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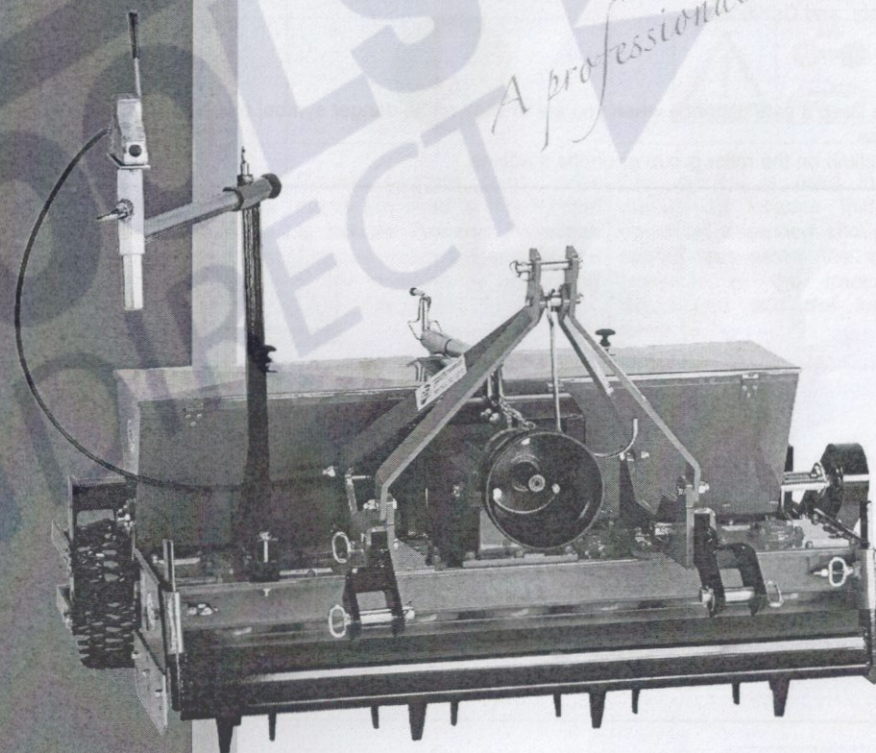
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ENGLISH

**SEEDER mod. SM**  
For Mill grader mod. MTZ - MTZhi  
**Operation and Maintenance Manual**  
(Translation of the original instructions)



*A professional choice*

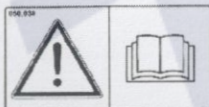
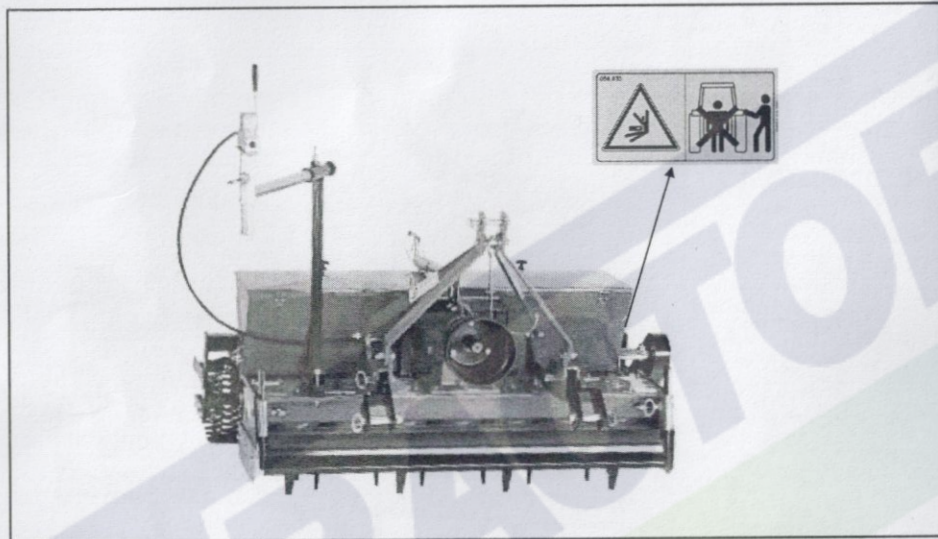


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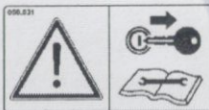
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**WARNING**

Always keep a safe distance when you are in view of the danger symbol placed on the side of the machine  
 Never climb on the roller group or on the machine.



