OPERATOR'S MANUAL

Model
WRT5LSC

Water Reel® Irrigation

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P/N 193-0241-0

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Parts Book Available at www.kifco.com

Introduction

Thank You for purchasing a Kifco® Water-Reel®.

Read this manual carefully to learn how to operate and service your Water-Reel properly. Failure to do so can result in personal injury and/or property damage.

This manual is a permanent part of your Water-Reel and should always be available for reference by the operator. This manual should remain with the Water-Reel when it is sold.

Measurements in this manual are in U.S. units unless otherwise stated.

The machine sides are designated water inlet side and level wind chain side.

The serial number of your Water-Reel should be written in the space provided in the Dealer Checklist section (page 2) of this manual.

If you have a problem or if you do not understand some feature of your Water-Reel, contact your Kifco dealer.

Warranty is provided as part of the Kifco product support. Please see specific warranty statement in this manual.

The warranty excludes:

!Alterations or modifications not approved by Kifco Inc. Neither Kifco dealers nor representatives are authorized to make exceptions to warranty policy. Any deviations from standard warranty require written authorization from Kifco Inc. Irrigation tube that is longer, larger in diameter, or made from non-approved materials will void the warranty on the entire machine.

!Damage caused by normal wear, accident, lack of reasonable care and maintenance, neglect or abuse.

!The replacement cost of normal service items such as filters, gaskets, brake bands, etc., unless these parts are known to be defective.

!Transportation, mailing, service call, or diagnosis costs. Labor for repairs is also excluded unless unusual circumstances exist and then only if pre-approved.

Dealer Checklists

Owner's Name _____

Address _____

City _____ State _____ Zip _____

Model _____ Serial No._____ Date Sold _____

Pre-delivery Checklist: Check below before delivery to customer.

_____ 1. Guards and shields in place
_____ 2. Decals in place and legible
_____ 3. Tire pressure
_____ 4. Lubrication (Page 10)
_____ 5. Spool Brake adjustment
_____ 6. Sprinkler Nozzles
_____ 7. Clutch Disengage
_____ 8. Supply Hose Fittings
_____ 9. Touch up paint & clean

Delivery Checklist:

Review the operator manual with the user and explain the following:
_____ 1. Kifco warranty policy and claims procedure
_____ 2. Safe operation and service
_____ 3. How to operate your Water-Reel
_____ 4. Transporting the Water-Reel on roads or highways.
_____ 5. Speed adjustment and effect on depth of water
_____ 6. Effect of water pressure on Water-Reel performance
_____ 7. Winterization and storage procedures
_____ 8. Give the customer this manual and encourage the customer to read and study the information in the manual.

Date Delivered _____

Name of Dealer _____

Dealer Phone Number _____

Safety

Owners Responsibilities

The owner is responsible for the safe operation of this product.

It is the owner's responsibility to:

1. Read and understand these instructions.

2. Operate the machine according to prescribed limitations.

3. Properly train others who may be permitted to operate the machine.

4. Heed rules of safety, including but not limited to those in these instructions.

5. Exercise good judgment relating to safe operation and safe conduct by operators and spectators whether invited or not.

6. Always bring the safety decals and placards on the machine to the attention of operators and spectators.

7. **Keep all shields and guards in place!**

Read and Heed the Special Messages!

This safety alert symbol is used to indicate messages related to safety. When you see this safety symbol, obey the safety message to avoid personal injury, property damage or both.

A **"Caution"** message in this manual or on a machine placard means that you could be injured and/or equipment or property may be damaged if you do not follow instructions.

A **"Warning"** message in this manual or on a machine placard means that a hazard exists that could result in severe personal injury or death.

A **"Danger"** message in this manual or on a machine placard means that a hazard exists that will result in severe personal injury or death.

Location of Safety Messages:

These safety messages are placed for the operator's safety.
You **MUST** read and follow these precautions to prevent injury.

1.

CAUTION

BLEED OFF PRESSURE SLOWLY BEFORE REMOVING SUPPLY HOSE

2.

CAUTION

BEFORE PULLING CART OUT, TURN OFF WATER AND DISENGAGE DRIVE

3.

WARNING

REPLACE SHIELD: IF YOU CAN READ THIS A SHIELD HAS BEEN REMOVED

4.

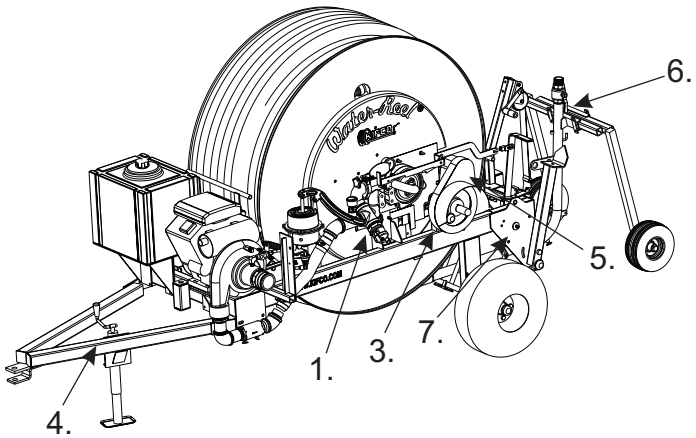
WARNING

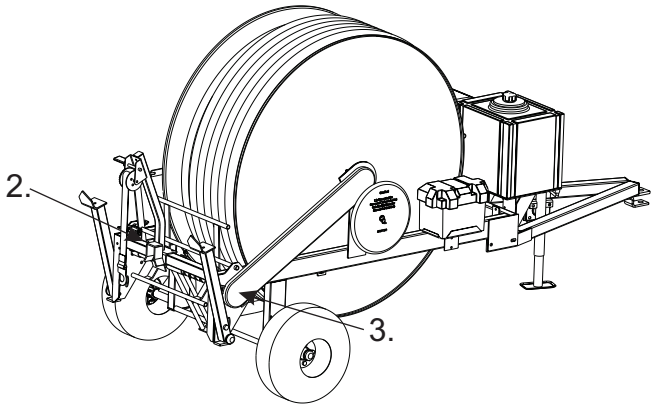
NOT DESIGNED FOR HIGHWAY USE
MAXIMUM SPEED 10 MPH

5.

WARNING

DO NOT DISENGAGE DRIVE WHILE IN OPERATION!





6.

WARNING

STAND CLEAR OF SPRINKLER

7.

WARNING

DO NOT OPERATE THIS MACHINE UNTIL YOU HAVE READ AND UNDERSTAND THE OPERATORS MANUAL, IF YOU DO NOT HAVE A COPY OF THE OPERATORS MANUAL, CONTACT YOUR DEALER OR OUR FACTORY IMMEDIATELY.

DO NOT OPERATE THIS MACHINE UNLESS ALL SAFETY SHIELDS ARE SECURELY IN PLACE.
DO NOT CLEAN, LUBRICATE, ADJUST OR REPAIR THIS MACHINE WHILE IN OPERATION.
DO NOT RIDE OR CLIMB ON THIS MACHINE AT ANY TIME.
DO NOT PLACE HANDS BEHIND SHIELDS WHILE THE MACHINE IS IN OPERATION.
DO NOT ALLOW CHILDREN OR OTHERS NEAR THE SPRINKLER, CART OR MACHINE DURING OPERATION.

Safety

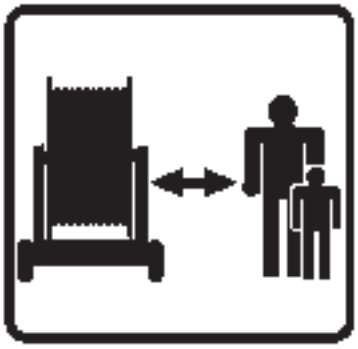
Learn To Be A Safe Operator

Read This Manual

Know the controls on the Water-Reel and also how to stop the water supply! Do not allow children to operate the Water-Reel.

Do not allow anyone to operate the Water-Reel with out proper instruction.

Protect Children

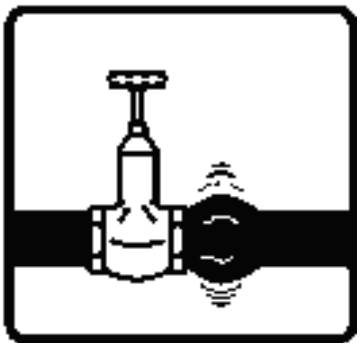


Keep children away when you operate the Water-Reel.

Do not allow children to operate the tractor that is positioning the Water-Reel.

Never allow children to climb or ride on the machine at any time.

Use Caution Around Pressurized Lines

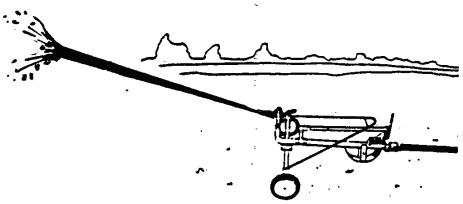


For your own protection, always take care when working with or around pressurized equipment. Shut off the pump before working with any components. Including the pump, supply lines, machine or related equipment.

Be sure pressure is relieved from any supply line before it is disconnected.

When the automatic sprinkler shut-off is used, pressurized water may be trapped in the system tube.

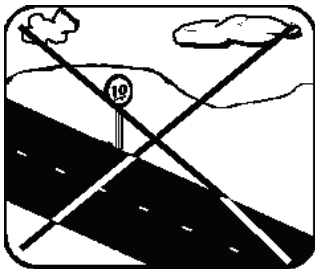
Stay Away From Operating Sprinklers



Stay away and keep others away from the sprinkler head during operation. Pressurized water from a sprinkler can inflict serious injury to bystanders.

Safety

Use Caution When Towing



Your Water-Reel is not intended for highway towing.

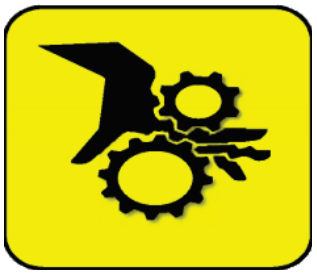
Towing Speed:
10 MPH maximum on smooth surfaces.
3 MPH maximum on rough surfaces.

