



## RAIN BIRD SR2005/SR3003 SERIES Slow Reverse Rain Gun® Sprinklers

### APPLICATIONS

These Rain Gun® sprinklers are designed for large irrigation installations: sports field complex, athletic fields (football), etc. Ideal for artificial grass applications.

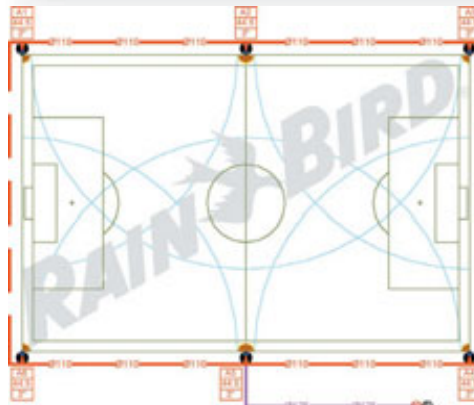
### FEATURES

- Slow reverse
- Trajectory angle: 23°
- Standard irrigation flange mount
- Part circle models with adjustable arc: 40-360°
- Easy arc adjustment, Friction collar settings require no tools
- Single nozzle configuration
- SR2005 is shipped with set of 6 taper bore nozzles (GNS-2005T), Sizes: 21, 23, 26, 28, 30 and 33 mm
- SR3003 is shipped with set of 6 plastic taper bore nozzles (GNS-3003T), Sizes: 14, 16, 18, 20, 22 and 24 mm
- SR3003 features a spoon design with adjustable bracket to increase or decrease rotation speed
- Counterweights available
- Sealed, lubed-for-life ball bearings
- Optional 2" (50/60) female BSP adapter available for SR3003 permits 2" (50/60) riser mount

