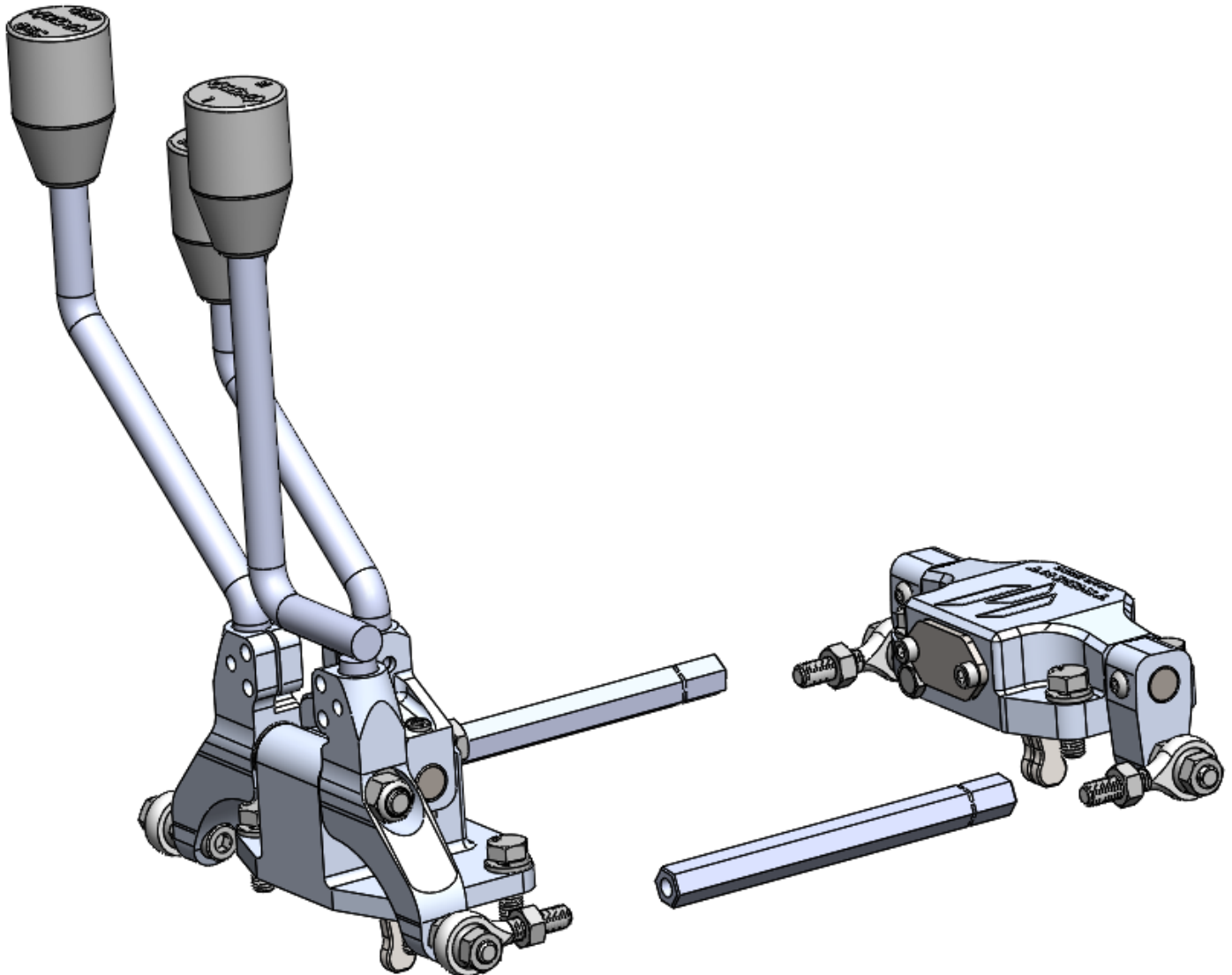




Installation Manual: Trident Shift Kit



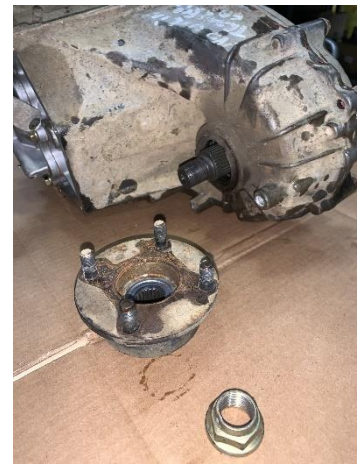
DISCLAIMER

This product is for off road use only. The products supplied in this kit are manufactured and assembled specifically for this conversion type. Modification to components will void any possible warranty or returns unless said modifications have been approved and authorized by the company. Northwest Fabworks (NWF) is not responsible for damaged components that are not included in the purchased product. NWF is not responsible for damaged NWF products caused by the failure of non-NWF parts. NWF does not cover damage caused by incorrect installation and/or assembly. NWF does not warranty products that have been used outside of their intended use. **Installation of the following product may void automotive manufacturer warranty.** The following information is provided as a guide, it is strongly recommended to use the Factory Service Manual for your specific vehicle application.

