

2005+ Tacoma Locker Mod

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This Mod will allow you to activate the Rear Differential Lock on TRD Off-Road Tacomas (2005+) in 2HI & 4HI in addition to 4LO. (Similar to the 2004 "Grey Wire Mod") It also utilizes the ECU to disable ABS & VSC with the locker engaged (standard feature), just as it normally would. This is a pretty straightforward modification that requires no special skills except a minimal understanding of electrical circuits and wiring schematics. You can perform this mod simply by identifying the correct wires and wiring them as instructed. Your typical "DIYer" should be able to handle this without a problem. Some write-ups show you how to use a second switch. This one will show you how to wire up your OEM Locker switch to keep things factory looking...

DISCLAIMER: I take no responsibility for any damage, malfunction, or misfortune that occurs as a result of this modification. These instructions are provided simply as a GUIDE to assist you. You assume all responsibility and risk to yourself and your vehicle in performing this mod. If you are not qualified to work on your vehicle, please have it done by a professional.

Ok, now that that's out of the way. Let's get started...

Here is what you will need:

- (1) 10A DPDT Relay (double pole, double throw) (20A would be better, but 10A will probably work fine)
- Female Spade Crimp connectors (a dozen will be plenty, and leaves room for some error)
- (2) Wire Tap connectors
- Typical hand tools (wire cutters, crimper, screwdriver, etc)

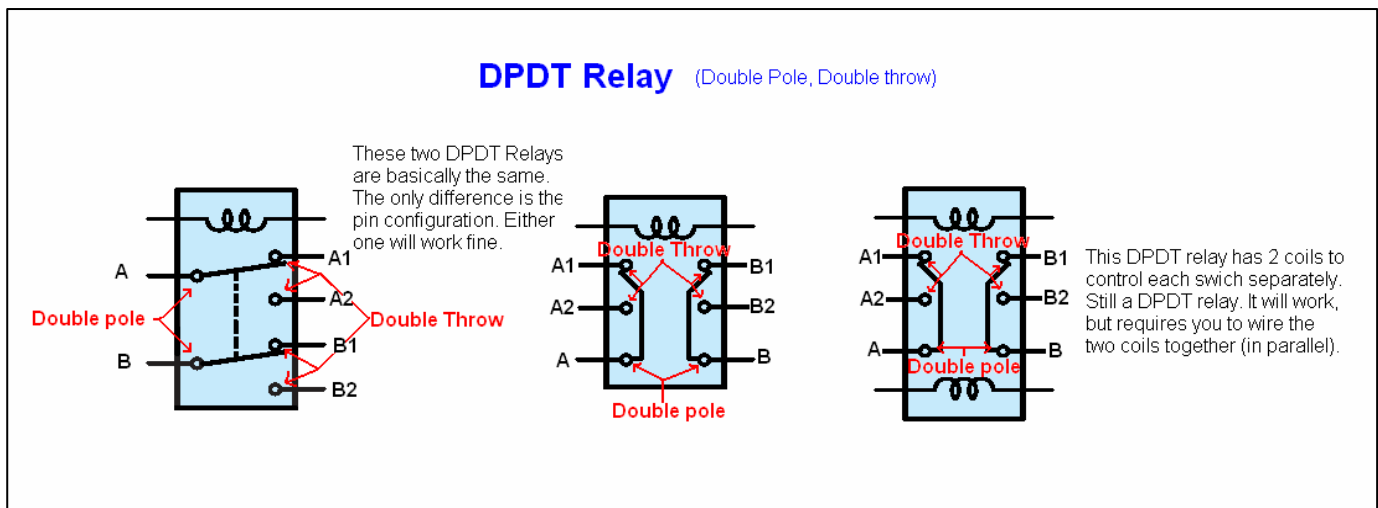
Optional supplies, Depending on where/how you want to install the relay:

- Extra wire
- Heat shrink, solder
- Electrical tape

First, an Explanation about the DPDT Relay.

A DPDT relay is a switch that has two inputs (poles) and two outputs (throw) for each input. Basically 2 in & 4 out (or 4 in & 2 out, depending on how you look at it). A relay requires electrical current to pass through a magnetic coil to flip the switch. The type of relay we need will have an "off" position when no current is applied and an "on" position when current is applied. **DO NOT get a "Latching" DPDT relay.** A latching relay is one that requires current to flip the switch, and then requires the current to be REVERSED to switch it back. This type will not work with the OEM Tacoma switch. There are also many types of configurations for the same type of switch. This simply means that the contacts may be in a different position than the diagrams used here. You can figure out what each contact is by looking at the diagram on the switch or an illustration that came with it.

Here is a sample of some different configurations:





If you choose a switch with a slightly different configuration, for sake of illustration, I've labeled the Relay contacts in the diagram above. The "poles" are A & B. The "throws" are A1, A2, B1, & B2 and correspond to the accompanying pole. For reference, in the default "off" position, A & A1 have continuity, and B & B1 have continuity (A2 & B2 have none). The coil contacts are generally turned a different direction for ease of identification. If you check the resistance with an Ohm meter, it should read a couple hundred ohms. The other contacts will have very little if any resistance.

How you mount the relay is up to you. You can let it hang (not recommended...wires may come loose). Or you can just tape it to the ECU or wiring harness. Whatever works.

Now get out the tools and let's get started!!!

You will find the 4WD ECU on the passenger side behind the glove box. Remove the glove box and 10mm bolt on the latch. Then remove the black plastic cover held in by latch bolt. Once you have access to it, identify the connections you will modify in the picture below. You will need to cut 5 wires from the harness. One you will leave intact, but you need to tap it for power. I have labeled each of them in the picture for easy recognition. Make sure the ignition is in the **OFF** position and the locker is **DISENGAGED** before starting.

- Begin by carefully cutting back (or unwrapping) the electrical tape around the wire. You will need to give yourself several inches to make the work easier. The more the better. You can always re-tape the wires if needed. (Removing the ECU is optional).
- CUT the 'Lt. Blue' & 'Lt Green' wires and put a spade connector on the ends. These are the leads to the actuator motor. 'Lt. Blue' goes to "Pole A" and 'Lt Green' goes to "Pole B."
- CUT the 'Pink' & 'Lt GN/Black' wires. These go to the limit switch, and will activate/deactivate the motor to engage or disengage the locker. Attach spade connectors. 'Pink' goes to A2 & 'Lt GN/Black' goes to B1.
- TAP the 'Violet' wire. **DO NOT CUT IT!!** This supplies power to the ECU and also the actuator motor. It is adequately fused, so we will continue to use it for our new circuit. You will need to attach TWO wires to this power lead. I suggest making/soldering a small Y-cable. Insulate it with heat shrink tubing. Using the tap connector, tap the 'Violet' wire with one lead from your Y-cable. Or you can use 2 wire taps and tap the 'Violet' wire twice. Attach a spade connector to the other two ends and connect them to A1 & B2.
- Cut the 'Red/Black' wire. This is for your OEM switch. (The wire is hidden behind the 'Wht/Blk' wire in the picture.) Attach a spade connector, and connect it to one end of the coil contacts. It doesn't matter which.
- To the other coil contact, attach a wire with a spade connector and run the wire to any ground point. You can simply tap into the 'Wht/Blk' wire on the ECU if you like.
- Verify ALL connections are in the proper location. **Double check everything!** Tape the relay to the ECU or wire harness to make sure it won't bounce around. If you want to relocate the relay somewhere else, you can lengthen each wire you cut by splicing in another wire to each, and mount it elsewhere.

