

INSTRUCTION MANUAL



CROPMASTER

WHEEL RAKES

CONGRATULATIONS

Dear Owner,

Thank you for buying a SOVEMA manufactured product.

Your new machine is carefully designed and manufactured to give you superior performance and dependable service, if properly operated and maintained.

You will find this machine to be rugged and reliable when matched to the suggested horse-power operating range.

Much time has been invested in providing safety and protection. Please carefully read this manual. It tells you how to safely and easily assemble, operate and maintain your machine.

Be sure that you and any other operator carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

Of course, if you should ever have any problems or questions, please contact your local SOVEMA dealer or contact us at the addresses or numbers indicated in this manual.

SOVEMA manufactures a variety of innovative equipment. If you are interested in reviewing our full line, please contact us.

Thanks for your choice.

Ginettino Mayer
President

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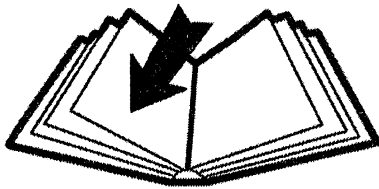
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SYMBOLS

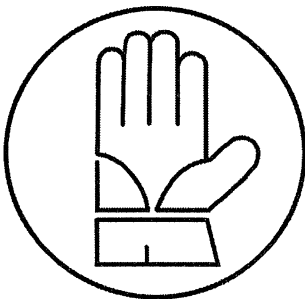
These symbols appear throughout this manual.
Remember their meaning and advice.



**MEANS:
CAUTION! YOUR SAFETY IS INVOLVED**

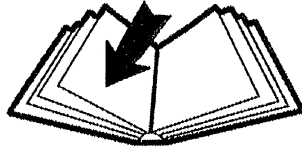


**MEANS:
READ CAREFULLY**



**MEANS:
USE PROTECTIVE GLOVES**

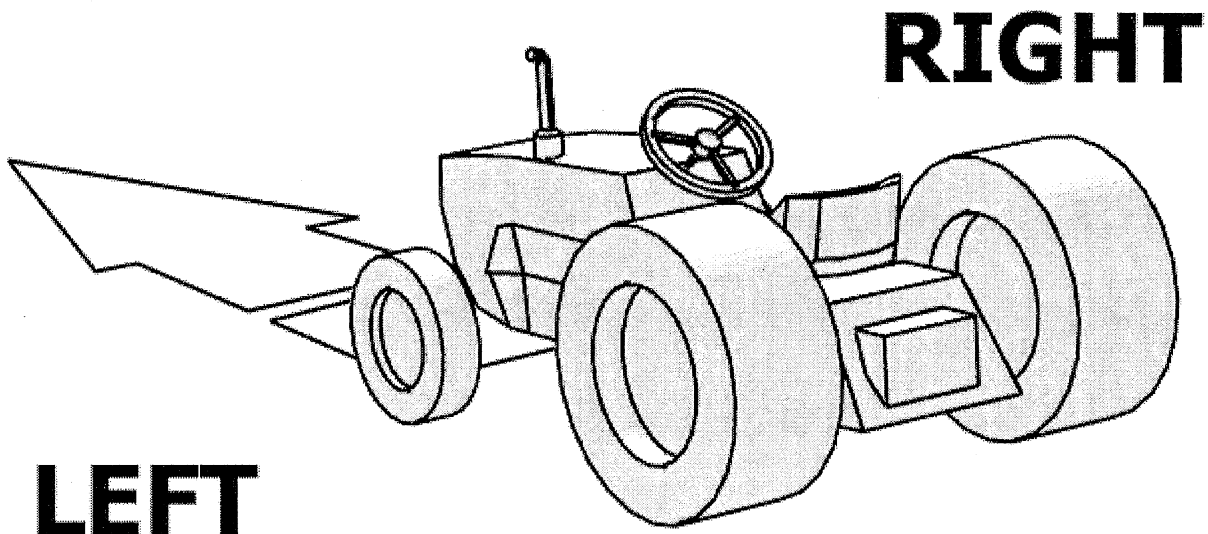
GENERAL INFORMATIONS



All implements with moving parts are potentially hazardous. The manufacturer has designed the implement to be used with all the safety equipment properly attached. The purpose of this manual is to assist you in safety maintaining and operating the implement.



These instructions have been compiled from our experience. Through this experience and these instructions, you should be able to develop operating procedures suitable to your particular situation.



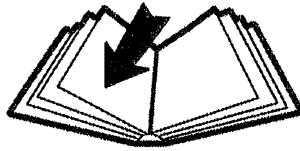
Illustrations and data used in this manual may vary slightly in some details. Throughout this manual references are made in left and right directions. These are determined by standing at the rear of the equipment and facing the direction of forward travel.



