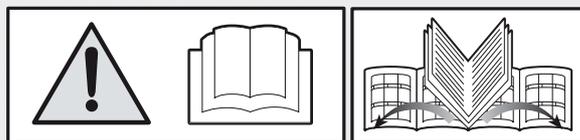


# RM

**405**  
*Turbina*

**505**  
*Turbina*



- I Istruzioni d'uso**  
Si prega di leggere le istruzioni e di conservarle.
- GB Instruction for use**  
Please read and save these instruction.
- F Instruction d'utilisation**  
Prière de lire et de conserver.
- E Instrucciones de manejo**  
Lea y conserve estas instrucciones por favor.
- D Gebrauchsanweisung**  
Bitte lesen und aufbewahren.
- P Instruções de serviço**  
Por favor leia e conserve em seu poder.
- NL Gebruiksaanwyzing**  
Lees en let goed op deze advizen.
- DK Bruksanvisning**  
Var god läs och tag tillvara dessa instruktioner.
- SF Käyttöohje**  
Lue ja säilytä.
- S Brugsanvisning**  
Beakta säkerhetsföreskrifterna och var rädd om bruksanvisningen.

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**R. M. S.p.a.**

43010 S. Quirico di TreCasali (Parma) - ITALY  
Telefono 0521.872.321 - Telefax 0521.874.027  
International telephone: +39.0521.872.321

<http://www.rmirrigation.com> • E-mail: [info@rmirrigation.com](mailto:info@rmirrigation.com)



**A**

- 14
- 11
- 8
- 29
- 6
- 6



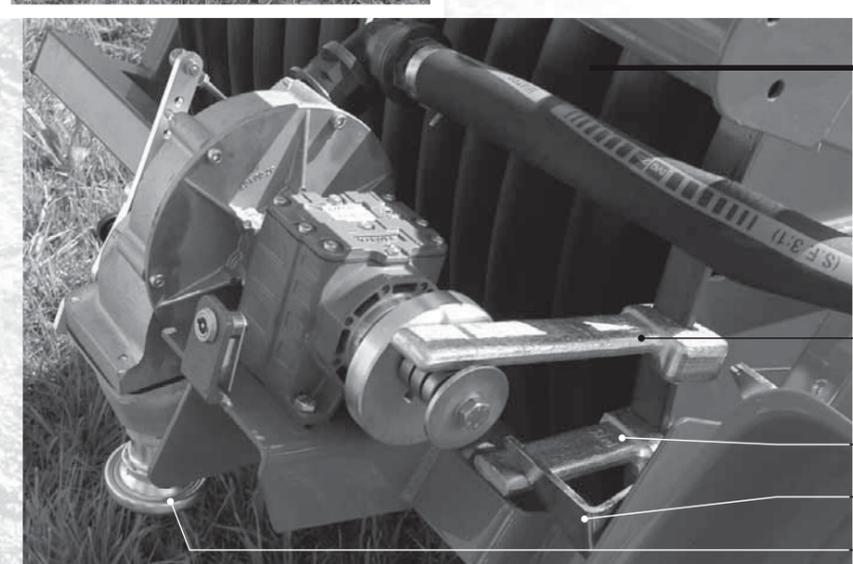
**B**

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**C**

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**D**

- 2
- 3
- 25
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**E**

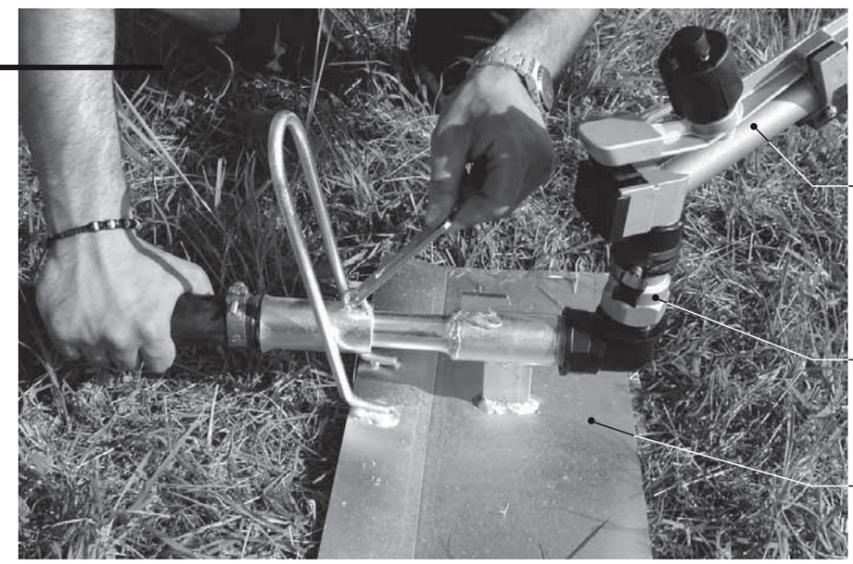
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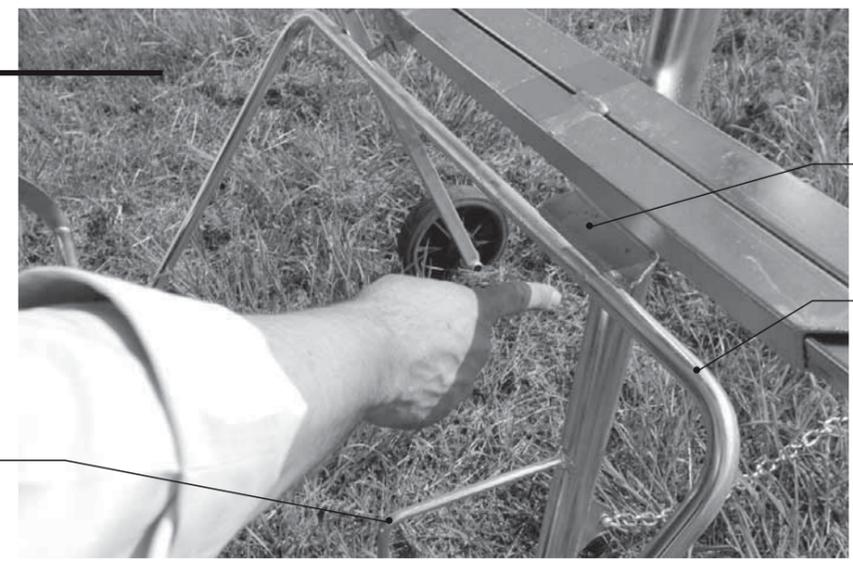
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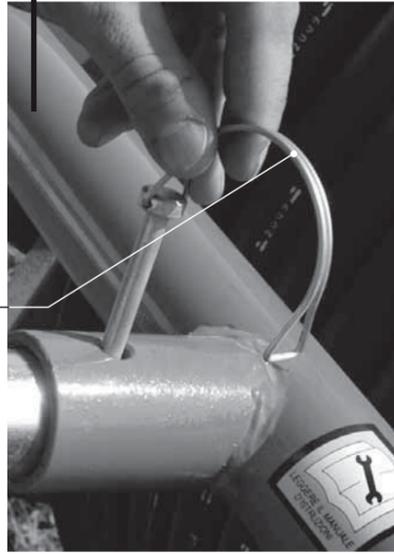
**G**