### MODELS

SR2005: 3" (80/90) Part circle Rain Gun® - Slow reverse

SR3003: 2" (50/60) Part circle Rain Gun® - Slow reverse



Design example



### PERFORMANCE

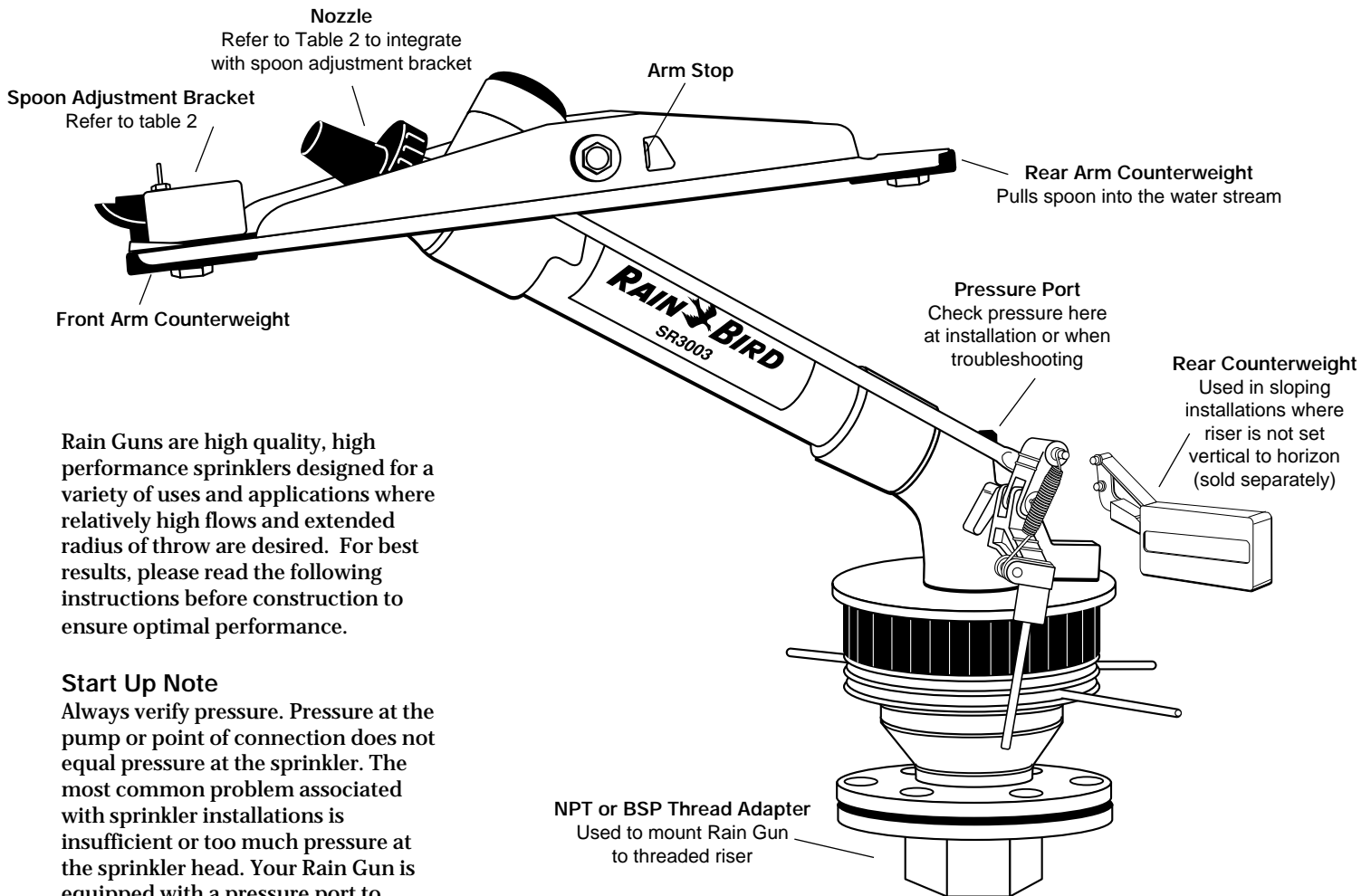
#### SR2005

Nozzles	bar	m	m³/h
21 mm	4,0	44,0	32,1
	4,5	45,7	34,0
	5,0	47,5	35,9
	5,5	48,2	37,6
	6,0	49,0	39,3
23 mm	6,5	50,2	40,9
	4,0	45,0	38,6
	4,5	46,7	40,8
	5,0	48,5	43,1
	5,5	49,5	45,2
26 mm	6,0	50,5	47,3
	6,5	51,0	49,2
	4,0	46,5	50,5
	4,5	48,7	53,0
	5,0	51,0	56,0
28 mm	5,5	51,5	58,5
	6,0	52,0	61,1
	6,5	52,2	63,6
	4,0	50,0	58,1
	4,5	52,5	61,7
30 mm	5,0	55,0	65,3
	5,5	56,7	68,3
	6,0	58,5	71,3
	6,5	59,2	74,1
	4,0	51,5	67,7
33 mm	4,5	54,2	71,7
	5,0	57,0	75,8
	5,5	59,2	79,4
	6,0	61,5	83,0
	6,5	63,2	86,4
	4,0	54,0	82,4
	4,5	56,0	87,3
	5,0	58,0	92,2
	5,5	58,7	96,5
	6,0	59,5	100,9
	6,5	60,5	104,5

#### SR3003

Nozzles	bar	m	m³/h
14 mm	3,0	32,0	13,0
	3,5	33,5	13,9
	4,0	34,7	14,8
	4,5	36,0	15,7
	5,0	37,5	16,5
	5,5	39,0	17,4
16 mm	6,0	40,2	18,2
	3,0	32,5	16,8
	3,5	34,0	18,0
	4,0	36,0	19,2
	4,5	38,0	20,4
	5,0	38,5	21,4
18 mm	5,5	39,0	22,5
	6,0	40,5	23,6
	3,0	36,0	21,6
	3,5	38,0	23,0
	4,0	40,0	24,5
	4,5	42,0	26,0
20 mm	5,0	43,2	27,4
	5,5	44,5	28,8
	6,0	45,5	30,2
	3,0	40,5	26,5
	3,5	42,0	28,4
	4,0	42,7	30,3
22 mm	4,5	43,5	32,2
	5,0	45,0	33,8
	5,5	46,5	35,5
	6,0	48,0	37,3
	3,0	40,0	31,5
	3,5	41,5	33,8
24 mm	4,0	42,5	36,1
	4,5	43,5	38,5
	5,0	46,2	40,5
	5,5	49,0	42,6
	6,0	50,5	44,5
	3,0	40,0	38,0
	3,5	42,0	40,4
	4,0	43,0	43,1
	4,5	44,0	45,9
	5,0	47,2	48,3
	5,5	50,5	50,7
	6,0	53,0	53,2

## Rain Gun® SR3003 / F3002 User Manual



Rain Guns are high quality, high performance sprinklers designed for a variety of uses and applications where relatively high flows and extended radius of throw are desired. For best results, please read the following instructions before construction to ensure optimal performance.

