

## 2017 Ford Fusion Sport Independent Install Part 1

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Well this project started back on Tuesday July 11, 2017 at 12:00 noon my time (1:00pm for Tracy). I decided I really needed to go ahead and get the kit as I have put quite a few miles on the sport and the wife agreed this was something we really needed to get installed. I gave her a in depth explanation and the downside and possible costs of future repairs so it was a no brainer. The only way to actually see if this was going to fit the sport was to get one in hand.

I pinged Tracy on FB messenger and inquired if I placed my order right then would I get it by the weekend. He asked me to call directly and talk to Mike or Karen about placing the order. So I called and talked to Mike. He asked about my car, motor, what kit I wanted etc. I had already decided to go with the Tracy Lewis Signature Series dual valve system. Then I asked if I could have it for the weekend. Mike told me that they would try but there were several components that needed to be machined so he couldn't promise it would make it for sure. Hey, I knew my request was pushing the envelope but I placed the order and crossed my fingers it would show up.

Friday after lunch I was sitting at my deck working and my wife walked in and stated you have a box. A box? Yeah it's pretty heavy too. Sure enough it was a box from Tracy they got it to me before the weekend. Hot dog let the games begin!

So there are a couple ways to do this but I'm going to try to stay in the normal progression of how the project unfolded. So as noted the box was fairly heavy so I took it out to the shop and opened it up. I know everybody looks at the cost of these catch cans and it puts them off, especially since there are others making catch cans, inline filters for less than half the cost. Well I cannot impress upon you enough the quality of this product. It's not some plastic or PVC pipe catch can. It is a finely machined piece of art. Machined aluminum brackets, mount, catch can, removable top and bottom, quality AN fittings and ball valve plus aluminum check valves not cheap plastic included a thread tap and cold side breather and adaptor not to mention all the fittings. You can tell Tracy takes pride in his product.



So I went with the standard size can as I was worried that the Monster can would not fit in my targeted location. Turns out I was right but we will get to that later. I also went with the normal hose option but you can upgrade to covered hoses but for me the standard route was good.

So my initial thought was that since I had installed the Steeda CAI, and the available space between the factory air box and the battery was now gone, I would mount it on the passenger side firewall by the computer. In doing some research I found people mounting catch cans under [car](#), side frame, grill but no sport installs. I actually, against my daughter's advice, removed the CAI to see if there was room to mount it under there. No room under CAI, no room by battery, no room by wiper box, no room in grill (didn't pull the nose off) so that basically put me right back where I started with mounting it by the computer. This should be out of the way but allow me access to the drain valve.

Ford was kind enough to provide 3 possible mounting bolts that come through the firewall.



Well one is actually a screw thread but the other two are normal 6mm coarse thread bolts. It became all too clear that using one of these bolts to mount the catch can was not going to work. The solid design of this can means there

is a little weight to it and I was worried about the bolt breaking off plus I needed the bracket about 1" to the left of the actual bolt. So this was the first hiccup in the process. I knew I was going where no sport owner had gone before (afaik) so after looking at it I decided that if I fabricated a plate that would mount to two firewall bolts, I could mount the catch can bracket to the plate and would be stable enough to support the catch can.

Looking around the shop I had a piece of 16ga metal that I cut into a 2"x2.5" plate, rounded the corners, marked the bolt pattern, drilled the holes and test fitted the plate. Looked great so I then mounted the bracket to the plate and test fit it. This is where the second hiccup occurred. The fire wall is angled and leans forward. This caused the catch can mounting bracket to slope forward and would result in the catch can leaning forward. Well that isn't going to work. So I stepped up on the bolt hole size in the plate, used a back washer and locking nut on bottom of plate to hold it out away from the firewall while tightening up the top nut all the way to the fire wall. While this helped to straighten the plate it still has a forward tilt.

With the basic plate design worked out a trip to the hardware store resulted in the acquiring of a 1/4 bolt, 6 washers, nylon locking nut and 2 nylon spacers 1/4 ID x 5/8 OD x 3/8L, a couple locking nuts 6mm coarse, a couple nylon 6mm nuts and a few more washers. The idea is to cut the two nylon spacers ends off at an angle to allow the catch can bracket to mount at an upward angle from the plate surface thus leveling the bracket. After a couple trial and error testing I was able to get an angle that looked useable. I assembled everything, checked the mount in the car painted her up and ready to install...





Hmmm, something is off. Well crap the catch can bracket was  $\frac{1}{4}$ " too high and the bracket needed to be moved about  $\frac{5}{8}$ " toward the computer to allow the can to mount. Hick up three just showed up. Moving the mounting bracket away from the mounting bolt on the 16ga plate resulted in no support due to the lack of rigidity in the mounting plate. Mounting plate version 2.0 corrects this issue and will allow for a solid support system.

The mounting bracket is now 2" x 3" and made with a piece of  $\frac{1}{8}$ " aluminum flat bar from Home Depot. This allowed me to move the mounting holes in the plate toward the driver's side by about  $\frac{3}{8}$ " while maintaining rigidity and allowing me to mount the catch can bracket in the proper location. Mocked up, tested and painted with POR15 black to help it blend in under the hood. The mount the complete mount assembly I placed a nylon 6mm nut on the bottom stud and threaded it on until I could put a washer on the bolt, followed by the mount and still have enough threads to tighten down a nylon nut to hold in place. The top bolt has a washer and nylon nut tighten all the way to the firewall. This setup is solid as a rock and ready to mount the catch can.







**PDF of the bracket** - <https://drive.google.com/open?id=0B0...2h0N0pIanpWSVU>



**Optional Bracket Mount by forum member Bucket1952's**

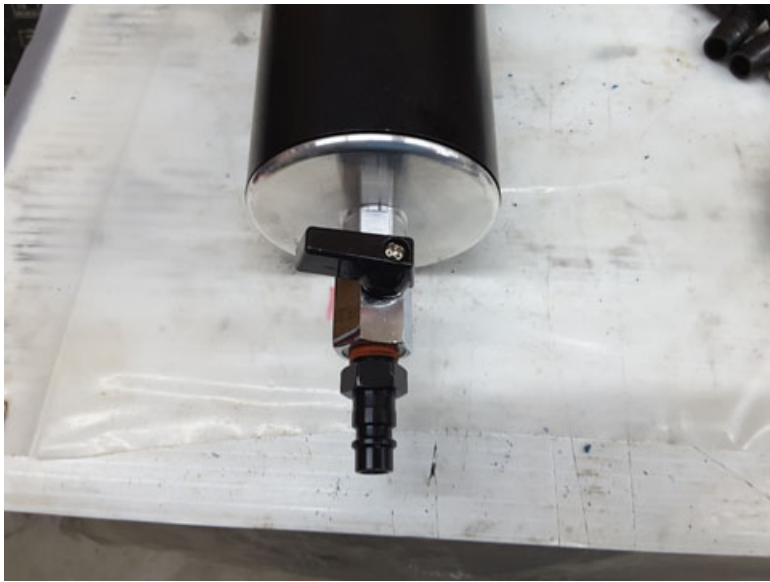


**Mounting Position with Factory Airbox - thekaus**





The bottom of the catch can has a threaded ball valve used for draining the can. I happen to have a high flow industrial male air fitting that worked great for this. A little nylon tape on threads and it was ready for the drain hose. The enclosed drain hose fit tight on the fitting but I added a black zip tie to help crimp the hose in place. It's not going anywhere any time soon.





During this whole process rain, other projects, rim repair, trying to figure out the oddity that reared its head during my second dyno testing session has kept the catch can install on the back burner. But while I was doing an oil change after my Little Rock, AR road trip I was able to get the catch can mounted and found a safe drain hose route that doesn't interfere with exhaust, steering, transaxle. I pull the underbody engine shield off the car while changing the oil which gave me a clear line of site for the routing. I found there you can run the drain hose along the back passenger side of the firewall, and tuck it behind the hydraulic line for the steering. This allows the end of the drain tube to hang out of one of the factory shield holes so you can drain it without having to remove the shield. To hold the hose in place I used a simple zip tie.



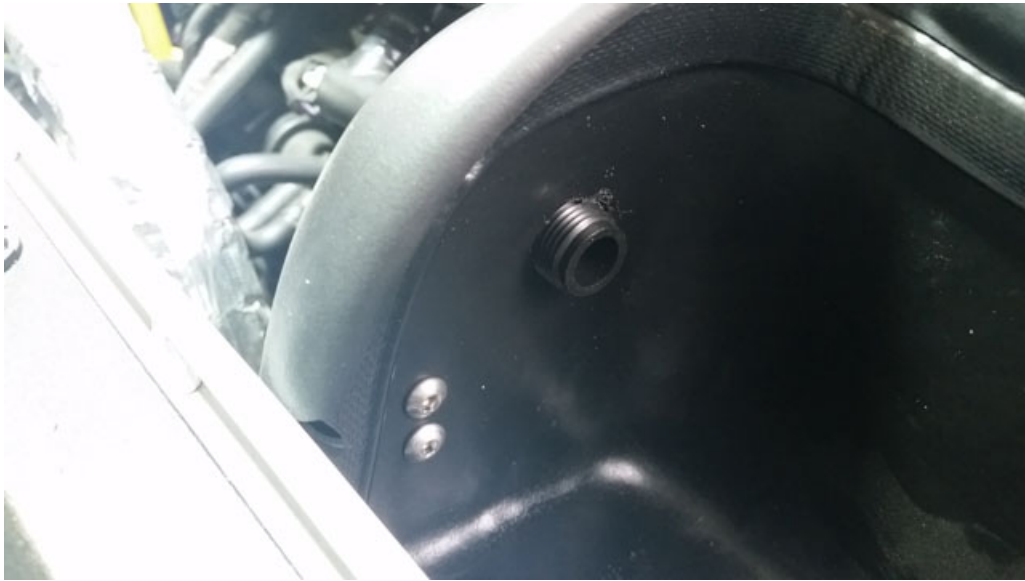
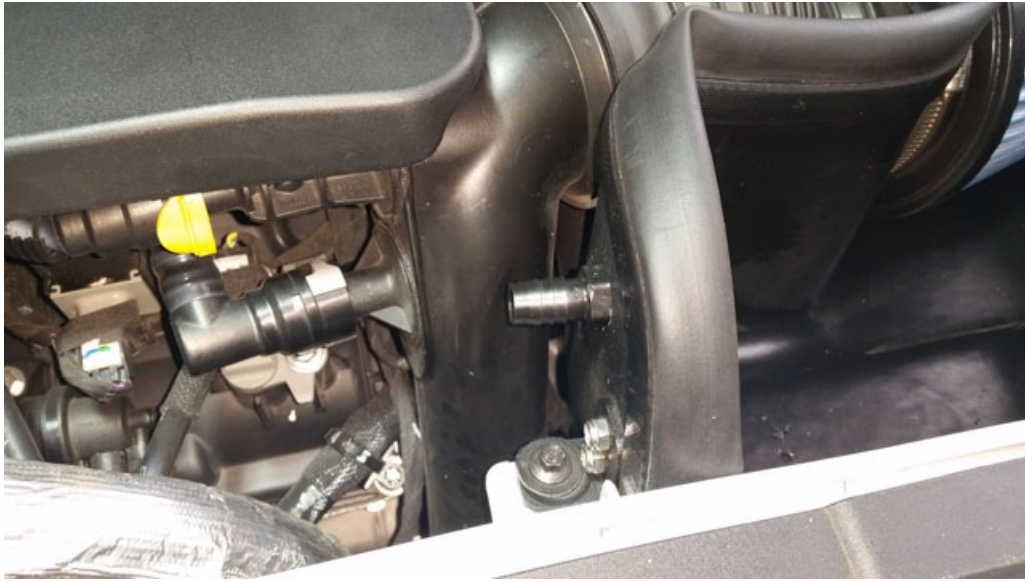




