



RAISE YOUR EXPECTATIONS

FRONT LINKAGE

MX R12

User manual

**Please read carefully before using MX
front linkage**

Dear users,

Thanks you for confidence in our product. We are sure it will give you full satisfaction.

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 a very important document, please keep it with you in order to be able to use it if required. Leave it available to any other user and give it to the next owner of this front linkage.

Pictures and technical information included in this document may not correspond precisely to your front linkage; but the working conditions will be the same.

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* According to equipment



The operator must read this manual before using the product for the first time.



Familiarise yourself with:

- Safety and operating regulations.
- Hitching and unhitching of the implement.
- Full use of the controls.

1. SAFETY REGULATIONS

- The tractor/loader/linkage assembly must only be driven by someone who is trained and experienced.
- When the tractor is fitted with a front linkage and loader, the user has to unhitch the loader before to using the MX front linkage (please see the loader instruction book for the unhitching procedure).
- CAUTION: before using of the front loader, please check the front linkage is locked (with the hydraulic tap), and the arms are folded or removed (see chapter "folded arms position").
- Control the front linkage only from the driver's seat, or from the external remote control supplied by MX. Do not let go of the controls until the movements are complete.
- The controls for operating the front linkage must be of the "continued action" type with the exception of the lift floating position which can be maintained in its position by a notching system.
- Do not leave the seat before locking the controls to prevent any movement.
- It is compulsory to ensure that nobody is in the area while the front linkage and tractor are in use.
- The transport or elevation of persons using the front linkage is forbidden..
- Before moving with a front implement fitted, check and ensure that the tractor-front implement assembly is stable by fitting a counter weight at the rear of the tractor. This should provide 20% of the gross weight (tractor-front implement) on the rear axle of the tractor for driving and working in the best safety conditions..
- The maximum front axle safe load provided by the tractor's manufacturer must not be exceeded.
- The front tyres maximum safe load provided by the tyres's manufacturer must not be exceeded.
- Check regularly tyres pressure.
- An implement hitched to the front linkage must be able to be lifted through the full range of linkage's movement. Any excess load preventing this movement is strictly forbidden.
- Before moving, the user must ensure that the front linkage is in good working order and can be used safely.
- Whendrivingontheroadwithafrontimplement,thefrontlinkagemustalwaysbeinaraisedpositionandtheroadregulationsmust be respected (dimensions, signalling on implement, etc.).
- When driving on the road without a front implement, the front linkage must be set to the transport position (see section "Setting the front linkage to transport position").
- Whenever the tractor is stopped for a short or long time, the engine must be switched off and the linkage lowered.
- The tractor must never be towed from an anchoring point on the front linkage.
- Regularly check the presence of safety pins and bolts. Do not replace with any other object such as nails, wire, etc.
- Any activity relating to defect investigation (diagnosis) and /or disassembly of parts may only be undertaken by an accredited professional who shall assure his safety and the protection of the environment in which the activity is conducted.



Caution!

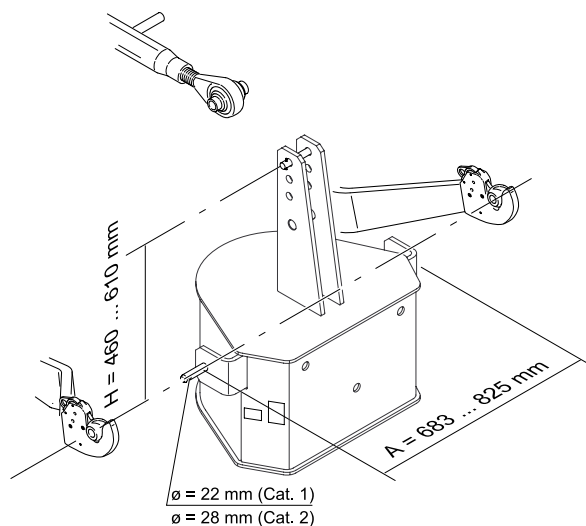
- MX products are designed to be used at the maximum hydraulic pressure indicated by the manufacturer for the features of the tractor. Pressure exceeding this value results in additional restrictions and therefore invalidates the guarantee offered on equipment supplied by MX."Never modify the hose connections.
- Never modify the hose connections.
- The assembly of an MX front linkage which excludes the recommendations in the MX price list in force at the purchase date, cancels the MX guarantee on all the equipment supplied.
- Any modification to a section of any MX equipment (rams, arms, pivot frame, etc.) or the use of an implement or element installed on the MX front linkage from foreign origin, cancels the MX guarantee for all equipment supplied.
- Use only MX original spare parts. Do not modify your MX Front linkage yourself or have another person modify them, without prior written agreement from MX. Failure to respect these regulations may make the Front linkage dangerous. MX will disclaim all responsibility in the event of damage or injury.
- The guarantee is immediately invalid when the instructions for use, and the MX Front linkage maintenance schedule outlined in the "User Manual" are not observed.

2. USAGE REGULATION

The front linkage is designed for implements which comply with the hitching dimensions defined in standard ISO 8759-1 for category I and II.

Implement hitch points are to be spaced at between 683 and 825 mm (dimension A) with a 22 mm diameter linkage pin for cat. I and 28 mm for cat. II.