### Start Up Note

Always verify pressure. Pressure at the pump or point of connection does not equal pressure at the sprinkler. The most common problem associated with sprinkler installations is insufficient or too much pressure at the sprinkler head. Your Rain Gun is equipped with a pressure port to accommodate a 1/4" NPT thread pressure gauge, also included, specifically for this critical system pre-check.

### Quick Start Guide

#### 1. Configuring Your Rain Gun

- a. A set of 6 nozzles and a spoon adjustment bracket are included to customize your Rain Gun to your application. The spoon bracket allows you to set the rotation speed based on the nozzle size and the pressure at the gun. To ensure a fast, problem free start up, please refer to the spoon bracket adjustment guide (Ref. Table 2) to configure your Rain Gun accordingly. The nozzles,

- along with the pressure at the Rain Gun, dictate flow rate and radius of throw and should be selected accordingly.
- b. If you are using a part circle Rain Gun, manually set the desired rotation arc by pushing the two friction collars to the desired position (See Figure 3 of *Installation Tips*).
- c. Flush pipeline delivery system prior to installing Rain Gun.
- d. If you are using the BSP or NPT adapter, make sure that it is securely bolted to the Rain Gun using the 6 bolts and gasket supplied. Make sure that the adapter is securely tightened to the 2" riser.

#### 2. Installing Your Rain Gun

Now that you have configured your Rain Gun, make sure that it is mounted securely. If there is wobble while your Rain Gun is in operation, it is a signal that you are losing energy needed to ensure optimal rotation speed. Refer to *Installation Tips* for more information if needed.

#### 3. Starting Your Rain Gun

- a. Make sure that the Rain Gun is pointed in a safe direction and all people in the area are ready.
- b. Activate valve if automatic. If controlled by a manual valve, open valve slowly until the desired pressure and flow are reached.

## SR3003 / F3002 Configuration Details

### Nozzle Selection

Select one of the six nozzles provided based on your performance requirements, available water pressure (at the Rain Gun), and flow capacity. Refer to Table 1 and Figure 1.

Table 1 – Performance Data

PSI @ Nozzle	NOZZLE SIZE											
	(.55") 14 mm		(.63") 16 mm		(.71") 18 mm		(.79") 20 mm		(.87") 22 mm		(.94") 24 mm	
	(ft) Rad.	(gpm) Flow	(ft) Rad.	(gpm) Flow	(ft) Rad.	(gpm) Flow	(ft) Rad.	(gpm) Flow	(ft) Rad.	(gpm) Flow	(ft) Rad.	(gpm) Flow
40	103	55	105	72	113	92	131	114	126	134	126	162
50	109	61	111	79	124	101	137	124	136	148	137	177
60	115	66	120	86	133	110	141	136	140	162	142	193
70	121	72	126	93	140	118	146	147	149	175	151	209
80	128	77	128	99	146	127	153	157	161	188	166	224
90	134	82	135	106	151	136	159	168	168	201	175	240
100	140	88	141	113	154	144	164	178	176	214	184	255

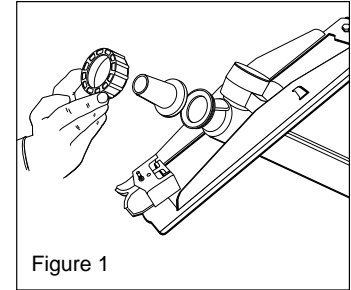


Figure 1

### Spoon Adjustment Bracket

Install the Spoon Adjustment Bracket, if needed, in accordance with Table 2. Refer to Figures A, B, and C.

Figure A: Bracket not installed  
Provides maximum drive and rotation speed at low pressures.

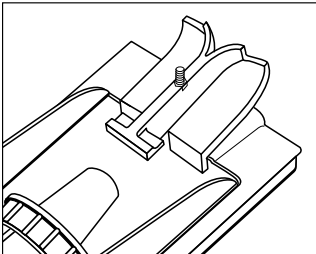


Table 2 – Spoon Adjustment Bracket

PRESSURE PSI	NOZZLE SIZE					
	(.55") 14 mm	(.63") 16 mm	(.71") 18 mm	(.79") 20 mm	(.87") 22 mm	(.94") 24 mm
40	A	A	A	A / B	A / B	A / B
45	A	A / B	A / B	A / B	A / B	A / B
50	A / B	B	B	B	B	B
60	A / B	B	B	B	B	B
65	B	B	B	B	B / C	B / C
75	B	B	B	B / C	B / C	B / C
80	B	B	B / C	C	C	C
90	B	B	B / C	C	C	C
95	B	B / C	B / C	C	C	C
100	B	B / C	B / C	C	C	C

#### Example (see shaded area):

You have 60 PSI and a 14 mm nozzle; the chart recommends configuration A or B. This means that your Rain Gun® will operate properly in either configuration, but the rotation speed will be faster in A than in B.

Figure B: Plus position (+)  
Provides an intermediate position to regulate rotation speed at intermediate pressures.

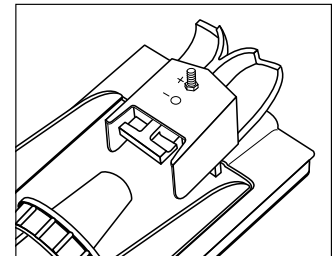
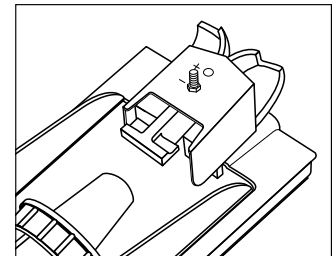


Figure C: Minus position (-)  
Provides greatest slowing of rotation speed at high pressures.



### Rotation Angle Adjustment

For part circle (SR3003) model only, adjust desired rotation angle manually as shown.

