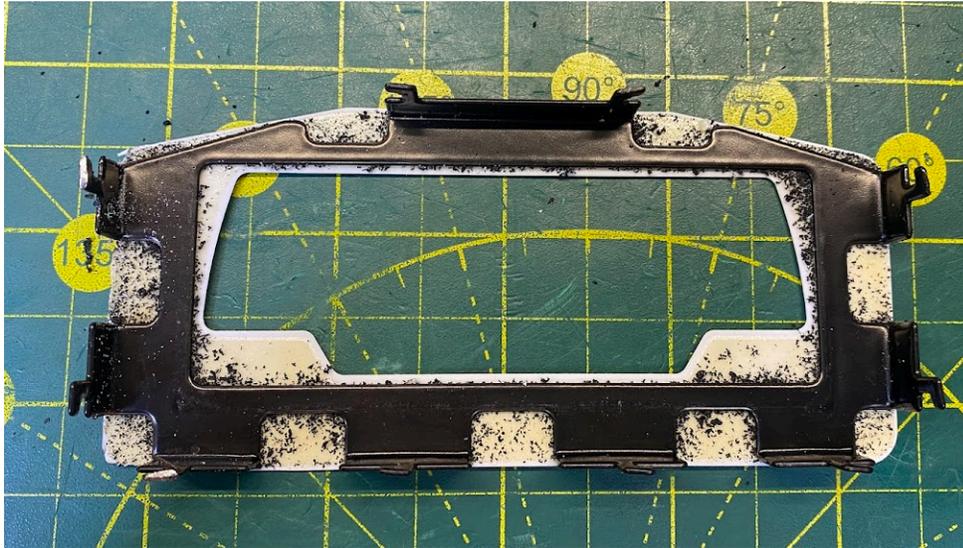# Yamaha Waverunner/WaveRaider LCD Replacement

**This DIY requires more finesse than most LCD Replacements. The Cluster is waterproof and wasn't designed to be opened, so requires cutting, melting, re-gluing, etc. If you do not feel comfortable with this process, please send in to us at GaugeSaver so we can do it for you, to ensure the best results.**

**Tools/materials needed:**
- **Dremel with fiber cutting disk, and burr bits**
- **Fine Needle nose pliers**
- **5 Minute epoxy (or Soldering Iron with an old tip for melting plastic)**

**Step1.** Ensure your cluster is a good candidate for new LCD. No obvious water damage. LCD either badly faded (but functional) or has the half-moon 'inky' spot of liquid crystal on the bottom. Remove gray Bezel with fingernail or flathead screwdriver by prying the tabs. Using DREMEL with CUTOFF, Make a cut all the way around the perimeter of the gauge about ¼" deep on the red line shown. The cut should be about 1-2mm below the notches on the side.

**Step2:** Separate the front from back. Using <mark>DREMEL CUTOFF</mark> again, cut the black plastic tabs on the red lines indicated. Be careful not to cut into the PCB.



**Step3.** Pull the PCB and LCD Assembly out of the front of the case. <mark>With NEEDLE NOSE PLIERS</mark>, twist the small metal LCD Retainer tabs until they are parallel with the PCB Board. This will allow the LCD retainer Cage to pull off the front of the PCB. Clean all the plastic dust off of it.

**Step4:** Remove Damaged LCD from the PCB Board. Make note that the Gray Silicone Zebra Connector is what makes the contact between the LCD and the Board. Try and make sure the Zebra stays connected to the PCB board but pulls away from the LCD. It helps to pull from the top and hinge it up and away from the bottom Zebra connector. Make note of the LCD orientation on the bottom, and see that the LCD has a FRONT SIDE and a BACK SIDE, and the LCD backside is the one that makes contact with the LCD. Replace with new LCD. THE FRONT OF THE LCD USUALLY HAS A THIN CLEAR TRANSPARENT PROTECTIVE FILM. REMOVE IT.

