



UHPN2-1100 UPGRADE KIT

Ultra High Purity Nitrogen Generators
Model UHPN2- 1100



Instructions for:

UHPN2-1100 Upgrade Kit

Steps

1. Catalyst module replacement
2. PCB replacement (remove old, install new)
3. Install limit harness
4. Install limit controller / bracket
5. Change fuses if required
6. Apply new labels as required

Allow at least 2 hours for the generator to cool prior to changing the catalyst module. The hydrocarbon catalyst module in the Parker Balston Nitrogen Generator is located behind the upper service panel and should be changed approximately every three years (or when the "Service System" LED starts blinking) to maintain the hydrocarbon removal specification for the unit.

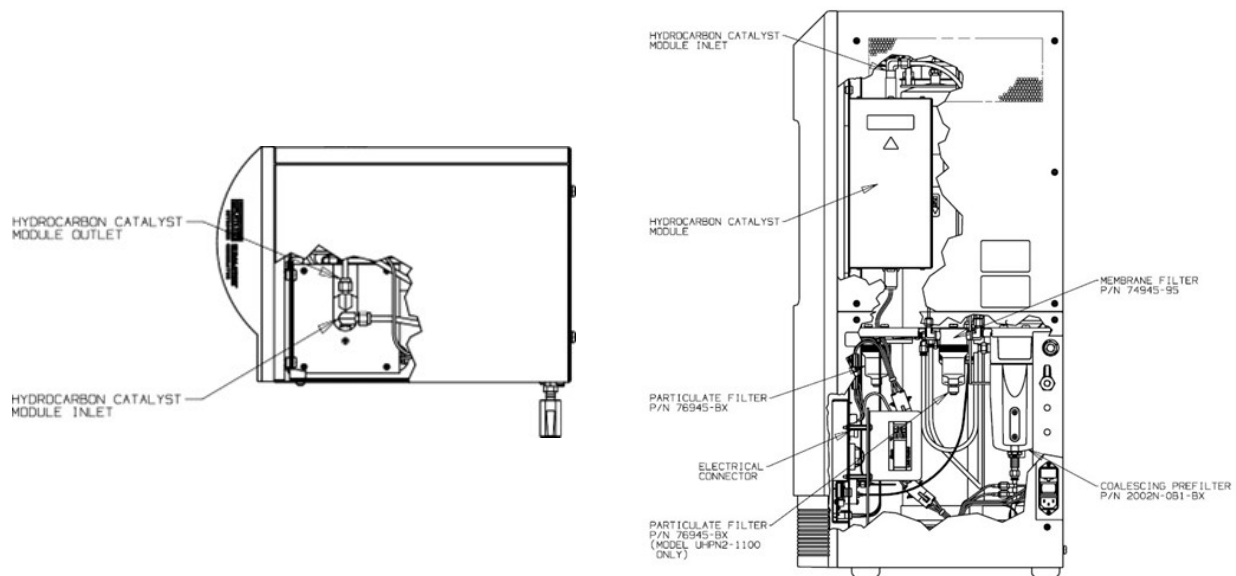


Figure 1 - Maintenance Items

The tools required to change the catalyst module are: a Phillips head screwdriver, two 9/16" wrenches (or adjustable wrenches), and one 1/2" wrench (or adjustable). The procedure for re- placing the hydrocarbon catalyst module is as follows:

1. Turn off the inlet air supply to the generator. Wait approximately 10 minutes before turning the generator power off. This will allow the generator to depressurize fully.
2. Unplug the generator from the power receptacle. Allow the unit to cool for at least 2-hours before removing the cover.

Instructions for:

UHPN2-1100 Upgrade Kit

3. Remove the upper and lower service panels from the UHPN2-1100 (4 Phillips screws) and disconnect the electrical fittings to the hydrocarbon catalyst module at the connectors (see Figure 6).
4. Disconnect the two tubing connections to the hydrocarbon catalyst module (see Figure 1) using the wrenches (one as an anchor).
5. Remove the two screws which fasten the hydrocarbon catalyst module to the UHPN2-1100 frame.
6. Remove the spent module from the UHPN2-1100 and replace with the new module included with the upgrade kit.
7. Re-connect the inlet and outlet fittings to the hydrocarbon catalyst module, open the supply air valve, and check for leaks. Re-connect the module's electrical connections.

