Inspect and/or Repair the Wiring Harness of an F17	
Purpose:	Repair the wiring harness of an F17.
When:	When directed by a service order.

Required Tools & Equipment:	
Basic electricians hand tools	PPE
Multimeter Digital or Analog	Rubber insulating gloves class 0
Wiring harness	Safety glasses
Tie wraps	Electrical hazard safety shoes

Danger

HAZARDOUS VOLTAGE
Can Cause Severe Injury or Death

Ensure before the enclosure is opened, you must lockout all energy sources to the ATS.

Do These Steps:

1. *Obtain* the ISO forms:
2. *Open* the enclosure.

Caution: High voltage may cause personal injury or death. Use all required Personal Protective Equipment.

3. *Check* for proper voltage across all normal source phases.

Figure 1.

4. *Check* the overall condition of the harness.
5. *Disconnect* plug J7.
6. *Check* for proper voltage at the pins of J7.

Note: You will need to use the schematic to determine the voltage for each pin.

7. *Remove* the J5 harness.
8. *Check* the J5 wiring harness for:
   Harness integrity
   Nicks and Crimp
   Molex Connections are level in the plug
   Tie wraps are not too tight.
9. *Connect* the J5 plug into the RT box.

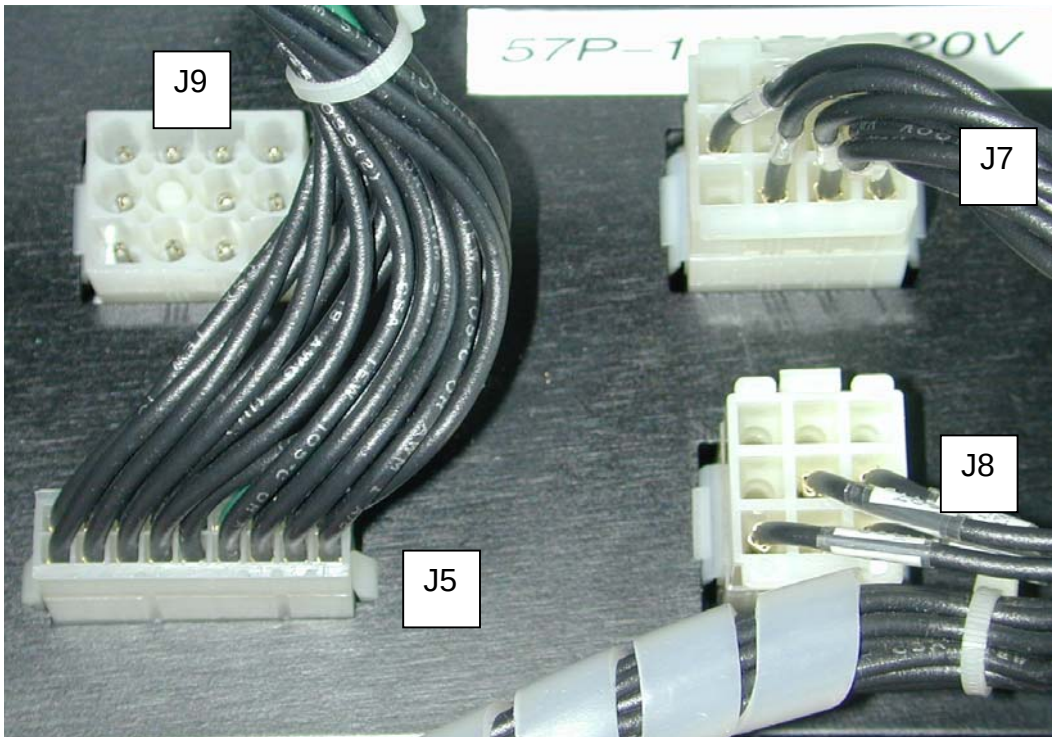

Figure 2.

10. *Check* for proper voltage at the pins of the J5 Plug.

    Note: You will need to use the schematic to determine the voltage for each pin.

11. *Connect* the J5 plug in to the microprocessor.

Figure 3.

12. *Disconnect* the J6 plug from the microprocessor.

