



THE RETROFIT SOURCE
INNOVATIVE HEADLIGHT UPGRADES

How To: Retrofit the Morimoto Mini H1 bi-xenon Projectors

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Donor Vehicle: 2007 Yamaha R6

Time Required: 3 hours start to finish (estimated)

Parts Used:

Bixenon Morimoto Mini H1 Stage III Kit from www.TheRetrofitSource.com

- Morimoto Mini H1 bi-xenon projectors with clear lenses
- Morimoto 3Five Digital Ballasts (w/ stainless brackets, hardware, and 12V +/- test lead)
- Morimoto 3Five 5000K H1 bulbs
- Mini Gatling Shrouds w/ mounting screws
- H7 Relay wire harness

Note: more detailed instructions are available for each of the steps involved in this process. Please contact us if needed.



Step 1: Pry apart the headlights

Pre-heat your oven to 265 degrees F and put the headlight housing in the middle. Put a timer on for 7 minutes and take it out on time.

Hold the headlight down with one hand, and [using the flatblade screwdriver] pry the front lens from the rear housing. Work your way around the edges, easing the screwdriver in between the bead/flange and using it as a wedge to pry the two apart. There are likely some other clips (cast into the plastic of the rear housing) that hold onto little nubs which are generally part of the front lens. You'll want to push these out of the way from so they don't catch. You don't have to be superman, but work as fast as you can because the longer you take, the colder and harder the glue will become. This will work for most headlights.

- Perma-seal glue (most common on newer euro or domestics) is a pain in the ass, but is possible to separate using this method at 220F for 20 minutes with more aggressive prying.
- Most Japanese headlights are sealed with an extra soft butyl rubber glue which comes apart like butter.
- Some Mercedes headlights even have handles that are part of the housings that you can grab onto and pull apart without tools

Starting off with the flat blade:



Once apart, finish prying with your hands.



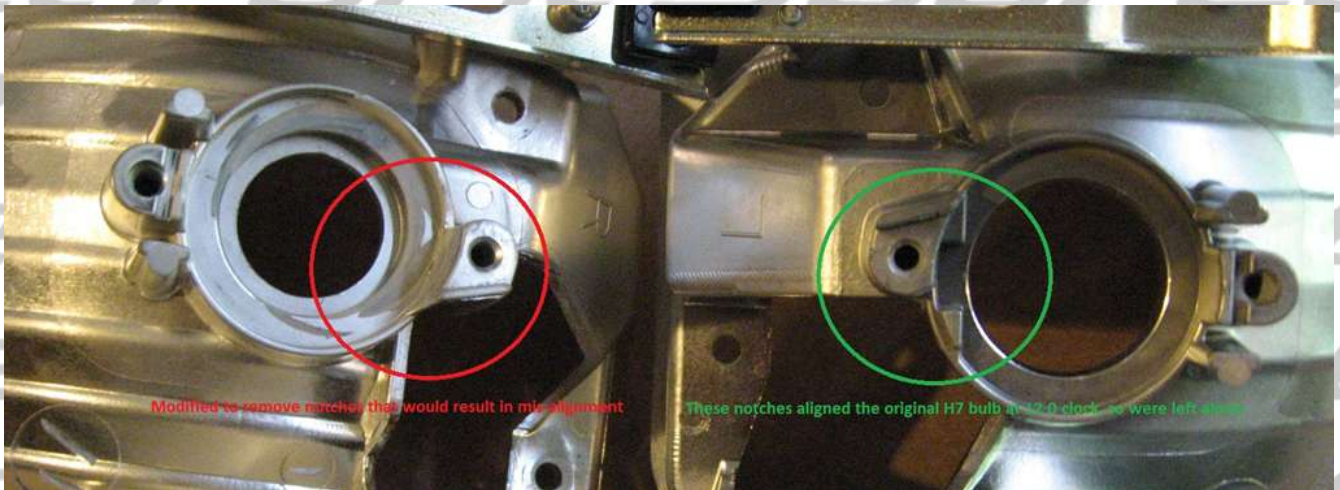
Step Two: Separate the reflectors from the housing. Typically attached via the aiming adjuster knobs on the back and possibly a ball joint type socket. Un-screw the aiming adjuster knobs until they release the reflector. Pop off the ball joint socket carefully with a long screw-driver. Separated reflectors and their soon to be replacements:





Step 3: Prep the reflectors before mounting the projectors. Make sure there is nothing on the backside that's designed specifically for the halogen bulb that will interfere with the correct mounting of the Mini H1 projectors. In our case, oddly just one of the original H7 halogen bulbs was aligned at an angle, so we had to grind that "feature" off the housing.

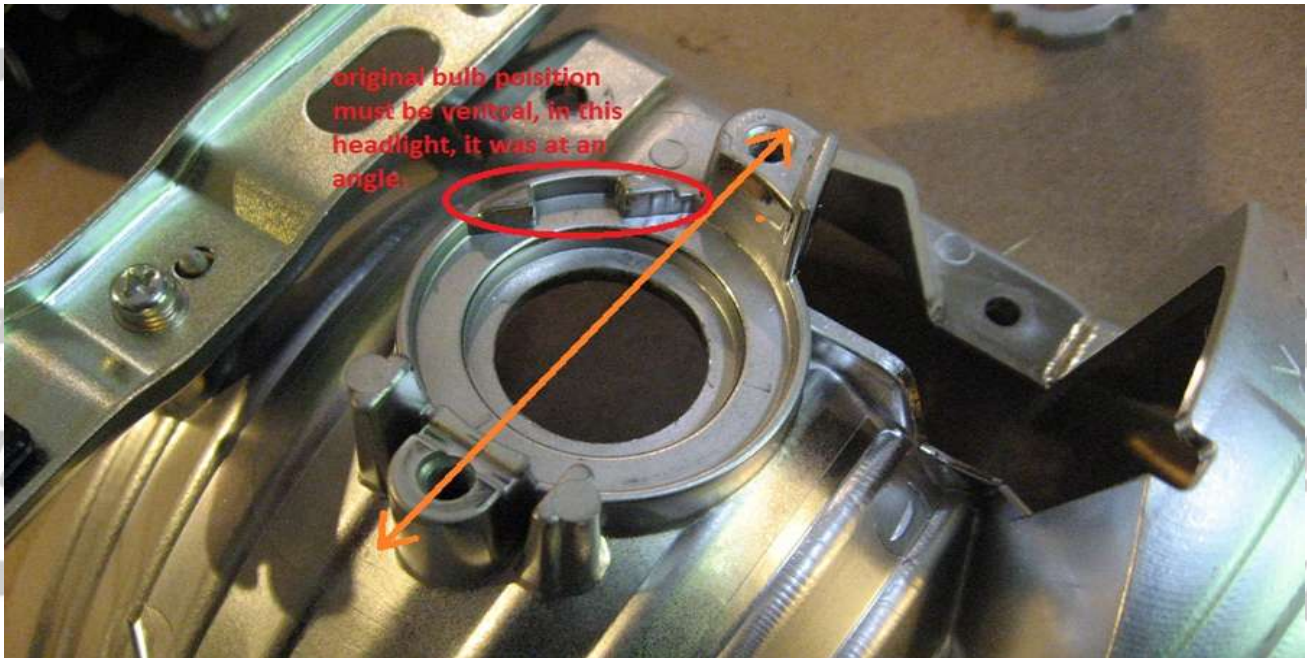
We also painted the reflectors matte black since they won't be used for light production anymore. Remember to clean them well with rubbing alcohol first to remove any contaminants, prime, then paint. High temperature paint is not really required.



