Flyin' Miata

FM Oil Filter Relocation Kit
04-36150

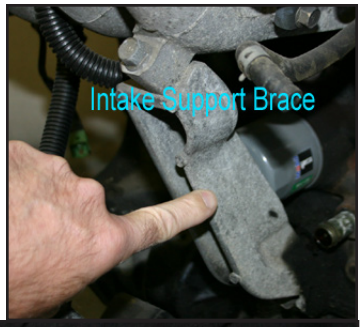
Congratulations on your purchase of a Flyin' Miata oil filter relocation kit. We believe our kit to be one of the best on the market, featuring CNC machined parts and large bore stainless covered teflon oil lines. All fittings are also anodized (they're anodized with clear). Let's get it installed!

1. Start by disconnecting your battery negative cable. Make sure you know your radio code if you have a factory radio in your car. Don't skip this, things will get dramatic quickly if you drop a wrench onto one of the leads on the starter.

2. Safely support the car on a lift, four jackstands, or a combination of two jackstands and two ramps. DO NOT work under a car supported only by a jack!

3. Remove the plastic undertray. This will be re-installed.

4. Remove the aluminum brace that goes from the intake manifold to the engine block. This may or may not be re-installed, depending on your particular car. We've run cars without this brace for years, there's nothing wrong with removing it altogether.



5. Drain the oil and remove the oil filter. Just think, this should be the last time you have to crawl around under here for this job! Reinstall and tighten the oil drain plug now, before you forget.

6. Install the fittings. Be sure to use the included thread sealant on all the NPT (tapered) threads. Do NOT use Teflon tape on anything, as it could come off and block an oil passage. Also, the threads in the block adapter and filter mount are NPT, so they're tapered. The fittings won't be bottomed out, but they will be tight - seemingly bottoming out on nothing. This is normal. To give you an idea, the fittings in the picture are tight. Be sure that they're tight, but you can strip the threads if you try too hard.

7. Lubricate the O-ring on the block adapter with fresh engine oil and press it into the groove in the block adapter. Then tighten it to the block. Tighten it just like you would an oil filter; in other words, 'til it touches, then at least a ¼ turn or so.

8. Now it's time to play with the filter mount. If you're feeding your turbo off of the filter mount, you should install a 1/8NPT to AN adapter (not included) in the third, smaller hole. The stainless turbo feed hose will go to this adapter. Otherwise, you can tighten the pre-installed plug or install some type of fluid sender, if you have one. If you're using a sender, you'll probably want to install that once the mount has been installed.

9. Remove the two fasteners holding the black plastic piece that goes between the windshield and the firewall. This will allow you to move that piece out of the way, but you won't be able to remove it completely. Then lightly screw a new oil filter onto the filter mount and hold it up to the firewall as seen in the pictures. Find a spot where you will be able to remove the filter easily. If you plan to use something to catch any excess oil (definitely a good idea), be sure that it will fit underneath the filter in whichever location you choose. Also be sure that the black plastic piece will fit with the backing plate. Once you have your location, use the backing plate as a template to drill the three holes, using a ¼" drill bit. Once the holes have been drilled, use something (nail polish, touch-up paint, etc) to finish the holes, so they don't rust.

10. Thread the included rubber isolators into the back of the filter mount. Get them as tight as you can by hand, but don't use any tools. These should be snug, but the chances of them backing off are incredibly slim, and you don't want to rip the rubber. Which, by the way, is very hard to do.

11. Slide the isolator studs through the holes you drilled in the firewall, then slide the backing plate over the studs. Next, slip the washers over the studs and tighten down the nuts. Again, you need to get them tight, but you don't want to twist the rubber in the isolator. Finally, reinstall the black plastic piece you removed in step nine.

12. Take a look at the two stainless steel hoses. One has a 90° fitting on one end and a 45° fitting on the other end; the other one has a 45° fitting on one end and a straight fitting on the other end. The hose with the 90° fitting goes to the "A" holes (the 90° end goes to the filter mount) and the other hose goes to the "B" holes (the 45° end goes on the block side, like with the other hose). Be sure that "A" goes to "A" and "B" goes to "B". This is critical, as improper routing WILL STOP oil flow in your engine, as a result of the check valve that's in every decent oil filter. This is the same check valve that's very beneficial when everything's plumbed properly. Quadruple-check if you have to, but make sure it's right. Before you install the hoses, smear a little bit of oil on both the threads and the taper on each fitting to help lube everything when you tighten it. Again, do NOT use teflon tape on anything. These fittings don't need any sealant as the two flares seal against each other (the threads don't seal anything). When tightening the fittings, make sure that you have a wrench on both the hose end and on the fitting coming out of the adapter and oil filter mount. You can use either a 7/8" or a 22mm open end wrench on the hose and a 15/16" or 24mm

on the fitting - or, of course, the ubiquitous adjustable wrench. If you're picky about appearances, protect the aluminum somehow - it's easy to knick the anodizing. Tighten them down, but don't over-tighten them, which is a common mistake. They should be torqued to 29 ft-lbs, or hand tight plus a quarter-turn. If you're curious, oil flows into the side of the filter from the "A" hose, through the middle of the filter and out through the "B" hose.

13. Take a good look at your routing. Stainless steel braid will eat anything it contacts, so use a piece of slit rubber hose to insulate any place the stainless hoses would rub up and abrade against other parts, fuel lines, etc.

14. Pre-fill your new oil filter and lube the seal on it before installing it on the filter mount. Right before you pre-fill it is a good time to write your mileage on the side of the filter. You might want to do it in several spots, unless you can miraculously predict where the filter will stop as you tighten it…. Be sure that the filter seals against the FM filter mount. Some filters are short inside, so the filter bottoms out on the threaded pipe instead of bottoming out on the O-ring. If your filter is too short, you can either use a different brand or trim 1/2" off of the threaded pipe.

15. Re-install the battery cable.

16. Fill the engine with oil, it should take about four quarts, including the oil you put into the filter already. Have somebody start the car while you carefully watch for any leaks. Have your assistant watch for oil pressure on the gauge.

17. If you don't see any leaks, you can re-install the intake manifold brace and the lower plastic pan.

18. Take your car for a short ride, double check for leaks when you get back and you're done!

Please feel free to call or email with any questions or suggestions for improvement to the directions or to the product itself. Thank you for your business!