Gear Vendor Field Installation

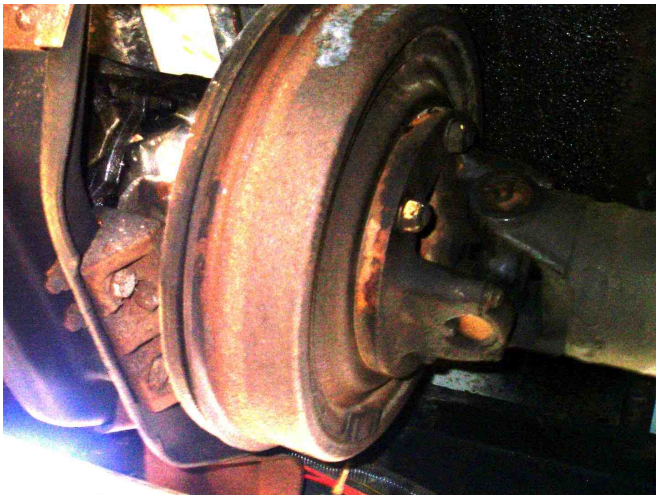
April 3-15, 2007

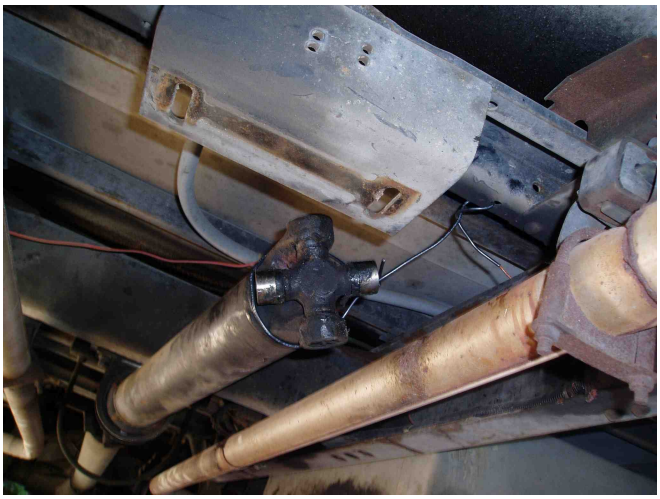
Gear Vendor is basically an overdrive unit. One difference is, you can engage it while in any of the three regular gears, so it makes your rig a "6-speed." Installation by Camping World or a shop would cost about $700.00, and I felt it was straightforward enough to tackle myself.

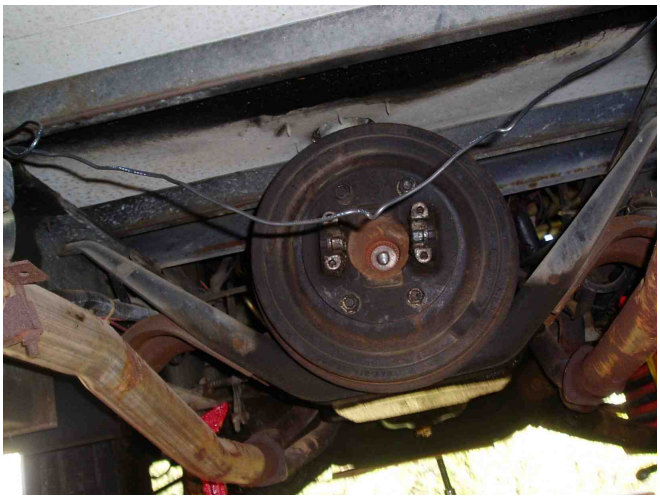
Step one was to block the curb side rear wheel and put the front end up on stands. Note the well lighted and spacious shop space, marred only by a lack of shade, since my tree has not leafed out yet.

The hydraulic jack was adequate to bring the coach's front wheels off the ground so it could be supported by the two 12,000 pound stands (below left).

