

INSTALL INSTRUCTIONS



TOYOTA FULL HYDRAULIC STEERING KIT

(130305-1-K)

KIT CONTENTS

1 ct.

Double Ended Ram and Clevis Kit



1 ct.

Orbital (100ml)



1 ct.

Steering Pump Kit



1 ct.

Steering Column Kit



1 ct.

Tie Rod Kit



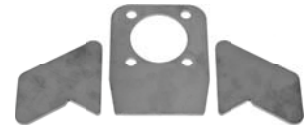
1 ct.

Double Ended Ram Mounting Kit



1 ct.

Orbital Mounting Kit



2 ct.

Hose Clamps



2 ct. (each)

Steering Arms Nuts & Bolts



2 ct.

Hydro Hoses



1 ct.

Straight Barbed Fitting



1 ct.

#6 JIC Fitting



INSTALL INSTRUCTIONS (CONT'D.)



RECOMMENDED TOOLS

	Wrenches	Sockets	Allens
Flathead Screwdriver	1/2"	1/2"	7/32"
Side Cutters	9/16"	9/16"	5/8"
Grinder	3/4"	3/4"	
Torch	7/8"	1 1/8"	
Welder	1 1/16"	12mm	
Hammer	1"	17mm	
Jack	1 1/8"	19mm	
Jack Stands			
3/8" Drive Ratchet			
1/2" Drive Ratchet			
Torque Wrench			
Tape Measure			
3/4" Drill Bit			
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.

INSTALL INSTRUCTIONS (CONT'D.)



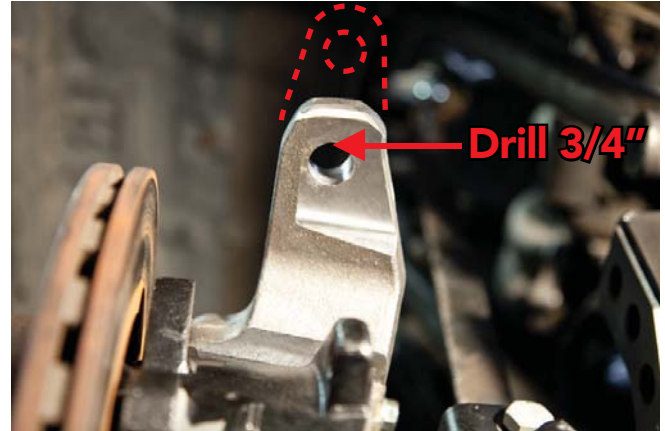
STEP 1

Install clevis ends on cylinder and cut tie rod tubes to length, eye to eye they should be 45 3/8". Locktite and tighten clevis end allen head bolts into ram. Tubes should be the same length if you are mounting the cylinder centered on the axle (recommended). Allow adjustments in and out.



STEP 2

Drill steering arms using a 3/4" drill bit. Drill the 2 tapered tie rod holes only. Use a drill press if possible. Use the hole closest to the rear of the truck on the right side steering arm. Cut off front of arm if desired.



STEP 3

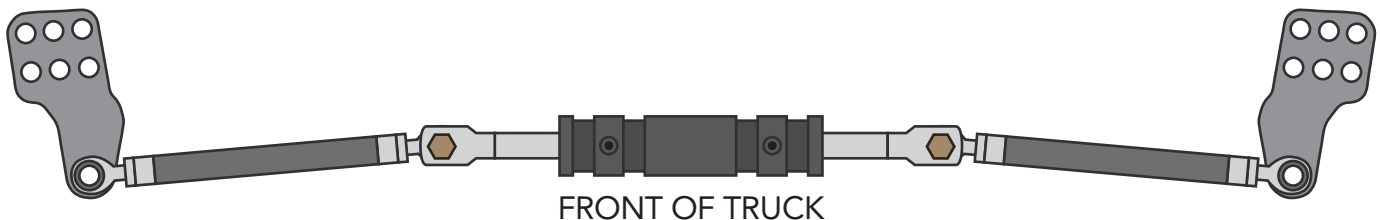
Install all cylinder clamps and bolts through cylinder mounting plates. Then, with truck suspension at full compression, position cylinder assembly in front of the axle where it will be mounted. Mount the ram level (when looking from the front) and slightly behind the steering arm attachment (ideal). See diagram 1.1.



1.1

This positioning will depend on many variables on your vehicle.

