

# INSTALL INSTRUCTIONS



## TRAIL-LINK THREE™ FRONT 3-LINK KIT

(110149-1-K)

### KIT CONTENTS

**1 ct.**  
Upper Link Tube



**2 ct.**  
Lower Link Tube



**1 ct.**  
Upper Link Axle Bracket



**1 ct.**  
Passenger Lower Link Axle Bracket



**1 ct.**  
Panhard Frame Bracket



**1 ct.**  
Upper Link Frame Bracket



**2 ct.**  
Lower Link Frame Bracket  
(1 LH/1 RH)



**1 ct.**  
Driver Lower Link Axle Bracket



**1 ct.**  
Panhard Axle Bracket



**4 ct.**  
Shock Strip (2 Short/2 Long)



**2 ct.**  
Rod End Kit (1 LH/1 RH)



**1 ct.**  
Shock Mounting Kit



# INSTALL INSTRUCTIONS (CONT'D.)



**1 ct.**  
Panhard Tube



**2 ct.**  
Panhard Bung (1 LH/1 RH)



**6 ct.**  
Link Bung (3 LH/3 RH)



**4 ct.**  
3/4"-9/16" Misalignment Spacers



**3 ct.**  
9/16" Creeper Joints (RH)



**3 ct.**  
9/16" Creeper Joints (LH)



**6 ct.**  
9/16"-4" Bolts



**2 ct.**  
9/16"-3" Bolts



**8 ct.**  
9/16" Toplock Nuts



**2 ct.**  
Gussets





## RECOMMENDED TOOLS

	<b>Wrenches</b>	<b>Sockets</b>
Grinder	3/4"	3/4"
Torch		
Welder	13/16"	13/16"
Hammer	7/8"	7/8"
Jack	1 1/8"	
Jack Stands	1 7/8"	
3/8" Drive Ratchet		
1/2" Drive Ratchet		
Torque Wrench		
Tape Measure		
Angle Finder		
Straight Edge		

## 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.)



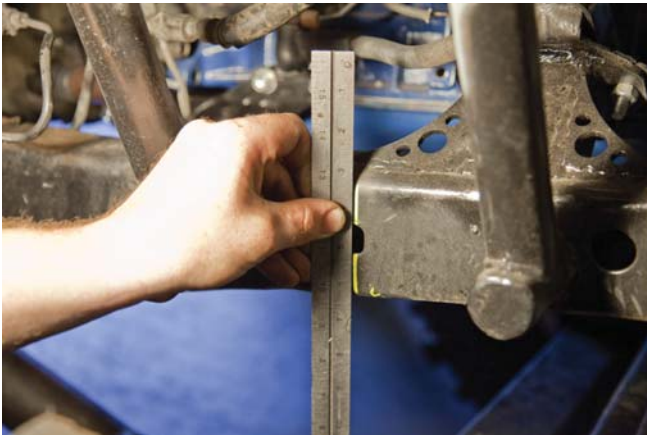
## STEP 1 - PRE-INSTALLATION MEASUREMENTS

Before starting installation, take some measurements of your truck so that you can determine proper set up of your new 3 link kit. Take these measurements at ride height on a level surface. Measure your current wheelbase and front axle pinion angle. Record the data in the table on the last page of these instructions.



## STEP 2 - PRE-INSTALL MEASUREMENTS

Mark the centerline of the front axle on each side of the frame. These marks will provide a reference when all brackets are cut off. Determine how far forward you want to move your axle. There are many considerations for this, including desired wheelbase, tire clearance, steering cylinder clearance, and the type of frame.



## STEP 3 - REMOVE EXISTING SUSPENSION

Remove axle, cut off front suspension of the truck, and grind smooth.



## STEP 4 - AXLE PREP

Cut spring perches and shock mounts off of axle and grind smooth.



## STEP 5 - AXLE BRACKET INSTALL

Position axle on bench and raise the pinion until the pinion angle matches the angle measured in step 1.

