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OPERATOR'S MANUAL
Instructions for maintenance – Security norms

Square shaped fertilizer spreader

Model: SP400, SP400R, SPR600, SPR800, SPR1000





Please, read carefully this manual before effecting any operation-
Should this machine be resold, please hand over this manual to new
proprietor

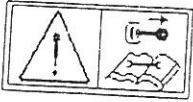
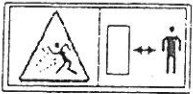

Symbology

Adhesives and plates with symbols on them are applied on the equipment. These security symbols serve to attract the operator's attention in order to avoid possible risks of accidents during work, servicing and storage.

This manual will explain the following symbols:

Symbol	Description
	Use protection gloves
	Use safety eye glasses

The following symbols are attached to the equipment:

Symbol	Description
	Consult the operator's and servicing manual
	Do not pass or stay near the equipment while in use
	Danger for hands and/or feet

Security rules and prevention of accidents

The personnel assigned to use the fertiliser spreader must be competent and must possess good physical and visual conditions and must be able to co-ordinate the different functions. Moreover they must apply the established rules and they must act with the necessary precaution while carrying out a job, so that they do not expose themselves or other people to danger.

The operator must put the indications given in this manual into practice and he has also to make possible third persons assume their responsibilities.

The operator must act only after being certain and sure on how to use the entire equipment. He must not neglect the servicing of the machine.

During the job, the operator must be able to control the machine and the proximity where the machine operates.

If there are people in a range of 30 metres, the work must be stopped and taken up again only after the area is safe.

It is compulsory to wear working garments which are not too wide, preferably overalls, which have no loose parts that can get entangled with parts of the machine.

Do not work without a sufficient lighting of the working area.

Do not make any emergency repairs on the machine in order to start or finish a job.

Check that the instruction/warning plates and adhesives are clean as to be easily seen and that the security devices are in place and well locked.

Do not drink alcohol or take medicines before or during the work or when carrying out maintenance/service work.

Always use gloves and if necessary safety eye glasses during the servicing of the fertiliser machine.

Do not clean or oil parts of the fertiliser machine while in motion/use.

Check the conditions of the bolts and tighten them adequately before starting to work.

Check if there are extraneous objects in the hopper and be careful not to drop the bag, which contains the fertiliser, into the hopper.

Do not carry objects that could slip out of your pockets or your breast-pockets while leaning over the machine.

The operator must never leave the driving place before:

1. disconnecting the power-take-off shaft
2. lowering the fertiliser-spreader to the ground
3. turning off the tractor engine
4. inserting the parking brake and low gear
5. taking the ignition key out of the control board

All the necessary interventions must be carried out when the fertiliser spreader machine is turned off.

Traffic circulation

The machine has been planned to operate on agricultural fields, should it be necessary to run on public road the operator must strictly follow the traffic rules. The operator must particularly control:

- longitudinal axle protrusions
- lateral protrusions
- efficiency of the breaking system
- lights and refractive devices

If the operator thinks that the transport of the machine does not correspond to the specific rules here above listed he will have to provide for the transport through adequate alternative means.

The operator will have to remember that the transport of the machine can influence the road adherence, the breaking and direction of the tractor wheels

Before using the tractor on public roads, the operator must eliminate probable earth lumps which will have accumulated in various parts of the tractor and machine in order to avoid dirtying the roads; as in fact a dirty road could provoke accidents.

Important

Children, people who have no driving license, people who are inexperienced and people who are not in good physical and psychological conditions are forbidden to drive the tractor.

It is absolutely forbidden to transport any material but the fertiliser on the machine.

The operator is completely responsible for the tractor when circulating on public roads.

Coupling/connection phases

- While checking that the P.T.O. shaft is idle, bring the tractor near the fertiliser spreader.
- Connect the machine hooks with the respective arms of the lift of the tractor.
- Now insert the security locks in their respective holes
- Connect the shaft to the P.T.O., then insert the anti-rotation chain for the protection of the shaft (tractor side).
- Secure the lift arms in order to avoid oscillations, then adjust them so that the machine will be parallel to the ground.
- Check that at least 20% of the total weight rests on the front wheels; if this situation does not subsist take care by ballasting the front part of the tractor, but without exceeding the capacity limits of the pneumatics.