Never tow the Water-Reel in excess of 10 MPH.

Keep Hands and Clothing Away

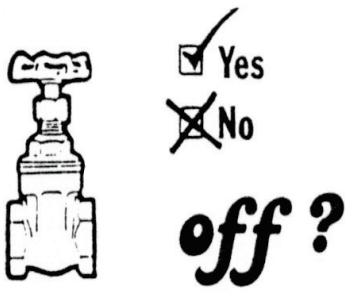
Do not under any circumstances reach into the Water-Reel while it is in operation.

Keep All Guards and Shields in Place



Never operate this machine with safety guards removed!

Never Service or Make Adjustments While the Water-Reel is Pressurized



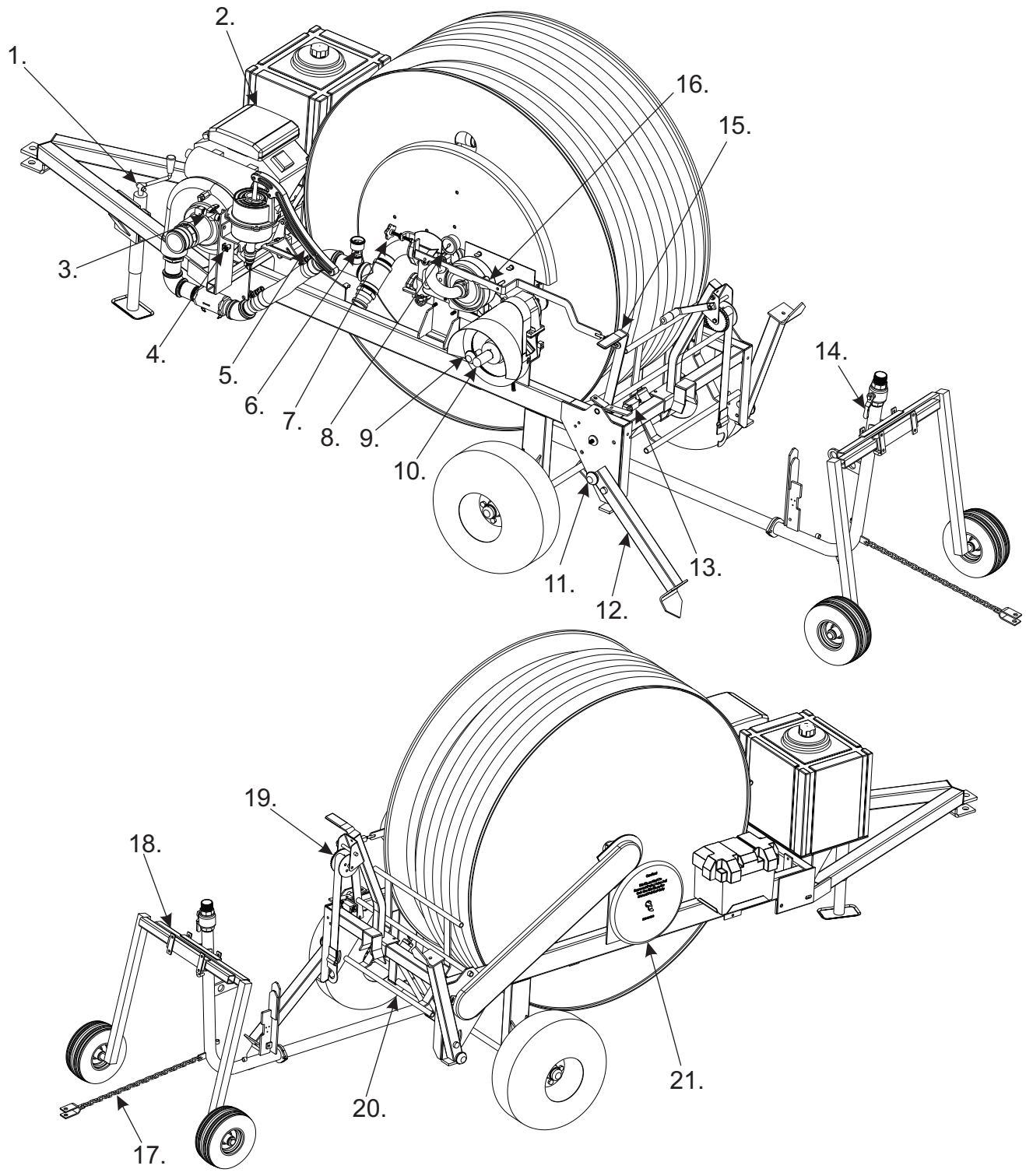
Shut the water off at the source before attempting to do any service, maintenance of adjustments.

Stay Away From Power Lines

Avoid letting irrigation water contact power lines.

Be careful not to contact power lines with irrigation pipe or mechanical equipment.

Controls Turbine Drive



1. Tongue Jack
2. Pump Engine Switch
3. Primer Valve
4. Bypass Switch
5. Primer Handle
6. Murphy Gauge (pressure switch)
7. Travel Speed
8. Pressure Gauge
9. Clutch Disengage Knob
10. PTO Adaptor
11. Release Pin
12. Stabilizer Leg
13. Engine Shut Down Switch
14. Gun Cart Valve
15. Shut Off Handle
16. Shut Off Hold-Out
17. Pull Out Chain
18. Gun Cart
19. Transport Boom
20. Auto Shut Off Bar
21. Rewind Hand Wheel

Assembly

Water-Reels are shipped with all primary assembly complete. The only items to assemble at the destination are:

1.Pull out hose end a few feet, and install guncart.

2.Sprinkler installation on the cart.

3.Installation of the proper sprinkler nozzle.

4.Final adjustment of the transport arm should be made upon completion of the first irrigation run.

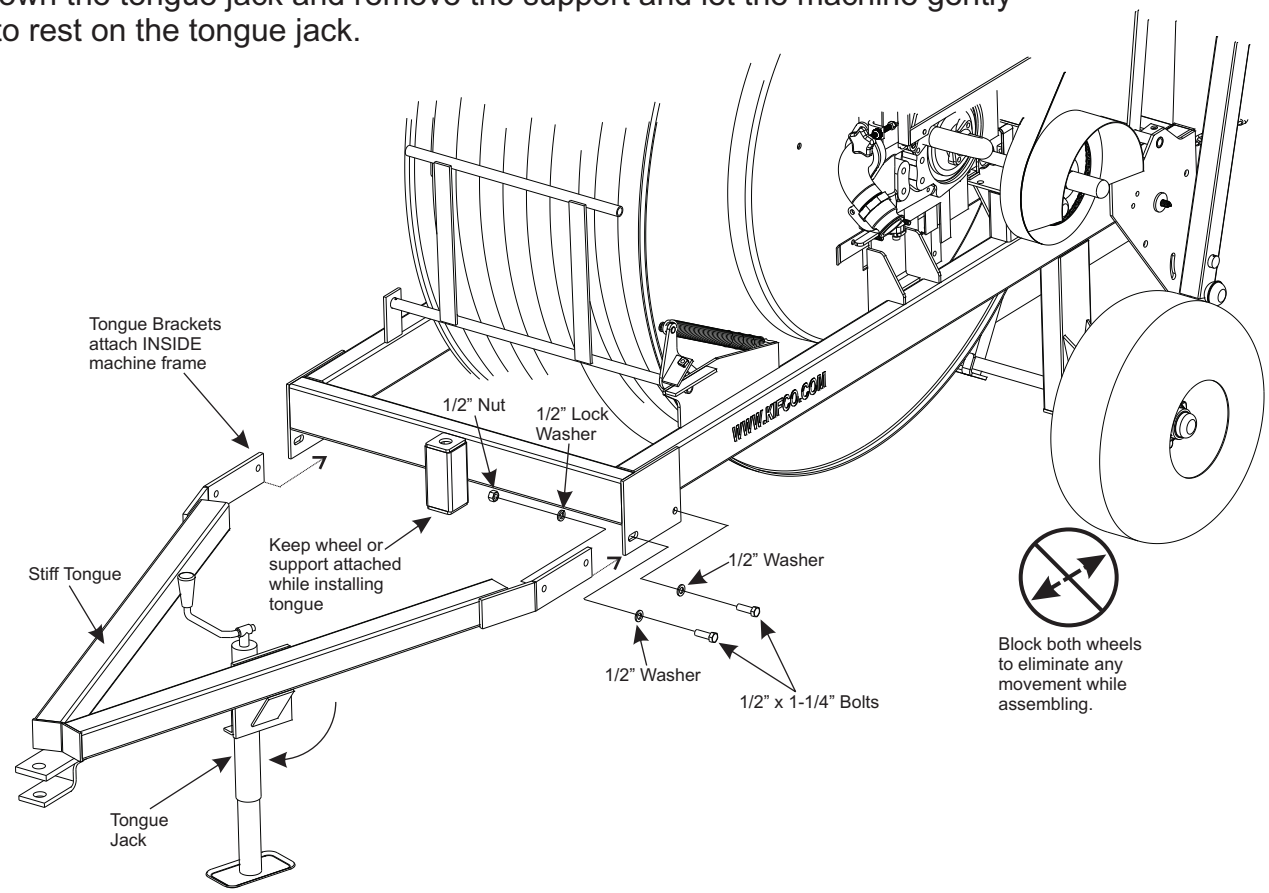
The transport arm should be located directly above the sprinkler cart body when the sprinkler cart is completely drawn up to the shut-off bar. This exact location is not possible before the Water-Reel has been operated because the irrigation hose may be loose on new units, particularly if they have been shipped a long distance. (See "Handling the Polyethylene Tube" section).

Stiff Tongue Instructions

1. Before installing the tongue, leave the front support on the machine. Block both rear tires to keep the machine from any movement.

