

# 450R ROTOR SETTING INSTRUCTIONS

**NOTE: THE 450R IS FACTORY PRESET WITH A 180° ARC SETTING, AND INCLUDES A PRE-INSTALLED #3 NOZZLE.**

## CHANGING A NOZZLE

### 1. REMOVING THE NOZZLE RETENTION SCREW

Use the hex key end "A" of the universal tool to remove the nozzle retention screw by turning counter-clockwise to remove and clockwise to re-install.

### 2. PULL UP THE RISER

Insert the "B" end of the universal tool in the keyhole on the top of the nozzle turret and turn the key 1/4 turn to insure that the key does not slip out of the keyhole when you pull it up. Firmly pull up the entire spring-loaded riser to access the nozzle socket. Hold the riser assembly with one hand.

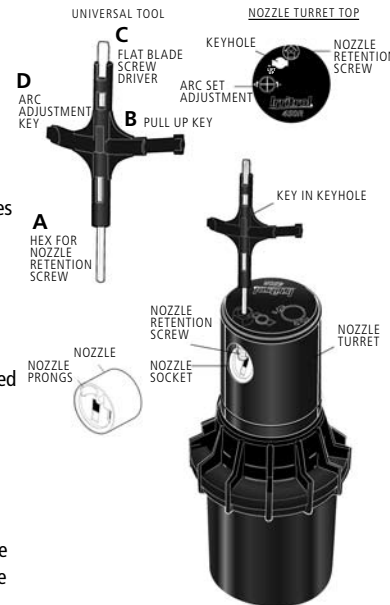
### 3. REMOVING THE NOZZLE

With the nozzle retention screw removed, the nozzle may be removed by either turning on the water (wear safety glasses when using this method), or by pulling outward on the nozzle prongs with a pair of needle-nose pliers.

### 4. INSTALLING A NOZZLE

Press the desired nozzle into the nozzle socket. Make sure the nozzle number is visible and the nozzle "prongs" are up. Then, re-install the nozzle retention screw.

**NOTE:** The nozzle retention screw is also a break-up screw and used to adjust the distance of the spray.



## SETTING THE ARC ADJUSTMENT

**NOTE:** The 450R gear driven sprinkler has a fixed right start and an adjustable left stop.

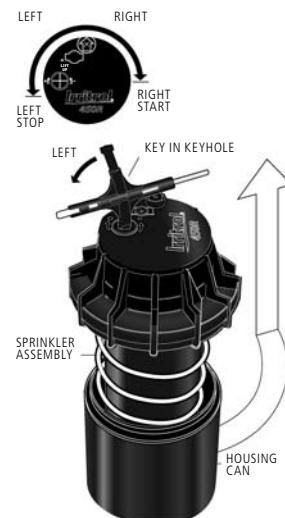
### 1. POSITIONING NOZZLE TURRET TO ITS "RIGHT START"

Place your finger on the top center of the nozzle turret. Rotate the turret counter-clockwise to the left stop to complete any interrupted rotation cycle. Rotate the nozzle turret clockwise to the "right start." This is the fixed side of the arc. The nozzle turret must be held in this position for arc adjustments. The "right start" does not change.

### 2. ADJUSTING THE RIGHT (FIXED) SIDE OF ARC

If the right side of the arc is not properly aligned, the sprinkler may spray in areas not intended for watering such as driveways or adjacent properties. The right side arc can easily be realigned.

**OPTION 1: REPOSITION CAN ON THE FITTING:** Turn the sprinkler can and the fitting below it left or right to the desired position. This may require temporary removal of the soil around the sprinkler to allow you to grip the sprinkler can.



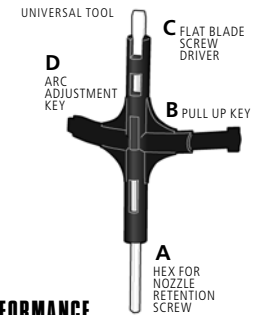
### OPTION 2: REMOVE INTERNAL RISER ASSEMBLY AND REPOSITION:

Unscrew the top counter-clockwise and remove the internal riser assembly from the can. Once removed with nozzle turret at its "right start," reposition riser assembly so that nozzle arrow points to the desired start position. Replace riser assembly back in the can and screw on the top. At this point you have realigned the right arc stop, and you can adjust the left arc to an appropriate setting.