Attention

All the operations for the connection are very easy, however, it is important to remember that with any operation, it is necessary to keep the maximum attention, in order to avoid any risk of accident.

Assemblage

The fertiliser spreader can also be supplied not assembled, in this case it is necessary to assemble the various parts:

- hopper
- main frame
- spreading unit
- gear unit
- protections

Assembling phases

1. Connect the two tubular parts inserting the bolts in the holes without tightening them.
2. Assemble the gear unit with the special bolts and connect the inferior part of the main frame.
3. Set the shutters in their place on the hopper inserting the axle guide in the central hole.
4. Set the hopper on the main frame, checking that its holes are aligned with those of the main frame. Then insert the bolts and after checking that the hopper is centred, tighten all the bolts.
5. Assemble the levers of the guide sector and connect them to the vanes through the respective devices. The setting is regular when, the levers being position "0", the shutters are completely closed.
6. Insert the agitator shaft in the hole of the guide bushing.

Accessories

The manufacturer provides the client with a series of optionals which can be applied to the machine.

Remote control

Applicable to the interior of the driver's cabin, it permits the operator to regulate the spreading quantity and the opening of the fertiliser flux.

Hydraulic engine

It is possible to replace the gear unit with a oleodynamic function through the tractor pump.

Maintenance

The servicing is a very important part, which has to be considered with great attention, because it permits a lower operational costs and a long life of the tool

Different kinds of servicing

In this part of the manual we examine the most frequent cases of servicing, that is:

after the use

- wash the machine with water
 - dry all the metal parts carefully
 - grease all the mobile parts of the machine
- check and tighten all bolts

periodical servicing

- substitute the oil and grease of the gear box after its first 30 working hours.
- after every subsequent 250 hours of work this operation has to be repeated by unscrewing the drainage cap of the gear box and waiting for the oil to have completely come out.
- turn the machine in such a way as to have the cap opening in the ideal position to fill up the gear box with about 0,25 kg of new oil.
- check the metal parts which are under great strain during working conditions, if necessary replace them.

replacing, servicing

- wash the machine with water and sodium carbonate, taking care of drying the machine properly.
- retouch the metal parts with paint, where it is necessary, lubricate the mobile part with grease and for the rest, sprinkle with spray oil.
- protect the machine by covering it with a nylon or canvas cover, then stowing it in a dry room lacking humidity and in heightened position in comparison with the ground.

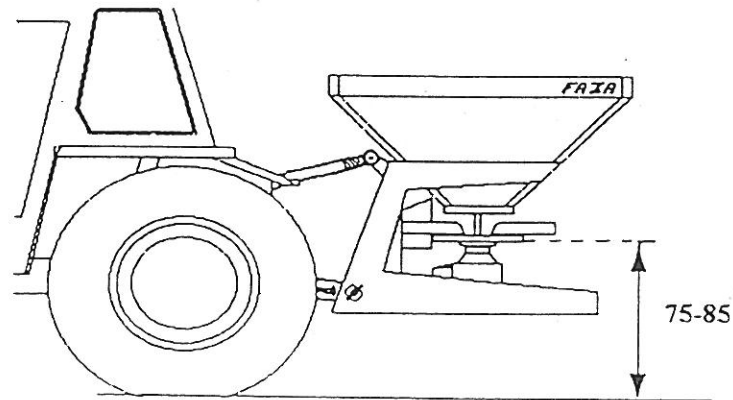
In order to achieve a better preservation of the fertiliser spreader machine, dismount the hopper and the distribution disc.

Demolition

When the operator thinks it convenient to put the machine in disuse, he will have to remember:

- to wash the machine.
- to take away the grease and to remove the oil from the gear box.
- give everything to firms specialising in recycling and scrapping.

Coupling the spreader machine to the tractor



The coupling operation can present some dangers, in order to safeguard the safety of the operator and of possible assistants, you are kindly requested to follow the following instructions with the greatest care.

Attention

All coupling operations must be carried out on a level ground, the engine off, the parking brake and low gear inserted, in the presence of the operator and possible authorised assistants.

