



**Metzinger Air Services, LLC**

# THE ULTIMATE GUIDE TO RAISING YOUR MIATA

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This step-by-step guide will show you how to get your Miata up in the air on jackstands so that you can work on it safely. With pictures and no-nonsense advice, it shows:

The right and wrong places for jacks and jack stands.

How to raise the car from the front and the rear.

The damage that can result from improper technique.

This guide applies to all Miatas—NA, NB, and NC models. NA model shown.

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## INTRODUCTION:

In my limited time on the miata.net forums, I've seen the techniques and details of raising a Miata discussed again and again. While most of the advice is good, it's clear to me that text just doesn't cut it when describing the operation. This guide will take you through the steps of getting your baby up in the air on jackstands using the factory-provided lift points. While the car used for this guide is a 1991 NA, it applies to all Miatas equally.

## WHAT YOU'LL NEED

You'll need, a jack, four jack stands, and (of course) a Miata!

The jack I have is the discounted low-profile aluminum jack from Harbor Freight. This item 91039 from US General is rated for 3,000 Lbs. Plenty of capacity for our cars. The jackstands shown here are rated at 3 tons each. Definite overkill but I use them for my Subaru too. The rubber/plastic covers for the jackstands are a very good idea.



## THE LIFT POINTS

Your Miata has six points that are designed to be used for lifting the car:

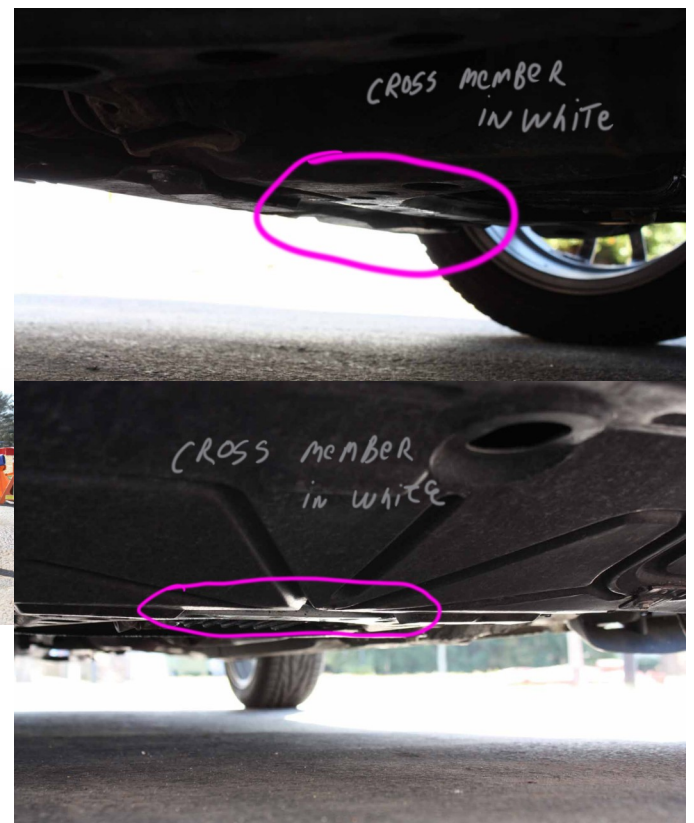
- The bottom of the differential “pumpkin” in the rear.
- The steel cross member just ahead of the oil sump.
- Four reinforced “corners” located inside of the pinch weld between the drains.

We'll cover all of these points as we raise the car. The pinch weld is NOT a lifting surface. While the included jack does have a groove for the pinch rail, that is there to keep the jack aligned properly—the actual lifting force is applied to the “corner”. The frame rails are not suitable for lifting either. Look at the picture to the right and you'll see where one of my frame rails was bent by someone lifting it improperly (before I owned it).



## STEP 1— RAISE THE NOSE

First, set the parking brake. We'll use the cross-member to get the nose up in the air. The pictures show a view from behind the front drivers wheel and then looking under from the front of the car. This is where a low-profile jack is required. You CAN get under the splash guard and reach the cross member. Take your time and lift the jack slowly as the splash guard can be damaged if you lift on it. But don't worry, you'll know if you're in the wrong spot as soon as you make contact while lifting. Just be careful and it will be well. You'll have to make small pumps at first but you can take longer strokes as the car raises.



## STEP 2—PLACE FRONT JACK STANDS

The pictures to the right shows one of the “corners” (you can see the white paint I used to highlight the lift area). This is just behind the driver’s front wheel. The pinch weld at this section should have a pair of drains in it. In my car you can see that the pinch weld section has been beaten up a bit—the results of using the weld itself as a lift point. Note: If your drains aren't open here you can pry with a small screwdriver or even drill them if needed. But you want them open.

The “corner” itself is sort of corrugated, which makes it easy to identify. If you take the car to a shop with a four point lift, these corners are the lift points. It’s worth it to point them out to the techs if they aren’t familiar with the Miata. The frame rail looks stout, right up until it starts to crush.

The jack stand should be placed “lengthwise” against the corner as shown, just **inside** the pinch weld. A rubberized cover adds some extra friction. Don’t use wood unless you know how seasoned and strong the wood is. You can DIE if your jackstand (or any add-on component) fails. On the other hand, if you do decide to self-engineer a lift system, please leave me the title to your Miata in your will. I promise it will get a good home.

## STEP 3—RAISE THE TAIL

The central lift point for the rear is the bottom of the differential “pumpkin”. There’s generally more clearance here, but with stiffener bars and other suspension components it’s still good to have a low-profile jack. The differential has fins on the bottom, but there are larger and longer fins on the outside edges. Use one or both of these for your jack.

## STEP 4—REAR JACKSTANDS

The car body will probably be higher than the front when you lift the differential the same amount as the front cross member. So remember how many “notches” you used for the front jack stands and use the same number for the rear stands.

The “corners” in the rear are found using the drains just behind the door. You’ll find the same corrugated reinforced section there. And of course, these are the proper rear points for a four-point lift.

Put your jackstands **inside** the pinchweld on the “corners” and gently lower the car.

**Congratulations!** Your Miata is up and stable and ready for your maintenance.

To lower the car, set the parking brake, then lift the tail off the jackstands first, followed by the nose.

