



**MS450 / MS700 / MS1000 Side Spreaders
Operators Manual**

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'Quality, Strength & Personal Service'

This manual is provided to assist you in getting the best results from your machine and ensure that you do so safely. If you have any queries about the use of the machine contact your dealer before use. Please keep this manual for future reference.

The Fleming range of muck spreaders are robustly designed and manufactured to cater for all size of operations. The heavy duty balanced round rotor has double mounted starter bars with 360 degree flail rotation for quicker start up. The chains are fitted with HD hardened replaceable heads and are mounted on four sides of the rotor for more even distribution of material. The power is transmitted through heavy duty bearings, drive chain and steel sprockets to ensure smooth reliable transmission.

Currently there are four models within the Fleming trailed side spreader range. The table below specifies the standard equipment which is supplied with the side spreader range. (See Table 2. for respective capacities).

Table 1. Standard Equipment						
Model	PTO Shaft	Chain	Lid Type	Hyd Brakes	Lights	Tyres
MS20	Yes	10mm	Manual	No	Yes	10.0x75x15.3
MS30	Yes	10mm	Manual	No	Yes	11.5x80x15.3
MS50	Yes	12mm	Hydraulic	Yes	Yes	385x65Rx22.5
MS70	Yes	12mm	Hydraulic	Yes	Yes	550x60x22.5

1.1 FUNDAMENTAL PRECAUTIONS

On delivery, your dealer gave you an explanation of the operation and maintenance of this Fleming Side Spreader. Please read and understand these operating instructions before operating the machine for the first time. It is essential that you observe all safety instructions.

Incorrect use or mishandling of the machine can endanger:

- Life and Limb of the operator, other persons or animals within the vicinity of the machine.
- The machine and other material assets of the owner or third persons.
- The performance of the machine.

Anyone who is involved in the commissioning, operation or maintenance of the side spreader must read and understand these instructions very carefully and observe them at all times.

NEVER DISTRACT ANYONE WHO IS USING A MACHINE.

Register your New Fleming Product @ <http://www.fleming-agri.co.uk/Products/product-registration.asp>

EU CERTIFICATE OF CONFORMITY

CONFORMING TO EC Machinery Directive 98/37 EC

We:

Fleming Agri-Products Ltd
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declare in sole responsibility, that the products

Type: MS450 /MS700 / MS1000 Side Spreaders

to which this certificate applies, conforms to the basic safety and health requirements of the EC Machinery Directive 98/37 EC, and the Transposed Harmonised Standards:

BS EN 1553 (2000)

Jonathan Lecky
Production Director

1.6 HYDRAULIC SAFETY

Some models of the side spreader range come as standard with hydraulic lid and hydraulic brakes (See Table 1). These safety considerations should therefore be adhered to.

- **CAUTION** The hydraulic system is under high pressure.
- Ensure that only high-pressure hoses are used to connect supply to the side spreaders hydraulic cylinder(s). Check hoses regularly and renew any that are damaged or worn.
- Before working on the hydraulics release the pressure from the hydraulic system and stop the tractor engine.

When connecting hydraulic rams make sure that the hydraulic hoses are coupled correctly. Pressure should be released from the system both on the tractor and on the implement side prior to coupling the hoses to the tractor hydraulics.

- **CAUTION** Hydraulic oil forced out under pressure can break the skin and cause severe injury. In the event of a hydraulic oil leak stop the tractor flow immediately. **DO NOT PUT HANDS NEAR A LEAKING PIPE.**

1.7 MAINTENANCE

- As a rule, disengage the driving system and stop the engine prior to carrying out maintenance, servicing, cleaning or repair work. **ALWAYS** remove the ignition key.
- Prop the machine with appropriate supports before carrying out any maintenance work.
- The manufacturer will not be responsible for any damages or injuries caused by unauthorised repair, alterations or mishandling of the product.
- Maintain product with care. Check periodically for damage that would affect the safe operation of the implement.
- Regularly check all bolts and tighten if necessary.
- Regularly lubricate the hydraulic cylinder, driving chain, bearings and hinges using clean grease.
- Cover the chromed area of the hydraulic cylinder with a layer of grease during prolonged periods of inactivity.
- Only use clean grease complying to Din 51502.
- **ALWAYS** ensure all warning stickers are kept clean and in good condition.
- **CAUTION** paintwork may be damaged if high-powered washers are used when cleaning the side spreader.