The vertical height between the top and bottom hitch points on the implement is to be between 460 and 610 mm (dimension H).



Hitching an implement on which dimension 'H' is less than that shown places excess strain on the top link and may damage it.
Hitching an implement with a dimension greater than H can damage the front of the tractor (bonnet, front guard, etc.) during the lifting operation.

2.1 Implement/link point distance and ground work.

The hitched implement must be fixed as close as possible to the hook-up points on the front linkage. In actual fact, the greater the front overhang, the higher the stresses on the front linkage (leverage). The more compact the implement fixing, the less strain there is on the equipment. Use of a compact implement also improves the lifting performances.

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

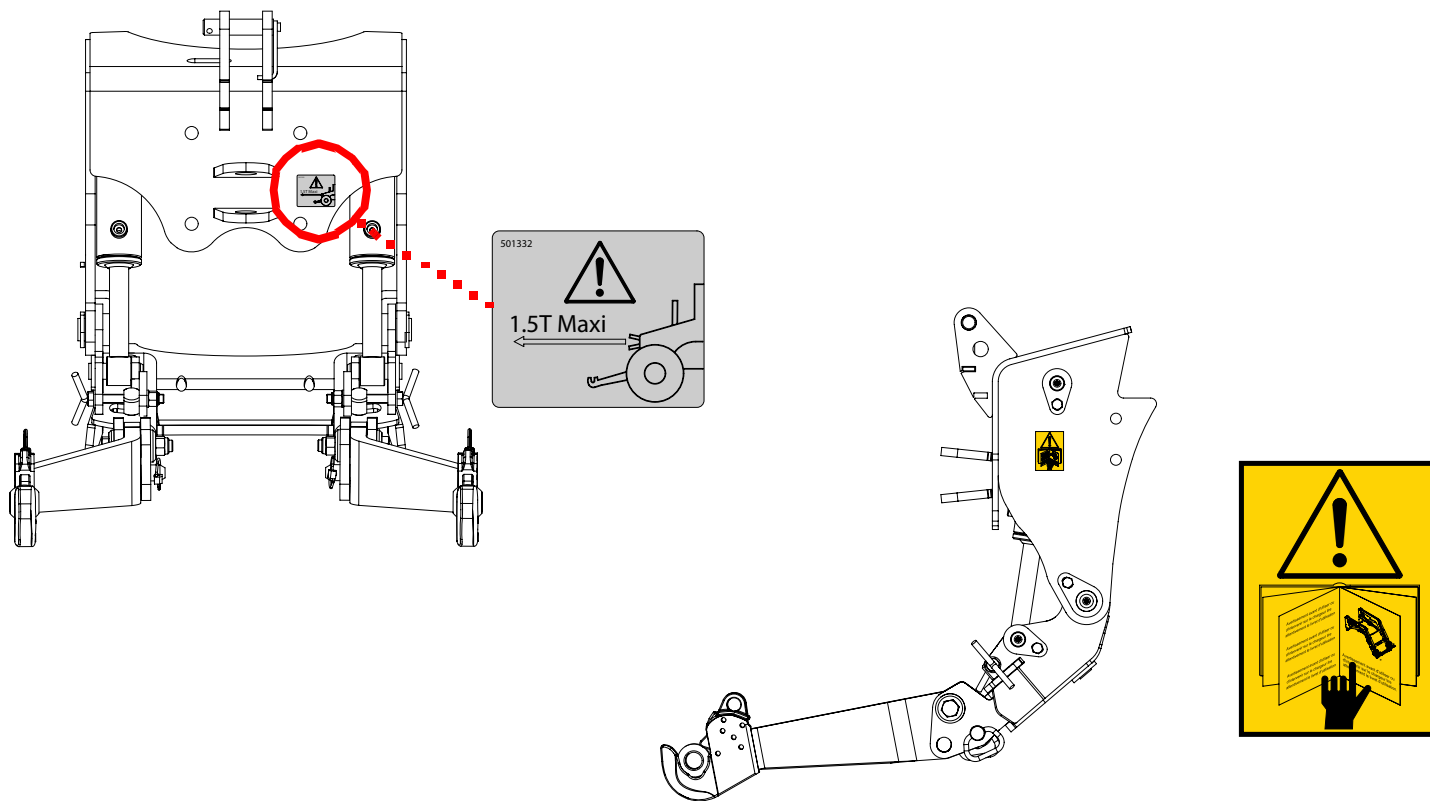


Caution!

Recommendations for fixing the implement, and working on the ground, must be strictly complied with. Any deviation from the requirements described above may cause serious damage, for which MX cannot be held liable.