The next photo shows the carrier bearing between the first and second drive shafts. I partially dropped the carrier bracket and tied wire to the second shaft to keep it from dropping down.







A Dremel tool (pictured) was used to score marks on the components. This would be so that they could be oriented the same way on replacement. It turned out the drive line shop assumed each component would have been individually balanced. They didn't think it would be necessary to balance the drum and shaft together after shortening the shaft. So the marks really weren't of any use.

I removed the U bolts from the second drive shaft yolk (right side of the carrier bearing in the photo) and from the front combo brake drum/yolk at the transmission end.

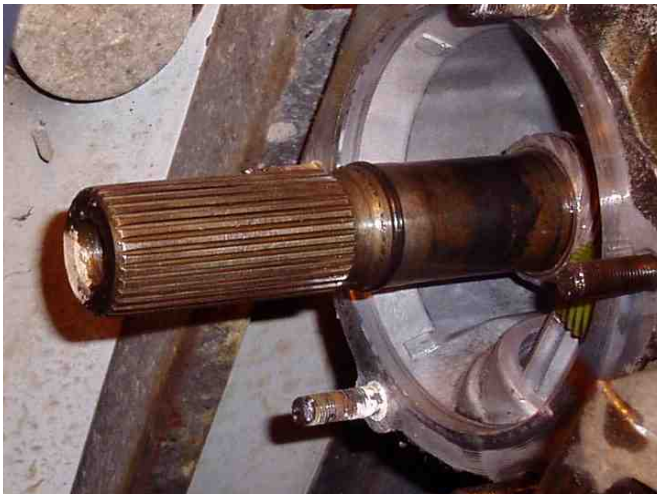
Above, left is the the second drive shaft with the first drive shaft and carrier bearing assembly removed. At right is the parking brake drum with center bolt removed. It was, fortunately, fairly easy to pull the drum off the splined transmission shaft by prying carefully on two sides with a pair of large screw drivers.

Above, the drive shaft is out on the ground, and the brake drum DOES FIT the Gear Vendor tail shaft. And the shortened shaft is back, prettier than new. Below right, I've removed the backing plate and

cable and the speedometer cable and the bolts holding the rubber transmission mount. The Talcott Automatic Transmission Jack is deployed. I then removed the tail assembly (six bolts), and the rubber transmission mount (two bolts).

Now some bad news. the splined coupler of the GV input shaft does not want to slide on to the transmission tail shaft.

There was rust in the brake drum splines and the center bolt was maybe a little too easy to remove. And maybe it was a little too easy to pull the drum off the splined shaft, also. This tail shaft is kind of beat up. I could drive the coupler on, maybe it would go all the way on, maybe not.... I put in a call for help and sent GV a photo of the tail shaft...

