Revised 4/18/25

SXR tank and tail mounting instructions

Taillight wiring code

Red=power. **Yellow**=brake light. **Black**=Ground

Fuel tank is 100% warranted for two years from sale…

If you always use non-ethanol fuel. Fiberglass tanks will last forever-using fuel without ethanol

Fuel tank not warranted at all…

If you use ethanol fuel in any form. I make tanks with a resin that is ethanol resistant used in aircraft wing tanks. The keyword is 'resistant.' Some areas of the world use horrible fuels with an evil ethanol content that has defeated my resistant resin in two cases. This is especially true in California, Washington and California. The first effect is surface bubbling.

If 91 octane premium non-ethanol fuel is available in your state-USE IT. Yes, its more expensive. If your state only offers ethanol fuel you have to do a work around. Make a giant effort to track down sources of non-ethanol premium fuel. 1) Some stations sell this fuel for vintage machines. 2) Go to your local airport and come back with cans of non-ethanol fuel or 3) Make your own non-ethanol fuel. Find how on my home page. It ain't hard.

Do not use fuel additives with Methylene Chloride (Lucas Gas treatment) or Mineral Spirits (Marvel Mystery Oil) because they contain ethanol. **Do not use race fuel** with any percentage of ethanol

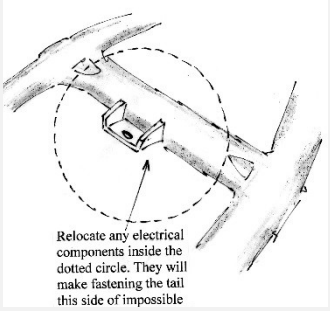
Other reasons to avoid ethanol

Ethanol can attack fiberglass resin. It dissolved resin and it flows into the carb and valve guides. When the engine is dormant, the transferred resin hardens in your jets and guides. The engine will run "poorly." The only solution is to dismantle the carb and your engine to remove those deposits. That ain't cheap. You don't want to do that.

The unexpected factor

Let's say you pull up to the gas pump and select premium or a weak ethanol fuel. If the nozzle serves several grades, you will be filling your tank with the grade the last customer used. The lines from the underground tank don't clear and switch to your fuel until the lines are cleared and switch over. That's enough to pollute your bike's small tank with junk gas

Don't buy my SXR kit if you have a late 2002 and 2023 Sportster



I had a problem with a lovely Canadian customer who had fits trying to install my kit on a 2003. It had a Screaming Eagle electronic module (left & middle photos) which sits atop the seat rail cross piece (right illustration). With iT my tail won't sit on seat rails. To fit 2003/03 you would have to modify the frame.

Warning

How to tear off your license plate, taillight and break your tail section

[ ] Use short stock 12 ¾" length shocks (15" is the best and improve bike handling)

[ ] Use spring weights not suited for your weight
[ ] Hit huge pot holes
[ ] Attempt to ride two-up

Warning

Some parts I offer do not met DOT or SAE guidelines for safety. This is especially true of my fiberglass gas tanks. Metal tanks crush upon impact. Fiberglass can break and leak upon impact. This of course is a source of fire and a danger to you and others. By purchasing any of my tanks (and other non-compliant DOT and SAE parts) you are assuming the risks of; danger, injury and death. If you will not accept the risks, don't purchase my products or return them unaltered for a refund.

New tail design

Recently I redesigned my tail to add depth to the sides to cover more of the frame tubes. At the same time, I ran the lower edge further forward so it better fill the space between tail my left side cover and oil tank. If you don't like the abrupt jog you can simply grind the corner off (dotted line) if it looks more pleasing to you. I shan't be offended

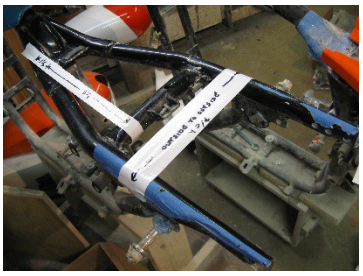
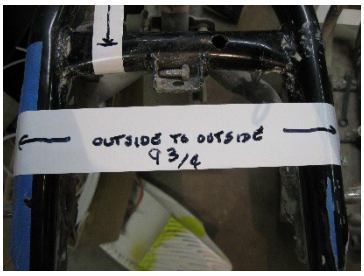
Fitment on a pre-Evo frame

I'm not worried about the tank. The two holes in the backbone seem to be consistent over the years. I suspect they were used in the production conveyor system. The real issue is tail mounting. Near as I can figger my tail will fit Sportys back to 1980, models where the shocks attach to the very rear of the S-arm.

