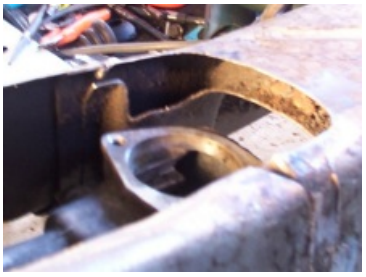
Sierra Type 9, 5 Speed Manual Conversion of Mk2 Automatic Pinto Escort

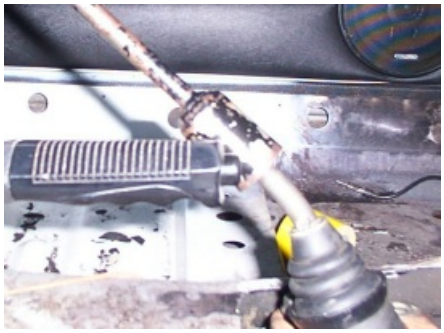
This conversion is not as easy as some people make out but can still be done by the back yard mechanic with some basic skills. You will need:

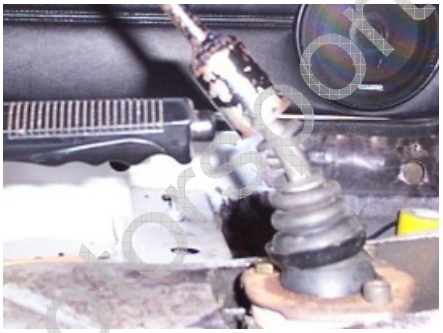
Type 9 gearbox from a Sierra 1600 (about 1988-92)
Bellhousing to suit the Pinto 2000 engine
20mm thick spacers to go in the cross member mounts (optional)
Clutch, flywheel, pedal box, clutch cable, etc.

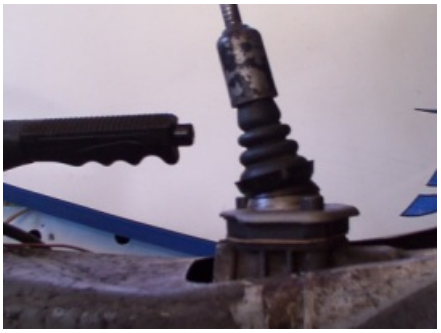
The cross member off the automatic transmission fits the Type 9 but needs to be lowered 20 mm otherwise the g/box will hit the underside of the transmission tunnel. Unfortunately this alters the alignment of the output shaft and diff pinion which can cause vibration and component wear but is does allow the transmission tunnel to be kept as standard as possible.



The hole for the shift lever must be moved back about 70mm which means cutting away part of the reinforcing under the tunnel that then needs to be strengthened again (left). The shift lever will also hit the handbrake in 2nd & 4th gears, so a Quickshift must fitted.(See below)





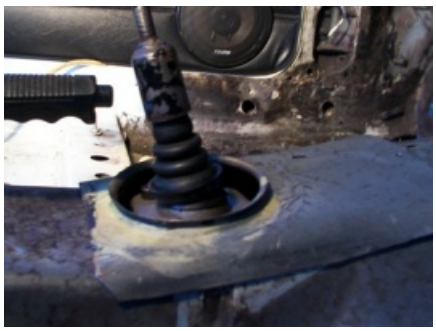


(L-R) standard shift, 12mm quickshift mod, 13.7mm q/shift & straight lever. All in 2nd gear.

LET'S GET STARTED

1. Remove the driveshaft and automatic transmission then enlarge the hole in the tranmission tunnel. I used a 4" cutting disc then tidied up with a pneumatic sabre saw. Remove only the minimum amount of reinforcing necessary to clear the back of the box. The new hole is 150 mm from the handbrake flange and 200 x 110 mm wide.

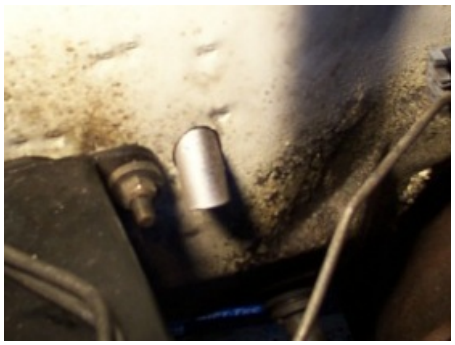
2. Bolt in the Type 9 gearbox to test the fit. Without the spacer blocks in the x/member the back of the box will stick up through the hole in the tunnel. (above right). The tunnel will need some minor panel beating so that it doesn't touch the top of the g/box. This keeps the driveline angles correct but means you can't weld in the standard shift boot flange from a manual car because it won't fit through the hole. (This is what I am doing!).



If you use the spacer blocks you will be able to weld in a piece from the tunnel of a manual car so that the original shift boot can be used. (Left). The thickness of the lowering blocks will depend on the height of the quickshift modification you make, but should be between 10-20mm. The photo shows a piece of the tunnel from a manual sitting over the hole. The edge of the piece closest to the handbrake should be a little longer to give more clearance under the plate. This photo is with 20mm blocks and 14mm quickshift.

3. If you are happy with the fit, remove the box so that the welding can be done. You need to make a plate to weld over the reinforcing you cut through. I did it by pressing a piece of cardboard from a cereal packet against the edges of the area to be filled. This makes marks on the cardboard that you then cut out to make a template. From the template make your metal plate (see below) and weld it (or con a mate) into place. Re-install the box and your nearly done, well sort of.

4. You now need to replace the pedal box with one from a manual. I found it easier just to remove the brake pedal and shaft and replace them with the shaft and pedals from a manual. (The accelerator has also been removed cos' I am doing some rust repairs).



5. There is an oval shaped hole in the LHS of the reinforcing plate between the pedal box and firewall *(right)* that needs to be drilled out. This is where the clutch cable exit sleeve has to be welded in. This sleeve is just a piece of tube 18mm OD, 14mm ID x 33mm long that you need to beg, steal, make or cut out of an x-mate's car. It has to be welded to the firewall at a 45-50 degree angle with about 20mm protruding into the engine bay. I have been told the angle should be 45 degrees but on the car I cut mine from it was about 50 degrees. *(In photo left, tube is just sitting - not welded at correct angle yet).*

6. Now you have to re-install the box, driveshaft, speedo drive, reversing switch, pedals and all the other bits and pieces like clutch cable and adjustment, etc but you can get that info out of a workshop manual.

By the way, my one piece driveshaft fits (just) and I have read that the 2 piece will also work.

QUICKSHIFT MOD TO STOP LEVER HITTING HANDBRAKE

Details of how to make a Quickshift for the Ford gearbox can be found at other sites but I found it hard to get info on how to straighten the lever, so here are a few notes on what I did.

I made a quickshift spacer from 14mm thick nylon and moved the pivot ball a corresponding distance up the selector shaft. To secure the pivot ball (or whatever it is called) in it's new position I put some steel reinforced epoxy putty under it.

I cut the gear lever 18mm below the rubber coupling and again at the top of the rubber spring. This removed most of the bent section of the lever and also released the rubber spring. I threaded the two ends of the lever and made a threaded sleeve 15.5mm OD x 33mm long out of a Grade 8 bolt. Put some Vaseline on the outside of the sleeve so that the rubber spring will fit over it, then screw everything together and test it. Check reverse gear cos' if the sleeve is too long it will stop you depressing the lever enough to get reverse. If all is okay, prime the sleeve and threads with Loctite primer, apply permanent Loctite and put it all together.

Enjoy your new 5 speed Esky!

CheeRS
Michael Green