### 3. ADJUSTING THE LEFT (VARIABLE) SIDE OF THE ARC

**INCREASING THE ARC:** Insert the plastic key end "D" of the universal tool into the arc set adjustment slot. While holding the nozzle turret at the "right start," turn the universal tool clockwise. Each full 360° turn of the universal tool will increase the arc 90°. Adjust to any arc between 40° and 360°. The universal tool will stop turning, or there will be ratcheting noise, when the maximum arc of 360° has been reached.

**DECREASING THE ARC:** Insert the plastic key end "D" of the universal tool into the arc set adjustment slot. While holding the nozzle turret at the right start, turn the universal tool counter-clockwise. Each full 360° turn of the universal tool will decrease the arc 90°. Adjust to any arc between 40° and 360°. The universal tool will stop turning, or there will be a ratcheting noise, when the minimum arc of 40° has been reached.



## STANDARD NOZZLE PERFORMANCE

NOZZLE	U.S.			METRIC		
	PRESSURE PSI	RADIUS FT.	FLOW GPM	PRESSURE KPa	RADIUS METERS	FLOW L/M
#3 FACTORY INSTALLED	30	36'	2.0	206	2.1	7.6
	40	38'	2.4	275	2.8	9.1
	50	40'	2.7	344	3.4	10.2
#0.5 NOZZLE	60	40'	2.9	413	4.1	11.0
	30	28'	0.5	206	2.1	1.9
	40	29'	0.6	275	2.8	2.3
#0.75	50	29'	0.7	344	3.4	2.7
	60	30'	0.8	413	4.1	3.0
	30	29'	0.7	206	2.1	2.6
#1	40	30'	0.8	275	2.8	3.0
	50	30'	0.9	344	3.4	3.4
	60	31'	1.0	413	4.1	3.8
#2	30	30'	0.9	206	2.1	3.4
	40	31'	1.0	275	2.8	3.8
	50	31'	1.2	344	3.4	4.5
#4	60	32'	1.3	413	4.1	4.9
	30	32'	1.2	206	2.1	4.3
	40	33'	1.4	275	2.8	5.3
#6	50	34'	1.6	344	3.4	6.1
	60	34'	1.8	413	4.1	6.8
	30	36'	2.6	206	2.1	9.8
#8	40	40'	3.0	275	2.8	11.4
	50	42'	3.4	344	3.4	12.9
	60	42'	3.7	413	4.1	14.0
#10	40	38'	4.2	206	2.1	15.9
	50	43'	4.9	275	2.8	18.5
	60	46'	5.5	344	3.4	20.8
#12	40	47'	6.0	206	2.1	22.7
	50	45'	6.0	275	2.8	25.7
	60	48'	6.8	344	3.4	29.7
#15	60	49'	7.6	413	4.1	28.8
	70	51'	8.2	482	4.8	31.0

## SPRINKLER INSTALLATION

### 1. INSTALL AND BURY

Do not use pipe dope. Thread the sprinkler on the pipe. Bury the sprinkler flush to grade. **NOTE:** Gear driven sprinklers and pop-up sprays should not be installed on the same watering zone.

### 2. INSPECTING THE FILTER

Unscrew the top and lift the complete sprinkler assembly out of the housing can. The filter is located on the bottom of the sprinkler assembly and can be easily pulled out, cleaned and re-installed.

### 3. WINTERIZATION TIPS

When using an air compressor to remove water from the system please note the following:

- Do not exceed 30 PSI.
- Always introduce air into the system gradually to avoid air pressure surges. Sudden release of compressed air into the sprinkler can cause damage.
- Each zone should run no longer than 1 minute on air. Sprinklers turn 10 to 12 times faster on air than on water. Over spinning rotors on air can cause damage to the internal components.

## LOWANGLE NOZZLE PERFORMANCE

NOZZLE	U.S.			METRIC		
	PRESSURE PSI	RADIUS FT.	FLOW GPM	PRESSURE KPa	RADIUS METERS	FLOW L/M
#1	30	22'	1.2	207	2.0	4.5
	40	24'	1.7	275	3.0	6.4
	50	26'	1.8	344	3.5	7.8
	60	28'	2.0	413	4.0	8.5
#3	30	29'	3.0	207	2.0	11.4
	40	32'	3.1	275	3.0	11.7
	50	35'	3.5	344	3.5	13.2
	60	37'	3.8	413	4.0	14.4
#4	30	31'	3.4	207	2.0	12.9
	40	34'	3.9	275	3.0	14.8
	50	37'	4.4	344	3.5	16.7
	60	38'	4.7	413	4.0	17.8
#6	40	38'	6.5	275	3.0	24.6
	50	40'	7.3	344	3.5	27.6
	60	42'	8.0	413	4.0	30.3
	70	44'	8.6	482	5.0	32.6