Modified to remove notch that would result in misalignment

These notches aligned the original H7 bulb at 12 o'clock, so were left alone

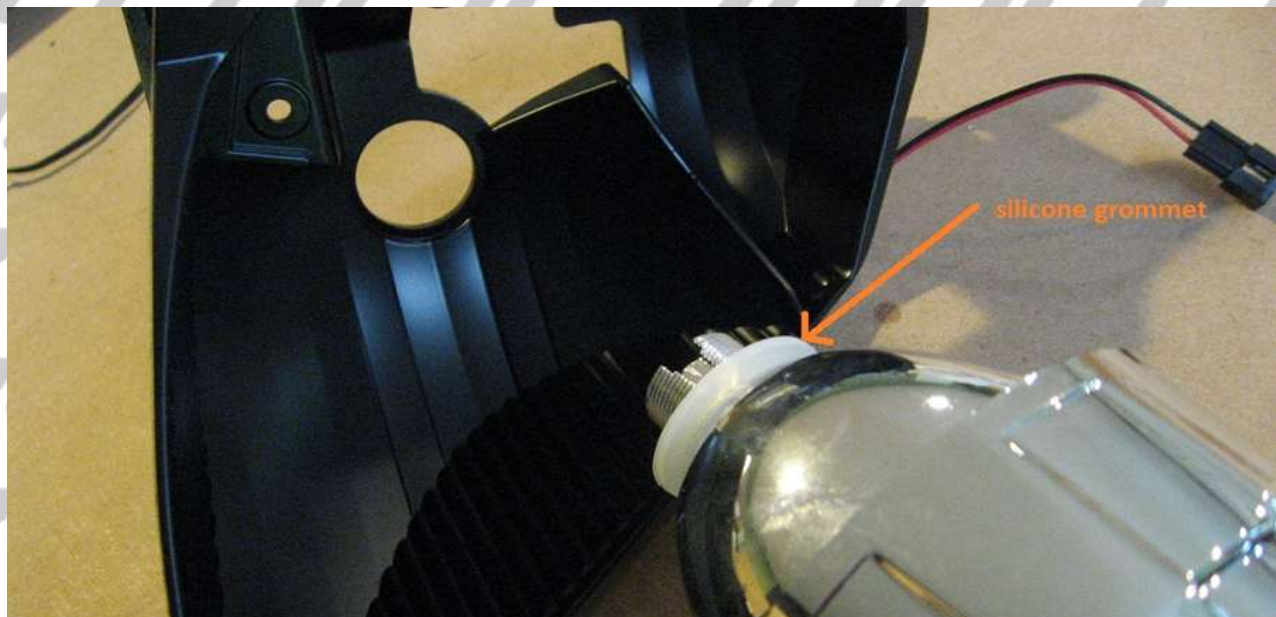
Before we removed the feature, this is what it looked like.



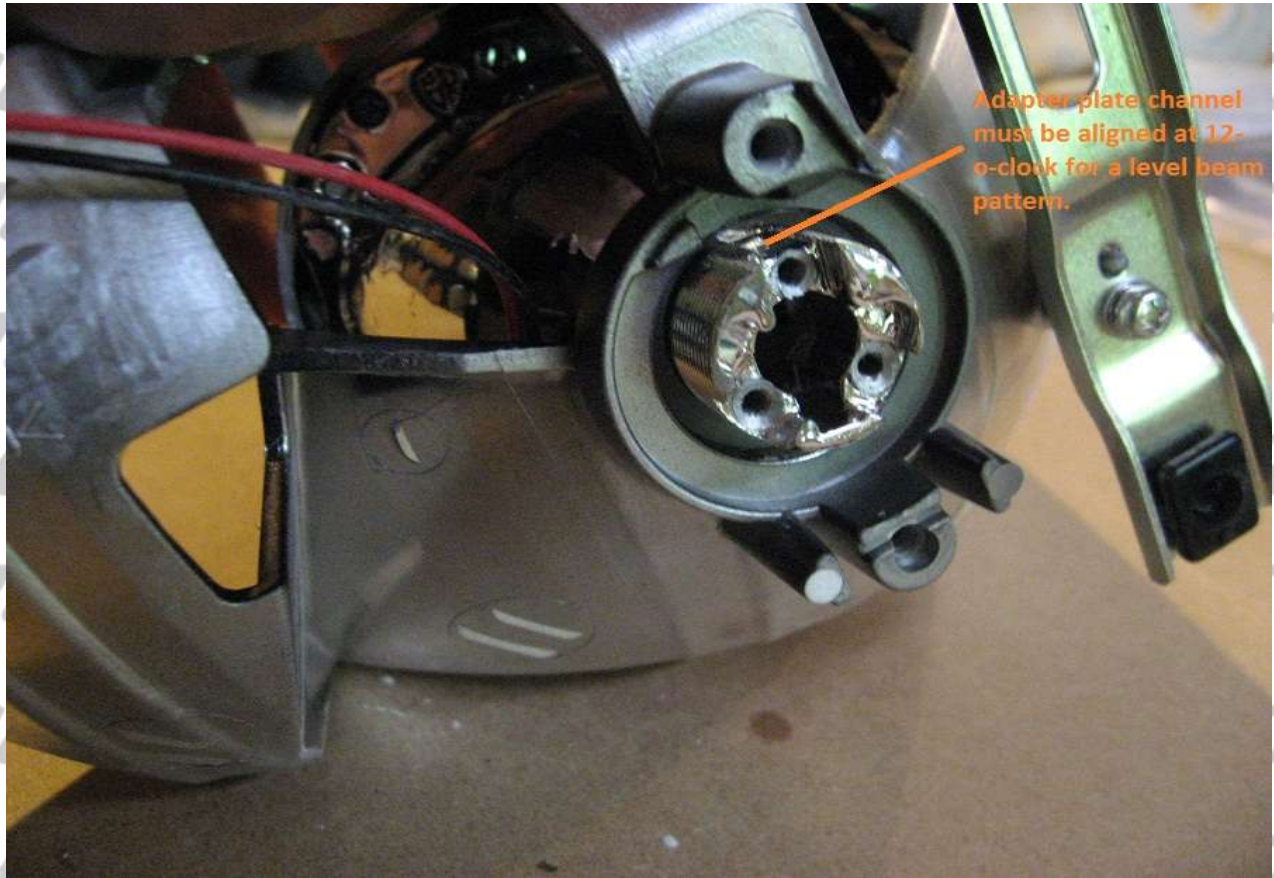
Step 4: Now that our reflectors are modded and ready to accept the projectors, its time to mount them up. There are several important steps in this process:

- a) Thoroughly clean the glass lens on the front and back side
- b) Test the solenoid for full functionality. We recommend lubricating the hinges on the cutoff shield assembly and the point where it meets the solenoid plunger to ensure smooth operation. Cycle the solenoid by applying 9-12v battery power 30 times. If it is functioning as it should, you should never have any issues with sticking in the future.
- c) If using the Mini Gatling Gun shroud, mount it onto the projector by aligning the 4 holes and using the supplied screws to tighten it down.

Put the small silicone rubber washer onto the back of the projector first. Insert it through the front side of the reflector bucket.

