Venting the housing & beefing up the rotor on the cheap: 1992-1994 Optispark I design

Things you'll need:

- Aluminum pop rivets and rivet tool
- Permatex black gasket sealer
- Drill & standard bit set
- ¼" vacuum elbow
- ¼" vacuum T connector
- 3/16" straight vacuum connector
- Small piece of 7/32" tubing
- GM '96 vacuum hose harness 12558921 (supersedes old part # 12556174)

First, let's be clear that drilling the Opti's cap & isolator plastic HAS to be done in GRADUATED STEPS OF BIT SIZE, and SLOWLY. Start small, and go up several more bit sizes to reach the desired diameter. Take your time. Try this at your own risk. Maybe practice on an old cap & rotor if you have one

We start with the rotor. It has weak plastic melt tabs to hold it together:

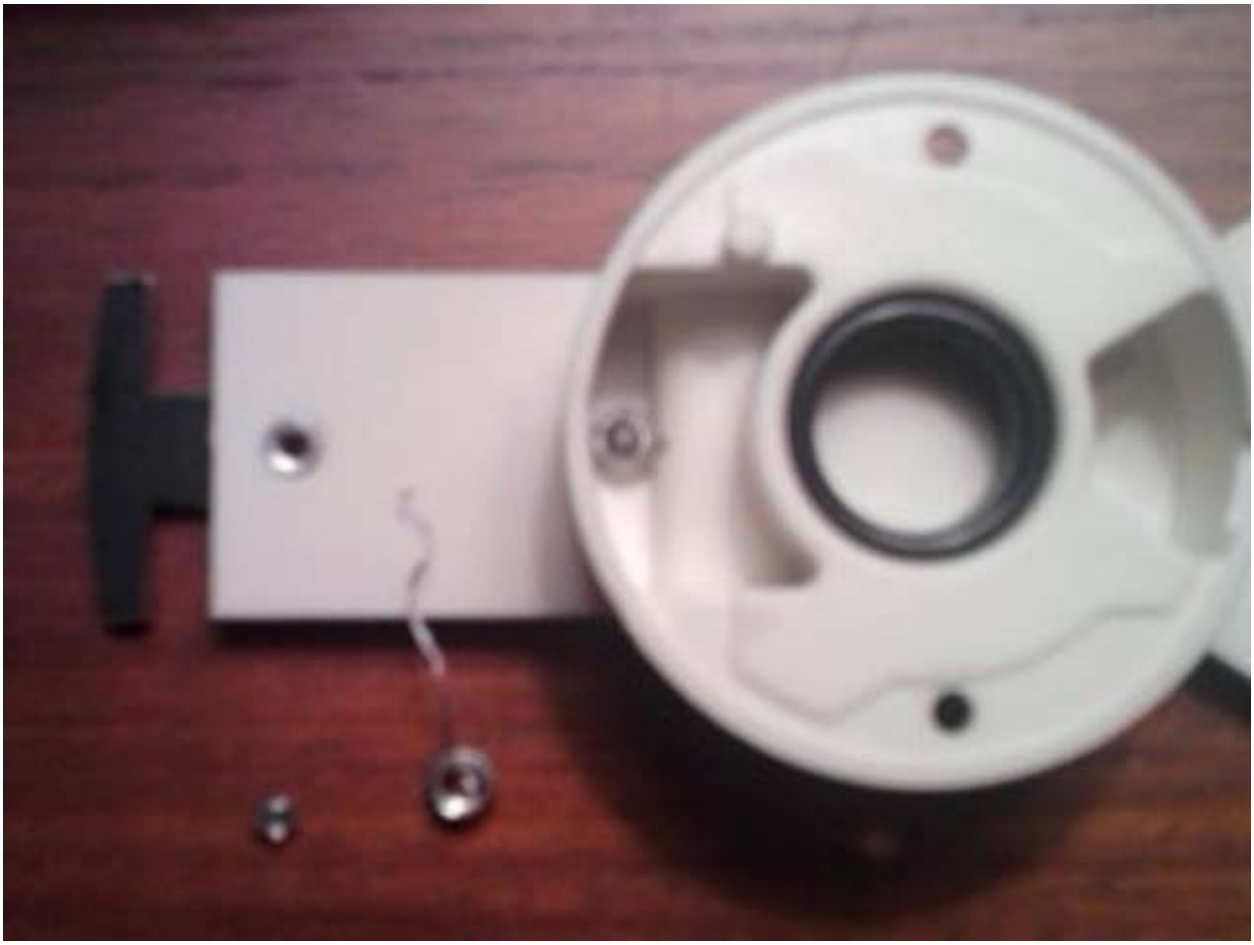
Drill out the outer rivet first, using a 1/8" bit.

Got these a while back from Wal-Mart for about $15.00 together.

Need two 1/8-3/8” aluminum rivets:

Pop the first rivet in, and then drill out the second plastic one. Pop another one into the inboard hole you just made.

The outer rivet needs to be partially drilled out to remove the post. Otherwise, you'll have enough of it on the bottom of the rotor to scrape the isolator. Use a 5/64" bit and drill it ***from the top***. You might want to put a 2x4 block under it while you drill:



This one peeled off nicely by itself as the post came out. You may have to do a little filing with a hobby file to get it flush. These aluminum rivets are light enough that they don't upset the balance of the rotor. If you want to be extra cautious, you can drill a 1/8" hole and place another rivet in the area opposite the inner rivet (area far right of picture).

Assembled rotor from the top view:

Next, we'll address the isolator (middle part of the Opti 'sandwich'):

We need to make a small hole near the notch for the harness connector. Use a 7/32" drill bit to make a hole above the lip along the bottom of the isolator. You can measure .22 inches (5.65mm) from the bottom to locate the hole. This will keep the vacuum fitting we install here above the body of the distributor and also clear the EM shield dome plate when it's placed between the housing body and the isolator:

The measurement to clear the distributor body and EM shield plate is .22"/5.65mm from the seal side in this picture (the "top" in this view is the "bottom" described above)

Now lay a little Permatex black under the hole. Use a toothpick to dab a little around the hole, and then insert the 3/16” straight vacuum connector. Then fill around it to make a good seal and add enough mass to keep it from moving. I used a fitting with tabs in the middle so it stops itself from pushing through from the outside. Don’t pile it too high or you’ll be encroaching on the EM shield plate during assembly (high spot that won’t sit flush when assembling the distributor for installation). Not exactly pretty, but it’ll be plenty stout for what little it has to do:

Next, we'll modify the cap. You can use a single vacuum fitting and drill at an angle, parallel to the #1 plug connector, or use a pair like I did. Whatever you decide is preferable for you is ok. I decided to make an 'F' elbow from ¼" fittings and a small piece of 7/32" hose:

I shaved the ends down a bit with a Dremel and beveled the openings to draw air from both sides of the gap between the inner and outer wall of the cap. This will make more sense in a minute: