T-5 Swap

Written by Butch

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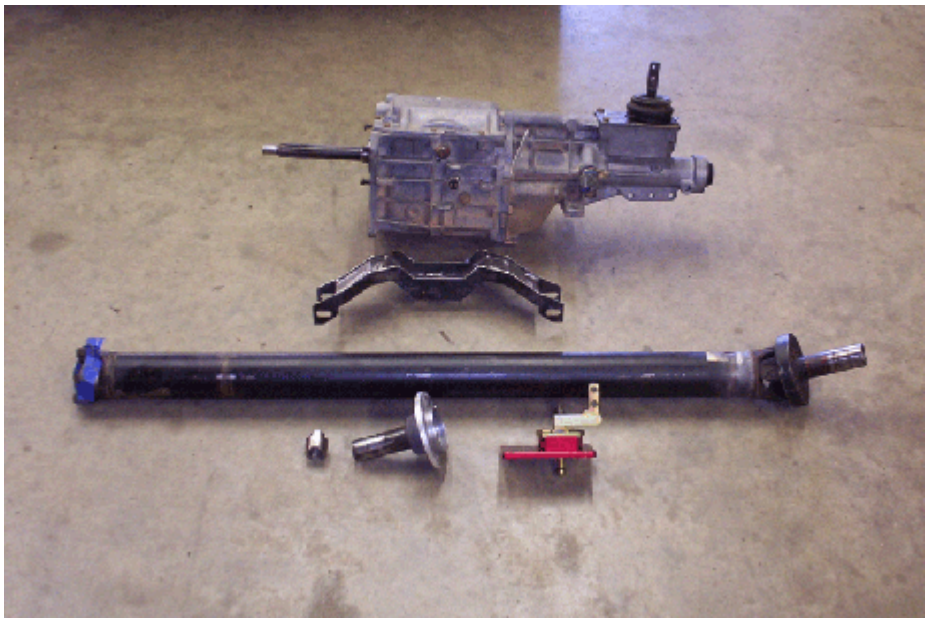
I finally had time this summer to do the t-5 swap in our cobra and thought I'd share my experience in converting the car from the RAD 4 speed to the t-5. This swap was done not only to get the additional strength of the t-5 but also to increase fuel mileage. Hopefully this article will be of some help to those looking to do this swap.

There is more than one way to do this swap and each has advantages and disadvantages. You can use either the fox body t-5 bellhousing, the Mustang II bellhousing or now there's an aftermarket bellhousing being made for this swap. I chose to adapt the t-5 to the Mustang II v-8 bellhousing for a couple reasons. For one I had headers and there is interference problems with headers and the other two bellhousing options. I also already had a clutch and pressure plate that were almost new and I had them specially built with kevlar pucks on the clutch disc and stronger springs in the pressure plate. Another reason is that this way requires very little surgery to the tunnel for the shifter, so I can return it back to stock later if I desire. I would suggest if you choose to go this route that you look for a t-5 from a 94-95 model Mustang because they have a longer input shaft than the earlier t-5's (although it's still about 3/8" shorter than the RAD input). The 83-93 Mustang t-5 input is about 1 1/4" shorter and while making a longer pilot bearing sleeve is possible, the shorter input doesn't completely engage the splines in the clutch disc. If you have an earlier t-5 you can have the 94-95 input installed in it.

The first thing to do is to find a suitable trans. All the t-5's will bolt to the Mustang II bellhousing, the biggest difference is strength and gear ratios. The only way to tell what the trans came from originally is to look at the aluminum tag that's fastened to one of the bolts on the tailshaft. The tag will have a number that starts with 1352 and the numbers after that will tell you what the trans came from. Here is a guide to help determine for sure what your trans came from: http://www.moddedmustangs.com/forums/general-tech/828-t5-specs.html

OK now to install the trans in the car. Here's a pic of the parts you will need to install the trans with the Mustang II bellhousing:

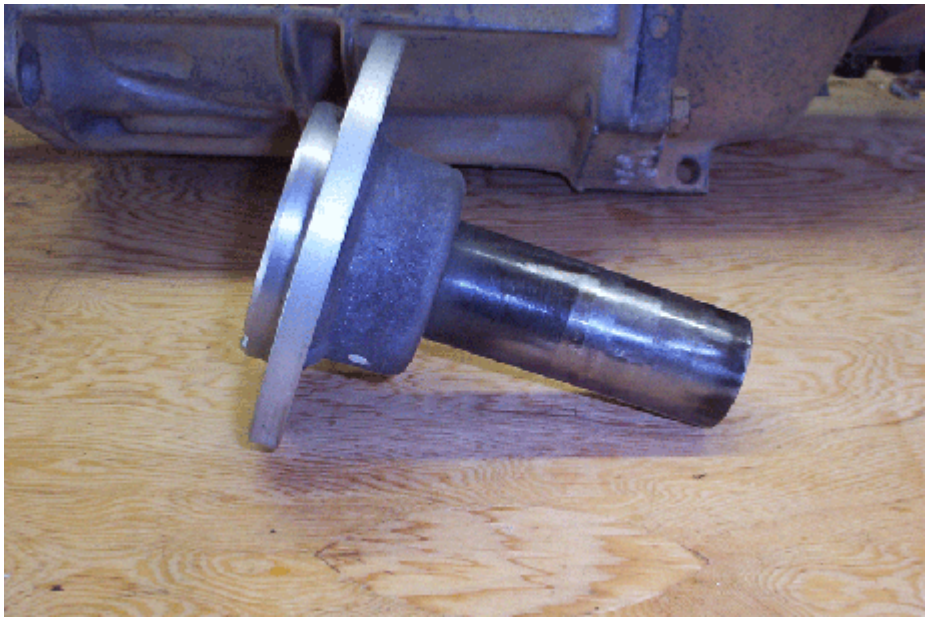


The RAD 4 driveshaft will need shortened about 1" from 45 3/4" to 44 3/4". I ordered the t-5 crossmember made by Greg Deer for this application rather than make my own. It's a quality part that fits well. I first installed this crossmember with the stock rubber fox body transmission mount (Anchor part # 2530) but it put the shifter very close to the bottom of the tunnel so I ordered the polyurethane fox body mount from Summit Racing (Summit part # ENS4-1104G). It's about 5/16" shorter and gave me a little more clearance from the tunnel. The shifter came from Modern Driveline. It's a short throw shifter and it also puts the handle back in the stock location so I didn't have to move my console. It required the dust boot from the stock shifter base but I didn't take a pic of it after I installed the boot.

OK, now some pics of the specifics about the swap. Here is a pic of the longer pilot bearing sleeve to make up for the difference in length of the input shaft. The roller bearing was simply pressed out of the stock sleeve on the left and installed in the new one I had made at the machine shop.

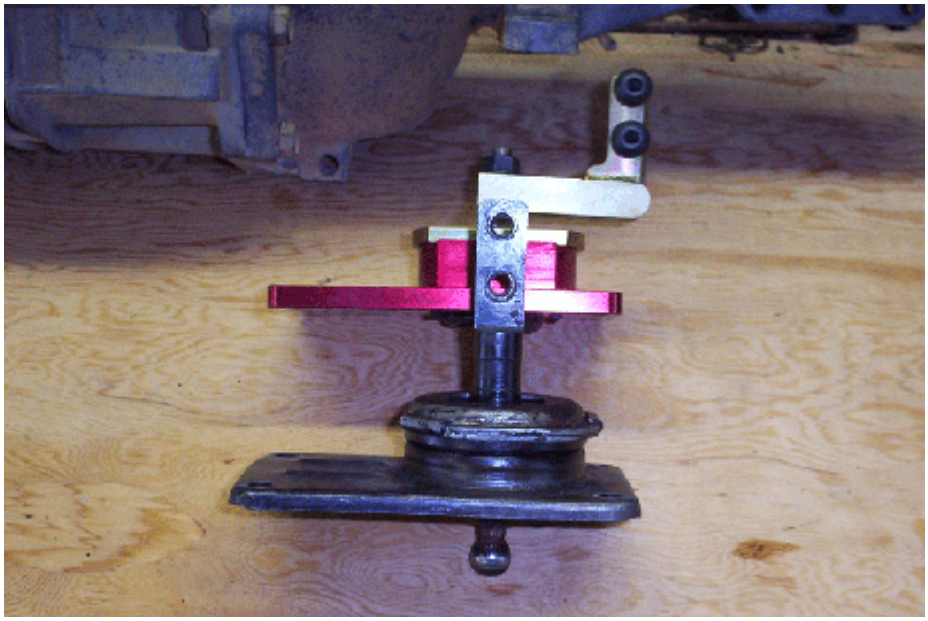
And here's a pic after the bearing was installed in the new sleeve.

You will have to turn down the outside diameter of the input bearing retainer about .010" to fit into the Mustang II bellhousing. You can also enlarge the hole in the bellhousing but this way allows me to be able to use the same bell if I went back to the RAD for some reason. Here's a pic of the retainer after being turned down at the machine shop.



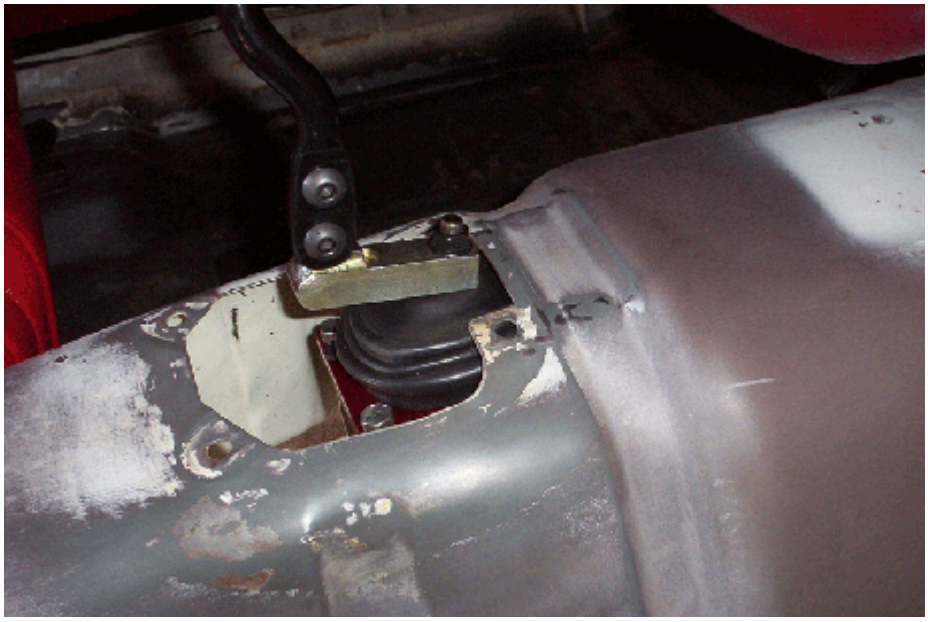
This is a comparison shot of the new crossmember (front) and the Mustang II crossmember (back). When you use the Mustang II bellhousing it puts the t-5 transmission mount back about 3" further than the RAD mount and this crossmember accounts for that difference.

This is a comparison shot of the stock t-5 shifter base and the one from Modern Driveline. The new shifter base moves the handle back to the stock location.

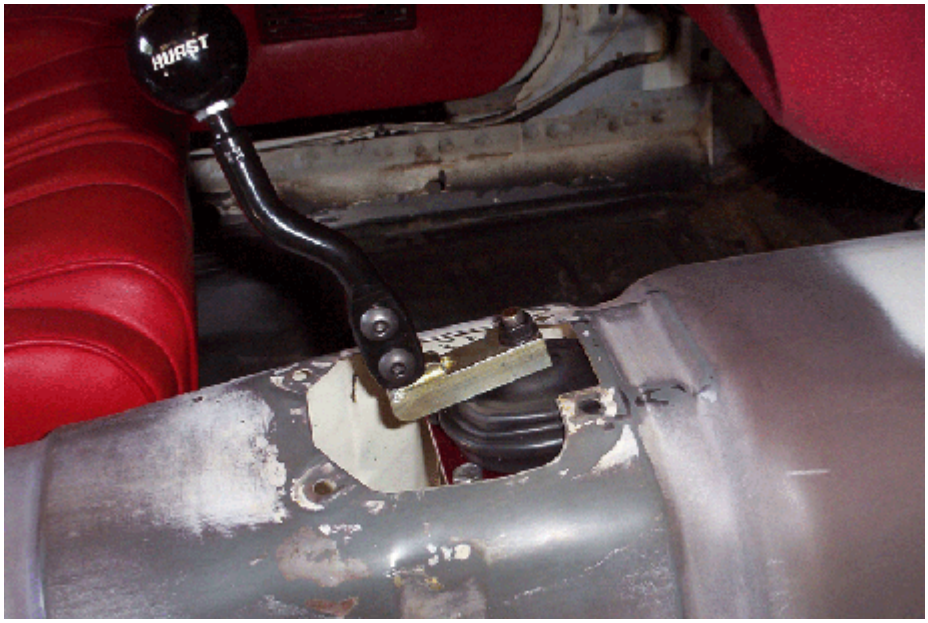


Here's a pic of the initial install with the trans in 4th gear. Notice the shifter is still a little too far forward and would hit the tunnel in 1st, 3rd or 5th. It's also very close to the bottom of the tunnel.

I notched the shifter hole a little more while leaving all 4 of the factory mounting holes. This notch would still be covered by the factory shift boot or the auto trans shift quadrant should I ever decide to return to stock. I also changed the rubber transmission mount to the poly type to gain clearance from the tunnel. There's now about 1/2" clearance from the bottom of the tunnel to the shifter dust boot and about the same in front of the shifter when in 1st, 3rd or 5th. The poly mount doesn't allow much movement and I've had no issues with interference. Here's a pic in 3rd gear.



And here it is in 4th gear.



Here's a pic of the measurement from the tunnel to the center of the tailshaft on the t-5 to compare the position of the back of the trans to the RAD's position to make sure I didn't alter the driveshaft angle too much. The RAD tailshaft center was about 5" from the bottom of the tunnel and the t-5 is about 5 1/2". The 1/2" difference wasn't enough to set up a vibration from altering the angles.

I decided to spray in some sound deadener while I had the carpet out.

And here's a pic of it all back together.

Here's a cost breakdown:

$250.00 - 94 model Mustang v-8 t-5

$275.00 - Modern Driveline shift base (includes shipping)

$125.00 - T-5 crossmember (includes shipping)

$60.00 - Shorten and rebalance driveshaft

$50.00 - Pilot bearing sleeve and machine t-5 input bearing retainer

$45.00 - Hurst shifter handle (includes shipping)

$30.00 - Polyurethane trans mount (includes shipping)

$15.00 - Shift boot

$10.00 - Trans fluid

Total: $860.00

This swap was a nice upgrade and I'm happy with almost everything about it. The additional strength gives me peace of mind and the fuel mileage increased about 4 mpg on the interstate. Also with the 5th gear the decrease in RPM's at interstate speeds makes it much quieter in the car. The only complaint I have is the difference in the first gear ratio as opposed to the RAD. The RAD has a 2.64 first gear ratio and the t-5 ratio is 3.35. Combined with the 3.40 gear in the differential, the 3.35 first gear is like a granny gear in a truck and it tachs the motor pretty quick. May do the 2.95 first gear upgrade in the t-5 next year but I'm going to leave it like it is for now and enjoy it for a bit.

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