Replace the Solenoid & Rectifier	
Purpose:	To replace a defective Solenoid and Rectifier
When:	When directed by a service order.

Required Tools & Equipment:	
Basic electricians hand tools	PPE
Multimeter Digital or Analog	Rubber insulating gloves class 0
Solenoid	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 proper documentation.
2. *Open* the front Enclosure.
3. *Place* the disconnect switch to “Inhibit”.

4. *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 must lockout all energy sources to the ATS, before continuing on.

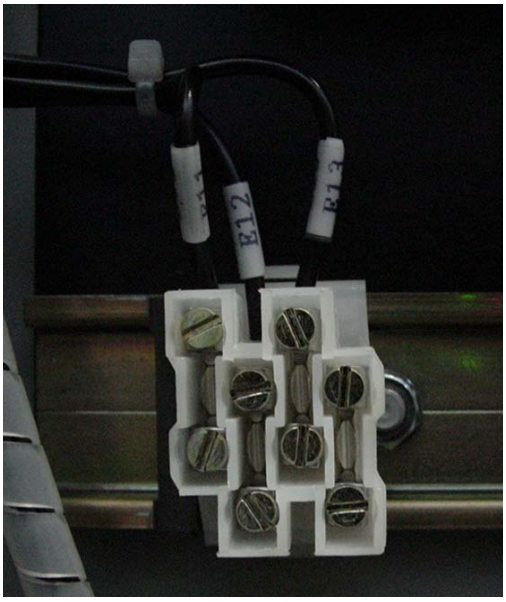

Figure 1.

5. *Disconnect* Main Power
6. *Verify* zero volts across each phase.

7. Remove the DC “Fast on” connections from the rectifier terminals.

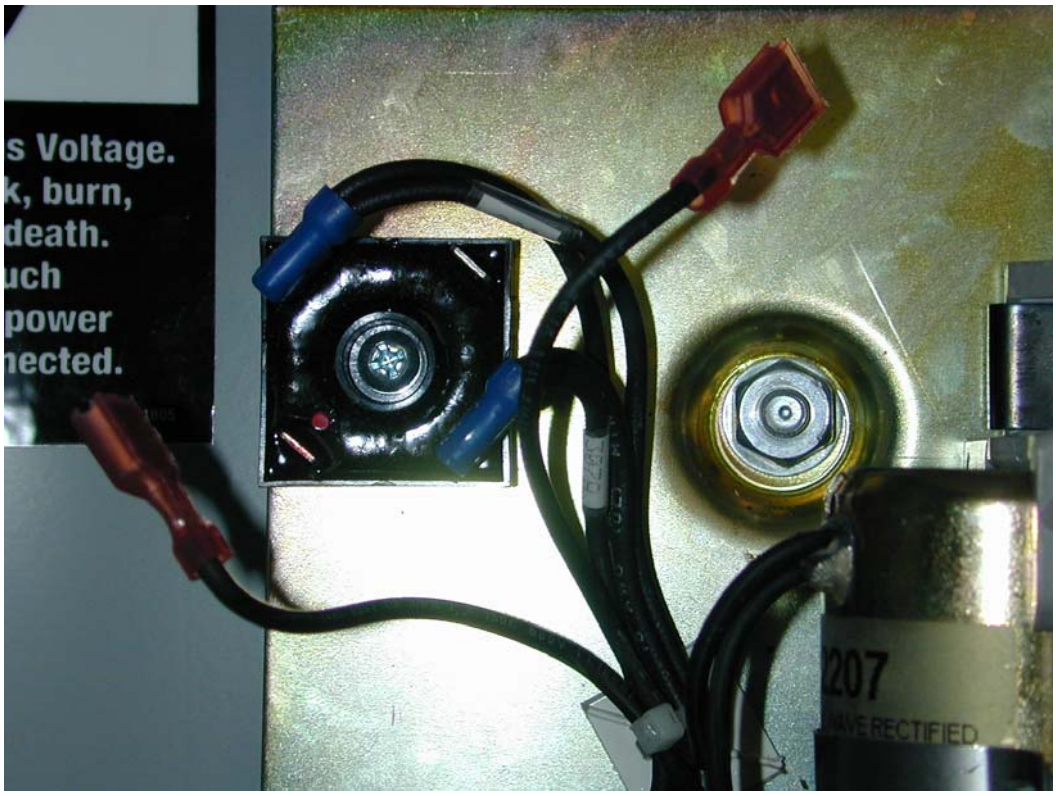

Figure 2.

8. Check the coil resistance.

   Note: If the reading is infinite or shorted, replace the coil.

Figure 3.

9. Remove the AC “Fast on” connections from the AC terminals of the rectifier.

10. Check the diode operation of the rectifier.

Figure 4.

If the rectifier is:	Then
Good	Go to step 13.
Bad	Continue on.

11. Remove the rectifier.
12. Install the rectifier

    Note: the red dot should be in the upper right corner.