Preparatory and control phases

- check the setting adequately.
- verify that the power-take-off and the 3-point linkage are of the same category needed to fit the machine.
- check that the 3-point linkage is in vertical position and that there isn't any shifting or overturning risk.
- verify if the power and the weight of the tractor are adequate to transport the fertiliser spreader machine.
- keep in mind the capacity of the lifter, that is, consider that the barycentre of the machine is in the centre line of the length.
- verify that the rations speed is 540 turns per minute

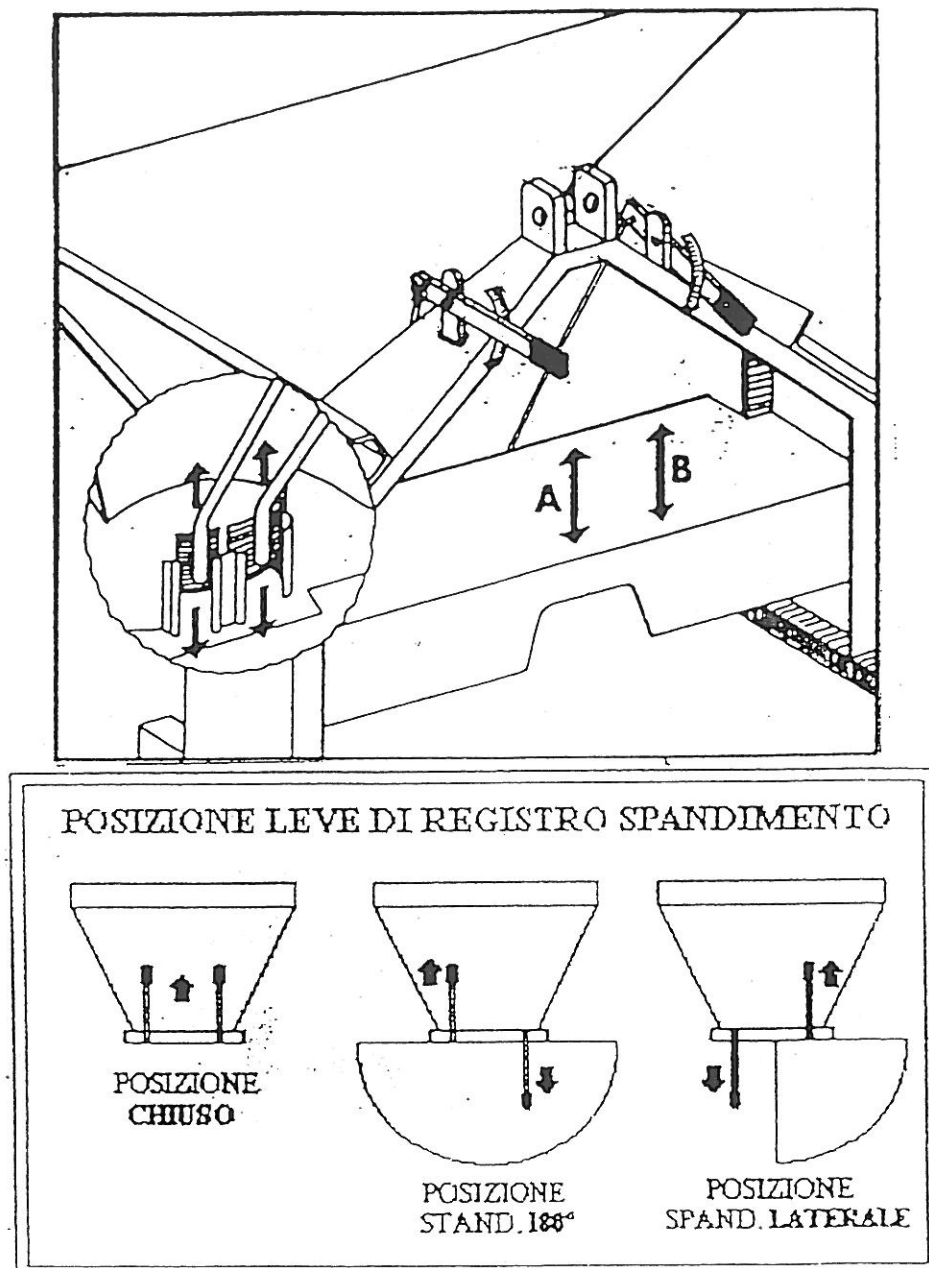
The fertiliser spreader machine must absolutely not work at different speeds and the rotations of the P.T.O. shaft must turn clockwise.