Tail slips under front tab

Tail bolts to tab on the cross tube

My tail is designed to fit the seat rails which are 9 ¾" wide outside to outside and the cross tube is 8 ¼" from front tab to center of cross tube. If your frame has these characteristics my stuff will fit. If not some craftsmanship will be needed to change your seat rails to Evo specs-or change the tail. I know on pre 1986 frames the tail has to widened by ¾".

SXR Tank mounting

The tail gets mounted in a fixed place and the tank floats around it to butt up with the tail using slotted tank tabs. You may have to tweak your straps to get your tank to fit right. It's odd but there are slight variables in frames and some in my tanks as they hand assembled. The backbone mounting holes are a constant as are my mounting straps. None-the-less tweaking may be required on your part. This tweaking may include shimming the tank to level the tank with the tail. If you need to raise the back of the tank, shim rear mounts. Same goes for the front. If tank fits cockeyed shim accordingly. My tanks and tails are never the same. Glass thickness is the largest variable. Weld heights on the frame sometimes come into play

[ ] Bend forward tab down to stabilize the tail or bend a corner down to tweak tail angle
[ ] You may have to lift one side of the tail. Use rubber blocks glued with JB Weld etc.
[ ] To lower or raise one side of tank shim the mounting studs with washers
[ ] You may have to elongate the tank mount bracket holes to get more play in the tank's position

R and SS model coils block tank fitting

R or SS model coils have to be remounted to clear the front of the tank. Others have done this but not shared plans with me. It may require a new bracket or repositioning the original. Here's one man's approach. He made a dashboard on the left side for; coils, ignition and choke...

Clearance issues with your mag?

Tracker builder, Roy Bienemann had a solution to move the mag away from the tank bottom. A couple of twisty brackets lowered the mag down without hitting the forward valve cover. I notice here he repositioned the forward tank bracket mount hole. Maybe his twisty brackets were too long and he adjusted for that. But you got the idea so this is his cheap solution

SXR tail mounting

Every tail I make varies in thickness and frame welds also vary. Sometimes the tail and the taillight can be slightly tilted. I try to eliminate this when I mount your tail on a frame I have in my shop. If your tail and the taillight are tilted just shim the offending part. It is wise to hammer down the front frame tab to kiss the tail. This offers more secure holding power. You can also affect tilt be pounding down just one side of this tab

The tail mounts simply. The front tab (blue painters tape) secures the tail front. Often you'll have to bend this tab up (for more clearance) or down to tighten the clamping power on the tail front. Notice the dropped area with the frame poking through. That is for a ¼-20 screw-the only fastener that holds the tail in place

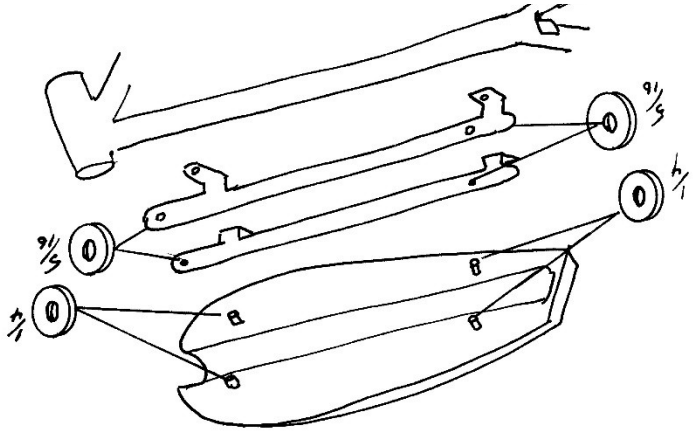
Ideally a floating tank and a locked down tail will result in a kiss fit between tank and tail.