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- 30
- 12

**H**



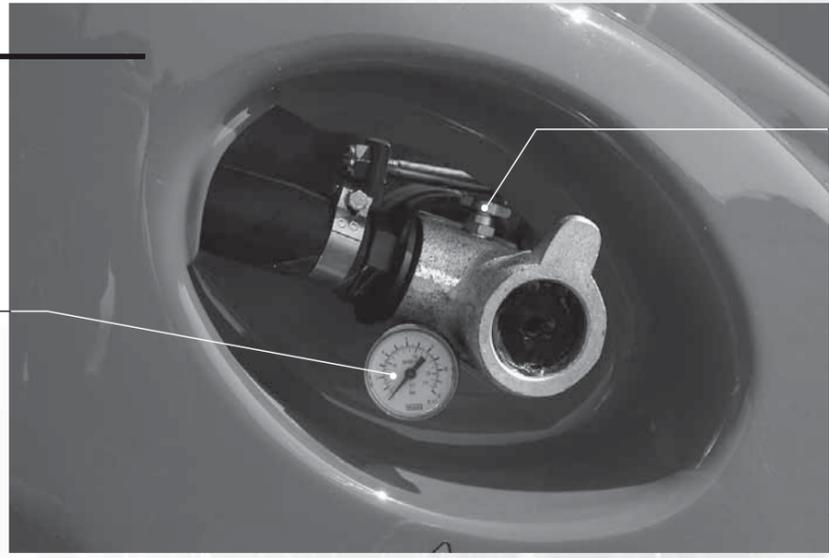
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**I**

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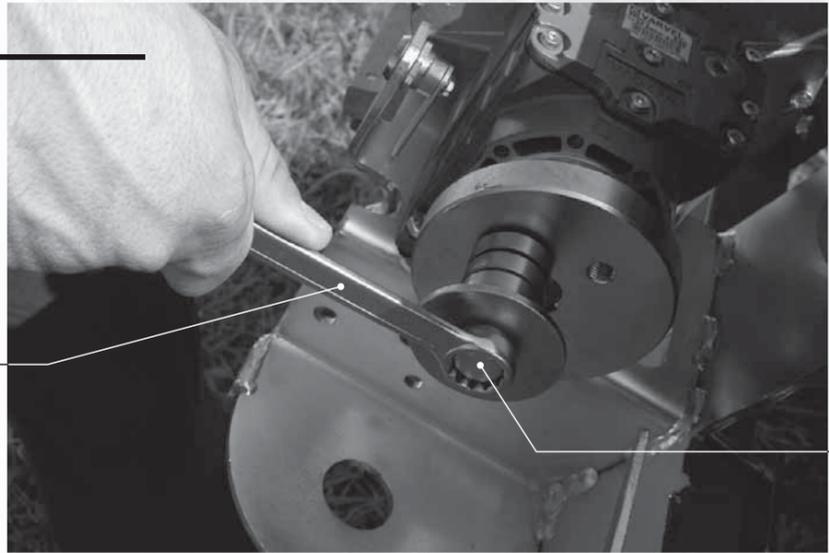
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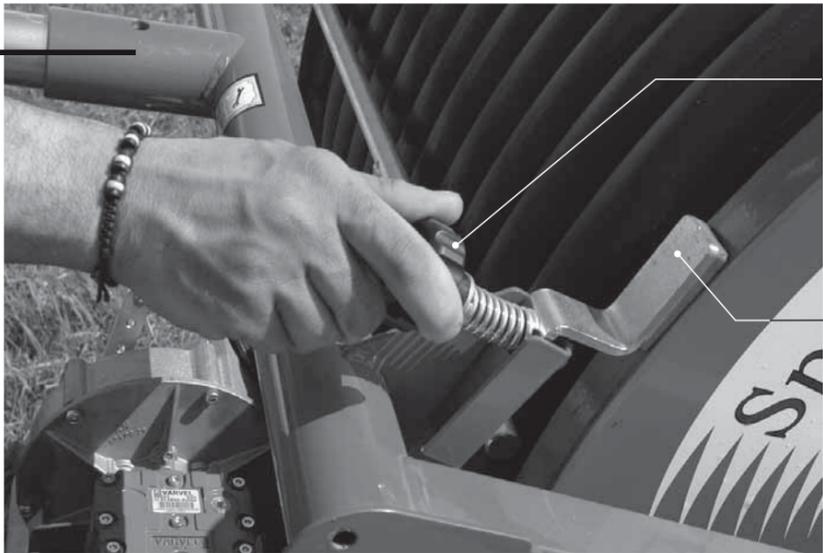
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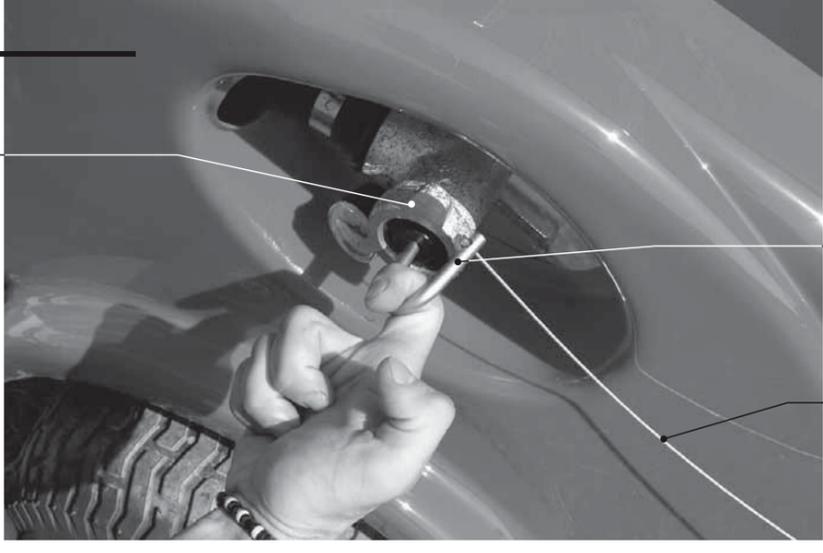
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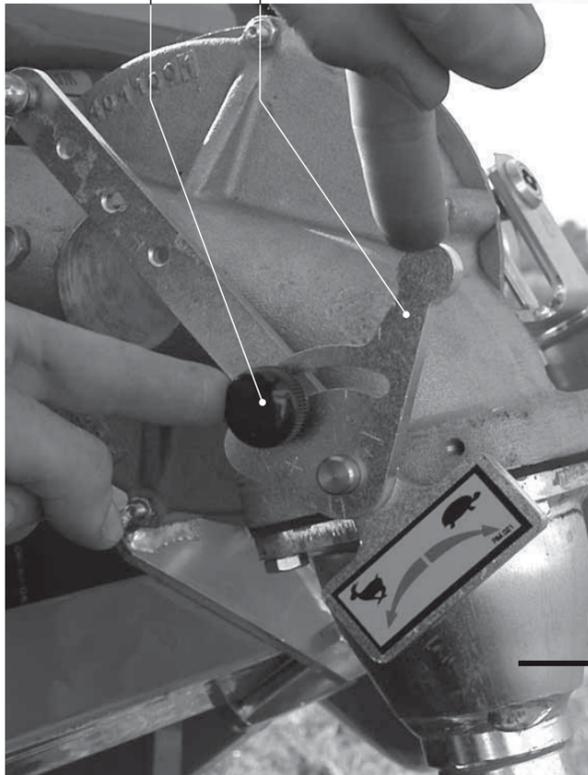
**M**



23

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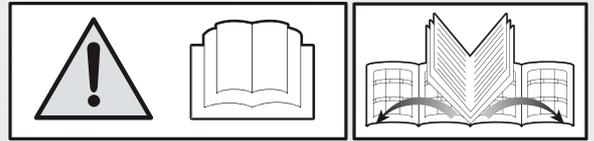
**P**

**Q**

# DM RM

**405**  
*Turbina*

**505**  
*Turbina*



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# Speedy-Rain

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**MAINTENANCE**

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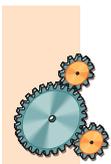
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# INTRODUCTION

## PART I



### NOTICES

This Use and Maintenance Manual is an integral part of the irrigation sprinkler and must follow the machine whenever sold to another owner or transferred.

