



ALL-PRO MODULAR LONG TRAVEL KIT

INSTALL INSTRUCTIONS

FOR 2005-2023 TOYOTA TACOMA



PART 10 - STEERING SYSTEM INSTALLATION

PART 11 - DIFFERENTIAL AND DRIVESHAFT

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AP-313144



PART 10 - STEERING SYSTEM INSTALLATION:

NOTE:

On 3rd Gen Tacoma, complete the remote oil filter relocation installation before starting this section.

STEP 110

Reinstall the steering rack as installed previously, utilizing the third rack mount this time. The spacer for the third rack mount must be installed before bolts are tightened down. Torque for all three rack bolts is 85 ft lbs.



STEP 110.1



STEP 110.2



STEP 110.3

STEP 111

Install the steering shaft assembly for the final time as seen below, installing all set screws, lock nuts, steering bearing, and snap ring. All set screws and lock nuts can be installed with blue Loctite if you are confident in your installation. Please check again for interferences in all of your joints.



STEP 111.1



STEP 111.2



STEP 111.3



STEP 111.4



PART 10 - STEERING SYSTEM INSTALLATION:**STEP 112**

Using the factory belt tensioner, remove the serpentine belt from the truck.

- a. For V6 trucks, the belt will get reused and can be left in the engine bay or saved for reinstall
- b. For 4 cylinders, the belt will be replaced with a longer belt to accommodate the new pump bracket and pulley (belt included).

**STEP 113**

Using the factory belt tensioner, remove the serpentine belt from the truck.

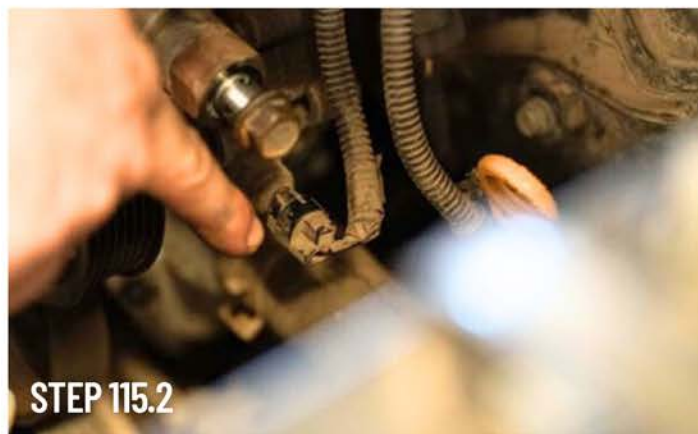


PART 10 - STEERING SYSTEM INSTALLATION:

STEP 114 Drive the threaded inserts on the back side of the pump mount into their sleeves to make more room for installation of the new pump.

STEP 115 Install the new pump provided with your kit into the factory pump mounting location

- a. In the V6, it will require the small spacer included in the pump kit. This will go on the mount with a slightly wider gap and will install behind the pump. Please see instructions for our Tacoma pump kit if additional details are needed.
- b. In 4 cylinder trucks, we have provided an adapter to go between the factory mount and the new pump. This adapter will install with the factory bolts in the factory location, using the two new bolts to install the pump into the bracket. Factory torque specs are recommended for the OEM bolts, the new bolts holding the pump itself can be torqued to 18 ft lbs.



STEP 116 Reinstall the belt onto the accessory drive system, using the longer belt if installing on a 4 cylinder truck.

STEP 117 Install the fittings into the new filter reservoir, with the large output on the reservoir (not filter) side, facing the new pump. The small fitting for the return line is routed into the filter side, farthest from the pump. Pictures included below as an example, but will vary by engine.

- a. V6 trucks will have the reservoir mounted on the passenger side of the engine bay, just rearward of the radiator and headlight.
- b. 4 cylinder trucks will have the reservoir near the firewall on the driver side



PART 10 - STEERING SYSTEM INSTALLATION:

STEP 118

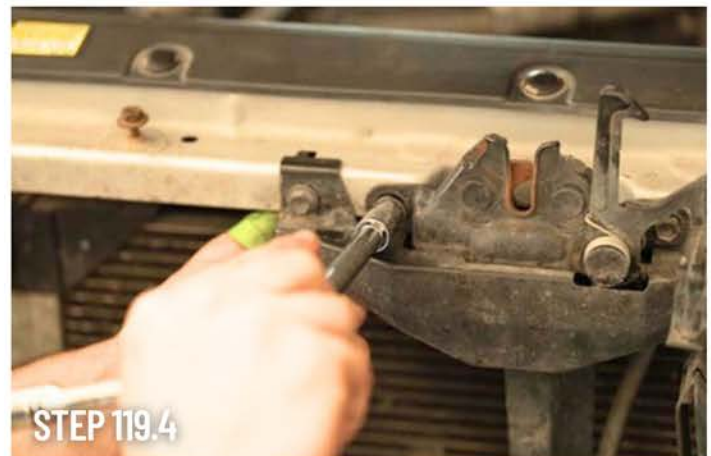
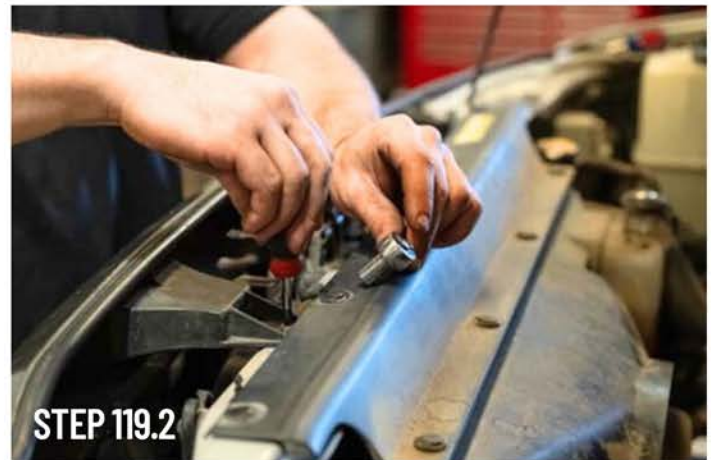
Install reservoir with provided mounting bracket and bolts. This may involve removing stock items from the mounts and installing the reservoir mounting bracket underneath existing items.

- a. Please refer to the "Brake and Clutch System Modification – 4 Cylinder 2nd Gen Tacomas" for 4 cylinder trucks at this stage if that applies to you. This will guide you through an additional modification process for the 4 cylinder, manual transmission trucks. It will involve sourcing some additional OEM parts, but will provide added safety both on the road and on the trail over your factory clutch system.



STEP 119

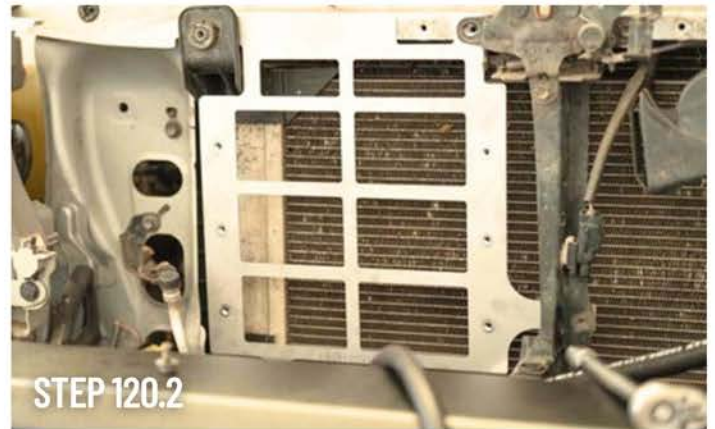
Remove your grille and stock mounting bolts in the locations shown in the pictures below. This will allow the power steering cooler to be mounted behind these OEM brackets. Please be careful when working in close proximity to the radiator to prevent damage to the fins.



PART 10 - STEERING SYSTEM INSTALLATION:
STEP 120

Reinstall factory bolts and brackets with the cooler mounting bracket behind them as shown in cooler bracket photos. The mount to the farthest on the driver side will install behind the support, using the factory bolt and nut to secure it to the support.

- a. We have found some trucks either don't have the bolt or have odd sizes installed here, please use your best judgement on whether to source a new bolt or utilize the bolt and nut your truck came with.
- b. You may also need to trim the sheet metal surround for the hood latch. On some trucks, it interferes with the cooler bracket slightly on the bottom edge.


STEP 120.1

STEP 120.2

STEP 120.3

STEP 120.4
STEP 121

Mark through the bottom mounting hole where the self-tapping screw will go and install it while keeping the cooler mount in place.

- a. We have found that the screw goes in easily without a pilot hole, but if it is struggling to bite, drill a small pilot hole to allow it to install a little easier.


STEP 121


PART 10 - STEERING SYSTEM INSTALLATION:

STEP 122

Make sure all bolts are tight and all factory brackets are sitting as flat as possible. Please slowly close the hood to make sure the hood bracket is still in alignment, but keep the grille removed for the following steps.

STEP 123

Install the power steering cooler with the fittings oriented to the passenger side of the vehicle. All 6 of the bolts should be able to be installed through the tubes of the cooler.



