Filename=CorrectorReplacementPro3.doc 2/24/2002

Suncraft Bipolar 50 Amp or 60 Amp P.S. Replacement Procedure (Alcoves)

Procedure for replacing a Suncraft 50 Amp or 60 Amp corrector

1. If you have labels you should bring them out with you to the p.s. you will be working on. Bring a handheld Fluke DVM with a BNC cable that plugs into the DVM. Bring keys to open up the rack doors in the alcoves.

2. The spare p.s.'s are in 1007W where the kicker power supplies are located. They are NOT located where the ATR power supplies are located. Pick up one spare corrector p.s. and bring it to where you will be installing it. Make sure that the spare p.s. you take from 1007W has a label on it that says "READY FOR SERVICE".

3. There are 2 types of correctors on the spares shelf. One has a label on it that says "60 AMP". This is a 60Amp corrector. The other type is a 50Amp corrector. The 50Amp corrector either has no label on it or it has a label that says "50AMP". That is how you tell the difference between the two types on the shelf. The table at the end of this procedure lists the sitewide names of the 60AMP correctors in the ring. If MCR asks you to swap out a corrector the first thing you should do is look at this list. If the p.s. is on the list then you want to take a spare 60AMP corrector. If it is NOT on this list then you want to take a spare 50Amp corrector. **The 60 Amp corrector p.s.'s are NOT interchangeable with the 50Amp correctors p.s.'s !!!!**

4. Go into the alcove where the p.s. is that must be replaced. Confirm that it is a p.s. that is a Suncraft 50A or 60A corrector by looking at this photo. The 60A will have a label on it that says 60A:

5. The photo on the previous page shows a rack with the 50A correctors. Make sure you remove the correct one by looking for the sitewide name on the left side of the rack. MCR will tell you which one has to be replaced

6. Now that you have found the p.s. you are interested in you will find there are other p.s.'s in the rack.

7. Make sure that MCR has run all of the currents for the correctors in this rack down to zero. You can write down the sitewide names of the p.s.'s in this rack and then tell MCR what they are and then MCR will run the currents to zero for these correctors. If there is a Gamma-T p.s. in the rack then MCR should run that p.s. down to zero current as well. If there is a Gamma-T in the rack it will look different than the correctors and have a label with "qgt" in the middle of the sitewide name.

8. Confirm all of the currents are at zero in the rack you will be working in by using your DVM and measuring the current output BNC on the front panel of all of the p.s.'s in that rack. Now that the current is at zero ask MCR to put these correctors into the STANDBY state and then the OFF state. If there is a Gamma-T p.s. in this rack then it should also go to STBY and then OFF.

9. You can now lock out the 3-phase 208VAC disconnect (or circuit breaker) that feeds the rack that these p.s.'s reside in. Use the name of the rack at the top to find the 208VAC disconnect or circuit breaker. You do not need to lock out the single phase 120VAC breaker that feeds this rack, which has the same rack name as the 3-phase 208VAC circuit breaker.

10. If there is a Gamma-T power supply in the rack it will look different than the correctors and there will be a label the has a "qgt" in it. There will be another 208VAC circuit breaker for this p.s. Turn it OFF as well. Be aware that if there is a Gamma-T power supply in the corrector rack then there are two 208VAC circuit breakers with the same rack name that must be turned off. One circuit breaker is for the Gamma-T and one for the correctors. If you see only one 3 phase 208VAC circuit breaker with the rack name then that is the corrector 3 phase 208VAC circuit breaker. To find the Gamma-T 208VAC circuit breaker look for a label in the 3-phase 208VAC circuit breaker panel that says "Blue Gamma-T" or "Yellow Gamma-T". This is the Gamma-T 3 phase 208VAC circuit breaker. After turning off the 208VAC circuit breakers check the 208VAC on the correctors and the Gamma-T (if there is one) with a meter and make sure there is no 208VAC in the rack. There is a node card at the bottom of the rack that is on a hinged panel and has 110V that is not covered well but it is not easily accessible so just be aware of this while you are working in there.

11. Open up the rear door of the rack with the key.

12. Note the labels on the 4 LEMO cables. Re label if necessary so you remember how to connect them. Disconnect the LEMO cables.

13. Note the labels on the DC cables. Re label if necessary so you remember how to connect them. Disconnect the DC cables.

14. Now you should remove the AC connections.
AC Connection Color Code(Top to Bottom): Spare/Black/Red/Blue/Green

15. Remove the 25 pin D connector on the rear of the p.s.

16. Remove the 2 ring Security 6-32 screws. Ring Security Power is daisy chained down the rack to each p.s.

17. You will notice that the back of the p.s. is bolted to a bracket running down the back of the rack. This supports the rear end of the p.s. Remove the p.s. from this bracket while still supporting the rear end with your hand.

18. You can now unscrew the front of the p.s. and pull it out. There are no chassis slides so be careful when you remove this p.s.

19. Re-connect the new p.s. BE CAREFUL NOT TO OVERTIGHTEN THE CONNECTOR SCREWS ON THE D CONNECTOR SHELLS.

20. Re-connection list:
    a. DC Cables
    b. AC connections
    c. D Connector
    d. 4 Lemo Cables
    e. Re-connect the rear of the p.s. to the bracket running down the back of the rack.
    f. Ring Security

21. After the p.s. is replaced you should also go to the AC terminal block in the rack and re-tighten all of these AC connections for all of the p.s.'s on this AC terminal block. Make a note if any are found loose.

22. Lock the rear door with the key when you are done.

23. Unlock and turn on the disconnect (or disconnects) for this rack when you are done.

24. Put the p.s. into Local and use the local setpoint Pot to vary the setpoint. While in STBY turn the local pot a little counter-clockwise and then a little clockwise while looking at the red and green LED's on the sides of the POT. You will see one LED go off and the other LED go on. Try to turn the POT until you can see you are balanced between the red and green LED's as best as you can be. This means you are very close to zero setpoint.

25. Turn the p.s. ON and check the outputs on the front panel with a DVM. 1Volt = 5Amps for the 50Amp p.s. and 1Volt=6Amps for the 60Amp p.s. Maximum current is 45Amps for the 50Amp p.s.'s and 52Amps for the 60Amp p.s.'s. You should not exceed 1V for testing purposes.

26. If for some reason the p.s. cannot make the requested setpoint then open up the little black access panel on the right hand side of the power supply. This is the compensation. Compare this compensation with any other compensation board in any other corrector power supply in this alcove. If they do not match then make the compensation board in the power supply you just put in match the other compensation board you are comparing too. If you want you can also go back to 1007W and pull a compensation board out of another good spare p.s. and use that. If that doesn't fix the problem then put another p.s. in.

27. Put all of the p.s.'s in this rack into LOCAL and STANDBY. After the p.s's are all in STANDBY you can now put the p.s.'s back into REMOTE. You can now hand the p.s.'s back over to MCR.

If the corrector that you must replace is on this list then grab a 60AMP corrector spare, if it is NOT on this list then grab a 50AMP corrector spare.

60 AMP corrector sitewide names
Bi8-qs3-ps
Bo2-qs3-ps
Yo8-qs3-ps
Yo9-qs3-ps
Yi10-qs3-ps
Yo5-qs3-ps
Bi9-qs3-ps
Bo10-qs3-ps
Bi1-qs3-ps
Yo1-qs3-ps
Yi2-qs3-ps