13. Connect the AC “fast on” connections to the AC terminals.

    Note: the AC terminals are in the upper left and lower right hand corners.

14. Remove tie wraps as necessary.

Warning: Do not cut the insulation on the wiring.

15. Remove the front bolt of the coil securing strap.

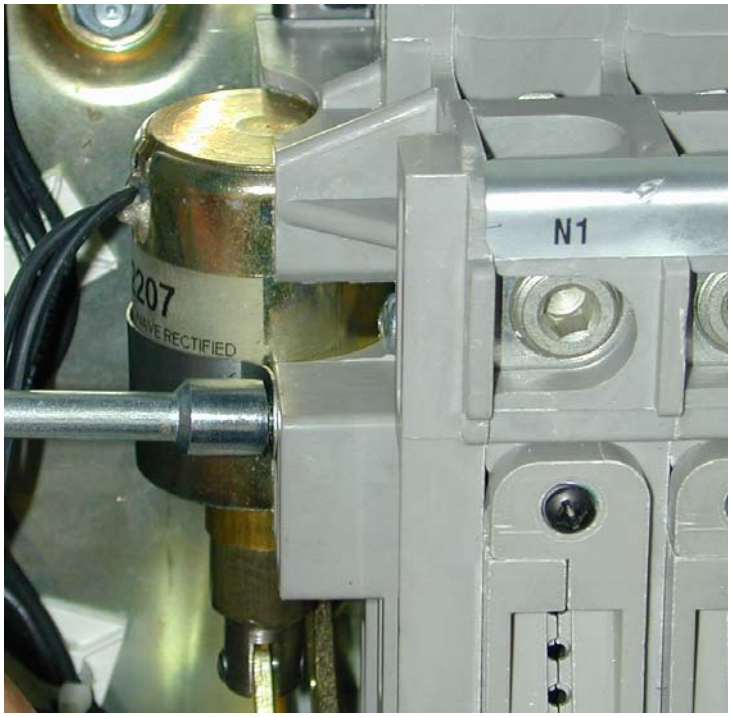

Figure 5.

16. Loosen the rear bolt of the coil securing strap.

17. Remove the coil.

Note: a spring is placed inside of the plunger assembly.

Figure 6.

18. Lubricate the spring and plunger assembly.

19. Insert the spring into the coil.

Note: the spring should be inserted and seated into the spring holder of the coil. The spring should be centered in the hole.

Figure 7.

20. Install the plunger into the coil.

    Note: the spring will slide into the plunger.

Figure 8.

21. Install the coil into the coil slot.

22. Install the coil holding strap.

23. Tighten the bolts for the coil holding strap.

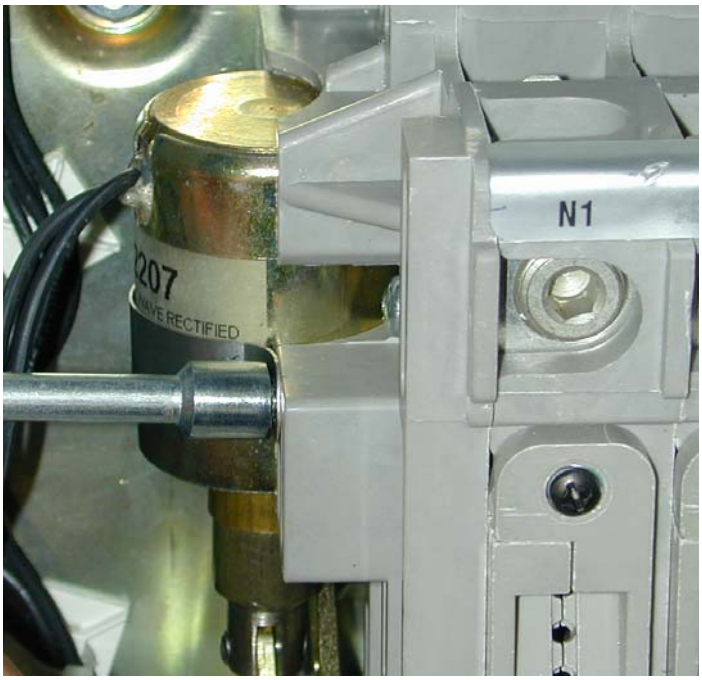

Figure 9.

24. Connect the DC “Fast on” connections to the DC terminals of the rectifier.

    Note: the DC terminals are in the lower left and upper right hand corners.

25. Install any required tie wraps.

26. Clean the inside of the ATS

27. *Energize* the ATS.

28. *Enable* the generator start-up.

29. *Place* the disconnect switch to “Auto”.

30. *Close* the enclosure.

31. *Push and hold* the test pushbutton.

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

Figure 10.

32. Release the test pushbutton.

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

33. *Clean-up* the area.

34. *Complete* the Service Report.

35. *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.