

# INSTALL INSTRUCTIONS



## FJ40 KNUCKLE CONVERSION KIT

1960-1983 TOYOTA FJ40

1960-1983 TOYOTA FJ45

304149-1-KIT

304150-1-KIT

304151-1-KIT

304152-1-KIT

304153-1-KIT

304154-1-KIT

304155-1-KIT

304156-1-KIT

304157-1-KIT

304159-1-KIT

304160-1-KIT

304158-1-KIT

304161-1-KIT

304162-1-KIT

304163-1-KIT

304164-1-KIT

304165-1-KIT

304166-1-KIT

## KIT CONTENTS



304280-1-INS

## RECOMMENDED TOOLS

Screwdriver  
Ball Peen Hammer  
Rubber Mallet  
Safety Glasses  
Metric Ratchet & Socket Set  
Snap Ring Pliers  
Wheel Bearing Grease  
Removable Threadlocking Compound (Loctite 242)  
Degreasing Compound (e.g. Brake Cleaner)

## CAUTION

1. Read all instructions completely and carefully before you begin. If anything is not clear, please call our tech support line at 1.877.4X4.TOYS or 559.252.4950 before proceeding.
2. Check to make sure the kit is complete and that no parts are missing (refer to the Kit Contents Section on the first page of these instructions). If anything is missing, please contact Trail-Gear at 1.877.4X4.TOYS or 559.252.4950.
3. Park vehicle on a clean, dry, flat, level surface and block the tires so the vehicle cannot roll in either direction.
4. This product is for off-road use only. It is recommended that the installation steps below be performed by a competent mechanic. Buyers and users of this product hereby expressly assume all risks associated with the installation and use of this product.
5. This installation is typical for most FJ80/FJ100 Toyota Land Cruisers. Some vehicles may vary. If necessary, refer to the proper Factory Service Manual for the year and model of your vehicle.

	<p><b>CAUTION</b></p> <p>Flying Object Hazard. Fluid Splash Hazard.</p> <p>Wear safety glasses at all times when working on vehicle.</p>		<p><b>NOTICE</b></p> <p>Read instructions completely before installing this product. Refer back to the instructions frequently during installation.</p>
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# INSTALL INSTRUCTIONS (CONT'D.)



## NOTE:

For our instructions we started with an already disassembled FJ40 housing. Please see Factory Service Manual for these steps. These instructions are a general guideline and may need to be altered slightly depending on the actual kit purchased. The instructions were made using Trunnion Bearing Eliminators and manual locking hubs. Please call Trail-Gear Technical Support with any questions.

## STEP 1

Grind knuckle ball in order to fit the slightly larger 30-spline birfields. Test fit with Birfield and clean any metals shavings from the housing.



## STEP 2

Install trunnion bearing races.



## STEP 3

Install inner axle seal and apply a thin layer of grease to the seal lips. You may want to use the upgraded trail safe seal for this step if you purchased a kit that came with an axle set.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 4

Slide the included felt, rubber and metal ring over the knuckle ball.



## STEP 5

Install knuckle studs into knuckle, use some thread locker if desired. Torque studs in knuckle to 35 ft-lbs.



## STEP 6

Slide knuckle over knuckle ball.



## STEP 7

Place shims onto lower knuckle cap and slide cap over knuckle studs. We recommend starting with .050" of shims on the lower knuckle cap. Install washers and knuckle nuts, tighten to 80ft-lbs. Note: Be sure to grease trunion bearings before installing.



## STEP 8

Place .050" of shims onto the top of the knuckle. Install steering arm, cone washers, wave washers, and knuckle nuts then tighten to 80 ft-lbs. When using a pull scale as shown, the force required for standard trunion bearings should be 12-15 lbs and 15-25 lbs for trunion bearing eliminators. If the knuckle is too tight, add more shims. If the knuckle is too loose, remove shims.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 9

After correct pre load is established the knuckle must be centered on the knuckle ball. This is done by moving shims from the top to the bottom of the knuckle or vice versa depending on each individual setup. It is recommend to use the SST and instructions listed in the FSM to center the knuckle.

## STEP 10

Install snap ring onto axle and install Birfield.



## STEP 11

Slide axle shaft assembly into the axle housing.



## STEP 12

Press brass bushing into spindle as shown. Failure to install bushing correctly will cause it to deform and not allow the Birfield to pass through.



## STEP 13

Install spindle studs using double nut technique as shown. Thread locker may be used, if desired.



## STEP 14

Install gasket, spindle, backing plate eliminator, gasket, seal, and then nuts as shown.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 15

Install bearing races into hub body as shown.



## STEP 16

Install rotor and mounting bolts as shown.



## STEP 17

Press in wheel studs.



## STEP 18

Grease inner wheel bearing and set into race.

## STEP 19

Install wheel bearing seal, place a small amount of grease on the seal lips.



## STEP 20

Slide hub body over spindle.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 21

Grease outer wheel bearing and install.

## STEP 23

Install star washer

## STEP 25

Install hub studs and torque to 20-30 ft-lbs, thread locker may be used if desired.



## STEP 22

Install wheel bearing washer. Install spindle nut and tighten until the drag on a pull scale is approximately 18 lbs.



## STEP 24

Install second bearing nut and tighten to 43 ft-lbs, then fold the tabs on the star washer. You want at least one tab folded towards the inner nut and one towards the outer.



## STEP 26

Remove hub cap from manual locking hub. At this point if you purchased a kit that came with an axle set you may want to install the supplied chromoly hub gears at this time.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 27

Slide gasket, hub body, cone washers, and lock washers over studs.



## STEP 28

Install hub nuts and tighten to 23ft-lbs.



## STEP 29

Install birfield snap ring.



## STEP 30

Install hub cap and tighten with the bolts removed earlier.



## STEP 31

Install rock rings with provided hardware as shown. Rock rings will capture and hold the knuckle ball seals.



## STEP 32

Install brake pads and calipers with supplied caliper bolts and washers.





# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 33

Install supplied caliper hard and soft lines.



## STEP 35

Install wheels.

## STEP 37

With vehicle at ride height, steering wheel centered, steering box centered and wheels straight, measure distance from pitman arm hole to front passenger side steering arm hole (if LHD). Subtract 10.75" from the distance you just measured. This will be your drag link cut length.



## STEP 34

Repeat steps 1-33 for opposite side.

## STEP 36

Install Tie rod and adjust toe in to approximately 1/8" in.



## STEP 38

Cut drag link material to drag link cut length.

## STEP 39

Weld in supplied bungs. Bungs should be welded by a competent welder.

## STEP 40

Install drag link.

## STEP 41

Using the adjustment available in the tie rod ends on the drag link center the steering so that the vehicle steers an equal amount in both directions.

# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 42

Install steering stop bolts so that the steering is limited by the steering stop bolts and not the rock ring being crushed by the knuckle ball.



## STEP 43

After rechecking all torques it may be desired to take the vehicle to an alignment shop.