HydroFlux Welder Torch System
T0-102 / T0-103

ROMANOFF
INTERNATIONAL SUPPLY CORPORATION
Setting Up The HydroFlux

1. Location -
   The HydroFlux Welder must be placed on a level surface with adequate ventilation. We recommend a minimum of 4 inches of clearance on each side. Using the HydroFlux Welder on a closed shelf or in a drawer will void all warranties. The HydroFlux requires cooling at all times.

2. Electrical -
   The HydroFlux operates optimally on a grounded 110 volt, 60 Hz electrical line. It is advisable to check the building fuse or circuit breaker to ensure that there is sufficient current to operate the Welder (10 amps maximum). We recommend that you operate the unit on a dedicated power line in order to avoid power surges or dips which can be caused by other equipment in use. These fluctuations can affect the performance of your unit. Do not plug in your unit until after step 5.

3. Connecting The Handpiece -
   A piece of clear tubing is already connected to the unit. A plastic and metallic filter is connected to the end of this tubing. The clear tubing of the handpiece will fit snugly on the free end of this tubing. Press the tubing firmly over the filter. Check that the tubing is secure on both ends of the metallic filter and on the handpiece. Check that the screw cap on the bottom of the handpiece is snug. Click on the thumbnails below for photos of this step.

3. Adding The Electrolyte Solution -
   The electrolyte is highly caustic and should always be handled using protective equipment such as rubber gloves and safety glasses or goggles, and protective clothing. When handling the electrolyte solution, be careful not to spill any. The electrolyte may damage any finished surfaces, clothing, etc. Electrolyte is highly corrosive to many metals, including copper, brass, zinc and aluminum, and reacts violently with acids. Electrolyte destroys human tissue on contact. It is odorless and colorless. Please refer to the Material Safety Data Sheet for more specific health and safety information.

   A. Put on safety glasses, gloves and protective clothing.
   B. Move, or cover up anything that may be damaged by spilled electrolyte.
   C. Check the drain plug in the side of the unit to make sure the plug is tight.
   D. Unscrew the cap from the electrolyte chamber (the small cap).
   E. Using a plastic funnel, slowly pour the solution into the electrolyte chamber.
   F. Carefully wipe up any electrolyte spills with a clean paper towel.
   G. Pour the entire bottle of electrolyte into the DISTILLED WATER chamber.
   H. After filling the chamber, rinse the funnel with clean water and dry.
   I. Do not use the funnel for any other application. Store the funnel for future use.

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J. Rinse the electrolyte bottle in clean water. Replace cap and dispose in garbage. DO NOT REUSE ELECTROLYTE BOTTLE!

K. Replace the stainless steel cap on the electrolyte chamber. Tighten until snug. Do not overtighten.

5. Adding The Flux Solution -
Flux solution is very flammable. Keep the blue flux solution away from open flames or sources of ignition at all times. Do not smoke or have open flames near the unit when filling the flux chamber.

A. Put on safety glasses, gloves and protective clothing.
B. Unscrew the cap from the flux chamber (the large cap at the front of the unit).
C. Slowly pour the BLUE flux solution into the flux chamber.
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D. If you use the funnel from the electrolyte, make sure the funnel has been thoroughly rinsed with clean water and dried. Electrolyte contaminates the flux solution and makes it unusable.

E. Fill the flux chamber up to the MINIMUM level. DO NOT OVERFILL!

F. Carefully wipe up any flux spills with a clean paper towel.

G. Rinse the funnel with clean water and dry with a paper towel.

H. Recap the flux bottle and store in a cool, dry place; away from open flames.

6. Adding The Filter Material -
The filter is designed to remove any moisture and impurities from the incoming oxyhydrogen gas. The result is a clean, moisture-free flame with minimal contamination of the flux solution. The filter material is a micro-fiber that resembles cotton. Take a small handful of the filter material and gently tamp it into the inner cylinder of the filter chamber. Do not pack the filter too tightly. The entire inner chamber does not need to be filled with material.
7. Connect The Power Supply -
Standard HydroFlux Welders should be plugged in to a grounded standard 115-volt, 60hz outlet. For best results, the outlet should be on a dedicated circuit. When possible, avoid plugging your HydroFlux Welder into circuits that also power other machinery or equipment. The power drains caused by the other equipment could cause your HydroFlux Welder to run slightly hotter than normal and may cause condensation in the tubing leading to the torch handpiece.

