

# ***SPREADMASTER***



## **SP Series**

**OPERATING INSTRUCTIONS AND SPARE PARTS**  
**READ CAREFULLY BEFORE OPERATING MACHINE**

July 2006

## Technical Data



### SERIES "SP"

Model	SP 150	SP 250	SP 300	SP 400	SP 500
Capacity	149 li	198 li	250 li	302 li	350 li
Max carrying capacity	180 kg	270 kg	325 kg	405 kg	480 kg
Loading height	0.89 m	0.97 m	1.02 m	1.07 m	1.15 m
Width	0.91 m	1.00 m	1.07 m	1.15 m	1.20 m
Empty weight	50 kg.	52 kg	54 kg.	57 kg.	60 kg.
Spreading width	6 – 14 m *	6 – 14 m *	6 – 14 m *	6 – 14 m *	6 – 14 m *
Absorbed power	8 hp	8 hp	8 hp	8 hp	8 hp
P.T.O. r.p.m.	540	540	540	540	540

\* Depending on fertiliser composition

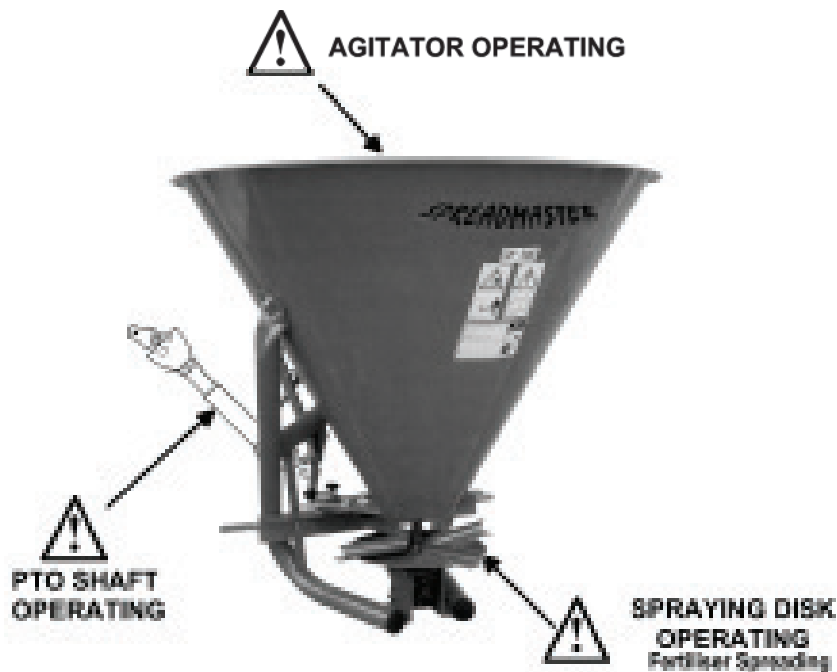
The technical data are approximate and not binding. The Manufacturer reserves the right to modify them without notice.

### ACCESSORIES AVAILABLE

- ◆ Fertiliser agitator
- ◆ Remote control cable
- ◆ Side discharge kit
- ◆ Four row discharge kit

You have selected our spreader and we thank you for the confidence you have placed in purchasing our machine. For proper use and to get the best capacity from the machine, we ask you to carefully read these instructions.

**Please return the completed warranty card promptly**



## 1 - HOW TO USE THE MACHINE

The spreader cannot be used for purposes other than those for which it has been designed.

The liability is null and void in case of damage occurred if the machine is used for applications different than those specified by the manufacturer.

Correctly operating the machine also implies:

- Following the operating, maintenance and repair instructions given by the manufacturer
- Using original parts and accessories approved by the manufacturer.

The spreader must be operated and repaired by skilled operators who are familiar with correctly operating the machine. The operators must be also aware of the dangers that can arise with the use of the machine.

The operator is requested to strictly follow the rules concerning:

- accident prevention
- labour safety rules
- travelling on public roads.

The operator must strictly obey the warning labels on the machine.

Any liability arising from modifications made on the machine by the user or any other person without the express written consent of the manufacturer is born by the machine's owner.

The spreader does not exceed under normal working conditions a sound level of 80 dB.

Prior to operating the machine/tractor combination ensure that they conform with all safety rules and the traffic code.

## 2 – GENERAL INSTRUCTIONS

1. Strictly adhere to all safety and accident prevention rules, regulations and OSH guidelines in addition to the instructions contained in this manual.
2. The warnings placed on the machine show safety measures to be taken to prevent accidents.
3. When travelling on public roads strictly follow the traffic rules.
4. Prior to starting work the operator must become familiar with the controls and operating devices on the machine and their respective functions.
5. Wear appropriate clothing. Loose clothing can become entangled in moving parts.
6. It is advisable to operate on tractors provided with a cabin and with a safety frame according to the local regulations.
7. Prior to commencing operations check for people or livestock in the vicinity of the machine. Only operate the equipment if you have good visibility. Move any animal or person away from the dangerous area of the machine (spreading area).
8. Do not carry animals or allow other persons to ride on the machine during operation.
9. The connection of the machine to the tractor must be made to all the available engagement points.
10. Take caution attaching or removing the machine onto/from the tractor.
11. Prior connecting the machine, be sure that the ballasting of the front axle of the tractor is suitable. The ballasting must be attached to the proper approved brackets in accordance to the tractor manufacturer's specifications.
12. Be sure that the tractor front axle loading does not exceed permitted limits.
13. When travelling on the public roads ensure to comply with all rules concerning clearances, overhangs and maximum dimensions.
14. Prior to travelling on a public road ensure that all guards and signalling devices (lights, reflectors, etc.) required are fitted.
15. All remote control devices (cables, ropes, rods, flexible lines, etc.) must be positioned in such a way as to prevent to movements which could lead to accidents or damages.
16. Do not leave the operating seat while the tractor is still moving.
17. The speed and the way of driving must be appropriate to the nature of the ground. In all cases do not perform sudden direction changes.
18. The steering uniformity, tractor adhesion, road holding and the efficiency of the braking devices are influenced by the following factors: weight and nature of the connected machine, ballasting of the front axle and the state of the ground or paving. It is important then, to follow exercise caution appropriate to each situation.
19. Take care when steering taking into consideration the trim, length, height and weight of the machine.
20. Prior using the machine check that all the guard devices are applied and be in good state. Damaged guards must be immediately replaced.
21. Prior beginning the job check the tightness of nuts and screws, particularly those which are securing the implements (discs, fins, deflectors, etc.). Tighten them if necessary.
22. Do not enter the operating area of the machine (spreading area).
23. **Caution!** Check for cracks and shearing which may occur on the remote control devices, particularly those hydraulically controlled.
24. Switch off the engine prior to leaving the tractor seat or working on the machine, removing the key and waiting until all the moving parts have stopped.

## **2 – GENERAL INSTRUCTIONS** *(continued)*

25. Do not move between the machine and the tractor without having previously engaged the hand brake, or having securely chocked the wheels.
26. Prior to performing any work on the machine be sure that it cannot be inadvertently moved.
27. Read carefully the instructions printed on the bags of fertiliser concerning the toxicity or corrosiveness of the product. Follow any precautions to be taken. Prior to loading the fertiliser into the hopper disengage the power take off, switch off the engine and remove the starting key.
28. Caution! Do not operate on a grade over 1 in 10 because of the danger of rolling over.

## **3 – MOUNTING THE SPREADER**

1. When connecting or disconnecting the machine to/from the tractor, place the 3-point linkage lever in such a position as to prevent it to be operated or accidentally moved.
2. When connecting the machine onto the three points of the tractor, be sure that the forks and pins match the diameter of the tractor's joints.
3. **Caution!** Check around the three connection points for cracks or breaks.
4. Do not stand between the machine and the tractor when operating the hydraulic control lever.
5. During transportation the linkage arms must be secured by tightening the swing chains to prevent movement of the machine.
6. When the machine is not to be transported in raised position, lock the controlling lever.