The manual should be kept carefully, read and placed readily at the disposal of all persons involved with its use. This manual, as well as the overall design of the machine, has been prepared in full compliance with the European Union directives EEC 89/392, EEC 91/368, EEC 93/44 and EEC 93/68 (Machinery Directives). Furthermore, the manual has been prepared in compliance with the latest regulations and legislation concerning hygiene and safety in the workplace published under EEC Directive 89/391.

### LEGEND

The symbols detailed below have been adopted in this manual to warn the reader of potential danger to persons or risk of damage to the machine. There are two types of symbols:

Danger symbols: they are triangular and are used to signal that an operation executed incorrectly can cause serious personal injury.

Warning symbols: they are round and used to forbid specified operations to prevent the machine malfunction.



**DANGER**

Danger deriving from mechanical moving parts



**DANGER**

Generic danger



**WARNING**

Generic warning

## WHOM TO CONTACT IN CASE OF TROUBLES

In case of troubles, the customer can apply to our After-Sales Technical Service Department by calling the following numbers:

in ITALY: 0521.872.321  
from ABROAD: ++39/0521.872.321  
or send us an e-mail to: info@rmirrigation.com

This department offers the customers proper solutions to the various problems that might arise or arranges an on-site visit by a specialist Service Engineer.

Many technical problems can be solved through minor service interventions. We therefore recommend reading this manual carefully before contacting our Technical Service Department.

Should any part of the manual be unclear to you, do not hesitate to apply to the customer service by calling the above telephone numbers.

## MACHINE IDENTIFICATION

Machine identification is particularly important over the years since it ensures that the manufacturer can provide the customer, quickly and correctly, the technical information and support services needed.

Do not modify or remove the information needed to identify the machine. The machine identification data are indelibly stamped and engraved on a plate. This data allows recognition of the machine and should be included in all the communications between the user and the manufacturer-e.g., when applying for Technical Service, or placing an order for spare parts, etc.



IT IS ABSOLUTELY FORBIDDEN TO REMOVE OR TAMPER WITH THE IDENTIFICATION PLATE.

The plate specifies the following data:

Essential data to be specified in all communications between the user and the manufacturer:

### MACHINE MODEL:

It identifies the irrigation sprinkler type as well as the diameter (in mm) and length of the hose (in m).

### YEAR OF CONSTRUCTION:

It refers to the year of construction of the sprinkler

### SERIAL NUMBER:

It identifies the serial number of the sprinkler

<b>RM S.p.a.</b>		<b>CE</b>
43010 S. Quirico di Trecasali (Parma) - Italy		
MACHINE MODEL	<input type="text"/>	
YEAR OF CONSTRUCTION	<input type="text"/>	
SERIAL NUMBER	<input type="text"/>	

The identification plate is positioned on the frame, on the front side above the sprinkler hose exit end.



## PROHIBITIONS

The following prohibitions must be observed when operating the machine:

- Do not tamper with or cut out safety devices.
- Do not inspect the machine while it is running.
- Do not sit on the protective casings.
- Do not lean on the machine when it is running.
- Do not sit on the components making up the machine.
- Do not use the machine or parts of it for uses other than those detailed in this manual.
- The machine adjustments must be performed by a single person and while the work is under way, unauthorised people must be kept away from the machine.
- Do not modify and/or move parts of the machine.
- Do not add other equipment to the machine.
- Do not use any kind of solvent, such as alcohol, petrol or thinner to clean any surface on the machine.
- Do not allow personnel whose qualification level is different from those detailed in the section concerning «MACHINE OPERATORS» to perform any kind of work on the machine.
- Keep hands, arms and, in general, all parts of the body, away from moving parts.
- When trouble-shooting and fixing any kind of malfunction on the machine, take all the precautions described in this manual. These, in fact, are designed to prevent injury to people or animals and damage to property.
- Before beginning any job, concentrate fully on what you are doing.
- Always be very attentive and ensure that your reflexes are quick and sharp. This is extremely important for the operator.
- Do not operate the machine or its equipment under the influence of alcohol, drugs or medicine.
- Operator clothing must be as suitable as possible. **So not too loose nor too tight. Do not wear flapping or dangling items that could become trapped in moving parts.**
- Do not wear belts, rings, bracelets, chains, etc.
- This machine must not be used by people with physical handicaps.
- **This machine must not be used by people under 18 years of age.**
- Do not aim the rain gun towards **roads, railway lines and near high voltage lines, electric power cabinets, houses and inhabited centres.**
- During work transfers, **do not exceed a speed of 3 km/h.**
- Do not use the machine **on a gradient of more than 3%.**
- Do not disconnect the feed hose when the water is under pressure.
- All Speedy-Rain irrigators **cannot be towed on public roads, unless loaded on to an approved road-going trailer;**
- **Speedy-Rain irrigators are not toys nor domestic tools, but machines for the irrigation of public or private gardens. The use of the same requires at least a low technical training.**



### IMPORTANT

**RM Spa declines any and all responsibilities for possible malfunctions or accidents ensuing from failure to comply with the safety regulations and prohibitions detailed above.**

### GENERAL SAFETY RULES

Safety warnings and notices, in addition to specific notices, have been used in this manual to call operator and servicemen attention to potential dangers stemming from improper use of the machine.

**PAY THE UTMOST ATTENTION TO THE INSTRUCTIONS SUPPLIED AND ASK YOUR PERSONNEL TO DO THE SAME.**

- Follow the safety prescriptions given on the machine and in this manual. Do not modify the safety devices. Use the machine in full compliance with its operating instructions.
- Failure to observe safety prescriptions and/or improper use of the machine can cause serious injury to people and domestic animals or damage to property.
- The instructions and safety notices are not intended to take the place of current safety regulations. They are intended to integrate the latter and enhance their application.
- An efficient machine is a safe machine. It is hence highly important to fully comply with the maintenance and testing schedule.
- Safety notices do not, by themselves, eliminate danger!
- All the information and notices given in this manual do not refer solely to factory new machines but are usually applicable to second-hand machines as well.

### GENERAL SAFETY CONDITIONS

When the machine is commissioned and when started up each day, during the automatic cycle, the normal working cycle and, in fact, whenever the machine is used, the following general safety conditions must be applied:

- Before starting the machine, read this manual completely and carefully and apply all the safety precautions it details.
- Circulate the contents of this manual and hence inform all the people who work with the machine and also those in charge of safety matters in general.
- Comply with general work site hygiene and safety rules, industrial accident prevention rules and the prohibitions set by the manufacturer of the machine to protect people from injury and the machine from damage.
- Do not become over-confident in the use of the machine. Always pay complete attention to what you are doing. Before confirming an operation, check to make sure that everything is in perfect working condition.
- Prevent any possible unexpected movements of the machine (for instance by keeping it at a standstill in an tilted position, or suspended, etc...)
- Do not wear ties, shawls, open clothes or chains while using or adjusting the machine. The entanglement of such objects in the machine might cause serious injuries.
- Tie back long hair
- During the working cycle of the machine, the casing (Pic.C,pos.31) **must be closed and carefully locked up. (Pic. C, pos. 1).**

### GENERAL SAFETY RULES

**It is very important for the user to carefully observe all industrial accident prevention rules. Furthermore, notices should be affixed beside the machine to ensure immediate visual identification of dangerous conditions. These notices should have the following specifications:**

<b>TRIANGULAR</b>	to identify danger
<b>ROUND</b>	to identify compulsory/prohibited actions
<b>RECTANGULAR</b>	to give information

**PERSONAL PROTECTION EQUIPMENT**

When you are working near the machine, installing it or during ordinary maintenance and regulation, carefully comply with general industrial accident prevention rules and, in particular:

Do not work with bare hands. Wear adequate gloves. Always wear safety shoes.



