Irrigation System Spring Start Up

March 12, 2009

The Intelligent Use of Water.™

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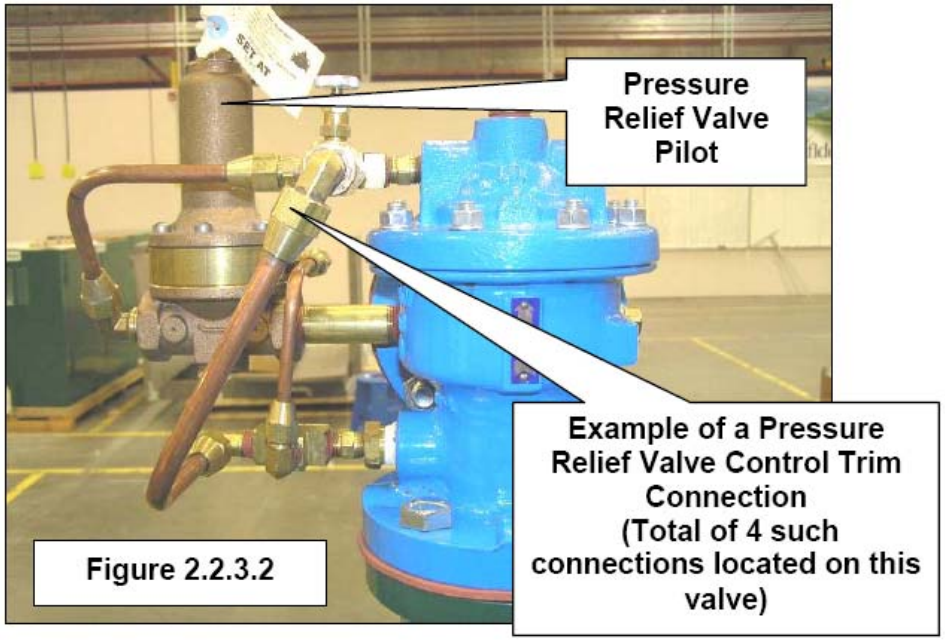
Agenda

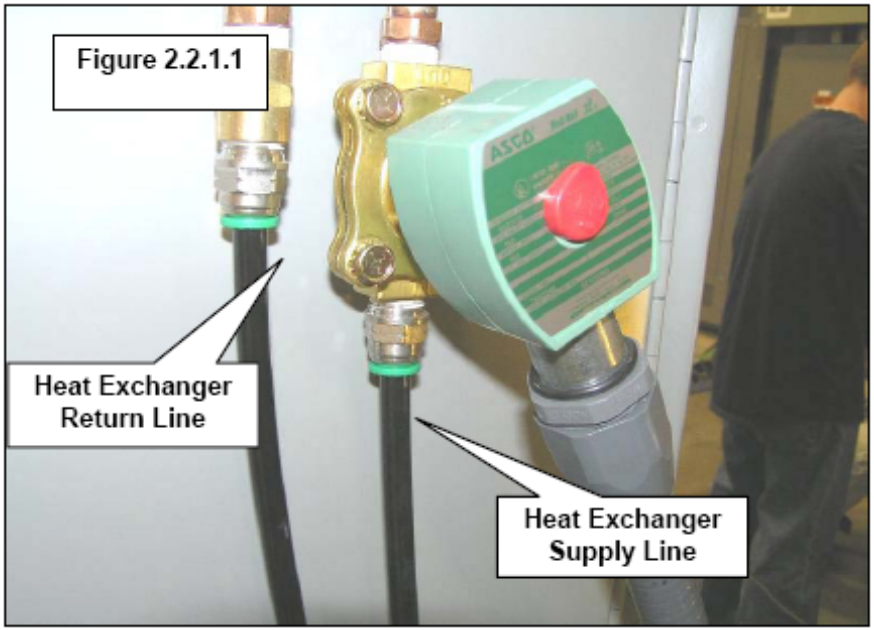
- Introductions, Overview, Webinar Suggestions
- Pump Station
- Filling Piping Network
- Central Control System
- Field Components

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Pump Station

- **Reassemble all pressure relief valves, control valves, heat exchangers**



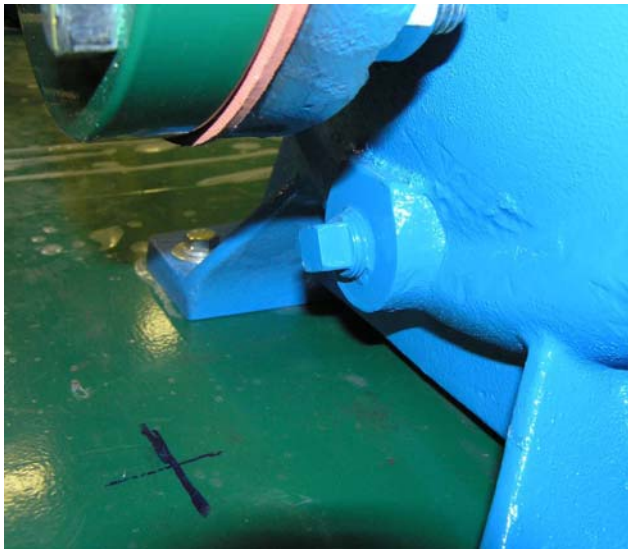


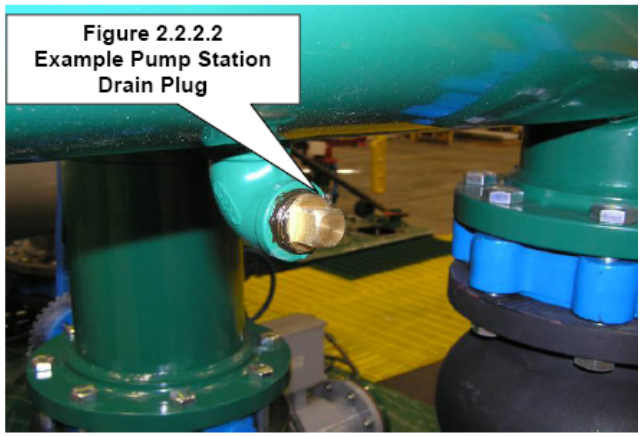
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Pump Station