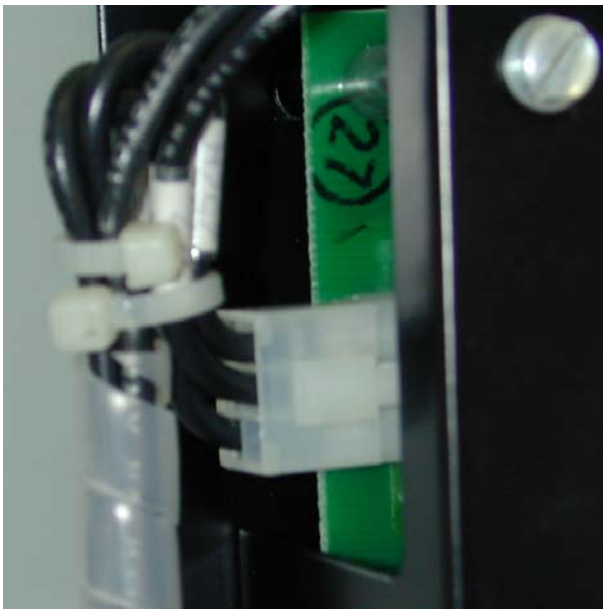

Figure 4.

13. *Check* the pins for proper seating.
14. *Check* the SN/SE micro switch Fast on connections.
15. *Connect* the multimeter to the SN/SE micro switch connection and the appropriate J6 pin.

    Note: You will need the schematic diagram to determine the correct J6 pin.

16. *Connect* the J6 plug into the microprocessor.
17. *Determine* next steps.

If the wiring harness is:	Then:
Good	Go to Step 40.
Bad	Continue on.

Replacement of the wiring harness:

18. *Disable* the generator start-up circuit.

Danger

HAZARDOUS VOLTAGE
Can Cause Severe Injury or Death

On systems with multiple ATS's connected to a single generator, you will need to lockout all energy sources to the ATS generator before continuing on.

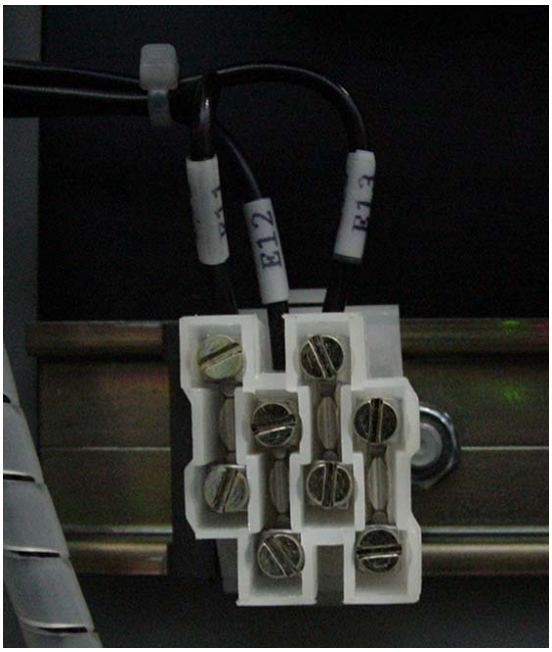

Figure 5.

19. *Disconnect* primary power to the switch.

20. *Check* for zero volts on the normal and emergency power lugs.

21. *Check* the overall condition of the harness.
    Look for:
    Damage
    Burn Marks
    Oil/Grease
    Water

22. *Remove* the J6, J7 and J8 plugs from the microprocessor, and the RT box.

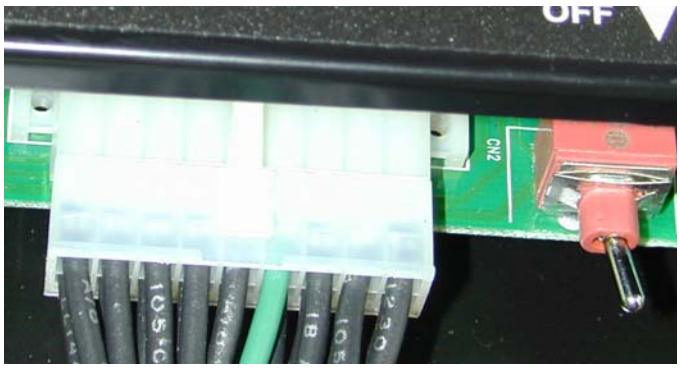

Figure 6.

