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**PORSCHE CAYENNE / VW TOUAREG
DRIVESHAFT CENTER SUPPORT BEARING**

INSTALLATION INSTRUCTIONS

These instructions only apply to this particular version center support bearing and may not be correct for other versions.

TOOLS NEEDED:

- Ratchet
- 12mm serrated wrench (triple square bit) – NAPA # SER2306
- 13mm socket
- 18mm socket
- 6 inch extension
- 18mm open end wrench
- Rubber mallet or dead blow hammer.
- . Expanding flat nosed snap ring pliers
- . Various other common hand tools

**INSTRUCTIONS: Read these entirely and understand them
BEFORE you attempt this procedure.**

1. Apply parking brake and wheel chocks to prevent vehicle from rolling. A lift is recommended for this repair.

IMPORTANT: Carefully mark driveshaft orientation on both ends of shaft sections. (Transmission and differential ends, as well as splined ends where the two drive shafts come apart to allow removal of center support) The sections MUST be reassembled EXACTLY as they came apart for the removal of the old center support bearing, and the driveshaft needs to be reinstalled EXACTLY the same way, in the exact same orientation. Failure to do so can result in imbalance, vibration, and potential damage to vehicle. Otherwise a professional drive shaft shop must be employed to re-balance entire assembly.

2. Remove 6 10mm bolts at joint at rear of back driveshaft. Use the M12 triple square (12point) tool. (NAPA part number SER2306).
3. Remove 3 18mm wrench size (12mm bolt size) bolts from front of driveshaft.
4. Remove 3 18mm wrench size (12mm bolt size) bolts on flex disc.
5. Remove 13mm wrench size (8mm bolt size) bolts on plate covering center support.
6. On some models (Turbos), it may be necessary to loosen various exhaust system clamps, hangers and components to ease access to driveshaft.
7. Pull driveshaft toward front of vehicle to separate it from differential.

8. Remove driveshaft being careful not to let the center articulated joint hang with all of the driveshaft weight on it. Support it to keep it as straight as possible.
9. Move the shaft assembly to a suitable workbench carefully and do not let the center joint dangle loose and carry all of the weight of the shaft.
10. In order to remove the center support bearing from the drive shafts you must separate the two drive shafts from each other. This is a delicate job and requires patience and some mechanical expertise.
11. You must first pry up the lip of the steel dust boot ring where it is crimped onto the longer of the two shafts. Use a small screwdriver, or similar tool to just barely get under it and slowly work your way around the shaft prying up on the lip, raising it just enough to be able to remove the dust boot bell from the shaft. There is a lip on the end of the shaft that this steel ring is bent or crimped over. There is an o-ring inside that seals grease inside the boot. You must do this carefully as you will be re-using this boot and will have to re-crimp it back on after you have replaced the center support bearing. Remember pry it up gently and evenly only as much as you need to get the bell part off of the shaft. This will make putting it back on easier if you do not bend it all up and destroy it.
12. Remove carefully the boot clamp at the other small end of this dust boot without damaging the rubber boot itself since you must use it back. Push the boot assembly back far enough to gain access to the snap ring that retains the two drive shafts together. **VERY IMPORTANT !** Mark the two drive shafts very carefully and very precisely so that you can re-install the two shafts back together in the exact spline position that you removed them from. If you fail to do this you will change the balance and the timing of the shafts and the new center support will only last a very short period of time. Use a tiny die grinder carbide bit on a Dremel tool or other permanent method that will not get rubbed off to precisely mark the two shafts. Even one spline off will prematurely destroy your hard work so pay attention.
13. Spread the snap ring retaining the two shafts together with some expanding snap ring pliers and pull apart the two shafts making sure you have read the above warnings first. You may have to fabricate a tool to keep the snap ring spread open while you pull apart the two shafts. Some help from another person here is sometimes needed.
14. Disassemble shaft and remove the snap ring that holds the support bearing on the shaft. Before removing the old bearing make sure you pay attention to the direction it is facing and mark the new one so you can match this position. It might be possible to use a rubber mallet or dead blow hammer to remove old support, but it is better to press it off. Take a cutter or knife and carefully cut off the old rubber around the bearing so you can remove the outer part of the assembly. This will allow better access to get the shaft in the press. Press off the old bearing. Install new center support bearing using some lubrication onto shaft making sure you have faced it in the exact direction you previously marked. Using a long hollow type tool for your press, push the new center support bearing back down until it seats. **IMPORTANT ! Make sure if you are pressing it back on, to NOT press on the very bottom little pilot bearing collar that sticks out of the bottom of the small driveshaft.** This collar will be forced back inside the tube and you will have no way to get it back out destroying your shaft for future use. Choose a proper sized spacer from your press tools to go over this collar and then you will be putting pressure on the shaft at the base of the collar

instead. This way you will harm nothing. Replace the snap ring you removed before that locks the support bearing onto the shaft.

15. Re-assemble the two drive shafts back together making sure you align the splines **exactly** as they were before you removed them. THIS IS VERY IMPORTANT for reasons already mentioned above. The end of the male shaft splines are tapered so you can just push it into the female splines and with a little grease it will expand the snap ring as you push them together. The snap ring will drop back into place by itself. Make sure it has seated before moving on. Add some EP rated CV joint type grease on the exposed balls of the articulated joint before re-installing the dust boot.
16. Re-install the metal collar end of the dust boot you pried up previously, using some silicone seal to seal it to the outer ring part of the driveshaft. You must now take a tool and a slowly hammer form the steel lip back down over the drive shaft ring flange to lock the boot back to the long driveshaft. This takes some time going around it slowly to form the metal back around the ring. A suitable tool can be fabricated to hammer the lip back down without destroying the flange. After it is re-seated run a small bead of silicone around the outside of this area just to make sure of a weatherproof seal. Replace the clamp you removed on the other small end of the boot to seal it back up as well. A narrow German type hose clamp can be used or a medium sized plastic zip tie.
17. Reinstall driveshaft, making sure to align it properly to the transmission and differential according to orientation marks made prior to removal. Always use 6 new bolts at the rear driveshaft coupling and use Loctite on threads of all hardware. Torque all bolts to factory specs.
18. Make sure cover plate over center support bearing and bearing itself are aligned properly so that all screws can be easily installed and secured. Center up the assembly before tightening the bolts.
19. Reinstall exhaust and tighten all exhaust clamps if you have removed any.
20. Double check every step performed for reinstallation of driveshaft, and make sure there are no extra items remaining uninstalled. Make sure all bolts and fasteners are tightened to spec. Use of Loctite on all fasteners is recommended but the hardware must be clean and dry of oil for it to be effective.
21. Release parking brake and wheel chocks and safely put vehicle back on ground.
22. Start vehicle and listen for rattles in or around driveshaft from outside the vehicle
23. Using extreme caution, check for any vibration or loose appearance in drivetrain (Driveshaft will not spin when stationary, obviously)
24. If all appears normal, drive vehicle short distance at low speed.
25. If low speed feels and sounds normal, gradually increase speeds up to highway speed (where legal – always observe posted speed limits), and pay close attention to check for any vibration or noise from drivetrain.