Thank you for your purchase of a DeeWorks T5 / Redblock adapter! Before starting the installation, make sure you have all the parts required for the swap and that you have all the tools needed.

**Parts Included in the kit:**

- (1x) Adapter Plate
- (1x) Bearing Retainer
- (1x) Throwout Bearing Sleeve
- (1x) Bearing Retainer O’Ring
- (1x) Throwout bearing sleeve O’ring
- (4x) M8 Zinc Plated Flanged hex head bolt
- (4x) M10 Zinc Plated Flanged hex head bolt
- (4x) M12 Blue Hex head bolt
- (4x) M12 Flat Washer

**Needed Tools:**

- Metric Wrench Set
- Metric Ratchet and socket set
- Snap-Ring Plier
- Dial Indicator with base
- Grease
- Flat Screwdriver
- Vernier Calliper
- Brake Cleaner or any other strong solvent

Prologue: It is assumed that you are using a known good transmission for this application, but if you are unsure, it’s strongly recommended that you rebuild your transmission while installing this kit. Most of these transmissions have spent 15-20 years in cars that, let’s face it, get abused from time to time. I recommend using the Ford Motorsport rebuild kit, which comes with everything you need except for replacement gears. Inspect your gears and synchros carefully, and check the input/output shafts for signs of twisting or deformation. At the same time, I would recommend a different fifth gearset: The RPM drop when going from 4th to 5th is not pleasant, and unless you are running 3.73:1 or shorter gears, 5th gear won’t be very friendly to you until you get above 70 mph or so. For a more sporting feel, and an overdrive ratio similar to that of the M46, I would recommend going for the following pieces during your rebuild: 1352-080-052 55t drive gear and 1352-070-047 31t driven gear. This gives you a 0.80:1 fifth gear, bringing it much closer to fourth than with the 0.68:1. Your preference may vary from mine, though, and you prefer the thought of four close ratios and one huge jump to overdrive... that’s fine. If you do choose to rebuild your transmission, the rebuild manual is available online:
and another good reference to the procedure can be found at

Make sure you completely read these instructions before you begin!

1) Ensure you have the right pieces

This kit is designed for use with the Borg-Warner World Class from a V8 Ford Mustang, model years 1984-1992. Any other transmission such as the Tremec T45, T5 transmissions from 4 cylinder models, Non-World-Class versions of the V8 transmission, etc., are not guaranteed to work and modifications to the adapter, transmission, or both may be necessary.

To ID your transmission go here: http://www.therangerstation.com/tech_library/T5ID.htm

You are also required to provide a bellhousing from a 4 cylinder OHC Volvo with M46 transmission, throwout fork, and throwout bearing.

2) Remove the bearing retainer from the front of the transmission:

Undo the 4 bolts holding the bearing retainer onto the front of the transmission, and being very careful not to dislodge the input shaft, remove the bearing retainer. Take note of the oil feed and drainage hole positions on the bearing retainer – you'll have to install the retainer from the kit in the same orientation. The bearing retainer may be glued to the front of the transmission so it could be difficult to remove without disturbing the input shaft, so enlisting help would be a good idea. If you do partially remove the input shaft, the whole synchronizer/bearing assembly will have to be reassembled through the input shaft bearing hole, and then carefully reassembled. It’s not fun and many people attempting this transmission swap might find this step over their heads, so please be very careful.

3) Measure the bearing depth of the original bearing retainer:

After cleaning the original bearing retainer, remove the input shaft bearing race, and make sure you capture and remove all the bearing preload shims that may be present (check the input shaft bearing too) and set them aside for now. Using a vernier calliper, measure the distance from the mounting flange surface to the end of the bearing retainer and make note of this as dimension “A”. Now, measure the distance from the end of the bearing retainer to the inside of the bearing pocket, again making note of this as dimension “B”. Measure the thickness of the shim stack, and make note of this as dimension “C”. Subtract C and A from B and make note of this number.
4) Measure the bearing depth of the new bearing retainer:

Performing the same measurements as you did in step 3 (except for the shims from the original retainer), calculate the bearing offset of the new bearing retainer. If the offset of the new retainer is greater than that of the old retainer, you’ll have to install some of the shims from your original setup, or even purchase shims from your local Ford dealership, or online. Make sure the shim kit is for the LM48548/LM48510 bearings, as the transmissions that use M88010/M88048 input shaft bearings will not work with this kit.