2. Place the brackets on the tongue INSIDE the machine's frame and assemble the tongue to the machine using 1/2" x 1-1/4" bolts, 1/2" flat washers, 1/2" lock washers and 1/2" hex nuts.

3. Turn down the tongue jack and remove the support and let the machine gently down to rest on the tongue jack.



Check tire pressures before attempting to tow the Water Reel

Floatation tires 15-20 PSI
Tires 14" or less 20-30 PSI
Tires above 14" 40-50 PSI
Check tire wall for actual pressure rating.

Handling The Polyethylene Tube

The polyethylene irrigation tube is a durable product that will operate reliably for many years if handled properly and given a reasonable amount of care.

Unlike rubber hose or hose with a woven jacket (lay flat hose), polyethylene is a semi-rigid product that retains its shape when it is not pressurized. This characteristic makes it feasible to pump water through it while it is rolled up on a reel.

A few simple precautions need to be observed to prevent damaging the tube when operating your Water-Reel.

When starting a new water-reel for the first time, it is important that the tube be pulled nearly all the way out in order to tighten the new tube on the spool.

1. **Never transport the Water-Reel with the drive disengaged! The irrigation tube will become loose and tangled.** Do not attempt to operate the Water-Reel if there are any coils of tube that are loose or misplaced. If loose coils of tube are noticed after pulling the tube out, they must be tightened by rotating the spool by hand. If this is not possible, then pull all of the tube out before attempting to rewind the tube.

2. Never try to relocate the Water-Reel if the tube is not fully rewound onto the machine.

3. Never pull the tube off the machine other than by pulling on the sprinkler cart (straight out from the machine).

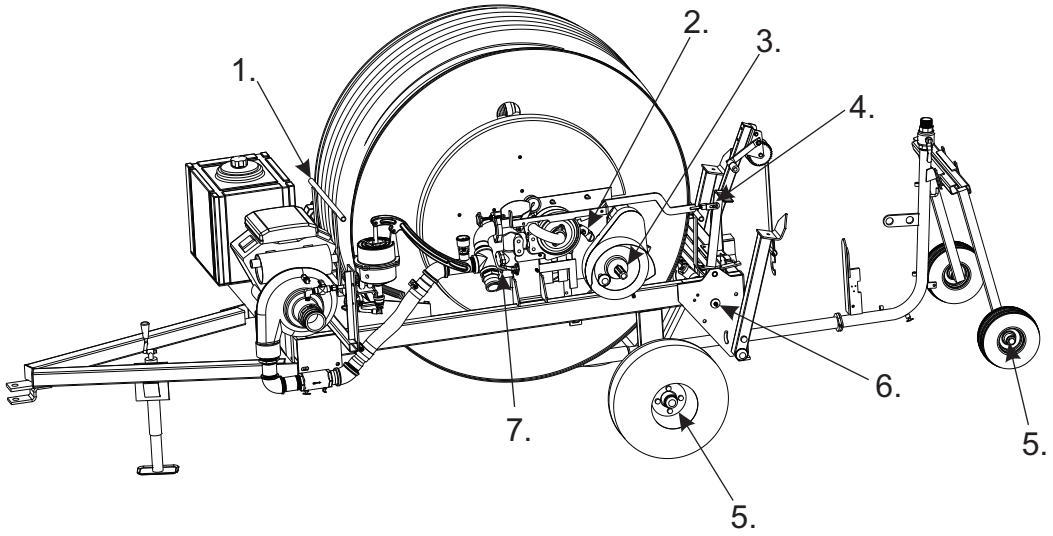
4. Never run over the tube with any kind of vehicle and avoid pinching or pulling the tube around objects. Make it a point to never bend the tube sharper than 25 times the diameter of the tube.

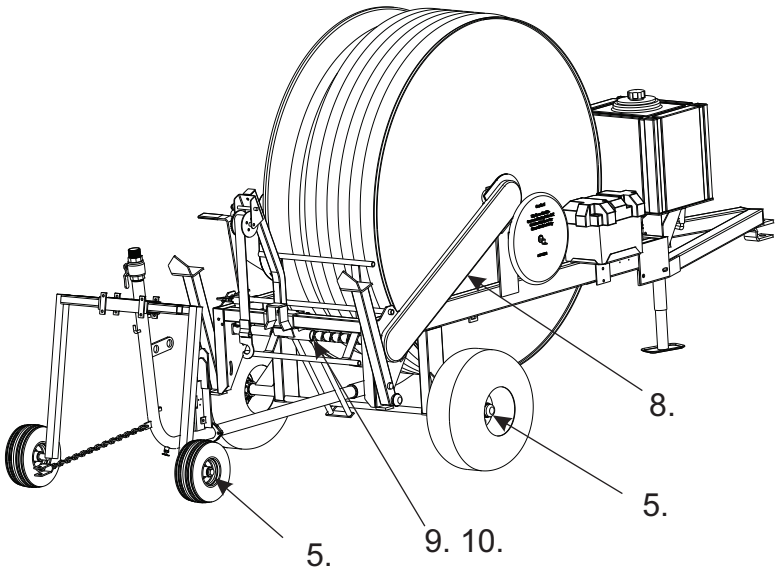
5. Be careful when operating other equipment near the tube so that it doesn't get gouged or punctured.

Remember, polyethylene tube is semi-ridged and subject to being kinked. These foregoing precautions will reduce the possibility of kinking or damaging your tube. Throughout the irrigation industry the words 'tube' and 'hose' are used interchangeably in connection with hard hose traveling machines.

Maintenance and Service

Maintenance Procedures: Perform inspection and any maintenance procedure after 100 hours of use. Your Water-Reel machine is equipped with Delrin® spool bearings, that do not need lubrication, but should be inspected periodically for any wear problems.





1. Tube rider- oil pivot points if necessary
2. Drive belt, check periodically
3. Clutch drive sprocket- grease periodically
4. Shut off bar-grease periodically
5. Wheels- grease at zerk fitting periodically
6. Levelwind sleeve bearing- grease at zerk fitting periodically
7. Turbine filter- drain
8. Level wind drive chain- oil periodically
9. Levelwind screw- check for excessive wear
10. Levelwind follower

Water-Reel Start-Up & Operation

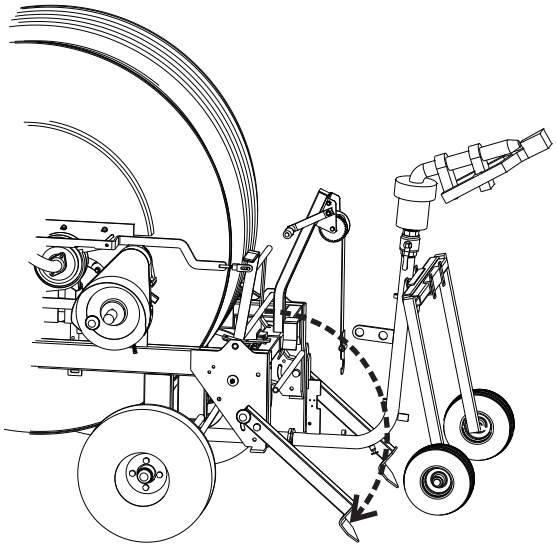
The successes of the Water-Reel irrigation system depends a great deal on the operator's understanding of the proper pull out and start up procedure. **Do not attempt to operate this Water-Reel until you read and understand the preceding section titled "Handling the Polyethylene Tube"!**

The following steps are important.

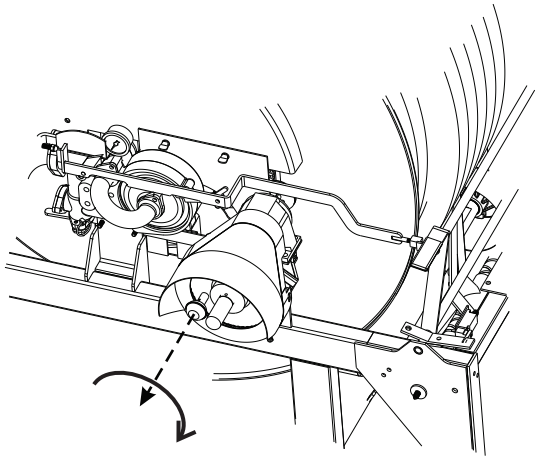
1.Pull the Water-Reel into position with the sprinkler cart towards the run to be irrigated. Be especially careful to have the machine square and in good alignment with the irrigation path. It is allowable for the tube not to be pulled out in a straight line, however, it is important that **the first 25% of the tube be pulled straight away from the machine.** Failure to observe this limitation places excessive side load on the level wind mechanism and may result in equipment failure or tube damage.

2.Fold down the stabilizer legs and confirm they have made good ground contact. Make sure both legs swing freely at their hinges. **Never** attempt to operate the Water-Reel with only one leg down.

When the Water-Reel begins to operate with the tube pulled out, the machine may raise up onto the stabilizer legs. The machine is then resting on the tongue jack and the stabilizer legs with the two main wheels off the ground. This is normal. Do not attempt to interfere with this action. The Water-Reel has been designed to maximize its capability to anchor itself.



