



**MANUBAL
V60**

User Manual

**Read carefully before operating
the Manubal**

Dear user,

We thank you for placing your trust in our product and hope you will find your MX MANUBAL satisfactory in every way.

Taking a few minutes to read this manual will enable you to use the capabilities of your MX MANUBAL to the full, prolong its service life and ensure safe operation.

The MANUBAL user manual before you is an important document, please retain it in order to be able to refer to it if required. Make it available to any other users and hand it over to any new owner in the event of your MX MANUBAL being sold on.

The illustrations and technical data shown in this document might not match your MX MANUBAL bale grab exactly, operating conditions will nevertheless remain the same.

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1. SAFETY RULES

The tractor/loader/MANUBAL bale grab combination must only be operated by trained and experienced personnel.

- **For your complete safety and that of others, strict compliance with the hitching and unhitching procedure for the MANUBAL bale grab is required (chapter 5 of this manual).**
- Only control the MANUBAL bale grab from the driver's seat. Keep operating the controls until movements stop.
- Do not leave the driver's seat without stopping all control movements.
- All personnel must be kept away from the area in which the loader - MANUBAL bale grab combination is moving while it is in operation.
- **Never pass under a raised bale.** Never use the MANUBAL bale grab to push a bale.
- **Carrying or lifting personnel using the MANUBAL bale grab is forbidden.** Never stand or pass under the load.
- Before any operation, the user must ensure that the MANUBAL bale grab is in proper working order and can be used in complete safety. He must also check and ensure that the tractor-loader-MANUBAL bale grab combination is stable by fitting a counterweight to the back of the tractor. This should ensure that 20% of gross weight remains on the rear axle of the tractor for optimum safety while travelling and working.
- When travelling on the road it is imperative that the regulations governing use on the public highway be observed (size, implement markings, etc.) Protruding items such as tine ends must be protected or stowed (grab closed, lower tine kit retracted).
- Take great care when operating at height in order to avoid catching any items (electric power or telephone lines, guttering, roof trusses, etc.).
- Whenever the tractor is stopped momentarily or for an extended period, the engine must be shut down and the MANUBAL bale grab lowered.
- When not in use, protruding items such as tine ends must be protected or stowed (grab closed).
- Check periodically to ensure that safety pins and bolts are in place. Do not replace them with any other items such as: nails, wire, etc.
- Any adjustment on the MANUBAL bale grab (ram position, etc.) must be carried out after the MANUBAL bale grab has been lowered to the ground and the tractor engine shut down.
- Any work involving fault tracing (diagnostics) and/or disassembly of parts may only be undertaken by a skilled technician who will start with an assurance that the work will be carried out in complete safety for himself and his surroundings.



Caution !

- Check hoses for length and routing in all configurations (fully crowded, fully dumped, etc.) before first use.
- The MANUBAL bale grab is designed to withstand a maximum operating pressure of 210 bar. Above this pressure, the MANUBAL bale grab will require to be fitted with a pressure limiter.
- Any instance of a MANUBAL bale grab being fitted which ignores the recommendations in the MX price list in force on the date of purchase will void MX warranty on the entire supply.
- Any modification to any part of the MX supply (rams, grab, tines, crank, etc.) or use of a component installed on the MANUBAL bale grab which has not originated from MX will void MX warranty on the entire MX supply.
- Use only genuine MX spare parts. Do not modify your MANUBAL bale grab yourself or have it modified by anyone else, without first requesting written authorisation from MX. Failure to comply with these rules may render your MANUBAL bale grab 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 MANUBAL bale grab as stipulated in the user manual.

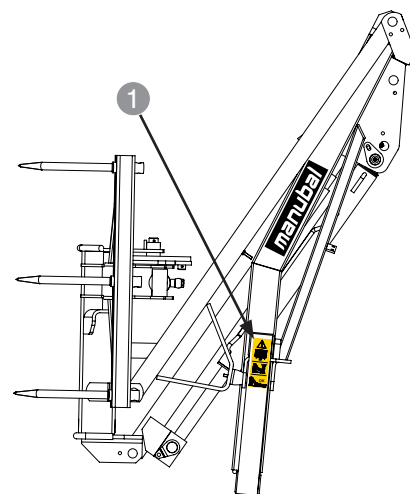
THE INSTALLER SHALL BE FULLY LIABLE FOR ANY FITMENT ON A LOADER OTHER THAN MX OR A TELESCOPIC HANDLER WHICH HAS NOT BEEN RECOMMENDED BY MX.

2. SAFETY STICKERS

Ensure the labels are clean and legible; replace them if damaged.

1. Location: MANUBAL frame carrier

- Familiarise yourself with the safety rules in the user manual before using or working on the unit.