- **Reassemble filters, re-install drain plugs**



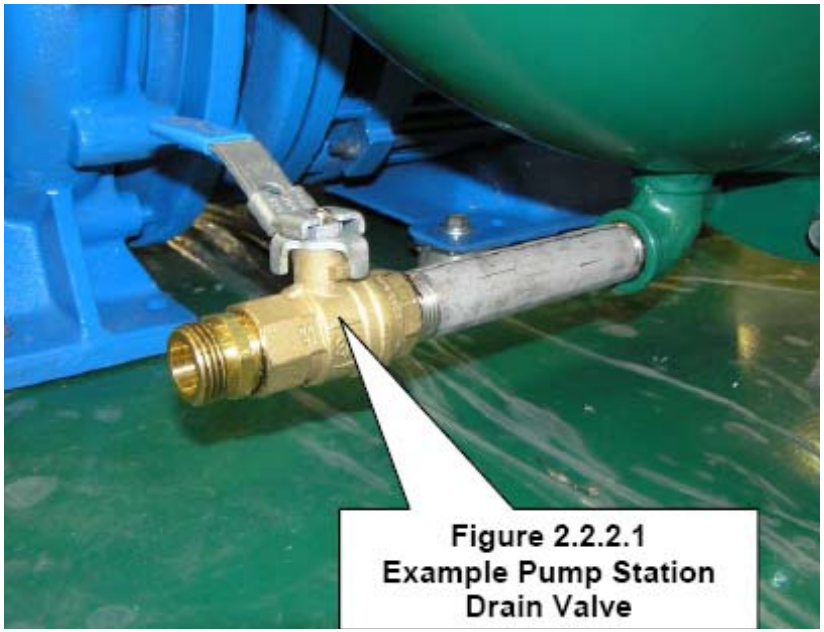




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Pump Station

- **Reinstall pressure transducer – typically recommend it be removed for winter storage in heated area**





Pressure transducer

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Pump Station

- **Check motor oil level – depending on when preventative maintenance is scheduled, change or add if necessary**





Be sure pressure relief valve is “active”

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Pump Station

- **Verify main pump isolation valve is closed**



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Pump Station

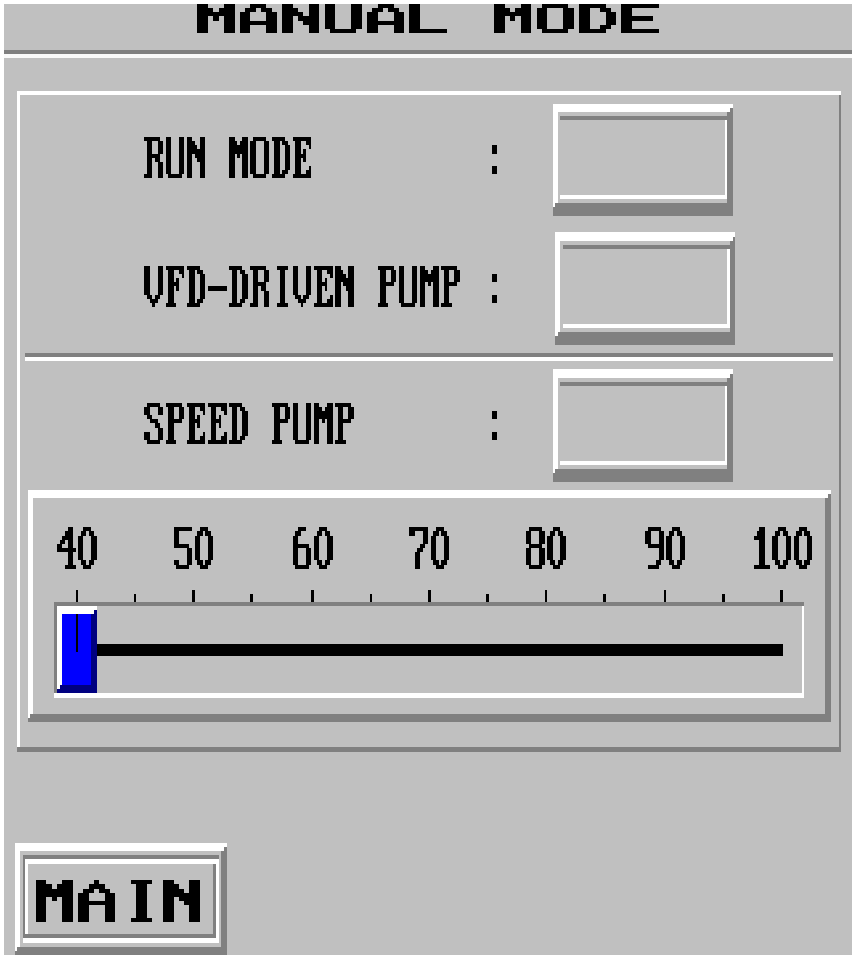
- **Turn on main disconnect, then main power switch**

