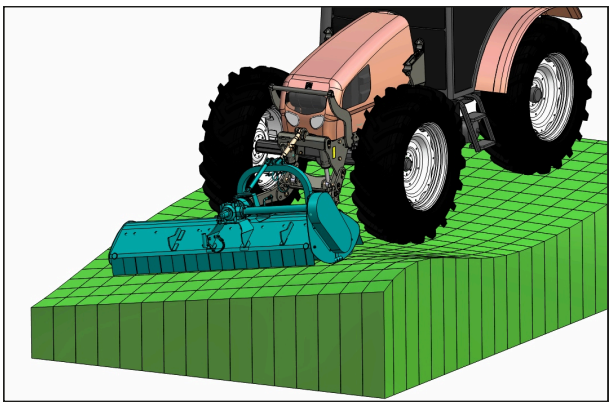
Position A: fixed position.

Position B: floating position.





— Floating position. The implement follows the ground's contours.

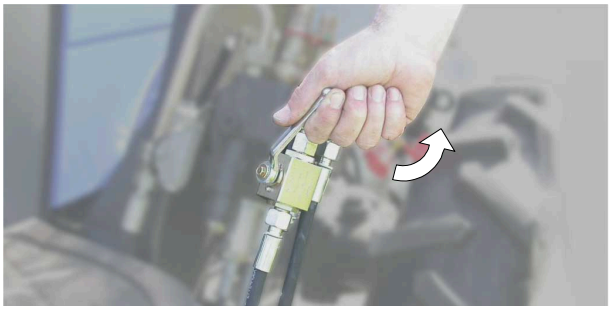


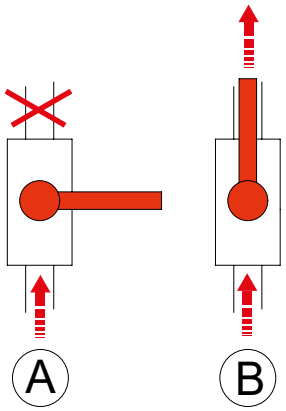
— Refit the pin and lock it with the locking pin.



— Repeat these steps for the other arm.

— Open the stop valve.



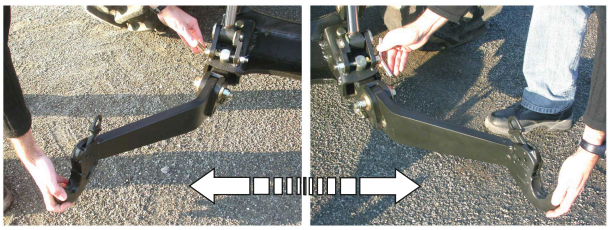


(A): Closed (B): Open

7. Hitching a front implement

CAUTION: This operation must be carried out by the driver who must leave the cab and ensure all controls are locked out while they are working on the front linkage.

The linkage is in working position.

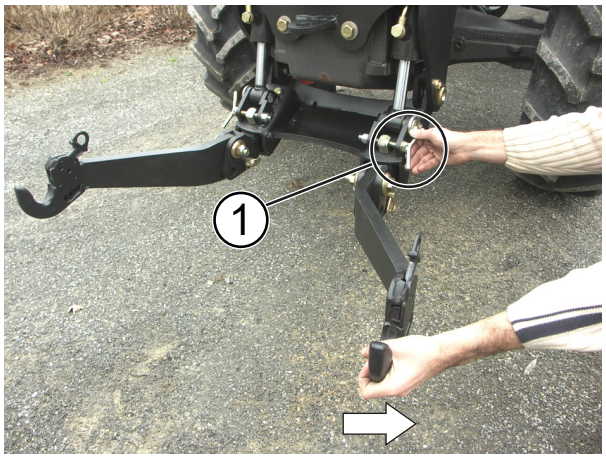


— Set the spacing of the linkage arms to match the implement being hitched.

— Turn the adjustment handle (1) located at the base of the arm clockwise to increase spacing.

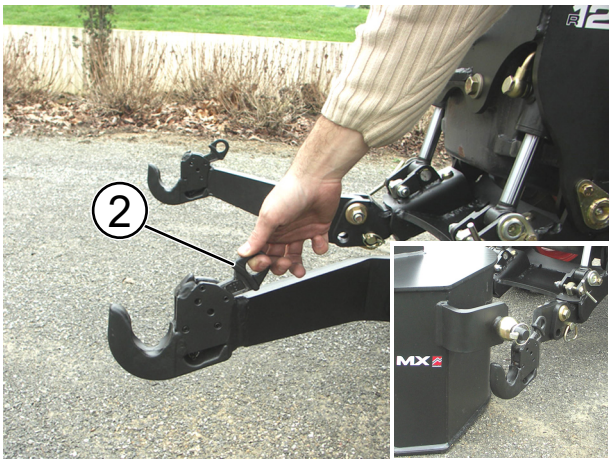
— Repeat the procedure for the other arm.

— Ensure that both arms are set identically, in order to have the implement centred on the tractor.

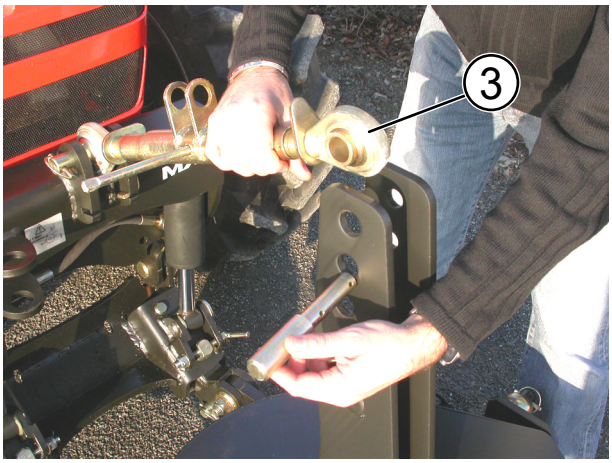


— Open the lock catches on the hitching hooks (2) and hitch the implement.

Note: Check that the implement is fitted with suitable coupling balls secured with locking pins.

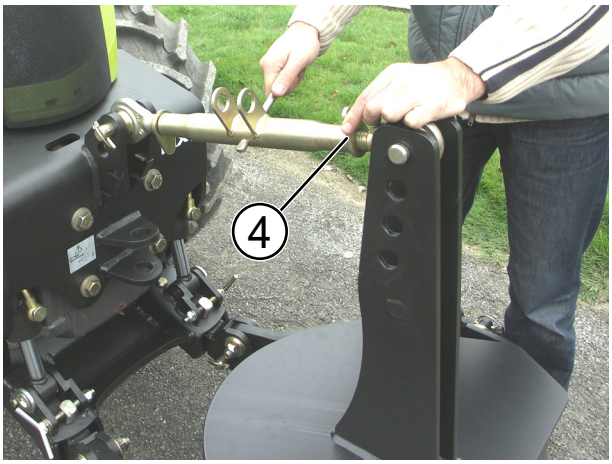


— Hitch the 3rd link bar (3) to the front implement bracket.



— Set the length of the 3rd link bar to obtain the required linkage for the front implement.

— Use the lever locknut (4) to lock the bar in position.



CAUTION:
Controls which must be carried out before use:

— Carry out a lifting test, checking that the tractor and front implement interact correctly. Pay special attention to the space between the 3rd link bar and the tractor bonnet.

— Check that all pins and clips are fitted and secured correctly.

— Check the locking position of the hitching hooks (the catches must be retracted correctly).

8. Unhitching a front implement

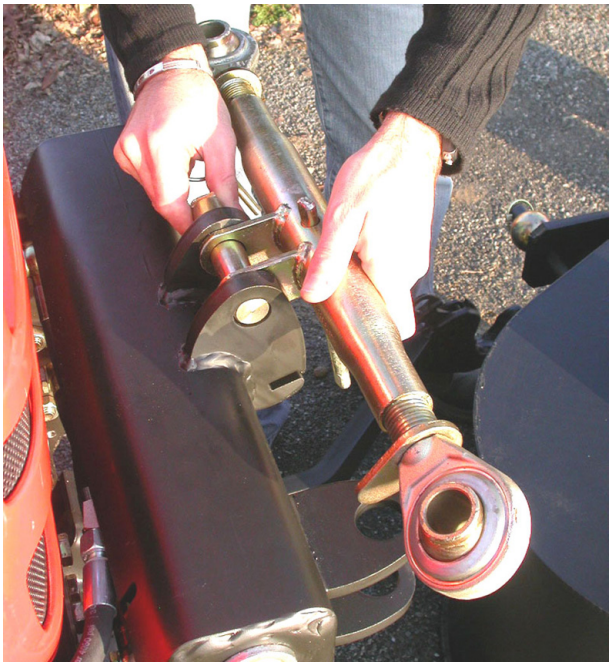
CAUTION: This operation must be carried out by the driver who must leave the cab and ensure all controls are locked out while they are working on the front linkage.