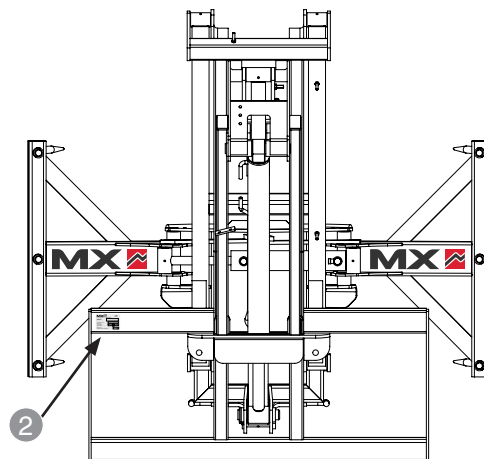
3. IDENTIFICATION PLATE

Identification details are to be passed on to your dealer with any request for spare parts or service work. Its location is shown below.

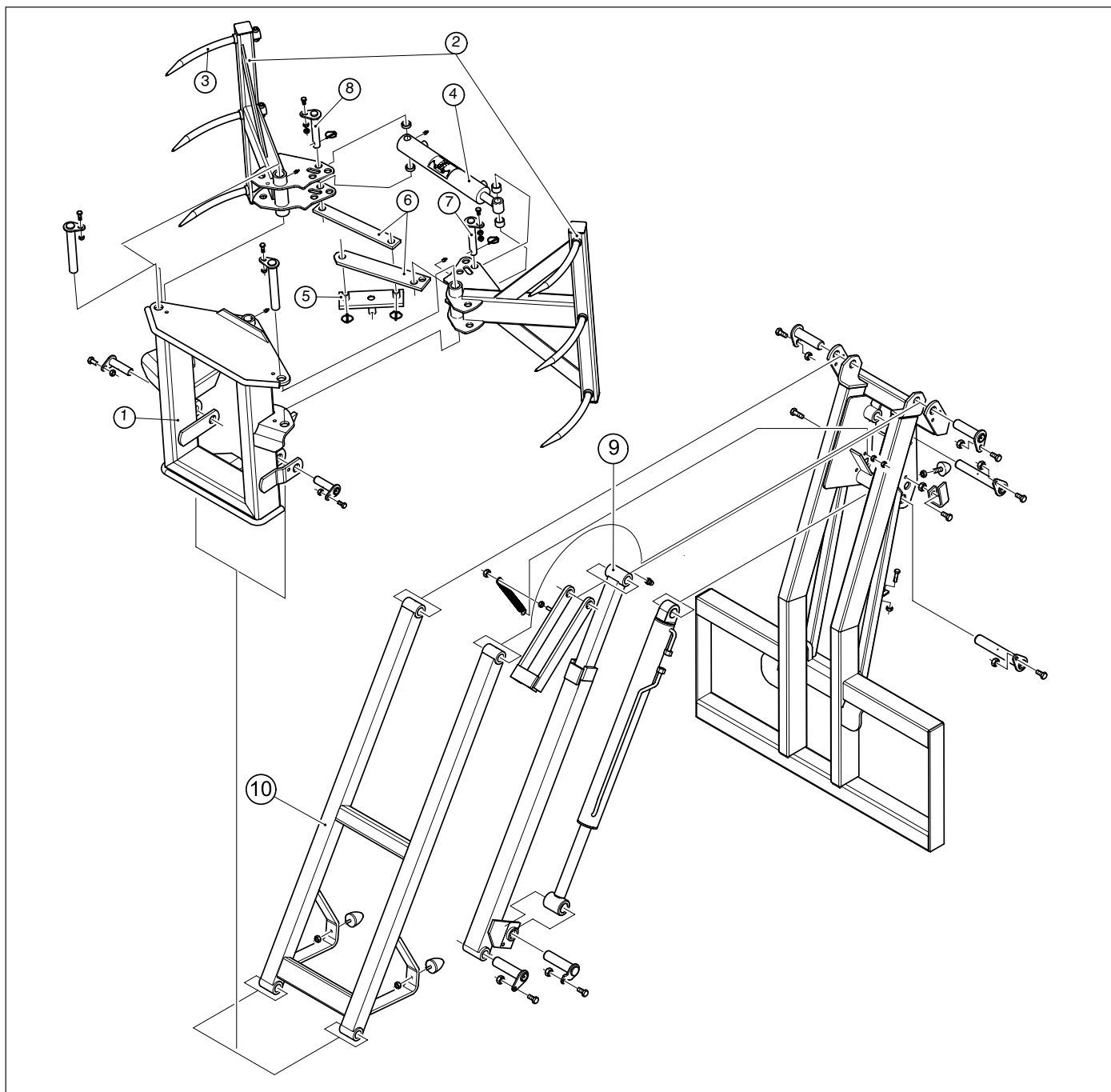
2. Location: MANUBAL frame carrier

- MANUBAL identification data plate

MX 		CE
19, rue de Rennes F - 35690 ACIGNÉ		
Désignation/ Designation	<input type="text"/>	
Type / Model / Typ	<input type="text"/>	
N° de série Serial number Seriennummer	<input type="text"/>	<input type="text"/>
	Année / Year	
Poids à vide Unloaded weight / Leergewicht	<input type="text"/>	kg
	329462	



