

R&R Broken Retainer Nuts for Visors and/or Center Latch Housing in Windshield Header

(some photos adapted from Stefan (Boston)'s remote extender hack – TIA Stefan 😊)

Problem: Over-tightening of outboard T-30 screws for the sun visors or those holding center latch housing (where the convertible top micro-switch is) will cause the brass nut to split thus yielding it useless. While doing the remote extender hack and adding footwell lights to my '99 986, I consequently broke 2 of these and knew the other 4 weren't far behind. The crux of the problem is these retainer nuts are only accessible by removing the windshield and replacing with new ones once the cavity is exposed. Some have had this done by dealers which has been documented to be a couple hundred \$\$\$\$. Regardless of having the \$ to do this or not, there has to be a better and more permanent solution. The T-30/M6 screws are steel and subject to a considerable load (the center ones especially since this is where both the soft top and hard top latches tighten to).

Background: Porsche used what appears to be a cast brass 'nut' as the retainer to attach the T-30/M6 steel screws for the visors and center latch housing. To boot, it's not even a solid piece, but more like a T-nut used in wood-working. Needless to say, any over-tightening of the screws will cause it to split thus allowing the screws to work free - if they hold in at all. Here's a shot of the culprit (after removal)...



Solution: Replace the 'hidden' brass retainer nuts with M6 x 1.0 steel nutserts. Intuitively, and especially once you dig into this project, it's almost as if they were designed to be or should have been used in the first place....

Difficulty: 3 - on a scale of 1-5 (1- engine air filter change, 5- brake pad and rotor replacement). It's very much along the lines of a SSK installation in terms of difficulty (pretty easy). That being said, if yours aren't broken I wouldn't do this as 'preventative' maintenance just remember to not over tighten them when reinstalling the screws. However, if one or more of yours is broken, then bite the bullet and replace all 6 at once.

Tools/Parts Needed: T-30 driver/bit (sunvisor - removal of outboard screws 2 each and housing for center latch 2)
T-20 driver/bit (sunvisor inboard removal 1 each)
needle-nose pliers (short nose preferred)
small flathead screwdriver
8 – M6 x 1.0 Steel Nutserts (6 needed for install – 2 for practice) – Grainger, eBay, etc.
Nutsert installation tool (a/k/a rivnut / pemsert tool) – find at Grainger, Harbor Freight, eBay, etc. – see note later
(optional) drill with 3/32 bit (hardened)
(optional) shopvac
(optional) drop cloth (to cover entire dash side to side and long enough to cover floor/shifter and seats)
(optional) 100mm (or longer) M6 threaded bolt w/ 3 nuts

Nutsert tool and nutserts (not to scale):



Nutsert / Rivnut tool



Nutsert / Rivnut / Pemsert – basically it's a blind rivet that is threaded on the inside and used in plastic, sheetmetal, and plexiglass applications.

Removal: Using your fingernail or a small flat head screwdriver, pull down the flap on the inside bracket of the sunvisor on the driver side of vehicle. Using the T-20 bit / driver and remove the screw.



Inboard – T-20



Outboard – 2 T-30 screws

Then, using the T-30 bit, remove the 2 outboard screws on the visor. Pull off the visor (and store along w/ the screws) to expose the gap. Repeat process on other visor.



With a fingernail, gently release the black 'eyes' in the center latch area where the motion sensor is located. Using the T-30 bit again, remove the screw in each 'eye'. Disconnect the 3 plugs (dome light, micro-switch, and motion sensor) and remove the latch housing to again expose the windshield header. The extra wire coming in on the right in my photo below is for foot well lights I powered off the dome light.



Then, gently pull down on the trim piece across the middle (it's held in w/ two plastic clips (one on each end) and unclip the wire harness from the header on the driver's side and gently lay the trim piece on the outside of the windshield. This will expose the steel windshield frame completely between the A-pillar trim on either side.

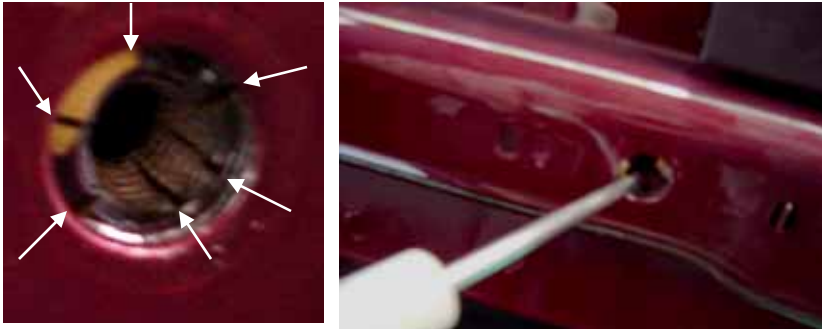


The white clips now exposed are the anchors used to secure the inboard side of each sun visor

**Removal
cont'd:**

Now the fun part begins.... getting the OEM retainer nuts out.

There are various ways to do this. You could painstakingly drill them out in pieces using the optional drill w/ a 3/32 bit. If you choose to remove them using the drill, make sure you take adequate measures to protect your dash, seats, carpet and entire interior. Otherwise you will forever be cleaning up brass shavings let alone scratching or tearing your leather. I chose an alternate method trying to cut down on the mess. Simply, I reinserted a T-30/M6 screws back into each one and over tightened it until any unbroken retainers split and the screw fell back out. The more splits the better....