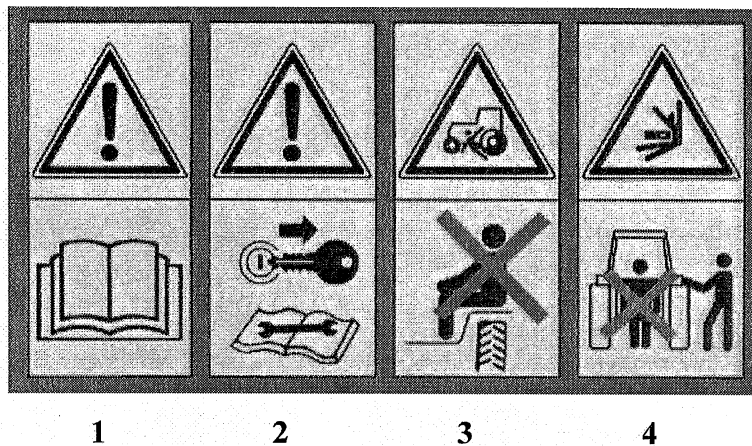
Even if some illustrations in this manual show the machine with safety shields removed for a better view, never operate in these conditions.





BEFORE OPERATING THE IMPLEMENT, ALL SAFETY SHIELDS OR DEVICES MUST BE MOUNTED

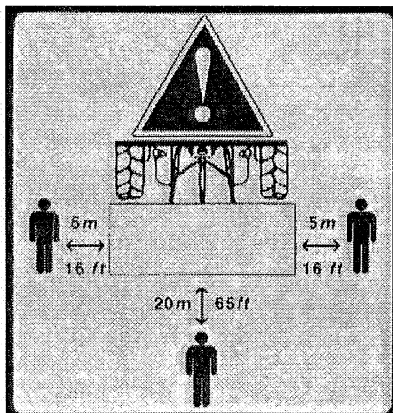
SAFETY AND WARNING DECALS



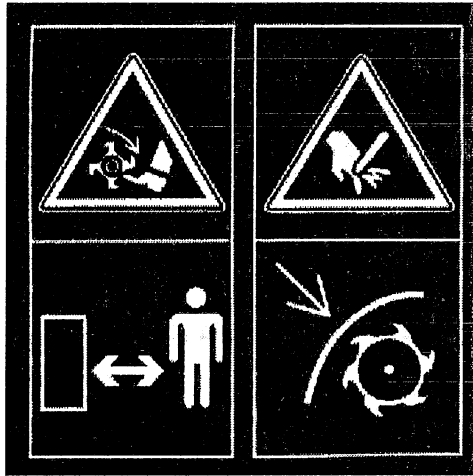
Safety decals on the implement contain important safety warning messages. To prevent injuries we invite the operator to read them carefully and keep them clear. Check that all the decals are on the machine. If not, **DO NOT USE** the machine and report to the Dealer immediately to get the decals. Decals on the machine are the following and mean:



-  1. Before operating the equipment, read carefully the operator's manual.
-  2. Before maintenance operation, lower the implement, shut off the engine and read the operator's manual.
-  3. Do not allow riders on tractor or implement.
-  4. Do not stand up behind the tractor during the operations.



Caution! During working operations all bystanders must stay beyond the above shown distances from the implement.



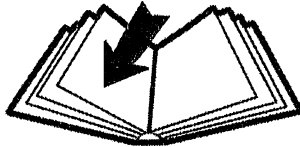
VERY DANGEROUS!!

Do not stand in the machine's area while it is working












SAFETY INSTRUCTIONS



Before using the implement you must be sure to know the main safety precautions; in fact many accidents are caused by not observing these rules.



Preparational and operational safety

-  Make sure that no person operates this machine unless they first, thoroughly read and study the operator instructions for this machine and understand all the safety precautions.
-  Keep all guards, shields and safety decals in place and proper working order before operating this machine.
-  Operate only with a tractor equipped with an approved Roll Over Protective System (ROPS) and always wear your seat-belt.
-  Operate only in daylight or good artificial light.
-  Only trained personnel can operate with the tractor and the implement.
-  Personal protection equipment, including safety shoes, safety glasses, hard hat and gloves are recommended during the different operations. Do not allow long hair, loose fitting clothing or jewelry to be around moving parts.
-  Do not leave the tractor seat until the engine is shut off, brakes locked and ignition key removed.
-  Do not allow riders on the machine or tractor at any time. No safe place for any rider.
-  Keep hands, feet, hair and clothing away from moving parts.
-  To prevent injury by thrown objects DO NOT operate unless all personnel, livestock and pets are 20 m (65 ft) away.
-  The rotating parts of the machine have been designed and tested for rugged use. However they could fail upon impact with heavy solid objects. Such impact could cause the broken objects to be thrown outward at very high speed. To reduce the possibility of serious injury, or even death, never allow the rotating parts to contact such obstacles.