Note: The following diagrams display the installation process onto an Eco-Crawler and chain drive transfer case setup. However, the process is the same for all applications.

1. For the easiest installation, remove the transfer case and underdrive from the vehicle.
2. Inspect your transfer case shift rails. If the 2WD-4WD lock-out is on the left-hand shift block, it will need to be removed and ground flat. The following steps will explain this process. If your transfer case does not have the lockout, skip to step ##.
3. *Note: The following instructions are for a VF chain drive transfer case. The process to access the shift rails on a gear drive case is different. Refer to the following steps as a guide and use the OEM service handbook for the validated process of opening your transfer case.*

3.1. Remove the front drive flange with an impact gun.



3.2. On the rear output, remove the 12mm bolt that holds the speed sensor in place. Twist and pull the sensor until it is free.



- 3.3. If the transfer case has the locating sensors on either side of the shift rails, use an adjustable wrench and remove both.



- 3.4. Remove the twelve 12mm or 14mm case bolts. Use a chisel and hammer to work two opposite the case open. The front section of the case is seen on the left of the photo below, this contains the planetary gearset. The rear section of the case is seen on the right in the photo below and contains the rear output shaft, shift fork and shift collar.

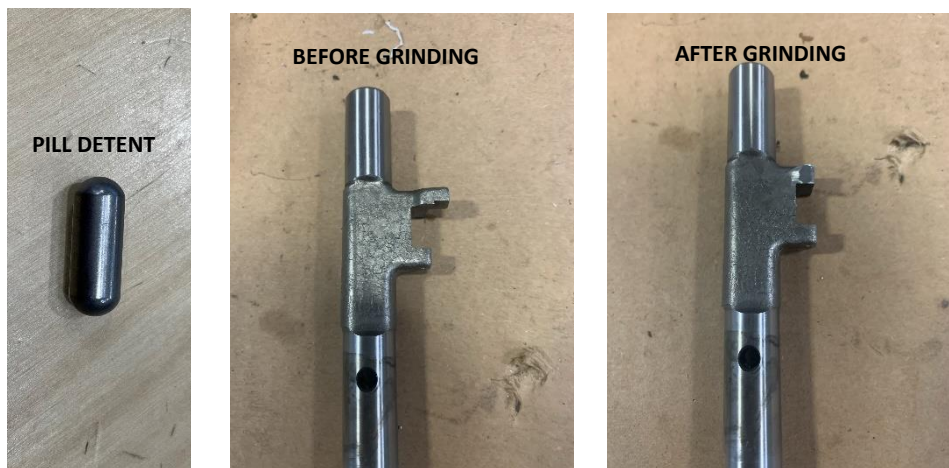


3.5. Take the rear section of the case. Remove the shift fork pin and shift rail detent and pull the shift rail from the rear section of the case. Grind the lock-out overhang flush to the clearance surface of the fork on the side and the top, see photos below. Reinstall the rail, the detent, and the shift fork roll pin.

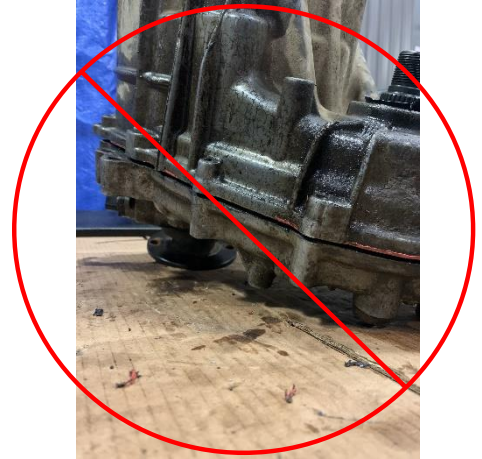


When the shift rail is removed, tip the case so that the hole where the shift rail detent ball and spring are located towards the work bench. A pill shaped detent will fall out. This detent prevents the case from shifting into 2WD – Low Range. If you want full shifting capabilities in your vehicle, then remove the pill detent from your case. We recommend KEEPING the pill detent installed if you are using a STOCK transfer case shift stick. We recommend removing it if you are going to a triple shift setup.

Reinstall the rail, the detent, and the shift fork roll pin.

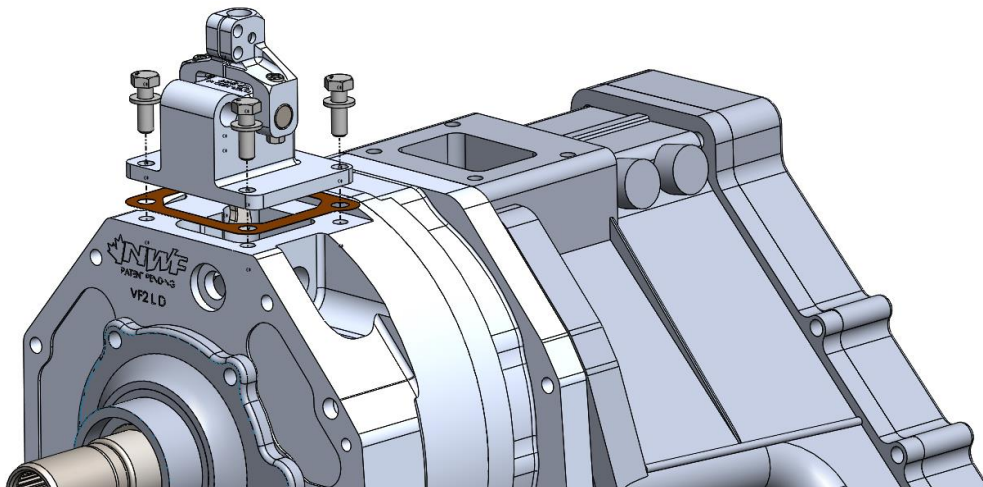


- 3.6. Place the rear section facing up and drop the front section onto the rear. Make sure that the shift rails, rear output shaft and front output shaft are all properly aligned to their respective seats in the front section of the case. If the case does not drop flush to the mating surface, something is improperly aligned. DO NOT force or use an impact gun to pull the case closed. Tap about the case and wiggle it until it falls nicely into place.



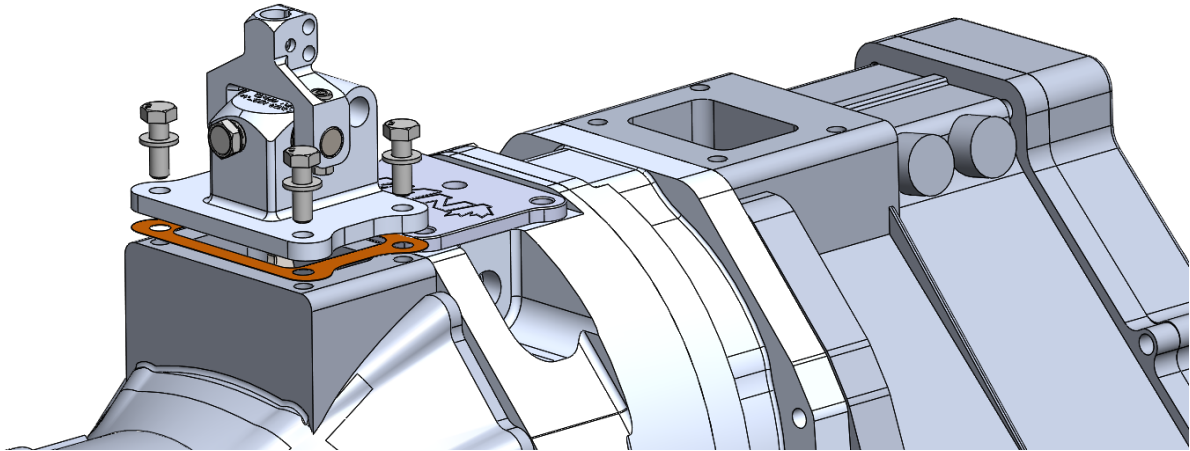
Once the case is seated together, install 4 of the housing bolts spaced evenly around the transfer case. Mount the shift lever and shift through 2HI 4HI and 4LOW. All gears rotate smoothly by rotating the input shaft with your hand. If any of the gears lock up and don't rotate, or have a difficult time rotating by hand, it is possible that the synchro didn't seat itself correctly or a component is out of alignment. Remove the four housing bolts and open the case. Inspect for any signs of pinching or misalignment and repeat the previous step.

4. Place the supplied gasket and front housing onto the underdrive. Use 4x of the M8 x35mm Hex Head bolts and 4x M8 Flat washers to bolt the front housing onto the underdrive. Use blue Loctite on all 4 bolts.

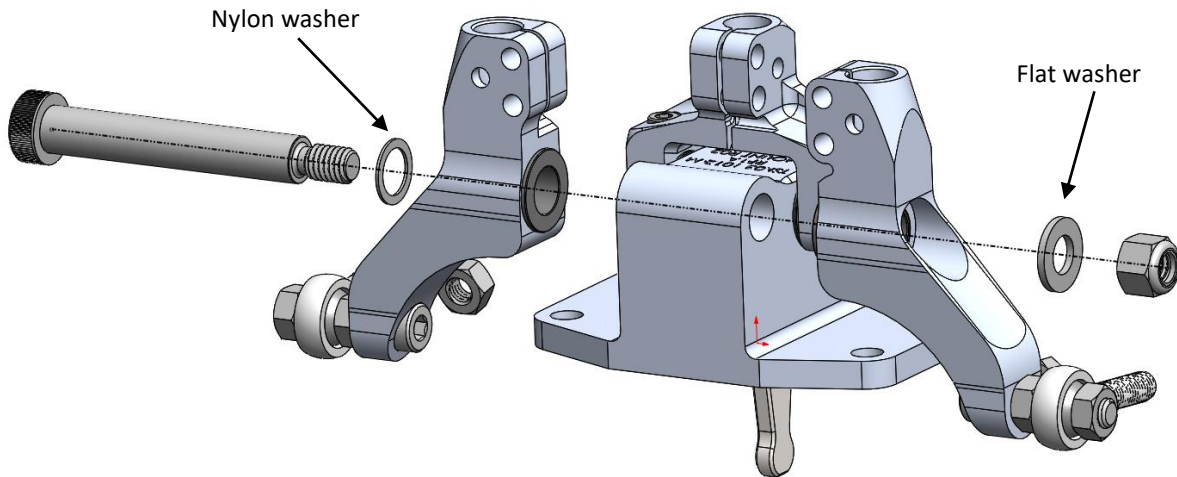




Note: Forward Shift Eco-Crawler customers will have the front housing facing the opposite direction and mounted to the transmission. See below:

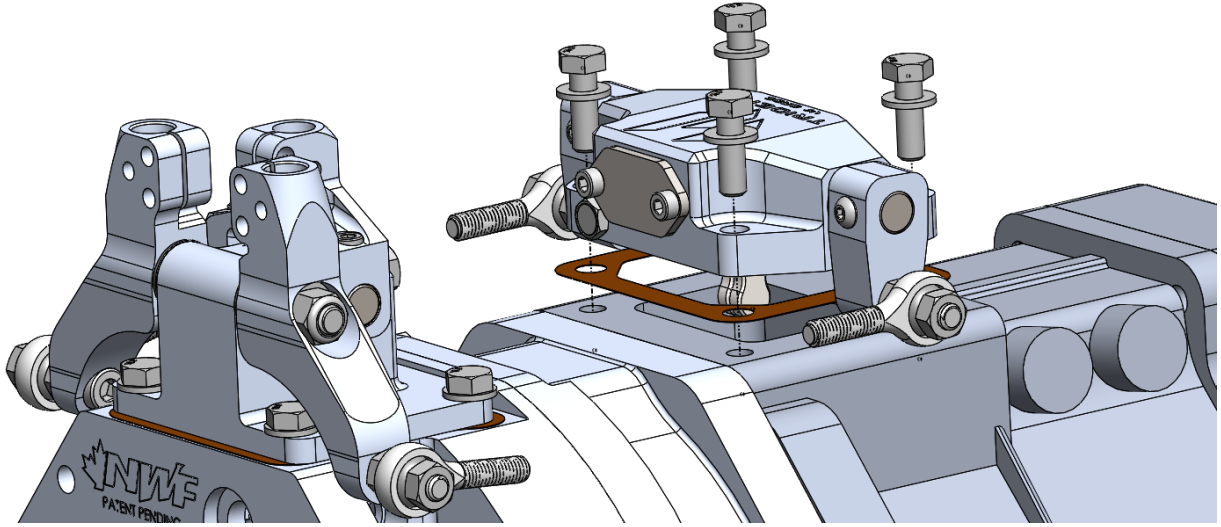


5. Install the right and left shift levers with the nylon washer on the shoulder bolt "head" side and the flat washer on the threaded side.