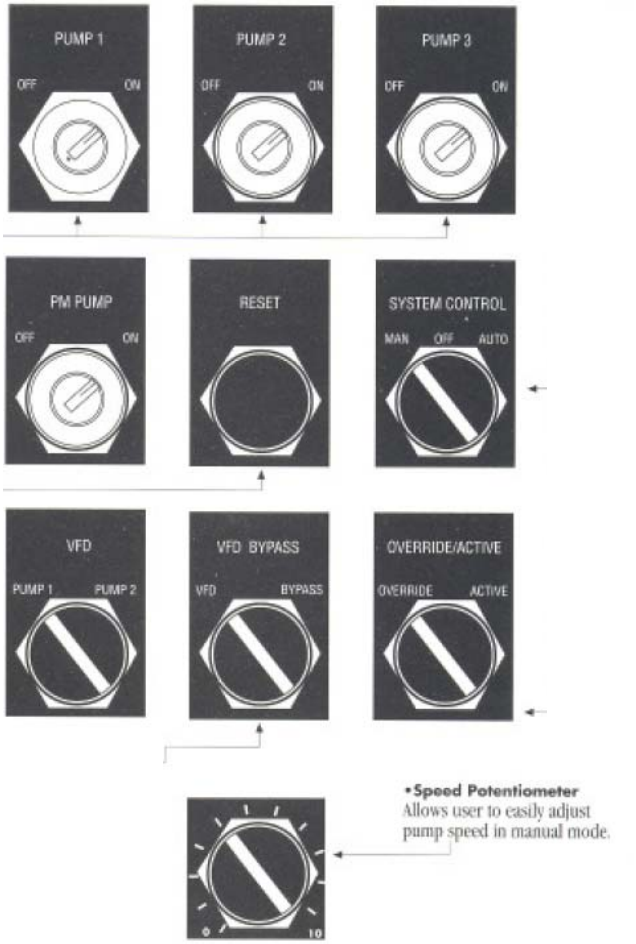


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Pump Station

- Utilize slow fill mode or manually control VFD





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Filling Piping Network

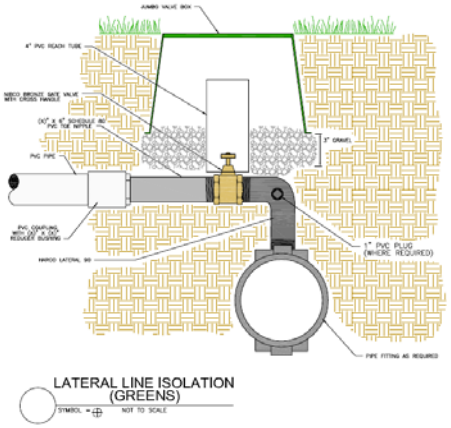
- If an older system, reassemble Cla-Val or other control valve and open flare fitting to bleed air off top of diaphragm.
- Place keys in quick coupling valves at various points around course, especially on high points of system

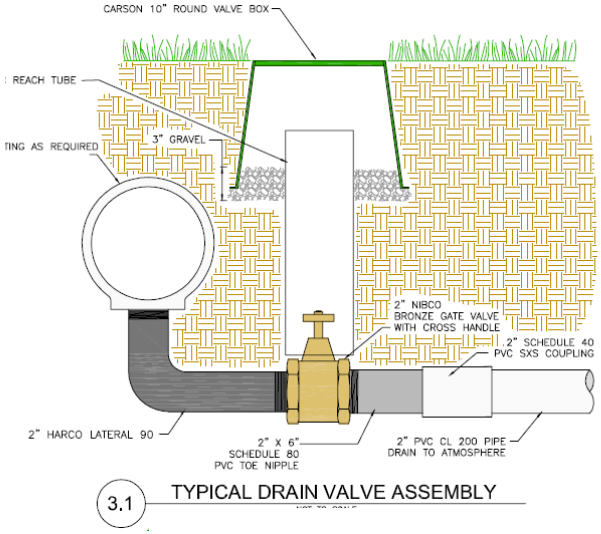


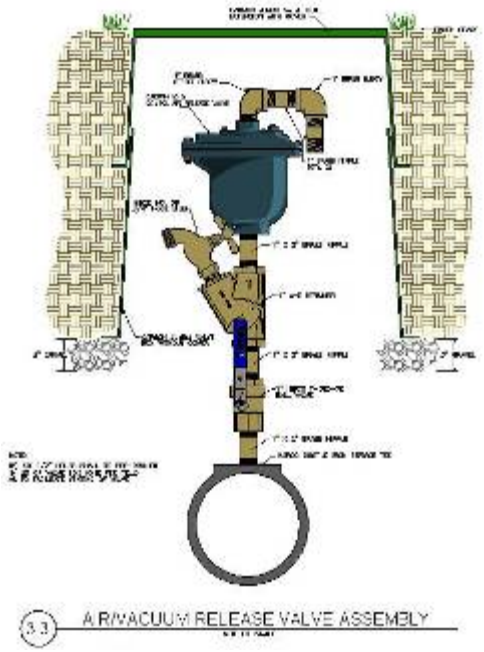
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Filling Piping Network