8. Installing The Torch Stand (Optional) -
On either side of the HydroFlux Welder, you will find four screws holding the black cover in place. Determine which location is most convenient for you to mount your torch holder. Unscrew that screw and set aside. Locate the black torch holder in the accessory bag. Insert the screw through the hole in the torch holder, and screw it back in to the hole in the torch cover. Orient the torch holder so it is pointing straight up, and tighten the screw firmly.
Using The HydroFlux

1. Make sure the valve on the handpiece is turned completely off.

2. Choose a needle tip. The larger the tip, the greater the heat applied to the article being soldered.

3. To attach a tip, gently insert the tip onto the end of the torch handpiece and give a half turn. The friction will hold the tip firmly in place.

4. Make sure that all the caps are snug.

5. Check the level gauges on the front of the unit. Both levels should be between the minimum and maximum marks.

6. Turn the unit on. The power switch is on the upper left side of the front of the unit. The light should go on indicating that the unit is producing gas. After a few seconds, when the unit has built pressure, the light should go off.

7. Open the valve on the handpiece one full turn. Run without a flame for 15 seconds to bleed any entrapped air. Close the valve, wait 30 seconds and repeat. Do not bleed lines near an open flame - gas is present.

8. Open the valve one full turn. Using a "sparker" or other lighting device, carefully light the torch, making sure that it is facing away from you or any flammable surfaces. Never light the torch without a needle tip in place! If the torch does not light right away, try decreasing or increasing the pressure by closing or opening the valve on the handpiece. The flame should be bright green. Note: using a cigarette lighter to light the torch can be dangerous. There is a possibility that the lighter could explode if the flame from the torch comes too close to it. A sparker or other torch-lighting device is the safest means of lighting the HydroFlux.

9. Try changing tips. Turn the valve on the handpiece off. Once the flame has shut off, remove the needle tip by twisting and gently pulling. Put on a new needle and light it as shown above. Notice that when a small tip (larger gauge) is on, the generator light cycles on and off much faster than when a large tip (smaller gauge) is on. This is because the large tips use more gas and the HydroFlux has to keep up with it.

10. When shutting the machine off, always extinguish the flame first by closing the valve on the handpiece, then turn off the power switch. When the machine is off, open the handpiece to bleed any residual pressure from the system. Be sure to close the handpiece when finished.
HydroFlux Maintenance

Daily -

Close the valve on the handpiece and turn the unit on. Let the unit run for 20 seconds. You do not need to light the flame. Turn the machine off and open the valve on the handpiece to release pressure. Check the flux level gauge. The level should be between the minimum and maximum mark.

If necessary, add flux. Unscrew the cap on the flux chamber. For best results, add flux in small amounts (approximately 1 ounce at a time) until the gauge reads between the minimum and maximum mark. Be careful not to overfill. This can lead to moisture in the line and flooding of the system.

Check the distilled water level. Add distilled water if the level is below the minimum mark. Add distilled water slowly and watch the level gauge. Use distilled water only. Tap water contains impurities that can affect the performance of your unit.

Check the clear hose for any condensation that may have occurred. If condensation is present, turn the unit off and disconnect the hose at the rear check valve. Drain all fluid out of the hose. If possible, dry the hose using compressed air. Thoroughly dry the handpiece.

Weekly -

Clean tips by placing them in an ultrasonic cleaner for a few minutes. For better results, clean tips using a steam cleaner.

Check the filter material in the dryer chamber for contaminants or moisture. If the filter shows signs of moisture or contaminants, remove it. Wear rubber gloves when doing this since the filter may contain traces of the caustic electrolyte. Replace the filter material taking care not to pack it too tightly. For best results, the filter should be changed after every 30 operating hours, regardless of appearance.

Check the flux in the chamber. If the flux shows signs of contaminants, or if the flame color has changed or weakened during the week, change the flux. Suction out old flux using a turkey baster. Wipe the inside of the chamber dry with a towel or rag. Refill the chamber with fresh flux.
HydroFlux Maintenance

Monthly -

Clean the sintered metal check-valve in the torch handpiece. Unscrew the handpiece at the base near the black "O" ring. If the cylindrical check-valve does not come right out, tap the open of the torch into the palm of your hand. The filter will dislodge and fall out. Clean this under a steam cleaner for 1 minute or in an ultrasonic cleaner for 5 minutes.

Check the gaskets on the inside of the caps for any wear and tear.