## **4 - MOVING PARTS (P.T.O. and P.T.O. shaft)**

7. Only use the power take off shaft delivered with the machine or those approved by the manufacturer.
8. Always use the guards on the P.T.O. and power take off shaft and ensure they are in a good state.
9. Check the tubes of the power take off shaft are correctly overlapped and positioned while operating and during transportation.
10. Prior to connecting or disconnecting a power take off shaft, disengage the power take off and remove the key.
11. If the power take off shaft is equipped with a torque limiting device or with a back stop, the back stop must be firmly mounted on the power take off of the machine.
12. Be careful when assembling to correctly position the power take off shaft.
13. Be sure that the guards of the power take off shaft are secured by means of the chains provided for this purpose.
14. Prior to engaging the power take off be sure that the selected speed and direction of rotation re in accordance with the specifications of the manufacturer. Only engage the power take off at low engine speed.
15. Prior to engaging the power take off be certain that no persons or animals are around the machine.
16. Disengage the power take off when the angle of the power take off shaft is going to exceed 25°.
17. **Caution!** After disengaging the power take off, the moving parts will continue to rotate for a period. Stay clear until they have come to a complete standstill.
18. When storing the machine, the power take off shaft must be supported by a suitable chain.

19. After removing the power take off shaft from the power take off ensure the guards are replaced immediately.

## 5 - MAINTENANCE

20. Before performing any maintenance or repairs, disengage the power take off, switch off the engine and remove the key from the panel.
21. Periodically check the tightness of nuts and screws. Tighten where necessary.
22. Before performing any maintenance on the machine in a raised position, prop it securely with appropriate props.
23. When replacing parts, wear gloves and use the correct equipment.
24. To preserve the environment do not burn or dump oils, greases and filters of any kind. Take them to an approved agent for their recycling or disposal.
25. Check all guards devices for wear. Replace them if necessary.
26. Spare parts must be in accordance with the specifications given by the manufacturer. Only use manufacturer's originals spare parts.
27. Before welding when the machine is connected to the tractor, remove the alternator and battery cables.

## 6 – BEFORE OPERATING

### A - On Delivery

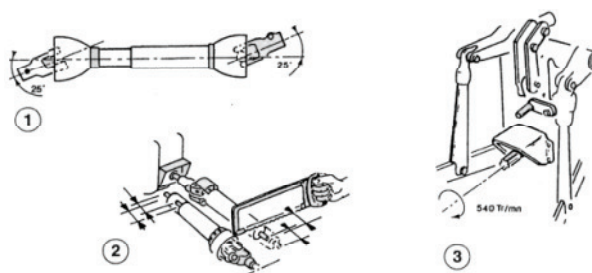
28. Check to see that no parts are missing.
29. Be sure that the hopper is free from foreign matter.
30. The spreader must be used for the designed purpose only.
31. Check for any damage that occurred during transportation and that no bags or parts are missing. These claims will only be considered if reported on delivery.
32. Note any damage on the carrier's consignment note.
33. In case of queries or disputes refer the matter to the supplier.

### B - Maintenance

34. Clean all parts ensuring that you do not use any solvent or materials that will damage the gear box, or other parts of the machine.

### C - Transmission

35. Before using the machine grease the power take off shaft.
36. To preserve the power take off shaft in a good working state (*see figure*)



- ★ ① Do not exceed the power take off working angle of 25°. Check that the length of the power take off shaft suits your tractor.
- ★ ② Leave a clearance of 3 cm at each end.
- ★ ③ The rotational speed must be 540 r.p.m..

### D - Connection

1. The spreader must be connected to the three point linkage.
2. The position of the lugs on the machine and the tractor must match.
3. Place the spreading disc or the oscillating tube parallel and 70 – 80cm above the ground level.

## 7 - ADJUSTMENTS

### A - Capacity adjustment

1. Adjust the position of the lever opening the port according to: the quantity to be spread, the tractor speed and the fertiliser used by placing the index from 0 to 10.
2. To achieve a uniform capacity keep a constant forward speed.
3. Adjustment rules, *see table*.