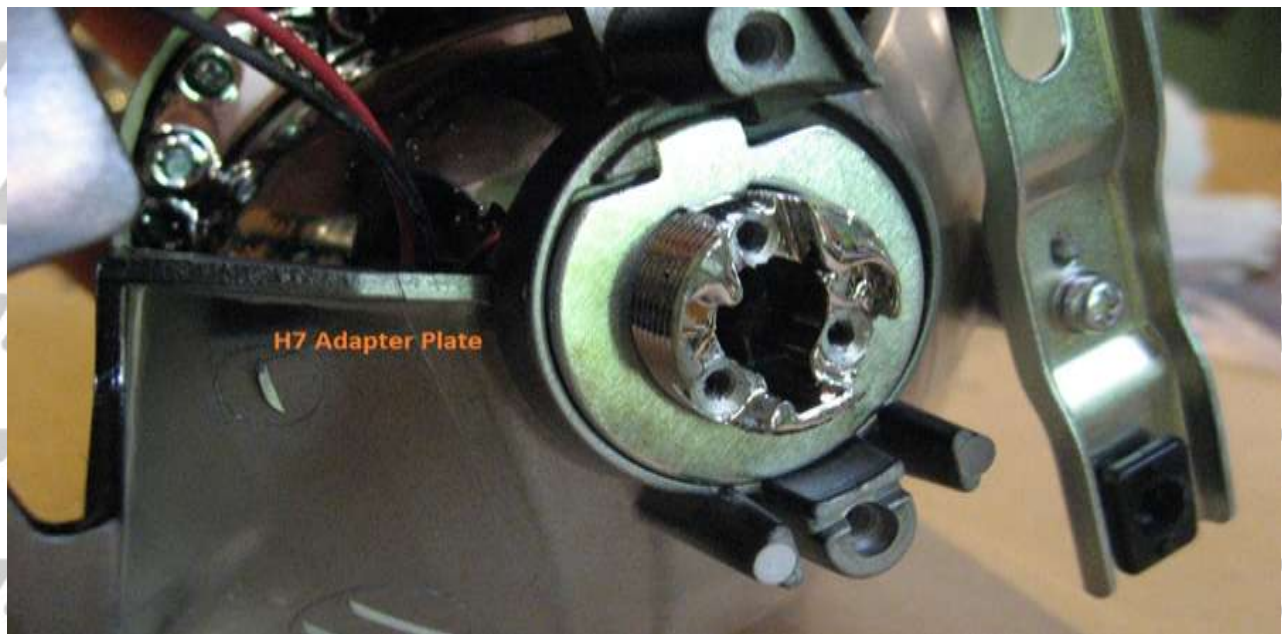


View from the back-side:



Adapter plate channel must be aligned at 12-o'clock for a level beam pattern.

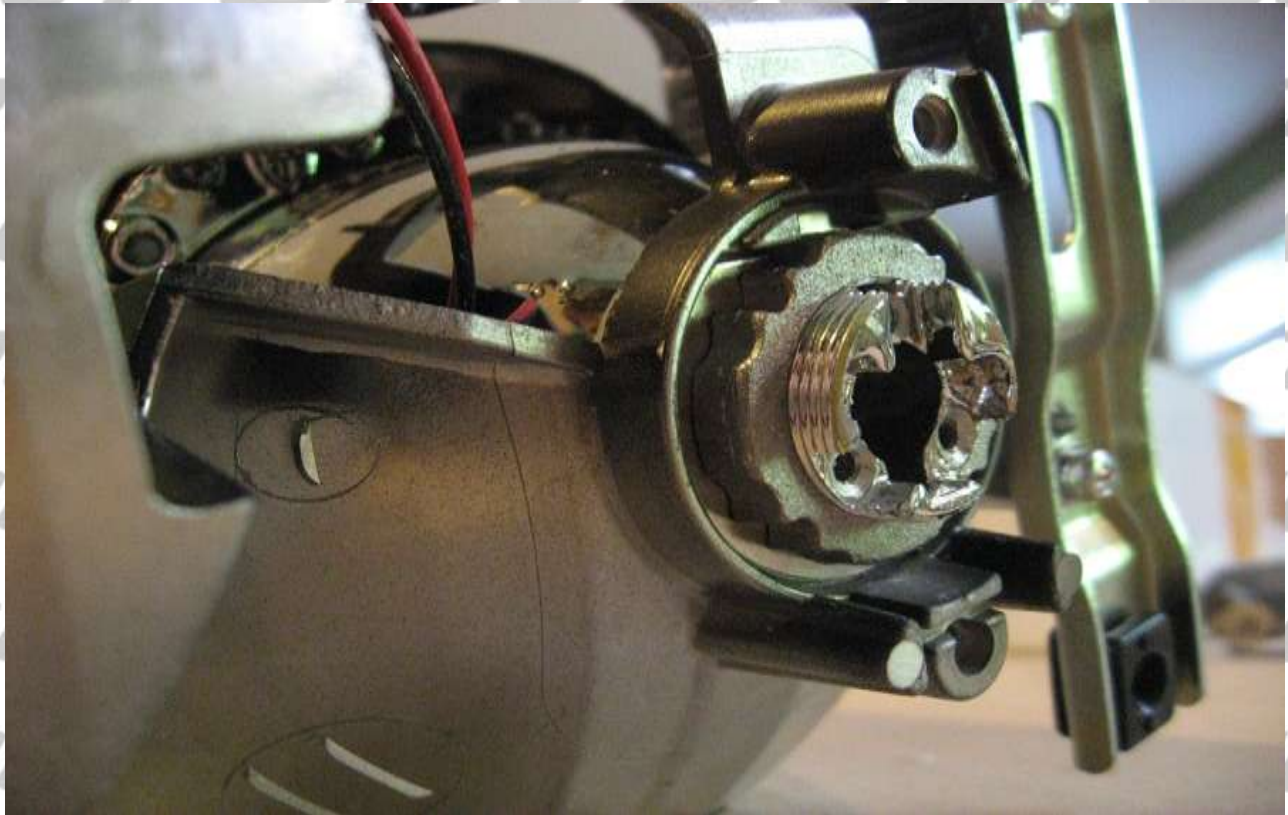
Step 5: Add the adapter plate. In this case, the H7 plate is being used. Be careful not to disturb the threads on the back of the projector, as they must remain in perfect shape to thread the lock ring on in the next step.