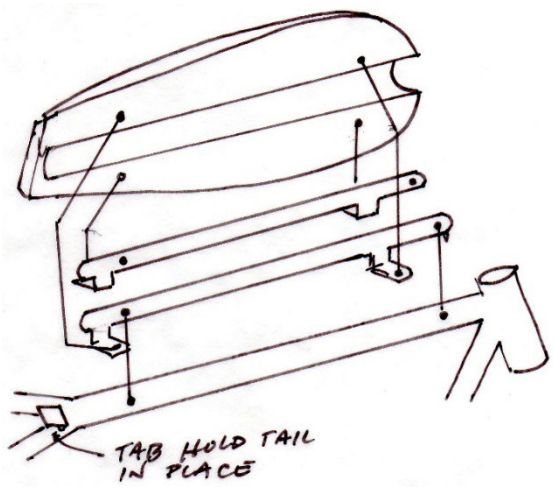
Here's the front tab and rear frame bracket on a 1994-2003 Sporty. You'll need to whack off about 7.5" of the set rails so the tail hides them

Close up of rear mounting tab. This is stock on Sportsters from 1980 to 2003. See my little ¼-20 screw resting in the tab. I have this frame and another pre-1993 frame in my shop. Each body kit I sell gets mounted on one of the frames so I know the bodies will fit on my bike and hopefully yours

Cracking tank brackets

Originally, my brackets cracked from vibration so we made thicker ones. That lessened the failure rate but every now and then, the issue reappears. I am now sending out ¼" and 5/16" rubber washers placed as per drawing. That should help eliminate vibration cracking. If your set up doesn't have rubber washers get some from the hardware store.





Tank mounting procedure, (this is the worst part)

The tail is in a fixed in position and the tank adjusts around the tail for a kiss fit. I have fitted your tank and tail on a frame to make sure of the tank/tail junction.

Your thankless task is to fiddle with the mounting to replicate my work-its not a fun job. While you are fiddling put my four Nyloc nuts aside and use regular ¼-20 nuts-it will speed things up. If the front of tail moves around take a rubber mallet and depress the forward tab down-the one just behind the tank.

1. Check the center-to-center span of the two holes in the backbone-they should be 14 5/8". For years this has been a constant with all Sportsters- pre 1993 and 1994 to 2003 frames. In 2014, one customer reported his span was a ¼" longer. He did what you will have to do in this case-drill or elongate the bracket-to-frame holes. I cannot tell you which way to go on this because his example still stupefies me.

2. Mount the tank brackets along both sides of the backbone. You will have to demount the wiring cables so nothing gets between the bracket and backbone. Reconnect the wiring later. Use the long bolt in front and the shorter bolt in the rear. Notice the bolt heads as they came to you. That's how they should be finally mounted. Now attach the brackets to the frame semi snugly-you do not want the tank to move involuntarily but only when you nudge it. Both brackets-to-frame and brackets-to-tank holes are slotted.

After you've snipped the tie wraps that hold the wiring to the back bone, you'll want to mount the tank. You'll have to spread the arms on the coil mounts so they fit on the outside of my bracket like this photo. If you mounted my bracket outside the coil mounts, the tank studs wouldn't match up to the brackets

3. Mount the tank with four ¼-20 lock nuts/lock washers/flat washers. Again just snugly, so you can move tank forward/aft and up/down with a nudge.
4. Mount the tail fender and tighten the one mounting bolt (it will come off again so you can do the wiring). At this point move the tank around until it lines up with the tail. You may have to use flat washers as shims if the tank is low or cocked.
5. If the tail front has a tendency to move side-to-side I suggest dropping the forward tab (with a soft hammer) to put pressure on the front of the tail to trap it.
6. Once you have kiss fit, tighten brackets on frame (with Loctite) and remove tank to hook up fuel lines. Run the fuel line down the left of the backbone. Exit the tube on a line with the carb (which is between the cylinders) under the backbone. This way you can keep the lines and filter away from the hot valve covers. Do not forget a fuel filter.
7. Re-secure your wiring.
8. Position the tank over the frame and connect your fuel lines
9. Reinstall tank with Loctite on the four bolts. That's it. You should have a seamless tank-tail joint and you are ready to go. When removing the body pieces-it is easier if you remove the tail first.
10. I supplied 4 rubber washers to fit between the tank mount brackets and the frame to cushion the tank from vibration

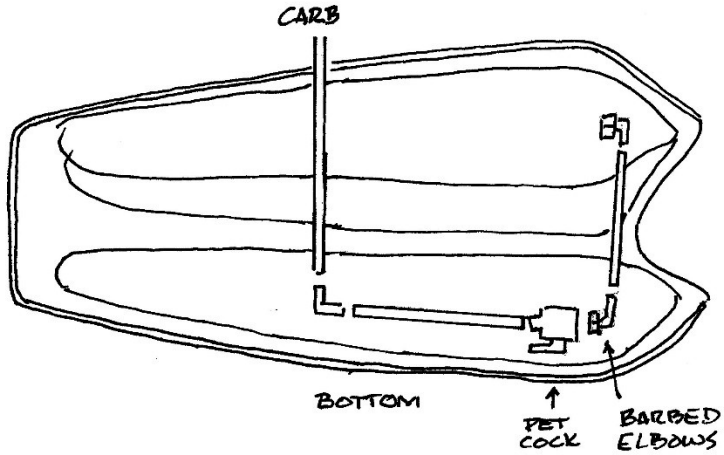
Attaching the seat cushion

This is the easy part after you've installed the body parts. You can create your own Velcro pattern. Use available flat spaces as you can. Deploy Velcro at the 'four corners' of your seat for max holding power. Start with either seat or tail and layout your pattern. Cut and apply a

corresponding pattern on the other part. You will find your scissors all gummed up with adhesive when you are done. Lacquer thinner cleans scissors jiffy quick. You will be surprised at the holding power of 2” wide Velcro-it really sticks!

Adjustments for new petcock

I am now using a new petcock. The old square Dapcos were a headache. The internal rubber would dry and allow gas to flow to the carb. That wouldn’t be the end of the world unless your needle and seat leaked too. Then we’re talking about a garage floor as a gas lake. Turn the light switch and poooff your toys and garage are on fire. In 25 years that hasn’t happened to my customers but at least one had a gas lake.



A customer warned me a month ago the new larger petcock was hitting on the forward valve cover. I made an immediate change to install cross over elbows to connect both tank sides and a single petcock. I install the elbows and provide enough tubing for you to thread under the backbone. A quick-connect piece makes this easy

Crossover set up

You'll need to find

[ ] Gas line

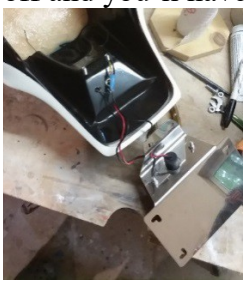
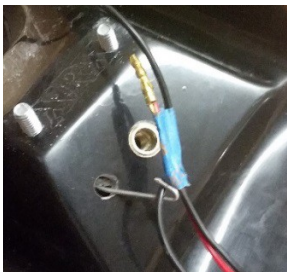
[ ] Inline L fitting

[ ] Line clamps

[ ] Fuel filter-but keep it away from the hot engine

Attaching the taillight/license plate mount

If you need to remove taillight assembly, this is how you re-snake the wires back through the hole. Make a wire hook like the one on the right. Snake the little hook into the front side of the support plate. Sneak it through the hole and attach to the wires. It helps if the wire ends are ired together. Pull through hole with tension on the wires and your puller otherwise the wires will fall off and you'll have to repeat


I jump back and forth between metal and carbon fiber license plate holders. My old metal plates had 'L' shaped holes for mounting license plates for various states with diffening sized plates. I will send carbon fiber plates without predrilled holes. Just tape or clamp license plate to the holder and drill four ¼" holes for your plate. From hardware store buy four ½" long, ¼-20 screws and four ¼-20 chrome castel nuts. Insert the screws from behind so castle nuts show outside. Use blue Loctite.or split washers in the mix

Thanks Phil Little Phil Little Racing.com Cell 952-607-6063