Do not work with bare hands. Wear adequate gloves.



Wear safety shoes (with steel reinforced toe-cap).



# HANDLING

## PART II



**STORING THE MACHINE**

If the machine is not installed immediately and needs to be stored temporarily, it must be stored in a dry sheltered place and with the tyres raised from the ground.

**DISPOSING OF THE COMPONENTS**

The estimated working life of the machine is 25,000 work hours under normal conditions. At the end of the machine's working life, the owner must dispose of it in full compliance with current regulations. First of all, lubricants should be drained out and all the parts cleaned. Then the various materials making up the machine should be disassembled and separated.

Each type of material can then be disposed of in compliance with the regulations in force in the country where the machine is operated.



**WARNING**

*During disposal, comply with all the regulations in force in your country. Store polluting materials such as oil and solvents in metal containers only.*

**MATERIALS USED IN THE MACHINE:**

<b>MATERIAL</b>	<b>USE</b>
PAINTED METAL	Frame
NICKEL PLATED IRON	Rain gun trolley/ accessories/ fittings
POLYETHYLENE(PEMD)	Irrigator hose
RUBBER	Tyres, sleeves
CAST IRON	Gearmotor box, rewinding turbine



**405**  
*Turbina*

**505**  
*Turbina*

**DM**  
**RM**

# INSTALLATION

## PART III

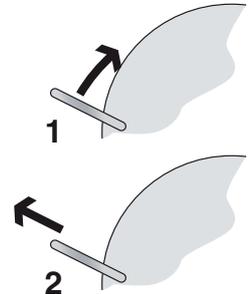


### INSTALLATION

The irrigating sprinkler is sent packed by the customer, therefore the customer shall first have to remove all the packaging components. Then, the following parts shall have to be assembled:

1. After opening the machine protection casing (Fig.C,pos.31) by rotating the key (Fig. C, pos.1) by 90° clockwise, remove the actuating lever (Fig D,pos.2)(if installed) and the brake lever (Fig. D,pos.3).

In order to facilitate this operation, it is necessary to pull up the connecting rods by grabbing them from the side opposite to the reel, as showed beside. Then, slightly loosen the brake by unscrewing the knob (**Fig. L pos. 17**).



2. Once the reel has been released it is necessary to pull out at least 80 cm of the polyethylene hose by pulling it from the rain gun (**Fig. E, pos. 4**) in order to allow the easy insertion of the rain gun supporting plate (**Fig. F, pos. 5**) or of the rain gun trolley. The rain gun trolley needs to be previously assembled by inserting the adjustable legs, (**Fig. A, pos. 6**) as shown in the figure.



#### CAUTION

The legs of the trolley, equipped of wheels, shall have to be fitted into their housings (**Pic. A pos. 8**) from the side provided with the relevant fastening U-bolt (**fig. A pos. 29**). Make sure that the legs are inserted from the right side.

Adjust the distances between the wheels of the trolley according to the route type, fasten the U-bolt, (**Fig. A pos. 29**) by slightly tightening both the nuts; for this operation use a 13 mm wrench.

3. Through the lever (**Fig. E, pos. 7**) hook the rain gun supporting plate (**Fig. F, pos. 5**) or the rain gun trolley (**Fig. A, pos. 8**) after fitting the trolley (or plate) end side into the proper housing (**Fig. E, pos. 4**).
4. Install the sprinkler rain gun (**Fig. F, pos. 9**) onto the plate or onto the rain gun trolley, by screwing the brass ring nut (**Fig. F, pos. 10**) onto the proper threaded seat and by tightening manually with strength.

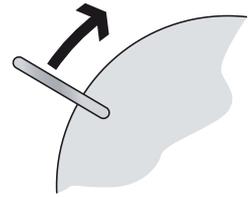


Do not force the rain gun in the part above the ring nut; tighten the ring nut manually.



Models equipped with trolley must have the trolley end of travel lifting device (**Fig. A, pos. 11**) lowered to the ground (as shown in the figure). In case of models equipped with trolley, reposition the brake lever (**Fig. D, pos. 3**) on the reel, by inserting it into the reel and leaning it onto the proper seat.

5. Insert the actuating lever (the longest one) in the upper part of the reel, by pushing it manually upwards as a feeding lever in the aim to rewind the partially pulled out hose.



**WARNING**

Make sure that the trolley is hooked to the support (**Fig. G, pos. 12**) by keeping on the manual rewinding phase as indicated above, until the end of travel device (**Fig. G, pos. 13**) beats the stop bar (**Fig. A, pos. 14**). Make sure that the trolley hooking plate (**Fig. G, pos. 30**) is above the support (**Fig. G, pos. 12**).

6. Hold the drawbar by fastening it through the relevant pin (**fig. H, pos. 15**) and then fit in the safety device.



**WARNING**

Never shift the machine if the safety pin is not inserted.

7. In case the machine is equipped with a third caster wheel (optional) for transfers (**Fig. Q, pos. 33**), such a device needs to be assembled as shown in the figure; hence fix the support of the wheel through the four bolts provided with it to the rear cross member of the sprinkler (**Fig. Q, pos. 34**). Adjust the height of the wheel, so that during transfers the wheel can partly bear the total weight of the sprinkler.
8. Bring the sprinkler to the working area by complying with handling indications (see page 14/40).



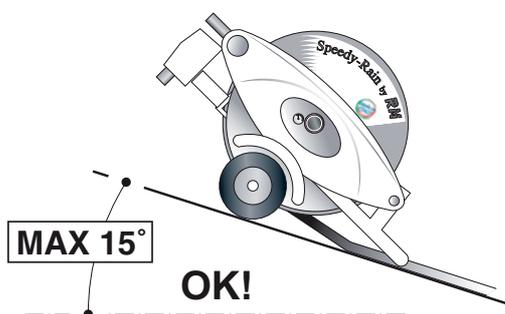
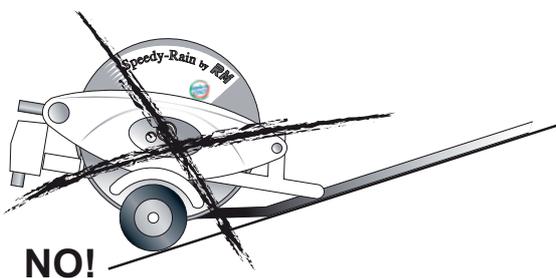
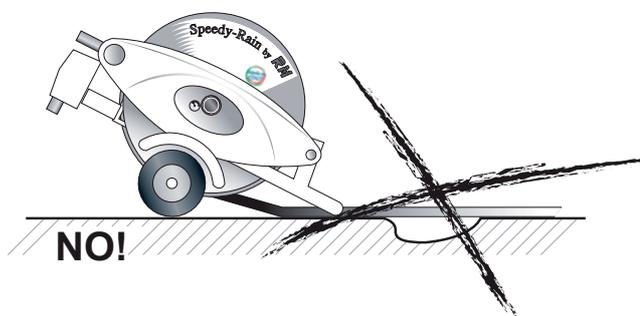
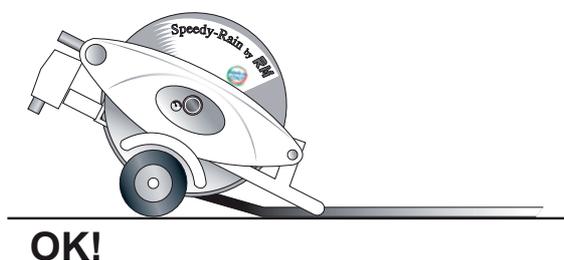
**WARNING**