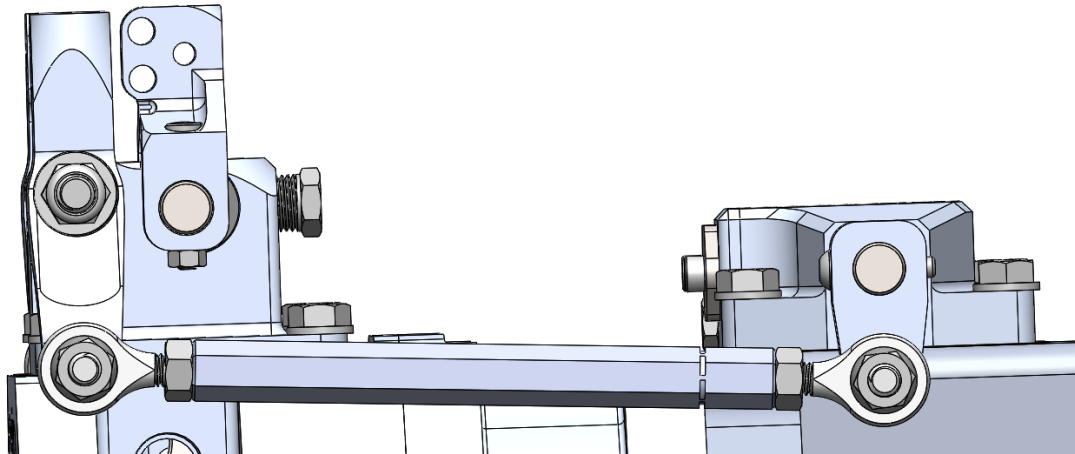


6. Place the supplied gasket and rear housing onto the transfer case. Use 4x of the M8 x35mm Hex Head bolts and 4x M8 Flat washers to bolt the front housing onto the transfer case. Use blue Loctite on all 4 bolts.



7. Install the turnbuckles. The rear housing will have left-hand threaded spherical rod ends. Align the left-hand threaded side of the turnbuckle with the left-hand threaded spherical rod end. Start the threads on both ends of the turnbuckle at the same time. This will ensure the turnbuckle can use the full length of the threads for adjustment. When you have the turnbuckles at the desired location, use Loctite and tighten the nuts on each end of the turnbuckle to lock it in place.

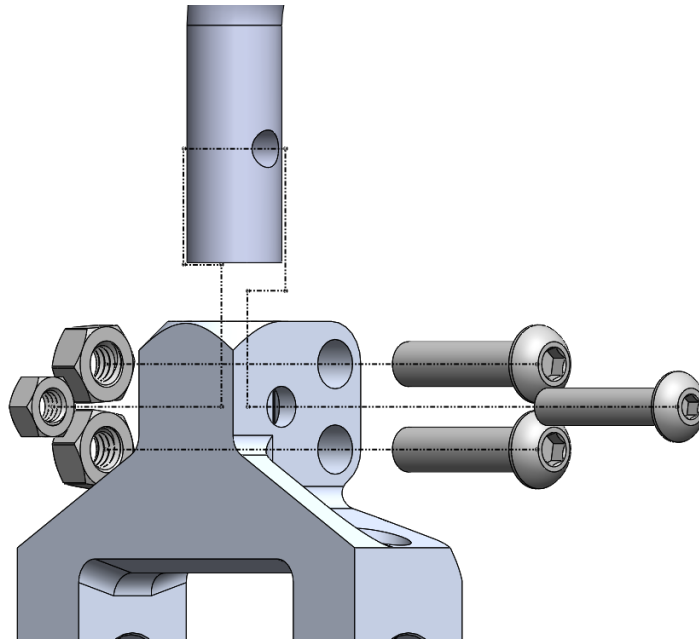
Note: It can sometimes be easier to start the threads on the turnbuckles before bolting down the rear housing depending on the size of the turnbuckle in your kit.



8. Shift your underdrive and transfer case. Make sure it is shifting smoothly and has free movement across all shifting ranges. Install the underdrive and transfer case into the vehicle.

Note: Not all vehicles will have adequate clearance through the stock tunnel shifter passthrough. You may have to cut out sections of your transmission tunnel in order for the shift linkage to shift freely. If your transfer case and/or underdrive was shifting fine when it was being bench tested, but no longer shifts properly once it is installed, it is very likely your linkage is interfering with the tunnel or the surrounding hardware.

9. Install your shift sticks using 1x M5 bolt, 1x M5 nut, 2x M6 bolts and 2x M6 nuts on each of the shift levers. Loctite all M5 and M6 nuts.



10. The "Offset" bend pattern can go either direction, whether your vehicle is an automatic or manual:

