

Air Cleaner Surround for ACE Air Cleaner Canister

I have an ACE Air Cleaner Canister for my '09 AVL and recently when driving in the rain, had the element become sodden and stop flowing air. As I was driving along the bike began losing power and opening the throttle further had no effect. I first thought wet spark plug, but it was hot and dry. I then unscrewed the lid of the ACE Canister and was off again.

I live in the Dallas, Texas area, and though it does not rain as much as we need, commuting daily on my RE, I needed a more reliable solution. I had been using the OEM aluminum shield that covers the front half of the filter element, but that did not work this time, as the exposed part of the filter became wet, and I imagine the paper swelled, blocking the air flow.



The solution I came up with, is a modified plastic food storage canister from [The Container Store](#), 1.5 qt. Color Pop Acrylic Canister Red Lid, 4-1/2" diam. x 8" h, part number 10059001, for \$13. To accommodate the metal mounting of the ACE Canister, I used a 3" hole saw to remove most of the bottom of the canister and then cut it down to 2-1/4" tall.

After first assembling the parts, and taking a test drive, all seemed well. Driving home the next evening, I noticed the bike would not accelerate past about 50 MPH, behaving the same as when the filter was wet—

opening the throttle past cruising at 50 had no effect. When I got home, I looked more closely at the fit between the metal disk that covers the bottom of the filter and saw that the gap between it and the clear cover was very small. So, I ground 1/4" from the diameter of the cover to provide about 3/16" clearance all around. A quick calculation said the cut-down plate leaves just under 2-1/2 square inches of inlet area, and a test drive confirmed the improvement.





After a few weeks, I noticed that the plastic was crazing. It seems the rubbery material of the filter end is not compatible with acrylic, so I made an aluminum foil "gasket" so separate them. That seems to have worked well, though I may still need to replace the cover, as I noticed there are cracks growing from the hole in the bottom when taking these photos. If I make another, I will be more careful when drilling, or maybe sawing the hole some other way, to make a smoother cut. My hole saw is a bit savage and I rushed the job. I think any small crack from drilling will grow due to the vibration of the mighty Bullet 500.

I have also seen stainless steel canisters that may be a better material choice, but cutting them will be more difficult.

It has recently rained, for a day, and driving home, the filter stayed dry—no problems.

That's it. Happy RE motoring!

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