

Volkswagen Cabriolet DIY Guide

020 Transmission: Replacing Starter Bushing

You bought a new starter, pulled it out of the box, and saw a neon tag with a frightening warning: "Replace bushing with this new one or your starter will not work correctly and your warranty is voided". Or, you read in the Bentley Manual that you need VW special tool #228b. Now what? Thankfully, the Internet to the rescue... or, more specifically, Vince Waldon at http://vincewaldon.com/index.php?option=com_content&task=view&id=29&Itemid=28. In case his site goes down some day, I have PDF'd his glorious instructions (with minor additions) from November 2007 (note: while this guide is showing the trans on a bench, the process can be done with the transmission still in the car):

This how-to covers removing and replacing the starter bushing in the A1/A2/A3 VW and their air-cooled cousins. This is an important procedure any time the starter is removed, replaced, or if the bushing makes noise. In particular, most new Bosch starters come complete with a new bushing and a warning label that states the warranty is void if the bushing is not replaced.

Disclaimers:

- Use these instructions at your own risk
- Read them through from beginning to end before starting
- This is how I do things... it is not necessarily the right way nor the best way!
- Using equipment, tools, and supplies incorrectly could result in serious injury to you or your property or even death

Parts needed:

- New starter bushing

Supplies needed:

- Bearing grease
- Brake cleaner
- Compressed air/ShopVac

Tools needed:

- ✓ 7/16" tap (or 11mm)*
- ✓ 1/4" socket and ratchet to drive the tap
- ✓ 7/16" bolt (3" to 4" long) and nut... used as a drift
- ✓ Hammer



*Local hardware stores, like Ace, sell the tap by itself.

Step 1: Disassembly

Start the tap in the bushing (turning clockwise):



Use the 1/4" socket to rotate the tap (clockwise):



As you rotate the tap it will eventually bottom out and then drive out the bushing:



Keep turning until you have completely removed the bushing:



If you find that the tap turns and bottoms out but doesn't extract the bushing, it may be that your bushing is so worn that the threads are too thin with your current tap and you need to try the next size bigger.

Step 2: Reassembly

Clean the hole with brake cleaner and compressed air/vacuum:



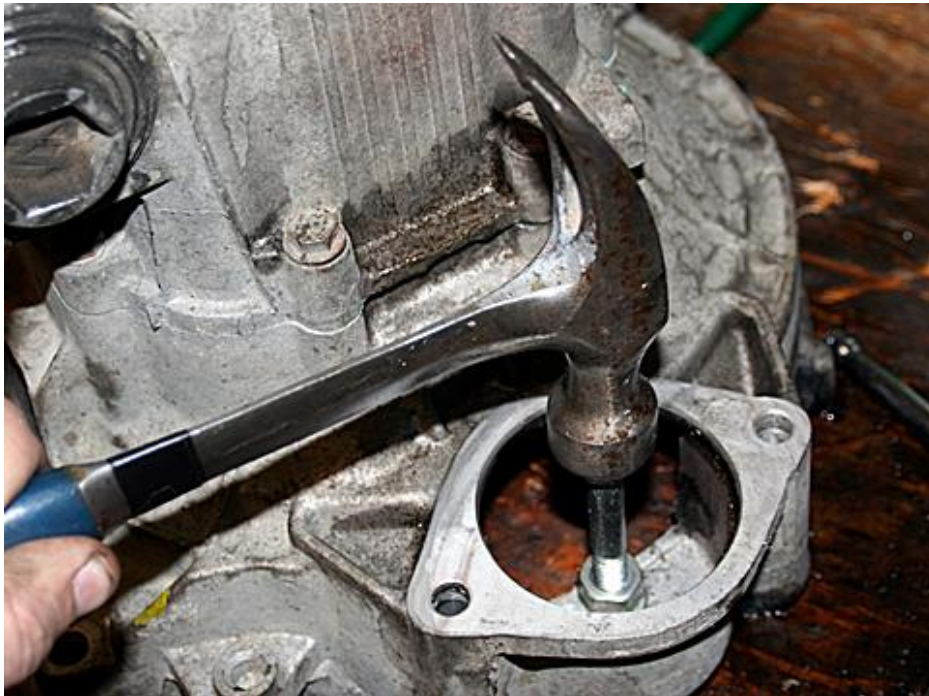
Coat the new bushing with grease and place it in the hole:



Place the bolt/nut combination in the bushing:



Tap gently with a hammer:



This will completely seat the new bushing:



Add a bit more grease and it's ready for the starter:



Tempting as it is, don't overdo it with the grease... too much and your starter will be surprisingly difficult to reinstall!!

[If not immediately installing the starter,] I like to seal the greased bushing with tape to keep crap out of the grease until the starter is ready to install. A flap of tape reminds me that it's there!!



**** Remember, *you* are responsible for working on *your* car; Cabby-Info.com, KamzKreationz, Vince Waldon, VAG, VWoA, or anyone else are not responsible if *anything* goes wrong while *you* are working on, in and under *your* car!
Use this information at your own risk!****