3. Disengage the clutch. To disengage, pull on the clutch knob and rotate 90° to locked out position.

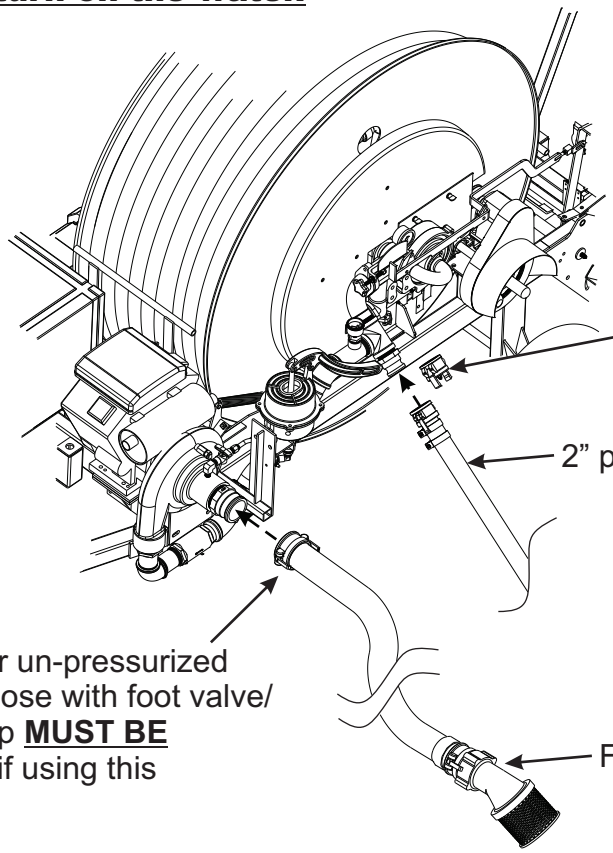


Water-Reel Start-Up & Operation

4.Check spool brake for proper tension. There should be noticeable resistance to unrolling. The purpose of the spool brake is to prevent coasting of the spool during tube pull out. **Coasting of the spool is the most frequent cause of malfunction!** This problem is most common when the Water-Reel is frequently used in short runs and the entire tube is seldom pulled all the way out. When the spool coasts, it will appear that the level-wind mechanism is out of time with the incoming tube, **make no attempt to re-time the machine until it is determined that the tube is not loose.** If the tube does become loose the only way to correct the problem is to pull the tube all the way out and allow the machine to operate a full-length run. See the "adjustments" section of this manual for adjusting the spool brake.

Note: Some municipalities prohibit the use of water mains intended for fire protection and there may also be requirements for back-flow prevention. Investigate and obey all local regulations regarding the use of water**.**

5.Attach the water supply line to the machine to confirm that all lines reach and the Water-Reel is set in the proper place. **Do not turn on the water.**



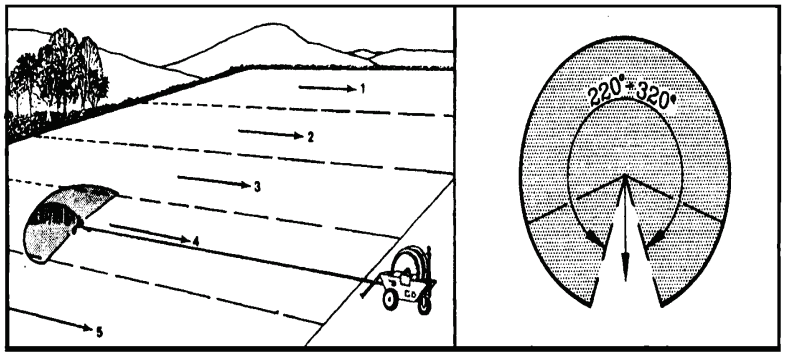
*Dust cap **MUST** be installed IF using the primary pump*.

2" pressurized supply source

If drawing from a natural or un-pressurized source: attach 3" suction hose with foot valve/ strainer. **NOTE:** 2" dust cap **MUST BE INSTALLED** and secured if using this option.

Foot Valve/Strainer

6.Lower the sprinkler cart from its transport position, and set the desired sprinkler arc. See following diagrams.

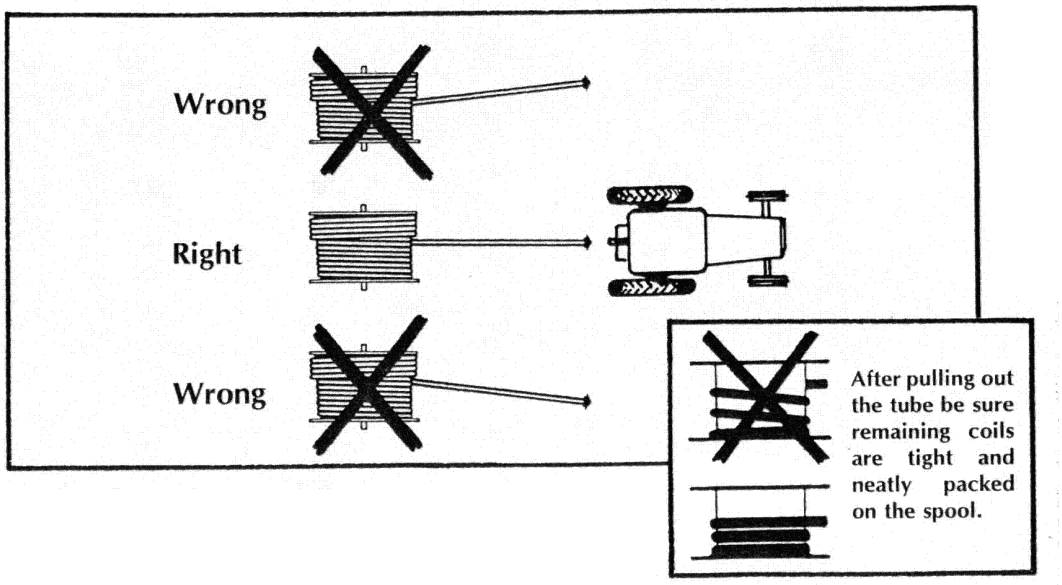


Start-Up & Operation

7.Pull the sprinkler cart out the desired distance. Pull the tube out slowly 3 m.p.h. and avoid sudden stops or anything that will make the spool more likely to coast.

Warning!
Stand clear of the machine and the guncart while the tube is being pulled out.

Note: When the tube is pulled out to follow a contour or to avoid an obstacle, the extent that it is pulled in a curve should be very gradual. Under no circumstances should the tube curve more than 90 degrees in its entire length. How well the tube will follow its laid out path back to the machine will depend mostly on the surface of the ground. For example, if there are contours or furrows to follow, the tube may track back very well. If the soil or vegetation is slick and no rows or furrows exist, the tube may cut across the laid out path and be recoiled back on the machine in the shortest distance (a straight line).



Start-Up & Operation

9. Open the valve on the guncart.

10. Engage the clutch by pulling knob, turning 90° and releasing.

11. If running the machine off of a pressurized system; turn on the water supply.

12. If the machine is to be ran using the pump; you must follow these procedures:

The pump should **NEVER** be allowed to run dry. The pump seals will be damaged if the pump body is not full of water when the pump is running.

The Booster Pump engine is supplied with fuel from an auxiliary fuel tank mounted beside the engine. **Never refuel while the engine is running.**

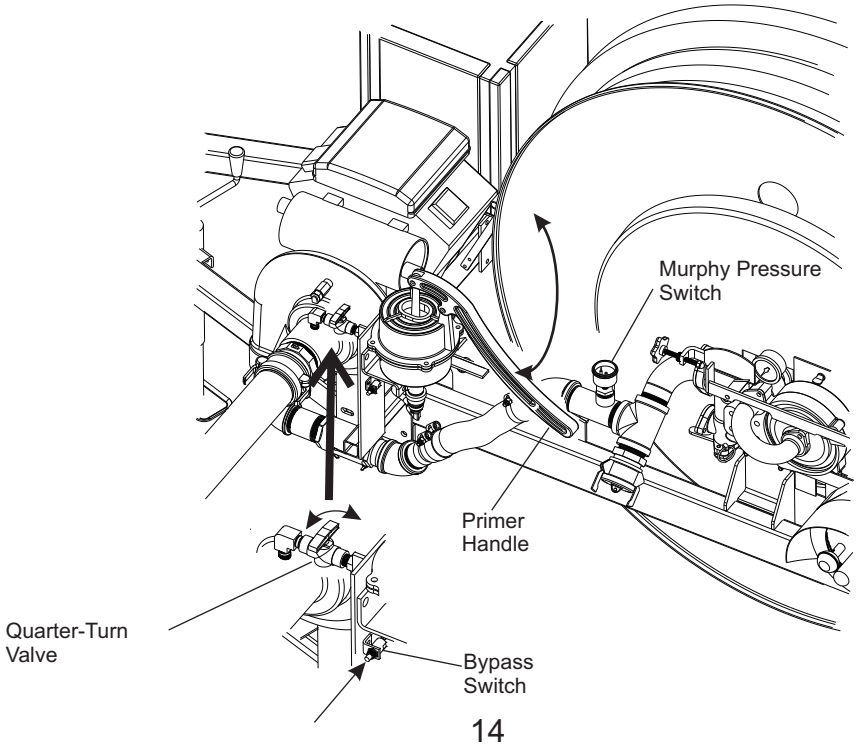
BEFORE PRIMING:

* Ensure the foot valve/strainer in completely submerged in the water source.
* Turn on the fuel supply. The valve is located under the fuel tank.

TO PRIME THE PUMP:

* Open the quarter-turn valve on top of the suction end of the pump volute.
* Begin pumping the hand primer until water comes (steadily) out of the primer hole (under rubber strip).
* Close the quarter-turn valve on the suction end of the pump volute.
* Press, and hold the bypass switch while starting the engine/pump.
* Once the Murphy Pressure Switch begins to register a pressure reading, release the bypass switch.

NOTE: If prime or pressure is lost during startup, the engine will immediately stop. If this occurs you must follow the priming procedures until pressure is continually supplied to the pump.