— Place the front implement on level and solid ground. Operate the tractor's handbrake.

— Release the 3rd link bar from the front implement bracket.



— Reposition the 3rd link bar onto the front linkage frame.



— Unlock the hitching hooks and lower the linkage arms to release the implement.



9. Setting the front linkage to the transport position

CAUTION: This operation must be carried out by the driver who must leave the cab and ensure all controls are locked out while they are working on the front linkage.

— Select a solid location.

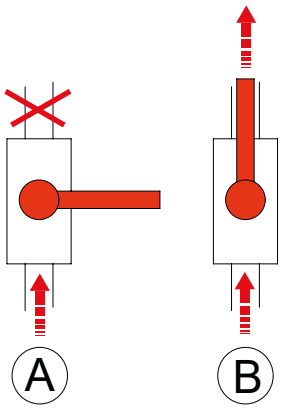
— Raise the front linkage arms.

— Switch off the tractor engine and apply the hand brake.



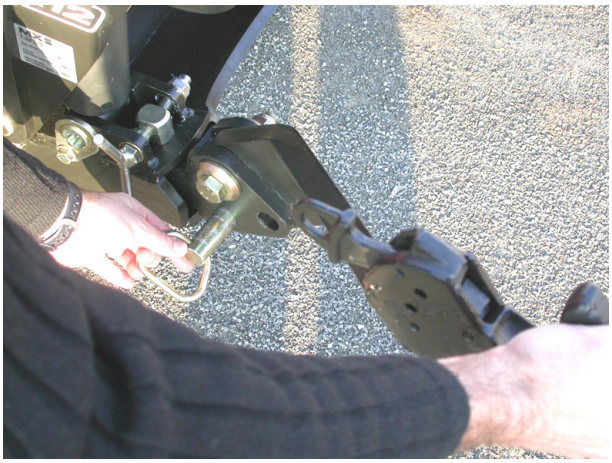
— Close the stop valve.





(A): Closed (B): Open

— Remove the locking pin and the pin while holding the arm.



— Pivot the arm rearwards and refit the pin and locking pin.

— Repeat these steps for the other arm.



10. Options

10.1. Shock Eliminator System

The shock absorber function requires that:

— For the Shock Eliminator to be effective, the minimum load must be equal to 20% of the linkage's maximum capacity.

— The linkage must never be in the fully raised position. For optimum shock absorption, the linkage should be lowered slightly from the fully raised position.

NOTE: The heavier the load, the shorter the shock absorbing stroke.

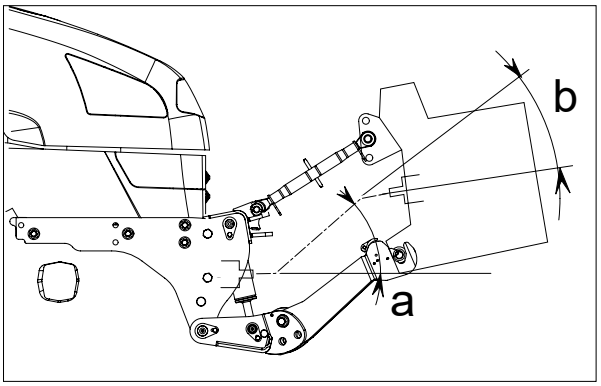
NOTE: Shock Eliminator depending on configuration.



10.2. Power take-off

10.2.1. Power take-off safety rules and recommendations

CAUTION: This operation must be carried out by the driver who must leave the cab and ensure all controls are locked out while they are working on the front linkage.



— Never start the engine with the power take-off engaged.

— Before hitching the implement, check that the implement's direction of rotation is compatible with the front power take-off.