- **Close lateral isolation valves, open drain and air relief valves**







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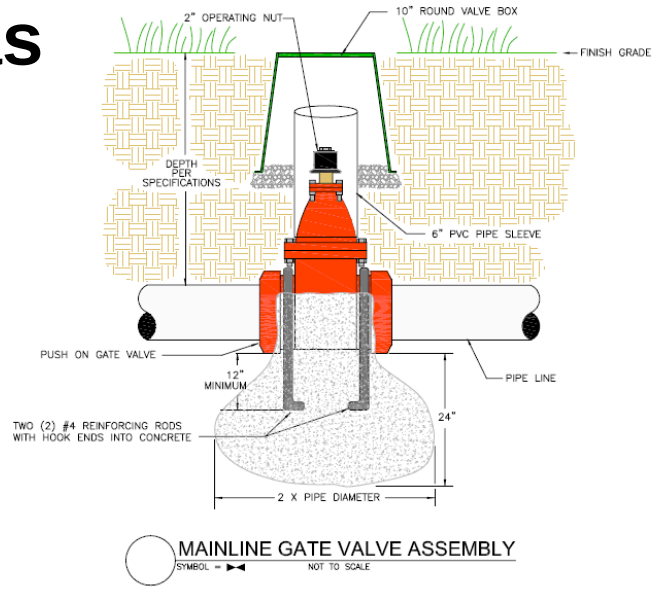
Filling Piping Network

- Crack open pump station isolation valve
- Turn on one pump and manually control motor speed, Cla-Val should regulate flow with low pressure on golf course side
- GO SLOWLY – Take plenty of time, keep flow under 200 GPM in most cases. Some systems may require up to two days to fill

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Filling Piping Network

- Air can be compressed whereas water cannot
- Surge pressures can reach 15 times the designed operating pressure of the system
- Slowly open mainline isolation gate valves, slowly filling low areas of course first, working toward higher areas



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Filling Piping Network

- As mainlines fill, remove QC keys and close drain valves
- After mainlines have filled and pump station has come up to pressure and stopped running, open flush and drain valves and place QC keys on dead ends
- Flush mainlines to remove anything that might have been introduced to pipe over winter

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Filling Piping Network

- On greens and tee loops, place QC key in valve or manually open a rotor and slowly open lateral isolation valve
- On fairway sub loops, follow same procedure
- If fairway design is herringbone, manually open rotor and slowly open lateral isolation valve to fill lateral line (Use QC if available)
- If you would rather use control system to activate rotors…….

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Control System

- **The central control system is often overlooked – until the morning after the first night irrigation is needed!**









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Central Control Computer

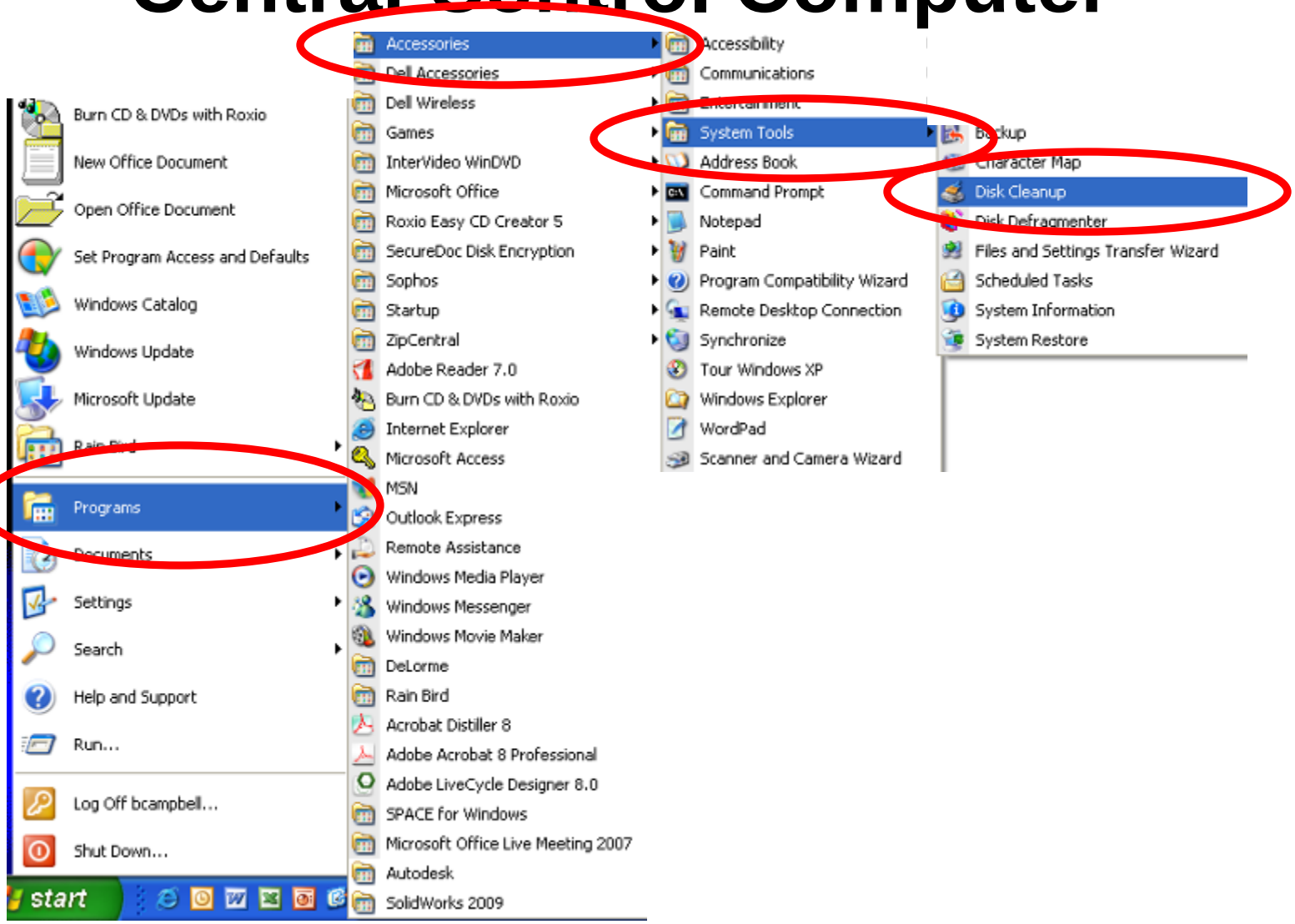
- **Be sure to have a copy of system database on CD, Zip Disk or Thumb Drive**
- **Call GSP to take advantage of new Automated Back Up and Secure Off Site Storage service**
- **Have distributor, club IT department or PC service provider properly clean computer**