PCB Assembly Replacement

1. Make sure unit is shut off and the power cord is removed from unit before servicing.
2. Remove the four screws at locations 1, 2, 3 & 4 as shown in Figure 2 to remove the Plexiglas shield:
3. Methodically remove wiring one at a time from the connectors at locations A, B, C & D.
4. Remove the pressure sensor tubes from locations E & F. Refer to Figure 3 below. Use two small 5/16in wrenches to remove the compression nut from location E: one to hold the fitting while the compression nut is turned counterclockwise to remove the 1/16in OD SS tubing. To remove the clear flexible tube from location F simply pull firmly until it disconnects from the barbed fitting. Use a tubing cutter to snip 1/4in from the end of the clear flexible tube before putting it back on the new PCB assembly.
5. Once all the tubing and electrical connectors are removed from the PCB assembly, it should look like Figure 4 on page 4.
6. Next detach the PCB assembly from the chassis by removing the four hex standoffs at locations 1, 2, 3, & 4 (see Figure 2) by loosening with a small adjustable wrench.
7. Remove the PCB assembly from the chassis by angling the sheet metal PCB assembly and gently pulling it from the hole in the chassis. See Figure 5 below.
8. Using the new PCB assembly supplied with the upgrade kit, re-install the electrical connector at location C (see Figure 2) and then re-insert the PCB assembly into the chassis cut-out by angling as shown in Figure 5 above.

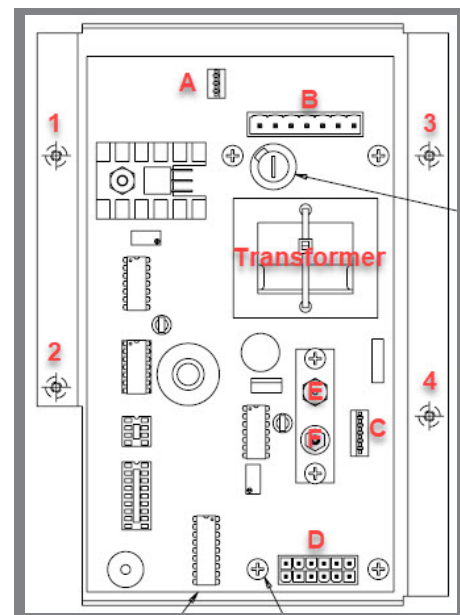


Figure 2 - Repl Electronic Assembly

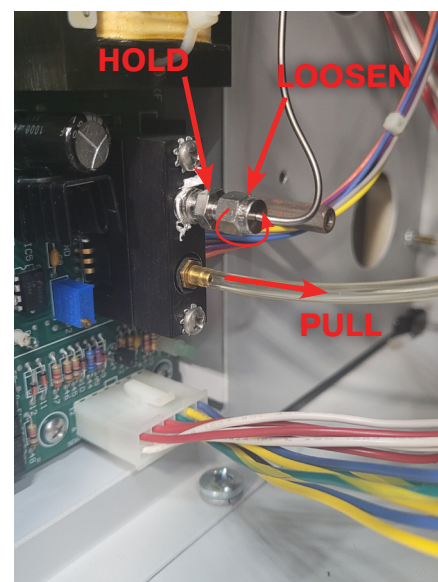


Figure 3 - Pressure sensor tubes

Instructions for:

UHPN2-1100 Upgrade Kit

9. Re-install the 4 hex stand-offs and tighten them to secure the new PCB assembly to the chassis.
10. Re-install the remaining electrical connectors at locations A, B, & D (see Figure 2).
11. Re-install the two pressure sensor tubes at locations E & F (see Figure 2). Simply push the clear flexible tube firmly onto the barbed fitting. Re-install the 1/16in compression fitting by finger tightening the nut and then use two 5/16in open end wrenches to tighten the compression nut 1/16-1/8 turn further (while using a backer wrench to hold the fixed fitting from turning) to create a leak tight connection.
12. Re-install the clear Plexiglass PCB shield but only install two screws at locations 3 & 4 (see Figure 2)

Controller harness Installation

13. Plug in the controller harness included with the upgrade kit into the two Molex connectors (one to catalyst tower and on to the chassis harness). The upgrade kit installation should now look like Figure 6 below.