***RM Spa declines all responsibility for any possible injury to people or animals or damage to property caused by neglect or lack of attention during installation and connection of the machine.***

### USING THE SPRINKLING SYSTEM ON LAND THAT IS NOT FLAT

The RM sprinkler was designed to work on flat land but, in exceptional cases, it can be used on hilly land as well. If this is the case, make sure the following conditions exist:

1. The gradient (both transversal and longitudinal) must not exceed 15% ;
2. There must not be large differences in height along the rain gun route ;
3. The rain gun trolley must be perpendicular to the down slope;
4. The rain gun trolley must be perpendicular to the axis of the reel;
5. The rain gun trolley must always be positioned downstream to the sprinkling system;



#### CAUTION

It is absolutely forbidden to work on land featuring sudden height differences.  
Risk of overturning!

# USING THE MACHINE

## PART IV



### COMMISSIONING

- A) Position the sprinkling system in front of area of land to irrigate, by making sure that the axis of the reel is perpendicular to the hose unwinding direction.



#### CAUTION

A non-perpendicular unwinding of the hose to the reel, might cause the breakage of the polyethylene hose.

- B) Anchor the sprinkling system by driving the feet into the ground (**Pic. B, pos. 16**); in case the ground is too wet, anchor the sprinkler to position with additional safeties so as to prevent it from accidentally moving during the hose unwinding/rewinding.
- C) Open the safety casing (**Pic. C, pos. 31**), remove the brake lever (**Pic. D, pos. 3**) and the actuating lever (**Pic. D, pos. 2**). To facilitate this operation it is advisable to slightly pull the actuating lever upwards (**Pic. D, pos. 2**), whilst removing the brake lever (**Pic. D, pos. 3**). Then remove the actuating lever. Then lay both the levers onto the ground (and not on the reel), by taking care so as not to lose them. Rub slightly the reel by tightening the knob of the braking system. (**Pic. L, pos. 18**).
- D) Before unwinding the hose, be sure there is no obstacle, excessive unevenness (which might cause the overturning of the rain gun holding plate or trolley), small plant or bush. The hose cannot be unwound on an unmowed lawn (in any case on a lawn higher than 5 or 6 cm) due to the excessive friction between the hose and the lawn; consequently, mow the area on which the polyethylene hose has to be unwound. Unwind the hose by bringing the rain gun supporting plate **Pic. F, pos. 5**), (or the rain gun trolley) to the desired point to start irrigating by keeping the reel braked off through the braking device. Use the proper towing chain to pull out the trolley (**Pic. I, pos. 19**) by hooking it up to a towing tractor with a minimum mass of 350 Kg. Make sure the chain is properly fastened and the hook perfectly inserted (**Pic. E, pos. 7**) before starting to tow.



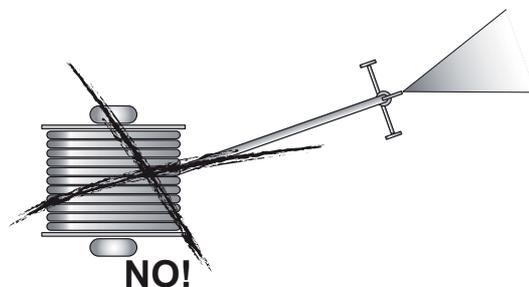
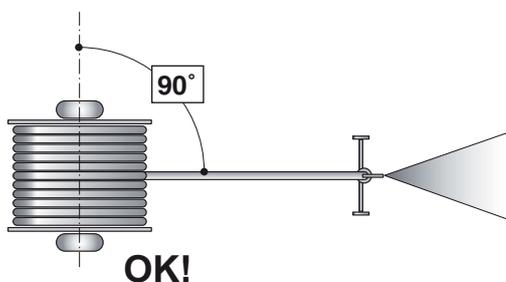
#### CAUTION

DO NOT UNWIND THE HOSE ON AN ALREADY WET GROUND: THE SPRINKLER MIGHT NOT HAVE ENOUGH POWER TO REWIND IT.



#### CAUTION

THE UNWOUND HOSE MUST BE PERPENDICULAR TO THE AXIS OF THE HOSE REEL.



#### CAUTION

THE HOSE CANNOT BE UNWOUND BY SIMPLE HUMAN STRENGTH. HENCE USE A PROPER TOWING TRACTOR TO UNWIND THE HOSE.



**CAUTION**

IN CASE THE HOSE LEFT ON THE REEL HAS LOOSENED UP, TIGHTEN IT MANUALLY. THIS OPERATION IS POSSIBLE BY INSERTING THE ACTUATING LEVER (THAT IS THE LONGEST ONE) INTO THE UPPER PART OF THE REEL BY PUSHING IT UPWARDS MANUALLY, AS A FEEDING LEVER, IN ORDER TO MAKE THE REEL SPIN SO AS TO TIGHTEN THE HOSE LEFT ON IT.



**CAUTION**

THE HOSE SHALL HAVE TO BE UNWOUND AT THE MAXIMUM SPEED OF 1 KM/H, HENCE UNWINDING 120 METRES OF HOSE MUST TAKE AT LEAST ABOUT SEVEN MINUTES. TOW THE HOSE AT A CONSTANT SPEED BY AVOIDING JERKS AND SUDDEN SPEED CHANGES. WHEN APPROACHING THE END OF THE HOSE UNWINDING SLOW DOWN AND STOP AT THE SET POINT, START AGAIN ONLY AFTER UNHOOKING THE PLATE OR THE TROLLEY.

- E) Towards the end of the unwinding operation leave at list two hose coils wound against the side, around the reel, one near the other. In any case the remaining coils shall have to be perfectly aligned and stretched onto the reel. Do not start rewinding the hose if the coils remaining on the reel are loose or if they are not well aligned.
- F) Put back to the working position the stop lever (*pic. D, pos. 3*), by taking care to position it beneath the square (*pic. D, pos. 25*). Lean the actuating lever onto the cylinder with bearings (*pic. D, pos. 2*). Completely loosen the brake, so as to make it lean only on the reel, but prevent it from performing any braking action by unscrewing the knob (*pic. L, pos. 17*).
- G) Close the mechanical assembly protection casing (*pic. C, pos. 31*) and turn the key counterclockwise (*pic. C, pos. 1*).