5) Determining the proper shim count, the accurate way:

If you have access to an axial runout micrometer, the better way of determining necessary input shaft shims is to mount the new bearing retainer (complete with race, no o’ring) in the transmission without any shims. Stand the trans up on the bellhousing face and support it so you have access to input shaft. Set up the dial indicator to read output shaft endplay and zero it out, after pulling down on the input shaft. With a block of wood, force the input shaft up, and read the endplay on the dial indicator; pull down on and rotate the input shaft, and repeat the reading. I do this three to four times to ensure I get consistent readings. Return the trans to the bench, and remove input shaft bearing retainer, being careful not to dislodge the input shaft. Remove the bearing race from inside the retainer, and install shim(s) of the same thickness as the observed endplay between the bearing retainer and outer race. This will provide .000” endplay (the factory allows plus or minus .002”.)
6) Prepare and install the new bearing retainer:

Install the input shaft seal into the new bearing retainer, install the shims you calculated earlier and the bearing race, and put the o’ring supplied in the kit inside the face groove. You can use a little bit of grease to hold the o’ring if it keep falling off the groove. Clean the mounting surface of the transmission, being careful not to let any silicone drop into the transmission. Lubricate the input shaft seal with some grease or transmission fluid, and orient the bearing retainer in the manor the original was removed. Again being careful not to disturb the input shaft, install the new bearing retainer using the M8 bolt supplied in the kit, torqued to 15 ft-lbs in a cross pattern. It’s up to you to use any kind of additional silicone sealant on the bearing retainer (the old way) just make sure you don’t put too much. The o’ring can be re-used and will seal perfectly as long as it’s not too flat.
7) Install the transmission adapter plate on the transmission:

Note that there is only one way for the plate to mount to the transmission so that all four bolt holes line up. Using the four M12 bolt (blue coating) and the flat washers supplied in the kit, bolt down the adapter plate to the transmission, torqued in a cross pattern.

8) Prepare the bellhousing:

Working inside the Volvo bellhousing, remove the circlip from the throwout bearing sleeve. You'll want to remove the throwout bearing and fork for this operation. Using a piece of wood, drive the throwout bearing sleeve out of the bellhousing, which will also press out the M46 transmission seal. Install the new throwout bearing sleeve supplied in the kit, and behind that install the 40mm OD o-ring supplied in the kit. A little grease may be used to hold the o-ring in place.
9) Bolt the bellhousing to the transmission adapter plate:

Mount the bellhousing on the face of the adapter plate, making sure the pieces register together properly and that the o-ring hasn’t jumped out of position. There are two sets of bolt holes for this operation: one set to mount the transmission behind a “redblock” OHC on its original 20 degree tilt, and one set to mount the engine upright. If your engine is tilted, rotate the bellhousing so that you are lined up with the counter-clockwise set of holes, and if the engine is upright, rotate the bellhousing to use the clockwise set of holes. Use the four M10 bolt supplied in the kit, gradually bolt down the bellhousing in a cross pattern, frequently checking to be sure that the bellhousing and bearing retainer registers line up properly.

10) Final checks:

Spin the input shaft by hand, making sure it doesn’t contact the throwout bearing sleeve. Shift the transmission into all forward gears, making sure everything works there and feels smooth. Install a new Volvo throwout bearing and your clutch fork into the transmission, seal down the boot, and you’re done!

Important: If you are missing and/or need a replacement parts for your kit (bolts, o'ring, bearing retainer, etc.) contact me at info@deeworks.ca

A copy of these instruction is also available online in english and french at www.deeworks.ca

I hope that you will be satisfied with your DeeWorks product! All comments, idea or suggestion is highly appreciated; info@deeworks.ca

Thanks Again! Roger-Denis