4. DESCRIPTION



1. Bracket

2. Grab

3. Tine

4. Ram

5. Synchronising crank

6. Synchronising link

7. Rod-end ram pin

8. Cylinder-end ram pin

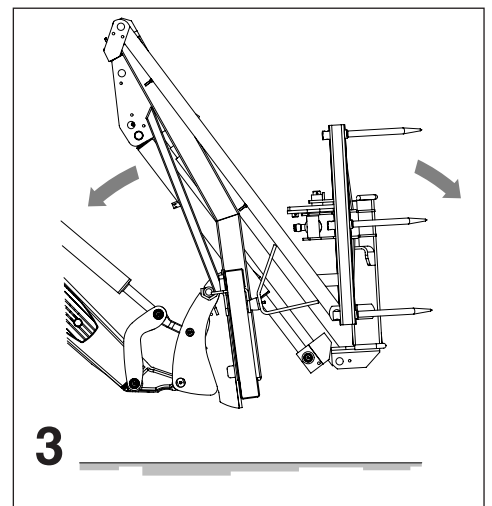
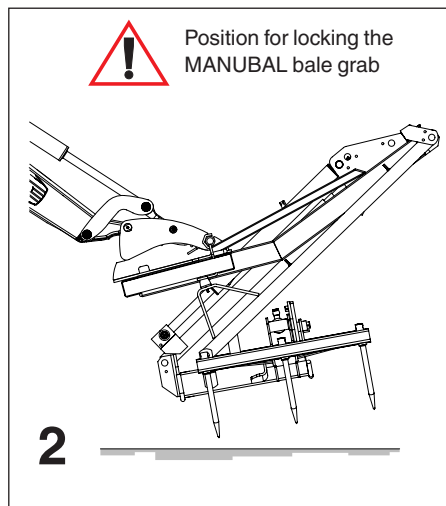
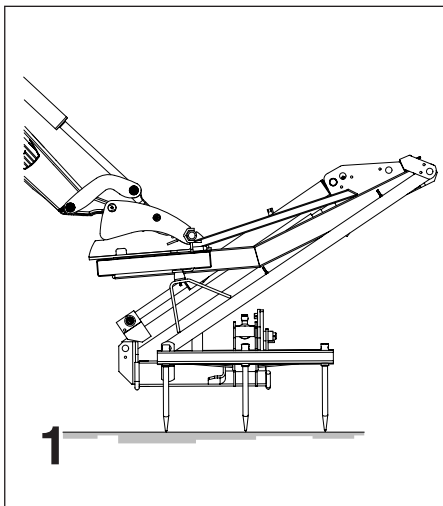
9. Telescopic connecting bar

10. Upper connecting bar

5. HITCHING/UNHITCHING THE MANUBAL BALE GRAB

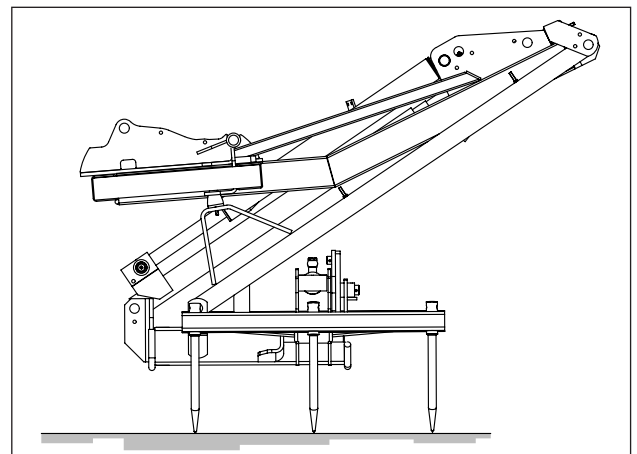
5.1 HITCHING THE MANUBAL BALE GRAB

- 5.1.1 Hook the self-centring V notches into the MANUBAL hitch bar (for telescopic handlers, refer to the manufacturer's user manual).
- 5.1.2 Position yourself on the right-hand side and lock manually.
- 5.1.3 Crowd back to check that the MANUBAL is being held correctly.
- 5.1.4 Operate each moving component to its fullest extent in each direction to check the hydraulic system is free from leaks and the hoses are routed correctly.



