

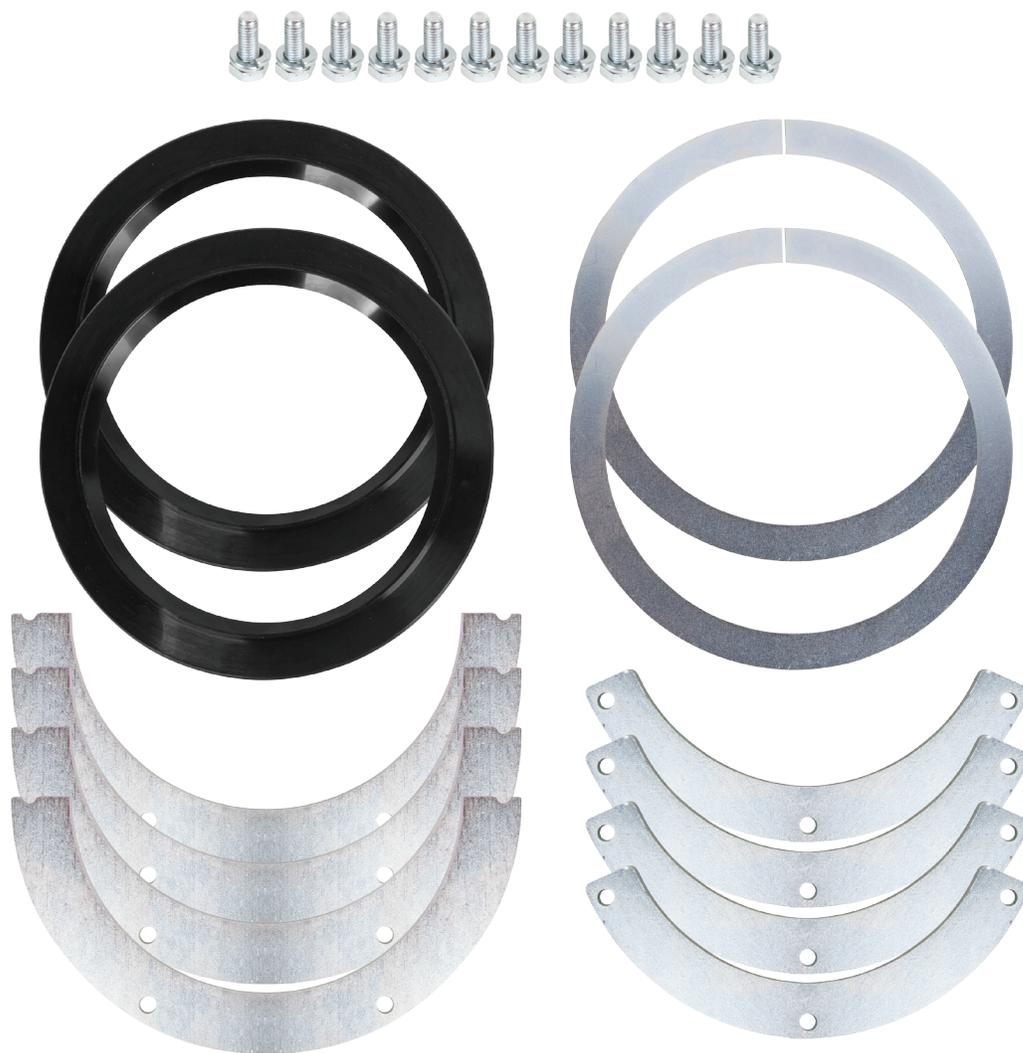
# INSTALLATION INSTRUCTIONS



## TRAIL-SAFE™ FJ80 KNUCKLE BALL WIPER SEAL KIT

303682-1-KIT (1990-1997 TOYOTA LAND CRUISER FJ80, 1995-1997 LEXUS LX 450)

## KIT CONTENTS



**303689-1-INS**

# INSTALLATION INSTRUCTIONS



## RECOMMENDED TOOLS

Ratchet & Socket Set

Torque Wrench

Snap Ring Pliers

54mm Spindle Lock Nut Socket, TG P/N 140157-1-KIT

Knuckle Pull Scale, TG P/N 170004-KIT (For Bearing Preload)

Tie Rod Removal Tool

Floor Jack

Jack Stand

Flat Head Screwdriver

## 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 kit 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 kit.
5. This installation is typical for most Toyota FJ80/Lexus LX 450 vehicles. Some years or models may vary. If necessary, refer to the proper Factory Service Manual for the year and model of your FJ80/LX 450.



# INSTALLATION INSTRUCTIONS



## TRAIL-SAFE™ FJ80 KNUCKLE BALL WIPER SEAL KIT

### STEP 1

Loosen the lug nuts securing the wheel to the axle. Raise the front end with a floor jack and place a jack stand under the frame. Remove the lug nuts and remove the wheel from the axle. Following the procedure outlined in the Toyota Land Cruiser FJ80 Factory Service Manual, disassemble the steering knuckle down to the knuckle ball. Save all components for reinstallation except for the stock felts, stock rubber seal, stock steel felt retaining rings, and the stock retaining ring bolts.

### STEP 2

Clean and degrease the outer surface of the knuckle ball.



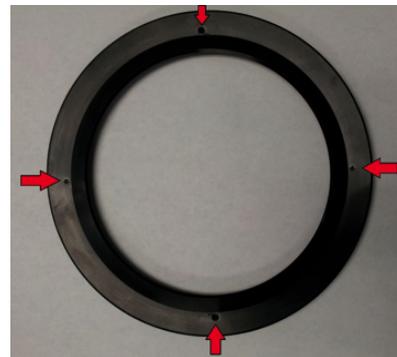
### STEP 3

Apply wheel bearing grease to the seal lip.



### STEP 4

The side of the seal with the (4) ejector-pin marks faces the differential when installed.



### STEP 5

Fold the seal under itself as shown.



### STEP 6

Place the folded portion of the seal over the bottom lip of the knuckle ball as shown. Remember, the side with the (4) ejector-pin marks will be facing towards the differential when installed.



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### STEP 7

Pull the seal up towards the top of the knuckle ball as shown. Work the seal up towards the top of the knuckle ball equally with both hands until the seal is tight.



### STEP 8

Using a small screwdriver or pry tool, place the tool between the seal and the top of the knuckle ball. Gently pry the seal onto the knuckle ball. Use care not to damage the seal or the outer surface of the knuckle ball with the pry tool.



### STEP 9

Smooth the seal out, making sure that there are no kinks or dents in the seal.



### STEP 10

Install the one-piece split metal backing ring over the knuckle ball.



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### STEP 11

Following the procedure outlined in the Toyota Land Cruiser FJ80 Factory Service Manual, reinstall the steering knuckle onto the knuckle ball.



### STEP 12

Install the one-piece split metal backing ring into the counterbore on the back of the knuckle.



### STEP 13

Install the seal over the one-piece split metal backing ring, trapping the split metal backing ring in between the knuckle and the seal.



### STEP 14

Install the Rock Rings and Rock Ring Retainers over the Trail Safe™ Wiper Seal using the M6 bolts and washers provided in the kit.



### STEP 15

Following the procedure outlined in the Toyota Land Cruiser FJ80 Factory Service Manual, reassemble all components back onto the axle. Reinstall the wheel and lug nuts. Torque the lug nuts to the torque specified in the Toyota Land Cruiser FJ80 Owner's Manual.

### STEP 16

Lower the vehicle. Repeat Steps 1-16 for the other side of the vehicle.

### STEP 17

Take the vehicle for a short test drive. After the test drive, check the torque on all hardware and tighten as necessary.

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### REPLACEMENT PARTS

