

## Rusty's MJ Comanche 4.5" Long Travel Kit

### RK-405LT-MJ

## INSTALLATION INSTRUCTIONS

Last Revised: 2/13/2024

#### Introduction:

Rusty's recommends that this installation be performed by a certified automotive technician or a person with professional mechanical knowledge. Installing this kit without this expertise may jeopardize the handling and safety of the vehicle.

Read instructions several times before starting. Be sure you have all the needed parts and know where they install. Read each step completely as you go. Exhaust modifications may be necessary. Prior to drilling or cutting, check behind the surface being worked on for any wires, lines, or hoses that could be damaged. After any drilling or cutting, remove burrs and grind smooth any surfaces. An inclinometer or similar tool may be needed to measure driveshaft angles before and after the installation.

#### Warning:

- It is the owners' responsibility to inspect all Rusty's products for proper torque specs to prevent loosening of components.
- Seat belts and shoulder harnesses should be worn at all times.
- Re-check all bolts and nuts after the first 100 miles and after any off-road usage during the first 300 miles.
- Although all of our products are made from the highest quality materials possible, they are not a substitute for Safe and Careful driving. In other words, have good safe on-road / off-road sense. Know the terrain, the speed limitations, and any obstacles that may lie ahead. Please remember to preserve our right to enjoy public land through the proper use of off-road vehicles.

#### Before Starting Installation:

1. Carefully Read all warnings and instructions completely before beginning.
2. Verify all parts have been received in this kit by checking the parts list on page#2 of this document.
3. Only install this kit on the vehicle for which it is specified.
4. Park the vehicle on a clean, dry, flat, level surface and block the tires so the vehicle cannot roll in either direction.
5. Be certain the vehicle is safely secured on jack stands or a vehicle lift prior to working around or under a vehicle. Never rely on a jack alone to support a vehicle's weight; use appropriately rated stands to support the vehicle's frame and any other heavy components.

**RK-405LT-MJ Parts List:**

**Note:** Please be sure that you have all the provided parts listed below before continuing with the installation.

<b>Part #</b>	<b>DESCRIPTION:</b>	<b>Quantity</b>
RC-CS405-XJ	Rusty's 4.5" XJ Front Coil Springs (Pair)	1
RC-LS450-MJ	Rusty's MJ 4.5" Rear Leaf Spring (Pair)	1
RX-36	Rusty's RX100 Performance Series Shock: RX-36 (Contents Below)	2
	Contains Bushing Packs: PO1314 & PO1318	
RX-11	Rusty's RX100 Performance Series Shock: RX-11 (Contents Below)	2
	Contains Bushing Packs: PO1532 & PO1313	
RC-TB160-UV	Rusty's HD Track Bar Frame Mount (XJ,ZI)	1
RC-TB199-UV	Rusty's Adjustable Front HD Track Bar - 4"+ Inch Lift (XJ,ZI,TJ)	1
RS-FRB1-XJ	Rusty's Frame Strengtheners & Track Bar Mount Brace	1
RC-SB500-UV	Rusty's Forged Adjustable Sway Bar Quick-Disconnects	1
RB-SBL10-UV	Rusty's Stainless Steel Brake Hoses Set (Contains Front & Rear Lines)	1
RA-CM400LT-XJ	Rusty's XJ Long Travel Modular Crossmember	1
RC-CA311-UV	Rusty's Long Arm Lower Front Control Arms (XJ,TJ,ZI) (Pair)	1
RC-CA321-UV	Rusty's Long Arm Upper Front Control Arms (XJ,TJ,ZI) (Pair)	1
RC-UB-2 <b>OR</b> RC-UB-3	Rusty's Dana 35/Dana 44 HD Grade 8 U-Bolts <b>OR</b> Rusty's Chrysler 8.25" HD Grade 8 U-Bolts	4
RC-SHIMS-6	Rusty's Billet Steel 6 Degree Shims (Pair) (Contents Below)	1
CB0504	5/16"-24 x 4" Length Centering Pin & 5/16"-24 Grade 8 Nut	2
CB0304	3/8"-24 x 4" Length Centering Pin & 3/8"-24 Grade 8 Nut	2

## Front Installation Instructions

Note: Save all factory components and hardware for reuse, unless noted.

1. Secure the vehicle and properly place the lift rack or jack stands. Insure the lift rack posts or jack stands will not be in the way during the installation.
2. Lift the front of the vehicle and correctly place lift rack posts or jack stands at the frame. Remove the front tires and wheels. Support the front axle with a jack or jack stands.
3. Remove the stock shock absorbers using a 15mm wrench. The stock bolts and nuts on the bottom of the shock will be reused. (**Note:** In order to gain access to the upper shock studs will be obtained through the engine compartment. It also may be necessary to temporarily remove the washer fluid reservoir to access the driver side upper shock mount nut.)
4. Remove the sway bar links on both sides using a T-55 Torx bit /19mm wrench and a 15mm for the upper nut.
5. Support the front axle and remove the front track bar by unbolting the hardware at the track bar mount on the axle and at the frame. Retain the axle bolt and flag nut used at the axle side mount, it will be re-used.
6. Remove the factory coil spring retainer clips with a 13mm wrench. Retain the hardware for re-use.
7. Slowly lower the jack used to support the front axle until the coil springs can be removed. If using a coil spring compressor use caution! (**Note:** Use caution to not overextended the brake lines. If needed, you can remove the brake calipers from the rotors to allow the axle to be lowered further. If you remove the brake calipers, do not let allow them to hang from the brake lines as this may cause damage to the lines or fittings. We suggest using a bungee cord or similar device to hold the caliper up out of the way temporarily.)
8. Using the supplied long travel crossmember instructions on page 10 , complete the installation before continuing to step 9.
9. Adjust the control arms to length using the lengths provided on the supplied chart on page 4. Please remember that your vehicle may differ and wheelbase changes will change these measurements. (**Important Note:** The castor should be set at 7 degrees positive. The lower arm adjusts the wheelbase and there should be a slight tilt in the front coil spring. Once the coil springs are installed, insure proper clearance on the bump stop tower. The wheelbase change may effect this clearance, the coil spring tower may have to be modified for extreme wheel travel. The recommended way is to heat the bump stop tower at the coil seat side and bend rearward .500 to 1" .

**Control Arm Length Charts**

Set the supplied control arms to the lengths provided below that correspond with the suspension configuration you purchased. Please note that these measurements are a starting point and may need to be adjusted in order to achieve the proper alignment specifications.

**Radius Arm Configuration Control Arm Length Chart**

<b>Front Lower Long Arms Control Arm Length Chart</b>	
4.5" Lift Height	35-3/8" Center of Hole to Center of Hole
6.5" Lift Height	35-3/4" Center of Hole to Center of Hole
8.5" Lift Height	36-1/8" Center of Hole to Center of Hole

<b>Front Upper Radius Arms Control Arm Length Chart</b>	
All Heights	15.75" Center of Hole to Center of Hole

**Four Link Configuration Control Arm Length Chart**

<b>Front Lower Long Arms Control Arm Length Chart</b>	
4.5" Lift Height	35-3/8" Center of Hole to Center of Hole
6.5" Lift Height	35-3/4" Center of Hole to Center of Hole
8.5" Lift Height	36-1/8" Center of Hole to Center of Hole

<b>Front Upper Long Arms Control Arm Length Chart</b>	
4.5" Lift Height	28-11/16" Center of Hole to Center of Hole
6.5" Lift Height	28-5/8" Center of Hole to Center of Hole
8.5" Lift Height	28-1/2" Center of Hole to Center of Hole

**Front Installation Instructions (Continued)**

10. Install the supplied front lower control arms once set to the recommended length. Use the supplied 9/16" x 4" Grade 8 Bolts/washers/nuts to attach the adjustable forged flex end to the crossmember. Install the side of the control arms with the fixed rubber bushing with the factory hardware removed from the factory axle side lower control arm mounting points. (**Note:** Do not torque hardware until instructed to do so.)
11. Install the supplied front upper control arms once set to the recommended length. Use the supplied 7/16" x 3.5" Grade 8 Bolts/washers/nuts to attach the adjustable forged flex end to the radius arm mounting point on the installed front lower long arms. Install the fixed side of the radius arms to the upper control arm mounting points with the supplied 10mm hardware. Prior to installation we suggest checking the condition of these bushings and replace if needed. (**Note:** Do not torque hardware until instructed to do so.)

Control Arm Hardware Torque Specification Chart		
Step 10	9/16" Hardware	85 lb.-ft.
Step 11	7/16" Hardware	52 lb.-ft.
Step 11	10mm Hardware	38 lb.-ft.

12. Set the new coil springs into place and reinstall the factory coil spring retainer clips. (Torque to 10 lb.-ft.)
13. Install the new Rusty's front shocks into their upper mounting position with the supplied hardware. (Torque to 17 lb.-ft.) (**Note:** It is a good idea to take a wire brush and clean any excess paint from the threads on the stud to prevent the nut from stripping. The nut should be tighten until the shock bushing begins to slightly swell. DO NOT OVER TIGHTEN!)
14. Install the lower end of the shock to the axle using the factory hardware. (Torque to 20 lb.-ft.)
15. Jack up vehicle and remove jack stands and lower vehicle to ground.
16. Install the supplied Rusty's HD Track Bar Frame Mount to the vehicle using the supplied instructions starting on page 19. (**Note:** It is strongly recommended to replace the factory hardware with 9/16" Grade 8 hardware if the vehicle will be used for extreme off-road and/or racing.)
17. Install the supplied drop pitman arm if supplied. (**Note:** Only the 6.5" and 8.5" will supply a drop pitman arm.)
18. Installed the supplied Rusty's Adjustable Front HD Track Bar for your vehicle's lift height using the supplied instructions starting on page 19.

### Front Installation Instructions (Continued)

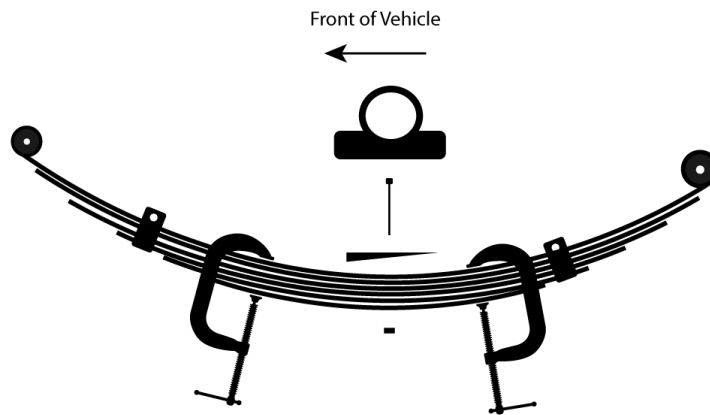
19. Reinstall/Install all steering components at this point. If you have purchased any of the Rusty's Steering Conversion/HD Steering Options refer to the supplied instructions included with the steering upgrade of choice.
20. Install the supplied Rusty's Quick Disconnects with the supplied installation instructions.
21. Install the supplied Rusty's Extended Stainless Steel Front Brake Hoses using the supplied instructions starting on page 24.
22. This concludes the front installation, check all clearances, and insure all hardware is torqued.  
Remove the rear factory shocks, keeping the hardware and discarding the old shocks.

### Rear Installation Instructions

23. Install the supplied transfer case drop kit with the supplied instructions.
24. Raise vehicle and place jack stands under frame. Chock the front tires to prevent any accidental movement.
25. Remove the tires and wheels.
26. Remove the factory shocks at the top inside the fender well and at the bottom, do not discard. The hardware will be reused.
27. Install the supplied rear brake line extension bracket with the supplied instructions.
28. Support the rear axle with a floor jack.
29. Unbolt the U-bolts and carefully raise the axle by lifting the floor jack slowly. Retain the U-bolt plates for reuse. (**Note:** Use caution not to over extend the rear brake line.)
30. Remove the rear leaf spring packs by removing the hardware at the leaf spring frame mounting point and the lower bolt in the shackle. The hardware will be reused.

## Rear Installation Instructions (Continued)

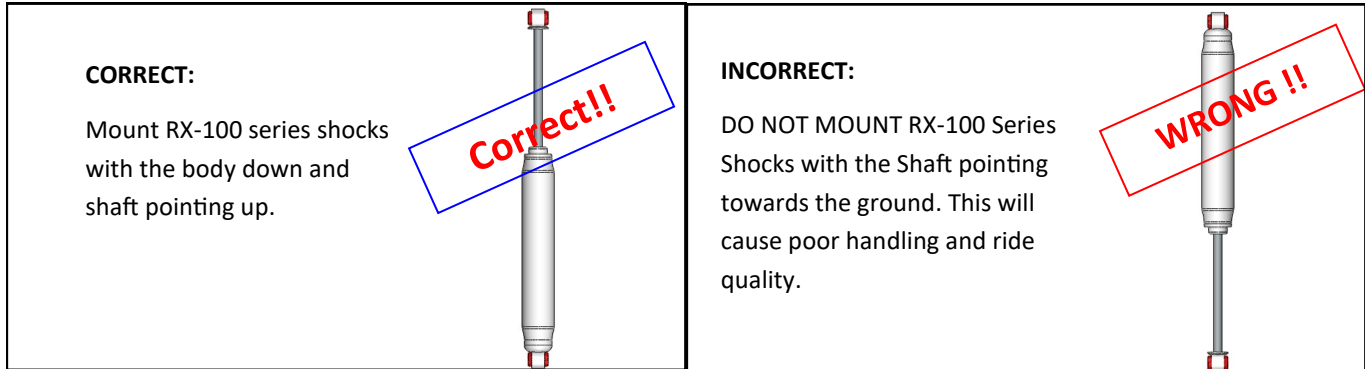
31. Install the supplied rear leaf spring shims on the supplied leaf springs at this time by completing the following steps below.
- A. Position a C-clamp near the spring centering pin and tighten it to hold the spring pack together. Remove or cut off the spring centering pin if it is seized.
  - B. Install the shim with the thick side facing the transfer case as shown in the image below and attached with the supplied leaf spring centering pins. Make sure that the center pin round head is facing up so



32. Attach the supplied rear leaf spring pack to the frame side mounting point by finding the side of the spring pack with the larger bushing, then fasten to the frame with the factory hardware. Do not fully tighten hardware at this time.
33. Use a jack to help raise or raise the rear leaf spring pack in order to align smaller bushing to the shackle mounting point and then fasten using the factory hardware. Do not fully tighten hardware at this time.
34. Slowly lower the axle down into position and be sure the center pins align with the holes in the axle pads on each side. (Note: It maybe necessary to clean out the axle pads with a drill to allow the center pins seat properly.)
35. Position the supplied U-bolts and factory spring plates into position. Install a flat washer followed by the nut then tighten the hardware. (Torque to 75 ft. lbs.)

## Rear Installation Instructions (Continued)

36. Install the bushings and sleeves in the new Rusty's shocks. Install the shocks on the vehicle with the factory hardware. (Torque upper bolts to 18 ft. lbs. and lower bolts to 40 ft. lbs.) (**Note:** Please note the orientation of the rear shocks.)



37. Reinstall the tires and wheels and lower vehicle.

38. Remove the jack stands and lower the vehicle to the ground.

39. Tighten the lug nuts to the factory torque specifications.

40. Tighten the leaf spring hardware at this time, main eye bolts to 100 ft-lbs and the shackle eye bolts to 25 ft-lbs.

41. Installation Complete!



## **Final Notes**

There will be a 500 mile (BREAK IN) period for the front and rear springs. At 500 miles the vehicle will re-torque on all hardware.

At this point there should be no parts left but installing the stickers. The vehicle will need to have an alignment as soon as possible, if you don't you may get the "death wobble", poor tire wear or just a bad handling vehicle.

### **Alignment Recommended Specifications**

- Toe: Should be set at 0 to 1/32" Toe Out
- Castor: 7 Degrees Positive
- Camber: 0

## **WARNING**

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## Rusty's XJ Long Travel Modular Crossmember

### RA-CM400LT-XJ

## INSTALLATION INSTRUCTIONS

Last Revised: 5/31/18

#### Introduction:

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**Parts List:**

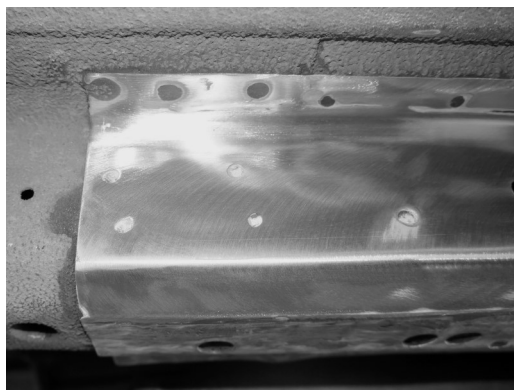
**Note:** Please be sure that you have all the provided parts listed below before continuing with the installation.

<u>Part #</u>	<u>DESCRIPTION:</u>	<u>Quantity</u>
RA-CM400LT-XJ-CS	Rusty's XJ Long Travel Modular Crossmember Center Section	1
RA-CM400LT-XJ-LAB	Rusty's XJ Long Travel Modular Crossmember Long Arm Brackets (Pair)	1
RA-CM400LT-XJ-FTIB	Rusty's XJ Long Travel Modular Crossmember Tie In Brackets (Pair)	1
05728100	1/2"-13 x 1 Length Grade 8 Hex Head Cap Screw	8
N/A	1/2" Rectangle Tab Nut	2
N/A	3/8" Driver Side 3 Nut Strip	1
N/A	3/8" Passenger Side 3 Nut Strip	1
N/A	3/8" x 1" 3 Bolt Strip	2
74454919	1/2"-13 x 1-1/2" Length Grade 8 Hex Head Cap Screw	2
05724646	1/2" SAE Flat Washer	10
09889080	M10 x 1.50mm x 50mm Length Hex Head Cap Screw	6
67746602	3/8" x 13/32" O.D. SAE Flat Washer	6
65159584	9/16"- 12 x 3-3/4" Length Grade 8 Hex Head Cap Screw (Note: Upper Control Arm Bolts Four Link Use Only )	2
67524488	9/16"- 12 x 4" Length Grade 8 Hex Head Cap Screw (Lower Control Arm Bolts)	2
05724653	9/16" SAE Flat Washer	6
52593613	9/16"-12 Grade 8 Hex Lock Nut	2
74454620	3/8"-16 x 1-1/4" Length Grade 8 Hex Head Cap Screw	6
05724620	3/8" SAE Flat Washer	6
52593589	3/8" - 16 Grade 8 Hex Lock Nut	6
67522524	7/16"-14 x 3-1/2" Length Grade 8 Hex Head Cap Screw	2
52593597	7/16"- 14 Grade 8 Hex Lock Nut	2
05724638	7/16" SAE Flat Washer	4

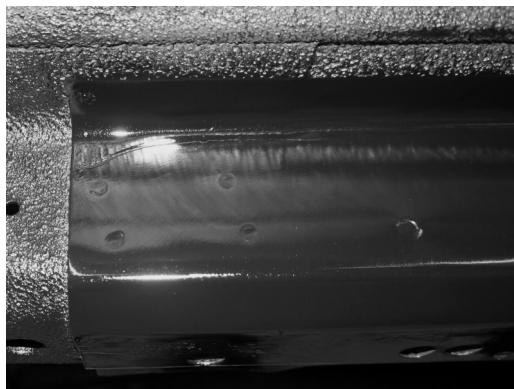
## Installation Instructions

Note: Save all factory components and hardware for reuse, unless noted.

1. Remove the four nuts at the transmission mount. Retain these nuts for re-use.
2. Support the transfer case with the use of a floor jack or jack stands to make sure that it is held securely and can not move.
3. Remove the transmission crossmember. Each side of the frame rail will have 1 bolt and 1 nut. Once the crossmember is removed, use a stud extractor to remove the stud from each frame rail. The stud will be removed counter clockwise. (**Note:** The use of a good penetrating fluid prior to removal of the studs will be helpful.)
4. Remove any undercoating on the bottom of the frame rails at the crossmember point and 10" forward of it. Then remove any undercoating on the side of the frame rail at the same distance.



5. Paint the exposed metal surfaces with the use of a good quality paint. (**Note:** Please allow paint to dry completely before continuing with the installation process.)



## Installation Instructions

6. Verify the front axle is properly supported. Remove the factory lower control arms at the axle and frame side mounting points with the use of a 21mm wrench or socket . Retain the factory hardware for the lower control arm axle mounting points to be reused. (Note: Inspect the hardware to be reused and if damaged replace.)
7. Verify the front axle is properly supported. Remove the factory upper control arms at the axle and frame side mounting points with the use of a 15mm wrench or socket .
8. Use your preference of cutting method to cut the factory lower control arm mounting points at the frame on both the driver and passenger side of the vehicle. The use of a plasma cutter will make the removal of the mounts much faster but you can easily cut them using a reciprocating saw, cut off wheel or similar tool. Make sure to cut only the brackets and not the frame. We suggest to cut the bottom portion of the bracket and then move to inside of the frame. (**Important Note:** Make sure to keep clear of the fuel and brake lines on the driver side of the vehicle.)

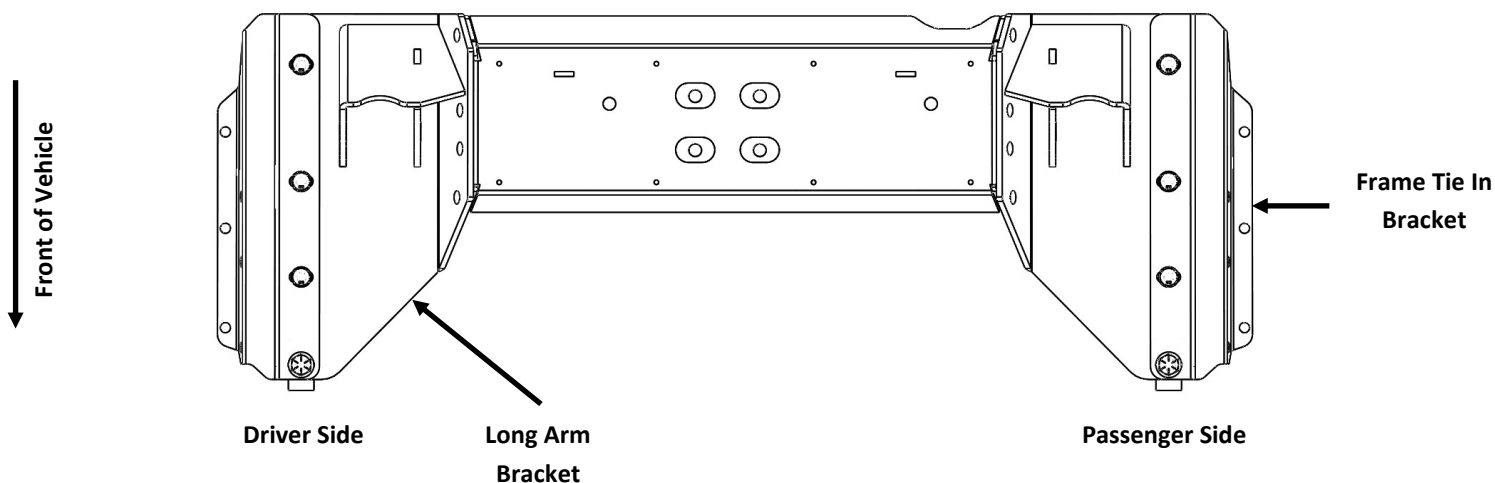


9. Grind smooth any rough edges and paint the exposed metal with a black enamel to avoid corrosion and keep a clean factory look. (**Note:** Please allow paint to dry completely before continuing with the installation process.)

### Installation Instructions

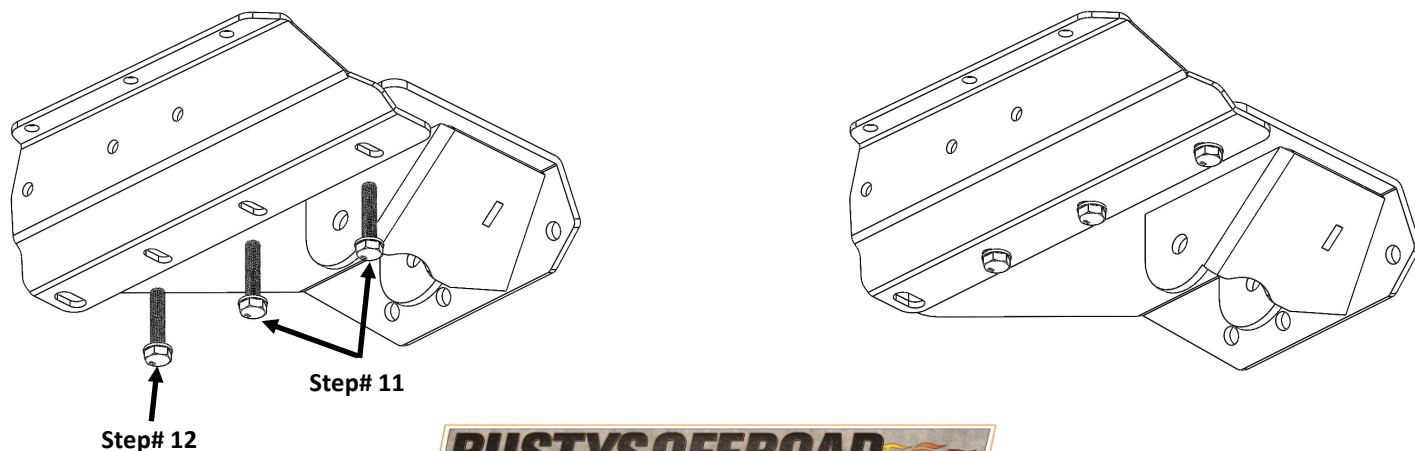
10. Reference the diagram below to identify and layout all the components that create the crossmember assembly before continuing so that these components are located on the corresponding side of the vehicle that they are to be installed on. (**Note:** Take this time to identify all Driver and Passenger Side Long Arm Brackets and the Driver and Passenger Side Frame Tie In Brackets.)

Bottom Side View of Cross Member



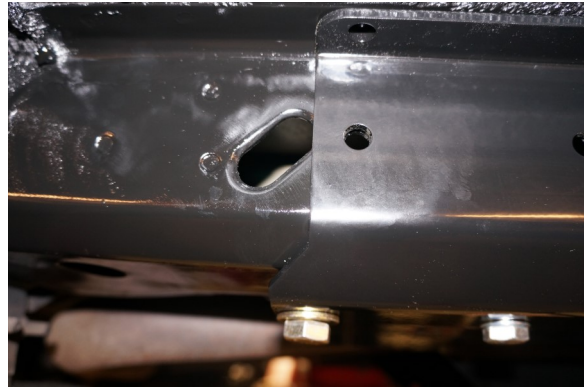
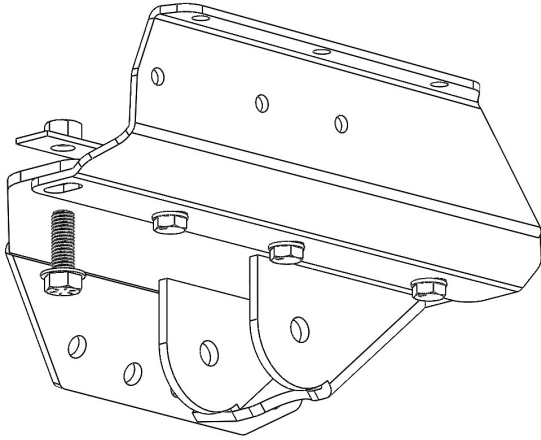
11. Hold the outer long arm bracket into place and align the two hole locations located the most rearward with the 2 factory crossmember mounting points. Now place the frame tie-in brackets over the long arm brackets as illustrated below. Install the supplied M10 x 1.50mm x 50mm Length Hex Head Cap Screw and 3/8" x 13/32" O.D. SAE Flat Washer at the factory crossmember mounting points. (**Note:** Do not fully tighten, allowing for the brackets to move side to side.)

12. Install the supplied M10 x 1.50mm x 50mm Length Hex Head Cap Screw and 3/8" x 13/32" O.D. SAE Flat Washer in the hole forward of the factory crossmember mounting points. These hole locations are typically threaded, if not use a 10mm x 1.5mm tap and thread. Install the bolts/washers, do not fully tighten.

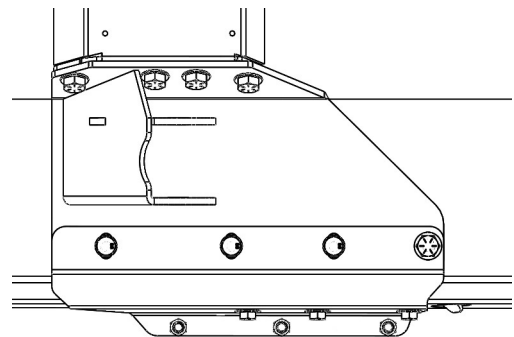
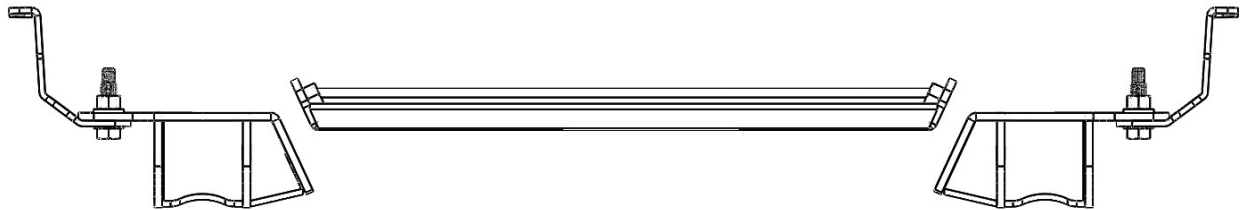


## Installation Instructions

13. Insert the supplied 1/2" Rectangle Tab Nut through the angled slot in the side of the frame rail. The flat surface of the 1/2" Rectangle Tab Nut should sit against the bottom of the frame rail as illustrated below. Align the 1/2" Rectangle Tab Nut with the front hole location and install the supplied 1/2"-13 x 1-1/2" Length Grade 8 Hex Head Cap Screw and 1/2" SAE Flat Washer. (**Note:** Do not fully tighten, allowing for the brackets to move side to side.)



14. Raise the transmission about 1" in order to install the center section of the crossmember from the front side of the vehicle and slide towards the rear until the 4 side mounting points line up with the outer frame brackets. Install the supplied 1/2"-13 x 1 Length Grade 8 Hex Head Cap Screw and 1/2" SAE Flat Washer on the driver and passenger side. Fully torque to 80 ft. lbs.



## Installation Instructions

15. Center the crossmember. Then look at the slotted holes on the Rusty's frame tie-in bracket and make sure the spacing is the same from driver side to passenger side.
16. Push the Rusty's frame tie-in brackets against the frame and tighten the (Qty: 3) 10mm bolts and (Qty: 1) 1/2" bolt on each side of the cross member. (Do not torque, just slightly tighten)
17. Mark and Drill the 3 hole locations located on both the driver and passenger side of the frame with a 25/64" drill bit, using the holes in Frame Tie In Brackets as your pilot as illustrated in the image below.



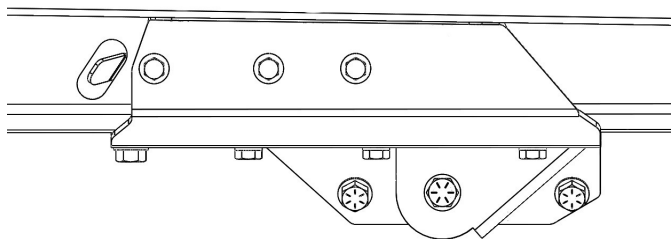
18. Locate the supplied nut strip bracket. Use vise grips and clamp on a 1/4" of the angled tab. Install the nut strip bracket through the angled slot just forward of the frame tie-ins. Install the supplied 3/8"-16 x 1-1/4" Length Grade 8 Hex Head Cap Screw and 3/8" SAE Flat Washer. (Do not fully tighten).



Driver Side Nut Strip



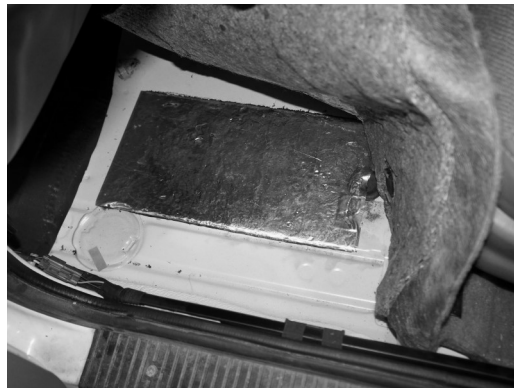
Passenger Side Nut Strip





## **Installation Instructions (Continued)**

19. Slightly loosen (1/2 turn) the 3-10mm bolts and 1-1/2 bolt on the bottom of the frame rail.
20. Locate back to the 3-3/8 bolts on the side of the frame tie-ins. Fully torque to 23 ft. lbs.
21. Locate back to the 3-10 mm bolts on the bottom frame rail and torque to 21 ft. lbs. Now fully torque the most forward 1/2" bolts to 75 ft. lbs.
22. Now, lower the transfer case/transmission. Align the mount with the four bolt pattern. Install the nuts and fully tighten.

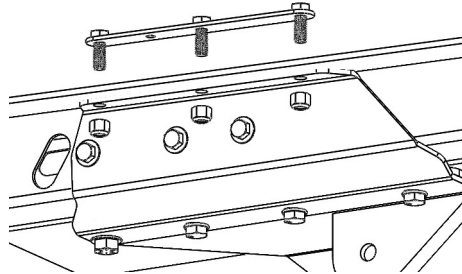


24. Locate back to the frame tie-in brackets, the 3 holes at the floor board pinch seam, drill 25/64. We recommend using a long style drill bit to avoid scratching the frame tie-in. If using a short style drill bit, just place some masking tape on the side of the frame tie-in.



## **Installation Instructions (Continued)**

25. Locate the supplied 3/8" x 1" 3 Bolt Strip, this will be placed in the floor board. Install the 3/8" - 16 Grade 8 Hex Lock Nut on the bottom of the frame tie-ins. Evenly tighten the 3 nuts, and torque to 42 ft. lbs.



26. Reinstall the carpet, kick panels and trim.
27. Verify that all the mounting points and hardware have been tighten to the correct torque specifications.
28. The installation is now complete!

## Rusty's Adjustable Front HD Track Bar & Frame Mount

RC-TB200-UV

### INSTALLATION INSTRUCTIONS

Last Revised: 1/10/2017

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**Note:** Please be sure that you have all the provided parts listed below before continuing with the installation.

<u>Part #</u>	<u>DESCRIPTION:</u>	<u>Quantity</u>
RC-TB199-UV <b>OR</b> RC-TB225-UV	Rusty's Adjustable Front HD Track Bar (4-4.5" Lift) (XJ,ZI) (4+" Lift) (TJ) <b>OR</b> Rusty's Adjustable Front HD Track Bar (5-8" Lift) (XJ,ZI)	1
SI-200	Rusty's Adjustable Track Bar 22mm Loop End (Pre-installed) (Contents Below)	1
RS-JN22M-L	Rusty's Jam Nut - 22mm - Left Hand Thread (Qty:1)	
03244860	1/4"-28 Thread Straight Head Standard Grease Fitting (Qty:1)	
MO20769-UV	Track Bar Replacement Bushing (MO20769) (Contents Below)	
MO20769-H	MO20769 Bushing Half (Qty:2)	
MO20769-12S	1/2" I.D. x 3/4" O.D. x 1-5/8" Length Bushing Sleeve (Qty:1)	
MO2327	Track Bar Replacement Bushings (MO2327) (Pre-installed) (Contents Below)	1
MO2327-H	MO2327 Bushing Half (Qty:2)	
MO2327-10S	10mm I.D. x 5/8" O.D. x 1-5/8" Length Bushing Sleeve (Qty:1)	
RC-TB160-UV	Rusty's HD Track Bar Frame Mount (XJ)	1
05728357	1/2"-13 x 3-1/2" Length Grade 8 Hex Head Cap Screw	1
05724646	1/2" SAE Flat Washer	2
67488965	1/2"-13 Grade 8 Hex Lock Nut	1



## Installation Instructions

Note: Save all factory components and hardware for reuse, unless noted.

1. Park the vehicle on a level work surface with wheels in a straight forward position.
2. Position the vehicle into park and set the emergency brake as well as choke the wheels to prevent any movement. (**Note:** The installation will be preformed with the vehicle on the ground at ride height.)
3. Remove the cotter pin and castle nut securing the factory track bar to the frame bracket.
4. Remove the bolt and flag nut securing the factory track bar to the axle mount.
5. Remove the tie rod end with a puller (or pickle fork) and remove the factory track bar from the vehicle.
6. Remove the two nuts using a 18mm socket on the out side of the frame rail on the driver's side of the vehicle shown in the image below. (**Note:** Retain the hardware it will be reused.)



7. Remove the two bolts with a 18mm wrench positioned on the bottom side of the frame rail on the driver's side of the vehicle shown in the image below. (**Note:** Retain the hardware it will be reused.)



8. Remove the factory track bar mount from the vehicle and discard.
9. Clean the frame of any dirt and grease before continuing.