1.2 AUTHORISED OPERATORS

Youths under the age of 16 must not operate this implement. The owner of the machine must provide the operator with the operating instructions and make sure they have read and understood them. Only then may the machine be put into operation.

The owner must ensure that only authorised persons operate/work on this machine. He is responsible for keeping any third persons or animals out of the working area of the machine.

A SAFE DISTANCE OF AT LEAST 10M MUST BE OBSERVED BY ANYONE WITHIN THE VICINITY OF THE SIDE SPREADER.

1.3 GENERAL SAFETY AND ACCIDENT PREVENTION REGULATIONS

- Before operation make yourself familiar with all elements and controls of the machine as well as their functions.
- Ensure the implement is correctly and securely attached to the operating vehicle. The recommended method of attachment is to use the tractor drawbar and a suitably sized pin.
- **NEVER** attach to a tractor which would be rendered unstable when the implement is operated at its full capacity. Take note of the maximum load permissible on tractor draw bar.

Model	Unloaded Weight (kg)	Loaded Weight (kg)	Capacity (cu.m)
MS 20	750	2550	2
MS 30	930	3630	3
MS 50	1500	6000	5
MS 70	1800	8100	7

- The attaching and detaching of the implement to a tractor must be carried out by only one operator. There should not be any other people in the vicinity of the implement or in the tractor.
- When detaching the side spreader from the tractor always ensure that it is safely positioned on a level surface and that blocks are positioned below each wheel.
- **NEVER** allow children to play on or around tractors and machinery.

- **NEVER** operate the side spreader unless all safety guards are fitted and are firmly in position. **ALWAYS** ensure that all guards and covers are replaced after carrying out maintenance or adjustments.
 - Do not make any sharp turns with PTO shaft in motion.
 - **ALWAYS** disengage the PTO before dismounting from the tractor.
 - Operators should not wear loose fitting clothing when working close to PTO driven equipment. Keep long hair tied back. **NEVER** be in the vicinity of a rotating PTO shaft.
 - **ALWAYS** disengage the PTO shaft, apply the hand brake, stop the tractor and remove the key before carrying out any maintenance or adjustments to the side spreader. The rotor will continue to rotate for some time after the tractor is stopped. **ALWAYS** ensure that the rotor has totally stopped moving before approaching the side spreader.
 - Before operation inspect the area around you. Keep children away. All visitors and unauthorised persons should be kept well away from work area.
- NEVER** operate the side spreader with persons standing in the spreading path. There is a danger of serious injury to both livestock and persons within this area. A safe distance of at least 10m must be observed by anyone within the vicinity of the side spreader.
- Take extra care when operating machinery on sloping ground. **NEVER** operate on ground where there is a risk of the tractor becoming unstable.
 - **NEVER** park the tractor and side spreader on a slope.
 - To avoid personal injury keep hands and limbs well away from the moving parts.
 - **Under NO circumstances** should anyone, authorised or otherwise attempt to use the side spreader as a means of personal transport. It is designed as a specialist purpose farm implement and is unsuitable for the safe transportation of passengers. **NEVER** allow anyone especially children to travel anywhere between the tractor and an implement.
 - Where local laws permit ensure that a flashing amber beacon is mounted on the cab of the tractor and is always used when transporting the side spreader on the road.
 - **NEVER** attempt to move this implement manually.
 - **NEVER DISTRACT PEOPLE WHO ARE USING THIS MACHINE.**

Note: If the same tractor is to be used for loading and spreading then before driving off engage PTO and at low RPM rotate driving mechanism to wrap the flails around the rotor as the load will settle during transit.

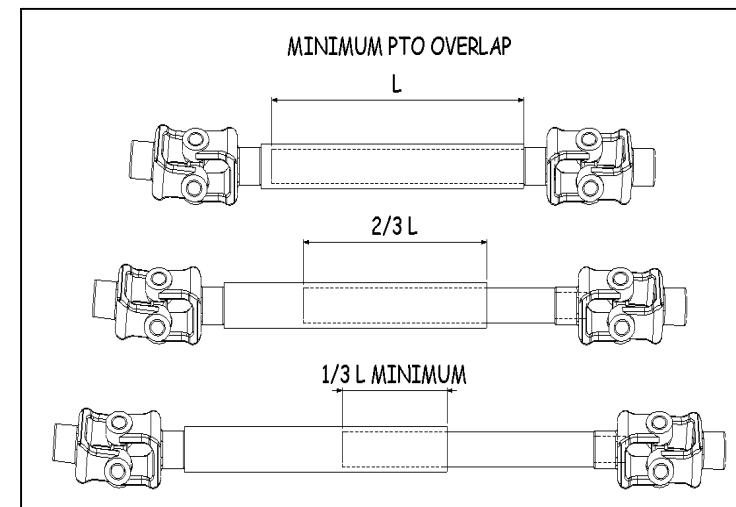
- Begin to operate at low RPM and gradually increase to 540 RPM before starting to move forward.
- Adjust land speed to increase or decrease the volume of material per square meter.
- Should the need arise to discontinue spreading before side spreader is fully emptied, gradually reduce the PTO speed before disengaging. Sudden stops can put unnecessary strain on the drive mechanism.
- It is recommended that after use the side spreaders are hosed clean due to the corrosive nature of some manure.

1.5 PTO SHAFT LENGTH

The PTO shaft length may be altered to suit individual tractor. During operation when the PTO is at its maximum extended length there must be a minimum overlap of 1/3 PTO shaft length as shown in the minimum PTO overlap diagram.

The side spreader should be hitched to the tractor and be checked in various positions to ensure that the PTO drive line is the correct length. Remember that undulating ground can also affect the length of the PTO shaft.

CAUTION! ENSURE THE PTO DOES NOT BOTTOM WHEN LIFTING MACHINE.

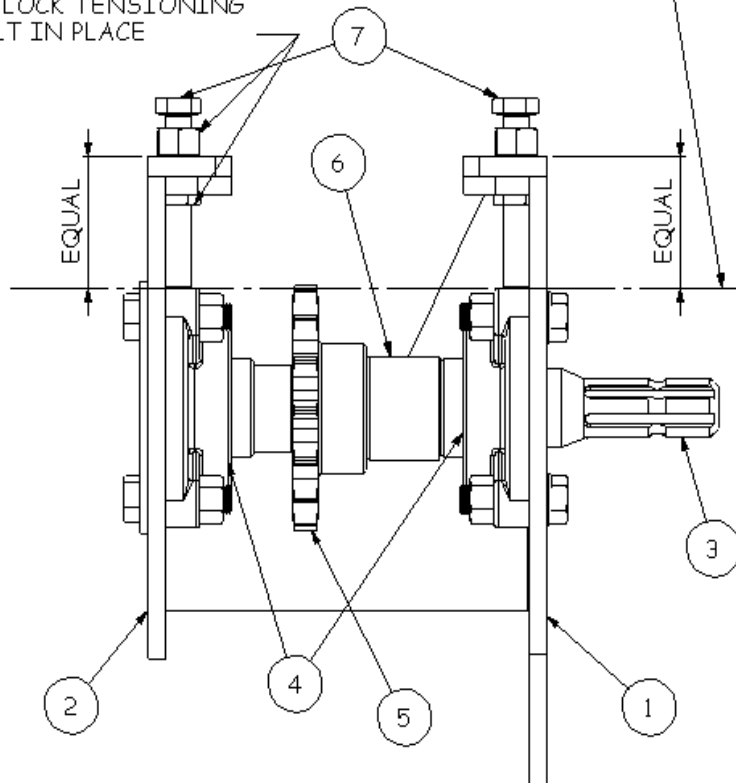


GEARBOX VIEW

CAUTION! DO NOT OVER TENSION CHAIN AS THIS WILL CAUSE PREMATURE CHAIN WEAR.

