

# 99-05 Mazda Miata Tension Cable Replacement

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*A few people, including those who had replaced more than 1 top in their lives, insisted that the tension cable cannot be replaced without, at least, partially tearing the top apart. This conflicts with the write-up found in the Garage section of Miata.net. Not to discredit the naysayers, but here's my humble write-up on how I did mine.*

First, and foremost, are the necessary tools and replacement parts:

- ¼" flare nut wrench, a cut off ¼" Philips head bit, and some electrical tape. This is the only special tool and necessary to obtain clearance to access and remove the blind Philips head bolt. Unless, you have the correct offset screwdriver for this. More to follow.
- Philips head screwdriver
- Rivet gun
- Rivets: 5/32", 4mm
- Drill
- Drill bits: I used a 13/64 and 5/32
- (1) or (2) replacement tensions cable and spring, (available through a Miata.net sponsor, or your local dealer), usually sold in pairs. The set I purchased were side specific.
- 6mm x 1.0, 10mm long hex bolt and washer to replace the Philips head bolt removed that holds the tension spring in place onto the top frame. If you plan on reusing the Philips head bolt, keep that ¼" flare nut wrench and sawed off bit around in case you need to do this again.
- 10mm wrench – only necessary if replacing the Philips head bolt. I used a ratcheting box end.
- Small vice grips or pliers (Not necessary but nice to have)

This procedure will take place on the passenger side. I first performed this on the driver's side where the tension cable was found broken. The passenger side was intact and I proceed the replacement in this pcedure as so.



This one you have to make (or you can borrow mine, if you're in the area, I guess). Many of you probably have one or a dozen in the garage: a 1/4" drive PH3 Philips head bit. Insert that bit into the 1/4" flare nut wrench such that just enough of the Philips head sticks out of the wrench and mark the hex end that protrudes out the other end. This material of that bit needs to be removed. I accomplished this using a bench vice and an angle grinder. This is unnecessary if you happen to have an L shaped offset with very low clearance. Nearly all my offsets are "Z" shaped. Reinsert the bit into the flare nut wrench and use electrical tape to hold it in place. Using a flare nut wrench prevents accidentally and repetitive dropping of the bit.



The tools I started with. The refrigerator magnet (below the drill bit set) is handy in removing metal shavings from carpet, skin and that dropped bolt.





The replacement bolt I purchased from the local big box home center. Stainless would've been nice if it was available.

First things first, you will need to locate where the tension spring is, the bolt and the ends of the tension cable. Do so with the top in this position:





The blind Philips head bolt is located behind this piece of plastic and faces “outboard”. It’s the only Philips head in that general area. Again, this procedure is for the passenger side. Following up, you should feel the tension spring. This would’ve been a little bit easier if the roll bar wasn’t in the way.

Next, I chose to proceed to remove the riveted end of the cable, This allows me to remove the tension on the cable to disconnect it. If your tension cable is broken, you can still proceed as follows.



Remove these guys.





And, this guy.



Now it should look something like this:



Peel this back:



And this:





Remove the stainless screws and pull towards inside the passenger compartment. When I did the driver's side the stainless piece came off. This side "hinged away" from me and out of the way.





“Peel” up to expose the rivet. There will be some rocking of the top back and forth of the top.







Here's the position I had the top in to obtain access to drill:



13/64" drill bit to remove the head.

**Warning:** expect metal shavings to fall into the cabin and crevices. In hindsight, I should've taken precautions to protect the interior. But, it's nothing a combination of compressed air and vacuum (at the same time) can't take care of.







Proceed with the 5/32" bit to remove/free up the remainder of the rivet. The "flag end" should come loose and release tension on the spring end of the cable.



Return to the spring end and remove the Philips head bolt using the appropriate tool.





You can disconnect the spring from the lug of the cable. I found it easier to use a small pair of vice grips to do so. Pliers could work, too.

You should be able to pull the tension cable from the “flag end” at this point. Or, if you don’t want to fuss with it too much, just cut the “flag end” off and pull it through from the spring end.

Disconnect the new/replacement tension spring from the cable and feed the cable through from the flag end. You may have to rock the top back and forth a couple of times (even to an almost fully top up position) and rotate the cable a bit for it to go fully through.



Next, pop a new rivet in. I did so with the “flat side” of the flag against the frame.



If you chose to reuse the factory Philips head bolt, good for you. I used the bolt I mentioned earlier with said washer, tightening with a ratcheting box end wrench.



There isn't much else to explain after this. Reconnect the spring to the lug of the tension cable. Again, some rocking of the top up and down is necessary to find the position of least tension, bringing the lug and spring closer together. The small vice grips helps in pulling the spring up to the lug. The remainder is reassembly of the weather stripping components (reverse of the disassembly).

I hope this helps somebody.

Best,

Billy