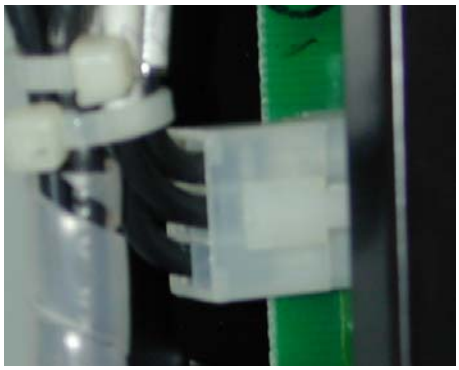

Figure 7.

23. *Remove* the tie wraps securing the harness.

24. *Remove* disconnect switch wires, 252A and 25ZZ.

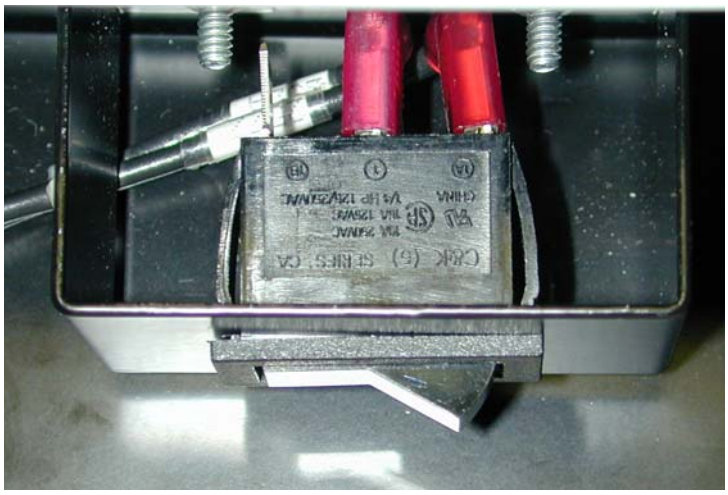

Figure 8.

25. *Remove* wires 14, 15, 16, 20, 21, 22, 30, 31, and 32 from power lugs.

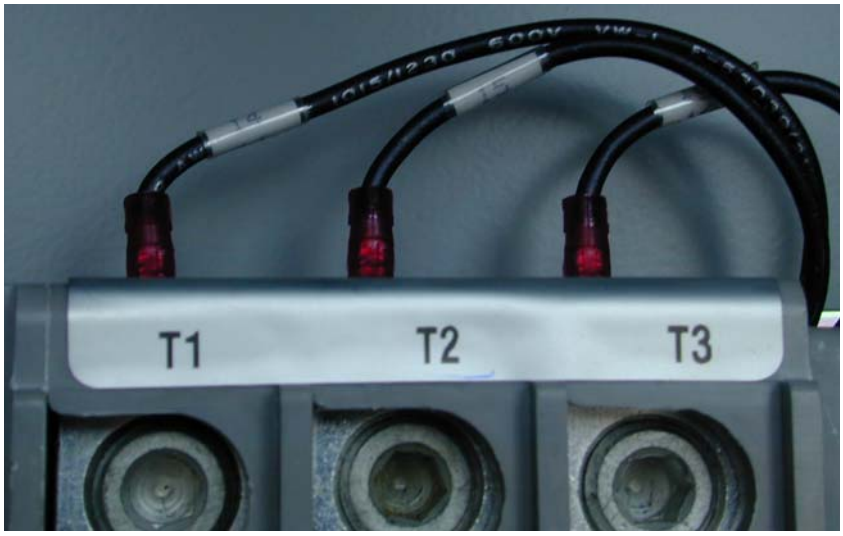

Figure 9.

26. *Remove* wires 252A, 25ZZ, 26, 36, SN and SE from the micro switch.

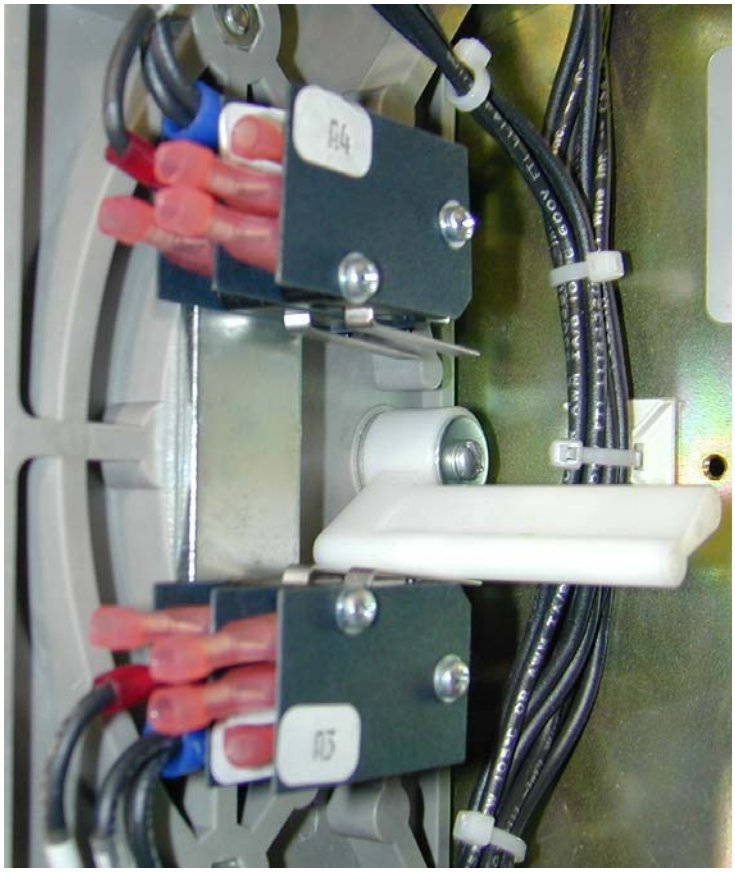

Figure 10.

27. *Remove* the rectifier assembly wires 206, 209,306, and 307.

Figure 11.

28. *Remove* the power harness.

29. *Install* the new power harness.

30. *Connect* the rectifier assembly wires 206, 209,306, and 307.

Note: Ensure that the DC wires going from the solenoid to the DC terminals of the rectifier. The DC section of the rectifier has the red dot. The terminals are lower left and upper right corners.

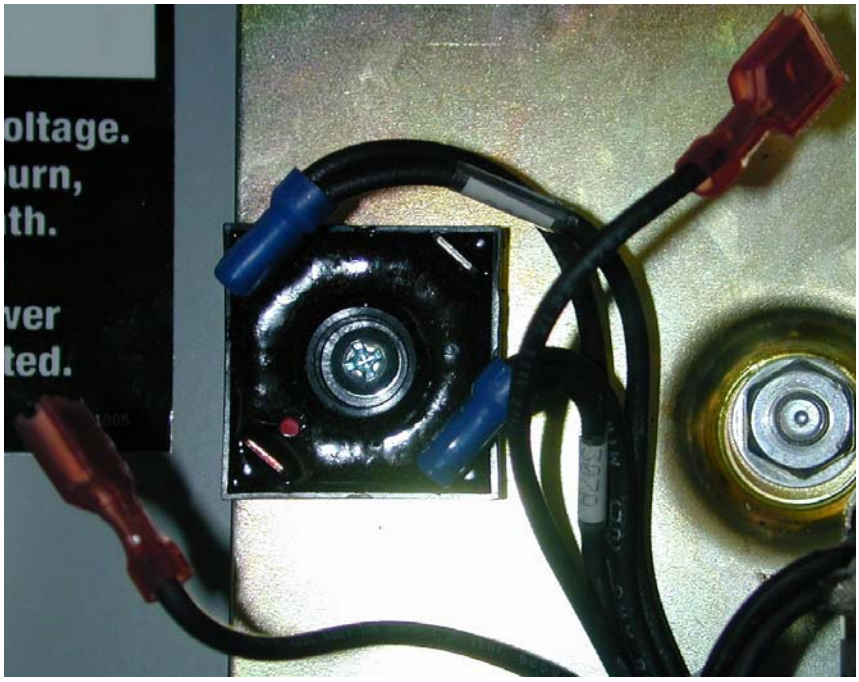

Figure 12.

31. *Connect* wires 252A, 25ZZ, 26, 36, SN and SE to the micro switch.

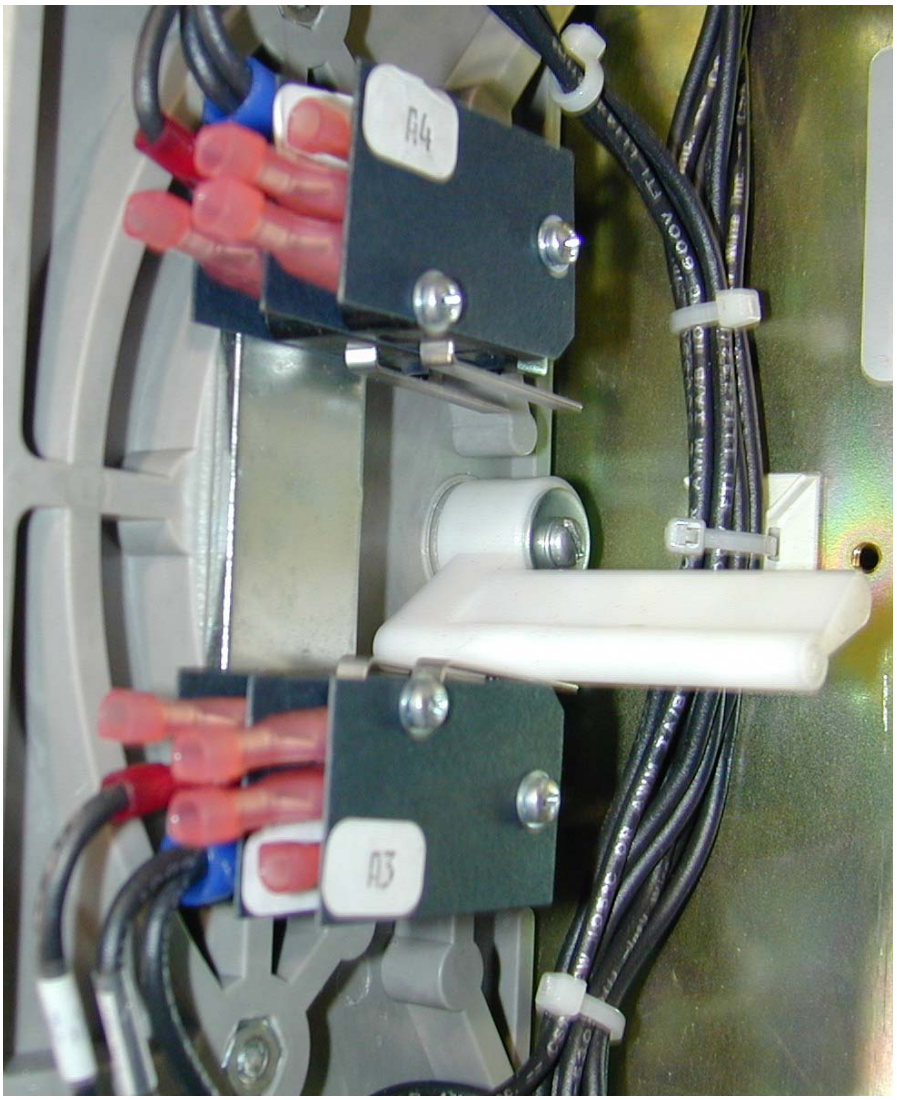

Figure 13.

32. *Connect* the power lug wires. To the power lugs.
33. *Connect* the wires to the disconnect switch.
34. *Install* the disconnect switch.
35. *Place* the disconnect switch to inhibit.
36. *Install* tie wraps as required.
37. *Clean* the inside of the cabinet.
38. *Install* the J6, J,7 and J8 to the micro processor and RT box.
39. *Install* Tie Wraps as needed to secure the harness.

40. *Connect* the generator start wires.
41. *Place* the disconnect switch to “Auto” position.
42. *Close* the front cover.
43. *Energize* the ATS
44. *Enable* the genset to start automatically after the U-timer (cool-down) has timed out.
45. *Push and hold* the test pushbutton.

Note: After the time delay switch should automatically transfer to the emergency position.

Figure 14.

46. *Release* the test pushbutton.

Note: Once you release the test pushbutton and after the time delay, the ATS should return to the normal position.

Figure 15.

47. *Clean-up* the area.

48. *Complete* the Service Report.

49. *Send* Reports to GE Zenith Controls.

You know you are completed when:

- ☐ The transfer switch is secured and operating properly.
- ☐ The tools are stored.
- ☐ The reports are completed.