308-03B Manual Transmission - Vehicles With: 6-Speed Manual Transmission - B6

Procedure revision date: 04/25/2013

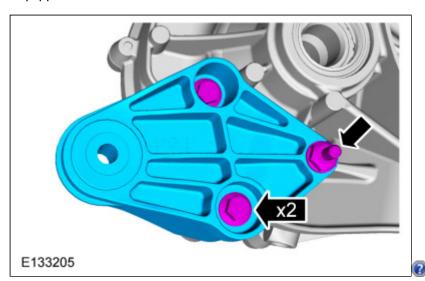
2014 Fiesta

Disassembly

#### **Transmission**

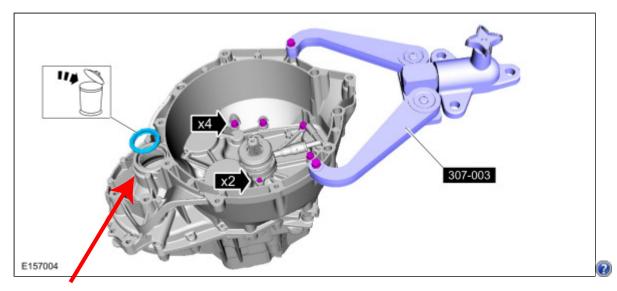
MARNING: Before beginning any service procedure in this section, refer to Safety Warnings in section 100-00 General Information. Failure to follow this instruction may result in serious personal injury.

- 1. Refer to: Health and Safety Precautions (100-00 General Information, Description and Operation).
- 2. If equipped.



My car didn't have this.

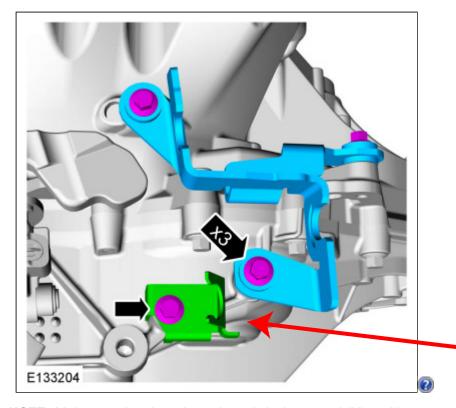
3. Install Special Service Tool: 307-003 (T57L-500-B) Holding Fixture, Transmission



4. I used a blind/pinion seal puller to remove these oil seals.

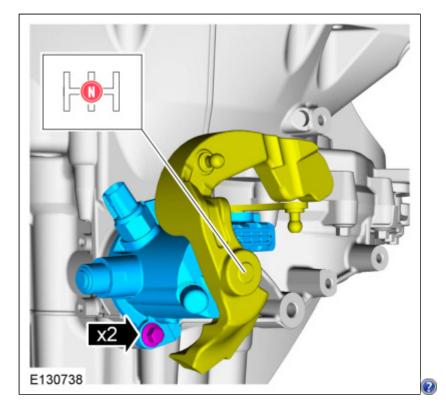


Workbench - for me, I have a large workbench. i used one of those large, flat oil drip pans as a base, clamped with a piece of wood to the table top. This worked really well and I would recommend it for anyone with the space. Make sure you have a heavy duty table that you don't mind getting scratched, scraped and dirty.

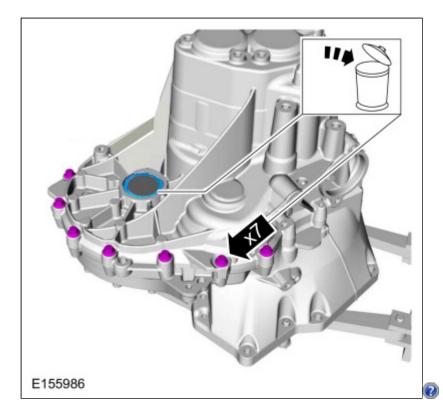


Only bracket I had to remove. The other one (in blue) was removed earlier.

5. **NOTE:** Make sure that the selector lever is in the neutral (N) position.

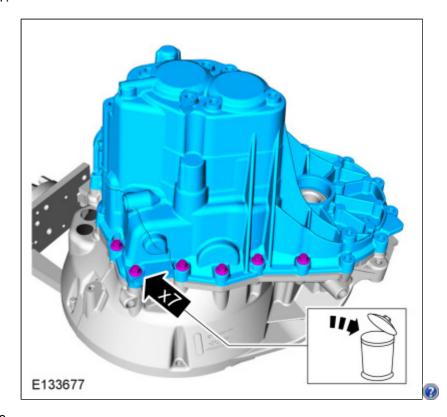


Watch your fingers. The shift selector has a lot of spring force and mass. The yellow piece needs to be centered.



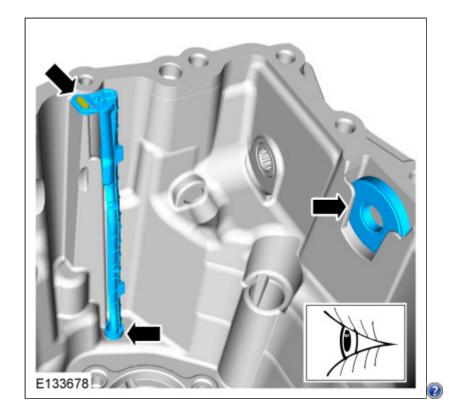
Remove and replace all of these bolts.

7.



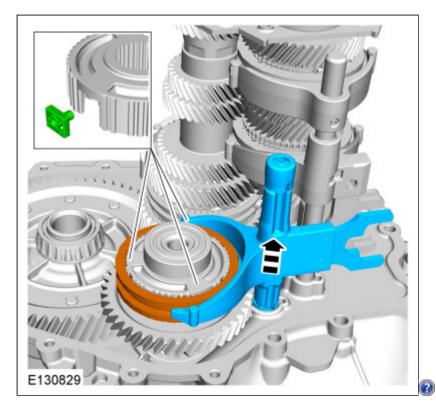
Remove and replace all of these bolts.

Left half of case will now lift off. There may be some gasket maker material. There are two locating pins. May need to gently pry (not on the mating faces!) to pull case halves apart. Lift straight up.



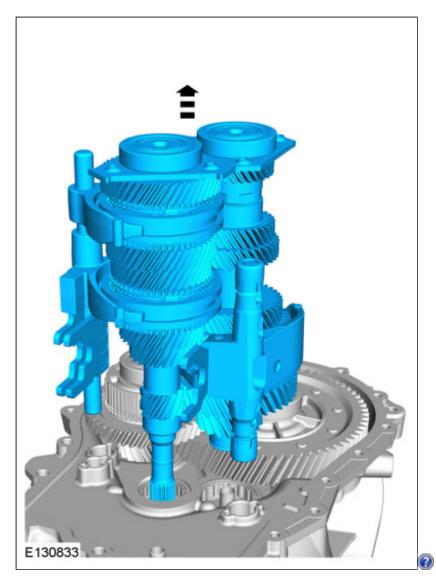
The platic funnel/channel and the magnet will probably fall out as you are lifting the case. Be careful. Don't lose or break them!

9.



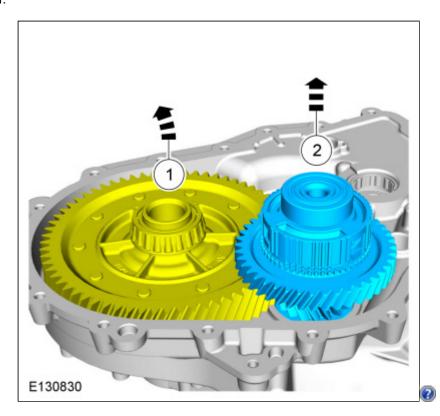
Next up is the secondary drive shaft selector fork. As you lift this out, the small green parts will pop out from the synchro assembly. Be ready! There are three of them. Capture them and set aside.

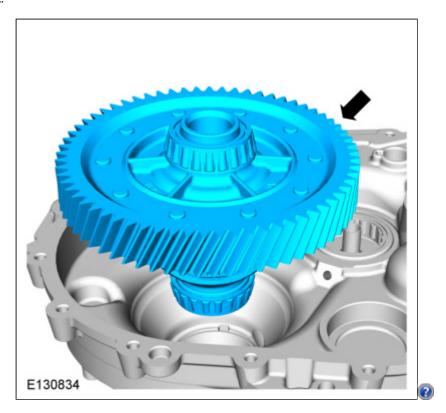
10. **NOTE:** The differential ring gear may hang up on the shaft assemblies.



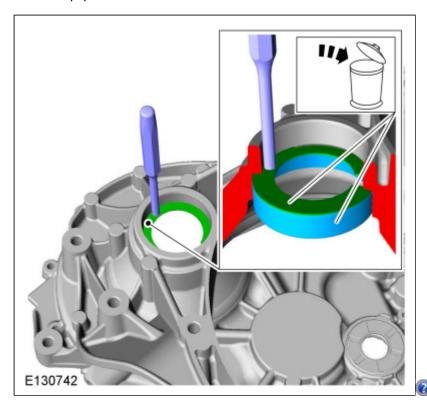
The two bearings on the top here are the ones that failed in my transmission. Plan on replacing these!

11.

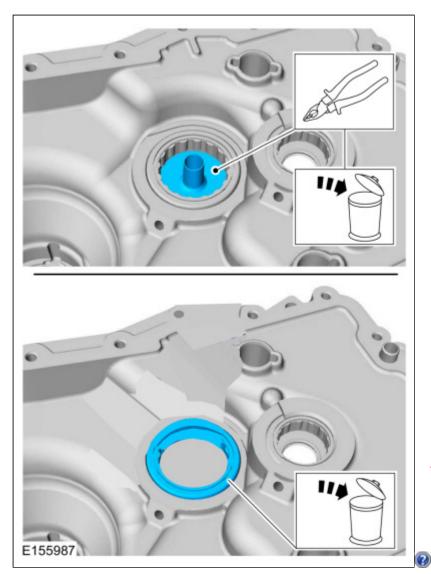




# 13. General Equipment: Punch



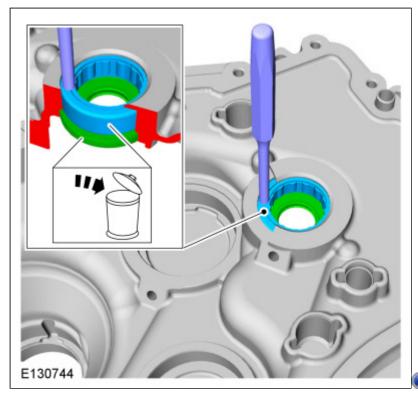
Take note - the green item in this image is the shim which is installed once the Diff end fload is determined (performed during the install process). I preserved mine and re-used it, as there was no damage to it.



This is the yellow plastic funnel. I was able to remove this intact, but chose to replace it anyway in case the plastic was brittle.

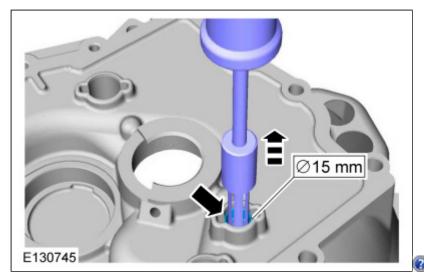
IIRC, this bearing came out before the previous item (the yellow funnel). Mine just lifted right out.

## 15. General Equipment: Punch

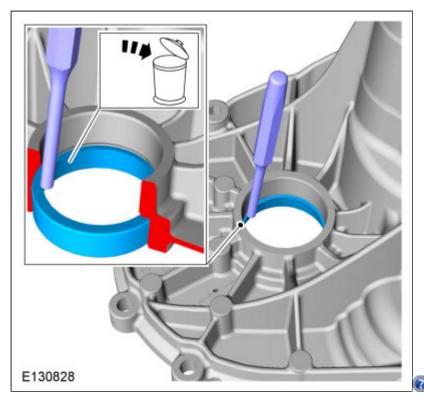


I chose to remove the green oil seal with a blind pinion seal puller tool before punching out the bearing. Doesn't really matter which you choose.

#### 16. General Equipment: Puller



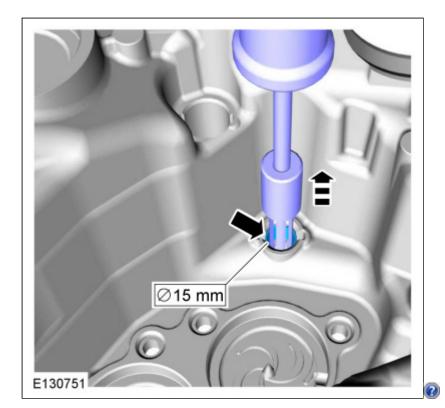
### 17. General Equipment: Punch



18. General Equipment : Puller

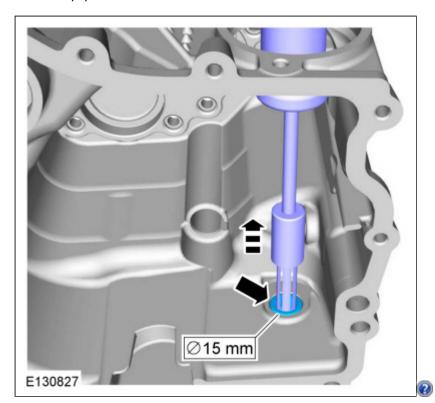
As a side note here, don't be afraid to damage the race. These bearing races are incredibly hard. During the install process you will have to install this race and then remove it with a punch and then RE-install it after measuring the end float. Yes! The new bearing! Take your time. Avoid hitting the case. You don't want to mar the bore. It's easy for the punch to slip down along the side of the bore. Keep it angled as straight as you can as you go.

OK! Here we go. These little bushings are A TOTAL PAIN IN THE ASS. I tried using varoius pinion pullers (like the one in the picture) and had NO LUCK. There just isn't much to "grab" onto without scratching the sides. Here is what worked, and worked well. Get a slide hammer. Get a length of steel brake cable, from an old bicycle. Cut the cable and fish it down one of the small channels on the side of the bearing. Pull the wire out through the center of the bore. Tie the wire in a strong knot. Tie the other end to the slide hammer. Have one person (or clamps) hold the case. The other person will then stretch the cable taut and use the slide hammer to pull the bushing out. Worked like a charm on both bushings for me.



Another one of the pain in the butt bushings. Use the steps outlined in step 16 earlier.

## 19. General Equipment: Puller



This is the small steering shaft roller bearing. It's tiny! I was able to get this out with A LOT of work. The eventual solution for me was to use one of the blind pullers, some steel bar scrap laid atop the case for bracing and heating up the case around the bearing with a heat gun. It took forever and was not an easy one to remove.

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