5.2 UNHITCHING THE MANUBAL BALE GRAB

- 5.2.1 Remove the MANUBAL unit with the grab open (ram rod retracted).
- 5.2.2 Release the hydraulic pressure and unhitch.

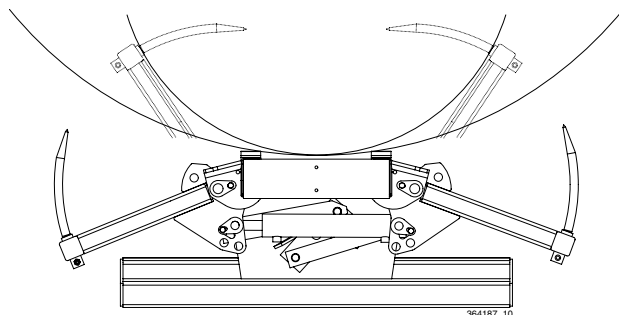


6. GRAB OPENING / CLOSING ADJUSTMENT

The extent of opening and closing of the grab can be adjusted to match the type of bale being handled.

6.1 ROUND BALES

This setting enables 0.90m to 1.80m diameter bales to be picked up.



6.1.1 Position the MANUBAL bale grab upright.

6.1.2 Open the grab halfway. Lower the MANUBAL bale grab to the ground. Stop the engine.

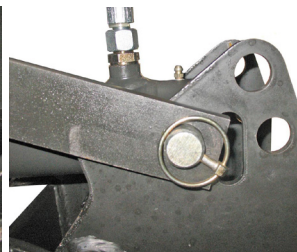
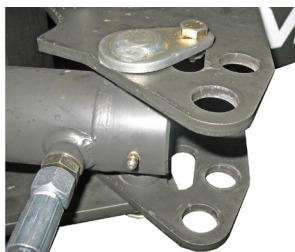
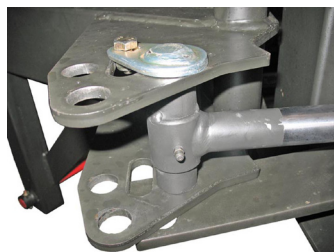
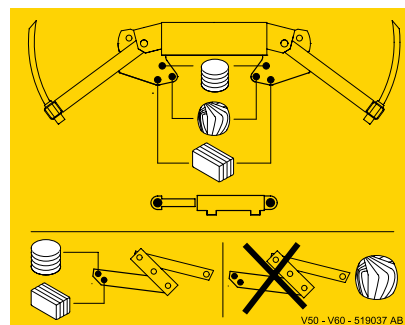
6.1.3 Remove the clip from the rod-end ram pin and remove the pin.
Note: the screw on the pin flat acts to prevent rotation and need not be removed.

6.1.4 Position the ram opposite the hole for the round bale setting. See table below.

6.1.5 Insert the pin as well as the synchronising link in the appropriate hole.
Note: check the spacers for correct positioning.

6.1.6 Refit the clip.

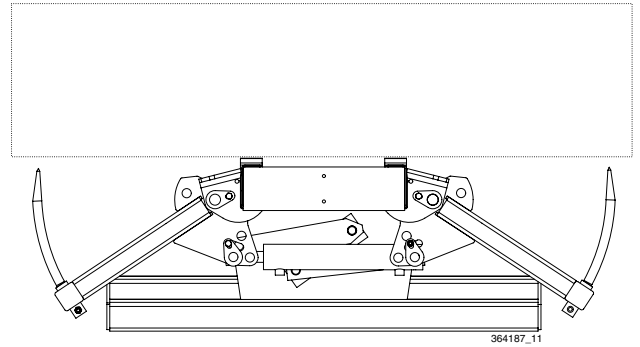
6.1.7 Repeat operations 6.1.3 to 6.1.6 for the cylinder-end ram pin.



Synchronising links - Viewed from below

6.2 RECTANGULAR BALE

With the grab open, the tines do not extend beyond the vertical mast. Rectangular bale pick-up is more effective.



6.2.1 Position the MANUBAL bale grab upright.

6.2.2 Open the grab halfway. Lower the MANUBAL bale grab to the ground. Stop the engine.

6.2.3 Remove the clip from the rod-end ram pin and remove the pin.

Note: the screw on the pin flat acts to prevent rotation and need not be removed.

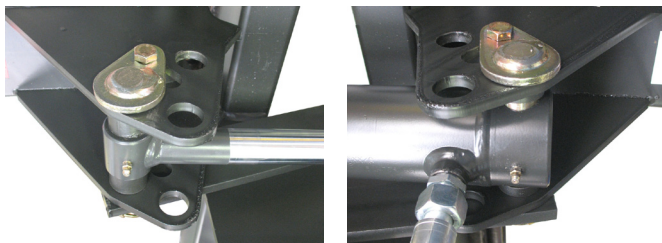
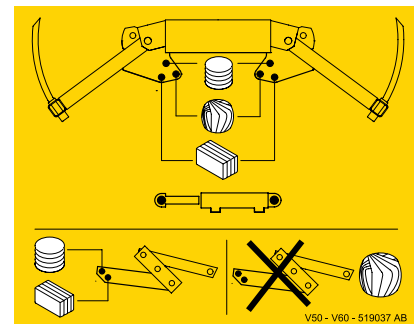
6.2.4 Position the ram opposite the hole for the rectangular bale setting. See table below.

6.2.5 Insert the pin as well as the synchronising link in the appropriate hole.

Note: check the spacers for correct positioning.

6.2.6 Refit the clip.

6.2.7 Repeat operations 6.2.3 to 6.2.6 for the cylinder-end ram pin.



Synchronising links - Viewed from below

7. WRAPPED BALE GRAB KIT*

This kit converts your MANUBAL unit into a round wrapped bale grab. The conversion is very simple and is accomplished in just a few seconds.

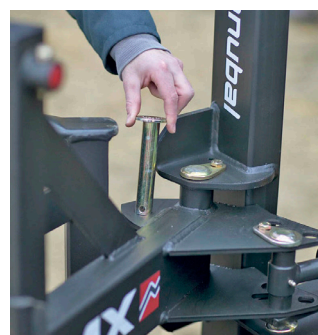
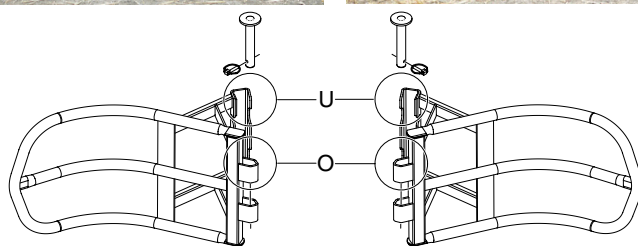
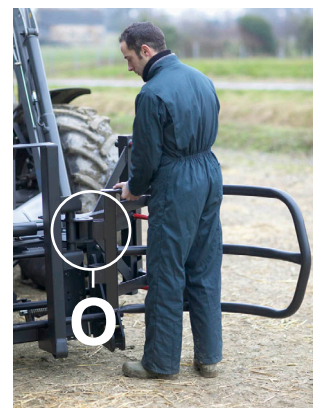
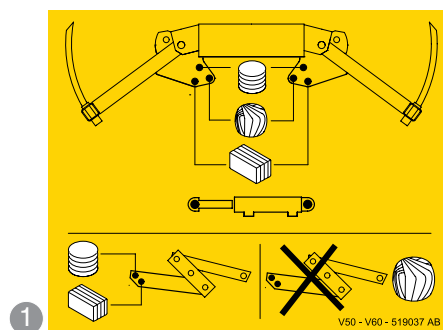
Wrapped bale grab opening / closing adjustment

The adjustment is carried out using the holes provided for round wrapped bales.

- 7.1 Position the MANUBAL bale grab upright.
- 7.2 Open the grab halfway. Lower the MANUBAL bale grab to the ground. Stop the engine.
- 7.3 Remove the clip from the rod-end ram pin and remove the pin.
Note: the screw on the pin flat acts to prevent rotation and need not be removed.
- 7.4 Position the ram opposite the hole for the wrapped bale setting. See drawing ①.
- 7.5 Insert the pin as well as the synchronising link in the appropriate hole.
Note: check the spacers for correct positioning.
- 7.6 Refit the clip.
- 7.7 Repeat operations 7.3 to 7.6 for the cylinder-end ram pin.

CAUTION: the synchronising links should be removed from the MANUBAL bale grab when it is used for wrapped bales, which allows the 2 grab arms to float. This enhances effectiveness and safety when stacking bales contiguously.

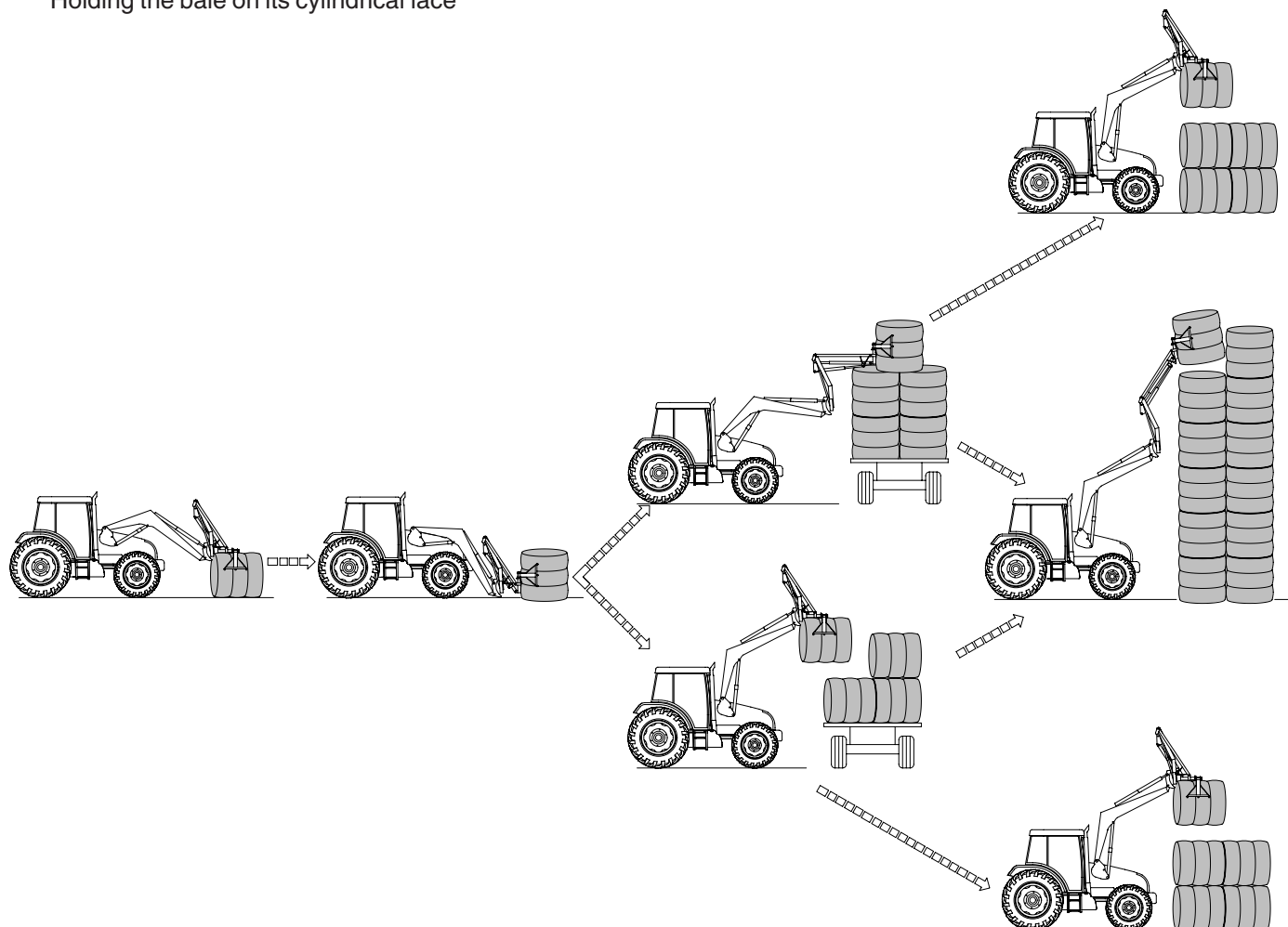
- 7.8 Position the first side of the wrapped bale grab kit (**U-section**) against the grab tine carrier.
- 7.9 Position the other side of the wrapped bale grab kit (**O-section**) opposite the hole provided for this purpose in the MANUBAL grab.
- 7.10 Insert the pin and the clip supplied in the kit.
- 7.11 Repeat operations 7.8 to 7.10 for the other kit.
Note: the kit is not handed as regards assembly. It is identical for the left and right-hand sides.