— Check whether the speed and power of the implement is adapted to the power take-off. Otherwise, the implement must not be hitched and connected.

CAUTION: Do not use high-inertia implements without a PTO overrunning clutch.

— Check the length of the transmission shaft between the implement and the front power take-off and adapt it accordingly.

— The transmission shaft's universal joint must be fitted with a suitable guard (complying with ISO 5673-1).

— Never lift or lower the front linkage with the power take-off under load.

— Check angles a and b of the implement and power take-off universal joints. Adjust the 3rd link bar to make these angles approximately equal in terms of working position. The limit values for angles a and b depend on the type of universal joint used (see the universal joint manufacturer’s user manual).

— Any implement maintenance must be carried out with the engine off, the implement completely at rest and hydraulically locked.

— Each time the power take-off is used, grease the sliding section of the shaft and the universal joint spiders beforehand.

— Never modify the electrical connections.

— Observe the maintenance instructions (see chapter "Maintenance").

— The safety instructions in this manual do not replace safety regulations, insurance requirements or national and local laws. Ensure your machine is fitted with the correct equipment as required by law and local regulations.

NOTE: Front power take-off depending on configuration.

10.2.2. Front power take-off (front-mounted)

CAUTION: This operation must be carried out by the driver who must leave the cab and ensure all controls are locked out while they are working on the front linkage.

— Hitch the implement (see chapter "Hitching a front implement").

— Connect the transmission shaft to the front power take-off.

CAUTION: The tractor engine must be turned off.

— Restart the tractor and engage the front power take-off using the switch located in the cab.

CAUTION: Engine speed must be below 1,200 rpm when engaging the power take-off.

— Increase engine speed to 2,100 rpm in order to reach the rotation speed required by the implement (i.e. 1,000 rpm).

— After using the power take-off, deactivate it using the same switch in the cab.

WARNING: Controls which must be carried out before use: Check that the tractor/ implement/transmission shaft are properly connected along the full lifting stroke before engaging the power take-off.





(1): Power take-off switch

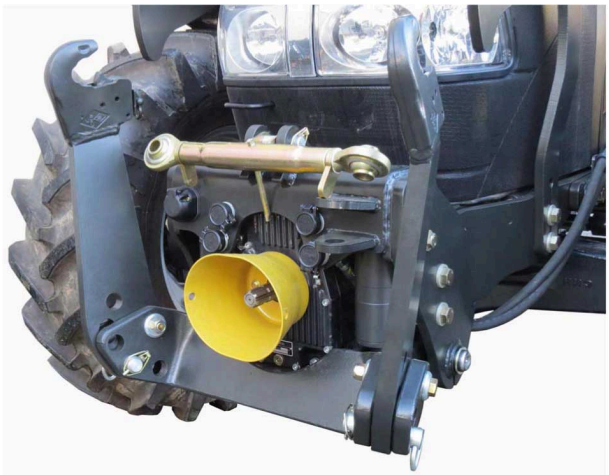
10.3. Auxiliary hydraulic line

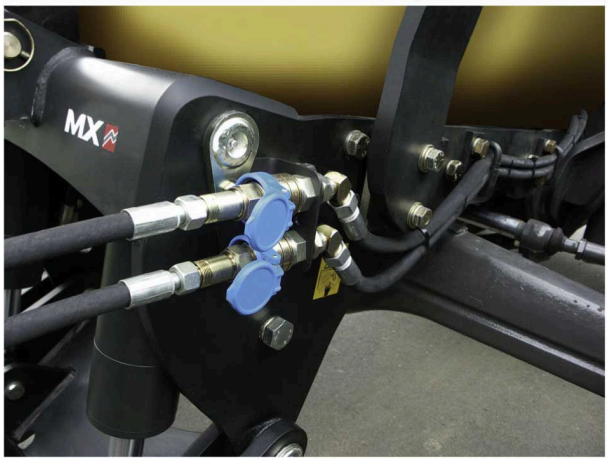
Enables supply to a hydraulic unit in front of the linkage.

— Connect the implement's hydraulic hoses to the 1/2" female couplings. To facilitate connection, decompress the hydraulic circuit.

— Operate the hydraulic line using the tractor’s control valve or the MX control valve. (See chapter "Control").

NOTE: Auxiliary hydraulic line depending on configuration.