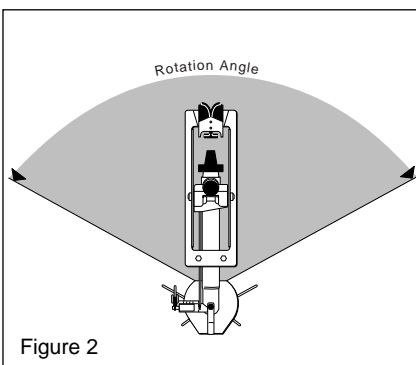


Figure 2

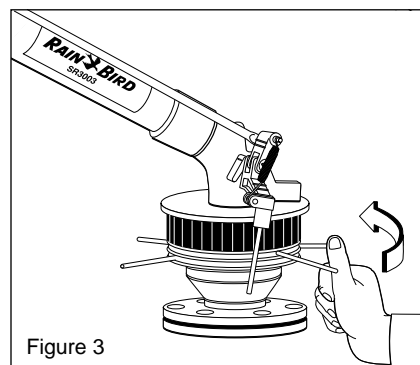


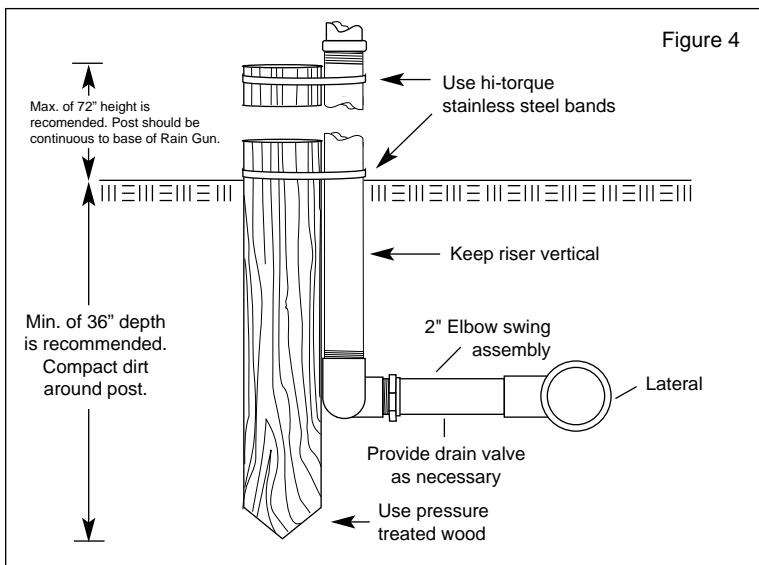
Figure 3

## Installation Tips

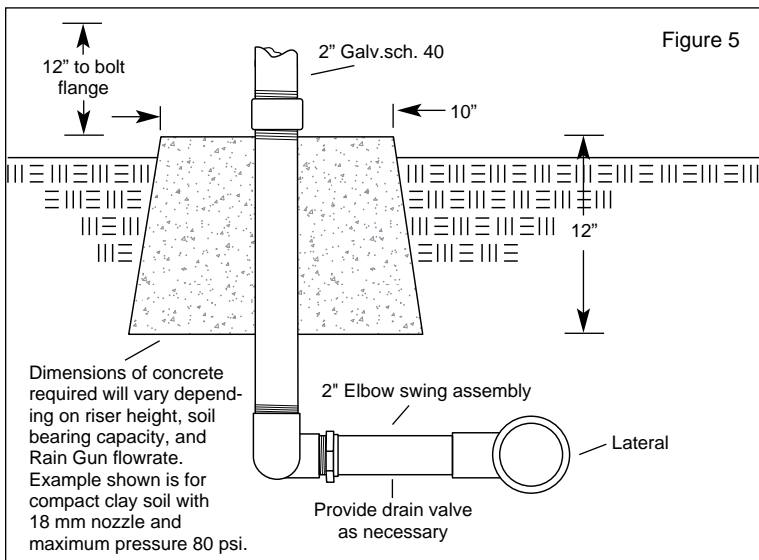
### Riser Installation

a. To ensure proper operation and performance for the life of your Rain Gun, the riser must be stable and solidly installed to resist vibration. An unsupported riser is insufficient for proper operation. Additionally, a PVC riser will not support the reaction load of a Rain Gun. Some options that may be used are: (Note: confirm friction loss and flow in your application)

- Option 1: Galvanized riser strapped to a 6" x 6" pressure treated wood post (See Figure 4).

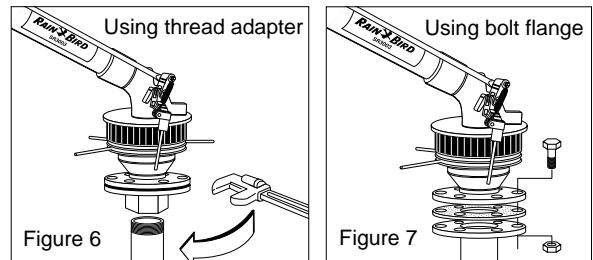


- Option 2: Galvanized riser set in a pillar of concrete (See Figure 5).



- Option 3: A portable gun stand designed to support a Rain Gun. (Contact your dealer for a recommended supplier.)

b. Install Rain Gun to riser as shown in Figure 6 or 7.



c. Inclined operation:

- The preferred installation on an inclined plane is on a vertical riser regardless of angle of incline.
  - If the riser must be set at an angle, use the rear counterweight (part number L00270) for proper rotation of your Rain Gun. The weight is designed to help the Rain Gun rotate up hill.
  - If you are using a portable gun stand, please consult the manufacturer to be sure it is designed to support inclined terrain.
- d. For more help with your installation, please call your Rain Bird Dealer or District Manager. The toll free Rain Bird number is listed on the back page of this guide.