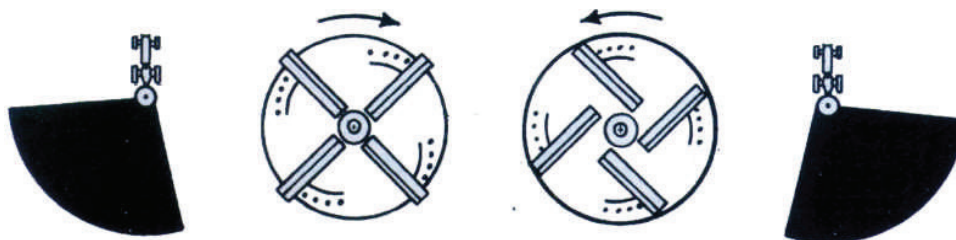
		Kilograms per Hectare											
		Spreading Width 8m				Spreading Width 13m				Spreading Width 18m			
		Tractor Speed (Kph)				Tractor Speed (Kph)				Tractor Speed (Kph)			
		2	4	8	12	2	4	8	12	2	4	8	12
Lever Position	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	61	30	16	10	37	18.7	10	6	27	13.5	7	4.5
	2	164	82	41	27	101	50.5	25	17	73	36.5	18	12
	3	450	225	112	74	277	138	69	46	200	100	50	33
	4	862	431	215	144	530	265	132	75	383	191	96	64
	5	1350	679	339	225	831	415	208	138	600	300	150	100
	6	1800	900	450	299	1108	554	277	184	800	400	200	133
	7	2250	1125	562	376	1385	692	346	231	1000	500	250	167
	8	2700	1350	675	450	1662	831	415	277	1200	600	300	200
	9	3150	1575	787	524	1939	969	485	323	1400	700	350	233
	10	3600	1800	900	600	2216	1108	554	370	1600	800	400	267

For Models with Discs made of Steel

### B – Width Adjustment

The spreader had been designed to get a good fertiliser distribution on the ground. To get good results it is necessary to reach the following conditions:

1. Keep the power take off rotational speed at 540 r.p.m. (*the spreading width is strongly influenced by rotational speed*).
2. Keep the machine in the horizontal position and the centrifugal disc or oscillating tube at 70 to 80cm above the ground level.
3. Keep the spreading fins and the oscillating tube in a good state.
4. Replace the hopper agitator if worn.
5. Other factors influencing the fertiliser distribution:
  - ★ The unit weight of the product and its dimension.
  - ★ The specific humidity and the wind.
6. To obtain the desired distribution, adjust the position of the disc fins:
  - ★ Move them back if the fertiliser is mainly spreading towards the left side.
  - ★ Move them forward if the fertiliser is mainly spreading towards the right side.





## 8 - MAINTENANCE AND PRESERVATION

The spreader is an agricultural implement whose maintenance is difficult to perform. It is constantly submitted to the worst conditions:

- ★ - Chemical etching: potassium, phosphoric acid, nitrogen.
- ★ - Mechanical damages: granulated abrasion, shocks and scoring.
- ★ - Weather damages from rain and the inclemency of the weather, closeness to the sea.
- ★ - High pressure washing: high pressure too close to the machine.

1. Before Starting Work:

- ★ Spray a mixture of fuel and oil on the implement, especially on concealed parts and corners. Do not forget to do this in a ventilated room or in the open air.
- ★ Apply, by means of a brush or greaser, a thick grease onto the moving parts such as power take off shaft and spiders.

2. After Each Working Session:

- ★ Wash the implement after without excessive pressure and without directing the jet into the moving parts such as bearings.
- ★ Carefully dry the implement (*Water + fertiliser = liquid fertiliser = corrosion*).
- ★ Spray a mixture of fuel and vegetable oil on to the implement. Do not forget to do this in a ventilated room or in the open air.
- ★ Grease the moving parts with a brush.

3. At the End of Each Season:

- ★ After washing, drying, spraying and greasing store the implement out of the weather. The corrosion causes serious damage when the implement is not used.
- ★ If cracks and scoring have taken place, brush them using a wire brush and smear them with a rust proof preventer.
- ★ Store the implement on wooden boards.

