Troubleshooting Golf Irrigation Products

Install Confidence: Install Rain Bird® Golf Irrigation Products.
Golf course irrigation systems operate in a dynamic and challenging environment. There are many things that can affect the performance of the system. This Troubleshooting Guide is designed to assist you in finding solutions for performance challenges that may randomly affect Rain Bird® golf irrigation products.

Please Note: As more troubleshooting procedures become available, simply add to the ring for a quick reference, whenever a solution to a product challenge is required.

For additional information about the troubleshooting procedures included in this guide — or — for answers to any of your questions at any time — contact Rain Bird Technical Service at (800) 247-3782.
Rain Bird® Golf Rotors

The EAGLE™ Gear-drive Rotors from Rain Bird prove that advanced technology can have practical applications. EAGLE Rotors are designed to work right out of the box and keep on working. Closed-case EAGLE Rotors have become the choice for golf course professionals who demand superior reliability, debris-resistance, labor-saving maintenance, uniform water distribution and versatility.

Every rotor in this EAGLE lineup is designed with the features that allow unquestioned performance in meeting the rigorous demands of any golf course layout.

• EAGLE™ Wireless
• EAGLE™ 705/755 Wind Tolerant
• EAGLE™ 1100/1150
• EAGLE™ 900/950
• EAGLE™ 700/750
• EAGLE™ 500/550
• EAGLE™ 351B

Construction Detail Drawing
Troubleshooting
Golf Irrigation Products

Rotor Date Codes

If you need to contact Rain Bird with a rotor question, you will need the DATE CODE of the rotor in question. The DATE CODE will tell the Rain Bird Representative when the rotor was manufactured.

Date Codes can be found in three locations:

1. **The Internal** — a six or seven digit number will be stamped into the side of the riser.

   Example: M16NO04
   Read As: NOV 16, 2004

2. **The Valve** — the date and time the assembly was manufactured is printed on top of the valve bonnet. *(The time will not be important to report.)*

   Example: 4/22/05 01:53AM
   Read As: April 22, 2005

3. **The Case Assembly**

   Example: 606
   Read As: June 2006
Recommended Rain Bird®
Troubleshooting Procedure for
“Stuck ON”
EAGLE™ Rotor

No Fault Found

- Rotor turns “OFF”
  - Electrically shut off the rotor.
    - If power is “OFF”
      - Verify that the power is shut off to the solenoid at the controller.
    - If power is “ON”
      - Carefully remove green solenoid coil, do not remove the solenoid core tube.
  - Rotor stays “ON”

Replace U-Frame

- Rotor turns “OFF”
  - Carefully remove green solenoid coil, do not remove the solenoid core tube.
  - Rotor stays “ON”

Service Core Tube/Plunger Assembly

- Rotor turns “OFF”
  - Tap solenoid core tube a few times to dislodge plunger if it is stuck.
  - Rotor stays “ON”

Service PRS Assembly

- Rotor turns “OFF”
  - Pinch high pressure tubing tightly for 10 seconds.
  - Rotor stays “ON”

- While pinching high pressure tubing, check for leaks at the elbow fittings.
  - Leaks Found
    - Filter damaged/clogged
      - Clean valve by flushing with water, replace universal filter and reinstall valve.
    - No Leaks Found
      - Remove valve and inspect for damage/clogged universal filter.

Replace Case Assembly

- Leaks Found
  - Filter damaged/clogged
    - Clean valve by flushing with water, replace universal filter and reinstall valve.
  - No Leaks Found
    - Replace with NEW valve.

Filtration System May Be Inadequate

- Rotor turns “OFF”
  - Replace with NEW valve.

No fault found, remove unit from ground, collect required data and send unit back to Rain Bird for evaluation.
Troubleshooting

EAGLE™ Rotor

Rotor Components
**Recommended Rain Bird® Troubleshooting Procedure for**

**“Weeps When OFF” EAGLE™ Rotor**

**No Fault Found**

- Operate rotor and verify the unit weeps.
- Still Weeps

**Loose Lock Nut**

- Stops Weeping
- Tighten PRS Lock Nut.
- Still Weeps

**Replace Inlet Seal or Flip Over and Reinstall**

- Damage Found
- Isolate rotor, carefully remove the internal, valve and TSRS. Inspect rubber inlet seal for damage.
- No Damage Found. Still Weeps. Reinstall Seal.

**Replace TSRS**

- Damage Found
- Inspect TSRS seat surface for any other damage.
- No Damage Found. Still Weeps. Reinstall TSRS.

**Replace Valve**

- Damage Found
- Inspect valve for cracks near each vent slot, under the elbow probe and either side of the elbow probe hole.

**Replace Selector Seal**

- Damage Found
- Isolate rotor, remove PRS lock nut and inspect the selector seal for damage.
- No Damage Found. Still Weeps. Flush Out Debris And Reinstall PRS.

**Replace Any Damaged Components, Flush Out Assembly and Reassemble**

- Damage Found
- Remove core tube lock ring and inspect plunger seal, volcano, yellow o-ring and return spring for debris or damage.
- No Damage Found. Still Weeps. Reassemble Core Tube Assembly.

**Replace Case Assembly**

- Damage Found
- Dig out larger area to expose control tubing. Inspect for cracked or leaking elbows, tubes and PRS assembly.
- No Damage Found

Unable to determine cause of weeping.

No fault found, remove unit from ground, collect required data and send unit back to Rain Bird for evaluation.
Rotor Components
Recommended Rain Bird® Troubleshooting Procedure for “Won’t Turn ON” EAGLE™ Rotor

START

- **Turn On Water Pressure**
  - Rotor Has No Water Pressure
    - Verify there is water pressure at rotor.
  - Rotor Pressurized

- **No Fault Found**
  - Rotor Turns On
    - Electrically Activate Rotor.
  - Rotor Still Off
    - Verify there is power to controller and selector is in AUTO position.

- **Repair/Replace Bad Wiring**
  - Power Is On
    - Check wiring and solenoid coil resistance at the controller.
  - Wiring OK
    - Check that nozzle is facing away from you and turn selector to “ON”.

- **Service/Replace PRS Assembly**
  - Rotor Turns On
    - Rotor Still Off
      - Isolate rotor from water pressure, remove core tube assembly and check for jammed plunger.
  - Rotor Pressurized
    - Remove PRS retaining nut, internal and valve. Using a portable compressed air tank and long blow tip, clear exhaust tubing by blowing down through the center hole in PRS housing. Clear high pressure tubing by blowing down through the manual port. Reverse the procedure and blow up from bottom of case through exhaust hole and valve probe. Rinse all components, reassemble and test rotor.

- **Replace Spring and Plunger Assembly**
  - Jammed Plunger
    - Rotor Pressurized
      - Remove Spring and Plunger Assembly
        - Replace Valve and Retest.
      - Rotor Still Off
        - Collect Required Data and Send Valve Back to Rain Bird for Evaluation
  - No Jammed Plunger
    - Problem Resolved

No fault found, remove unit from ground, collect required data and send unit back to Rain Bird for evaluation.
Troubleshooting

EAGLE™ Rotor

Rotor Components
**Recommended Rain Bird® Troubleshooting Procedure for “Head Won’t Rotate” EAGLE™ Rotor**

**START**

1. **Check Pump Station Operation**
   - Operate rotor individually to verify non-rotation.

2. **Check pressure in the lateral while the rotor is operating.**
   - **Line Pressure is Low**
   - **Line Pressure is OK**

3. **Clean The Screen And/or Nozzles; Reinstall Internal**
   - **Screen and/or Nozzles Blocked**
   - **Screen Not Blocked or Clogged**

4. **Replace Stator With Correct Configuration**
   - **Wrong Stator**
   - **Stator Correct**

5. **Remove Debris or Blockages. Replace Internal if Necessary**
   - **Turbine Won’t Turn or Difficult to Turn**
   - **Turbine Turns Freely**

6. **Remove Rock Screen and Flush the Lateral**
   - **Rock Screen is Blocked with Rocks or Debris**
   - **Rock Screen Free of Debris That Would Limit the Flow of Irrigation Water to the Rotor.**

**No fault found, replace the internal, collect required data and send the internal back to Rain Bird for evaluation.**
Rotor Components
Suggested Tool List

Before initiating the troubleshooting process, it is suggested that you have the following tools with you:

- Flat Blade Screwdriver
- Philips Screwdriver
- Valve Removal Tool
- Valve Insertion Tool
- Selector Service Tool/Key (Orange Tool)
- Spray Bottle Filled with Fresh Water
- Padded Vice-Grip
At Rain Bird, we believe it is our responsibility to develop products and technologies that use water efficiently. Our commitment also extends to education, training and services for our industry and our communities.

The need to conserve water has never been greater. We want to do even more, and with your help, we can. Visit www.rainbird.com for more information about The Intelligent Use of Water.™