10.4. 3-function selector

CAUTION:

— The levers must always be fully engaged.

— - Switching from "Single Acting" to "Double Acting" operation (and vice versa) must not be carried out without first decompressing hydraulic circuit.

This selector, generally located behind the cab, allows the MX front linkage operating mode to be selected with a single movement, to suit your requirements.

There are three operating modes:

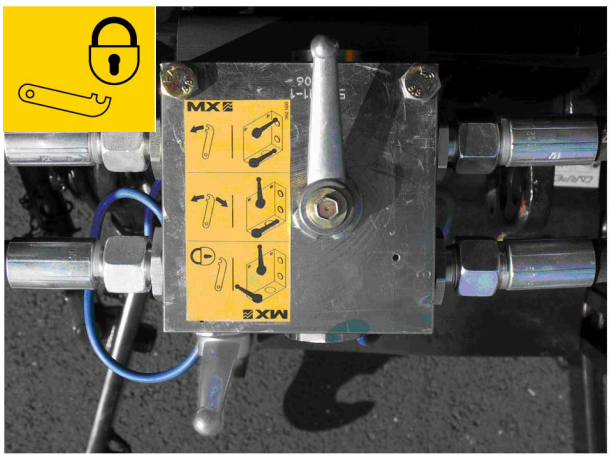
10.4.1. "Locking" operation

Use: This mode is used when the MX front linkage is not being used or for prolonged movement with an implement or weight attached (safety in transit).

It also frees up the couplings at the rear of the tractor for another powered implement.

Description: The MX front linkage hydraulic circuit is locked out. The linkage arms can no longer be raised or lowered.

Do the following: Turn the levers as shown in the photo opposite.

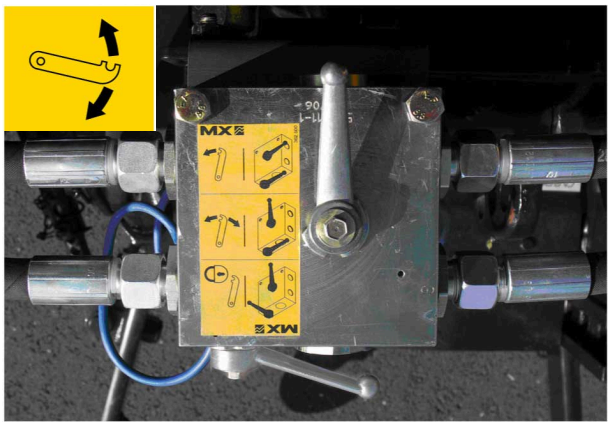


10.4.2. "Double Acting" operation

Use: This mode is used mainly when hitching an implement (lowering the linkage arms) and for groundwork (e.g. with a front tamper or a dozer blade).

Description: The rams on the MX front linkage are pressurised on both lifting and lowering.

Do the following: Turn the levers as shown in the photo opposite.

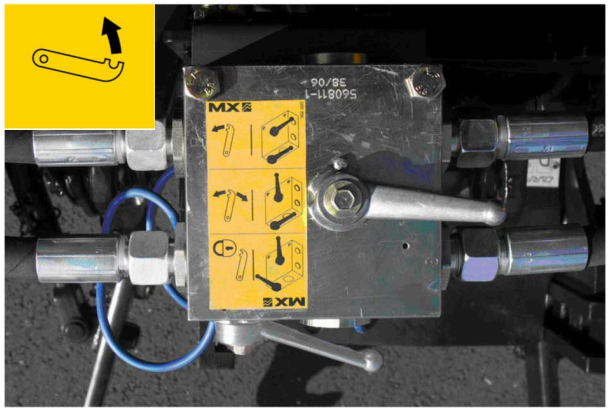


10.4.3. "Single Acting" operation

Use: This mode is used primarily with a front-mounted mower or with an implement fitted with depth wheels.

Description: The MX front linkage rams are pressurised during lifting, but lowering occurs naturally (unpressurised), owing to the implement's weight. This absence of pressure during lowering ensures the implement rests unforced on the ground. This protects the implement.

Do the following: Turn the levers as shown in the photo opposite.



11. Control

Using the factory-fitted control valve on the tractor. See the tractor's user manual.