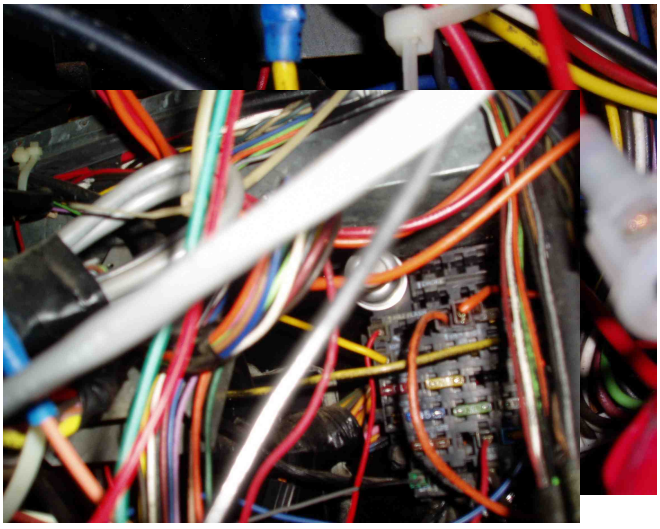


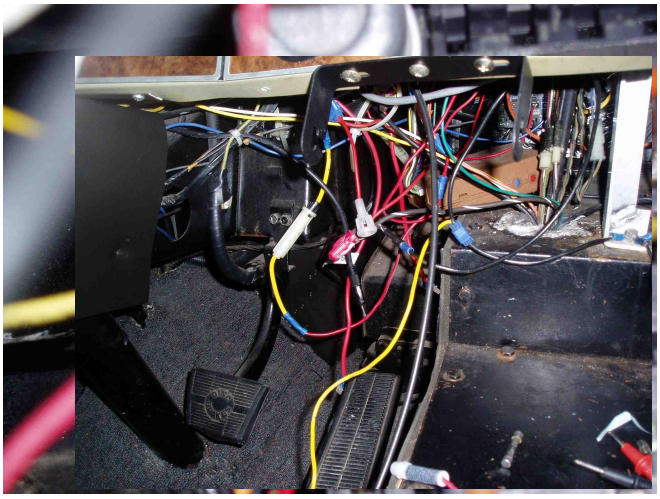
GV is sending a new coupler and I am burnishing the shaft where the splines are mushroomed and distorted, mainly out towards the end. Here's the "before" picture....

...and here's the "after."

04/08/07
I used a flat file and a rat tail file and emory paper to burnish the grooves and lands. In the process I nicked the coupler, so I sure am glad they are sending a new one. The 'rusty' color in the photo is actually reflection from the drop light, not rust.

04/09/07
Waiting for the new coupler, I started looking into wiring needs. Diverted a bit by the need to hook up our new coach radio, I found kind of a rat's nest where I hoped to find a switched lead for the radio and for the Gear Vendor.





04/10/2007
The new coupler slides on like a knife through hot butter. Next step, installation of the extension housing....

I followed the instructions to shim the inside socket of the coupler to adjust the endplay of the shaft. Used all but one of the supplied shims.

Notice plenty of white lithium grease on the seal and coupler—and a big effort to keep everything perfectly clean during installation.

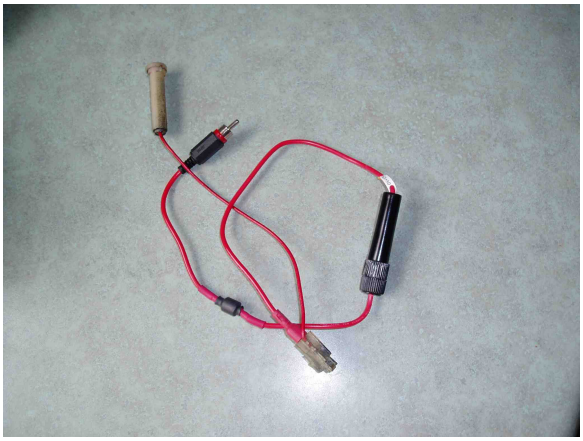
After shimming the coupler and replacing the transmission mount, it was time to mount the Gear Vendor unit itself!

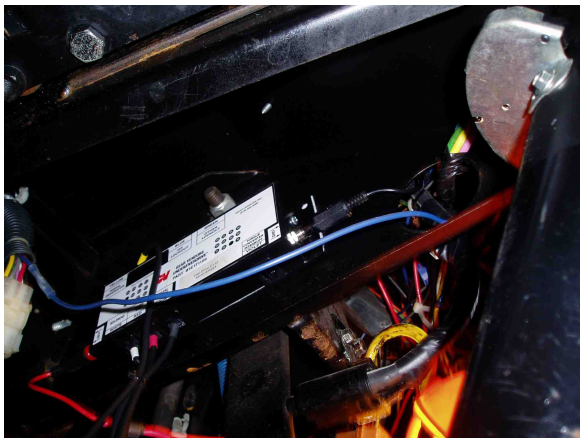
Here and in the following photos, the GV is in place and the brake re-installed.

