

INSTALLATION INSTRUCTIONS



TACOMA FRONT SHACKLE KIT

110821-1-K

KIT CONTENTS



RECOMMENDED TOOLS

Loctite	Level	Sockets	Wrenches
Cutoff Wheel	Straight Edge	10mm	10mm
Welder	Punch	12mm	12mm
Grinder	C-Clamps (2)	27mm	27mm
Plasma Cutter	Drill		
Paint Pen			
Tape Measure			
Jack Stands			
Floor Jack			
3/8" Ratchet			
1/2" Drive Ratchet			
Hammer			

CAUTION

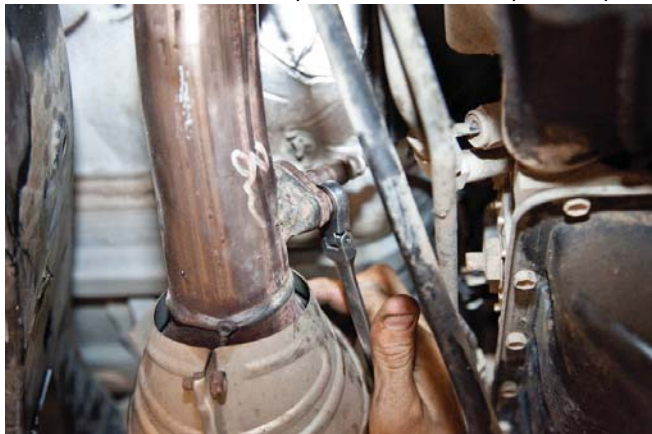
1. Read all instructions completely and carefully before you begin.
2. Check to make sure the kit is complete and that no parts are missing (refer to the Kit Contents List on the first page of these instructions). If anything is missing, please contact Trail-Gear at 559.252.4950.
3. Park vehicle on a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

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STEP 1

If you have a 3.4L motor, remove the O² sensor above resonator and follow step 2, otherwise, skip to step 3.



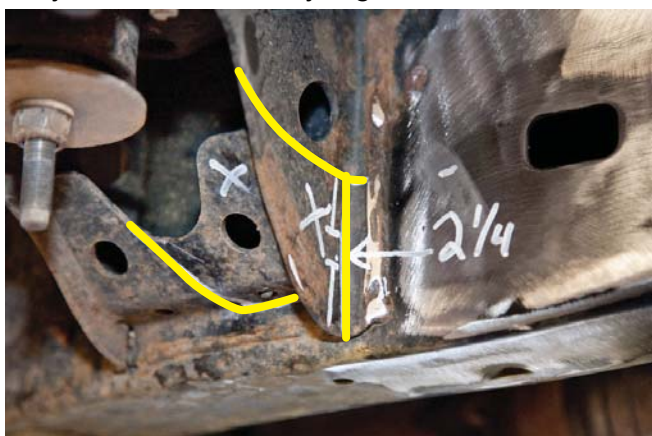
STEP 2

Remove the resonator to give yourself room to cut out the frame rail for the shackle mount.



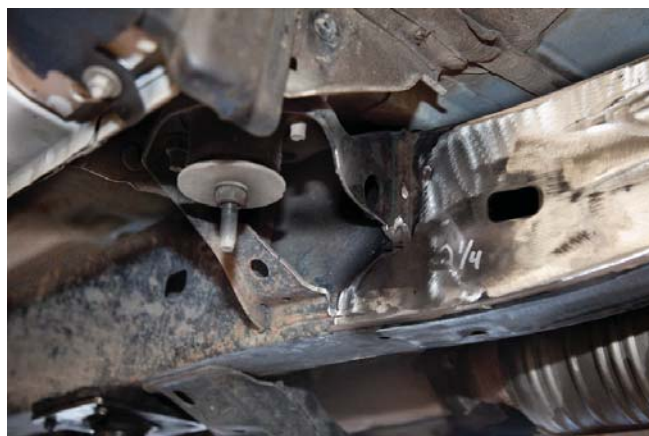
STEP 3

The body mount modification is located under the floorboard for the shackle mount. Mark 2 1/4" up from the bottom of the front side of the body mount bracket. Mark 2 1/2" from the outside of the body mount towards the center of the body mount. Follow factory edge and draw lines as shown.



STEP 4

Cut along the lines and remove the bracket as shown. Grind the frame clean.



