

Flyin' Miata

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06 - 09 Miata Sway Bar Installation



Revision 1.3
09-24-10

Congratulations on purchasing our NC sway bars! These sway bars have been track-tested, and should greatly help the handling of your car. These instructions will help you correctly install the bars, but if you have any questions, feel free to call us on our tech line at 970.464.5600. If you have suggestions on improvements to be made, please call or email the suggestions to tech@flyinmiata.com.

1) Get the car off of the ground. You can do one end at a time, but you can't do one side at a time. If the car is supported with jack stands in the front, it will be much easier to get the sway bar off. Try to get the front tires 6" - 8" off of the ground, as this will give more clearance for weaving the sway bar out. The rear can be on jack stands or ramps. **Never get underneath a car supported by only a jack!**

Rear Sway Bar

2) Remove the nut connecting the sway bar to the end link (1). Do this on both sides of the car. The bolt connecting the end link to the control arm does not need to be removed. If the stud coming out of the end link begins to spin when you're trying to loosen the nut, slip an allen wrench into the end of it (2).

3) Remove the brackets (3) from the sway bar, again on both sides of the car. Be sure that the sway bar doesn't drop on you (or anything else) when you take the last bracket off.

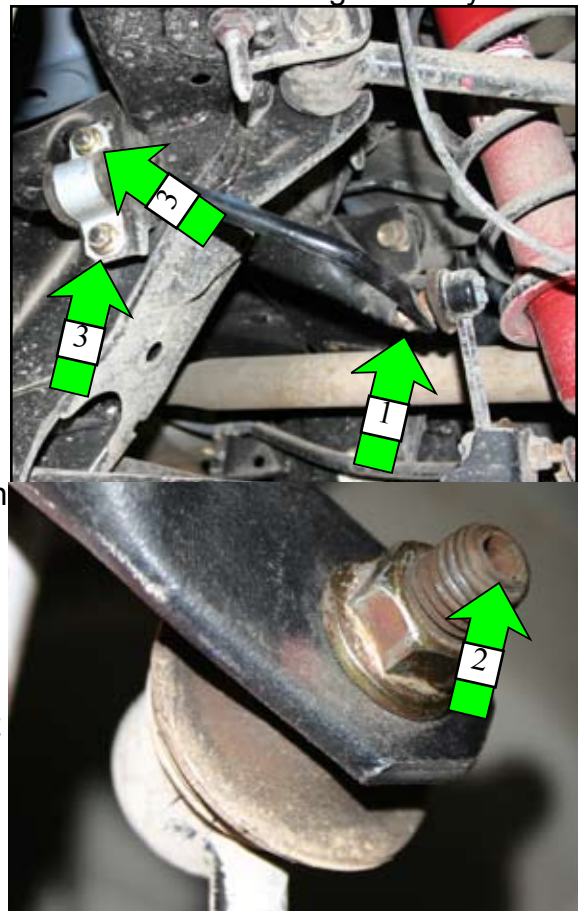
4) Weave the sway bar out, and set it aside.

5) Grease the inside of the bushing (where the bar rides, not where the bracket sits) with the included grease. Slip it onto the new rear sway bar in roughly the same location as the bushings on the original bar.

6) Weave the new bar back into place. Be sure you start with the bar in the correct orientation - with the ends of the bar lower than the middle. Refer to the first picture for clarification.

7) Slip the new brackets over the new bushings, and tighten the nuts down to 13 - 19.5 ft-lb. That's not much, so please be careful that you don't break the studs.

8) Slip the end links into the middle holes on the ends of the bar. Refer to the "Tuning" section for clarification of the different holes. Tighten the bolts on the end links to 32 - 45 ft-lb.



Front Sway Bar

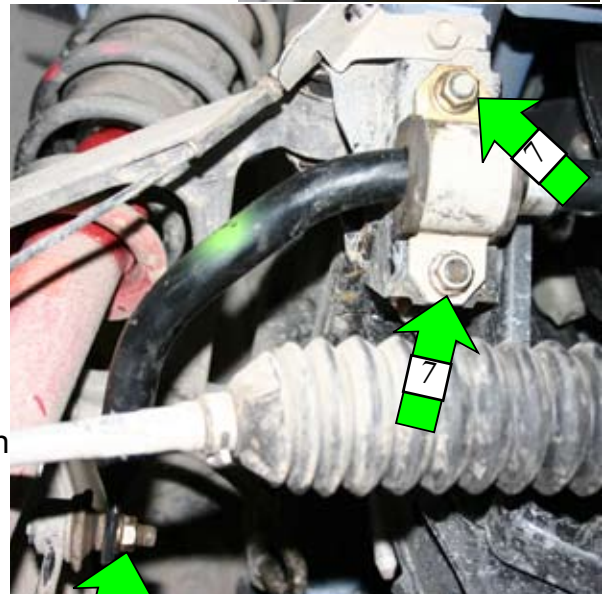
9) Remove the front section of the fender liner (4) in each front wheel well. They're largely held in place by plastic clips which only require a 1/4 turn to release them. Once the center section has popped up, pull the clip out by the base (not the screw that popped up).