Before using the machine, read this instruction booklet.



Before performing any operation on the machine, turn off the tractor, remove the key and read this instruction booklet.

First of all we would like to thank you for choosing this machine.  
 The **Seeder SM** can provide the maximum efficiency for a long time if you carefully take note of the operation and maintenance rules listed in this manual.  
 The observance of these rules will prevent accidents and mishaps due to negligence or inobservance, for which our company **R2** declines all responsibility.  
 This operation and maintenance manual should be considered as an integral part of the machine and, therefore, it should always be kept with the machine if it is sold, even to third parties.  
 Keep this manual in a safe location, so that you or anyone who uses the machine can easily read it at any time.

**Description of the symbols used in the manual**

This symbol is used in this manual to indicate actions (improper uses of the machine), items, behaviours and situations which may endanger your safety and that of others.	Round symbols with white marks are used in this manual to indicate Personal Protection Devices required during the use of the machine or performing operations on it.	This symbol is used in this manual to indicate that the operation described should be carried out when the motor cultivator or the tractor is deactivated and the key is removed.

**1 – Machine identification**


Each R2 machine bears the CE mark which indicates identification data of the R2 company and the machine. The plate is located on the front side of the hopper.

Fig. 1



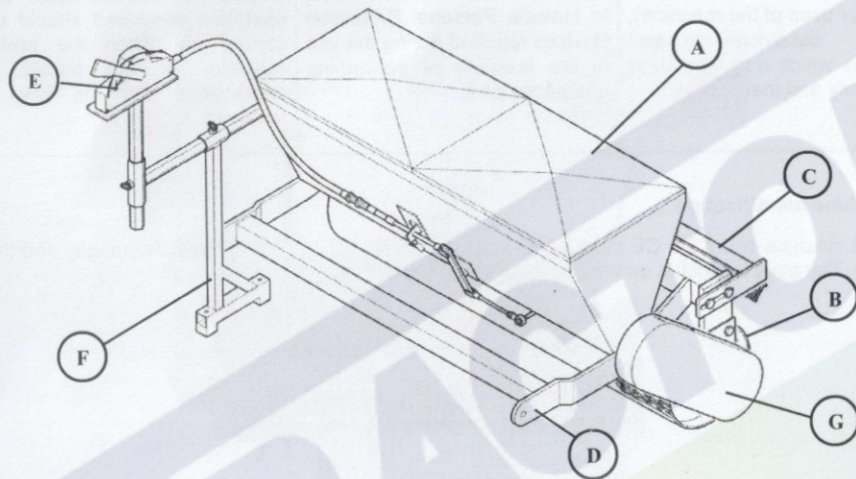
## 2 – Machine description and appropriate use

The **SM SEEDER** is equipment exclusively designed to be attached to **MILL GRADERS Mod. MTZ - MTZhi** produced by the R2 Company. The purpose of the **SM SEEDER** is to add to grading, milling and compacting of the soil performed by MTZ-MTZhi milling machines, also broadcast sowing. The special grid roller located at the back of the machine provides ideal compacting of the soil and at the same time covers the seed to a suitable depth. The quantity of seed distributed on the soil can be adjusted using a special lever. A special brush located inside the hopper and activated through the back roller, provides an even distribution of the seed on the soil.

 Any other use or application of **SM** seeders with respect to the one indicated is considered improper and therefore dangerous. In any cases of using **SM SEEDERS** for purposes other than the one defined here the manufacturer declines all responsibility for damages of any kind.

The machine should be used, maintained and repaired by skilled personnel exclusively. The personnel who uses the machine should be appropriately trained and informed on the appropriate use of the equipment and on its relevant risks. The user should observe the regulations and the legislation in force on fire prevention, industrial safety and driving on public roads.

Fig. 2



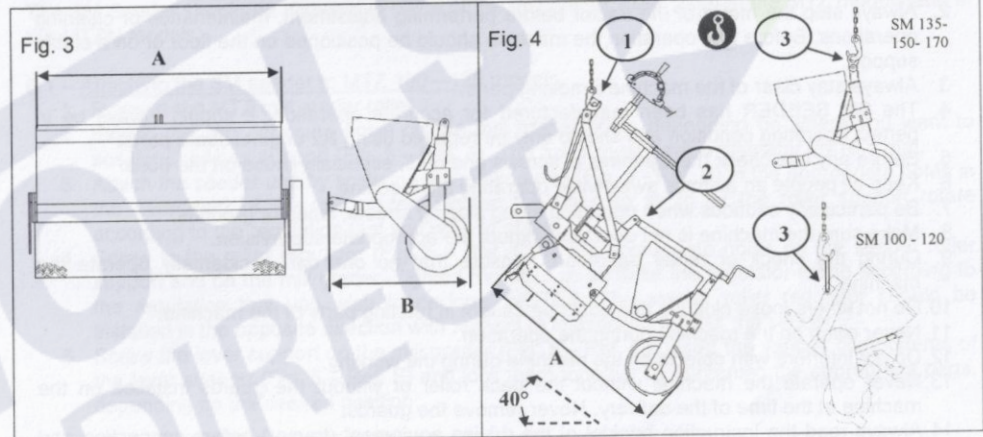
- A: Hopper
- B: Roll group
- C: Roll cleaning brush
- D: Arms for attachment to the levelling milling machine
- E: Hopper open/ close lever
- F: Hopper open/close lever support
- G: Transmission of the hopper roller-brush motion

## 3 – Technical specifications and sizes

	Model				
	SM 100	SM 120	SM 135	SM 150	SM 170
Sowing width (Fig. 3 – Rif. A)	99 cm	110 cm	119 cm	134 cm	146 cm
SM Depth (Fig. 3 – Rif. B)	67 cm	67 cm	67 cm	67 cm	67 cm
SM Depth + MTZ (Fig. 4 – Rif. A)	120 cm	120 cm	120 cm	120 cm	120 cm
Tractor + SM + MTZ HP	16-18 HP	18-20 HP	20-35 HP	30-35 HP	30-40 HP
SM weight	64 Kg.	70 Kg.	78 Kg.	95 Kg.	105 Kg.
SM + MTZ weight	170 Kg.	200 Kg.	250 Kg.	285 Kg.	320 Kg.
Hopper volume	50 Lt.	57 Lt.	62 Lt.	68 Lt.	76 Lt.



Note Emission of aerial noise: the seeder produces a negligible noise level (<< 70 dB(A)). Consult the MTZ-MTZhi milling machine manual and tractor manual.



## 4 – Machine handling and transport

- The machine should be handled using lifting equipment. Ensure that this equipment (including the belts and ropes) has a capacity which is appropriate for the weight to be lifted and that it is in proper working order.

Anchor points for lifting the machine:

- MTZ+SM: third pivot point (Fig. 4 – Ref. 1)
- MTZhi+SM: special eye located on the register support (Fig. 4 – Ref. 2)
- Only SM: special eye located on the roller support (Fig. 4 – Ref. 3)

Due to position of the centre of gravity, during lifting the machine will tilt by 40° (Fig. 4)



To perform safe handling operations, always wear safety-shoes and ensure that there are no people or animals in the operating area.



- The machine should be transported using professional means (trucks, van, etc.). Before starting the transport, ensure that the machine is anchored using ropes or straps so that it is stable. The anchorage points can be the roll unit support and, if it is attached to the MTZ-MTZhi milling machine, the front scraper (in this case ensure that the adjusting screws of the scraper are properly tightened).

- Always check that any gangways, ramps, etc. which must be crossed through driving, transport and lifting vehicles are well anchored and have a capacity suitable to support the whole load of the vehicle+ machine+ operator. In case ramps are used to load onto the transport vehicle, check that the vehicle has the handbrake engaged and that the appropriate wedges have been positioned to block the wheels.

## 5 – Accident prevention



Most incidents which occur during the machine operation, maintenance and moving, are due to the non-observance of the basic accident prevention rules. Therefore, it is of paramount importance that all persons who use the machine examine and observe the following rules and the ones indicated on the adhesive labels located on the machine:

1. Check that the safety indicators are located on the machine and are readable.
2. Always stop the motor of the tractor before performing adjustment, maintenance or cleaning operations. Before any operation the machine should be positioned on the floor or on a stable support.
3. Always stay clear of the machine's moving parts.
4. The **SM SEEDER** has been manufactured for accurate operation. It should always be in perfect operating condition and should only be repaired using **R2** original spare parts.
5. Before any use check the tightness of screws and nuts, especially those on the hoes.
6. Keep all people and animals away while operating the machine.
7. Be particularly cautious when operating along sloping streets, lanes or grounds.
8. Make sure the machine is not operated without the appropriate supervision.
9. During the check or repair operations, ensure that no one can accidentally operate the machine.
10. Do not wear loose clothing that could be caught in rotating parts of the machine.
11. Never climb on the machine during the operation.
12. Do not interfere with objects on the machine during the working.
13. Never operate the machine without the back roller or without the guards installed on the machine at the time of the delivery. Never remove the guards.
14. Always read the instruction booklet of the driving equipment (tractor) before connecting and operating the **R2** machine. Do not remove or disable the safety systems of the driving equipment. Before starting operation always check that these systems operate perfectly. In case of inefficiency or malfunctions of the safety systems of the tractor, do not use the machine.
15. Do not carry people, animals and objects on board the machine.
16. In case of driving on the road observe the regulations in force in your country. Make sure the machine has the appropriate marking.
17. Always close the hopper cover during operation.

## 6 – Assembling the parts



The parts should be assembled on a firm surface or flat, smooth pavement.

**CAUTION:** Attaching the SM seeder requires enlarging some holes in the main body of the mill grader. This operation must be done by competent personnel from service centers (dealer's shop). For these operations personnel must wear PPEs as needed depending on the tools used.

If using portable electric drills, wear hand, eye and ear protection. If the operations are performed on a raised surface, wear safety shoes.



The SM Seeder should be installed in place of the mill grader roller (both in the MTZ models and in the MTZhi models).

### 6.1 – Attaching the SM seeder to MTZ 100–120 models

1. Remove the MTZ mill grader roller
2. Extend the two opposing holes on the mill grader body, depending on where you want to position the lever support (Fig. 5 – Ref. A). The holes must have a diameter  $\varnothing=10.5$  mm.
3. Attach the seeder unit by screwing in the two arms (Fig. 5 – Ref. B) in the appropriate holes in the lower part of the mill grader. Tighten the bolts so as to let the roller support rotate according to the regulation that you wish to obtain.
4. Screw in the roller regulator (Fig. 5 – Ref. C) in the appropriate holes on the seeder roller support and on the mill grader. Tighten the bolts so as to let the regulator rotate according to the regulation that you wish to perform. NOTES: The seeder roller regulator should be installed in the opposite direction with respect to installation without the seeder.
5. Screw the lever support on the mill grader (Fig. 5 – Ref. D). Insert the various components of the lever support (Fig. 5 – Ref. E) and lock them together by tightening the appropriate pegs, depending on the desired position.

### 6.2 – Attaching the SM seeder to MTZ 135 – 150 - 170 models

1. Remove the MTZ mill grader roller
2. Extend the two opposing holes on the mill grader body, depending on where you want to position the lever support (Fig. 6 – Ref. A). The holes must have a diameter of  $\varnothing=10.5$  mm.
3. Enlarge the hole of the mill grader body for assembling the roller regulator support (Fig. 6 – Ref. B). The hole should have a diameter of  $\varnothing=10.5$  mm.; unscrew the bolt corresponding to the other assembly hole of the roller regulator support.
4. Screw in the roller regulator support by inserting the shim through the part of the enlarged hole (Fig. 6 – Ref. C)
5. Screw in the connection plate between the roller regulator support and the reducer (Fig. 6 – Ref. D)
6. Attach the seeder unit by screwing in the two arms (Fig. 6 – Ref. E) in the appropriate holes in the lower part of the mill grader. Tighten the bolts so as to let the roller support rotate according to the regulation that you wish to obtain.
7. Screw in the roller regulator (Fig. 6 – Ref. F) in the appropriate holes on the seeder roller support and on the regulator support. Tighten the bolts so as to let the regulator rotate according to the regulation that you wish to obtain.
8. Screw the lever support on the mill grader (Fig. 6 – Ref. G). Insert the various components of the lever support (Fig. 5 – Ref. H) and lock them together by tightening the appropriate pegs, depending on the desired position.

### 6.3 – Attaching the SM seeder to MTZhi models (all hydraulic models)

The attachment of the SM seeder to the MTZhi models follows the same procedure described for the MTZ 100 and 120 models in paragraph 6.1.