IMPORTANT! WHEN TENSIONING CHAIN ENSURE THAT BOTH BEARINGS ARE ADJUSTED EQUALLY TO ALLOW SMOOTH RUNNING OF CHAIN AND TO PREVENT PREMATURE CHAIN WEAR

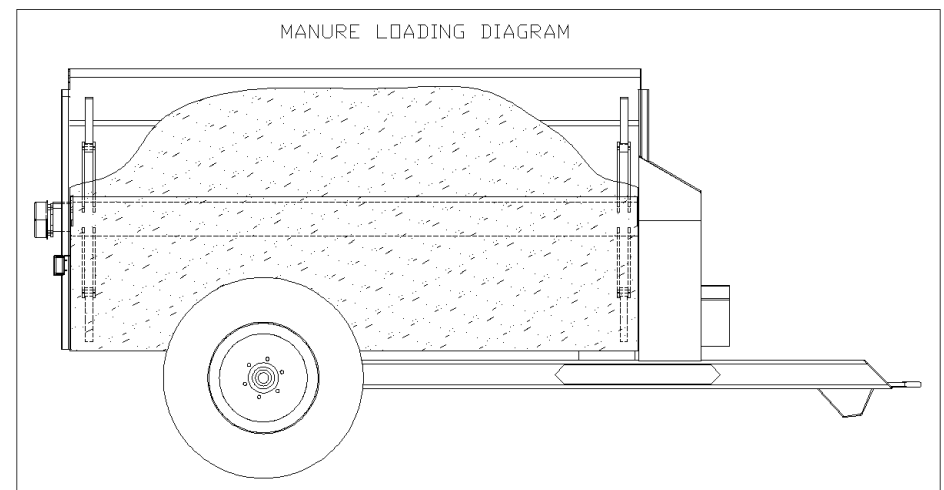
TIGHTEN BOTH NUTS TO LOCK TENSIONING BOLT IN PLACE



ITEM No.	DESCRIPTION	QTY.
1	PTO MOUNTING PLATE- FRONT	1
2	PTO MOUNTING PLATE REAR	1
3	PTO SHAFT COUPLER	1
4	FLANGE BEARING	2
5	SPROCKET	1
6	SPACER	1
7	TENSIONING BOLT	2

