



## Adapting J Type Overdrives to TR250 & early TR6 Frames

The A Type overdrives used on the TR250 and early TR6 are getting really hard to find and expensive. One alternative is the J Type OD used on the later TR6s. I understand that the same J type OD was also used on Volvos in the 70s and early 80s. So, one might visit the local junk yard and pick up a Volvo gearbox with OD, remove the OD from the gearbox and throw the gearbox away. You need to get the right mainshaft to mate your specific model gearbox to the J Type OD (Try [Rimmer Brothers](#), [Moss UK](#) or [Overdrive Repair Specialists](#) who I understand will custom machine one to match your specific gearbox -- we're talking a couple hundred dollars or maybe a little less).

Oh -- there's a couple more things. You need to add the electrical controls. This involves the steering column switch and the wiring harness (two wires) to the gearbox cover grommet and a single wire across the gearbox top cover to the isolator switch, then from the switch to the solenoid. What isolator switch you say? No big deal --- see separate note on adding that switch to the gearbox top cover.

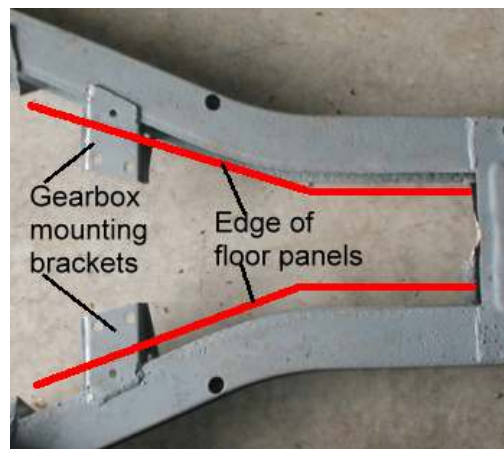
The J Type overdrive uses a different rear mounting arrangement than the A Type OD. The A type uses the same rear mount as the non-OD gearbox. Therefore, the A OD can be used any place the regular gearbox fits. The J type rear mount position is further to the rear than the non OD gearbox. A new two position mount (one position for non-OD and the other for J Type OD) that uses different mounting brackets welded to the frame was introduced with commission number CF1 in 1973. I understand that there are commercially available adaptors to mate the J OD to the early frame. I've also heard reports that some of them don't adapt (don't work). Others have reported using the J type OD on earlier frames by fabricating custom mounting fixtures.

**Phil Brzososki** recently sent a note to the 6-PACK email list with links to photos showing the adaptor he fabricated. This was in response to another lister complaining that the adaptor he bought wouldn't work. I was very impressed with Phil's design because:

- It's easily made from readily available steel angle and flat stock.
- The photos show how one can install the gearbox and then measure the exact dimensions of the required adaptor components.
- One can use Phil's scheme as a starting point to augment, modify, etc.

The really important point is that Phil's scheme demonstrates that an early frame shouldn't deter us from installing the J type OD.

**The Frame Brackets:** I have the frame off my '70 so was able to snap a photo of gearbox mounting brackets as shown on the right. The rough location of the edge of the floor panels is shown so we can see what we have to work with.



**The parts** Phil used to construct the adaptor are shown on the right. The parts are:

- Two 1" X 1" X 1/8" angles ~ 7" long
- One 1 1/4" X 1/8" flat bar stock ~ 6 1/2" long
- Two 3" lengths of 3/8"X24 threaded rod with nyloc nuts
- Four rubber shock mounts (from shock absorbers) with cupped washers.
- Six 3/8 X 24 bolts 1" long
- Four 3/8 nyloc nuts
- Two 3/8 regular nuts & lock washers.



**The installed adaptor** is shown on the right. Note the area toward the rear of the right side angle that's been ground away to give clearance for the speedometer angle drive. Also note the area toward the front of the left angle that has been shaped to provide clearance for the solenoid. Phil mentioned that he also ground off part of the left side mount to give solenoid clearance. Phil said to not try welding everything together because you can't install it due to the close clearances. He said he welded the rear most nut under the angles to ease installation of the cross piece. He attaches the right side angle to the frame and the cross piece to the OD and then installs the gearbox. He installs the left side angle after the gearbox is attached to engine. He also used lubricated felt pads between the angles and the edge of the floor pans to minimize noise transmission.



**It really works!** This photo shows that it's more than theory; it really all fits in there. As Phil points out, the area around the speedometer angle drive is a bit snug. And, if you look close you can see the rear of the solenoid and it looks to be a close fit too. Everything looks really clean with no leaking fluids --- maybe that's not really a Triumph.

If I was doing this project, I'd install the gearbox and hold up the back with a floor jack and then measure & cut (probably throw that piece away, measure & cut again) and fit the pieces in, grind as required, mark & drill the holes, etc. This is probably less trouble if the exhaust pipes aren't there. In fact the whole adaptor can probably be installed with the gearbox in position if the exhaust pipes are out of the way. Once installed, then one could use Phil's method to remove the gearbox --- remove the bolts holding the cross piece to the angles and remove the left side angle before removing the gearbox.

Phil also said that there was an issue with the exhaust pipe hangers. (That's not an issue with me as I don't use the hanger under the gearbox.)



**Thanks to Phil** for coming up with this scheme and letting us at Buckeye Triumphs pass it on. Please refer any questions to Phil at [pbrzoski@netscape.net](mailto:pbrzoski@netscape.net).