Stop the machine and tractor immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.



No repairs or adjustments should be attempted while the machine is attached to a tractor that is turned on.

Transport safety



Plan your route to avoid heavy traffic.



For public roads, comply with state and local safety and movement rules.



Be sure that the implement is in the raised position for transport.



When you must drive, do not drink.



Pay attention for traffic when operating near or crossing roadways.



Reduce speed when transporting mounted implement to avoid bouncing and loss of steering control.



Pay attention when you turn curves or you go up and down on hills with the implement.



Be sure that at least 25% of the tractor's weight is on the front wheels to maintain safe steering. Drive at a low speed.



NEVER allow riders on implement or tractor. Falling off can kill.



Be a safe and courteous driver.

Maintenance safety



Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

For maintenance follow these common practises:



keep service area clean;
use adequate light for the job;
be sure tools and electrical outlets are properly grounded;
make sure there is plenty of ventilation.



Keep all persons away from operator control area while performing maintenance.



ALWAYS use personal protection devices.



Periodically tighten all bolts, nuts and screws.



The implement manufacturers assumes no liability if replacement parts other than the original factory parts are used.



After servicing, be sure that all safety shields are re-installed properly.

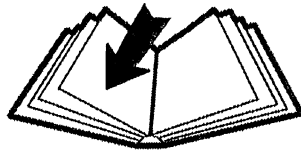


Be sure that all safety decals are installed, clean and in good condition.



If the machine is modified from the original design, no responsibility for the manufacturer can be claimed.

TECHNICAL SPECIFICATIONS

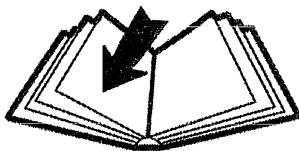


Implement of this manual is a HAY-RAKES series WR-V.

SERIES WR-V

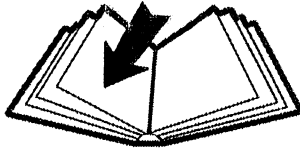
Model	Wheels no.	Working width		HP	Weight	
		ft.	cm		lbs	kg
WR-V 10 H	10	24ft 6"	735	30-50	3252	1478
WR-V 12 H	12	27ft 8"	830	30-50	3564	1620
WR-V 14 H	14	31ft 8"	945	30-50	4136	1880

ASSEMBLY INSTRUCTIONS



See “Assembly Instructions for Sovema WR-V Wheel Rakes”.

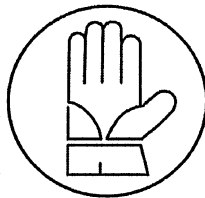
MAIN CHECK LIST



Before connecting the machine to the tractor, read the following instructions:

Be sure the weight and power of the tractor is correct with the implement you want to connect.

If you have any doubt, see the technical specifications.



- Ensure that all safety decals are properly installed and clean.
- Ensure that all safety shieldings are properly installed and in good condition.

ATTACHING THE MACHINE TO THE TRACTOR



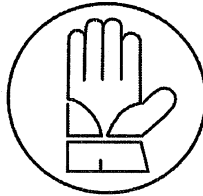
Before attaching the machine to the tractor you must be sure that the engine is shut off, brakes are locked and the ignition key is removed.

This operation must be made on a flat area as it is very dangerous.



Do not allow anyone between tractor and implement when the engine is running.

Follow these instructions:



Connect the hitch of the drawbar to the tractor using a hitch pin and the hair clip pin (see fig 1).