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Central Control Computer



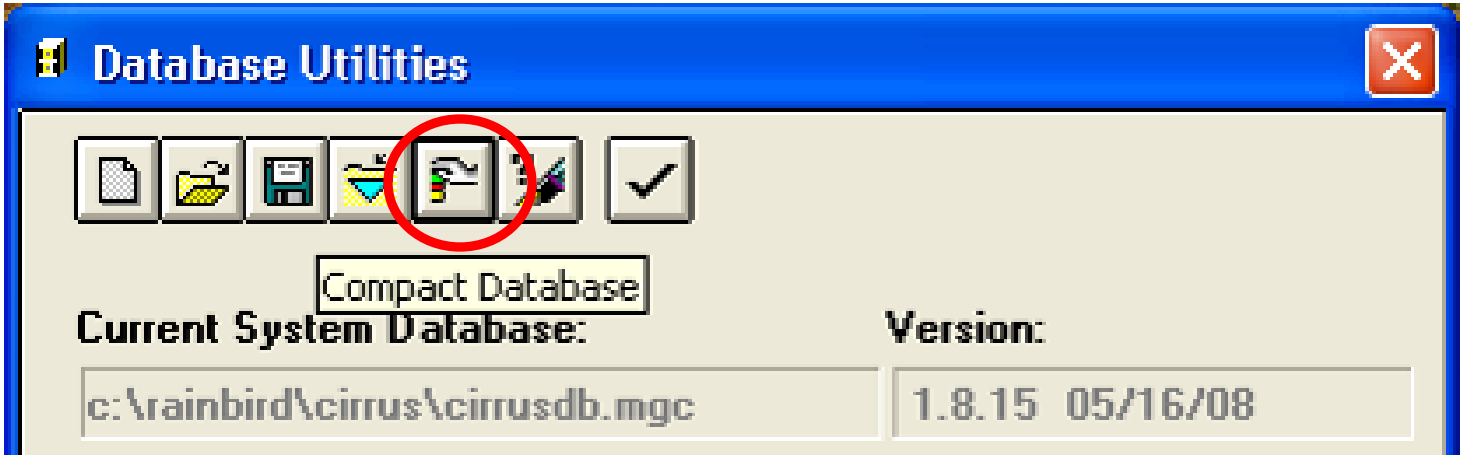
- **Perform Disk Clean Up Utilities, Defragment**

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Central Control Software

- **Compact Database**

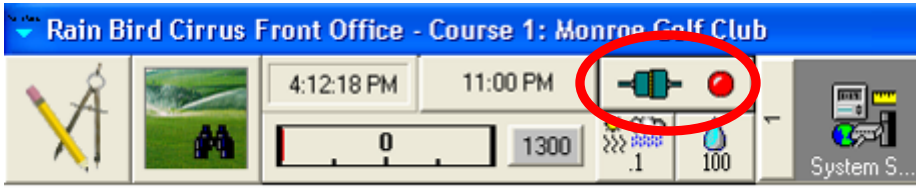




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Central Control Hardware

- Check all cables to PC, tighten connections
- Check MIM, LDI/SDI, MDI for proper operation



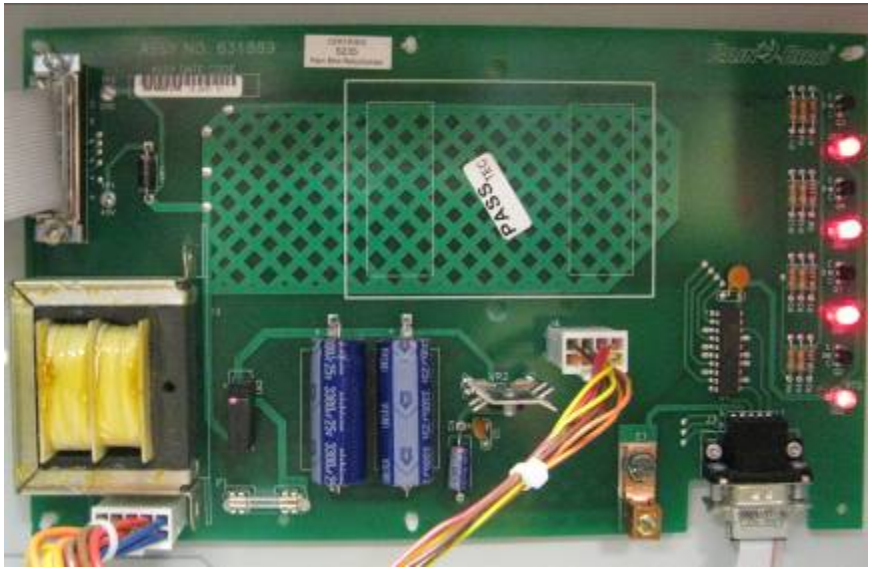




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Central Control Hardware

MIM Output Boards



RXD

CD

TXD

RTS



Link

- RXD – Normally on, blinks when data received
- CD – Normally on, off when signal detected (appears to blink because of short message length)
- TXD – Normally on, blinks when MIM transmitting
- RTS – Normally on, off when MIM transmitting

2 - Wire

- LEDs should gently flicker
- Very dim or solidly on LEDs may indicate a problem on the wire path
- If short on wire path, circuit breaker will open
- Voltage with no wires connected should be between 21 and 23 volts

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Central Control Hardware

Decoder Interfaces





If no power, check fuse on MDI

If no power, check for 24 Volts here on LDI/SDI

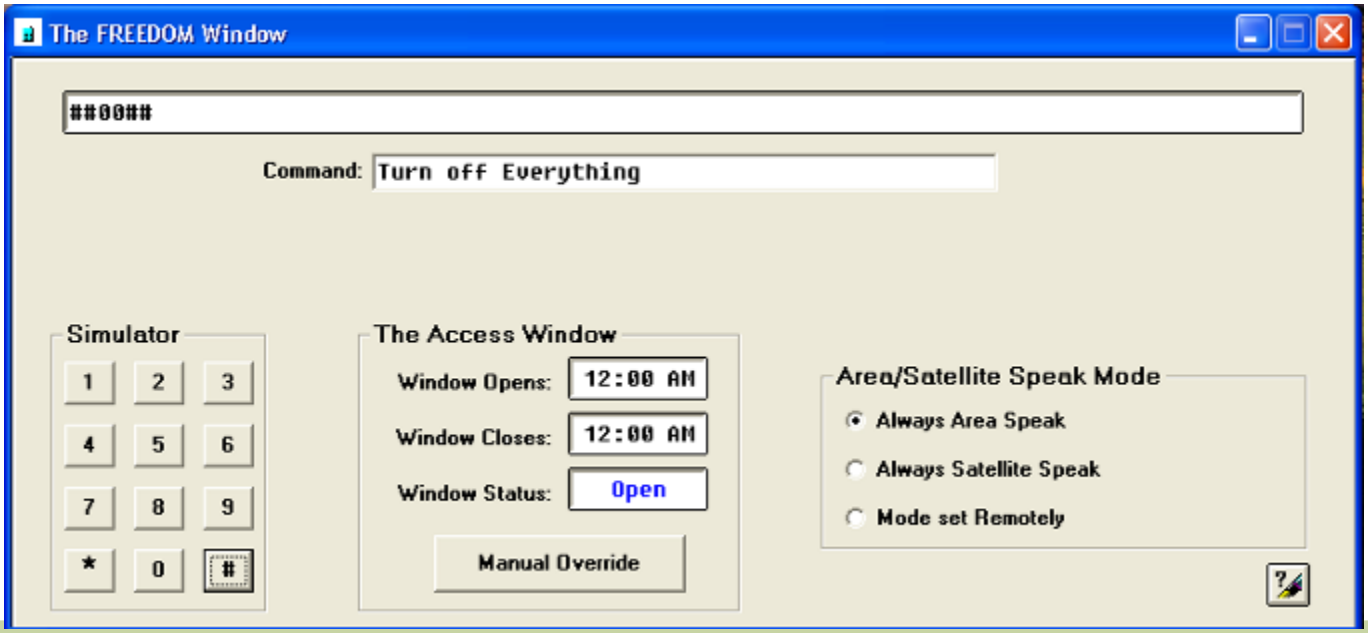
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Central Control Hardware

- Test FREEDOM System
- Enter 671, 673, or 676✱ Listen for fan on repeater, 4 quick beeps
- With FREEDOM window open, enter ## 00 ##







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Central Control Hardware

- **Check Weather Station**

Check rain gauge for debris

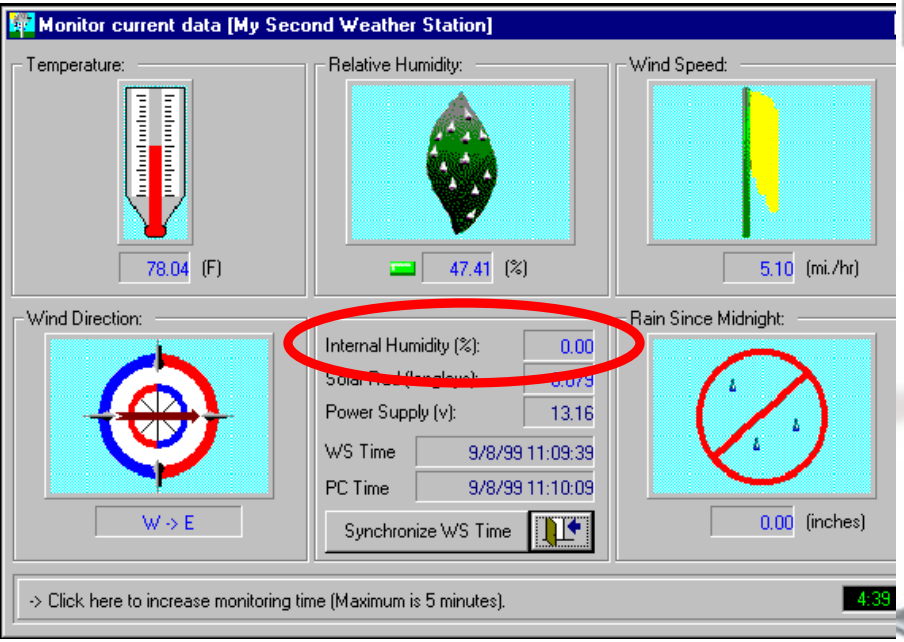
Test tipping bucket

Check pyranometer and bubble for level

Be sure wind vane and anemometer cups turn freely

Make sure shield on temperature and humidity sensor is clean and free of debris

Check internal humidity through SmartWeather. Replace desiccant packs if greater than 35%



