

Hello Miata Club Folks,

It's the *Seat Belt Wench* here this month. 😊

I hope everyone is having a great summer and lots of topless fun with their Miatas. I mean top-down fun in their Miatas. 😊

My topic for this month is, "Don't ask what your seat belt can do for you, ask what you can do for your seat belt", to paraphrase a famous quote. 😊

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Recently, I was surprised to notice that the driver's side seat belt of my 2006 Miata was sporting a bright orange tag at the base of the seat belt connection stating **REPLACE SEAT BELT**. This was a new one on me. This warning tag pops out normally after a collision. It should be obvious to all of us that seat belts should be replaced if the belt fabric is visually frayed or torn but mine looked perfectly fine, just 15 years old. 😊

Little did I know there's much more to this taken-for-granted part and installation than meets the eye. After a bunch of on-line research, I was enlightened by the following information about seat belts which I will share with you that I gleaned from several reputable sources.

I am a safety-minded kind of gal, so needless to say, I immediately ordered a new OEM Mazda seat belt/retractor/pretensioner for about \$125.00 + shipping and my husband and I set to work installing it.

### **Some Seat Belt Background**

When is Seat Belt Replacement Necessary?

A seat belt's primary purpose is to prevent serious injury or death in the event that a vehicle is involved in a crash. Inertia-reel seat belts were first mandated in all cars in 1968. Later "pretensioners" were added to some vehicles in 1983 by Mercedes and installed in all vehicles after

2008 even though the NHTSA (National Highway Traffic Safety Administration) has never mandated them.

It seems essential for individuals to know when exactly their vehicle may need a seat belt replacement. The truth is that even the slightest bit of damage or wear and tear on a seat belt could increase the potential for the safety device to not work as it is meant to during an accident. That is why it is recommended for vehicle owners to have their seat belts professionally checked at least once a year to detect the less obvious signs of malfunction.

Seat belts, like car seats and air bags, are considered by the National Highway Traffic Safety Administration to be single-use items. Seat belts are designed to work just once in a crash -- protecting and immobilizing a passenger. Some safety experts even advise having seat belts inspected and possibly replaced after 10 to 15 years of use! So, add that on your yearly spring maintenance checklist!

### **Seat Belt Pretensioner**

One of the most critical situations in which you should have your seat belts repaired or possibly rebuilt by a professional is after a crash has occurred. Most of the times, vehicles year 2001 and up have a pretensioner portion of the seat belt that is designed to permanently lock and tightened if an accident/collision or impact occurs. Once a car experiences a collision, the seat belt's pretensioner tightens any slack in the belt to keep the passengers in their seats fighting against the powerful force of collision impact, i.e., not only from forward forces but also from sliding underneath a slack belt. It is estimated that pretensioners save an average of 12% of lives very year.

Here's the good part I wasn't aware of: guess how the pretensioner does that??? Early pretensioners were mechanical using a spring to automatically tighten the seat belt in case of collision. NOW with newer technology along with airbags, retractor pretensioners are deployed with..... an explosion!

Yup...the seat belt retractor pretensioner mechanism over your head in vehicles after 2008 is fired by an electronic control unit sensing the vehicle crash, essentially causing a small explosion that snaps the seat belt taut along with the airbag simultaneously and prevents the passengers from sliding underneath the seat belt and preventing very serious injury.

Besides deployment of the pretensioner, there are less serious damage to a seat belt that could interfere with the belt performing as it should in the event of a collision. Any small cuts, fraying, or tears in the webbing of the belt may appear to be minor; however, these issues should definitely be addressed by a professional and are most likely signs that the seat belt is simply old and in need of seat belt webbing replacement. Aside from the overall appearance of the seat belt ensure that the retractor and the belt buckles are working as they should.

You may want to consider having your seat belts tested or possibly rebuilt after 10 to 15 years of use. Some experts recommend this time frame due to the fact that even if your vehicle has never been involved in a crash, you can never be certain your safety devices will work correctly as they get older. It is always best to be proactive regarding your safety before an accident occurs.

### **Seat Belt Repair**

If you think that your seat belts may need a replacement, there are many on-line companies that service seat belt repair or replace. Some companies even offer seat belt webbing replacements in custom colors, to add a unique touch to your vehicle's interior. Due to the type of pretensioner I had in my car, I choose to replace just to be on the safe side

### **Seat Belt Installation**

I do not recommend this for the faint of heart ☺ or someone with limited mechanical skills as there's more to it than you would imagine. After ordering the new seat belt/retractor/pretensioner that comes as a single

unit (note my shipping container said *hazardous material inside*), we set to work removing my Miata's center console, both side door scuff plates, two rear side plastic panels and one large plastic back panel to get where the seat belt was bolted to the frame below and an upper attachment point. After very carefully unbolting the seat belt (a feat in itself trying to maneuver around my after-market roll bar), we re-installed the new seat belt unit and retraced our steps re-installing the panels, scuff plates and center console. Whew! Four hour job.

What to do with my undetonated old seat belt pretensioner? Happily, my local car dealer agreed to take it free as they have hazmat companies who pick up their hazardous waste regularly.

So, for me, an interesting exercise and some gained knowledge about the workings of Miata's and vehicles in general. Who knew? 😊