11.1. Using the MX loader control valve

— To move the MX linkage up or down, move the monolever forwards or backwards.



11.2. Operating the auxiliary hydraulic line (depending on configuration)

— Move the MX monolever handle to the left or right.

Note: To operate a second auxiliary hydraulic line, press and hold the green button on the monolever handle and move it to the left or right.



12. Maintenance

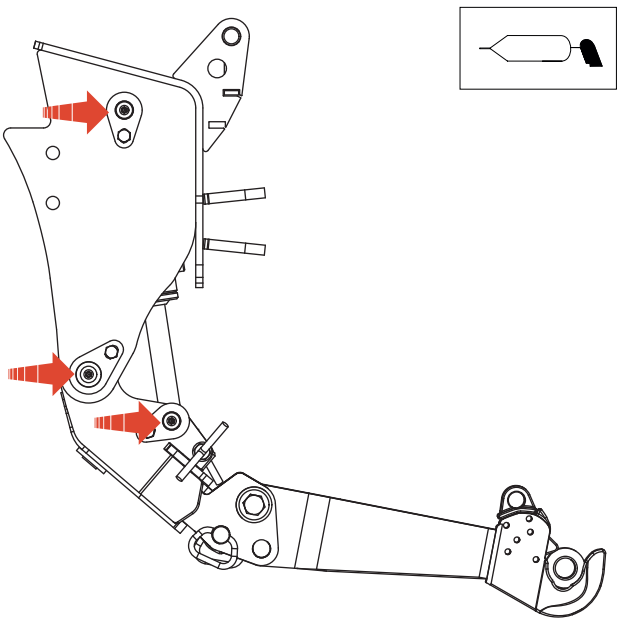
WARNING: Drain the tractor's hydraulic circuit regularly and change the filters in accordance with the manufacturer's recommendation.

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.

Check screws for tightness after 10 and 50 hours of operation, and every 100 hours thereafter, respecting the recommended tightening torque.

Before and after each use, check for any hydraulic leaks and ensure that all pins and locking pins are in place.

The frame and rams are fitted with wear bushes. If there is excessive play (+/-2mm), replace them with new original MX bushes.



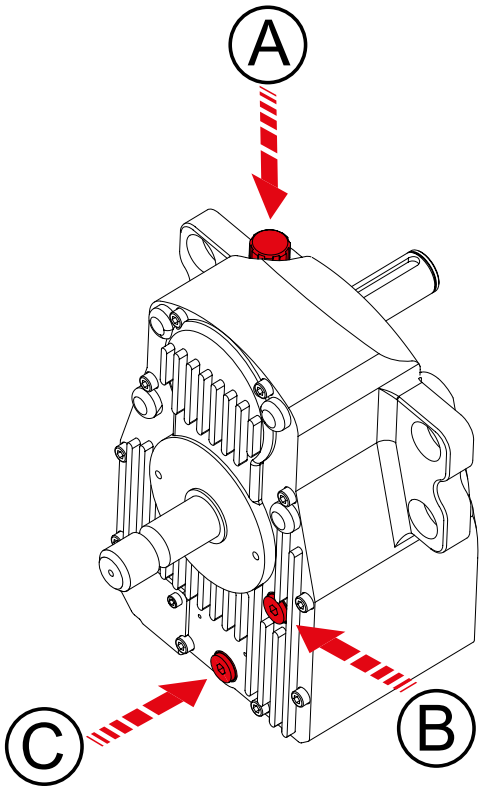
12.1. Power take-off

After the first 50 hours and then every 500 tractor operating hours (or once a year):

— Drain the oil and replace the filter with a new original MX one (see filter removal procedure below).

— Next, refill the housing with oil up to the level shown opposite. We recommend 10W30 or 10W40 STOU (Super Tractor Oil Universal) or equivalent.

Note: Check power take-off housing oil level regularly and top up as required.