Call 866 GSP-XPRT (866 477- 9778) for copy of recommended sensor maintenance schedule

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Field Components

- Controllers
- Run a short test program to check feedback
- Tighten communication wire terminals, test resistance on station wiring, time permitting

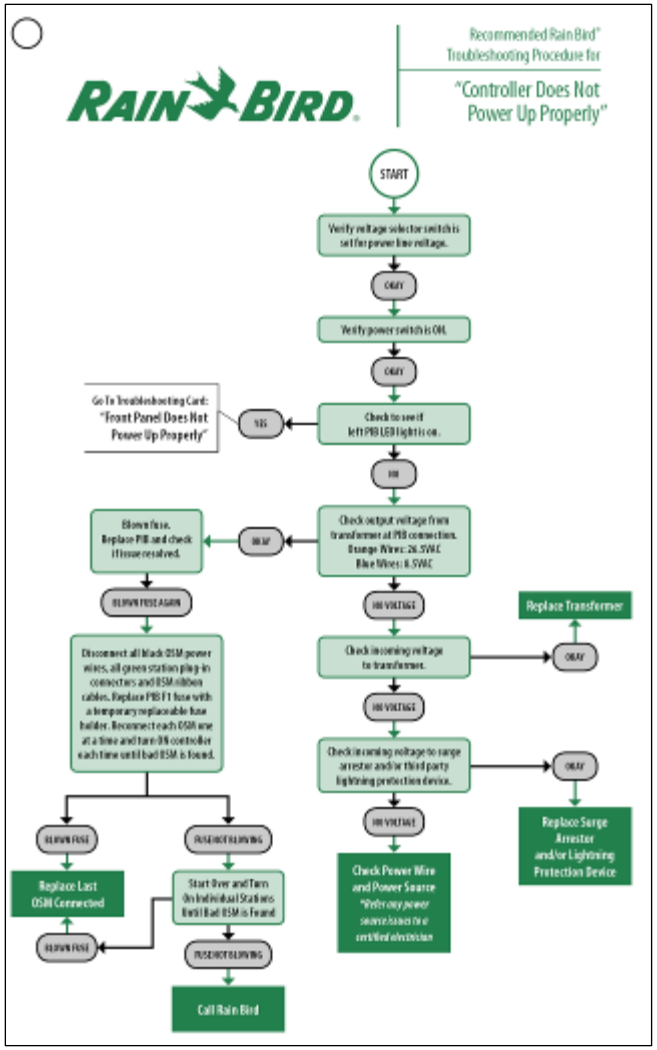






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Controllers



If problems are encountered, ask your distributor for the new 2 - Wire Troubleshooting Guide - Part number: D37421

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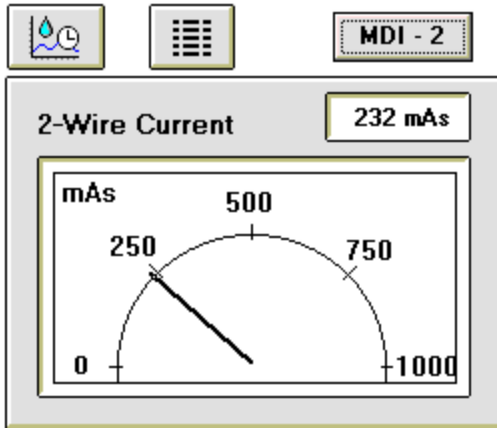
Decoders