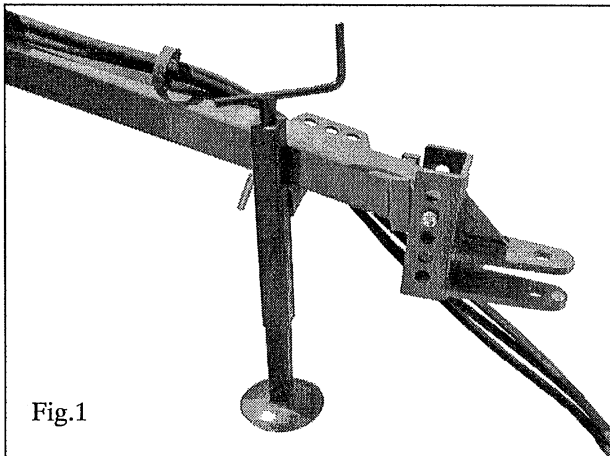


Fig.1

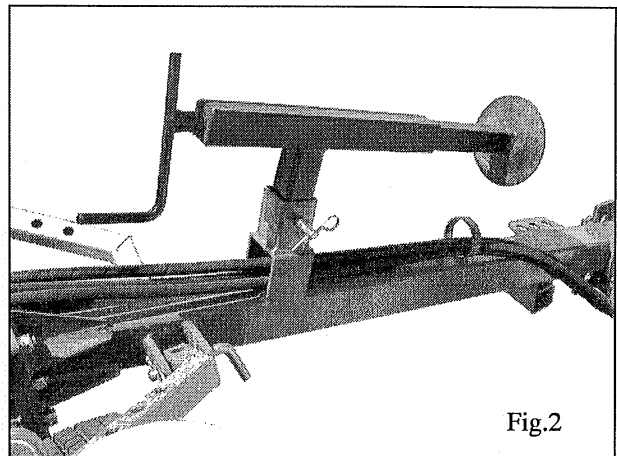
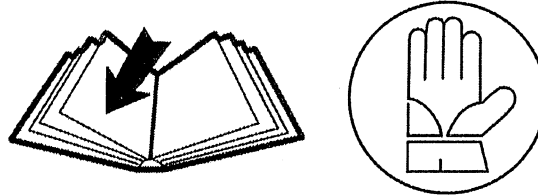


Fig.2



Remove pin "A" from parking stand (see fig 2).

BEGINNING WORK




IMPORTANT:

Before starting Opening/Closing operations of lateral frames and raking operations make sure to disconnect two transport bars N°.133 and N°.134, positioning them longwise on hooks of lateral frames. Open lateral frames N°.177 and N°.178. Do not move lateral frames if front pivoting wheels N°.36 are stuck in ditch or hole. This operation should be carried out on flat ground and with tractor in slow motion in order to facilitate pivoting wheels. If not necessary do not open lateral frames into maximum working width position

Regulate speed adjustment for opening and closing of lateral frames: Connect hydraulic hoses N°.104 and N°.105 to your tractor. Let hydraulic oil flow into tube N°.105 to raise raking wheels. Loosen ring nut N°.109 of regulation flow valve and make sure that lateral frames open and close slowly. Tighten regulation flow valve ring nut N°.109 in order to keep flow adjusted.

IMPORTANT:

When opening and closing WR-V have tractor in slow movement.

 Lower raking wheels and start working operations.

If you wish to have a larger or smaller windrow in the back you must adjust rear width of machine. Loosen the four nuts N°.6 and using ratchet jack lever N°.13 widen or narrow the two rear drawbars N°.1 and N°.2. To make this operation easier we suggest that at least one of the wheels N°.36 be placed parallel to rear drawbars N°.1 and N°.2.

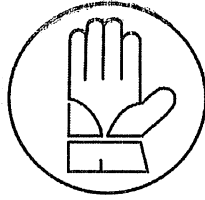
BACK WINDROW REGULATION THROUGH RATCHET JACK:



To regulate the back windrow loose nuts N°.6 that fix drilled plate N°.7, then remove screws N°.24 that fix wheel ass. hub N°.21, loose without removing the central screw N°.22 that fix ass. hub N°.21 to legs N°.20 and N°.14; then rotate of 90° the rear wheels N°.36 bringing them parallel to the rear drawbars N°.1 and N°.2 and, using the ratchet jack N°.13, regulate them at your best position.

After this regulation, bring them back at the original position and tighten everything.

TRANSPORT



Before starting transport operations make sure that two lateral frames N°.177 and N°.178 are parallel to each other and are fastened to front drawbar using the two transport bars N°.133 and 134. This allows the machine to have major stability during transport.



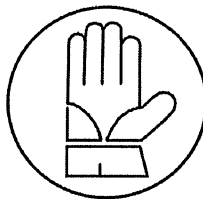
IMPORTANT:

Tighten braking disc N°.80 for road transport and remember to loosen before starting working operations.

DISCONNECTING THE MACHINE FROM THE TRACTOR



Detaching of the machine must be made on a flat area and it is very dangerous.
You must pay attention. Follow these instructions:



Mount two hydraulic cylinder block clamps N°.43 on cylinder N°.42 and fasten with clip pin N°.40.

This operation can be carried out only if rake arms are lifted.



Relieve pressure in hydraulic hoses N°.104 and N°.105 and disconnect from tractor.



Lower support jack N°.126 and disconnect from tractor hook.

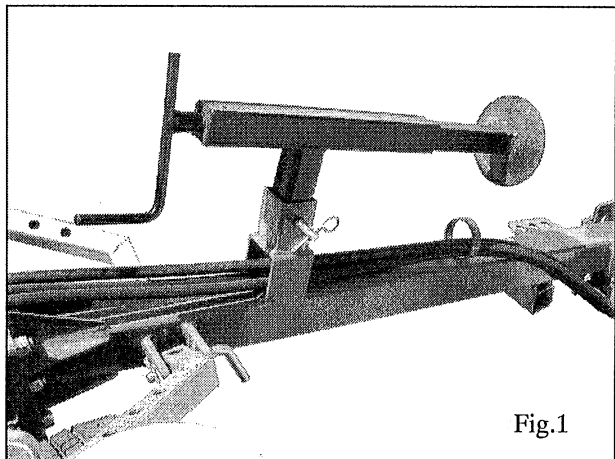


Fig.1

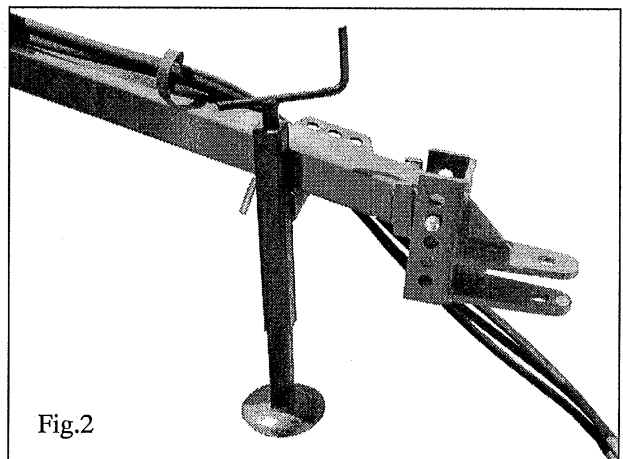
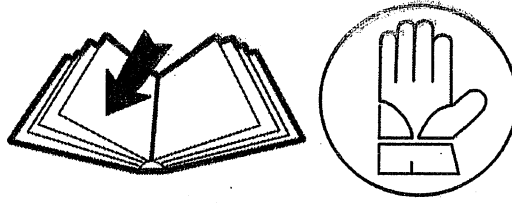


Fig.2

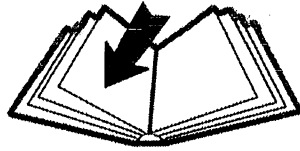
STORING OF THE MACHINE



As your machine is an investment and if remains unused for a long period, we suggest the following procedures:

1. Wash and dry the machine.
2. Check all the moving parts; for excessive wear replace the parts or contact your local dealer.
3. Check bolts and nuts for proper tightness.
4. Lubricate all the active parts like bearings, all grease zerk locations and any other pivot or wear points that may not have a fitting.
5. Lubricate all not-painted parts.
6. Store the machine in a clean and dry place under roof.

MAINTENANCE



For a long life of the machine and trouble free operation, regular program of maintenance is required.

The recommended times of maintenance are for normal use of the machine and can be varied according to the different conditions.



At the beginning of each day of use:

- Check tires. Verify that tires' pressure is among 3/3,5 Atm.

Every 10 working hours:

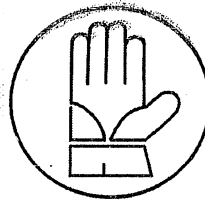


- Clean and then lubricate all grease zerk locations and any other pivot or wear points, where you see the previous label, that may not have a fitting.
- Check for loose bolts, nuts and tines. **TIGHTEN AS NEEDED. TIGHTENING TORQUE OF RAKING WHEELS' SELF LOCKING NUTS IS 34 N . m OR 25 Lb . Ft**
- Clean the machine.

Every 50 working hours:

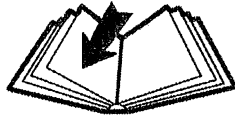
- Inspect the tines for excessive wear and replace as needed.

TOXICOLOGICAL INFORMATION ABOUT THE LUBRICANTS



	Types of Danger	Protective Equipment	Primary Intervention
SKIN	Possible irritation after prolonged contact	Gloves and/or lotion barrier	Wash with soap & water
EYES	Possible irritation on contact	Protective goggles	Rinse thoroughly w/ running water
INHALATION	Possible irritation after prolonged exposure	Maintain an oil mist level of 5mg/m ³ between TLV-TWA limits	Expose to fresh air and call medical assist immediately
INGESTION	Such possibilities not considered		DO NOT provoke vomiting; call medical assist immediately

LIMITED WARRANTY POLICY



SOVEMA S.p.A., Manufacturer of quality machinery, guarantees new Sovema machinery from the time of delivery to the original purchaser to be free from defects in material and workmanship if properly set up and operated in accordance with recommendations set forth in SOVEMA's operator manual. SOVEMA's liability for any defect of accepted goods shall be limited to replacing them, or as SOVEMA shall elect.

The original purchaser will qualify for the SOVEMA warranty only after they have completed the warranty card in full and forwarded it to SOVEMA S.p.A. Italy or any SOVEMA branch.

SOVEMA's obligation shall terminate 12 (twelve) months after the date of purchase of the product by the original purchaser. This warranty cannot be assigned or transferred to anyone unless SOVEMA's consent in writing has first been obtained. All warranty claims must be forwarded to SOVEMA S.p.A. Italy or a SOVEMA branch within 8 (eight) days after occurrence.

The original purchaser will be responsible for and bear costs of:

- A) Normal maintenance such as greasing, maintenance of oil levels, minor adjustments, etc.
- B) Transportation of any kind of, any SOVEMA product to and from the place where warranty work is performed.

This warranty shall not apply to any machine which has been repaired or altered in any way outside the SOVEMA factory which affects its stability or reliability, nor which has been subject to misuse, negligence or accident, nor to any machine that has not been operated in accordance with SOVEMA's printed instructions, or operated beyond the company recommended capacity as per machine.

This warranty shall not be applicable to items which are subject to the warranties of their respective manufacturers. Such items would include but would not be limited to clutches, universal joints, knives, hydraulic components, bearings, tires, belts and other trade accessories.

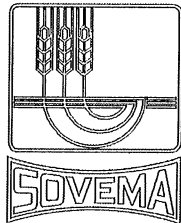
This warranty shall not be applicable to items defined as normal wearing items. Such items would include but would not be limited to belts, discs, knives, tines stone guards, tires, slip clutches, pitman shaft, swath sticks, blades or tine holders.

The judgement of SOVEMA S.p.A. in all cases of claims under this warranty shall be final and conclusive and the original purchaser agrees to accept its decisions about all questions as to defects and/or to the exchange of any part or parts.

No Agent, Employee or Representative of SOVEMA has any authority to bind SOVEMA to any affirmation, representation or warranty, concerning its machinery excepts as specifically set forth.

SOVEMA shall not be liable for special or consequential damages of any kind caused by any

SOVEMA S.p.A.
 Via Olmo, 6-8-10
 41010 Gaggio di Piano (MO)
 Italy



Telephone: 059 93 85 85
 Fax : 059 93 85 12
 E-mail : sovema@sovema.com
 Web site: www.sovema.com

WARRANTY REGISTRATION

This warranty will become valid only if this form is completed and signed by both the Purchaser and the Dealer and is returned within 8 days of purchase date! **IF NOT WARRANTY IS INVALID.**

TO FILL OUT

- ❖ *TYPE OF IMPLEMENT* : _____
- ❖ *IMPLEMENT SERIAL NUMBER* : _____
- ❖ *DATE OF PURCHASE* : _____

DEALER: I HEREBY CERTIFY THAT	PURCHASER: I HEREBY ACCEPT
<ul style="list-style-type: none"> The machine has been correctly assembled in accordance with the manufacturers instructions. All nuts and bolts, oil level and grease have been checked. All safety guards and warning stickers have been placed on machine. PTO has been matched to tractor and greased. All other pre-delivery checks have been completed as per operators manual. Purchaser was given operators manual and instructed in safe and correct usage of machine and on limitation of warranty. Machine was tested and operates correctly. 	<ul style="list-style-type: none"> That the machine is correctly assembled. Receipt of the operators manual which I have read and have clearly understood.. To have a clear understanding of the warranty limitations. To have a clear understanding of the correct and safe operation of the machine. That the machine need regular maintenance as instructions in operators manual. To have clear understanding on the capacity of this machine and made aware of its limitations.

<p style="text-align: center;">(address)</p> <p>_____</p> <p>_____</p> <p style="text-align: right;">Date: _____ Signature: _____</p>	<p style="text-align: center;">(address)</p> <p>_____</p> <p>_____</p> <p style="text-align: right;">Date: _____ Signature: _____</p>
DEALER	PURCHASER

COPY TO DELIVER TO: SOVEMA

SOVEMA S.p.A.
 Via Olmo, 6-8-10
 41010 Gaggio di Piano (MO)
 Italy



Telephone: 059 93 85 85
 Fax : 059 93 85 12
 E-mail : sovema@sovema.com
 Web site: www.sovema.com

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TO FILL OUT

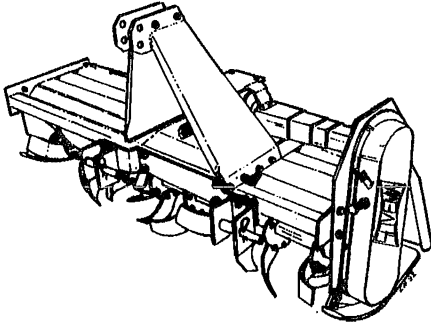
- ❖ **TYPE OF IMPLEMENT** : _____
- ❖ **IMPLEMENT SERIAL NUMBER** : _____
- ❖ **DATE OF PURCHASE** : _____

<p>DEALER: I HEREBY CERTIFY THAT</p> <ul style="list-style-type: none"> The machine has been correctly assembled in accordance with the manufacturers instructions. All nuts and bolts, oil level and grease have been checked. All safety guards and warning stickers have been placed on machine. PTO has been matched to tractor and greased. All other pre-delivery checks have been completed as per operators manual. Purchaser was given operators manual and instructed in safe and correct usage of machine and on limitation of warranty. Machine was tested and operates correctly. 	<p>PURCHASER: I HEREBY ACCEPT</p> <ul style="list-style-type: none"> That the machine is correctly assembled. Receipt of the operators manual which I have read and have clearly understood.. To have a clear understanding of the warranty limitations. To have a clear understanding of the correct and safe operation of the machine. That the machine need regular maintenance as instructions in operators manual. To have clear understanding on the capacity of this machine and made aware of its limitations.
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<p style="text-align: center;">(address)</p> <p>_____</p> <p>_____</p> <p style="text-align: center;">Date: _____ Signature: _____</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">DEALER</p>	<p style="text-align: center;">(address)</p> <p>_____</p> <p>_____</p> <p style="text-align: center;">Date: _____ Signature: _____</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">PURCHASER</p>
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PURCHASER COPY

SOVEMA Product Line

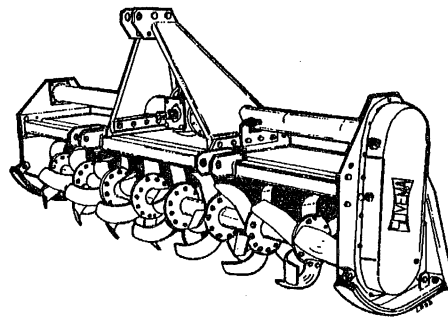


SIDE SHIFT ROTARY TILLERS

- 15 different models;
- For tractors from 12 to 70 HP
- Working width from 80 to 200 cm.

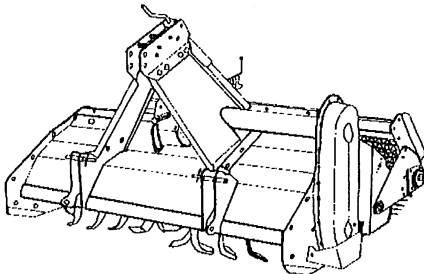
FIXED ROTARY TILLERS

- Over 45 different models;
- For tractors from 15 to 130 HP
- Working width from 80 to 300 cm.



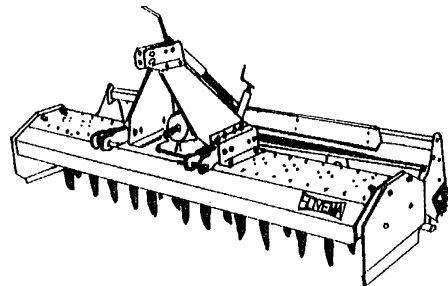
STONE BURRIERS

- 6 different models;
- For tractors from 35 to 90 HP
- Working width from 100 to 200 cm.



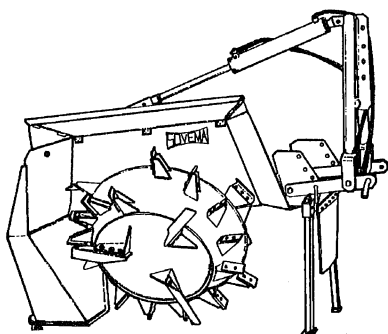
ROTARY HARROWS

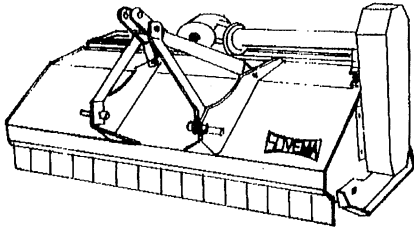
- 13 different models;
- For tractors from 25 to 150 HP
- Working width from 110 to 500 cm.



ROTARY DITCHERS

- 10 different models;
- For tractors from 40 to 130 HP
- Working depth from 45 to 110 cm.