STEP 5

Measure from the inside of the face of the front hanger mount 45 7/8" and mark the frame. The mark should be in the center of the big hole in the template. Align the frame jig as shown with the large hole facing the outside of the vehicle. Make sure the rear of the jig is in contact with the frame. Tack weld it in place.



STEP 6

A small gap between the frame and the front of the jig is normal due to frame curvature.



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STEP 7

Mark the frame through the holes in the bottom of the jig.



STEP 8

Outline the jig on the inside of the frame as shown.



STEP 9

Cut the larger hole on the outside of the frame with the jig in place with a hole saw or plasma cutter and then remove the jig.



STEP 10

Use a straight edge to connect the lines made with the jig like the image below.



STEP 11

Cut the frame with a plasma cutter along the *inside* of the line, clean slag off of the frame.



STEP 12

Cut the internal frame support to be flush with the previous cut and grind clean.

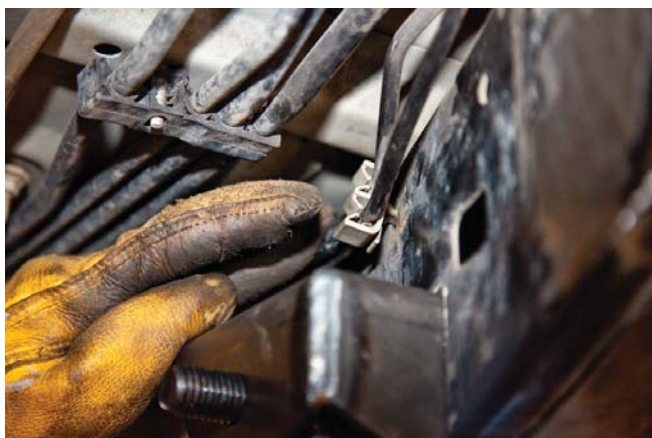


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STEP 13

Remove the brake line clip from the frame on the driver's side above the shackle location.



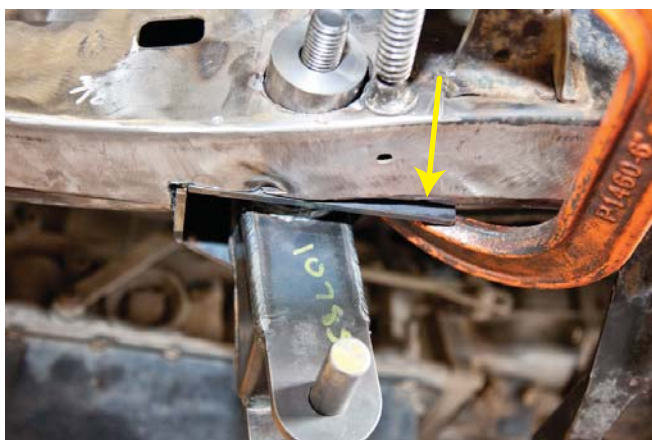
STEP 14

Install shackles into the shackle mount and clamp into frame with alignment bar installed to make sure the shackles are square. Make sure the shackles are 29" center to center. Note: Manual transmissions can run the alignment tube through shackle box mount.



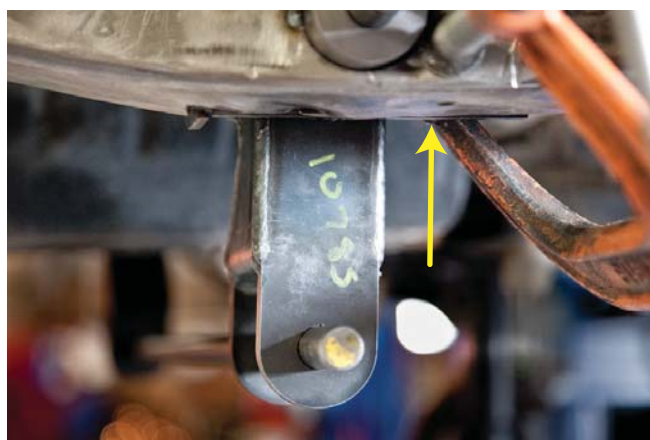
STEP 15

Below is an example of **incorrect** fitment. Notice the mount sticking out below the frame.



