

944 5th gear swap

Written by Joe Paluch

Wednesday, 20 April 2011 14:01

944 5th Gear Swap – 4/20/11



1. Remove the gearbox from the car
2. Remove the fill plug and drain plug



3. Removed rear cover on the end of box. The picture shows where I knocked the screwdriver in and pryed the cover off. Changes are high you will damage this cover and need a replacement

4 - Next is the hardest part of the whole project, removing the triple square bolt from the end of the shaft. Insert the triple square bit into the bolt and give it a solid wack with a hammer before trying to remove. This “shocks” the bolt helping it’s removal. - Note that on Most NA boxes the is just a regular nut not triple square so easier to remove.



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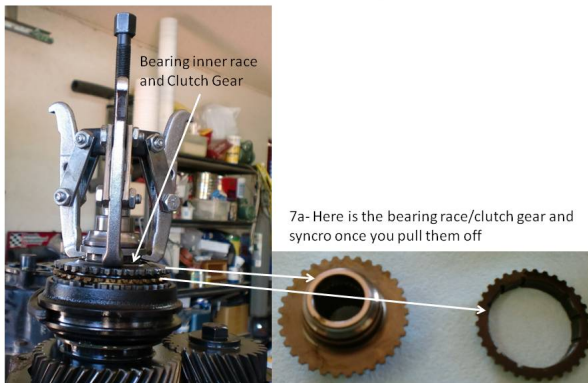
- 4a. If you need to you can hold the shaft using collar either with fixed bar (as shown) or possibly a friend with a wrench.
5. Not you need to remove all the bolt so on the rear cover. Penetrating oil will help limit the impact of corrosion on these.



6. So once you get the rear cover off it will look like below. The rear bearing balls and outer race comes off with the cover



7. Time to remove the bearing race/clutch gear. I used a gear puller to make it a bit easier. These are \$20 bucks at most auto parts stores.



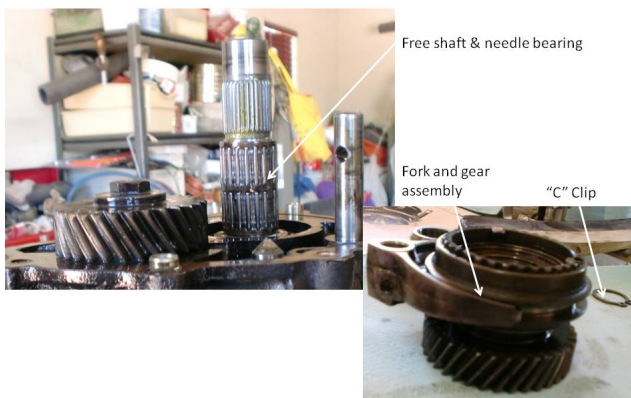
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10. Time now to pull the entire gear and for assembly off the shaft. Done right and it will come off together. Done wrong and you will have mess of small pieces. (see last 2 pages for recovery)



11. Remove the bolt holding fixed 5th gear. A couple of Phillips head screw drivers stuck through each of the hubs will lock the trans so the bolt can be removed. A gear puller may be needed to remove fixed 5th gear.



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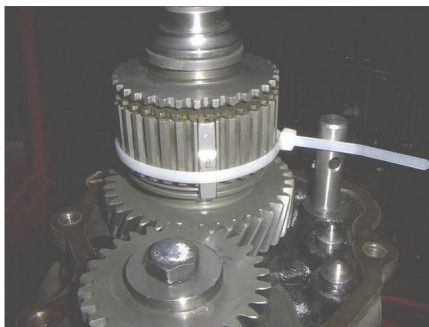
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15. Reassembly all the parts in reverse order. Note that you probably will need to heat the clutch gear/bearing inner race to get it back on. - Torque bolts on gear shaft to 51ft-lbs
16. Install new paper gasket before installing housing. Torque bolts on housing to 18 ft-lbs. Shaft bolt to 51 ftlbs - Triple square bolt is 110ft-lbs. (don't do this the regular bolt as it will break)



17. If springs and clutch blocks go flying here is what can be done. (I copied this procedure, but never had to perform it)
18. The red arrow marks the proper orientation of the top spring. The green arrow shows the syncro ring which does Not go there.
19. Once the spring is in place install the syncro ring making sure to line up the 3 keyways of the 5th gear slider with 3 indents on the syncro.
20. Next heat up and install the clutch body and inner race.



- 21. Install the clutch blocks and hold in place with a zip tie.
- 22. The bottom spring (look below zip tie) hooks beneath one of the blocks other than the one that is hooked by the top spring and then wraps around under the bottom of the other two blocks.
- 23. Install the slider and shift fork. On the inside of the slider there are 3 long indents with a shorter indent on either side equally spaced corresponding with the 3 clutch blocks.
- 24. Once the fork lines up with the hole in the shaft install the set pin.