Install Limit Controller/Bracket

The limit controller should come already installed in the limit control bracket. If it is not installed, it can be easily installed using the two included spring clips so that it is orientated as shown in Figure 7.

15. Install the wiring from the limit controller harness to the back of the limit controller as follows (see Figure 8)

- a. Install the two brown wires to terminals #8 & #9 (order doesn't matter)
- b. Install the black wire to terminal #6 and the white wire to terminal #5
- c. Install the two thermocouple wires from the catalyst tower to terminals #1 & #2 (yellow wire to terminal #1 +, and red wire to terminal #2 -)

16. Once all the wires have been installed and tightened with a small flathead screwdriver, install the limit controller bracket to the PCB assembly as shown in Figure 7. Install the remaining two screws at locations 1 & 2 and tighten to secure the bracket to the PCB assembly.

17. This completes the installation of the PCB assembly, limit harness, and limit controller.

Fuse Replacement

Occasionally, one or both fuses in the UHP Nitrogen Generator may burn out. The fuse located in the hydrocarbon removal module power harness is rated for 50 mA. This is not a field- serviceable fuse and should not be removed under any circumstances. The location of the main fuses are in the power receptacle on the side of the generator.



Figure 4 - PCB with connectors and tubing removed



Figure 5 - Removing PCB Assembly from the UHP Chassis



Figure 6 - Controller Harness Installation

Instructions for:

UHPN2-1100 Upgrade Kit

WARNING

Before servicing the main fuses, turn the generator off and disconnect the power cord from both the power supply and the generator power receptacle.

1. To access the main fuses, use a small screwdriver (flat head) to remove the fuse holder located in the power receptacle of the generator. In the UHP Nitrogen Generator, both the phase and neutral are fused separately. As a result of these configuration, both fuses should be checked any time fuse replacement is warranted. Use care when servicing.
2. Replace either one or both fuses as necessary and re-assemble. To maintain the safety and performance integrity of the product, use only fuses of the size and type detailed in step 4 below.
1. If the model number of the unit that is being serviced is UHPN2-1100NA, there is no need to change the 5A fuse already in the unit. If the model number of the unit is UHPN2-1100-220, UHPN2-1100UK, UHPN2-1100EU or UHPN2-1100AU then please put in 2A fuses. If the model number of the unit is UHPN2-1100JA-100 then please put in 3A fuses.

Apply Label

1. Remove the old product label from the side of the unit.
2. Apply the new product label included with the upgrade kit with the same model number to side of unit.
3. Replace the service panels. Plug the generator back into the wall receptacle.
4. Restart the UHPN2-1100 by switching the power on. The generator will begin its 5-hour warm-up.
5. This completes the upgrade of the UHPN2-1100 to the latest UL standard.

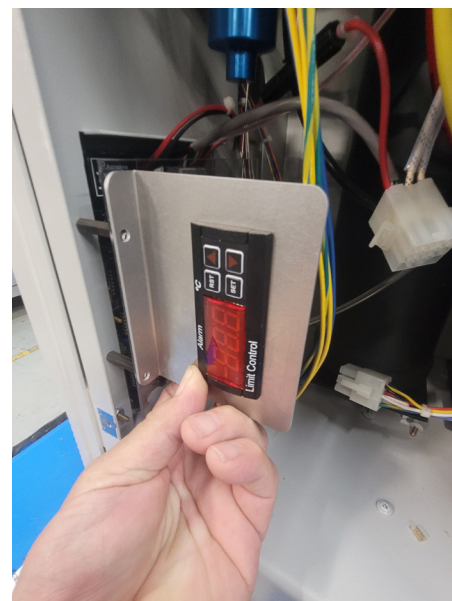


Figure 7 - Limit Controller installed in bracket



Figure 8 - Limit Controller Wiring



Parker Hannifin Corporation
**Industrial Gas Filtration
and Generation Division**
242 Neck Road
Haverhill, MA 01835
phone 800 343 4048
www.parker.com/labgas

TI-UHPN2-UPG Rev A

© 2026 Parker Hannifin Corporation