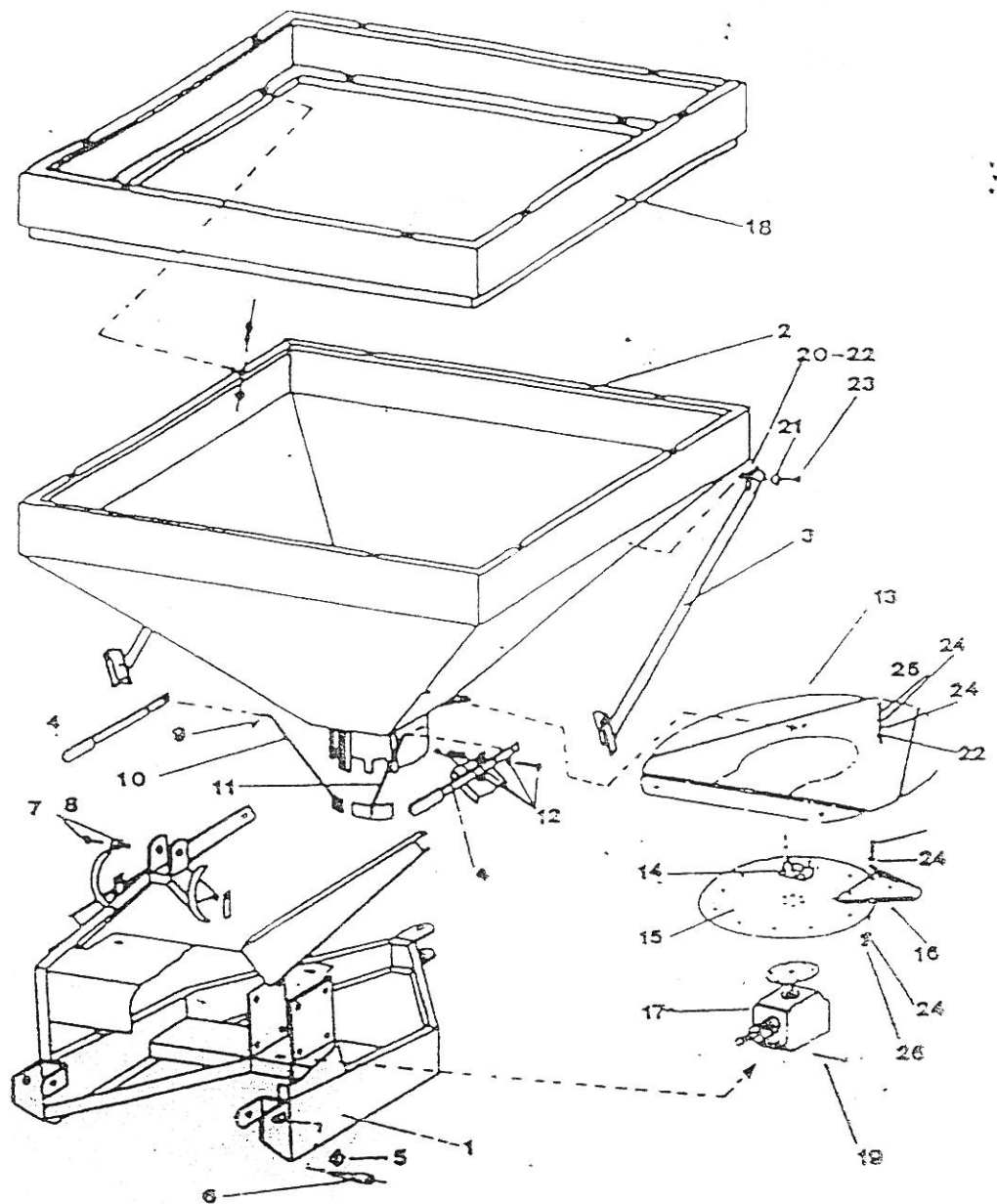
Directions for use

In this paragraph of the manual we have listed the modalities of use of the machine, considering the operations of control, of clenching and of loading the fertiliser spreader machine, as already executed.