**Step5:** Replace the LCD Cage. Metal Tabs should extend past the PCB easily if the cage is fitted correctly. Using <mark>NEEDLE NOSE PLIERS</mark>, Pull and Twist the Metal Tabs (corners first) to make them perpendicular with the PCB board, securing the LCD tight against the PCB and squeezing the Zebra connector.
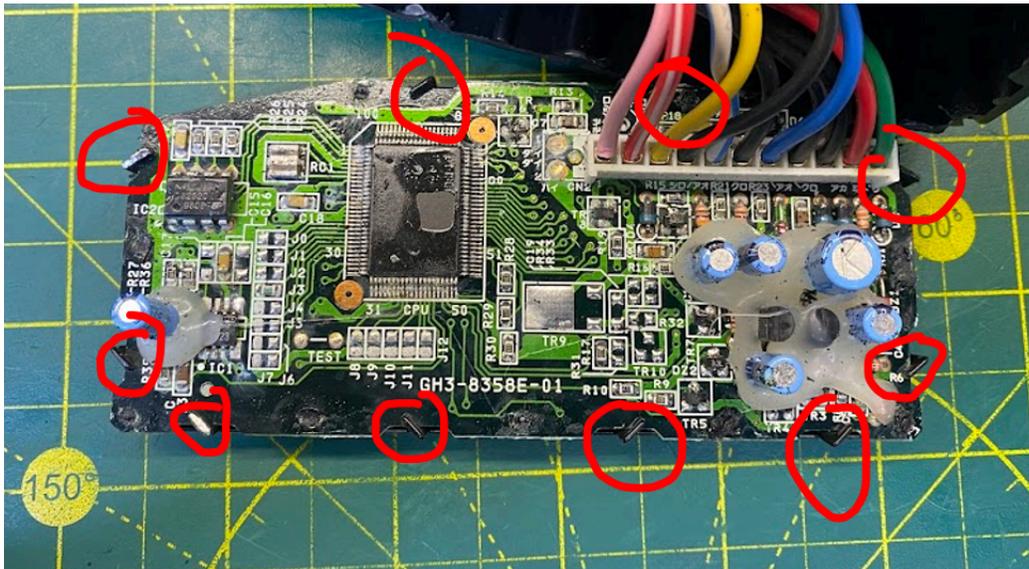
**Step6:** Put LCD and Cage assembly back in front of case and fully seat it. Mix a small batch of 5 MINUTE EPOXY, and dab small balls of it in the spots indicated to hold PCB in the case. Wait for it to cure before continuing. An alternative method is melting the small nubs of plastic with a soldering iron to hold the PCB board in. It does not need to be structural.
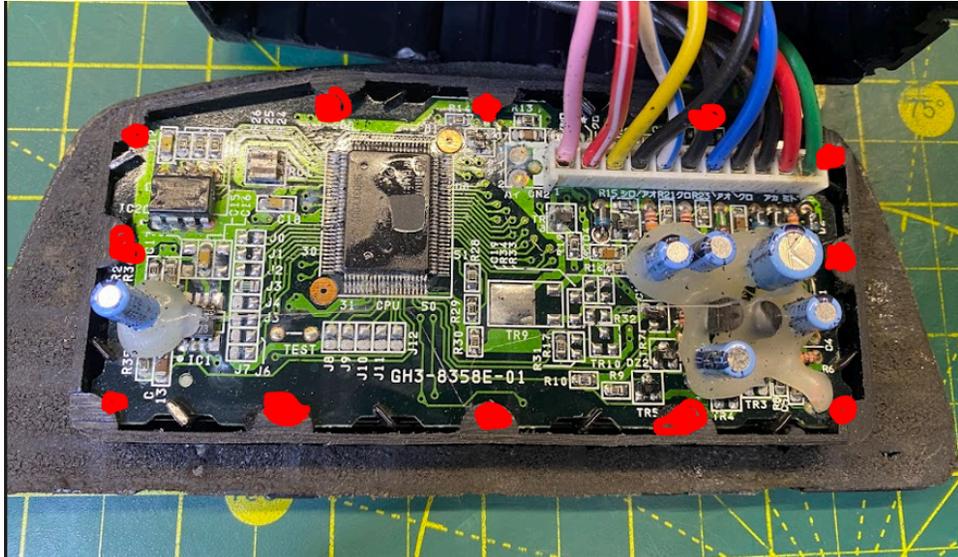


**Step 7:** Re-assembly case halves, and add epoxy to the seam. It helps to add some epoxy to both halves then squeeze together, then smear a thin layer of epoxy around the seam. An alternative method is to use Soldering Iron to melt the plastic together.

**Step8:** Replace Bezel and admire your handiwork. <mark>To bench test the gauge, RED and GREEN get 12V, Black Gets Ground.</mark>



<mark>*WHEN REINSTALLING THE GAUGE, IT IS VERY IMPORTANT TO NOT TORQUE THE NUTS MORE THAN A FEW INCH POUNDS, BY HAND. IF YOU USE A RATCHET OR NUT DRIVER AND CRANK IT DOWN, IT WILL BREAK THE SEAM!!*</mark>