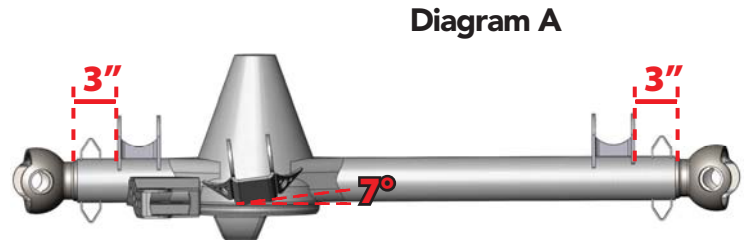


# INSTALL INSTRUCTIONS (CONT'D.)



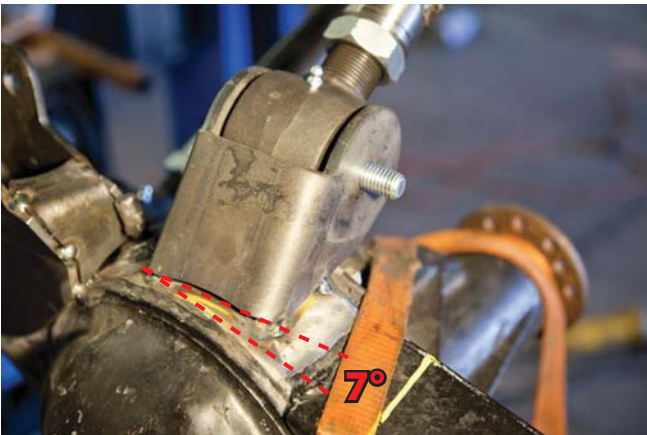
## STEP 6 - LOWER LINK AXLE BRACKET INSTALL

Mark axle 3 inches in from flange on each side. Place the outside of the Lower Link bracket on the line and level them to the axle. This will place the link brackets level at ride height with the desired pinion angle. Tack weld them in place.



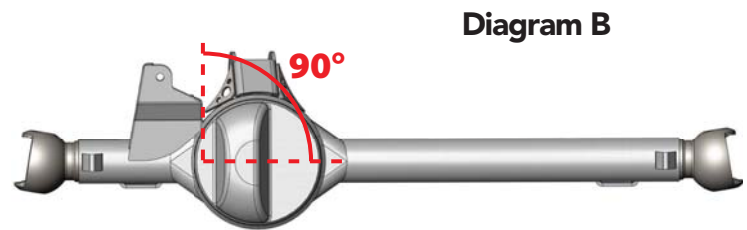
## STEP 7 - UPPER LINK AXLE BRACKET INSTALL

Mark the location of the upper link mount on the front axle as shown in Diagram A. Tack weld in place.



## STEP 8 - PANHARD AXLE BRACKET INSTALL

Place the panhard mount on the axle and rotate into position as shown in Diagram B. Tack weld in place.



## STEP 9 - LOWER LINK FRAME BRACKET INSTALL

Mount the Upper and lower link mounts to the frame. Depending on the model of truck these locations will vary. Pictures show an IFS frame truck and the lower brackets are mounted about 5 inches behind the skid plate.



## STEP 10 - LOCATION OF UPPER LINK BRACKET

Slide the upper link bracket in place between the front cab body mount and the skid plate on the passenger side. Some grinding may be required to fit the bracket in place.

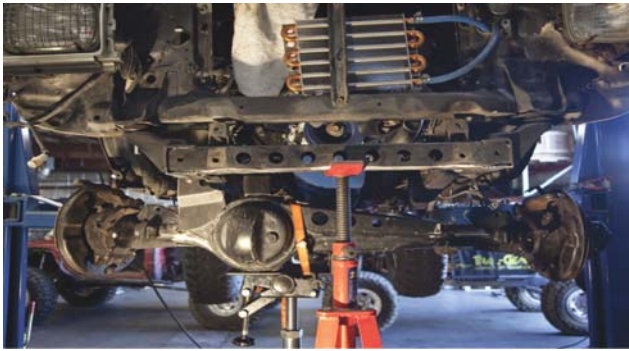


# INSTALL INSTRUCTIONS (CONT'D.)



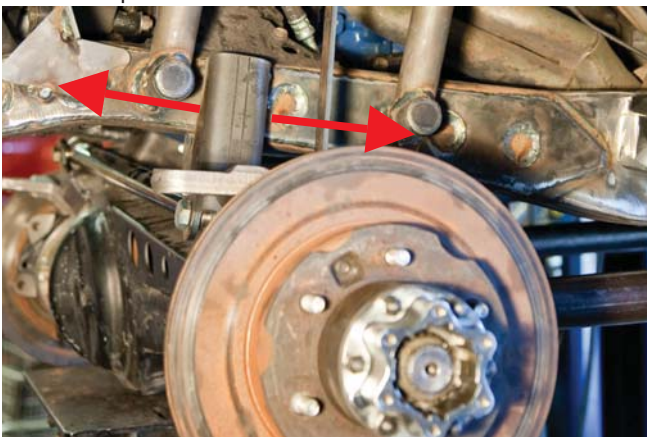
## STEP 11 - AXLE/LINK INSTALL

Using a transmission jack or jackstands, position the axle under the truck at the approximate ride height and forward position. Measure and cut tubing for the upper and lower links, tack them together and install the link ends. Install them in the link brackets. The amount of tubing in the kit will allow the axle to be moved forward about 5" on an IFS frame truck (longest links). All other applications and axle locations will need to cut the link tubing to the correct length.



## STEP 13 - PANHARD FRAME BRACKET INSTALL

When the front to rear position of the axle is correct, tack the panhard frame bracket to the frame. Slide the bracket forward/backward so that the panhard link is parallel with the front axle (front to rear) at ride height. Assemble and install the panhard link.



## STEP 15 - INSTALL SHOCK MOUNTS

Weld axle shock mounts in place. Standard lower shock mounts are included. Gusseted lower shock mounts and knuckle ball gussets can be found in our Creeper Gussets Kit.



## STEP 12 - AXLE PLACEMENT

Check the placement of the axle in the vehicle using the marks made on the frame in step 2. Axle is shown moved 3" forward of original location. Measure from frame to knuckle ball on each side to ensure that the axle is centered side to side.



## STEP 14 - PANHARD SETUP

Determine uptravel of shocks (3"-4" recommended) at ride height. Verify that the panhard link is parallel with the ground or at a negative angle as shown in Diagram C.

### Diagram C

CORRECT



CORRECT



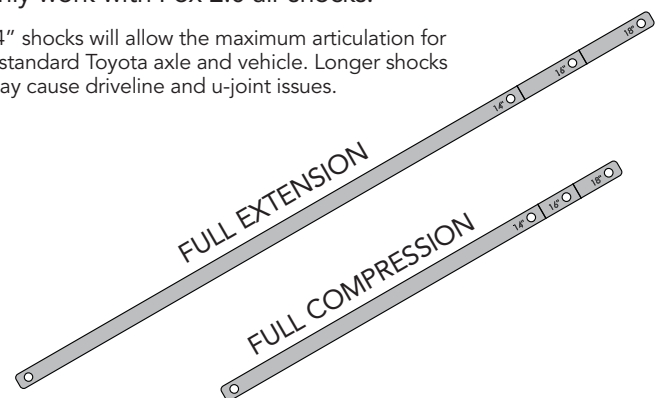
INCORRECT



## STEP 16 - SHOCK STRIPS

Cut shock "mock-up" strips to the proper application length for the shock that you will use. We recommend 14" shocks for this kit. Note: These shock strips will only work with Fox 2.0 air shocks.

14" shocks will allow the maximum articulation for a standard Toyota axle and vehicle. Longer shocks may cause driveline and u-joint issues.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 17 - UPPER SHOCK MOUNT PLACEMENT

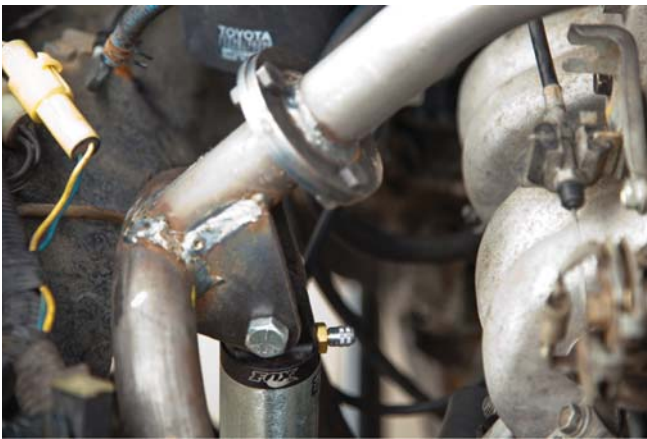
Bring axle to full compression, install compressed shock strips, and fabricate upper shock mounts. (See example installations on the next page.)



## EXAMPLE SHOCK MOUNT INSTALLATION



## EXAMPLE SHOCK MOUNT INSTALLATION



## STEP 18 - CHECK CLEARANCES

Using the shock strips, flex the suspension to full compression, full extension, full flex right and full flex left. Verify that there is no binding or metal to metal contact.



## STEP 18 CONT'D



## STEP 19 - CHECK CLEARANCES

With suspension at full extension, check drive line engagement and u-joints for binding.



# INSTALL INSTRUCTIONS (CONT'D.)



## STEP 20 - RECHECK CLEARANCES

Install air shocks, do not pressurize. Flex suspension again. Check for shock clearance with the frame, tires, and shock mounts. Flex to full compression, full extension, full flex left, and full flex right.

## STEP 22 - PRESSURIZE SHOCKS

Add nitrogen pressure to shocks. We recommend 3"-4" of up travel at ride height.

## STEP 24 - TIGHTEN NUTS AND BOLTS

Flex suspension with shocks charged and torque all bolts and jam nuts.

9/16" Joint Bolts - 110 ft./lbs.

1/2" Shocks bolts - 70 ft./lbs.

## STEP 21 - WELD BRACKETS AND PAINT

Remove shocks and links. Fully weld all brackets, paint as desired and reinstall all shocks and links.

## STEP 23 - CHECK PANHARD LINK ANGLE

Panhard link must be level at ride height or at a negative angle for proper handling of the vehicle as shown below in Diagram C.

### INSTALLATION MEASUREMENTS

PINION ANGLE	
WHEEL BASE (Before Installation)	
WHEEL BASE (After Installation)	

### NOTES