Always check that nobody is in the security range of 30 metres. Insert the P.T.O. shaft slowly, release the clutch pedal in such a way as to control a perfect function of the machine.

Regulation for the fertiliser spreading:





1. FRAME	13. DISC
2 .HOPPER	14. AGITATOR
3. SIDE REINFORCEMENT	15. FAN HOLDER DISC
4. LEVER	16. FAN
5. SPLIT PIN O 9X45	17. GEARBOX
6. PIN I-II CATEG.	18. EXTENSION
7. HANDLE	19. SCREW TE 10 MA X 120
8. LEVER STOPPER	20. FLAT WASHER O10
9. SPLIT PIN O 3X30	21. FLAT WASHER
10. R.H. RATE METERING	22. HEX. NUT 10 MA
11. L.H. RATE METERING	23. SCREW TE 10 MA X 30
12. COMPLETE CLUTCH	24. FLAT WASHER O 8
12a. SELF BLOCKING NUT 10 MA	25. SCREW TE 8 MA X 20
12b. SPRING	26. HEX. NUT 8 MA
12c. SCREW	
12d. WASHER	

Spreading chart for Seeds SPR

Quantity to be spread in Kg per Hectare

SEEDS	Pto speed Rpm	Spreading width in m	Feed	Forward speed in Km per Hour				
				2	4	8	12	16
Wheat	540	25	3	213	80	38	26	17
			5	1942	726	361	240	180
			8	5037	1886	940	626	466
Vetch	540	25	3	208	76	36	22	16
			5	1973	740	340	180	182
			8	4817	1777	886	590	441
Rye	540	25	3	221	81	37	26	16
			5	2080	777	389	261	193
			8	5064	1898	946	632	470
Barley	540	20	3	173	64	30	18	12
			5	2720	1018	508	337	253
			8	6437	2414	1204	805	600
Red Clover	540	20	3	580	226	109	76	53
			5	4862	1821	910	605	454
			8	9946	3728	1860	1241	617
Hill Rice	540	25	3	240	106	78	52	42
			5	1969	753	386	266	206
			8	5064	1913	967	652	493
Millet	540	18	3	606	226	113	74	54
			5	4876	1829	1046	608	454
			8	9292	3480	1738	1160	866
Lucerne	540	17	3	566	212	105	69	52
			5	4536	1701	848	566	424
			8	10953	4106	2053	1366	1024
Oats	540	19	3	121	45	23	13	9
			5	2593	970	485	323	243
			8	7152	2680	1339	893	669
Sugar Beet	540	18	3	120	53	21	13	11
			5	1580	591	293	196	147
			8	3640	1364	683	340	337

Spreading chart for Fertilizers SPR

Quantity to be spread in Kg per Hectare								
Fertilizers	Pto speed Rpm	Spreading width in m	Feed	Forward speed in Km per Hour				
				2	4	8	12	16
NP NPK	540	25	3	805	413	205	130	100
			5	1584	790	400	260	195
			8	3200	1600	805	530	402
UREA	540	20	3	1320	660	330	220	186
			5	2610	1310	653	437	326
			8	5200	2610	1304	867	646
Calc. Cynamide	540	22	3	2261	1130	565	377	284
			5	4350	2266	1133	754	566
			8	9013	4506	2200	1501	1126
Potassium Sulphate	540	18	3	1056	526	264	174	130
			5	2125	1064	621	354	185
			8	4245	2120	1061	706	526
Ammonium Sulphate	540	10	3	1370	693	340	229	172
			5	2720	1361	680	453	342
			8	5440	2726	1360	897	673
Calcium Nitrate	540	22	3	846	420	210	140	105
			5	1700	852	426	284	212
			8	3420	1713	856	570	426
Ammonium Nitrate	540	24	3	1170	585	293	194	146
			5	2393	1197	600	397	300
			8	4766	2386	1193	796	596
Thomas meal	540	18	3	493	253	126	86	62
			5	966	486	240	161	122
			8	1933	964	482	321	240