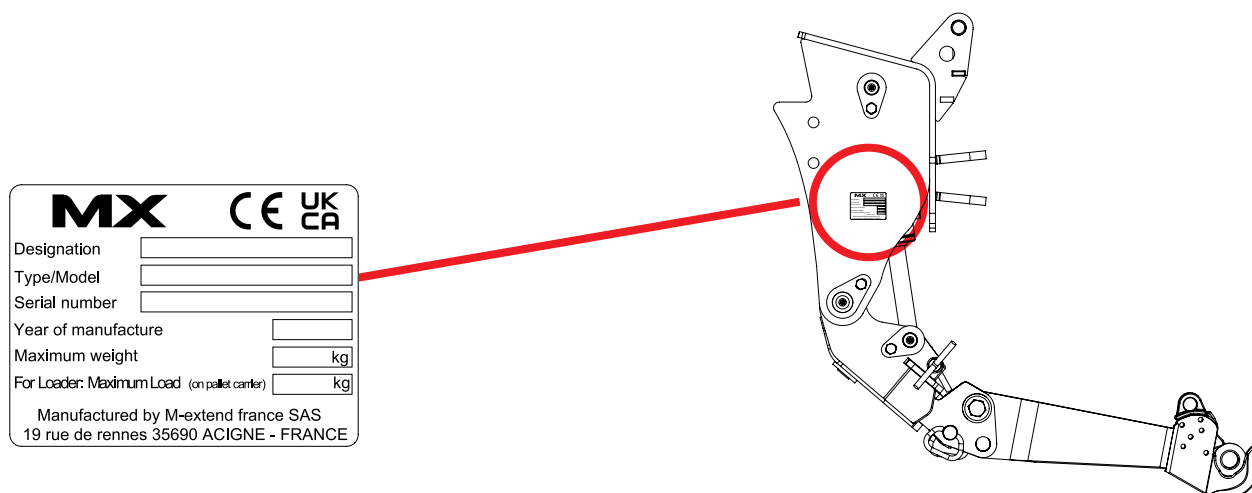
3. SAFETY STICKERS

Safety stickers are located on the front linkage. Keep them readable and clean, and change them if damaged.



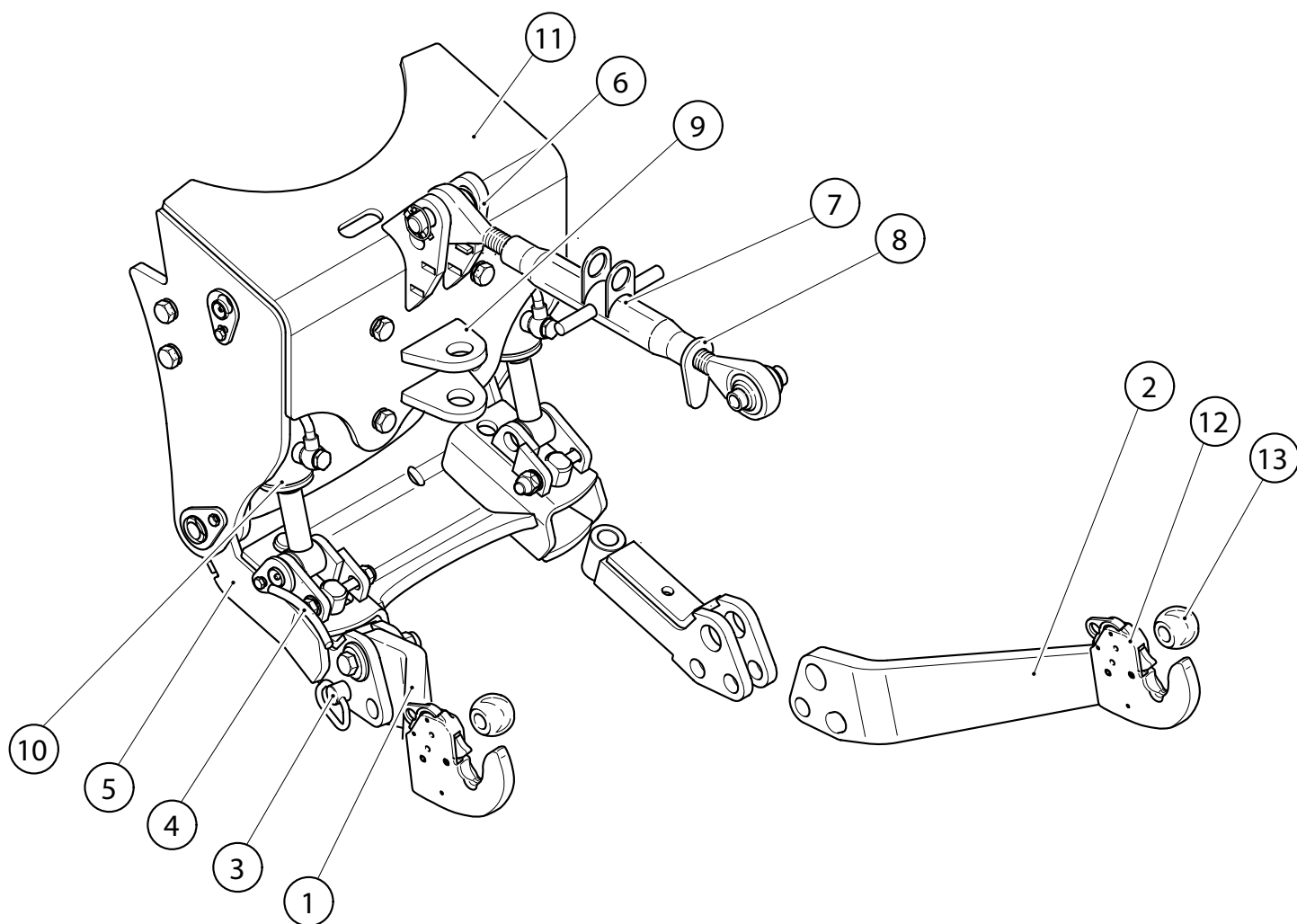
4. IDENTIFICATION PLATE

The identification plate is located on the right hand side of the headstock.



The serial number and front linkage type which are indicated on this plate might be requested when requiring spare parts or technical assistance.

5. DESCRIPTION



- 1: Right-hand arm
- 2: Left-hand arm
- 3: Pin
- 4: Adjustment handle
- 5: Linkage frame
- 6: Upper link yoke
- 7: Top link
- 8: Top link locknut
- 9: Towing clevis (use a 30 mm diameter pin)
- 10: Ram
- 11: Frame
- 12: Hitching hook
- 13: Coupling ball

6. OPERATING POSITION



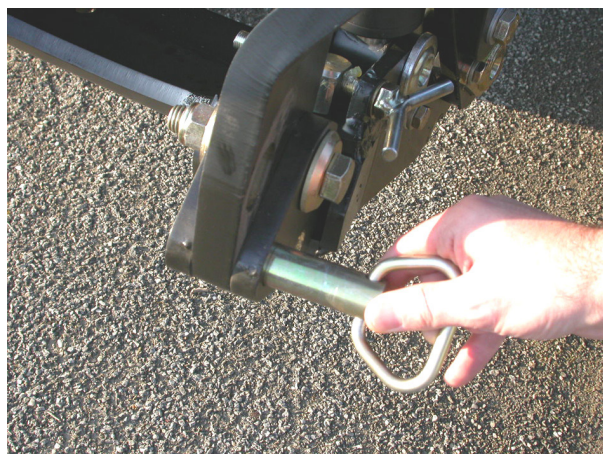
Caution

This operation must be carried out by the driver who must leave the seat and ensure all manoeuvres are forbidden while he is working on the front linkage.

- 6.1 Choose a flat and stable area.
Pull the parking brake. Turn off the engine.
- 6.2 Leave the cab and remove the L.H. arm locking pin.



- 6.3 Support the L.H. arm and remove the pin.



6.4 Swing the arms forwards to the desired position.

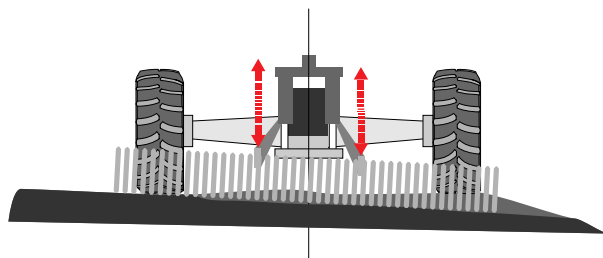
Position 1: Fixed position.



Position 2: Floating position.



6.5 Arm in floating position. The implement follows the contours of the ground.

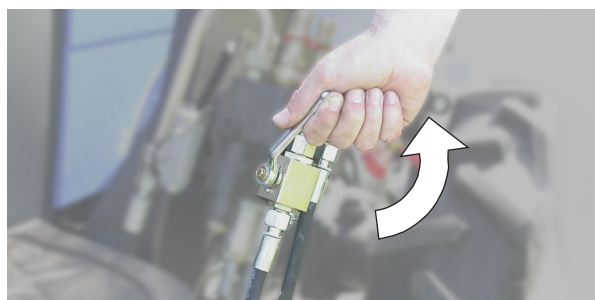
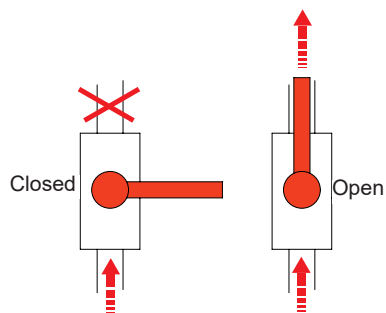


6.6 Put the pin back in position, and lock with the locking pin.



6.7 Repeat the items 6.2 à 6.5 for the right arm.

6.8 Open the stop valve.



7. IMPLEMENT HITCHING

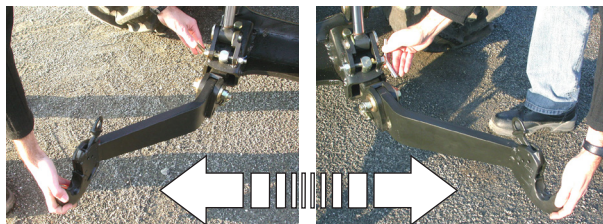


Caution

This operation must be carried out by the driver who must leave the seat and ensure all manoeuvres are forbidden while he is working on the front linkage.

The linkage is in working position.

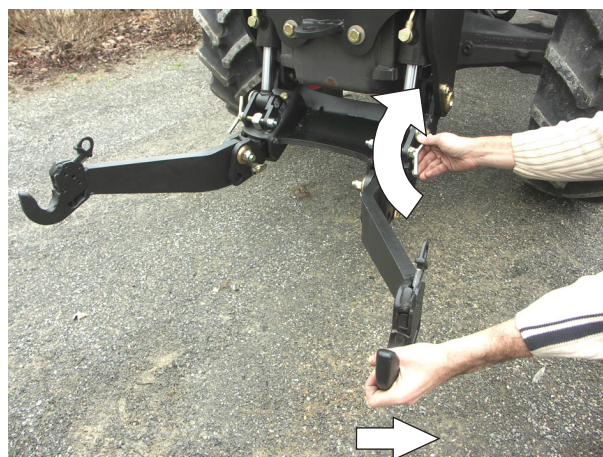
- 7.1** Set the spacing of the linkage arms to match the implement being hitched.



Turn the adjustment handle located at the base of the left-hand arm clockwise in order to adjust the spacing.

Repeat the procedure with the right-hand arm.

Ensure the left and right-hand arms are set identically to enable the implement to be centred on the tractor.

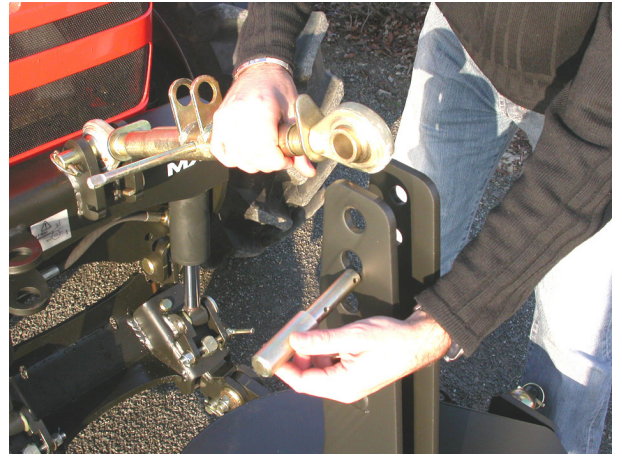


- 7.2** Open the locking catches on the hitching hooks and hitch up the implement.

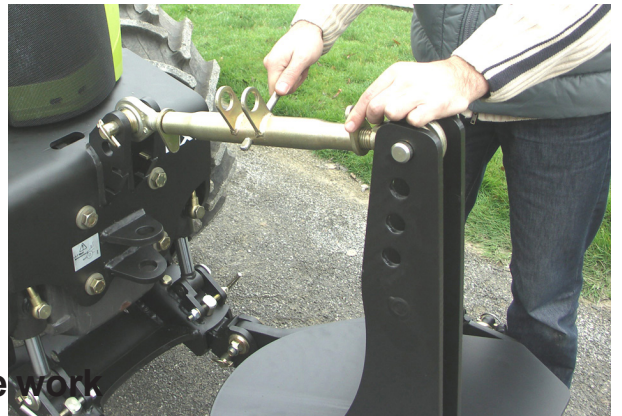
Check that the implement is fitted with suitable coupling balls secured with locking pins..



7.3 Hitch the top link bar on to the front implement.



7.4 Set the length of the top link bar to obtain the desired geometry for the front implement.
Lock the adjustment of the bar by means of the lever locknut.



Checking before work

- Test the lifting by checking that the tractor/front implement combination works correctly. Particularly check the space between the top link bar and the tractor's engine bonnet.
- Check that all the pins and locking pins are fitted and locked correctly.
- Check the locking status of the hitching hooks (the catches must be retracted correctly).

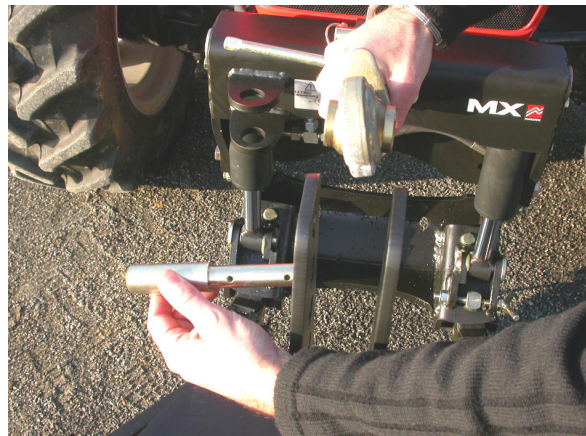
8. IMPLEMENT DISCONNECTING



Caution

This operation must be carried out by the driver who must leave the seat and ensure all manoeuvres are forbidden while he is working on the front linkage.

- 8.1 Lay the implement on some flat stable ground. Operate the tractor's handbrake.
- 8.2 Free the top link bar from the mast of the front implement.



- 8.3 Reposition the upper link bar on to the front linkage frame.



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



9. FOLDED ARMS POSITION



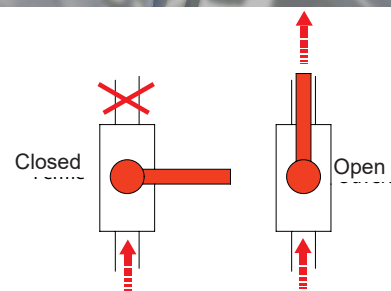
Caution

This operation must be carried out by the driver who must leave the seat and ensure all manoeuvres are forbidden while he is working on the front linkage.

- 9.1** Choose a flat and stable area. Raise the front linkage arms. Apply the parking brake and shut off the engine.



- 9.2** Close the stop valve.



- 9.3** Hold the R.H. arm and remove the pin.



- 9.4** Swivel the arm towards the bac and put the pin and the locking pin back in position.



- 9.5** Repeat the items 9.3 et 9.4 for the left arm.

10. SHOCK ELIMINATOR*

The shock absorber function requires that:

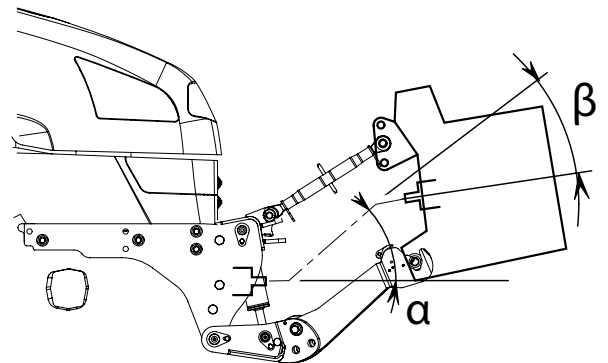
- The minimum load for Shock Eliminator efficiency corresponds to 20% of the linkage max. capacity.
NOTE: The greater the load, the smaller the shock absorber travel must be.
- The linkage is never at its maximum height. To attain the shock-absorbed transport position, the linkage must be lowered slightly starting from the upper position.



11. FRONT POWER TAKE OFF (PTO)*

SAFETY REGULATIONS AND RECOMMENDATIONS REGARDING THE FRONT PTO

- 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 to ensure that the speed and power rating of the implement are matched to the power take-off. Otherwise, the implement must not be hitched and connected (refer to the section "Technical specifications").
- Do not use a high inertial load implement without a PTO overrun clutch.
- Check and adapt the length of the transmission shaft between the implement and the front power take-off.
- The universal joint of the transmission shaft must be fitted with suitable protection (complying with the standard ISO/DIS 5673-1).
- Never lift or lower the front linkage with the power take-off under load.
- Check the α and β angles of the implement's universal joint and the power take-off. Adjust the length of the top link to make these angles approximately equal (see diagram opposite). The limit value of the α and β angles depends on the type of universal joint used (refer to the universal joint manufacturer's user manual).
- The engine must be stopped for any maintenance on the implement for which hydraulic must be locked.
- Each time the power take-off is used, grease the sliding section of the shaft and the universal joint spiders beforehand.
- Never make any changes to the electrical connections.
- Observe the maintenance instructions (refer to the section "Maintenance").
- The safety instructions in this manual are not to be construed as a replacement for safety regulations, insurance requirements or national and local legislation. Ensure your machine is fitted with the correct equipment as required by law and local regulations.



* According to equipment



Caution

This operation must be carried out by the driver who must leave the seat and avensure all manoeuvres are forbidden while he is working on the front linkage.

11.1 Hitch up the implement (refer to the section "Hitching a front implement" in this manual).

11.2 Connect the PTO shaft to the front power take-off.



The engine must be stopped.

11.3 The power take-off is engaged and disengaged by pressing the switch located in the cab.



The engine speed must never exceed 1200rpm when starting up the power take-off.

11.4 Increase engine speed to 2100 rpm in order to attain the rotational speed required by the implement (i.e. 1000 rpm).

11.5 After using the power take-off, disengage it using the same switch located in the cab.



Checking before work

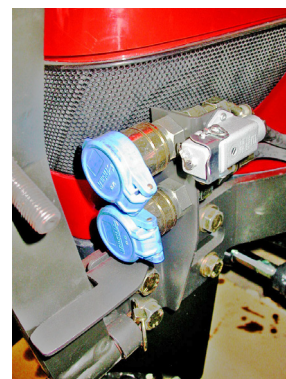
— Check that the tractor, implement and transmission shaft interact correctly throughout the full lifting stroke before engaging the power take-off.

12. ADDITIONAL FRONT HYDRAULIC LINE*

This supplies a hydraulic unit in front of the linkage.

12.1 Connect the hydraulic hoses of the implement to the 1/2" female couplings. Release the pressure in the hydraulic system to make connecting the hoses easier.

12.2 Control the hydraulic line using the tractor's control valve or the MX control valve (refer to the "control" section).



* According to equipment

13. 3-WAY SELECTOR*

This selector, which is located behind the cab, enables the front linkage operating mode to be selected to suit your application with a single movement.

There are 3 operating modes:

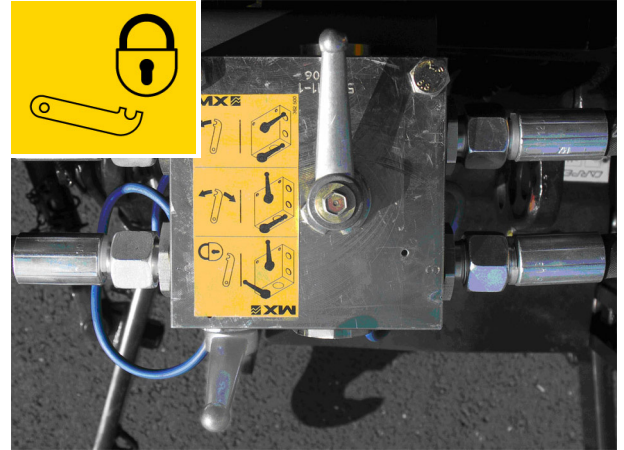
13.1 "Locking" operation.

Usage: this mode is used when the MX front linkage is not being used or for travelling long distances with an implement or a weight (safety in transit).

Plus, it enables the couplings at the rear of the tractor to be freed up for another powered implement.

Description: the MX front linkage hydraulic system 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.

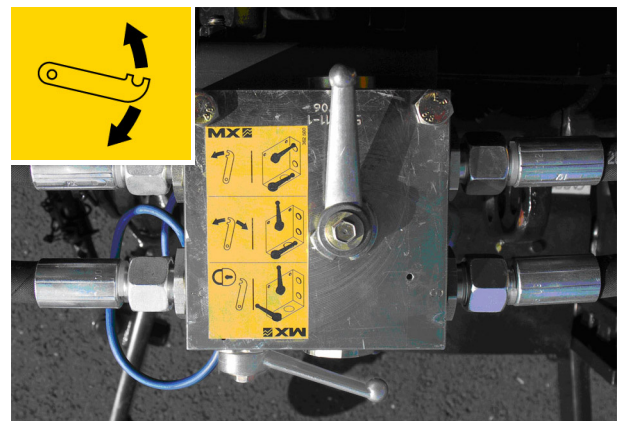


13.2 "Double-acting" operation.

Usage: this mode is used mainly when hitching up an implement (lowering linkage arms) and for working the soil with a bulldozer blade for instance.

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.

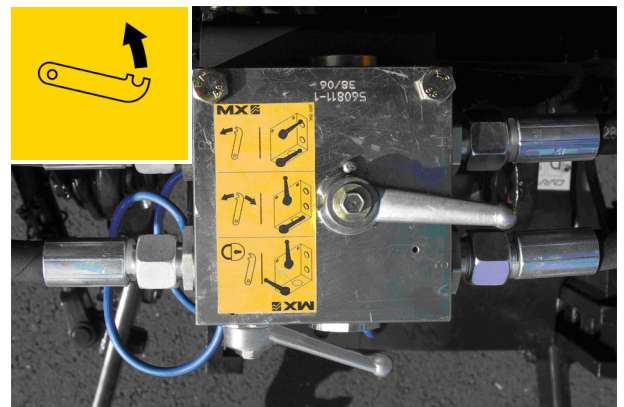


13.3 "Single-acting" operation.

Usage: this mode is used mainly with a front-end mowers or with an implement fitted with depth wheels.

Description: the rams on the MX front linkage are pressurised on lifting, but lowering takes place through gravity (unpressurised) due to the weight of the implement. This absence of pressure on lowering ensures the implement rests unconstrained on the ground. This protects the implement.

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



Caution

- The levers must always be turned fully to either stop.
- Switching from Single-acting to Double-acting operation (and vice versa) must not be carried out before releasing the hydraulic pressure.

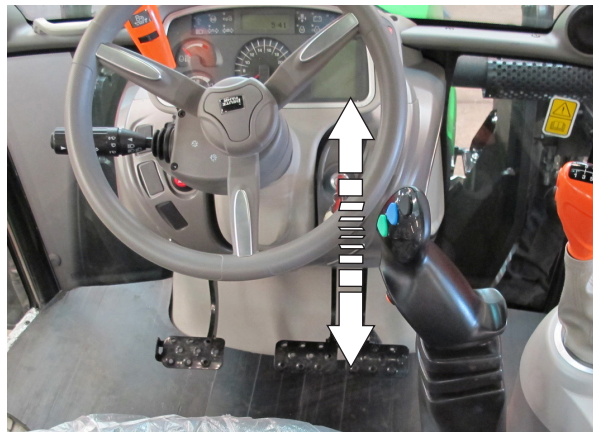
* According to equipment

14. CONTROL

14.1 With the original control valve fitted on the tractor. Refer to the user instructions for the tractor.

14.2 With the MX control valve.

14..1 Raising and lowering the MX front linkage.
Move the MX monolever forwards or backwards.



14..2 Controlling the auxiliary hydraulic line (depending on the fittings).
Move the MX monolever to the right and left.
In order to operate a second auxiliary hydraulic line, press and hold the green button on the monolever handle and move it to the left or to the right.

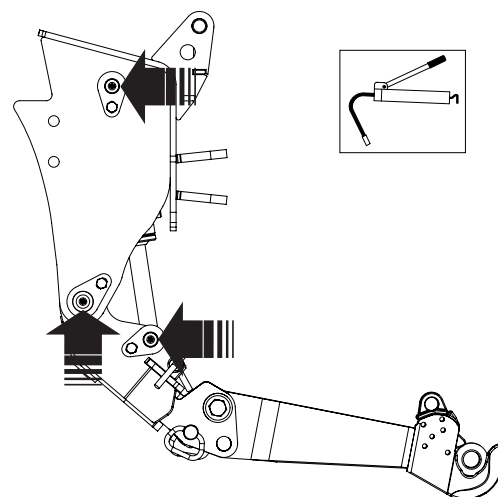


15. MAINTENANCE

Grease every 10 hours and after each wash (water eliminates grease) and particularly after washing with a high pressure cleaner. See lubricating points below.

Check tightness of the nuts and bolts after 10 and 50 hours of operation, then every 100 hours.

Before and after each use, check that there are no hydraulic leaks and The linkage frame is fitted with two wear bushes in the event of excessive play (± 2 mm) replace them with new MX wear bushes.



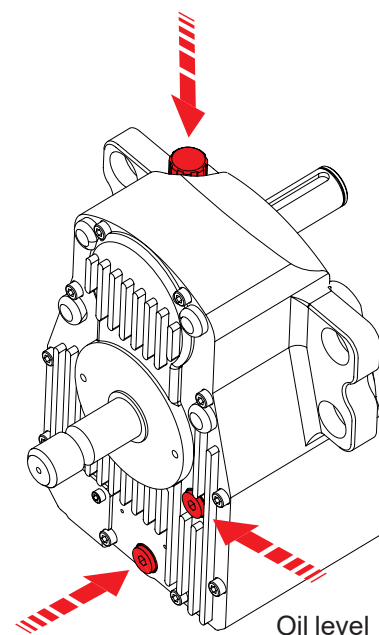
Oil filling plug

Front PTO:

After 50 and then after every 100 hours work (at least once per year):

- Drain the oil and replace the filter with a new genuine MX one (see filter removal procedure below).
- Next, refill the housing with oil up to the level shown opposite. Recommended oil type: STOU (Super Tractor Oil Universal) 10W30 ou 10W40.

NOTE: The oil level of the power take-off unit must regularly be checked and topped up if required.



Oil change plug

Oil level

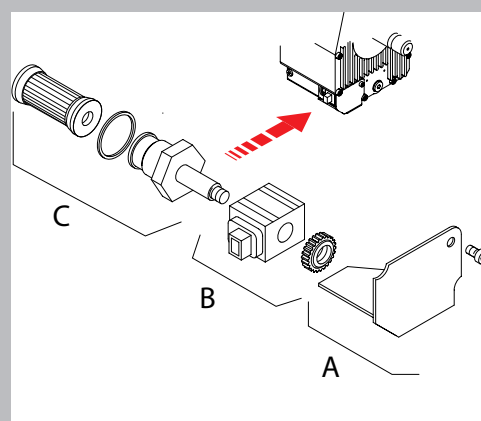
Filter removal and refitting procedure

Removing the filter:

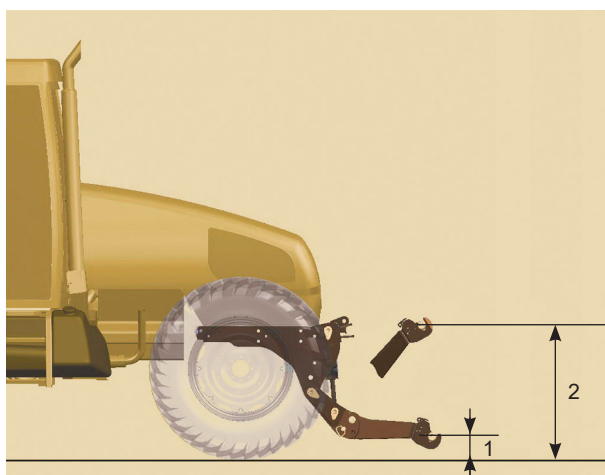
- Remove the casing using the CHc screw (A).
- Remove the coil by unscrewing the milled washer (B).
- Unscrew the core and change the filter (C).

Refitting the filter:

- After changing the filter, screw in the core (C).
- Refit the coil by screwing in the milled washer (B).
- Reset the casing using the CHc screw (A).



16. TECHNICAL SPECIFICATIONS



R12	
Front linkage category	Cat. 1 to 2
Lifting power at couplers*	1200 Kg
Lifting power at implement center of gravity 610 mm from ball ends*	950 Kg
Width between lifting arms	665 to 895 mm
Lift arm height from ground*	
in lowest position (1)	< 200 mm
in highest position (2)	> 750 mm
Couplers	Auto. Cat. 2/1
Balls end	Cat. 2
Top link / length	Cat. 2 / 460 to 680 mm
Front Power Take Off (PTO)**	
Maximum PTO power	150 hp
Front PTO shaft speed	1000rpm
PTO shaft profile (DIN 9611)	1"3/8 - 6 splines

* Average data. Variable according to the tractor specification.

** Option not available on all tractor makes and models.

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 TX420evo or TX425evo or TX430evo

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 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 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 R53

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

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, 2 September 2025.

B. Gauchenot
CEO

Contact only for England, Scotland and Wales :

MX (Handling Equipment) UK Ltd
Hyssop Close
Hawks Green
Cannock
Staffordshire
WS11 7XB
Tel: 01543 462787
Email: info@m-x.co.uk



M-extend France SAS

19, rue de Rennes

B.P. 83221

FR-35690 ACIGNÉ

Email : contact@m-x.eu

Web : www.m-x.eu