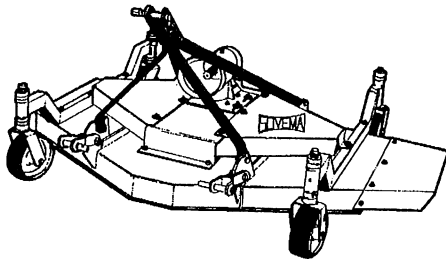
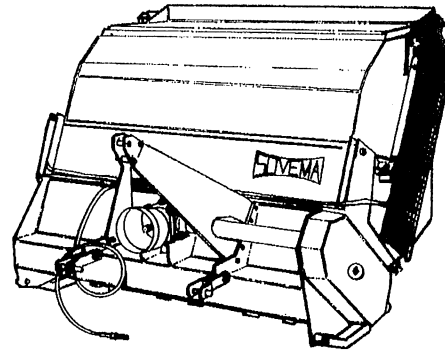


FLAIL MOWERS - SHREDDERS

- 35 different models;
- For tractors from 15 to 120 HP
- Working width from 100 to 470 cm.

MOWERS COLLECTOR

- 6 different models;
- For tractors from 30 to 60 HP
- Working width from 120 to 180 cm.
- Available with high discharge and low discharge

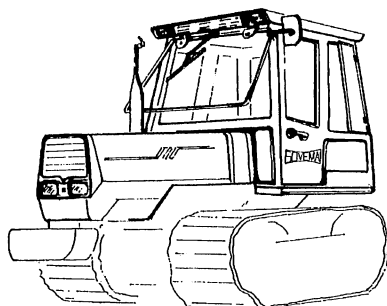
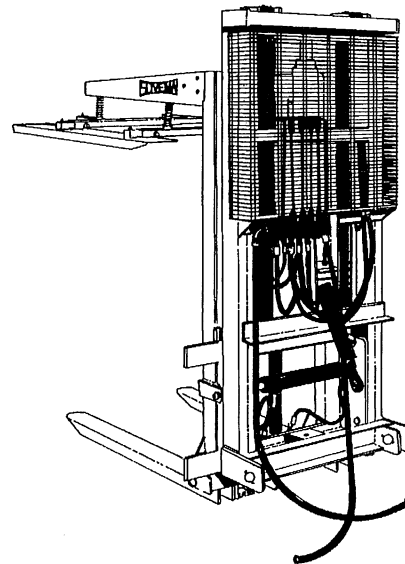


FINISHING MOWERS

- 14 different models;
- For tractors from 15 to 70 HP
- Working width from 100 to 300 cm.

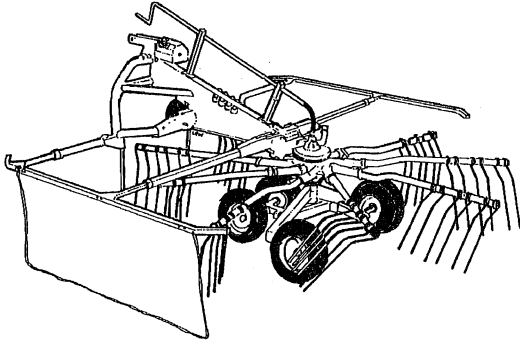
HYDRAULIC FORK-LIFTS

- 11 different models;
- For tractors up to 60 HP
- Lifting capacity from 1.300 Kg to 2.000 Kg.



TRACTOR CABS

- Over twenty models of cabs for eleven manufacturers of tractors;
- For tractors with wheels or crawlers;
- All models available with heating and/or air conditioned.

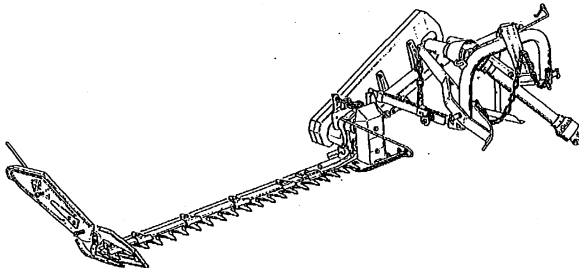
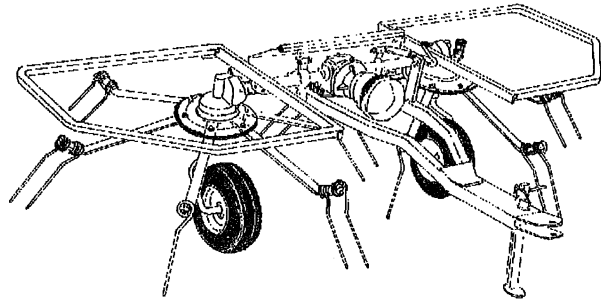


ROTARY RAKE

- 4 different models
- For tractors from 30 to 70 HP
- Working width from 340 to 695 cm.

HAY TEDDERS

- 6 different models (2, 4, 6 rotors)
- For tractors from 10 to 40 HP
- Working width from 310 to 730 cm.



SICKLE BAR MOWER

- 3 different models.
- For tractors from 10 to 15 HP.

FINGER WHEELS

- 8 different models (8-20 stars)
- For tractors from 30 to 80 HP
- Working width from 7.35 to 12.50 m.