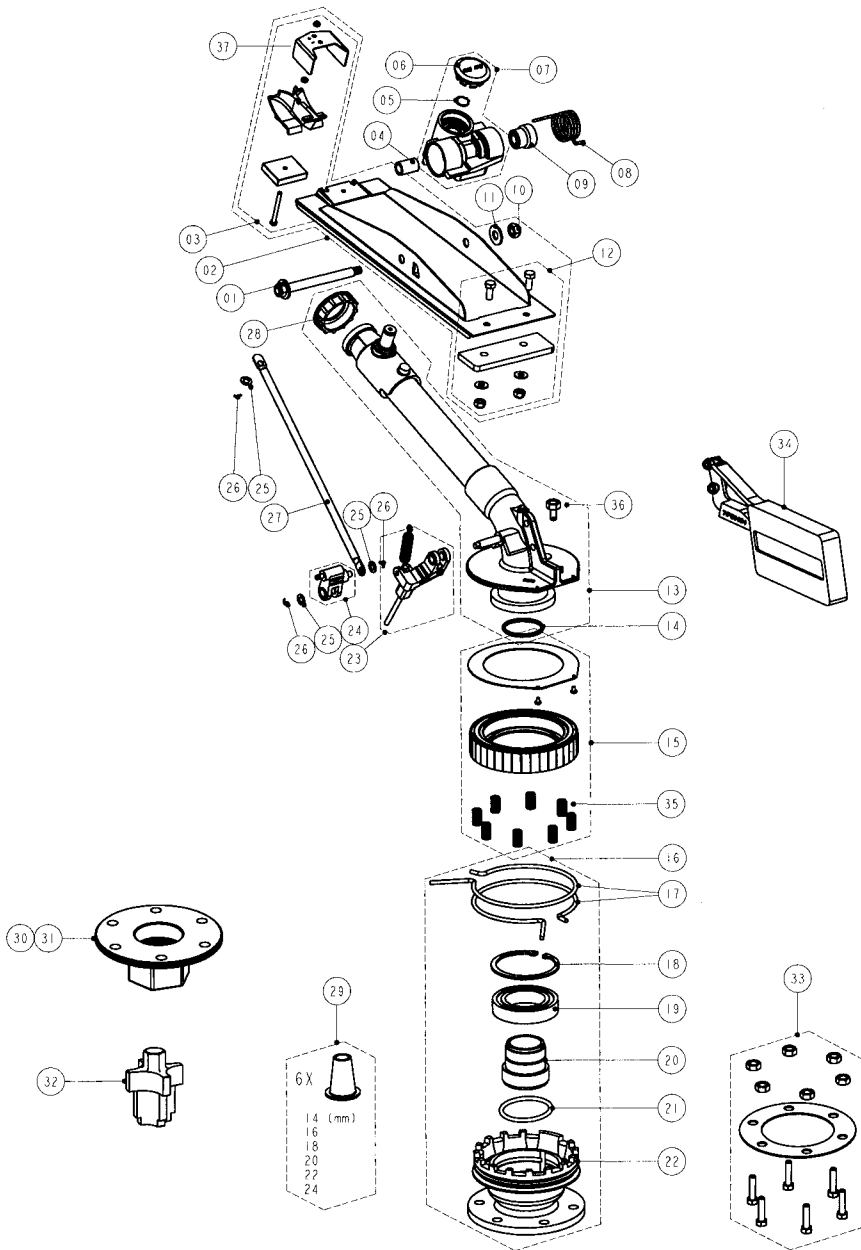
### Traveler Installation

- Make sure that the pressure at the gun is over 45 psi. Most users underestimate the pressure loss in the pipe, which is very high. Adjust your spoon bracket in relation to the nozzle size and the pressure at the gun.
- On sloped terrain, weight compensation may be required for proper rotation. For such conditions, a rear counterweight is available (Part number L00270, sold separately).
- As an alternative to using a counterweight, some travelers can be vertically adjusted.

### Center Pivot Installation

- For proper operation, make sure that the pressure at the gun is over 45psi. Many users underestimate the pressure loss in the pivot, which is very high, especially at the end-gun location. Adjust your spoon bracket in relation to the nozzle size and the pressure at the gun (Refer to spoon bracket adjustment guide, Table 2).
- Make sure that the pivot end-gun mounting position is stable.

## Parts Diagram and Description



Ref.	Part Description	Part Numbers
1	Arm Shaft Assembly	Included in Kit B
2	Arm Assembly/Counterweight	71-P50472
3	Spoon Assembly	71-P50824
4	Spacer	71-P50420
5	Snap Ring	71-P00358
6	Pivot Cap Assembly	71-P50825
7	Pivot Assembly	71-P50826
8	Arm Spring	71-P50812
9	Spring Spacer	71-P50706
10	Arm Locknut	Included in Kit B
11	Arm Washer	Included in Kit B
12	Counterweight Kit	71-P50827
13	Elbow/Range Tube Assembly	71-P50471
14	O-Ring	71-P50155
15	Bearing Assembly	71-P51176
16	Friction Collar (2 Required)	71-P50116
17	Snap Ring	71-P50463
18	Ball Bearing	71-P50544
19	Lock Nut	71-P50793
20	O-Ring	71-P50121
21	Bearing Sleeve	71-P50794
22	Trip Lever Assembly	71-P50538
23	Trip Link Bushing	71-P50539
24	Elbow Shaft Washer (3 Required)	Included in Kit A
25	Cotter Pin (3 Required)	Included in Kit A
26	Trip Rod	71-P50478
27	Nozzle Retainer	71-105943
28	GNS-3003T Nozzle Set	L003003
29	Spring, Red (8 Required)	71-P51165
30	Pressure Port Plug (1/4")	71-P20006
31	Spoon Bracket	71-P51099
32	Dry Pressure Gauge (not shown)	DV160
33		
34		
<b>Accessories</b>		
30	2" Female BSP Adapter	71-P50545
31	2" Female NPT Adapter	71-P50596
32	Bearing Wrench	71-P50697
33	Riser Installation Kit	71-P50368
34	Rear Counterweight	L00270
<b>Spare Parts Kit</b>		
A	Misc. Kit	71-P50590
B	Arm Shaft Kit	71-P50591