A: Filler plug

B: Oil level

C: Drain plug

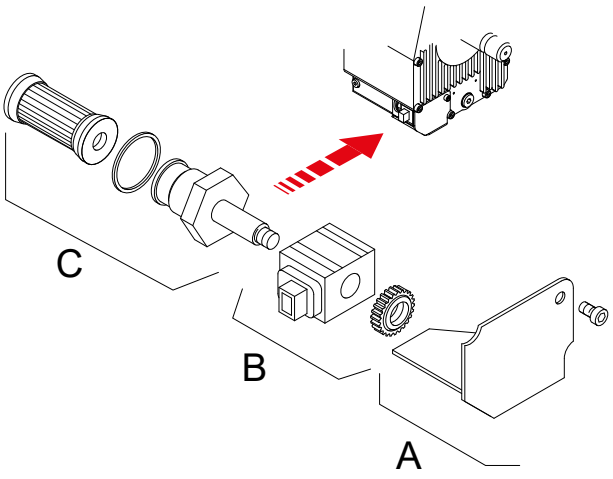
12.2. Filter removal and assembly procedure

Removing the filter:

— Remove the casing using the CHC screw (A).

— Remove the coil by unscrewing the milled washer (B).

— Unscrew the core and change the filter (C).



Reassembling the filter:

— After changing the filter, screw in the core (C).

— Refit the coil by screwing in the milled washer (B).

— Secure the casing using the CHC screw (A).

13. 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.

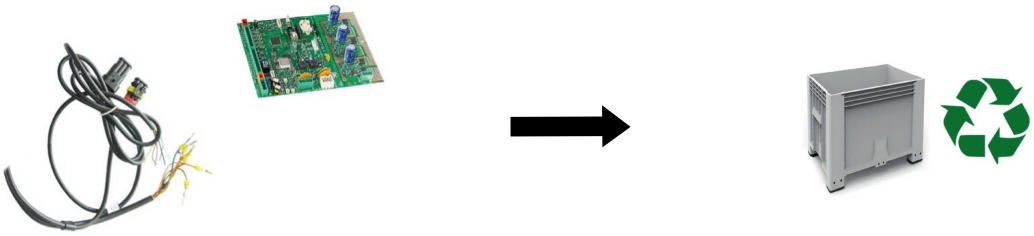
— The steel end caps must be recycled as scrap by approved facilities.

— 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

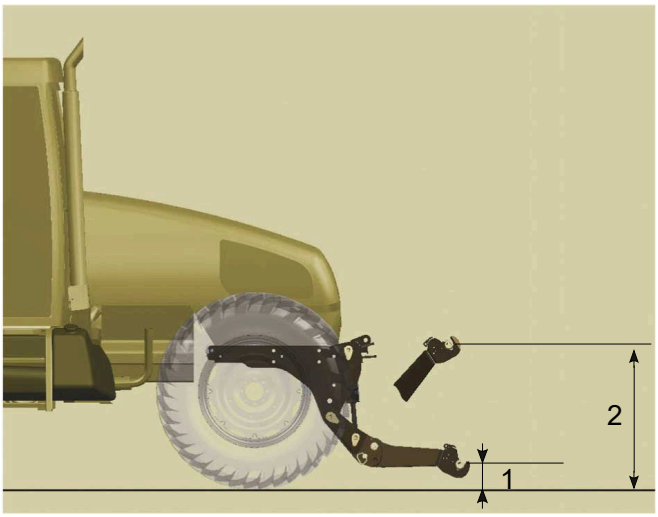
— Waste electrical and electronic equipment (WEEE) present in MX products must be removed and disposed of by authorised services for recovery.



Recycling of decontaminated MX products

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

14. Technical specifications



	R12
Specifications	
Front linkage category	Cat. 1 to 2
Lifting capacity at the ends of the linkage arms*	1,200 kg
Lifting capacity with the implement's centre of gravity positioned 610 mm forward of the coupling balls	950 kg
Theoretical arm spacing (inside the arms)	665 to 895 mm
Height of linkage arms from the ground*	
in low position (1)	< 200 mm
in high position (2)	> 750 mm
Hitching hooks	Auto. Cat. 2/1
Coupling balls	Cat. 2
3rd link bar/length	Cat. 2 / 460 to 680 mm
Power take-off (PTO)**	
Max. PTO power	150 hp
PTO output speed	1,000 rpm
Output shaft profile (DIN 9611)	1" 3/8 - 6 splines

* Average figures. They may vary in line with tractor specifications.

** Option available subject to tractor - front linkage compatibility.

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 WBC 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 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 2026.

B.Gauchenot
CEO

part of **M-extend**

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

www.m-x.eu

© MX, part of M-extend