H7 Adapter Plate

Step 6: lock the projector down by carefully threading on the metal lock-ring. The threads on the back of the projector are sensitive, so be careful not to cross-thread the lock-ring by turning it to the left at first until the first thread drops in place, and then begin tightening only once you are sure the threads are aligned. Hand tighten at first, follow through with some adjustable pliers.

If you never plan on reversing this installation, some thread locker or glue on the adapter plate and or threads couldn't hurt in keeping everything tight over time.

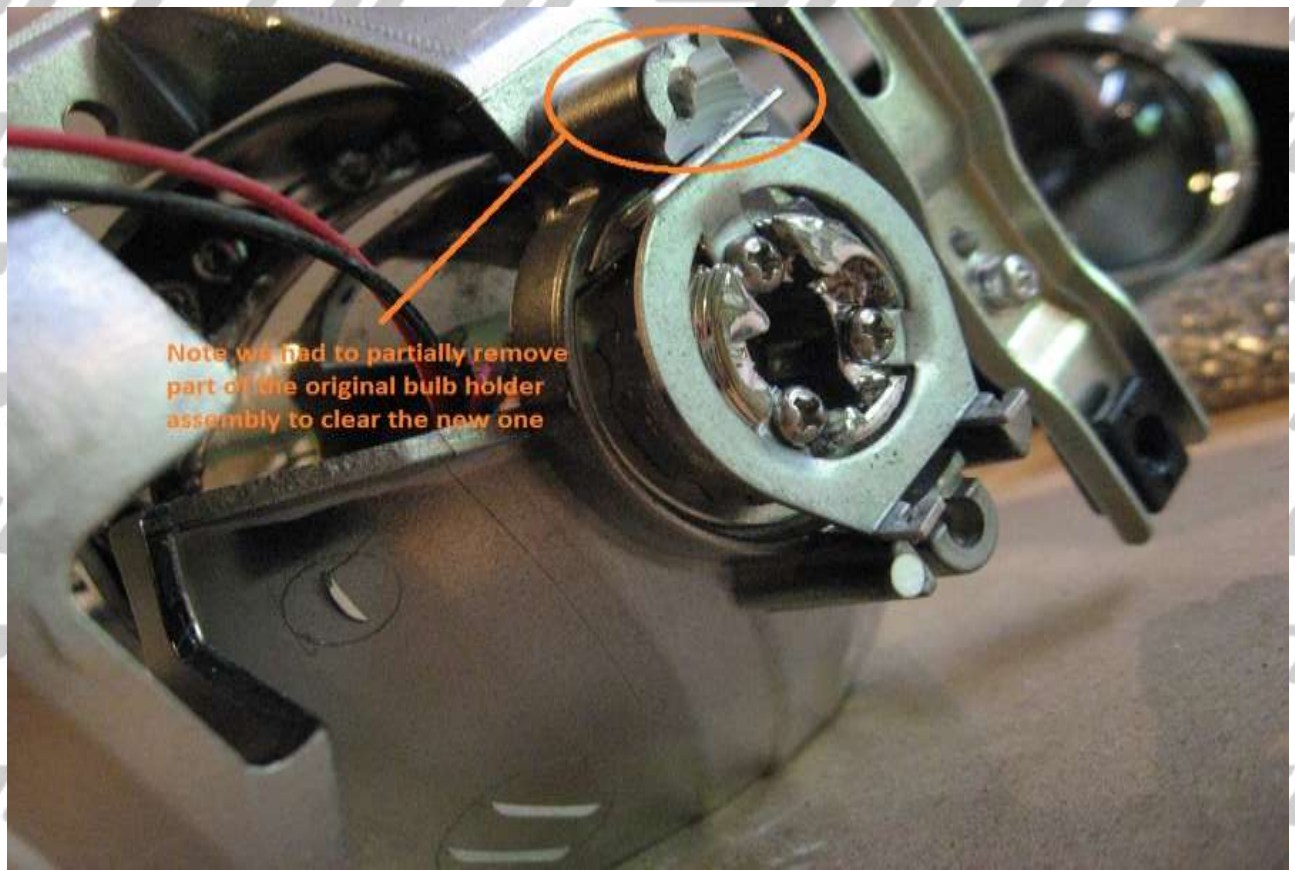


Step 7: Add the 3-prong bulb holder to the back of the projector. A few notes here:

- a) You want to get the 3 prongs as flush with the screw holes as possible.
- b) If some other feature of the original reflector is in the way, you will have to trim it off, as shown in our own how to.
- c) The screws should seat down into the 3 channels and not protrude backwards.

What if my lock-ring is so close to the back of the threads that it interferes with the mounting of this bulb holder? We suggest trying the thicker silicone washer on the inside of the reflector bucket, not using the threaded lock-ring at all, and tightening the stack via the 3-prong bulb holder alone. In this case, a 2-part epoxy should be applied between the threaded shaft and the original reflector hole as a supplement for the missing lock-ring.

(Illustrative picture on next page)



Note we had to partially remove part of the original bulb holder assembly to clear the new one