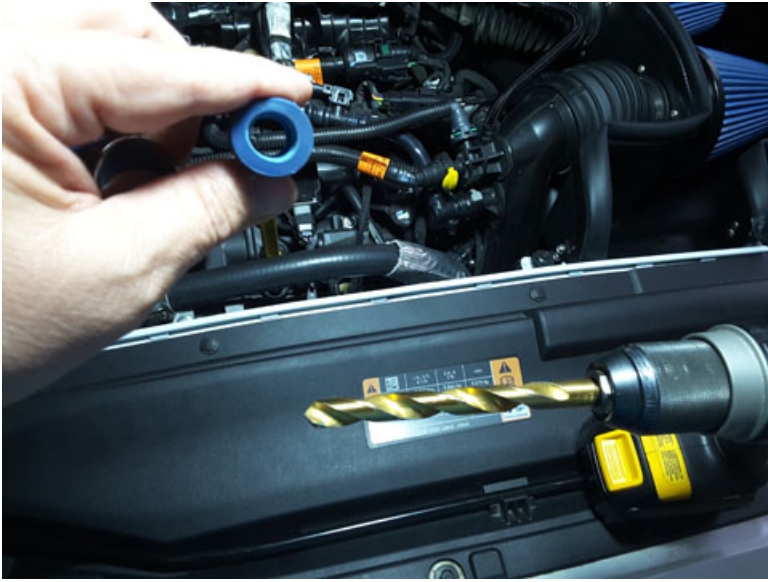


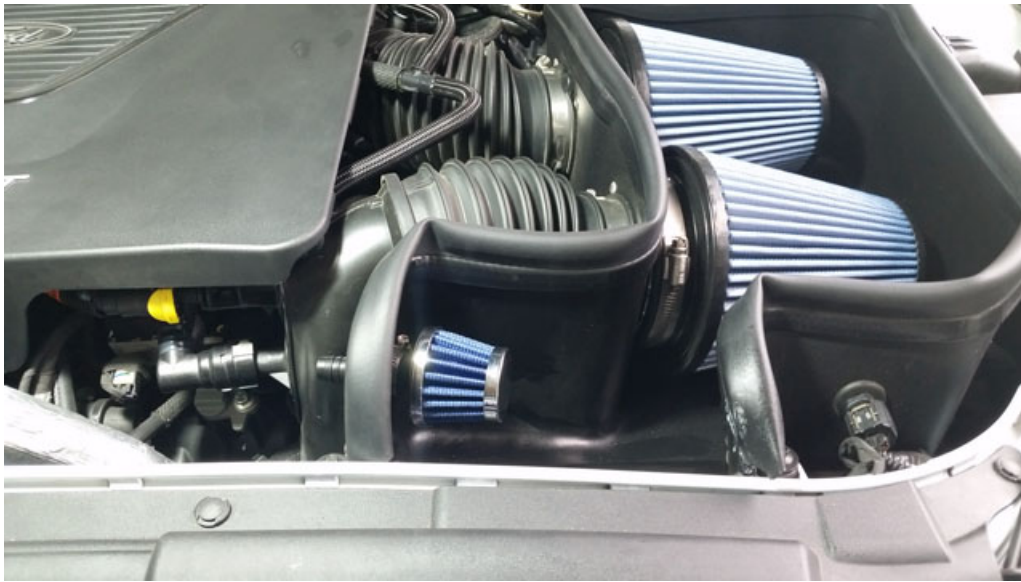


So now that I have the can mounted I have to start looking into the other need to complete the install. The biggest one was the clean air filter side normally mounts a fitting in the upper airbox cover post filter to allow the engine to draw air from the air box. Since I have the CAI installed there is NO upper cover to mount the air feed. After a little digging around and looking at this I decided to do a simple easy mod to allow the clean air side to breath cool clean filtered air from the CAI and not hot air from the engine bay. I decided I would mount a straight threaded nipple enclosed with the kit into the front upper side of the CAI airbox. I drilled a 1/2" hole then used a step bit to increase the size until I was able to just get the Once the fitting was threaded into the box I would use a Spector Performance Breather Filter (3996) from Autozone on the threaded end of the nipple that would be thru the box and exposed on the back side. The filter rubber bushing is designed to mount on up to a 1/2" inch tube but our nipple is bigger than that so I took my 1/2" drill bit and gently drilled out the inside of the rubber filter bushing. The bushing is removable and allowed me to hold it while I drilled it out. With the bushing enlarged and reinstalled in the filter I can now thread it onto the back side of the fitting and hold it in place with the provided hose clamp.









2017 Fusion Sport Oxford White, [401A](#), Driver Assist Pkg, Steeda Strut Tower Brace, Hood Strut Kit, Rear Sway bar, CAI Kit, Tracy Lewis Performance Signature Series Dual Valve Catch Can, Amsoil Synthetic 5W-30 Signature Series Motor Oil