- System Housekeeping



Calculate the system's total milliamp draw

Multi Address Decoders = 1.0 mA
Single Address Decoders = 0.5 mA

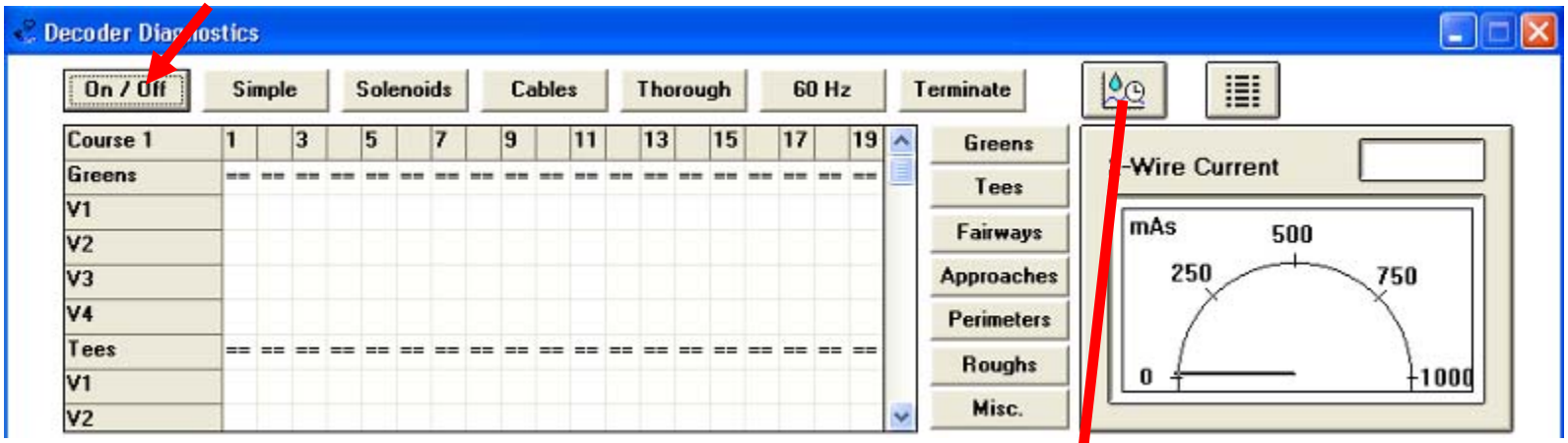


- Do for each wire path
- Compare theoretical draw to actual

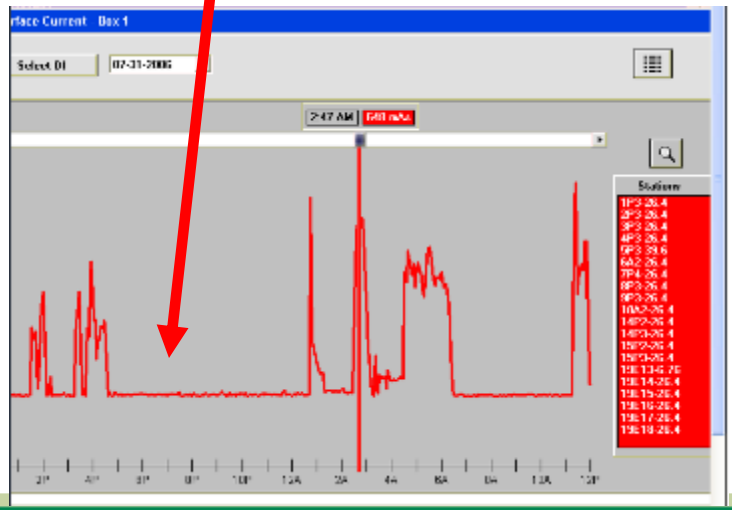
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Decoders

- Decoder Diagnostics
- Run On/Off Test



- Check mA draw graph, new in Version 5 and up



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Field Components

- **Rotors**
- **Over first few weeks, visually inspect all rotors for proper on/off, rotation, arc adjustment, raising, and leveling**

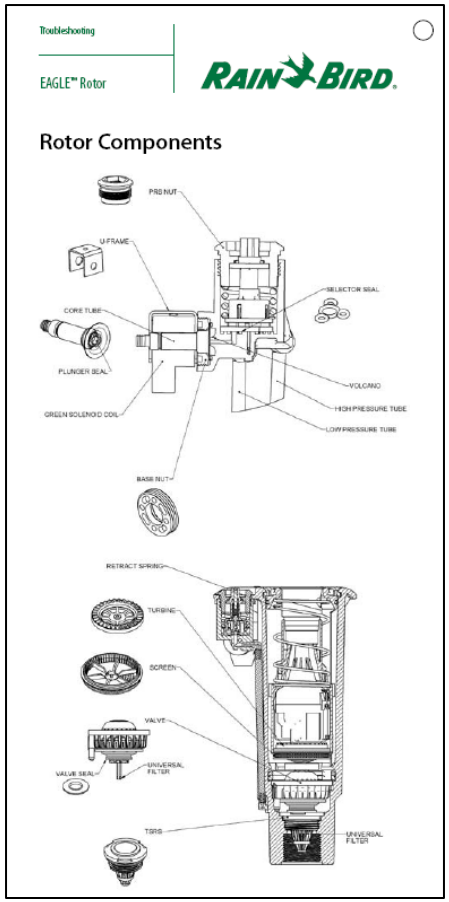


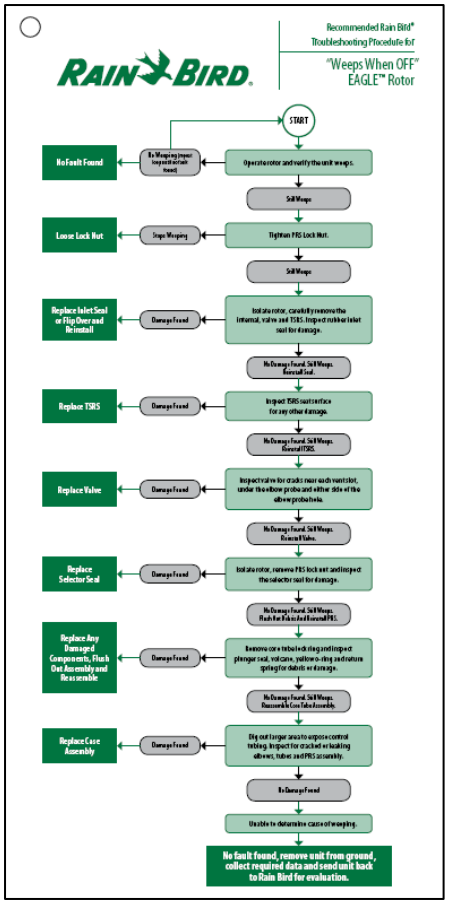


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Rotors

- **If problems are encountered, ask your distributor for the new Rotor Troubleshooting Guide, part number: D37420A**





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Questions

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