04/12/2007
Today I assembled and adjusted the parking brake cable, and tightened down the center bolt on the output shaft./brake drum. Then I replaced the shortened drive shaft being sure to use Locktite on all the screws and bolts.

Filled the Gear Vendor with the prescribed 38 ounces of synthetic ATF.

Now it's time to install the electronics! I found a terminator that is on when the ignition is on, and tapped into it with the little brass gadget that was included in the GV kit. You can see two leads coming out of the terminator at the bottom of the picture; the one with the RCA plug runs to the GV control box.



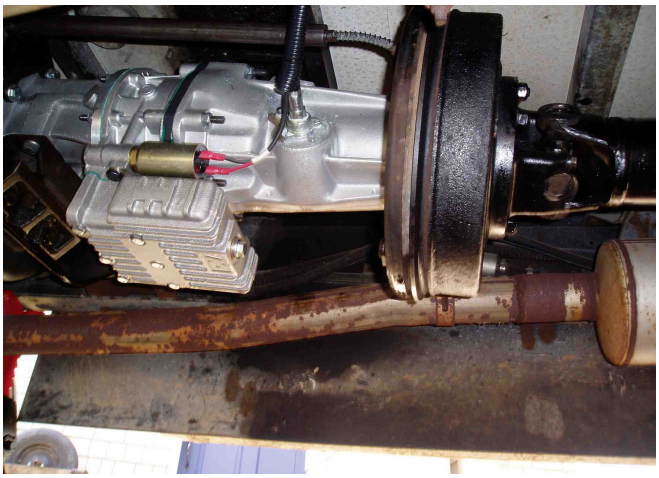


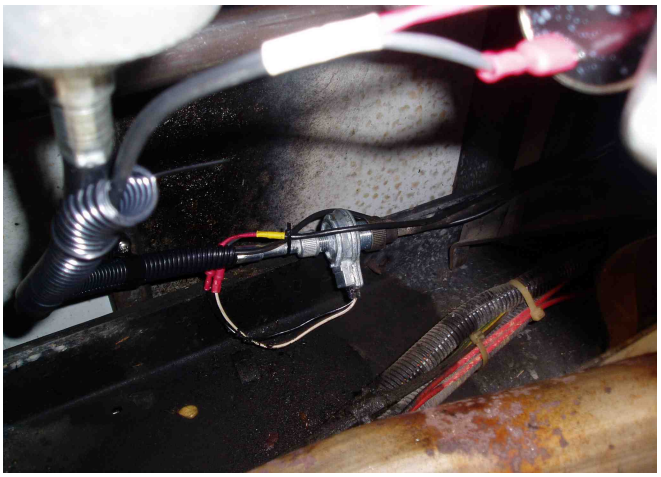
There was a convenient spot on the steering wheel brace---convenient that is, if you can use industrial strength Velcro instead of screws--to attach the electronics unit.

Next the dash console was mounted. I used nuts and stove bolts because the dash is plastic and would not hold up to sheet metal screws. It was a little bit of a chore because there was a piece of metal bracket on part of the site—I modified the supplied shim and added a spacer on one side so the console is level under the dash.

I put the foot switch as far away from the dimmer switch as I could on the left foot platform. I didn't want to put the switch over on the left on the flat floor because it seemed like too far to move your foot when you wanted to hit the switch.

04/13/07
Today the GV solenoid and sender were connected, and the cables tied.





I put a bracket between the speedometer gear and the sender to pull the cables away from the exhaust pipe. Also tied up the slack cable under the dash.

04/15/2007
Driving test: Works perfectly. At 60 mph the tach shows about 2500 rpm—without the GV it would read about 3100.

The Gear Vendor folks were great. They answered my questions and got a part out to me right away so I could get the job done. When I called about the fit of the coupler the technician's immediate response was to send another one out.

The installation instructions are very clear and detailed.