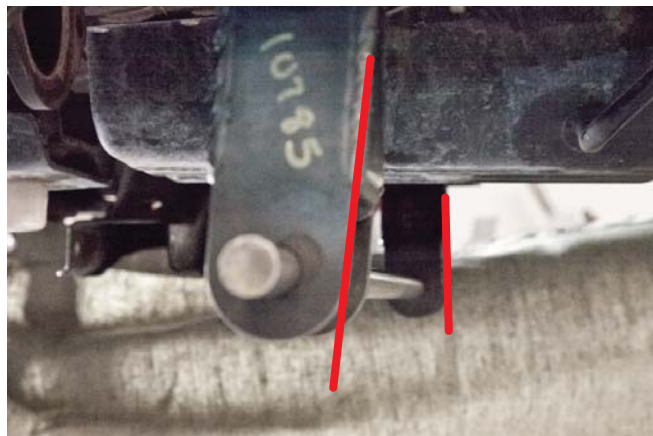
STEP 16

Below is the correct fitment of the mount. Notice how the bottom of the mount is even and almost flush against the bottom of the frame.



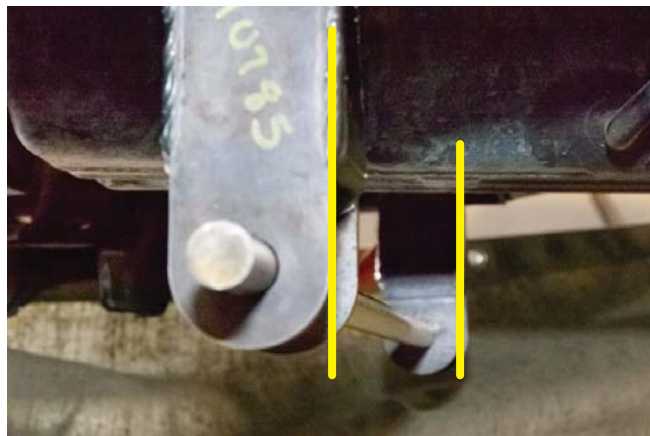
STEP 17

Below is an example of **incorrect** fitment. The shackles need to be parallel.



STEP 18

Below is the correct fitment of the shackles. Notice how they are parallel.



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Verify that all parts are in the correct location before welding into the frame.

STEP 19

Once the shackles are straight and at the correct distance apart (29" center of shackle to center of shackle), tack weld the tube into the frame.



STEP 20

Once the shackle mount is tacked into the frame, clamp the support plate to the frame and tack it into place.



STEP 21

Weld the support plate to the frame.



STEP 22

Remove poly bushing and weld the shackle tube to the frame.



STEP 23

Install the shackle mount boxing bracket on top of the shackle mount and weld it into place.



STEP 24

Weld the shackle mount to the bottom of the frame.



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STEP 25

Grind the weld smooth.



STEP 26

Place the bottom frame support bracket on the bottom of the frame and tack the rear portion to the frame.



STEP 27

Clamp the front portion of the support to the frame to form it to the frame curve and tack it into place.



STEP 28

Finish welding the bottom support plate.



STEP 29

For 3" springs we recommend starting off with the front hanger 44 1/2" from the shackle bolt center to bolt center and move it approximately 3/8" forward for 4" springs and 3/4" forward for 5" springs. Note, these are only recommendations to verify location.



STEP 30

Tack weld the spring hanger into place, centering it upon the mount.

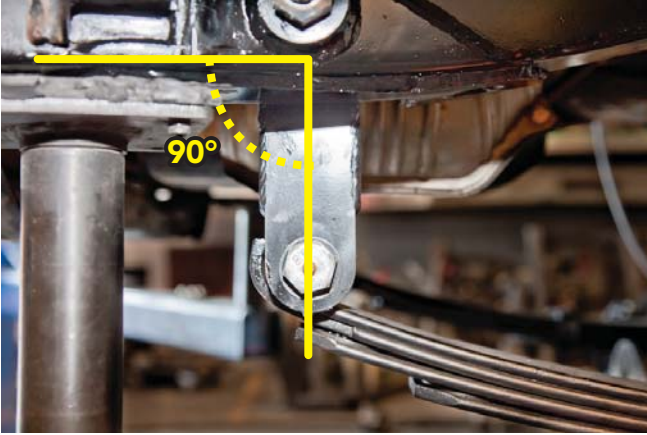


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STEP 31

Install springs and axle. Place the weight of the vehicle on the springs to ensure proper shackle angle is achieved. We recommend a 90° shackle angle during initial setup to allow for spring break-in.



STEP 32

Tack weld the body mount gussets into place.



STEP 33

Fully weld the body mount gussets to the frame and body mount bracket.