## Troubleshooting Tips

Should you experience operating difficulties, here are some tips that may apply to your application. For further assistance, please record the date code, the serial number on the elbow, and the pressure at the gun, and call your Rain Bird Dealer or the toll free Rain Bird number listed at the back of this guide.

### Rain Gun does not rotate or rotation speed is too slow

- Install a 1/4" pressure gauge into the Rain Gun pressure port and verify adequate operating pressure. Refer to Spoon Bracket Adjustment guide (table 2) for proper configuration of spoon bracket based on nozzle size. Also check the spoon and the arm for damage.
- If pressure is below specification and the Rain Gun is properly configured, decrease the nozzle size to increase pressure at the gun.
- If pressure is lower than it was at installation, check for obstructions in the water line. You may be able to flush obstructions from the sprinkler and water line by removing the nozzle and turning on the water.
- If pressure is still low after removing obstructions, and your Rain Gun still does not rotate, you may need to add a booster pump or increase pressure in another way.

### Rotation speed too fast

Install a pressure gauge at the Rain Gun pressure port and refer to Spoon Bracket Adjustment guide (table 2) for proper configuration of spoon bracket to nozzle size. Also check the spoon for damage. For proper operation, the operating pressure at the gun should not exceed 100 psi.

### Rotation speed varies from one direction to another

- Check that the spoon is properly installed on the arm.
- Check that the arm is not bent.
- Check that the nozzle is properly installed in the nozzle housing. It should be seated squarely.
- Check the condition of the spoon. If broken, it will need to be replaced.

### Gun does not reverse

- Install a pressure gauge at the Rain Gun pressure port and refer to Spoon Bracket Adjustment guide (Table 2) for proper configuration of spoon bracket to nozzle size. Pressure at gun should not exceed 100 psi.
- Check trip mechanism by manually operating it. Operation should be free and smooth.
- Check trip mechanism spring. It must have tension and be properly installed.
- Check bushings at the trip mechanism. They must be clean and not damaged.

### Arm stroke frequency is too high

- Make sure pressure is not above 100 psi.
- Make sure the front arm counterweight is installed (below spoon).
- Make sure the rear arm counterweight is installed.

### Gun rotation slows down over time

- Refer to first troubleshooting tip above for non-rotating or slow rotation.

### Trip stop mechanism is not holding the gun at the desired arc

- Make sure that the trip stops are not loose by pushing against them with your finger. (See Figure 3)
- Turn your gun manually to the trip stops. They should hold when the trip lever pushes against them.
- If your Rain Gun has recently been re-assembled, make sure that the trip lever was not reinstalled in between the trip stops. This will open the trip mechanism and not stop the Rain Gun.

### Arm does not move

- Check the pressure at the gun
- Check that the nozzle is properly installed on the nozzle housing
- Make sure that the nozzle retainer is tightened
- Check that the spoon is not broken
- Check that the mechanical stop (arm stop) on the arm is not damaged
- Check that the arm is not bent



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## Rain Gun® Warranty

### Agricultural Applications

Our latest generation of Rain Guns is built on a legacy of knowledge, trust, and feedback from end users like you. Our warranty is simple and in line with Rain Bird's reputation as the most reliable agricultural sprinkler in the world. To back up our claim, we offer the best warranty in the agriculture industry. For all agricultural applications, we offer a three year, no questions asked warranty including free service or parts replacement.

### Non-agricultural Applications

We understand that Rain Guns are often utilized in applications that may be more demanding than general agricultural applications. In these circumstances, Rain Bird offers an eighteen month warranty including free service or parts replacement, but excludes coverage in the following general applications or environments:

- Electrolytic conditions, such as high salt environments or salt water spray applications
- Applications where environmental conditions are not compatible with the materials used in Rain Guns
- Caustic or corrosive chemical conditions or spray applications
- Abrasive fluid spray applications

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