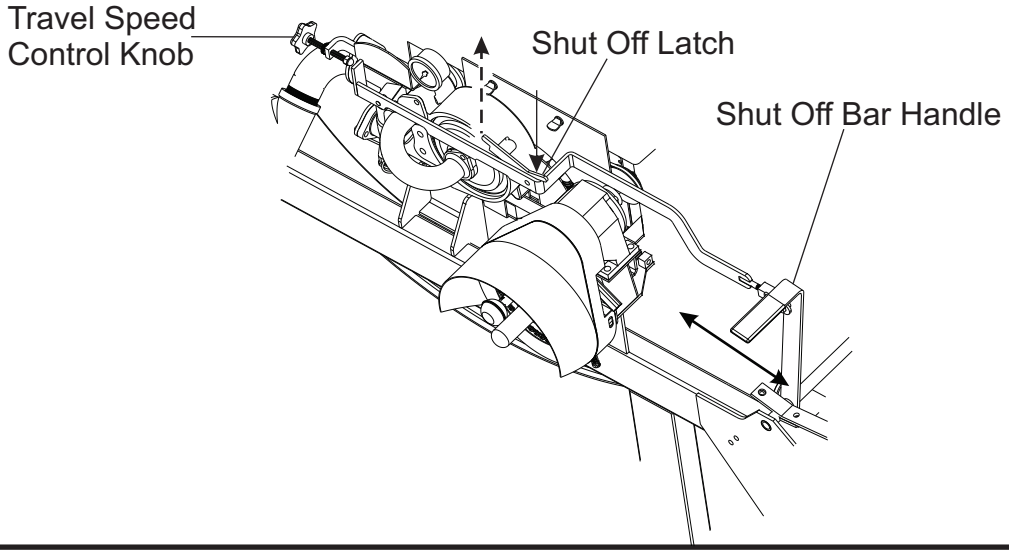


Start-Up & Operation

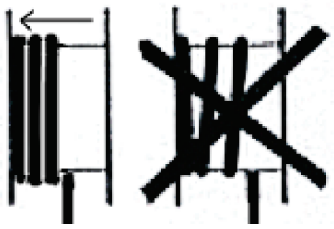
If the nozzle becomes plugged or the valve on the gun cart is shut while the pump is running, the water inside the pump will become scalding hot. The booster pump is equipped with a high temperature valve, which discharges a small quantity of water to prevent the water in the pump from becoming too hot. The valve is located on the pump volute. Do not operate the pump if this valve is not in place or is damaged. **Do not attempt to plug the discharge port of the high temperature valve!**

13. Confirm the sprinkler is operating as expected and in the desired arc.

14. After all air is purged from the system and the sprinkler is operating smoothly, pull the shut off bar handle and raise the shut off latch, and release. The machine will then begin to rewind. Set the Travel Speed Control to the desired retraction speed.



Note*:* As tube tightens, be sure coils are lying side by side (no gaps).



The Travel Speed Control Screw, located on the turbine block, controls the butterfly that regulates the amount of water flowing through the turbine motor.

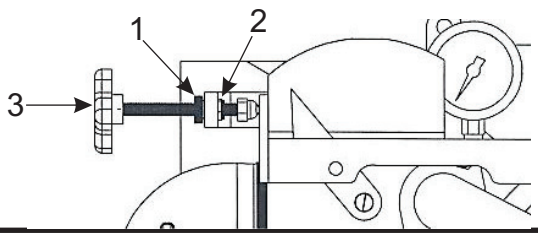
15 .Observe water pressure, travel speed, and sprinkler performance to confirm desired performance. (See performance guide supplied with the machine).

On initial start up, adjust lock nut (#2) on travel control screw. To adjust, turn speed control knob out until a noticeable pressure change has occurred (approximately 10 PSI). Once this is reached, screw lock nut to face of plate (nut is not used to lock screw, only to prevent over speed).

1.Knurled nut, used to lock travel control screw.

2.Lock nut, used to prevent excessive pressure loss though turbine.

3.Speed Control Knob



Start-Up & Operation

16. When the sprinkler cart completes the irrigation run and has contacted the shut-off bar, the retraction of the hose will stop. If using the pump/engine to draw from a water source, the engine/pump will also stop running.

17. With the irrigation run completed, turn off water supply (if using a pressurized supply line), and disconnect the water supply. If using the 3” suction hose, water **WILL REMAIN IN THE HOSE**. **CAREFULLY** unlatch the Camlock fitting from the pump. BE AWARE of the weight of the water remaining inside of the suction hose. **SLOWLY & CAREFULLY** drain the remaining water inside of the suction hose through the open end. Water **WILL NOT DRAIN** from the foot valve/strainer end; as it is designed to seal if no suction is present.

Lift the sprinkler cart and stabilizer legs into transport position. The Water-Reel is now ready to be moved and set up in a new location.

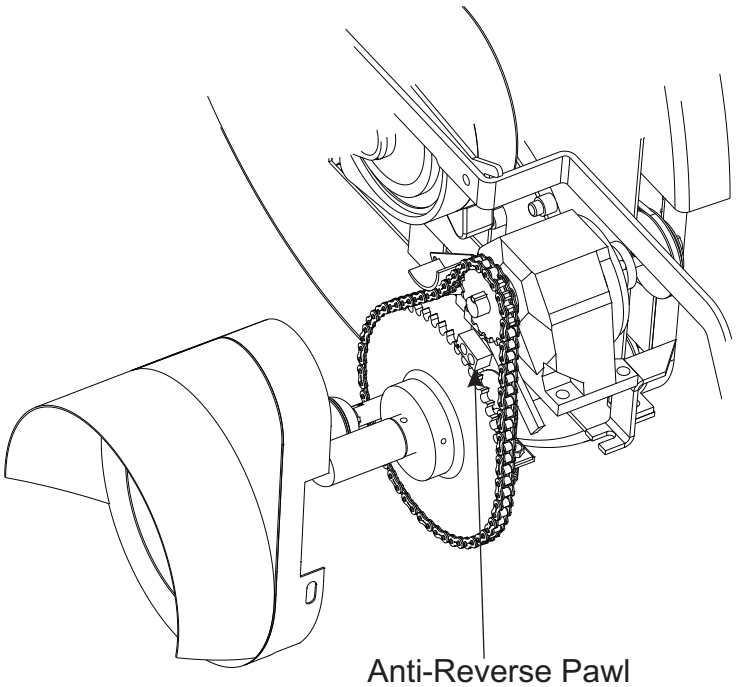
Note: On completion of first run only*!* Adjust the transport arm so it is directly above the sprinkler cart body.

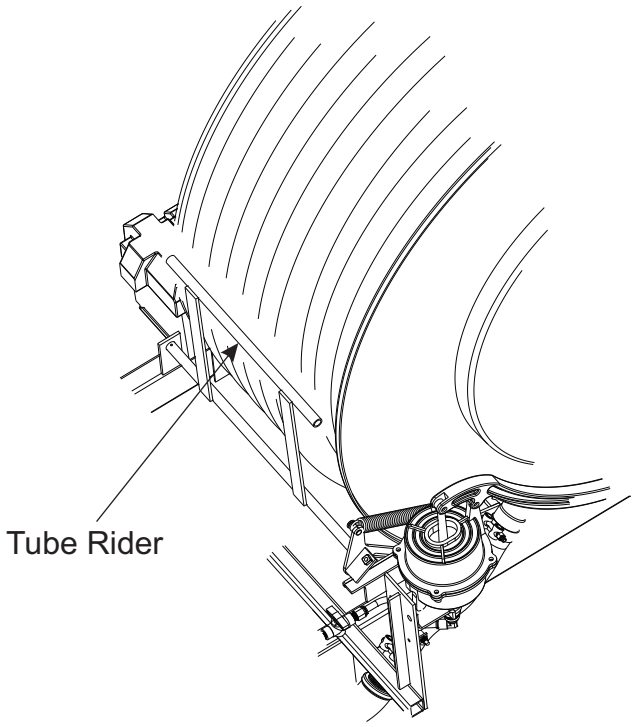
Anti-Reverse Pawl:

The anti-reverse pawl engages the teeth of the clutch sprocket, and prevents the tube from becoming loose on the spool due to spool backlash, at the end of the run or during machine transport.
NOTE: Clutch must be engaged to prevent backlash.

Tube Rider:

The tube rider applies pressure to the tube preventing the tube from becoming loose as the sprinkler cart approaches the machine. Sprinkler force and thrust tend to push the cart towards the machine resulting in loose tubing.





Start-Up & Operation

Depth Of Water Applied:

The depth of water applied by the Water-Reel is regulated by the speed the sprinkler is moving over the ground. It is also affected by the amount of water being discharged by the sprinkler head.

The sprinkler nozzle size and the water pressure determine the amount of discharged water. These two factors are determined by the available water and the capability of the water pump at the water supply. The selection of the sprinkler nozzle needs to be made based on the water supply and pump performance.

Travel Speed Settings- Using the Performance Guide:

Inlet PSI is always read at the Water Reel (located on the turbine) and while sprinkler valve is open and water is flowing from sprinkler.

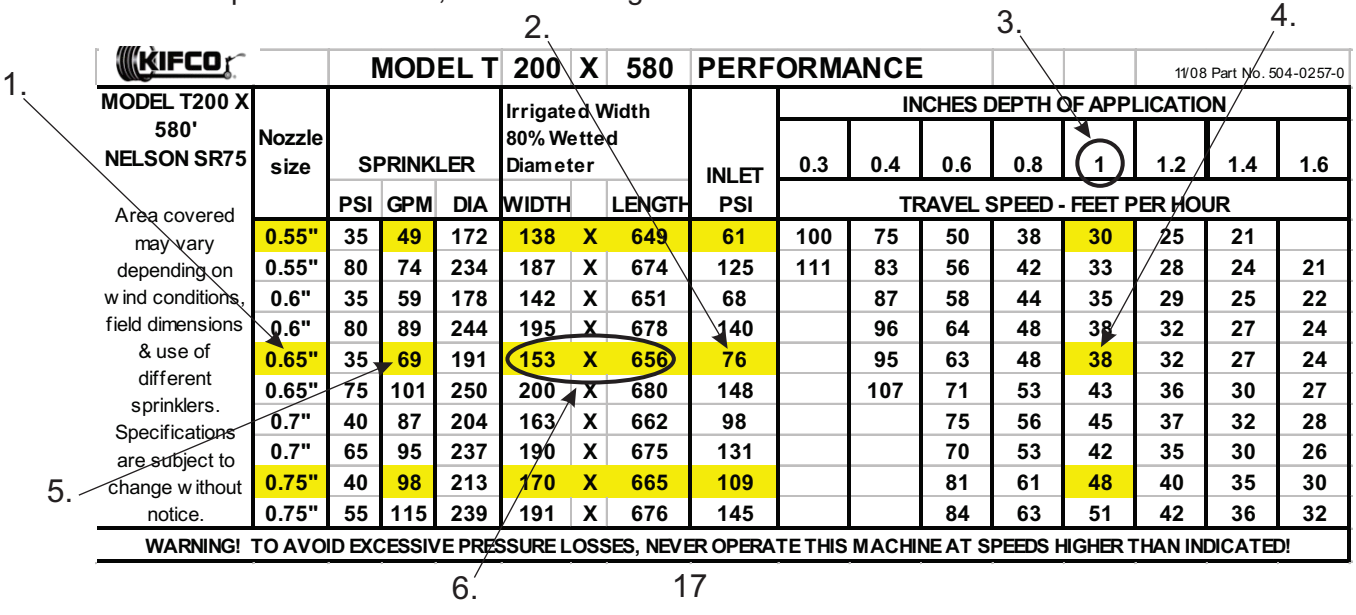
After the desired depth of water has been determined and the proper nozzle has been installed, follow the steps in the following example to set the speed: (Assume: 0.65" nozzle, 76 PSI inlet pressure, and a desired depth of water of 1 inch.)

1. Find the proper section in the Performance Guide for the 0.65" nozzle. (1)
2. Locate the 76 PSI inlet pressure. (2)
3. Find depth of application 1.00 inch (3)
4. Locate 38 feet per hour. (4)
5. You can see that the water pressure on the sprinkler nozzle is 35 PSI. The flow in gallons per minute being discharged through the sprinkler is 69, and the wetted diameter is 191 feet. (5)
6. The effective irrigated width is 153 feet and the maximum effective irrigated length is 656 feet (6)
7. Hours required for a complete run is 15.3 hours. Approximate time can be figured by dividing the tube length by the feet per hour.

There are several possible settings:

Nozzle Size	GPM	Irrigated Area	PSI	Feet Per Hour	Hours for Full Run
0.55"	49	138' x 649'	61	30	19.3
0.65"	69	153' x 656'	76	38	15.3
0.75"	98	170' x 665'	109	48	12.1

Note: The PSI is the pressure reading while the machine is running and the sprinkler is operating. If the pressure drops while running, use the chart to determine the performance at the new inlet pressure. If the pressure drops below the lowest inlet pressure shown, consider using a smaller size nozzle.



KIFCO

MODEL T 200 X 580 PERFORMANCE

11/08 Part No. 504-0257-0

MODEL T200 X 580' NELSON SR75	Nozzle size	SPRINKLER PSI	SPRINKLER GPM	SPRINKLER DIA	Irrigated Width 80% Wetted Diameter WIDTH		Irrigated Width 80% Wetted Diameter LENGTH	INLET PSI	INCHES DEPTH OF APPLICATION 0.3	0.4	0.6	0.8	1	1.2	1.4	1.6
									TRAVEL SPEED - FEET PER HOUR							
Area covered may vary depending on wind conditions, field dimensions & use of different sprinklers. Specifications are subject to change without notice.	0.55"	35	49	172	138	X	649	61	100	75	50	38	30	25	21	
	0.55"	80	74	234	187	X	674	125	111	83	56	42	33	28	24	21
	0.6"	35	59	178	142	X	651	68		87	58	44	35	29	25	22
	0.6"	80	89	244	195	X	678	140		96	64	48	38	32	27	24
	0.65"	35	69	191	153	X	656	76		95	63	48	38	32	27	24
	0.65"	75	101	250	200	X	680	148		107	71	53	43	36	30	27
	0.7"	40	87	204	163	X	662	98			75	56	45	37	32	28
	0.7"	65	95	237	190	X	675	131			70	53	42	35	30	26
	0.75"	40	98	213	170	X	665	109			81	61	48	40	35	30
	0.75"	55	115	239	191	X	676	145			84	63	51	42	36	32

WARNING! TO AVOID EXCESSIVE PRESSURE LOSSES, NEVER OPERATE THIS MACHINE AT SPEEDS HIGHER THAN INDICATED!

Adjustments

Level Wind Timing:

Proper timing of the level wind mechanism is essential to the successful operation of the Water-Reel. Improper level wind timing will result in mis-wrapped tube. Travel will be interrupted because the auto shutoff bar will stop the water motor in order to prevent damage to the irrigation tube. **Do not continue to operate if the tube is not winding properly!**

Important! Be positive that the timing is really at fault before attempting to change the timing. Your Water-Reel was shipped from the factory with the tubing wound on it. The level wind timing was set at the factory prior to installing the tube. If there has been no disassembly of the level wind mechanism, or the tubing removed & reinstalled, it is very unlikely that the timing is wrong. If the tube is loose on the spool the level-wind system will appear to be out of time. **(See item #4 in the Water-Reel Start-up & operation section of this manual and also the brake adjustment section)**.

To re-time the level wind, these steps **must** be followed:

1. Pull all the irrigation tube out from the Water-Reel. The elbow to which the tube is fastened must be on 45° with the elbow outlet pointed toward the sprinkler cart. (See Figure 1). Be especially careful not to pull the tube off the elbow. You may wish to stop slightly before the elbow is exactly on 45° location and turn the spool the last few degrees by hand.

2. Observe the position of the tube follower on the horizontal level wind screw. The tube follower must be in its most extreme position (all the way to the end of the level wind screw thread) and on the same side of the Water-Reel as the spool elbow. (See Figure 2). Align the timing mark with the timing mark decal arrow.
(continued on next page)

Figure 1

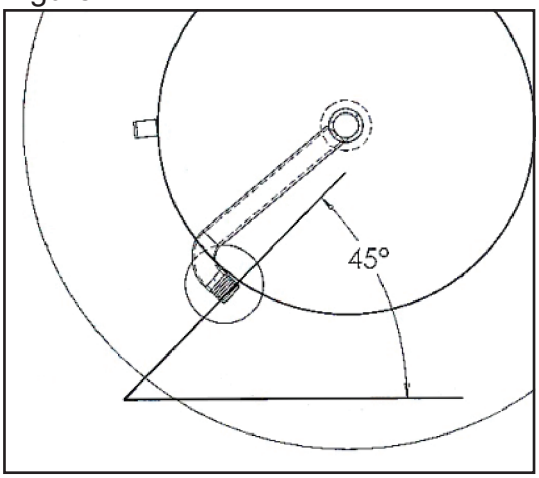
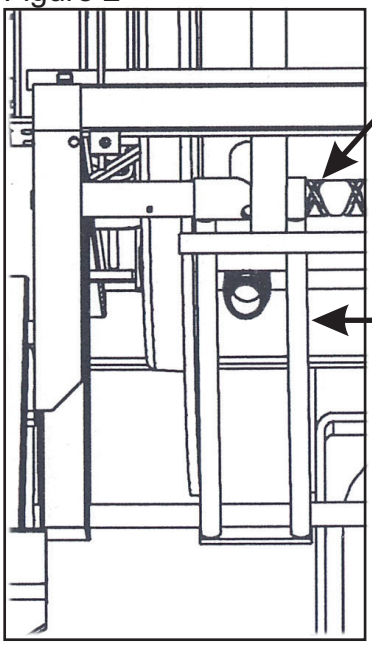


Figure 2



Adjustments

Level Wind Timing: continued

3. To change the timing, remove the shield and level-wind drive chain from the right hand side of the Water-Reel. Rotate the level-wind input sprocket until the tube follower is positioned as described in step #2. Reinstall the level-wind drive chain and shield.

The level-wind will now be in proper timing.

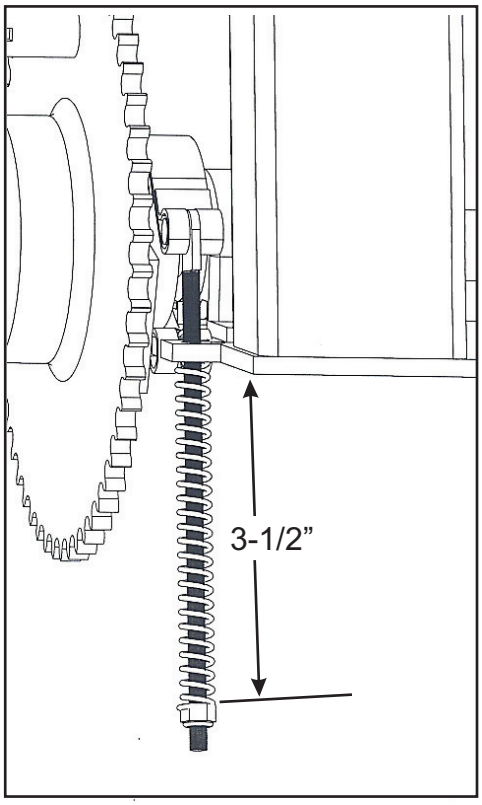
Important

Never attempt to re-time the Water-Reel without first pulling all the tube out. Changing the timing with some of the tube still on the spool may result in damage to the irrigation tube and/or the Water-Reel.

Adjusting Spool Brake

The purpose of the spool brake is to prevent coasting of the spool when the tube is being pulled out. This function is important in order to keep the tube from becoming loose on the spool. The brake band must be in good working order and maintained at the proper tension. The brake should offer substantial resistance to turning the spool by hand

To adjust the spool brake, turn the tensioning nut, behind the clutch sprocket, clockwise. This will increase the drag on the spool during tube pull out. The spring should be approximately 3-1/2 inches in length when adjusted.



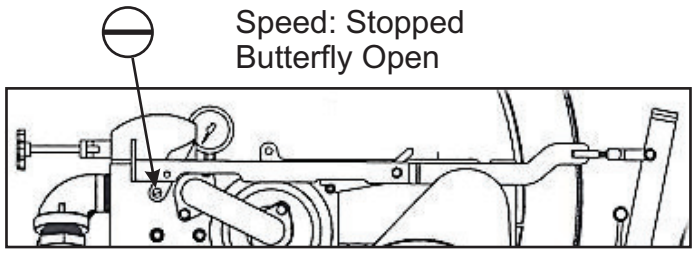
Note: When the tube becomes loose on the spool, it may appear that the level wind is not in time with the incoming tube. This occurs because the spool is coasting inside the coils of tube. The level wind mechanism is moving but no tube is coming out.

