

Nested Rack Mounted Dynapower P.S. Replacement Procedure

Procedure for replacing a power supply that has a “qd1 or qf1 or qd3 or qf3 or qf6 or qd6 or q6 or qf8 or qf9” in the sitewide name

1. Before you replace this p.s. you must follow the Lockout Tagout Procedure for the blue nested IR quads or the yellow nested IR quads then resume with this procedure.
2. If you have labels you should bring them out with you to the p.s. you will be working on. Bring a key to unlock the rack door. Bring a 7/16” socket and socket wrench also.
3. Go to the p.s. that must be replaced. Confirm that it is a p.s. that has a “qd1 or qf1 or qd3 or qf3 or qf6 or qd6 or q6 or qf8 or qf9” in the sitewide name. For example if the p.s. sitewide name is “bi8-qf3-ps” then it is a qf3 p.s. If the p.s. sitewide name is “yi7-qf9-ps” then it is a qf9 p.s. The manufacturer of this p.s. is Dynapower and the front panel of the p.s. is BLUE in color.
4. Now that you have found the p.s. you are interested in you will find there is usually another p.s. in the same rack with the p.s. you are replacing. The q6 p.s.’s in service buildings 1002B, 1006B, 1008B, and 1012A are alone.
5. If you have followed the blue or yellow nested IR lockout procedure properly then the p.s. you are replacing should be in the OFF state at this point. If there is another p.s. in this rack then it should also be in the OFF state. The circuit breakers on the front of these two p.s.’s should also be OFF.
6. The circuit breaker that feeds the AC power to this rack should be OFF and locked out. The main quad p.s.’s (blue or yellow) should also be locked out at this point. The blue main quad p.s.’s should be locked out if you are replacing a blue p.s. and the yellow main quad p.s. should be locked out if you are replacing a yellow p.s. If you are replacing a blue p.s. and the other p.s. in the rack is yellow then you must lock out both the blue and yellow main quad p.s.’s. If you are replacing a yellow p.s. and the other p.s. in the rack is blue then you must lock out both the blue and yellow main quad p.s.’s.
7. Go to the front of the p.s. you are replacing and remove the plastic cover in front of the control bucket.

8. You should look at the labels on the fibers going into the fiber optic interface card. There will be either 2 or 3 fibers going into the fiber optic interface card. You will notice that the top fiber has a lot of words on it but what you need to know is the part that says "TX IN 1", the fiber with the label "TX IN 1" goes into the top input of the fiber optic interface card. The 2nd fiber down is labeled "RX IN 1" and that goes into the 2nd input of the fiber optic interface card. The 3rd fiber input (if there is one) is labeled "RX IN 2" and that goes into the bottom input of the fiber optic interface card

9. Remove the fibers from the fiber optic interface card. Push in, turn to the left and pull. Do not let them fall on the floor if possible. Make sure you do not crush the fiber when you slide the p.s. back in.

10. Open up the rear door of the rack with a 7/16" socket and rack key if locked.

11. If you have labels with you then you should label all of the DC cables that get connected to the p.s. If you don't have labels then you should remember how the DC cables get connected to the p.s. The existing labels may not be correct. Look at the labels before you remove the DC cables and mark down where they are connected to on the p.s.

12. Once you have written down the existing labels and how the DC cables are connected to the p.s. you can remove all of the DC cables. Be sure to use 2 wrenches on the buses when removing the DC cables so you do not place any stress on the buses and break them off internally.

13. Now you should write down the color code for the AC connections and then remove the AC connections.

AC Connection Color Code(Left to Right): _____

14. Remove all 4 D connectors on the bottom right hand side on the rear of the p.s.

15. There is a ground stud on the rear left hand side of the p.s. Remove the wire connected to this.

16. You can now unscrew the front of the p.s. and rack it out. Someone should be in the rear of the rack watching that no cables get hung up on the p.s. as you are racking it out. This is a very heavy p.s. You will need the orange lift Jack table to set the p.s. on. You will then use this same orange lift jack table to put the new p.s. in.

17. Unscrew the chassis slides from the p.s. while the p.s. is sitting on the lift jack table. Remove the p.s. and leave the chassis slides in the rack.

16. The spare p.s.'s are in 1007W. Pick one up 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".

17. Pull the fiber optic interface card and current regulator card out of the p.s. that is being replaced. Put these 2 cards into the new p.s. that is going into the rack. If the spare p.s. is missing any other cards then you can take those out of the p.s. that is being replaced.

18. Re-connect the new p.s. BE CAREFUL NOT TO OVERTIGHTEN THE CONNECTOR SCREWS ON THE D CONNECTOR SHELLS. MAKE SURE YOU USE 2 WRENCHES ON THE BOLTS OF THE DC BUSES.

19. Re-connection list:

- a. Re-connect chassis slides to new p.s.
- b. AC connections
- c. D Connectors
- d. DC Cables
- e. Ground wire onto ground stud on rear of p.s.
- f. Fibers into fiber optic interface card.

20. Bolt up the rear door when done.

21. Unlock and turn on the disconnect for the rack and then turn on the circuit breakers for both of the p.s.'s in this rack. Put the p.s. into LOCAL and STANDBY. Wait about 10 seconds and then press the RESET Pushbutton. You should have only the quench fault on the control card. You can now put the p.s. back into REMOTE. You must now unlock the main quad p.s.'s you locked out and then hand the p.s.'s back over to MCR.