Fig. 5 – Mod. MTZ 100 - 120

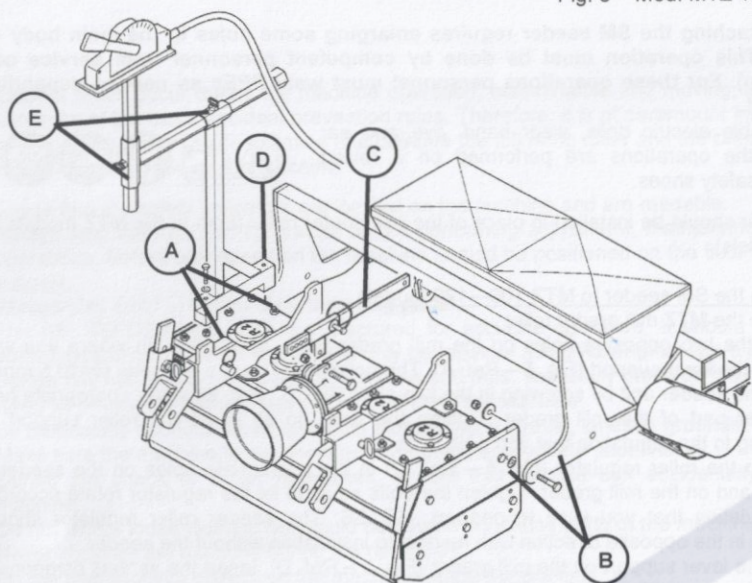
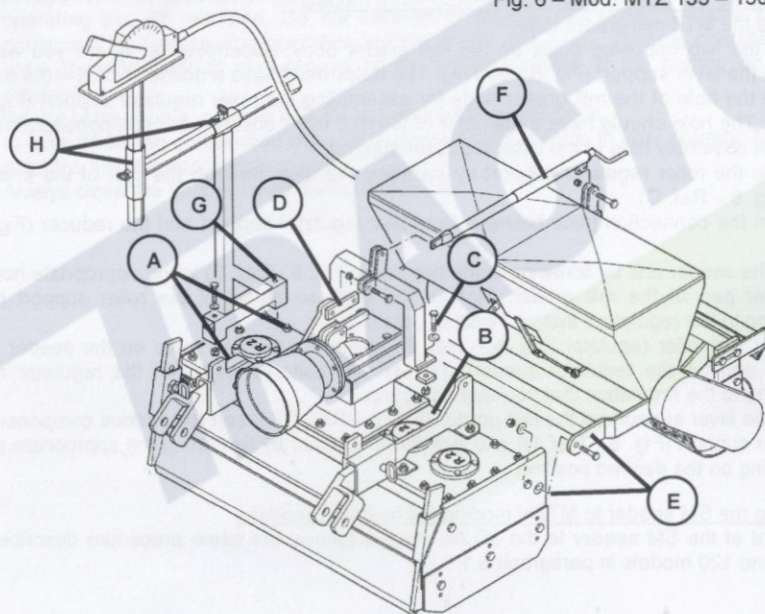


Fig. 6 – Mod. MTZ 135 – 150 – 170



## 7 – Adjustment and use of the seeder SM

Fill the hopper with seed and close the door.

To adjust the quantity of seed that should fall, use the knob on the hopper opening lever (Fig. 7 Ref. A) and set it to the desired position on the graduated scale. Using the open/close lever (Fig. 7 – Ref. B) which supports the knob the quantity of seed that falls can be adjusted. To increase or decrease the amount, change the position of the knob on the graduated scale.

The quantity of seed to fall can vary depending on the mixture of seed used and the speed of the tractor. In order to identify the optimal setting based on the type/mix of seed used, you should run tests on a smooth and even flat surface before starting work.

The operation depth of the mill grader should be adjusted by moving the appropriate adjuster (Fig. 5 – Ref. C / Fig. 6 – Ref. F).

During operation, the operator should be in the tractor's driver's seat.

To terminate the seeding operation, move the seeder lever to the off position.



Always refer to the rules for accident prevention indicated in paragraph 5. Always remember to:

- Make sure people and animals are not in the operating area. No one should be near the machine while in operation.
- Stay away from the moving mechanical parts; wear safety shoes. If much dust is produced during operation or while filling of the hopper (this depends on the type of soil) wear a dust mask.
- Do not use the machine in reverse operation; do not use the machine on high sloping grounds (check the instructions for the tractor).
- Before operating the machine, check that the safety systems of the tractor are working effectively.
- During the use of the seeder, keep hands away from the hopper brush; always close the hopper using the appropriate cover.
- Before using the SM seeder, always read the instruction booklets of the MTZ mill grader and the tractor.