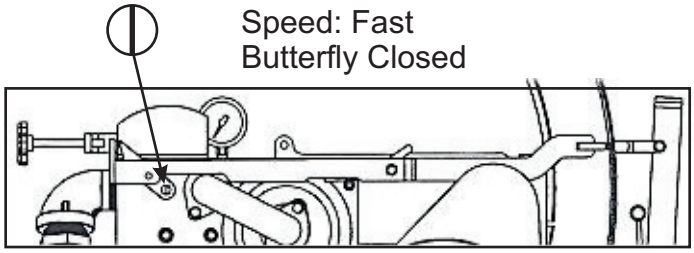
This problem is more noticeable if the Water-Reel is being used on short runs where the entire tube is seldom pulled all the way out.

Adjustments

Turbine Speed Adjustment

The turbine speed is controlled by the position of the butterfly valve. As the butterfly opens, water can by pass the turbine. The speed can be adjusted by turning the travel speed control knob.





To adjust, refer to paragraph # 2 of step # 15 on page 16.

1.To manually stop tube rewind pull handle on shut off bar back so the shut off latch drops into position.

Note: Latch will lock the bar in the off position; latch must be released to restart the turbine.

Tube Rider Bar Adjustment

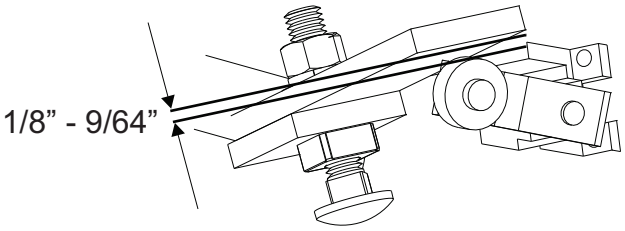
Adjust the tube rider bar (using the adjustment bolt on the left side of machine) so the distance between the bar and the spool core is 5 inches then tighten locknut.

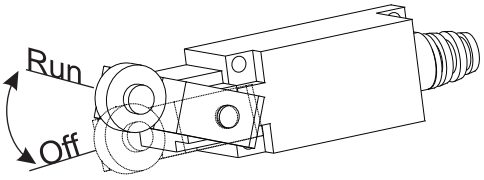
Engine Kill Switch Adjustment

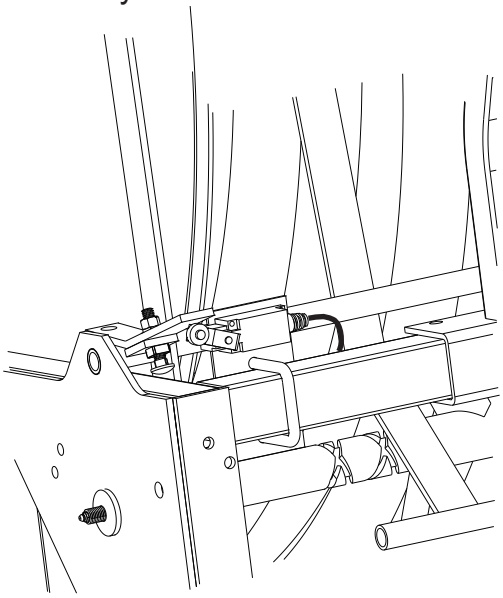
Adjust the engine kill switch by adjusting the arm on the switch.

In the “run” position, the switch should be at an upward angle with the roller on the switch arm approximately 1/8” to 9/64” away from the switch activator face.

In the “engine off” position the switch arm should be horizontal to the switch body. There will be an audible “click” when the switch is engaged.







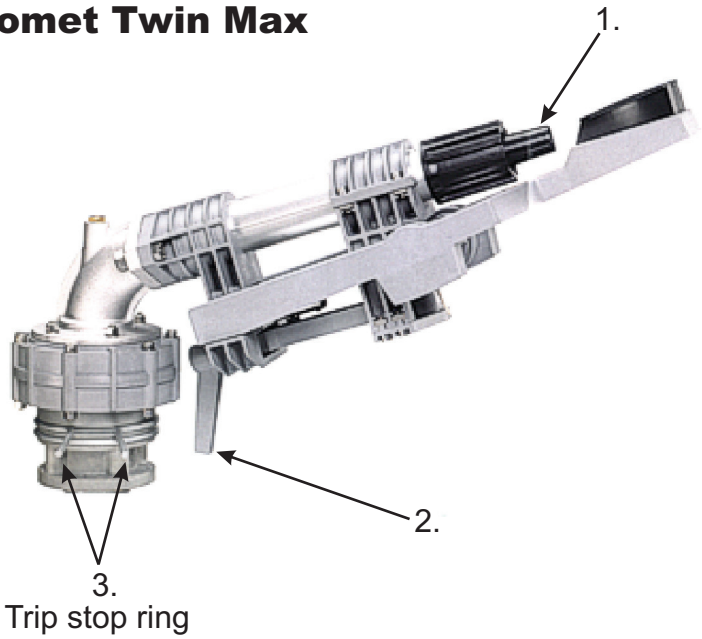
Adjustments

Sprinkler Options and Adjustment

Part circle stops can be rotated to provide any desired arc of operation. No tools are required to change the arc.

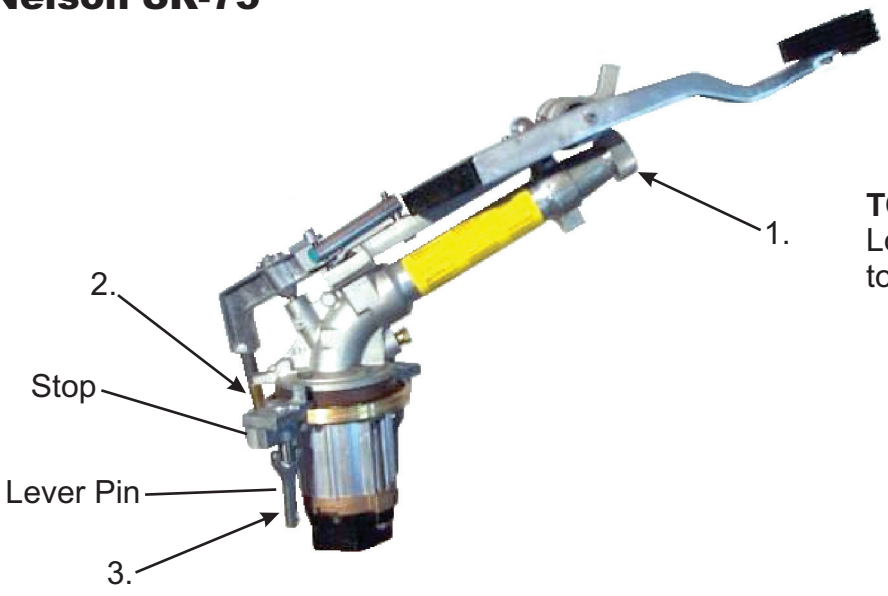
1) Nozzle
2) Part Circle Pin
3) Part Circle Stops

Komet Twin Max



TO ADJUST
Expand the ends of the trip stop rings in order to adjust. DO NOT attempt to remove the stops from the base of the sprinkler.

Nelson SR-75



TO ADJUST
Loosen the lever bolt to move the stop to desired location. Tighten the stops.

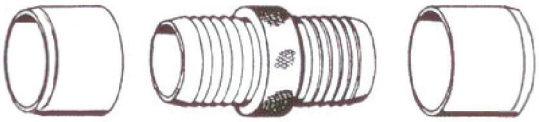
Repair and Maintenance

Always turn off the water supply and relieve pressure before starting any form of maintenance!

Warning! Installing fittings or repairing polyethylene tube used on your Water-Reel is hazardous! The tube has a memory from being coiled on a reel and will try to coil back up if the tube is loosened from one end or cut in two. The condition posses a serious hazard to person and/or property. The tube must be restrained any time there is a loose end!

Polyethylene Tube Repair

Screw-in menders are an excellent alternative to butt fusion welding for the repair of Polyethylene tube. The compact design allows a mender to be wound onto the spool without damaging itself or the adjacent coils of tube. They can be installed in the field and the tube can be put into service immediately after the repair is made. The menders are designed to be fitted at ambient temperature. **Never** try to apply heat to assist installation. Menders must be installed straight and concentric with the tube to prevent premature failure.



Installation Instructions

Cut the tube on either side of the damaged area. Make clean straight cuts. Use a block of wood or soft hammer to tap the collar fully on to the end of the tube. NOTE that the tapered end of the collar faces AWAY from the cut end.

Chamfer the tube internally with a knife or coarse file so that the end of the screw-in mender will enter the tube.

Important: Please note the mender threads are different on each end. One is left hand and one is right hand. Screw the mender about 2/3rds into the end of the tube using a wrench on the center knurled shoulder. Then unscrew it. Repeat the procedure for the other end. Watch for the left hand thread.

Next start the mender in both ends simultaneously. As it screws in, it will draw both ends of the tube to the center. This time, screw it all the way to the shoulder. The tube should now be ready to go immediately back into service.

Repair and Maintenance

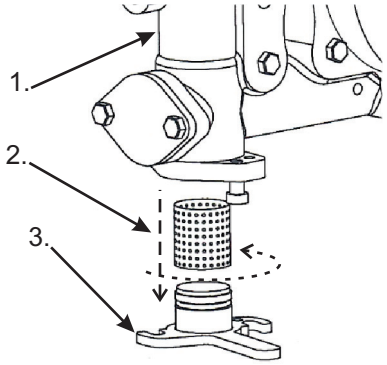
Filter

Your Water-Reel is equipped with a filter to protect the water motor from dirt and debris, which may be present in the irrigation water. The filter protects **only** the water motor. The water flowing out of the sprinkler is not filtered.

