

# Shiftless in the Carolinas

It was a cold rainy January 2016 night, the XC90 was running strong; I was 8 hours in a non-stop 13 hour drive from Tampa to Cary, NC. I prefer to travel the old Federal highways, like US-1, US-301, US-401 and US-601 instead of the Interstate highways. Why? Because the old federal roads are mostly 4 lanes divided highways and lightly traveled, unlike I-95 and I-40. The '90 was averaging 23-25 mpg at 2000 rpm; its sweet spot. More or fewer RPMs increased fuel consumption.

The fuel gauge showed one-eighth; it was time to gas up. I reached Orangeburg, SC and located a discount fuel/food stop, the Tank & Tummy, shifted into park and turned the ignition off. Gas, a cup of hot coffee and peach pie; yup, that was the ticket. The marquee said; "Eat Here-Get Gas."

With a full tank and 5 hours remaining, I moved the gear selector to "Drive" and drove out. Upon entering the 65 mph speed zone, I shifted the gear selector into the manual mode to lock the transmission in 6th gear to prevent the computer from downshifting the transmission to 5th or 4th gear at the slightest hill. I set the cruise at 2000 rpm and settled back for the next leg to Camden, SC. The LED light bar lit the road, I dipped it for oncoming traffic, not that there was much.

Entering Camden, known for its efficient traffic enforcement, I pushed the gear shift selector right to engage the automatic mode. It didn't budge. It was frozen in the manual mode. Note: the computer downshifts the transmission in manual mode, but does not up shift unless the gear selector is moved slightly forward to bump the up shift micro switch or by placement in the automatic mode. I was stuck in 3rd gear; fortunately I caught green lights through Camden and was able to remain in 3rd gear.

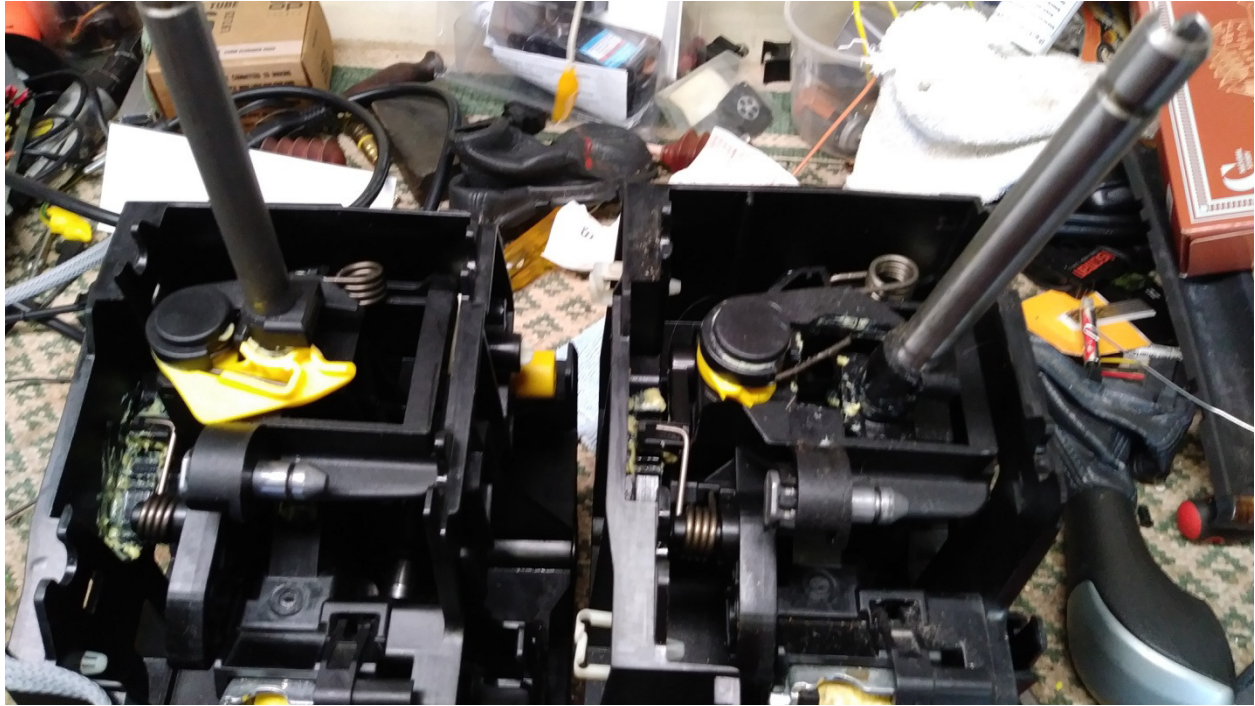
I was 3 hours or 161 miles from home at highway speeds or 6 hours at 30 mph. Instead of calling AAA for a tow truck to transport the XC90 and myself home, I pressed onward believing I'd arrive home safely, but late. I knew if the car stalled or I had to turn the ignition off, I'd never restart the motor because it would not shift into Neutral or Park. Plus, I could not stop for a red light or stop sign because the transmission would dump into 1st gear. My options were not good. I needed a good plan "B." Wondering exactly how the gear selector worked, I knew the gear selector was not directly connected to the transmission with a cable, but the link between the two was electronic.

When finesse does not work, turn to brute force. [It's not possible to break something that is already broken.] I slammed the gear shift lever forward with the palm of my hand and it moved just enough to trip the micro switch and cause the transmission to shift to 4th gear, another two smacks achieved 6th gear. This was workable, but what if I needed to gas-up? I hypothesized I could pull up to the pump, leave the engine running, set the emergency brake to prevent the car from rolling forward, gas-up, release the brake and resume the journey; all without turning the ignition off and precipitating a tow.

Hours later, I pulled into my driveway, set the emergency brake and killed the ignition. I gathered my luggage and the Border collie, entered the house and went to bed.

The following morning was dark and cold; tearing into the gear selector would have to wait until the sun offered some warmth. After lunch, I removed the bezel shrouding the gear selector mechanism and observed the yellow selector pawl had disintegrated; its strong spring prevented the gear selector from moving.

On the right, the broken yellow gear selector pawl remnants are barely visible. On the left, is a gear selector with a good working pawl. It's a shame that such a critical component, subject to daily stress, is plastic; a classic example of "cheap" manufacturing. No doubt others have experienced the same failure, which in some circumstances may have led to poorer outcomes.



Suffice to say, for a new replacement component, you'd pay \$400-\$500. I was able to secure a used assembly from a donor car at my local LKQ U-Pull-It salvage yard for \$15 plus a \$3 entry fee.

Hint:

*If you are new to DIY-ing, identify the replacement part required, go to the salvage yard, locate a donor car and remove the part. The salvage yard is where you learn which fasteners to remove and how, without causing collateral damage to other components. If you make a mistake, the salvage yard is where to make it, not your vehicle. If you destroy a part, move on to another donor vehicle and start over without repeating the earlier mistake. Eventually, you will learn how to remove and replace the component with ease. And ALWAYS, collect the nuts, bolts, springs and clips associated with the part as you never know what you might need.*

Time required to replace the broken gear selector was: 1 hour to diagnose problem, 3 hours to drive to the salvage yard, remove a selector and return home and 1 hour to install. I spent 5 hours total, \$18 and worked outside in 45-50 degree weather. I'd expect a shop to charge \$1100-\$1200 for this repair. I repaired the XC90 for \$18 and 5 hours of time; I chose to spend 5 hours of time to save \$1082+.

Should you do this? I don't know, but ask yourself, "If you were in a similar situation, how could you earn \$1082 in 5 hours?" A wise person told me that wealth is created by money not spent, but invested. [Dave Ramsey would agree.]

BTW, it is perfectly acceptable to install good serviceable used parts in a 5+ year old vehicle. Most garages won't install a used part to prevent customer "call backs." Then, there is the fear factor: the owner may be told the used may not may the vehicle "trustworthy;" but, the entire vehicle is a collection of used parts. Go figure!

Oh, yes! I've observed women in the salvage yard culling parts for their ride; my kind of woman. I began taking my daughter to the salvage yard when she was 16 to cull parts for her first Mustang. Now when she opens the hood of her Volvo, she can identify the components and perform routine service.

Repairing a vehicle is not rocket science, if it were, I'd be at NASA.

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