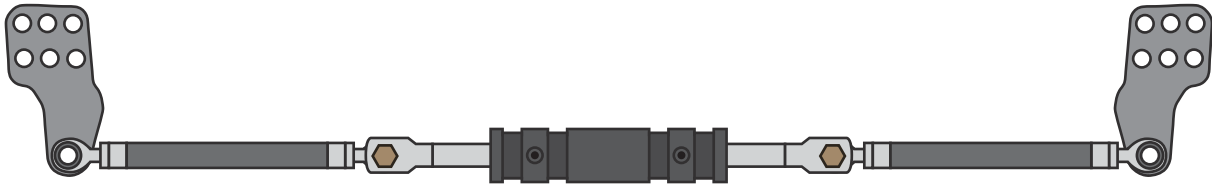
Best



INSTALL INSTRUCTIONS (CONT'D.)



OK



FRONT OF TRUCK

OK



FRONT OF TRUCK

STEP 4

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



STEP 5

Manually cycle steering lock to lock and make sure tie rods are adjusted and cylinder bottoms out at full lock left and right.



STEP 6

Bolt the new pump and bracket to the stock idler pulley using the provided hardware. Install the new fan belt provided with the kit. Note: When removing old power steering pump, plug off both vacuum lines, they will not be used with this pump.



STEP 7

The cooler can be mounted in two different ways. It can be mounted with the ties going through the radiator using the parts provided in the kit, or a custom bracket can be fabricated.



INSTALL INSTRUCTIONS (CONT'D.)



STEP 8

Always mount reservoir so that the bottom of the reservoir is above the inlet on the power steering pump, or you will not be able to properly bleed the system.



STEP 9

Mount orbital and steering column to orbital mounting plate.



STEP 10

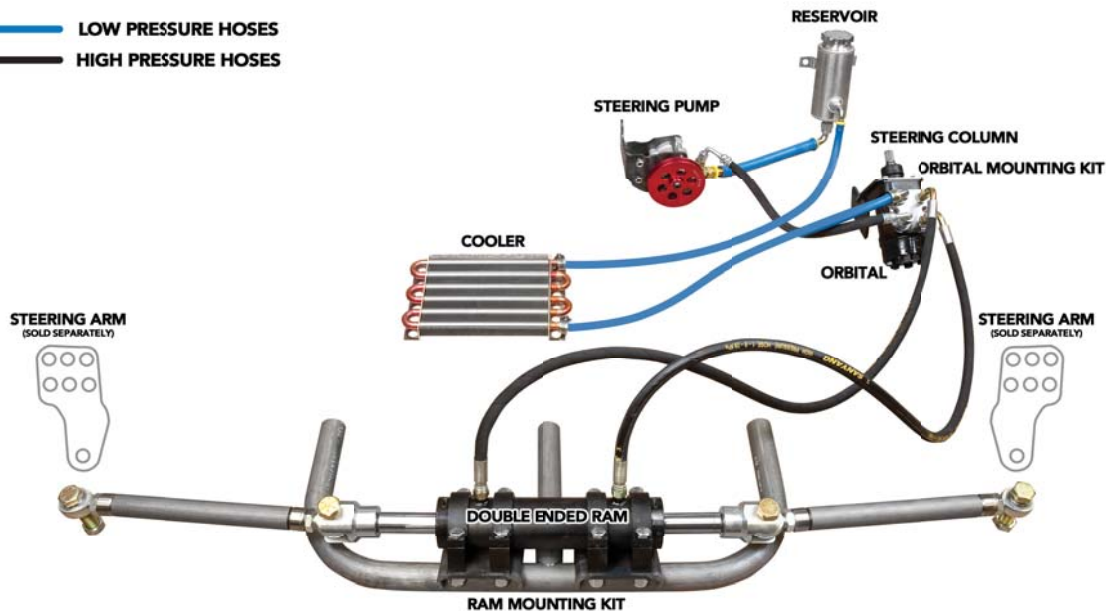
Position orbital assembly on frame rail. Install OEM steering shaft/U-joint on end of supplied steering column. Install gussets inside and outside frame rails.



STEP 11

Install hoses per diagram 1.2. Do not overtighten hoses as this can damage the fitting.

1.2  LOW PRESSURE HOSES
 HIGH PRESSURE HOSES



INSTALL INSTRUCTIONS (CONT'D.)



STEP 12 (BLEEDING PROCESS)

Fill the power steering system with synthetic power steering fluid. We recommend Royal Purple full synthetic fluid. When filling the reservoir, do not fill to the top, allow about 1/2" for fluid expansion due to heat. It will take some time to fully bleed the system the first time.

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 and turn the steering wheel from lock to lock, 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.



FLOW DIAGRAM

STEP 13

Start engine and cycle steering to verify that steering cylinder bottoms at full lock in both directions. Check for leaks.

STEP 14

Finish welding all brackets. Check fluid level and tension on power steering belt and you are ready to wheel.