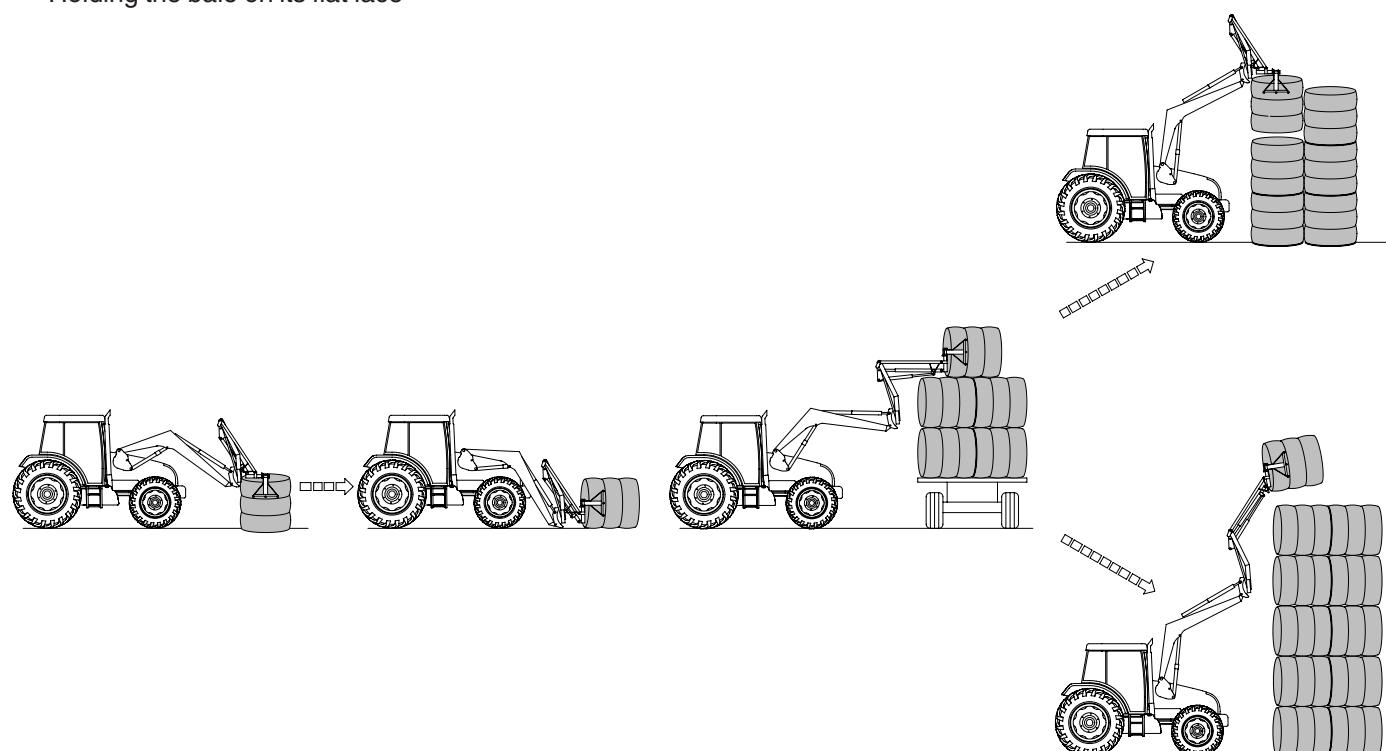
* Option

8. PRINCIPLE OF USE

8.1 Holding the bale on its cylindrical face



8.2 Holding the bale on its flat face

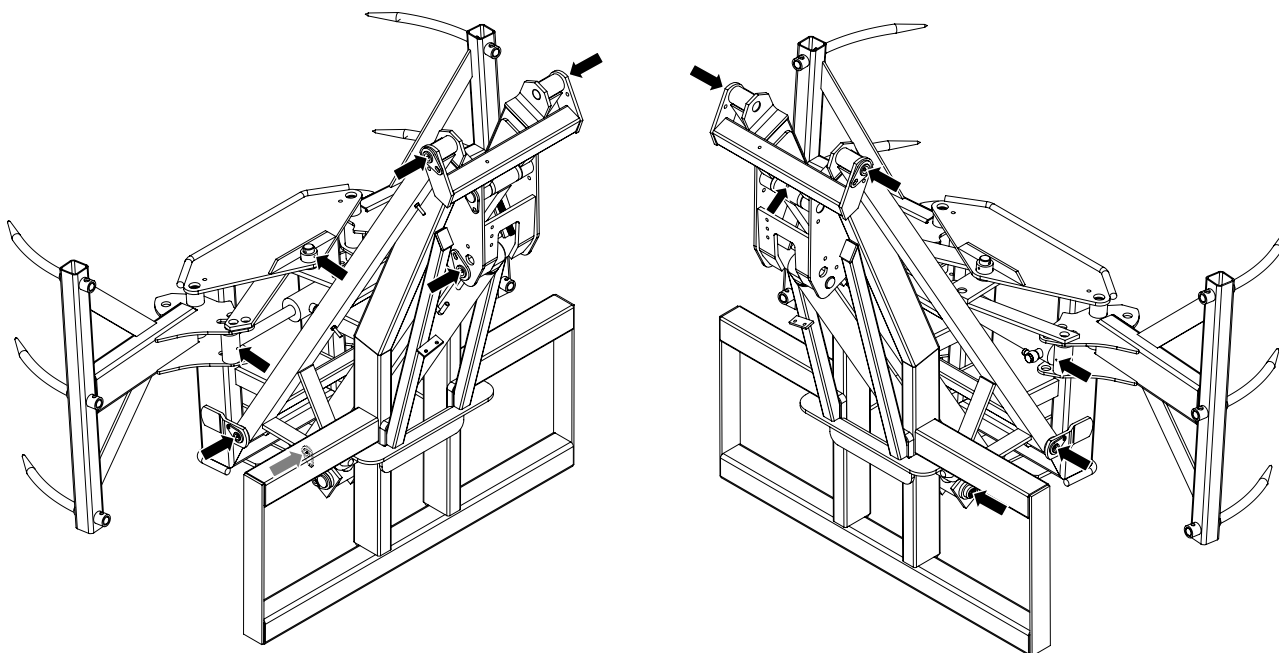


9. MAINTENANCE / STORAGE

9.1 Maintenance

- Lubricate pivot points regularly. See lubrication points below.
- Ensure hydraulic connections are cleaned each time before they are connected.
- See to it that straw or hay residues do not jam up the pivot points.
- Check the MANUBAL bale grab to ensure that it is in proper working order throughout and that screws, clips and pins are in place before any use.
- Check the condition of the wear bushes and replace them before they are fully worn.

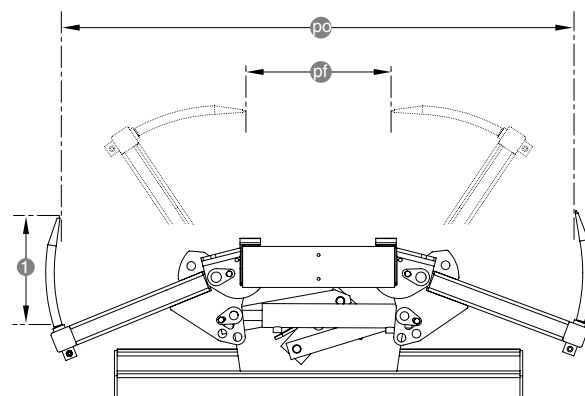
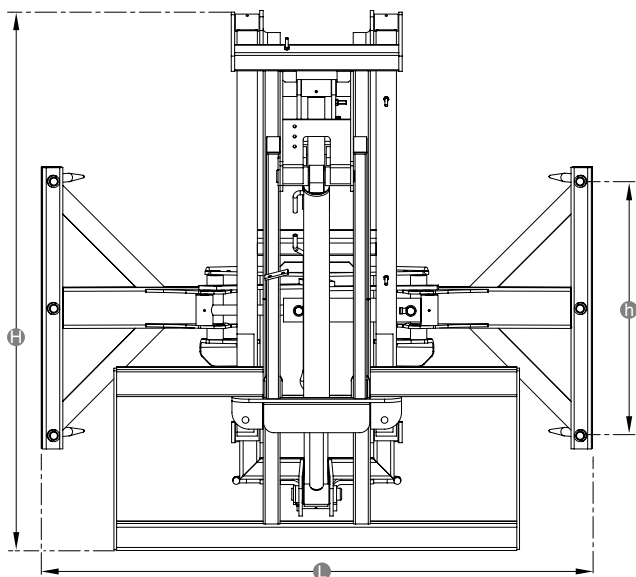
Lubrication points:



9.2 Storage

- Unhitch the MANUBAL bale grab with the grab opened (ram rod retracted).
- Lubricate pivot points.
- Coat the tines with oil.

10. TECHNICAL SPECIFICATIONS



MANUBAL V60		
Performances	Stacking height	6 bales H 1.20 m
	Number of bales picked up	1 bale H 1.20 m
	Bale diameter	from 0.90 to 1.80 m
	Number of tines on grab	6
Dimensions	Overall height (H)	1610 mm
	Grab height (h)	750 mm
	Width (L)	1625 mm
	Distance between tips grab closed (pf)	In round bale setting: 420 mm In rectangular bale setting: 1.020 mm
	Distance between tips grab opened (po)	In round bale setting: 1.510 mm In rectangular bale setting: 1.570 mm
	Tine diameter	25 mm
	Tine working length (1)	340 mm
Weight		350 kg
Wrapped grab kit*	Wrapped bale diameter	1 to 1.60 m
	Wrapped bale weight	Up to 800 kg
Recommendations	Min. pivot height	3.45 m
	Loader model	as from MX T6

* Option

EC DECLARATION OF CONFORMITY C€

The manufacturer:

MX
19, Rue de Rennes
F - 35690 Acigné

Hereby declares that the following equipment:

V60 Manubal

Comply with EC directive 2006/42 of the Council of European Parliament and of the council of 17th of May 2009 relating to machines.

Acigné, 5th of May 2011

A handwritten signature in black ink, appearing to read 'Loïc Mailleux', with a horizontal line underneath.

Loïc Mailleux
Technical Director



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