10) Remove the large splash plan (5) mounted between the two fender liner sections. Search around the edges for the different fasteners, they should be pretty easy to find. There are two that are hidden by the fender liners, so be sure to take the liners off first.

11) Unbolt the end links (6) (refer to the previous section, step 2, if the stud is spinning).

12) Unbolt the brackets (7) holding the sway bar on, and remove them. Be sure that the bar doesn't drop onto anything when you remove the brackets. It's okay for it to sit on other parts, but it's best if it doesn't drop on them. Remove the bushings as well, as this will make removal of the bar easier.



13) Weaving the front bar out is slightly more complicated than the rear bar, but it's still not too bad. The first thing you'll need to do is to get the sway bar in front of the tie rods (8). Do this one side at a time. You'll want to push the wheel as far out as possible (e.g., turn the steering wheel all the way to the left for the left side of the sway bar), then -

through a combination of bringing the bar as far towards the outside of the car as possible, pushing it up, and spinning it forward - get it over the tie rod. Do this to both sides. Once this is done, you'll want to pull it out towards the driver's side by dropping the outside end down (9) enough to clear the items behind the radiator.



14) Install the new bar by doing the opposite of the removal of the original bar. Be careful threading it through the engine bay, you don't want to break anything.

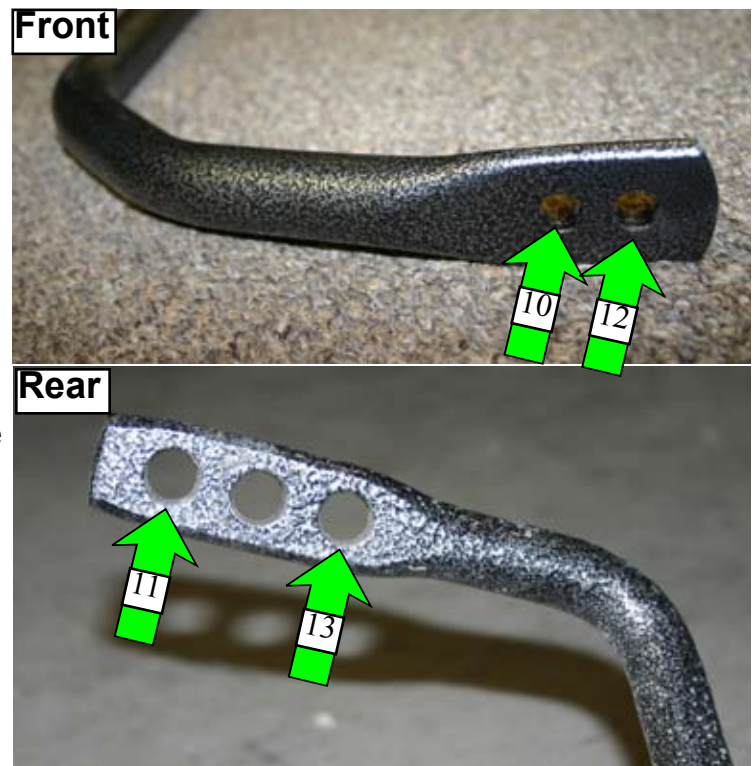
15) Grease the inside of the new bushings, then slip them onto the new sway bar, in roughly the same place as the original bushings. Then slip the new brackets over the bushings, and tighten the nuts to 26 - 37 ft-lb.

16) Slip the end links into the farthest hole (refer to the tuning section) and tighten them to 32 - 45 ft-lb. Refer to the "Tuning" section for clarification of the different holes.

17) Reinstall the large splash pan, then reinstall the two fender liners. That's it, you're done!

Tuning

18) By now, you've noticed that there are multiple holes in the end of each of our sway bars. The short explanation is that mounting the end link farther from the end of the bar will increase the likelihood of that end of the car sliding first. Therefore, if the front end links are mounted in the forward holes (10) and the rear end links are also mounted in the forward holes of the rear bar (which will be closest to the end of the bar because of the orientation of the bar in the car, 11), the front of the car will be more likely to slide (understeer). The opposite (front in the closest hole (12), rear in the farthest hole(13)) is also true, as that will make the rear of the car more likely to slide (oversteer). Basically, the different holes in the sway bars allow you to fine-tune the balance of the car's handling. Most people are more comfortable (and safer) with a car that understeers slightly. As a starting point, use the farthest hole for the front bar (10) and the middle hole in the rear bar.



For the technically minded (you don't need to know this in order to use the sway bars):

In case you're interested, the reasoning behind this is leverage. With the end link mounted farther from the lateral portion of the bar, the action of the wheel (through the end link) will exert more leverage on the sway bar. This increases the twist in the bar, which lessens its effectiveness. If you have one sway bar that is more effective than the other, that end of the car will be more likely to slide, as more of the cornering load is carried through that end of the car.