4. To be checked:

- ★ Check all nuts, bolts and screws after 10 hours of operation. Tighten them if necessary.
- ★ Check the state of the moving/wearing parts. Replace them if necessary.
- ★ The oil level for models equipped with an oil-filled gear box. Replace the oil after the first 30 hours of operation and then after each 150 hours of operation using an SAE 85 W140 oil.

## NOTES

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## Series SP

N°	Code	Qty	Description
1	04.000.01.00	6	Nut
2	04.000.02.00	3	Cyl. screw
3	04.000.03.00	5	Hex. screw
4	04.000.04.00	4	Spring washer
5	04.000.05.00	7	Nut
6	04.000.06.00	5	Washer
7	04.000.07.00	6	Washer
8	04.000.08.00	1	Hex. screw
9	04.000.09.00	1	Lever
10	04.002.10.01	1	Lever bracket DG
11	04.000.11.00	1	Hex. screw
12	04.000.12.00	1	Nylon washer
13	04.000.13.00	1	Spring
14	04.000.14.00	1	Self-locking nut
15	04.002.15.01	1	L.S shutter DG
16	04.000.16.00	1	PTO shaft external guard
17	04.002.17.01	2	Tie DG
18	04.000.18.00	1	PTO shaft internal guard
19	04.000.19.00	1	Articulated stirrer wheel
20	04.000.20.00	1	Cotter pin Ø4
21	04.000.21.00	2	PTO shaft external fork
22	04.000.22.00	1	Powder articulated stirrer beam
23	04.000.23.00	1	Self-locking nut
24	04.150.24.01	1	Spring ring
25	04.000.25.00	1	Fork with external tube
26	04.000.26.00	1	Fork with internal tube
27	04.150.27.01	3	Allen screw
28	04.000.28.00	3	Hand wheel
29	04.000.29.00	1	Lever stopper
30	04.002.30.01	1	R.S shutter DG
31	04.002.31.01	1	Scaled rod DG
32	04.150.32.01	1	Frame SP 150-250-300-400
32 a	04.150.32.51	1	Frame SP 500
33	04.000.33.00	1	Guard
34	04.000.34.00	2	Hex. screw

N°	Code	Qty	Description
35	04.149.35.01	1	Hopper SP 150 DG
35 a	04.250.35.01	1	Hopper SP 250 DG
35 b	04.300.35.01	1	Hopper SP 300 DG
35 c	04.400.35.01	1	Hopper SP 400 DG
35 d	04.500.35.01	1	Hopper SP 500 DG
36	04.000.36.00	1	Spring pin
37	04.000.37.00	1	Spring pin
38	04.000.38.00	1	Self-locking nut
39	04.000.39.00	1	Stationary stirrer
40	04.000.40.00	1	Hex. screw
41	04.000.41.00	8	Hex. screw
42	04.000.42.00	4	Spreader wing
43	04.000.43.00	1	Spreader disc
44	04.000.44.00	8	Spring washer
45	04.150.45.01	1	Outgoing shaft
46	04.000.46.00	1	Hex. screw
47	04.000.47.00	8	Nut
48	04.150.48.01	1	Seal ring
49	04.150.49.01	2	Bearing
50	04.150.50.01	3	Nut
51	04.000.51.00	1	Powder articulated stirrer
52	04.000.52.00	2	Rubber cap
53	04.000.53.00	3	Hex. screw
54	04.150.54.01	1	L.S half box
55	04.000.55.00	3	Nut M10
56	04.000.56.00	3	Spring washer
57	04.000.57.00	5	Washer
58	04.150.58.01	1	R.S half box
59	04.150.59.01	1	Ingoing shaft
60	04.000.60.00	2	Spider
61	04.002.61.00	2	Spring's tie DG
62	04.002.62.00	1	Tie attachment plate DG
	04.150.70.00	1	PTO shaft assembly
	04.150.71.01	1	Gear box assembly
	04.150.72.00	1	Articulated stirrer assembly

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