Fig. 7

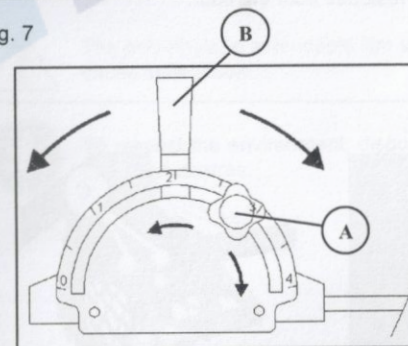
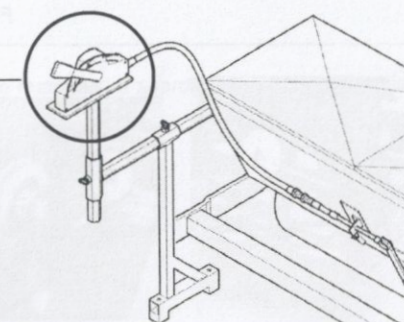


Fig. 8



Operations to be performed to keep the machine always in working order:

- Before every use of the machine:

1. Check the tightness of the bolts
2. Perform all the inspections provided for the MTZ-MTZhi mill grader (refer to the mill grader instructions)

- At the start of the of the machine's use season:

1. Grease the roller supports (Fig. 9 – Ref. A)
2. Lubricate the transmission chain of the roller-brush hopper motion (remove and re-install the guard (Fig. 9 – Ref. B) (spray lubricant is recommended)
3. If required, adjust the distance of the roller brush by turning the appropriate screws (Fig. 9 – Ref. C); the brush should be adjusted so that it moves the roller without blocking it.
4. Check that the brush inside the hopper is intact and provided with all its bristles; check that the brush freely rotates by rotating the roll of SM
5. Check that the opening/ adjustment lever operates properly
6. Check that the seed comes out correctly, checking that the holes of the box are free and unobstructed.



During maintenance operations wear protective gloves; in case of operations for the lubrication/greasing and checking of the lubricant level always use nitrile gloves and protective glasses.

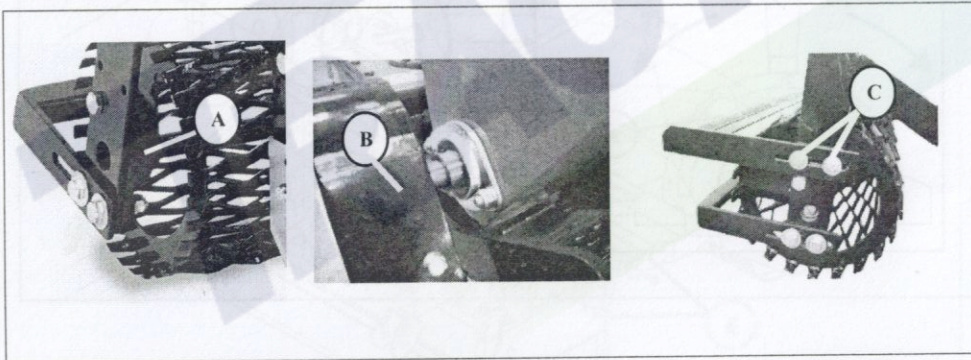
If maintenance operations are performed on a raised surface (for example on a workbench) always wear safety shoes.

All maintenance operations should be performed when the tractor is off and the key is removed.



After lubrication/ greasing operations clean any lubricant residues from the floor.

Fig. 9



If the SEEDER SM will be inactive for a long period the following operations are required:

1. Carefully wash the SEEDER SM and dry it.
2. Carefully check the operation of all the moving parts and replace those that are damaged, deteriorated or worn.
3. Check the tightness of all the bolts.
4. Protect and lubricate all unpainted metal parts, then cover the equipment and store it in a dry environment, so that it is ready to be used again.



**Attention:** At the time the machine is used again, observe all that is explained in the "Maintenance" chapter.

Store the machine so that it does not present a danger for people and animals (tripping, the machine falling from a high place, etc.) and protect the protruding parts of the machine so that they do not cause accidents.

To avoid dangerous situations, store the machine so that it does not block escape routes and safety exits, fire-fighting devices (fire extinguishers, hydrants, etc.) and first aid equipment (first aid boxes, etc.) of the storage area.

If the machine is washed or cleaned using jets of compressed air or water, ensure that there are no people or animals in the operating area and wear protective glasses and possibly anti-dust masks. Do not direct the jet of compressed air or water towards people or animals.