To clean the filter; turn OFF water supply, remove the filter cap on the bottom of the turbine manifold, and pull out filter with fingertip. Clean and inspect the filter than reinstall.

Never attempt to remove the filter while the machine is pressurized. Always turn off the water supply and relieve pressure before starting any form of maintenance.

1.Turbine Manifold
2.Filter
4.Filter Cap

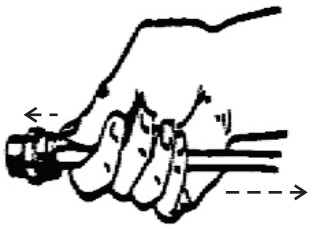


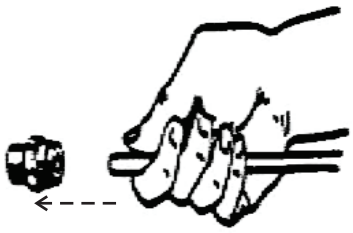
The filter should be cleaned at least once each season, even when operating with clean water. When pumping from ponds or streams, the filter must be cleaned more frequently. In very dirty water conditions it may be necessary to clean the filter each time the Water-Reel is used

Tube Fittings

To remove the small lines from their fittings, depress the ring at the top of the fitting and pull tube out.

To reinstall the tubing, insert into fitting and push firmly until it seats.





Tire Pressure

Check tire pressures before attempting to tow the Water Reel

Floatation tires 15-20 PSI
Tires 14” or less 20-30 PSI
Tires above 14” 40-50 PSI
Check tire wall for actual pressure rating.

Repair and Maintenance

Engine

OIL -

- Check oil regularly; fill to mark on dipstick. DO NOT OVERFILL.

- Change the oil and oil filter after the first 5 hours of use, then after 50 hours or at the beginning of the season.

- Use SAE 30 oil

AIR CLEANER -

- Replace the air cleaner at least once a season, more often under dusty conditions.

GASOLINE -

- Use clean, fresh, unleaded gas, no E85

- Do not mix oil with gas

SPARK PLUG -

- Replace spark plug at the beginning of every season or every 100 hours of use.

Please refer to the manufacturers operator's manual for specific engine maintenance and information.

Winterizing and Storage

For winter and/or “off season” storage do the following:

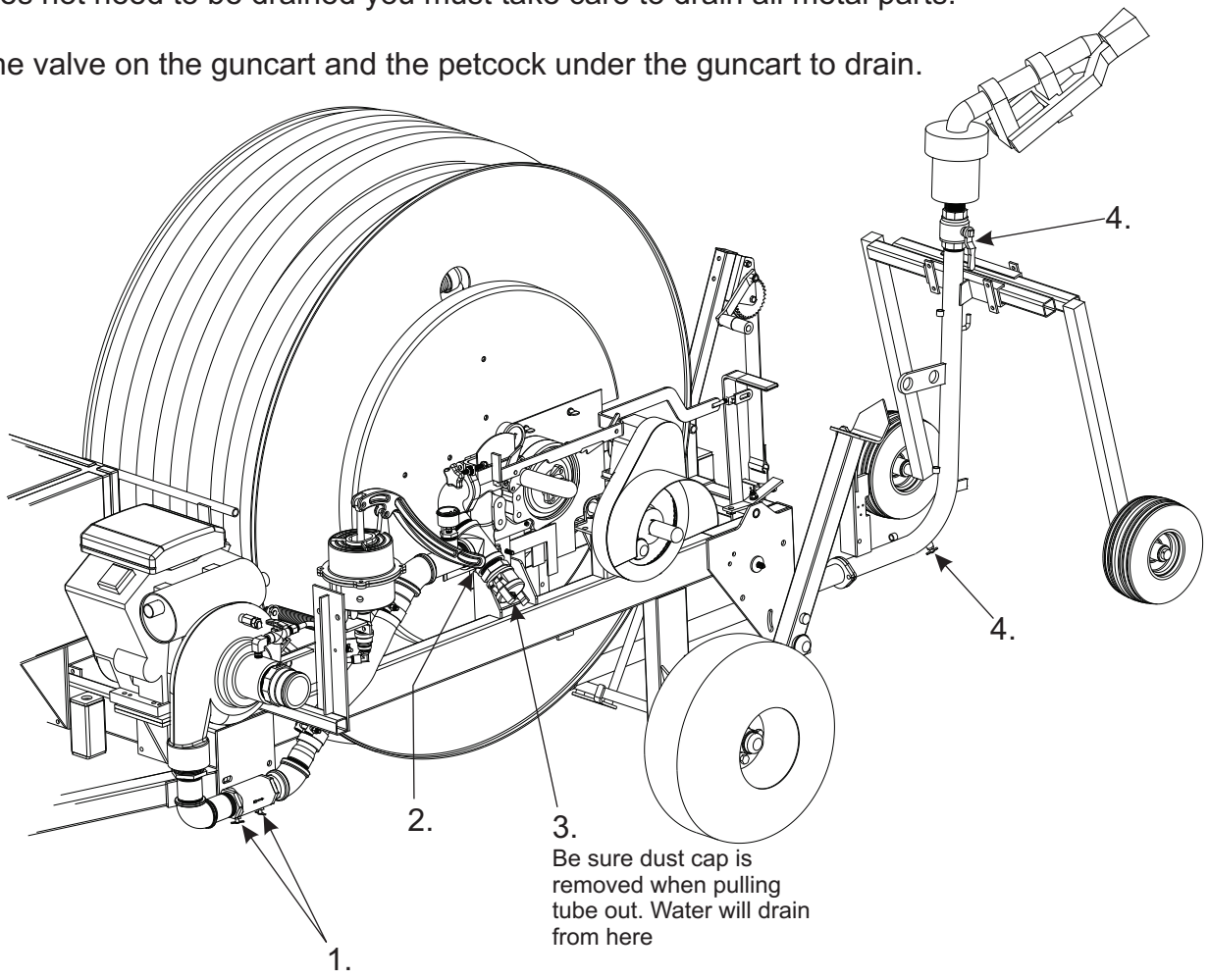
Winterizing

1. Open BOTH petcocks below the pump/engine and let fully drain.

2. Open the filter cap on the base of the turbine manifold.

3. Be certain the water inlet to the Water-Reel is open and the water supply hose removed. Pull 3 or 4 coils of tube off the hose spool. Rewind the coils of tube by hand (with hand wheel). **Freezing will not damage the type of Polyethylene tube used on your Water-Reel.** Even though the tube does not need to be drained you must take care to drain all metal parts.

4 .Open the valve on the guncart and the petcock under the guncart to drain.



Storage

1. Lubricate all points in the lubrication chart to prevent rust and corrosion from forming.
2. Check and Clean filter.
3. Store the Water-Reel away from the direct rays of the sun.
4. Make sure all openings such as the water inlet are plugged so rodents and insects cannot bring foreign material into the Water-Reel.
5. Follow manufactures directions for storing the pump engine.
6. When taking the Water-Reel out of storage, be sure there are no rodent or insect nests that may plug filters, valves or sprinkler.

Machine Specifications

Model	***WRT5LSC***
PE TUBE I.D.	2.0"
PE TUBE LENGTH	580 ft.
DRY WEIGHT	1,485 lbs.
WEIGHT w/ WATER	2,119 lbs.
MACHINE LENGTH (no guncart)	10' 11"
MACHINE LENGTH (with guncart)	12' 7"
MACHINE WIDTH	4' 10"
MACHINE HEIGHT	5' 10

Kifco® Water Reel®

WARRANTY

KIFCO products are warranted to the original user for a period of one year from the date of his purchase invoice, that the equipment will be free from defects in material and workmanship subject to the following conditions:

Satisfaction of this warranty will be limited to the replacement or repair or modification of the equipment involved at the manufacturer's option. The manufacturer's obligation under this warranty shall be limited to a credit to the dealer or customer in the amount of the current list price of the parts or materials required for replacement, repair, or modification of the equipment.

Freight costs shall be paid by the dealer/customer.

This warranty extends only to the original user of KIFCO equipment purchased from an authorized KIFCO dealership.

This warranty does not apply to certain component parts used on KIFCO equipment. The original manufacturer warrants such component parts and KIFCO'S responsibility is limited to communicating the need for warranty service to each manufacturer. Such component parts include, but are not limited to tires and tubes, batteries, gearboxes, transmissions, pumps and sprinklers.

This warranty shall be available only if:

A) KIFCO has received a properly executed delivery record and

B) KIFCO is notified in writing within 30 days upon discovery of an alleged defect and

C) KIFCO'S examination of the equipment discloses, to its satisfaction, that such alleged defect has not been caused by misuse; neglect; improper installation; improper operations; improper maintenance; repair or alteration; accident; or unusual or extraordinary use demands.

THE FOREGOING WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESSED, IMPLIED OR STATUTORY, AND ALL OTHER LIABILITIES OR OBLIGATIONS ON THE PART OF KIFCO INC.

A) KIFCO MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO THE EQUIPMENT.

B) KIFCO MAKES NO WARRANTY THAT THE EQUIPMENT IS FIT FOR ANY PARTICULAR PURPOSE.

LIMITATION OF LIABILITY

KIFCO SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO, DAMAGES FOR INJURY TO THE PERSON OR PROPERTY OR LOST PROFITS) OR ANY INCIDENTAL OR SPECIAL DAMAGES AND/OR EXPENSES, OR CLAIMS FOR INDEMNIFICATION, BY REASON OF ANY DEFECT IN THE EQUIPMENT OR ITS MANUFACTURE, DESIGN OR FUNCTIONING, OR ANY INSTRUCTIONS CONCERNING THE EQUIPMENT.

No agent or representative of KIFCO or any of its dealerships has authority to waive, alter or add to the printed provisions of this warranty and limitations of liability.

KIFCO INC.
700 SOUTH SCHRADER AVE.
HAVANA, ILLINOIS 62644 **5/97**