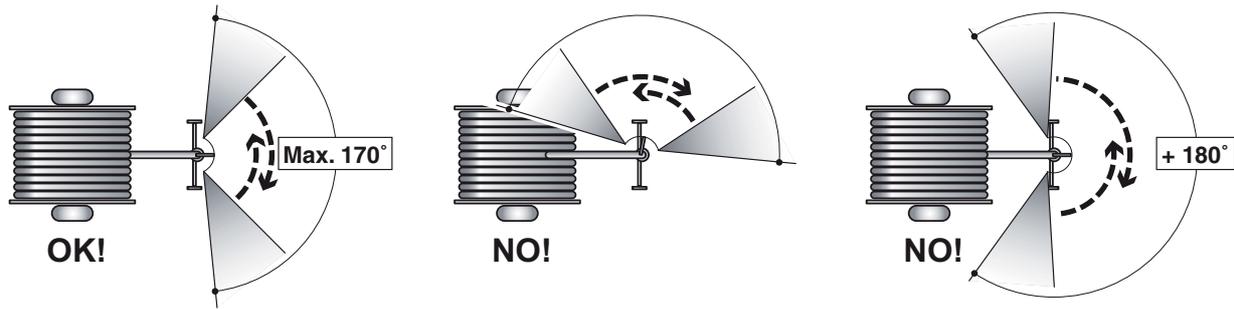


**CAUTION**

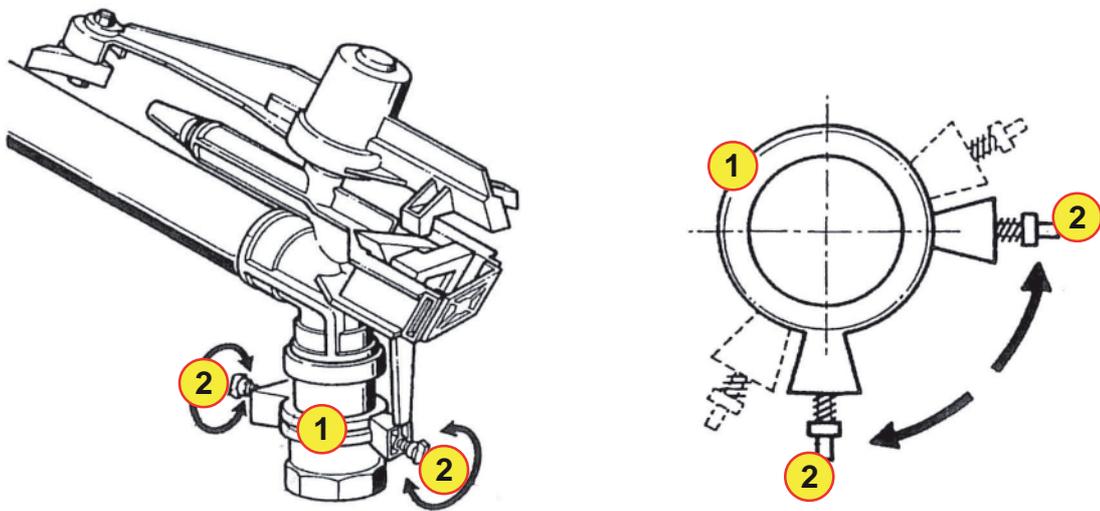
REMOVE THE KEY AND KEEP IT AWAY FROM UNAUTHORIZED PEOPLE.

- L) In the systems provided with waterstop system (*option*), before opening the water feeding make sure that such a device is open by leaning the "U" shaped steel lever (*pic. M, pos. 22*) onto the relevant tab (*pic. M, pos. 23*). In order to open the water stop, vigorously pull the steel lever towards the outside and turn it slightly in order to lean it onto the tab (*pic. M, pos. 23*) take care that the steel cable (*pic. M, pos. 24*) is well stretched and not twisted.  
Connect the sprinkling system to the water pipings through the feeding quick coupler (*pic. D, pos. 20*), open the water feeding, wait until all of the air contained in the polyethylene hose is purged and check on the suitable manometer (*pic. N, pos. 21*) that water pressure is within the already indicated limits. It is advisable to let some water flow out from the feed piping before connecting the sprinkler coupler. This enables to prevent foreign bodies from entering the sprinkling system (that is bodies that might be present inside the feed piping).
- M) Adjust the rain gun sector (*pic. F, pos. 9*) so that the water jet covers the wished area (a 170° sector is suggested) and does not wet the Speedy-Rain at the arrival position or the area nearby the machine.





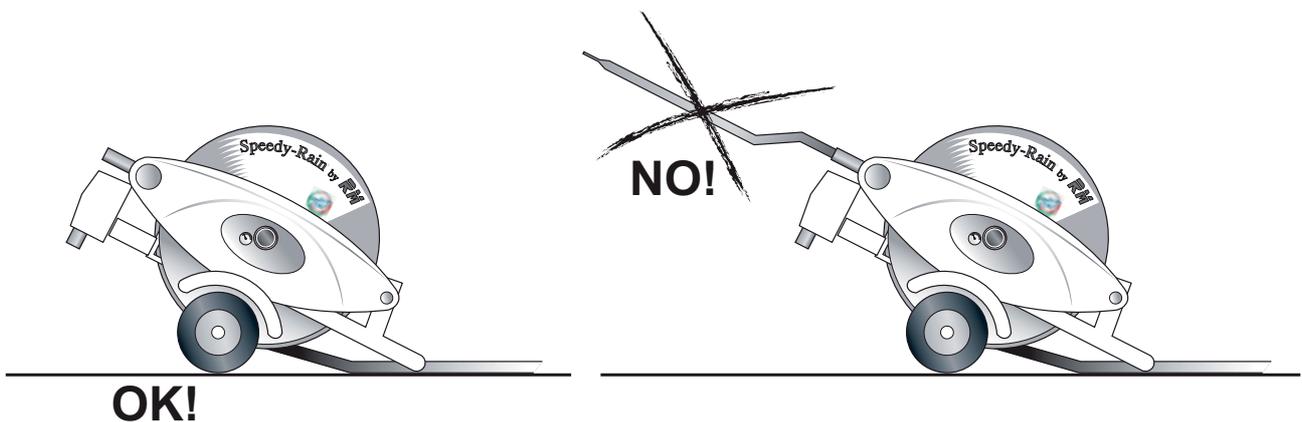
N) Lift the rings (1) by selecting the wished circle sector and tighten the screw (2).



O) The system is automatically stopped once the hose rewinding has been completed, by the disconnection of the unwinding system, by lifting the actuating lever (*pic. D, pos. 2*) through the pin (*pic. D, pos. 25*). On the machines equipped with the water stop system (*option*) the sprinkling is stopped by the water stop device stopping the feeding of water.

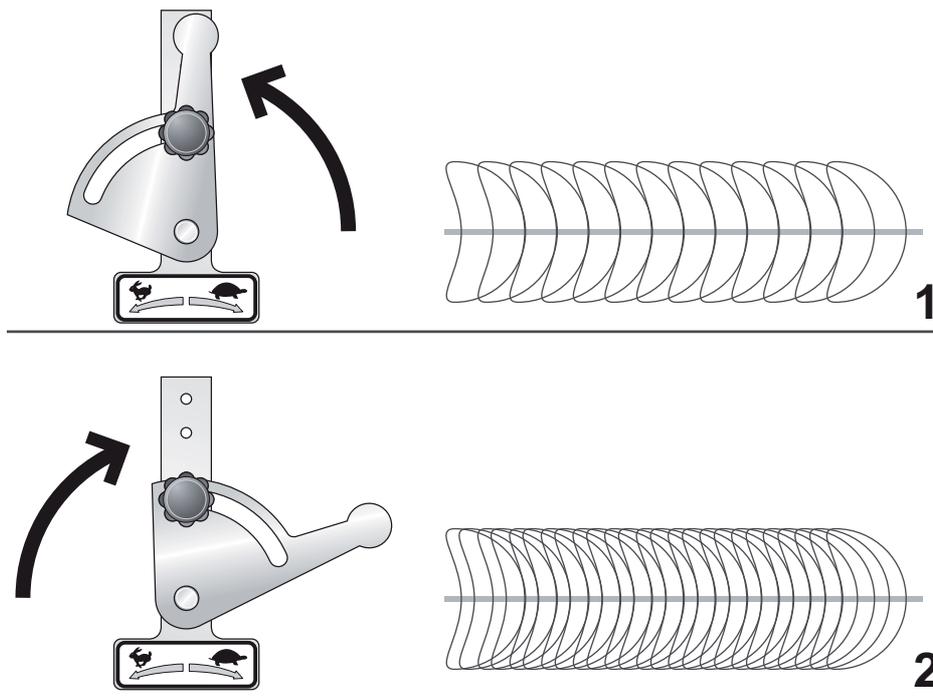
In order to reopen the water stop valve purge the water feed piping by opening the relevant mini-valve (*pic. N, pos. 26*) or disconnect the quick coupler (*pic. D, pos. 20*), after closing the water feeding upstream.