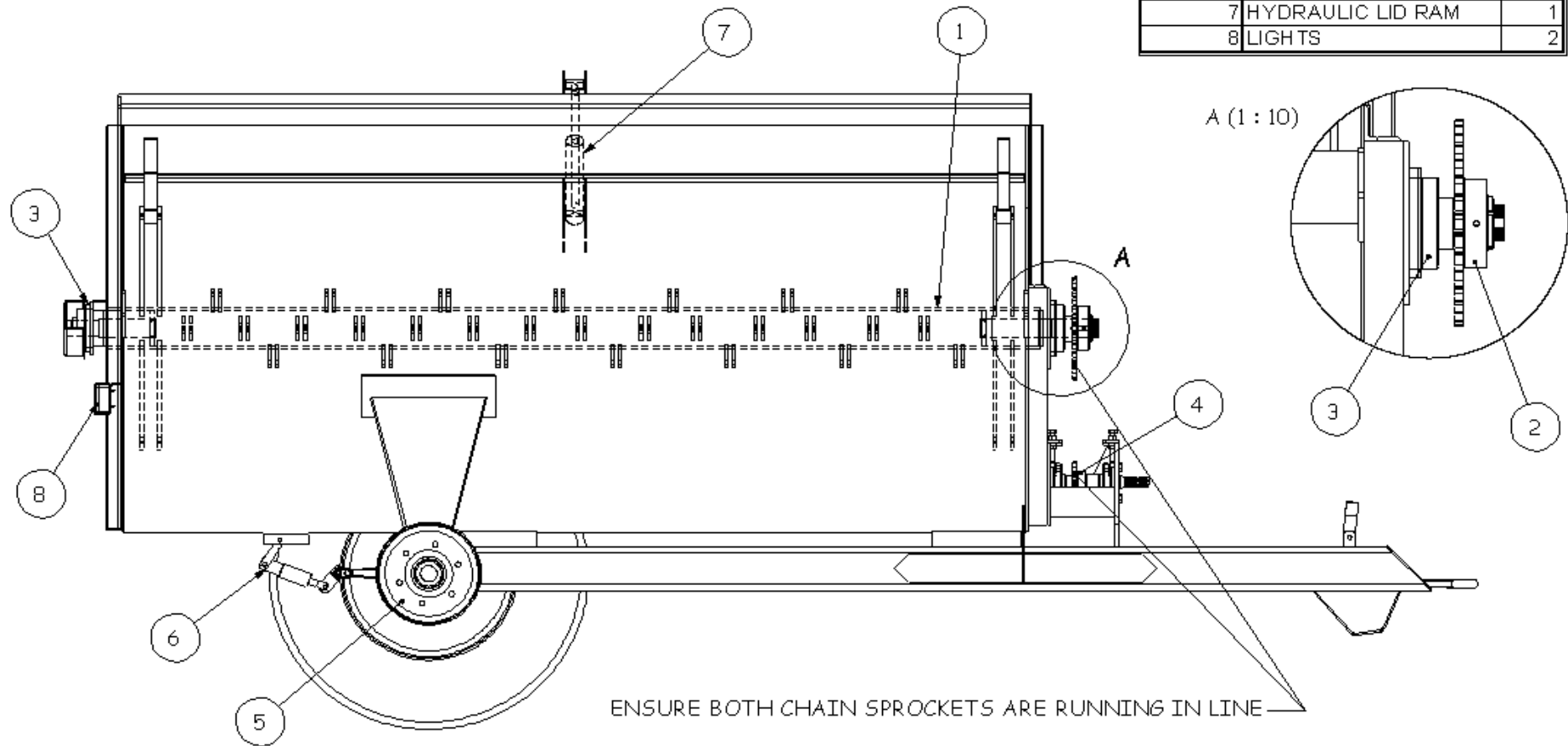
1.4 GENERAL OPERATING INSTRUCTIONS

- Observe all maintenance requirements (See Section 1.6) and ensure operator is competent with machine before commencing operations.
- Check inside the body for any foreign objects.
- Periodically remove twine and cords from the rotor that may have been present in the spreading material.
- Connect the side spreader to the tractor drawbar using a suitably sized pin. Connect the hydraulics taking note of the safety precautions in Section 1.5. Ensure lights are connected and tested to ensure correct working of lights.
- When loading ensure that side spreader lid is in the open position and ensure due care is taken to avoid clashes between the side spreader and loader (See Table 2. for respective capacities).
- The side spreader should be loaded in the following manner: Load the body of the side spreader by loading behind the rotor beginning at the sides of the spreader and loading towards the centre. When the level of the rotor is reached engage PTO and at low RPM rotate driving mechanism wrapping the flails around the rotor. This has the effect of reducing power requirements during side spreader start-up. The side spreader should then be filled towards the centre of the spreader ensuring the side start-up bars are not covered with manure and that lid is able to fully close when side spreader is full. (See manure loading diagram).



MOVING PARTS DIAGRAM

ITEM No.	DESCRIPTION	QTY.
1	ROTOR	1
2	SPROCKET (LARGE)	1
3	FLANGE BEARING	2
4	GEARBOX ASSEMBLY	1
5	WHEEL HUB	1
6	HYDRAULIC BRAKE KIT	1
7	HYDRAULIC LID RAM	1
8	LIGHTS	2



NOTE: HYDRAULIC BRAKE KIT & HYDRAULIC LID RAM AS STANDARD ON M550 AND M570 VERSIONS ONLY