Step 8: Re-install both reflectors back into the rear housings by aligning the aiming adjuster posts/screws and their receptacles and re-tightening. To aid with aiming later on, don't tighten them all the way to the back, maybe leave it about 1/2 way.



Step 9: Before installing the front lens cover, test everything to make sure the solenoid is moving the shield between low and high beam freely, the CCFL ring is working (if applicable) etc.

Rough fit the front lens cover back onto the rear half of the housing. Pre-heat your oven back to 265°F and put the housing back in for another 7 minutes. When its time (again with your protective hand ware) take the headlight out of the oven, and clamp the two halves together to re-seal the front lens to the rear half. With some hand pliers, go around the perimeter of the housing, squeezing it together to ensure the clips go back in place. Apply some spring clamps around the edges. If there is any remaining gap after the lens is back on, you can use some clear silicone caulk to fill that, smoothed out with your finger for a perfect seal.



Step 10: Fish the wiring for the H1 Bulbs through the back caps on your headlights. In this case, we had twist-on plastic housing caps which needed to be bored out with a 7/8" hole saw and re-sealed with the rubber grommets on the bulbs. In many other applications, the back of the housing will be re-sealed with the rubber O-shaped boot just like stock.



Mount the headlights back on the vehicle, run your wiring and practice proper aiming to finish up.

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<http://www.hidplanet.com/forums/forumdisplay.php?50-TRS-Product-Support>