STEP 123.1



STEP 123.2

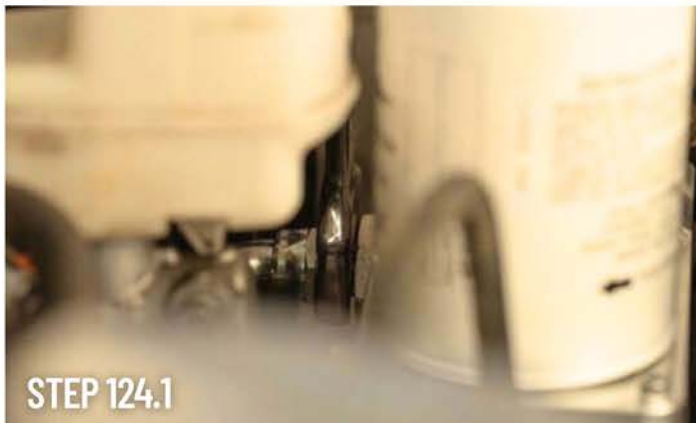


STEP 123.3

STEP 124

1. Install all steering lines listed below.

- a. Reservoir to power steering pump (large diameter) – this is your main feed line, kinks and bends should be minimized for fluid flow and fittings should be oriented such that the fluid has the straightest possible path. This is a cut-to-length line with push to connect fittings. The line is steel-reinforced, so please be aware when cutting.



STEP 124.1



STEP 124.2



PART 10 - STEERING SYSTEM INSTALLATION:

STEP 124 - CONT.

- b. **Pump to rack** – This is the high pressure line, so fittings must be properly seated and the banjo bolt must be installed correctly. The banjo bolt will use one copper crush washer on each side of the fitting, one under the head of the bolt and one between the fitting and the pump. The banjo bolt needs to be torqued down to 14 ft lbs, do not overtighten. The rack side will be installed into the forward port on the rack (farthest from the end of the input shaft and closest to the front of the vehicle). There is a provision for the factory sensor to be installed into the fitting at the pump. Take care to orient this fitting correctly for install of the sensor.



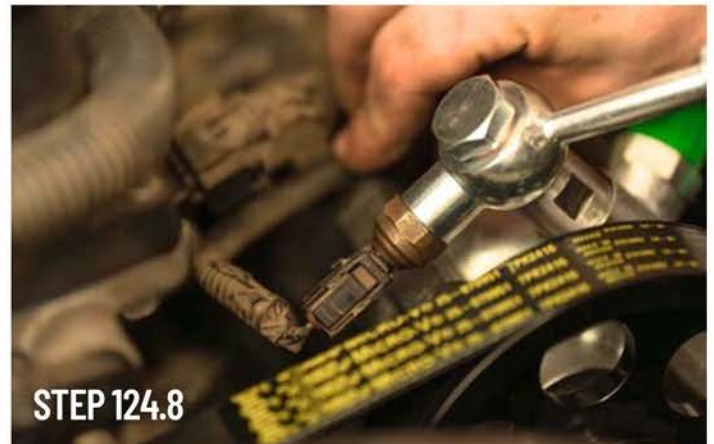
- c. **Rack to cooler** – this is the low pressure side of the rack installed onto the rear port (closest to input shaft and farthest from the front of the vehicle). **WARNING:** when tightening the cooler side of this line, another wrench **MUST** be used to hold the fitting on the cooler. Since the cooler is made of softer materials, not holding this line will result in the cooler line twisting. This fitting will go to the top of the cooler.



PART 10 - STEERING SYSTEM INSTALLATION:
STEP 124 - CONT.

- d. **Cooler to reservoir** – Another low pressure line returning to the reservoir. **WARNING:** when tightening the cooler side of this line, another wrench **MUST** be used to hold the fitting on the cooler. Since the cooler is made of softer materials, not holding this line will result in the cooler line twisting. In the 6 cylinder trucks, this line will be short running through the radiator support. In the 4 cylinder, this will be a longer line, running into that far driver side of the engine bay. In both cases, it will run along sharp steel edges. Please take care to zip tie and fix this line so rubbing on sharp steel does not occur. This is a high pressure style cut-to-length line. Please refer to our fitting pages if instruction is needed on the fittings. This is also a steel-reinforced line, so please be aware when you are cutting. The cooler side of this line will thread into the bottom port of the cooler.


STEP 124.6

STEP 124.7

STEP 124.8
STEP 125

Fill the reservoir with fluid, keeping the lid on top of the reservoir but not tightened down to allow fluid to gravity-feed into the system.

STEP 126

Spin the pump over by hand with a ratchet or power ratchet to get the majority of the air out of the system. Continuously check the level of fluid in the reservoir to make sure that it never runs dry. If the pump runs dry on first startup, it can do irreparable damage to the internals of the pump.



PART 10 - STEERING SYSTEM INSTALLATION:**STEP 127**

Steer the truck from side to side with the engine off to cycle the fluid throughout the system. This step can also be used to check the final installation of all steering joints and shafts. Joints and shafts can be slightly adjusted for final installation if there are issues. Once the differential is installed, this adjustment becomes much more difficult.

STEP 128

Check fluid level once again, making sure that it is slightly above the baffle before initial startup.

STEP 129

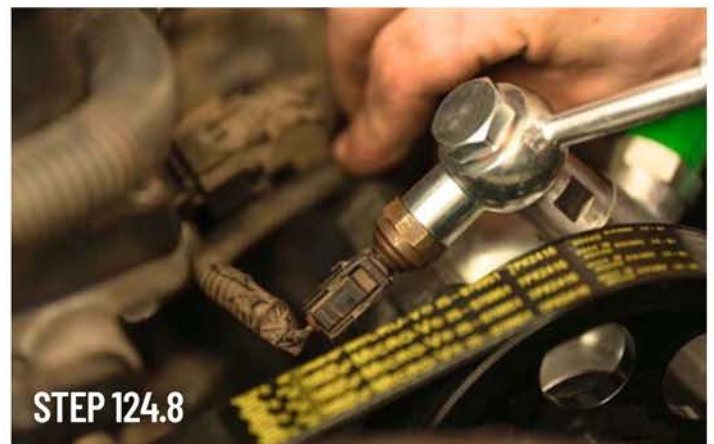
Bump the key in the ignition approximately 5 times while another person pours fluid into the reservoir. If the truck starts, immediately shut it back off. Once the bump of the key / short startup causes little to no drop in the reservoir fluid level, move on to the next step.

STEP 130

Start the truck with another person ready to pour fluid into the reservoir. The level should not drop, but if it does, have the other person pour fluid in immediately. The level should stay within close proximity to the baffle in the top of the reservoir.

STEP 131

Let the truck run, cycling the steering and doing a final check in all positions. Check for leaks at all the fittings, tightening as necessary.



PART 11 - DIFFERENTIAL AND DRIVESHAFT:

STEP 132

Make sure that all parts of the differential have been serviced and are ready for install. Seals, ARB fittings, breather tubes, etc. all should be handled prior to installation.

STEP 133

Disassemble the OEM rear differential mount, removing it from the differential itself and removing the top and bottom bushings.



STEP 133.1



STEP 133.2

STEP 134

Reassemble with the provided HD diff mount parts. One UHMW puck goes on the top, one on the bottom. The thin steel plate goes on the top and the thicker plate goes on the bottom as shown below. The bolt **MUST** be installed before installation back on the differential.



STEP 134.1



STEP 134.2



PART 11 - DIFFERENTIAL AND DRIVESHAFT:**STEP 135**

Reinstall mount back onto the differential.

STEP 136

Remove the driver side front differential mount to allow easy installation of the differential. The differential can be installed before the rear crossmember to allow for even more room.

STEP 137

Fix the differential to a transmission jack for installation, allowing it to be rotated forward slightly on the jack for smooth install.

STEP 138

Jack the differential up into the vehicle, rotating the differential forward so the rear of the differential clears the factory crossmember

STEP 139

Rotate the differential back, keeping the differential fixed to the jack in approximately the correct position in the truck.

STEP 140

Install the rear crossmember with the 4 bolts running through the mounts in the bulkheads.

**STEP 141**

Once the rear crossmember is in, allow the differential to lower slightly, guiding the rear differential mount into the hole in the crossmember.



PART 11 - DIFFERENTIAL AND DRIVESHAFT:**STEP 142**

Tighten the nut on the bottom of the differential mount, waiting to torque it to spec

**STEP 142****STEP 143**

Reinstall the driver side front differential mount and torque to factory specs

**STEP 143****STEP 144**

Install the two front mounting bolts through the front crossmember, torquing to 85 ft lbs

**STEP 144.1****STEP 144.2****STEP 145**

Torque the rear mounting bolt to the differential down to 85 ft lbs

**STEP 142**

PART II - DIFFERENTIAL AND DRIVESHAFT:**STEP 146**

Install any differential breather lines, ARB lines, ADD electrical connectors, or E-locker lines. Zip tie any lines out of the way of the axles and driveshaft.

STEP 147

Measure from the differential mounting flange to the mounting flange at the transfer case for your new driveshaft length.

STEP 148

Send the driveshaft out to get resized. Please refer to driveshaft shop on how they want specs / measurements.

STEP 149

Install new driveshaft, tightening down both ends to factory recommended torque settings.

