

# INSTALLATION INSTRUCTIONS



## TOYOTA FULL HYDRAULIC STEERING KIT, 3.0L

301391-KIT TOYOTA FULL HYDRAULIC STEERING KIT, 6" RAM, (PICKUP/4RUNNER 1989-1995)

301392-KIT TOYOTA FULL HYDRAULIC STEERING KIT, 8" RAM, (PICKUP/4RUNNER 1989-1995)

301393-KIT TOYOTA FULL HYDRAULIC STEERING KIT, 10" RAM, (PICKUP/4RUNNER 1989-1995)

### KIT CONTENTS





## RECOMMENDED TOOLS

metric socket set	welder
metric wrench set	grinder
ratchet / extension	hammer
screw drivers – slot/philips	dykes
crescent wrench	jack stands
drill ¾" unibit	torque wrench
hose cutter	tape measure
jack	allen wrenches/sockets 7/32", 5/8"
	power steering fluid (Royal Purple Recommended)

## CAUTION

1. Read all instructions completely and carefully before you begin.
2. Check to make sure the kit is complete and that no parts are missing (refer to the Kit Contents List on the first page of these instructions). If anything is missing, please contact Trail-Gear at 559.252.4950.
3. Park vehicle on a clean, dry, flat, level surface and block the tires so the vehicle can not roll in either direction..

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## STEP 1

Disconnect and remove the battery



## STEP 3

Remove vacuum lines from power steering pump and replace with two 1/4" vacuum caps at the manifold.



## STEP 5

Install spacer in location shown with original nut.



## STEP 2

Remove power steering pump pulley. Loosen main bolt with belt still tight. A chain wrench may be required. Remove power steering pump.



## STEP 4

Loosely fasten power steering bracket, and tension bracket to pump using 5/16" hardware. Install new pump using original Power steering pump main bolt, and M10 bolt and washer on the tension bracket.



## STEP 6

Mount the cooler to the radiator using the ties provided. Connect lowest hose from cooler to filter side of reservoir, and steering orbital.



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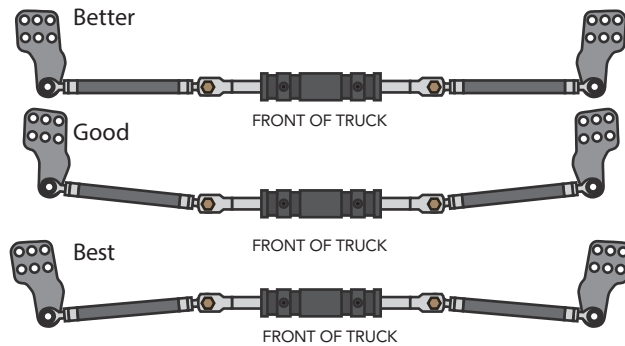
## STEP 7

With a 3/4" drill bit, drill out the rear most tapered holes on your steering arms. Use a drill press if possible. You can trim of the excess material from the longer arm as shown if desired.



## STEP 9

Mount the ram level with the ground, and parallel with the axle housing, slightly behind the steering arm attachment point. See desired layout below. Positioning may vary depending on axle housing, and appreciate the ram does not need to be centered.



## STEP 11

Cope cylinder mounting hoop, and straight tube to fit up to the axle. Tack weld in place.



## STEP 8

Install all cylinder clamps and bolts through cylinder mounting plates. With the truck at full compression, position the cylinder assembly in front of the axle housing in desired location.



## STEP 10

Install Clevis ends on cylinder and cut tie rod tubes to length. Locktite and tighten Allen head clevis bolts.



## STEP 12

By hand manually cycle steering lock to lock and make sure tie rods are adjusted so that the same amount of ram shaft is exposed from right to left.

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## STEP 13

Whenever possible mount the Reservoir filter so the outlet is above the power steering pump inlet. It is recommended that the battery box be relocated to allow for the res



## STEP 14

Mount Orbital and steering column to orbital mounting plate.



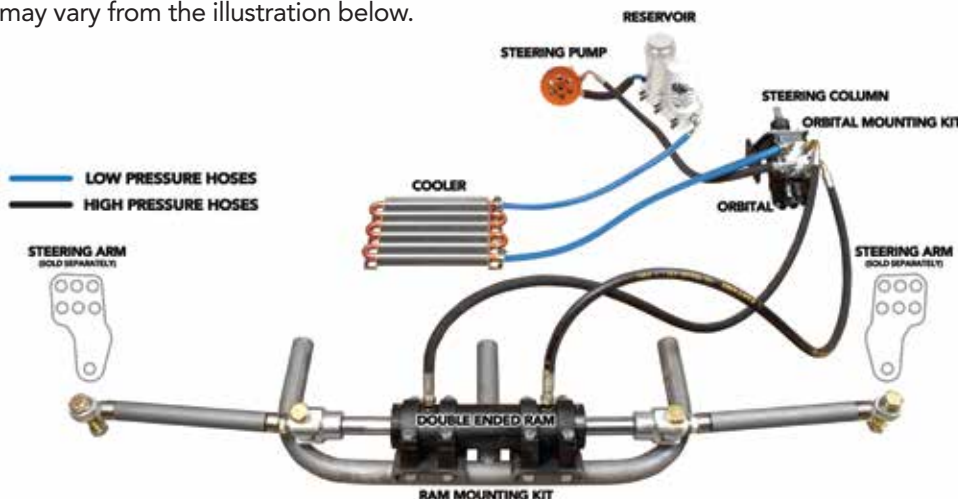
## STEP 15

Position orbital assembly on frame rail. Install Tacoma steering shaft/U-Joint on end of column. Install gussets inside and outside frame rails.



## STEP 16

Install hoses per diagram below. Do not over tighten as this can damage fittings. Note: colors of the hoses provided in kit may vary from the illustration below.



T = Tank    A = Left  
P = Pump    B = Right

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## STEP 16

Install radiator and re-assemble remaining components in reverse order

## STEP 17

Fill the power steering system with power steering fluid. When filling the reservoir, do not fill to the top. Allow about 1/2" for fluid expansion due to heat. With the vehicle on jack stands and tires completely off the ground, engine not running, turn steering wheel from lock to lock several times and then refill the power steering reservoir with fluid. Note, this is done so that the power steering pump does not get started dry, which can cause damage to the pump. Now you're ready to start the engine. Start the engine and immediately add fluid to reservoir. Once reservoir is about 3/4 full SLOWLY cycle the steering wheel to full lock one direction, then slowly to the opposite direction. We recommend that you run the motor for about 5 minutes at a time during the bleeding. Allow the oil to set until all the bubbles have separated out of the oil, then run the motor again for 5 minutes. Repeat this procedure until the oil runs without foam or bubbles.



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