



Super Alloy 5 Instructions:

1. With your torch, heat the tip of your rod and dip it in the jar of flux.
2. The flux will adhere to the rod and allow you to transfer it to the weld area.
3. Melt the flux off the rod onto the weld area and remove the rod without removing the flame from the work surface.
4. Constantly move the flame across the repair area. This will help to eliminate hot spots. Remember, you are trying to heat the parent metal to attract the rod, do not try melting the rod into place.
5. Use a carburizing flame. This is a flame with less oxygen or compressed air. This softens the flame and allows the work area to reach proper temperature with less risk of damage.
6. Hold the torch tip four to six inches away from the weld surface. Keep the flame perpendicular to that surface if possible. Move the flame back and forth, not in circles.
7. Continue moving the flame as described until the flux becomes a watery consistency. Thorough heating prior to adding the rod will result in better bonding and rod flow.
8. WITHOUT pulling the flame away, apply the rod softly onto the repair area. Do not press the rod down. If the rod "balls up" on the end, pull the rod away again without removing the flame. Heat the area a little longer and reapply the rod as before.
9. Watch for the rod to flow out. When it begins flowing, pull flame away. If you have stopped the welding process too soon and want to flow the deposit out some more, add more flux by repeating steps 1 and 2. The flux will help in the bonding process whether you are adding more rod or just flowing out the previous deposit.
10. Remove excess flux with warm water and a wire brush.

Tips:

- The key to any brazing or soldering with a torch is a fair amount of preheating of the adjacent work area. Broadly preheating beforehand reduces the surrounding metal from pulling heat away from the targeted area. This will always ensure a better result.
- We recommend cleaning the aluminum before making the repair--clean metal requires less flux.
- Parent metal must reach 600 degrees to attain proper results. Oxyacetylene required for large masses of aluminum, thick aluminum, or aluminum boats.

- Heat the end of the rod then dip into the flux. If the rod doesn't grab the flux, reheat the rod and repeat.
- **If the rod balls up, your base metal is too cold.** Knock the ball off, back the rod up, and add more flux and heat until the flux liquifies, then reapply rod.
- Practice your technique on a piece of scrap before brazing your part.
- For best results, allow the flux to do its job before adding the rod.
- **Aluminum Boats:** An oxyacetylene torch is required with Super Alloy 5 when repairing aluminum boats
- The flux is an absolute temperature guide, simply watch until it turns into a liquid, then until the flux is clear and the aluminum becomes bright and shiny then you're ready to apply the rod.
- Heat the base metal first, then the base metal and the rod. Aluminum dissipates heat quickly, so it's important to keep the flame broadly moving to ensure your base metal stays above 600 degrees.
- Very important to keep the torch at an angle perpendicular to the joint.
- Always keep your flux bottle as close as possible to the repair area, because every time you move your torch away, the aluminum drops approximately 100 degrees per second. Notice the flame never leaves the base metal while dipping the rod in the flux.
- **Building Up:** Approach the repair from the side when using oxyacetylene, to avoid overheating and melting thin aluminum. Rather than applying constant heat, the torch is moved away from the parent metal from time to time to allow the metal to cool slightly, solidify, and build upon itself.
- To increase bonding strength, always add flux every time you add rod.
- As soon as the rod begins to flow, the heat should be removed very quickly to avoid overheating the base metal.
- When working with cast aluminum over a 1/4 inch, always use a size 3 or 4 tip with an oxyacetylene torch.
- Always angle torch in the direction of the crack, especially on thicker aluminum.
- Turn down the oxygen if using oxygen when working on thin aluminum parts.
- **Repairing a Large Hole** Work from the edge of the hole and build up the aluminum to close the hole.
- **Sealing a hole or crack to hold pressure** After completing the repair, add flux and heat gently to increase the bond and achieve a water, oil or air tight seal.
- Bevel any or all cracks thicker than 1/8 inch.
- **Working on Thick to Thin Aluminum** Apply 80% of the heat to the heavier piece.
- **Cast Aluminum** Cast aluminum repairs require an oxyacetylene torch. Use caution when welding thin cast, to avoid overheating the base metal. Cast aluminum cannot

be repaired with propane or mapp gas unless you are using oxygen as well.

- If the flux turns into a paste in the jar, it has absorbed moisture. It is still usable, but it is more difficult to use than in powder form. Apply as usual, but watch for the flux to turn powder then back to a liquid. Always cap your flux immediately after use. You will need to purchase new flux if the flux turns liquid in the jar.
- **Thick aluminum** requires oxyacetylene, oxypropane, oxynatural gas, or oxyMAPP gas to heat the base metal to the required 600 degrees. If your flux is not liquefying, it is because your base metal is not hot enough.
- If your white metal melts when the flux is starting to turn liquid, the odds are the metal is pot metal.

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