P) The drawbar must be removed during rewinding to avoid the system is not accidentally moved from its initial position or that people accidentally bump into it.



**ADJUSTING THE RECOVERY SPEED**

The recovery speed depends on the working pressure, but it can also be adjusted by activating the by-pass lever (**Fig. P, pos. 26**) positioned on the turbine unit. In order to obtain an accurate adjustment, just rotate the by-pass valve of a few degrees (**Fig. P, pos. 26**). Slightly loosen the knob (**Fig. P, pos. 32**) to activate this lever, then slightly turn the lever (**Fig. P, pos. 26**) and then tighten the knob (**fig. P, pos. 32**)



To either increase or decrease the rewinding speed intervene on the cam gearbox. To perform this stop the sprinkling system by stopping the water feed; then remove the actuating lever (**fig. D, pos. 2**) and screw, by means of a setscrew wrench (**fig. O, pos. 27**), the screw (**fig. O, pos. 28**) located on the cylinder with bearings.



**CAUTION**

**THIS ADJUSTMENT SHALL HAVE TO BE PERFORMED ONLY WHEN THE MACHINE IS AT A STANSDTILL; FAILING TO STOP FEED WATER MIGHT BE DANGEROUS !**

To increase the speed tighten again the screw on the threaded hole on the outer part of the plate, to decrease the speed tighten again the screw into the threaded hole positioned rather in the middle of the plate; vigorously tighten the screw and pull out the tab, put back to position the actuating lever (fig. D pos. 2) above the cylinder with bearings, reopen the feed water and then fine-tune the speed adjustment through the by-pass (**fig. P, pos. 26**). It is advisable to use the machine with the by-pass valve fully open; thus pressure drops within the turbine are minimized and the sprinkling system yielding is optimized.



**CAUTION**

**THE BY-PASS LEVER CAN BE USED FOR EMERGENCY STOPS BY VIGOROUSLY PULLING THE LEVER TOWARDS THE OUTER PART OF THE MACHINE .**



### RAIN CHART MOD. 405 TURBINA

Standard pipe length	Pipe	Nozzle	Pressure		Flow capacity		Rain gun range	Irrigated area width		Rewinding speed in m/h:					
			Infeed	Outfeed				With calm air	Our suggestion	10	15	20	25	30	40
										Rewinding time in hours:					
	Ø mm								85%	9,0	6,0	4,5	3,6	3,0	2,3
mt	Ø inch.	mm	bar	bar	lt/sec.	mc/h	mt.	mt.	mt.	mm / H2O					
130	40 1"1/4	8	2,4	1,5	0,82	2,94	15,5	31	26,4	11,2	7,4	5,6	4,5	3,7	2,8
			3,0	2	0,95	3,42	17	34	28,9	11,8	7,9	5,9	4,7	3,9	3,0
			5,5	4	1,33	4,8	20,5	41	34,9	13,8	9,2	6,9	5,5	4,6	3,4
		10	2,9	1,5	1,27	4,56	17	34	28,9	15,8	10,5	7,9	6,3	5,3	3,9
			3,7	2	1,47	5,28	18	36	30,6	17,3	11,5	8,6	6,9	5,8	4,3
			6,6	4	2,07	7,44	22	44	37,4	19,9	13,3	9,9	8,0	6,6	5,0

### RAIN CHART MOD. 505 TURBINA

Standard pipe length	Pipe	Nozzle	Pressure		Flow capacity		Rain gun range	Irrigated area width		Rewinding speed in m/h:					
			Infeed	Outfeed				With calm air	Our suggestion	10	15	20	25	30	40
										Rewinding time in hours					
	Ø mm								85%	9,0	6,0	4,5	3,6	3,0	2,3
mt	Ø inch.	mm	bar	bar	lt/sec.	mc/h	mt.	mt.	mt.	mm / H2O					
170	50 1"1/2	10	3,0	2	1,47	5,28	18	36	30,6	17,3	11,5	8,6	6,9	5,8	4,3
			4,2	3	1,78	6,42	20,5	41	34,9	18,4	12,3	9,2	7,4	6,1	4,6
			5,4	4	2,07	7,44	22	44	37,4	19,9	13,3	9,9	8,0	6,6	5,0
		12	3,4	2	2,12	7,62	19	38	32,3	23,6	15,7	11,8	9,4	7,9	5,9
			4,8	3	2,58	9,3	21	42	35,7	26,1	17,4	13,0	10,4	8,7	6,5
			6,2	4	2,98	10,74	23,5	47	40,0	26,9	17,9	13,4	10,8	9,0	6,7

### REWINDING STOP

The rewinding can be stopped at any moment by cutting water feed to the sprinkling system. When water feeding is restarted, the rewinding will restart too.

The machine can also be stopped by actuating the by-pass lever, by pulling it vigorously towards the outside of the machine.

# MAINTENANCE

## PART V



### GENERAL MAINTENANCE RULES

All the maintenance operations shall have to be carried out in full compliance with the safety rules.



#### CAUTION

***Never lubricate the machine during the working cycle!***

### ROUTINE MAINTENANCE

- A) The Speedy-Rain sprinkling systems are equipped with Turbine-Gearmotor assembly, and they do not need any particular servicing. Both the turbine and the gearmotor have been made with details that do not need periodical lubrication. Just periodically check the turbine in order to remove possible scale inside it (to perform this operation unscrew the screws securing the cover).
- B) Seldom grease the reel supports, the hose guiding screw ones and the hose guiding screw itself.
- C) Before storing the sprinkling system for the winter, it is advisable to partially unwind the hose in order to drain all the water still contained in the hose; unwind at least 20 m of hose by complying with the procedure described above.  
The rewinding can be performed manually by using the actuating lever as indicated in 1,2 and 5 of the installation procedure (see page 18/40).
- D) Spray a small amount of extremely fluid lubricant into the turbine and on the outside of the aluminium casing.
- E) NEVER LUBRICATE the edge of the reel onto which both the stop and the actuating lever slide (**pic. D, pos. 2, pos.3**).



#### WARNING

***The company RM shall not be held responsible for any damages caused by improper maintenance.***

**PREVENTIVE MAINTENANCE**

- 200 h Grease the hose guiding screw shaft and the relevant supports on the shaft
- 200 h Grease the reel supports on the frame
- 200 h Lubricate the by-pass valve shaft through a manual greaser
- 400 h Visually check for the integrity of the rubber hoses feeding water from the mains to the turbine and from the turbine to the reel infeed.