Then, with a small flat head screwdriver, insert it into the split and turn it to make sure each piece separates from the next. It appears Porsche used a cast brass piece not solid stock so it splits easily – I guess thanks? Of course...you already knew it if your looking at this solution...

Next, carefully using the small flat head screwdriver and the needle-nose pliers, evacuate the broken pieces through the hole until they are all removed. I found it helps to curse profusely a few times on the really stubborn ones to motivate them. Make sure you scratch up around the holes a bit too.



There is a collar/lip on the inside which will keep the retainers in place somewhat so go for the smallest pieces first. Perform this process on all 6 retainers (2 outboard on each visor and 2 in the middle).

HINT: It's best to start with the left one from the center latch so you can get the hang of how they react when you try to remove them and lose grip as they will flop around a lot. If a piece happens to go AWOL here, there is a chute to the left you can use to retrieve the pieces. On the other 5, there is no chute.... Reminder, the only other access to this area is by removing the windshield so poke and prod carefully.



**Removal
cont'd:**

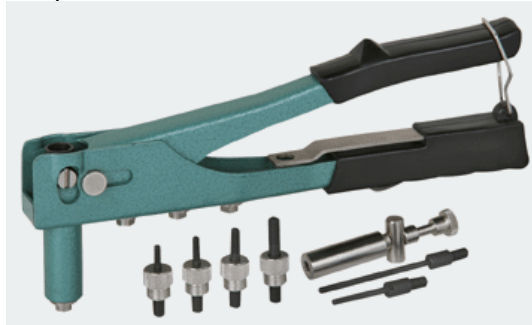
Once you have all the pieces removed, you'll be left w/ a 3/8" hole that's clean. If you look closely inside you can see the 'collar' which held the brass retaining nut in place. Don't worry about these, they don't get in the way. If anything, they help you on the install to center the new nutsert.



Congratulations, the hard part is over. It's a breeze from here.

The Fix:

Now, if you have a nutsert/rivnut/pemsert tool, you're good to go – especially if it's metric. If not, you'll need to get one that uses metric (most are SAE). However, being 'frugal', I decided rather not to invest \$150+ on a tool to use once. This is where Harbor Freight comes in handy...just order one of their 3 in 1 riveter kits (\$16.99). Knowing HF's tools aren't necessarily professional grade 😊, I chose the 3 in 1 over their other nutsert/threaded insert options as it looked more substantial.



It too is SAE. However, with the 3 in 1, I converted it to use my M6 nutserts by picking up a 100mm M6 bolt from Ace Hardware along w/ 3 nuts. You'll use the 1/4" nutsert nosepiece from HF, but pull the barrel off rivet adapter and slid it over the 100mm M6 bolt. Secure it using 2 nuts like this and add a 3rd nut to the bottom (about 1" up) to help keep the bolt centered when in the tool.



and just feed it into the tool as such



Practice:

You're almost ready to go...

Using a piece of scrap 12ga steel or the like, thread on one of the nutserts to the tool. Spin it up all the way so it's snug against the collar when the handle is open.



Insert the threaded nutsert into a 3/8" hole drilled in the 12ga steel and squeeze the trigger once. Then, reverse out the 100mm bolt to reveal an installed nutsert. Practice again if need be.



The Fix:

Now, for the real deal....

Thread on an nutsert until it's flush w/ the collar,

Slide it up into the hole until the nosepiece is flush



squeeze the trigger once. With the handle still compressed - reverse out the bolt. That's it! One done.....



As you may recall, I opened saying it seems as if Porsche designed for these to be used in the 1st place. Well, that's b/c you don't need to modify the holes at all. No drilling them out – nothing. Just slide in the M6 nutsert – it'll center itself using the collar behind, and squeeze the handle. Done!

**The Fix
cont'd :**

Now, just repeat on the other 5 holes. Once your finished, you'll have nutserts in all 6 holes like this:

My photography skills leave a little be desired - I accidentally cut the 1st one off in the picture.



Caution: There is one additional hole on each side of the windshield frame near the two outboard visor holes. Do not put nutserts into these holes. This is where the plastic clip from the trim piece slides into the frame. You'll pay heck drilling out the nutserts if you accidentally put them in here. See yellow arrows below for their location.



**Complete
the fix :**

- reinstall the center trim piece across the header (don't forget to push the wire harness clip back in to frame)
- attach the 3 plugs to the center latch housing for: dome light, motion sensor, and micro-switch
- mount the center latch housing using one T-30 screw in each 'eye' and screw into new nutserts
- push black 'eye covers' back into center latch housing
- align visor outboard side with A-pillar trim and clip on inboard side to white fastener using guide
- reinstall two T-30 screws into outboard bracket of visor into new nutserts
- reinstall one T-20 screw on inboard side of visor bracket and push flap closed
- repeat w/ other visor

That's it! Take satisfaction in now knowing when it's tight, it's tight and you don't have to worry about over-tightening these screws again and fear breaking the retainer. You're now using a steel fastener to secure a steel bolt. Good luck and all the usual DIY disclaimers apply!