10 – Scrapping, disposal of components and package

The machine is made up of metal parts and plastic materials; these items should be disposed of at appropriate waste disposal centres.

In accordance with the type of transport, the package can be made of carton (box) wood (pallet) plastic (plastic band in polypropylene and polyethylene extendable film) and metal (steel seal of the plastic band or iron wire if the machine is delivered anchored directly to the pallet). These items should be disposed of at appropriate waste disposal centres.



The polyethylene extendable film should never be used as a children's toy because it can cause suffocation.



To respect the environment, dispose of the materials at appropriate waste differentiated collection centres.

## Warranty

Our equipment is covered by guarantee against manufacturing and/or assembly defects for 2 years from the date of delivery to the customer.

This guarantee is limited to the replacement of defective parts and does not include labour costs or transport.

This guarantee does not cover the following cases:

- When the user has made adaptations to the original machine.
- When the machine has been used in excess of its power limits.
- When R2 spare parts are not used.
- When the equipment is not used in accordance with the manual instructions.
- When the equipment has been used incorrectly.

The R2 Company reserves the right to modify the data in this manual whenever this is considered necessary for technical or commercial improvements regarding the product itself.

## Certification

The EC certification supplied with the machine certifies that the machine complies with the current provisions of Law.



## INFORMATION

The EC certificate is enclosed with the machine documentation and contains the manufacturer's details, the machine data and the machine's declaration of conformity according to the Directive EC as in the copy shown in the figure beside.

I - Dichiarazione CE di conformità GB - EC Declaration of Conformity (translation) D - EG-Konformitätserklärung (translation) F - Déclaration CE de conformité (translation) E - Declaración CE de Conformidad (translation) NL - Conformiteitsverklaring CE (translation) DK - EF-overensstemmelseserklæring (translation) FIN - EY-vaatimustenmukaisuusvakuutus (translation)			
Al sensi della direttiva 2006/42/CE - According to the EC Directive 2006/42/CE - Im Sinne der EG-Richtlinie 2006/42/CE - Aux termes de la directive 2006/42/CE - Según lo establecido por la Directiva 2006/42/CE - In overeenstemming met de richtlijn 2006/42/CE - I henhold til Direktiv 2006/42/EF - Direktiivina 2006/42/EY mukaisesti			
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R 2 S.a.s. Via Valsellustra 25 - 29 40060 Toscanella di Dozza - Dozza - BOLOGNA - ITALY			
Dichiaro sotto la propria responsabilità, che la macchina I shall accept full responsibility in stating that the machine Erkläre auf eigene Verantwortung, daß die Maschine Déclare sous sa propre responsabilité que la machine Declaro bajo su propia responsabilidad que la máquina Verklaart onder de eigen verantwoordelijkheid dat de machine Erklærer, under eget ansvar, at maskinen vakuuttaa omalla vastuullaan, että kone			
Seminatrice - Seeder - Sämaschine - Semoir - Sembradora - Zaaler - Sämaskine - Kylvökone			
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E' conforme ai requisiti essenziali di sicurezza e di tutela della salute di cui alla direttiva 2006/42/CE Conforms to the basic safety and health regulations contained in directive 2006/42/CE Den wesentlichen Anforderungen an Sicherheit und Gesundheitsschutz der EG-Richtlinie 2006/42/CE entspricht Est conforme aux conditions essentielles requises en matière de sécurité et pour la tutelle de la santé en accord avec la directive 2006/42/CE Es conforme a cuanto dispuesto en los Requisitos esenciales de seguridad y protección de la salud previstos en la directiva 2006/42/CE Conform is aan de essentiële eisen voor de veiligheid en de bescherming van de gezondheid, volgens de richtlijn 2006/42/CE Stemmer overens med de væsentlige sikkerheds- og sundhedskrav indeholdt i Direktivet 2006/42/EF On yhdenmukainen neuvoston direktiivissä 2006/42/EY säädettyjen olennaisen terveys- ja turvallisuusvaatimusten kanssa			
Norme Armonizzate applicate - Harmonised standards applied EN ISO 14121-1:2007 EN ISO 12100-1:2005 EN ISO 12100-2:2005 La persona autorizzata a compilare il fascicolo tecnico è il Sig. Roberto Rinaldi presso R2 S.a.s. The person authorized to compile the Technical File is Mr. Roberto Rinaldi at R2 S.a.s.			
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## NOTES