Testing A Heater

1. Hook up water and check Airband
2. Plug in machine
3. Hook up fuel lines
4. Put on discharge hose
5. Open discharge
6. Make sure bypass is closed
7. Open water in gate
8. Turn on water
    a. Load regulator about 2 ½ turns
9. Turn on unit
10. Check GFI
11. Check electric valve
    a. Water should flow
12. Wait for output light to come on
13. Red lights come on
    a. Check temperature, both should be within 1-2 degrees of each other
    b. Unit must level
14. Set secondary differential to 15
15. Set secondary set point to 125
    a. Output light should come on
        i. Contactor should close
16. Set primary differential to 2
17. Set primary set point to 120
18. Check flow switch by turning off water using gate valve
    a. Unit should shut down
19. Turn water back on

a. Unit should fire in 6 seconds

20. Fuel pressure should be 100

a. No smoke
    i. If black, open air 1/8” increments
    ii. If while close 1/8” increments

21. Calibrate fuel pump to 200

a. Close regulator, dial up clockwise, pump with 1/8 allen to 200
b. Dial regulator back up and allen up 200
    i. Shouldn’t be able to pass

22. Dial back to 100

a. Check for fuel leaks

23. Check secondary

a. Dial down until unit shuts off
    i. ALL functions should stop
    ii. No flame
    iii. No water

24. Dial secondary set point back up

a. Unit should resume operation to 120-125
b. Let unit run and let temperature level out
    i. Should be within 2 degrees
c. If unit cycles raise primary and secondary SP 5 respectively until unit stops cycling hot exceed 170 on secondary

25. Reset primary SP to 120

26. Recheck differential to make sure it is 2

a. Burner should shut off

27. Reset secondary SP to 125

28. Recheck differential to 15

29. At some point when primary is off and secondary is on degrees bypass burner should fire
    a. You can dial down primary to achieve this
30. Turn unit off
31. Cool down by pressing electric bypass and hold in discharge manifold until manifold is cool
32. Shut off water
    a. Unhook water supply
33. Blow out with air
    a. Not to exceed 100 psi
34. Open all ball valves
    a. Drain and close Diver 1
    b. Open discharge
35. Pump 1 gallon of antifreeze
    a. Press electric bypass
36. Blow out unit
    a. Not to exceed 100 PSI
37. Open all valves
    a. Drain and close all valves except gates
38. Disconnect all lines
    a. Shut off fuel supply
    b. Plug fuel fittings in each other
39. TAKE OFF ATTACHMENT FOR WATER AND AIR