**CAUTION**

*After unwinding the irrigating hose and connecting the water feeding piping make sure that there are no leakages along the unwound hose.*



**CAUTION**

*Do not tread on the polyethylene hose and do not cross over it with tractors, lawn mowers or any other mechanical means. Do not perform any gardening activity while irrigating.*



**NO!**



**CAUTION**

*Never lubricate the outer profile of the reel onto which the levers are fitted.*



**CAUTION**

*It is forbidden to lubricate the parts that are not indicated in the manual.*



**CAUTION**

*Never leave the polyethylene hose unwound on the ground if not used to irrigate; as a matter of fact the hose laid on the ground irrigated by the rain performs at very high friction such as to irreparably break the machine. RM shall not be held responsible for any damage caused by leaving the hose unattended on the ground even during the guarantee period of validity.*



# TROUBLE SHOOTING

## PART VI



### TROUBLE SHOOTING INSTRUCTIONS



#### CAUTION

*The sprinkling system might present more serious damage than expected. After ascertaining the failure and verifying the possible solutions described in the "TROUBLE SHOOTING" section, in case the safety conditions that ensure the servicing intervention will fully succeed are not present please apply to the machine dealer.*

#### WHAT TO DO IF ...

- A) If the stop and actuating levers (**pic. D, pos. 2, pos.3**) cannot freely be shifted downwards, make sure that there are no raised edges on the side edge; on the contrary remove them by means of a file or an abrasive disc. If the actuating lever (**pic. D, pos. 2**) prevents the reel from rotating during the upwards travel, it is necessary to restart the upper corner of the lever, which is in contact with the side edge. Use a file or a lapping machine. In case this solution does not solve the problem, then replace the actuating lever (**pic. D, pos. 2**). During the functioning of the machine make sure the actuating lever (**pic. D, pos. 2**) works in perfect square axis to the axis of the turbine-gearmotor assembly. In other words, the actuating lever (**pic. D, pos. 2**) must not undergo any strain by striking the rotating plate but it only has to lean on the cylinder with bearings; if necessary adjust the position of the turbine-gearmotor assembly by intervening on the 4 bolts securing the gearmotor to the frame, so as to obtain the above indicated condition. So if necessary laterally shift the turbine-gearmotor assembly so that the actuating lever can properly work as described above.
- B) If the hose cannot be rewound correctly:
- repeat the operations suggested under "commissioning" points "D" and "E" and make sure that the rewinding screw works properly, and in particular that the chain is properly stretched.
  - Make sure that the system has not been moved from its initial position.
  - make sure that the hose is positioned perpendicularly to the reel axis.
- C) If the turbine-gearmotor assembly does not rewind or does not work properly:
- close the by-pass valve;
  - make sure that min 3,5 ATM are indicated by the manometer;
  - make sure the nozzle located inside the water infeed in the turbine is not obstructed. To perform this check disconnect the quick coupler (**pic. D, pos. 20**) and verify that there are no cloggings;
  - make sure the rain gun nozzle is not clogged.
  - If after performing these checks the turbine still does not rotate, this means that some foreign objects has got into the casing. In order to remove them just open the turbine cover by unscrewing the radial screws that are securing it.
- D) If water leaks from the turbine, please apply to your own dealer or to the manufacturer.
- E) If the rain gun (**pic. F, pos. 9**) has an insufficient range select the proper nozzle among the provided ones (either a bigger one or a smaller one).
- F) If the irrigation system is not able to rewind a polyethylene hose almost entirely unwound, the cause could be the excessive friction between the ground and the polyethylene hose. This often happens in case the hose is unwound on a wet ground or on a high or humid lawn. To solve the problem close temporarily the water and lift the polyethylene hose from the ground, place transversally under it some wooden beams having a thickness of at least 11 cm (every 3 or 5 meters). Now restart the rewinding phase with water and be sure the sprinkler does not move from its initial position.





# SPARE PARTS

## PART VII

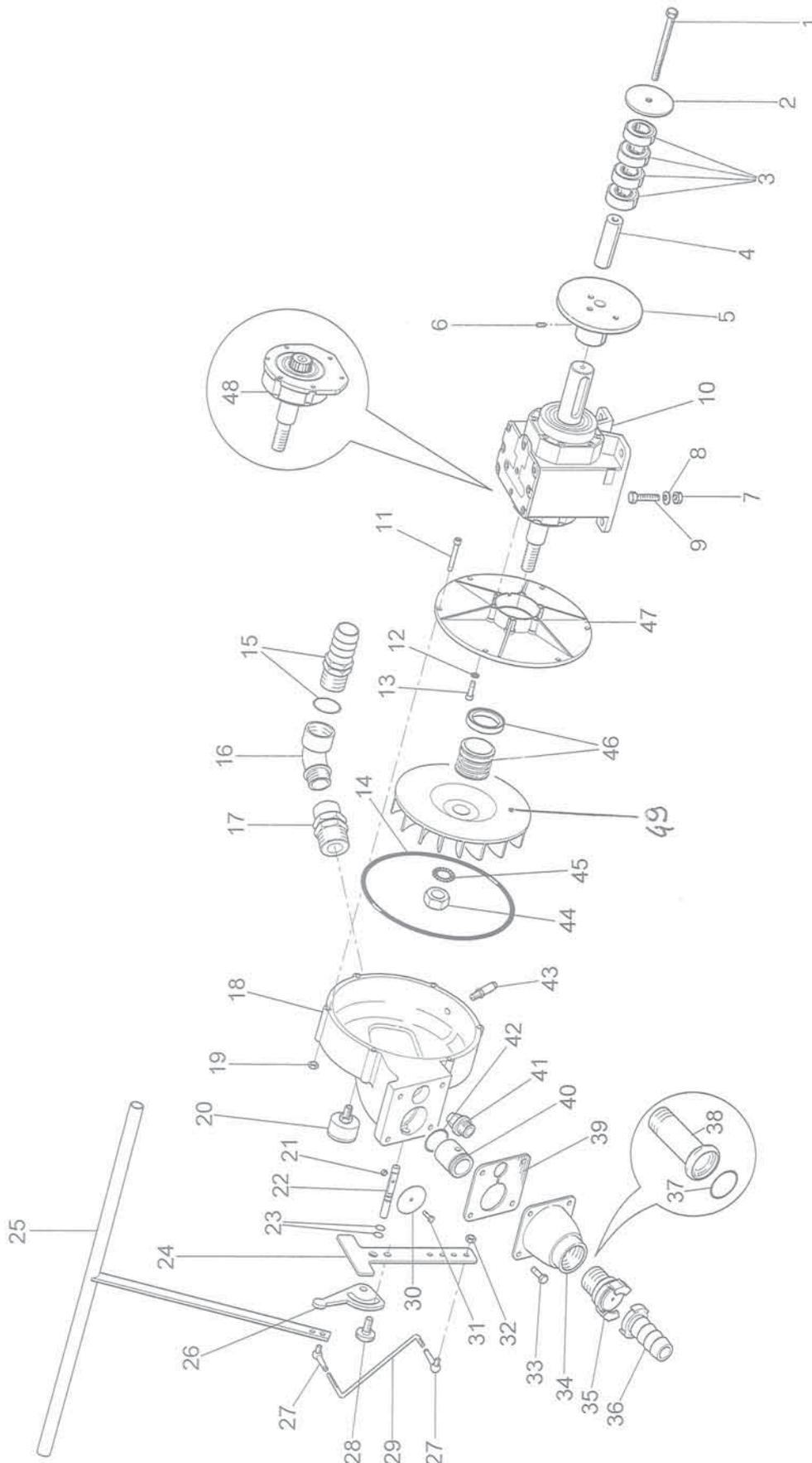


### **SPARE PARTS**

When ordering the spare parts, always specify the following pieces of information

1. The machine year of construction.
2. The machine's serial number.
3. Diameter and length of the hose installed (as an alternative to the machine's serial number).
4. Order code number for the part to be replaced or an exact description of the requested part.
5. Short description of the presumed breakage or wearing cause.
6. Type of shipment required.

**TURBINE-GEARMOTOR ASSEMBLY**





**SIME K1 RAIN GUN**