## Installation Instructions (Continued)

10. Mount the new Rusty's HD Frame Mount in place on the two studs on the outside of the frame rail. Use the original hardware removed in step 6 to fasten in to position. (**Note:** Do not tighten)
11. Rotate the frame mount so that the two lower track bar frame mounting holes line up with the two holes in the bottom of the new track bar frame mounting bracket so that you may start the two bolts removed in step 7. (**Note:** This will be very tight fitting and may require a drift or a punch to pry into place.)
12. Add a drop of thread-locking compound to the factory hardware and tighten. (Torque Specs: 105 ft. lbs.)
13. Before bolting the track bar to the frame mount, you will need to center the body over the axle. Look at the front of the vehicle to see if the axle is centered. If not unlock the steering wheel. Turn the steering wheel slowly in order to shift the body over the axle until centered. Once centered lock the steering wheel and adjust the adjustable end of the track-bar to the proper length (**Note:** The adjustable end is constructed with a Left Hand Thread.) Fasten the adjustable end of the track bar to the frame mount using the supplied 1/2" x 3-1/2" bolt/washers/nuts. (Torque spec: 85 ft.-lbs.) Attach the fixed end of the track bar to the factory axle mounting point with the factory hardware retained from step 4. (Torque spec: 38 ft.-lbs.)
14. Verify that the body is centered over the axle and that the track bar is adjusted correctly by taking measurements. This can be done several ways. We recommend measuring from the frame rails to the ball joints on opposing sides (i.e. driver side frame rail to passenger side ball joint, passenger frame rail to driver ball joint). Adjust the length of the track bar as necessary until the measurements are equal.
15. Once adjusted to the correct length, add a few drops of thread-locking compound to the jam nut and tighten the jam nut. (Torque Specs: 125 ft.-lbs.)
16. After the track bar is adjusted to the correct length and all hardware has been tighten, it is a good idea to make sure there are enough threads in the track bar. The tie rod end has approximately 2.5" of threads and at least one inch of threads needs to be screwed into the bar, so measure the amount of threads outside the jam nut, the amount of threads showing should not exceed 1.50 inches.
17. Installation Completed!

## WARNING

It is the owners' responsibility to inspect all Rusty's products for proper torque specs to prevent loosening of components. Seat belts and shoulder harnesses should be worn at all times. Re-check all bolts and nuts after the first 300 miles and after any off-road usage during the first 300 miles. Although all of our products are made from the highest quality materials possible, they are not a substitute for Safe and Careful driving. In other words, have good safe on-road / off-road sense. Know the terrain, the speed limitations, and any obstacles that may lie ahead. Please remember to preserve our right to enjoy public land through the proper use of off-road vehicles. Thank you for choosing Rusty's Off Road Products.

## Rusty's Extended Stainless Steel Front and Rear Brake Hoses

RB-SBL10-UV

### INSTALLATION INSTRUCTIONS

Last Revised: 5/21/2017

#### Parts List:

**Note:** Please be sure that you have all the provided parts listed below before continuing with the installation.

#### RB-SBL10F-UV Parts List:

<u>Part #</u>	<u>DESCRIPTION:</u>	<u>Quantity</u>
RB-SBL10F-UV	Rusty's Front Extended Stainless Steel Brake Hose	2
RB-SBL10-CW	3/8" Copper Crush Washer	4
RB-SBL10-MB	Brake Hose Frame Mounting Bracket	2
RB-SBL10-RC	Brake Hose Mounting Bracket Retaining Clip	2
67378927	5/16" -18 x .625" Length Hex Head Thread Cutting Screw	2

#### RB-SBL10F-UV Installation Instructions

**Note:** Save all factory components and hardware for reuse, unless noted.

1. The installation of these brake lines can be installed with the vehicle on the ground. You need to park the vehicle on level ground and set the parking brake/chock the tires to prevent any movement.
2. Turn the tires in order to gain better access to the calipers and the brake lines.
3. Inspect all of the brake components and repair or replace components as necessary.
4. Disconnect the factory soft line from the hardline connection at the frame rail. Retain the factory hardware for reuse.
5. Remove the factory banjo bolt from the caliper, make sure to remove the factory crush washers as well. Retain or replace the banjo bolt for installation of the new brake hoses.
6. Clean and inspect all of the mounting surfaces before continuing.
7. Mount the supplied brake hose mounting bracket to the frame rail in the factory mounting hole with the original hardware. (**Note:** If needed use the supplied 5/16" -18 x .625" Length Hex Head Thread Cutting Screws to mount brake hose mounting brackets to the frame rail if you need to relocate the lines for any reason.)

**RB-SBL10F-UV Installation Instructions (Continued)**

8. Insert the supplied brake hose through the mounting bracket opening then insert the supplied retaining clip to secure the line.
9. Attach the brake hose to the factory hard line by starting the threaded fitting on the factory hard line by hand then tighten to factory specifications.
10. Attach the brake hose to the caliper using the factory banjo bolt and the supplied copper crush washers. Position a crush washer on each side of the fitting at the bottom of the brake hose. Tighten to factory specifications.
11. Position the brake line in order to make sure that it will not get caught or damaged by the suspension or tire when in use.
12. Repeat steps 2-11 on the opposite side of the vehicle.
13. If only installing the front brake hoses at this time you may go ahead and bleed the brake lines using standard brake system bleeding procedures. (Note: If installing the rear brake hose, you can wait to bleed

**RB-SBL10R-UV Parts List:**

<u>Part #</u>	<u>DESCRIPTION:</u>	<u>Quantity</u>
RB-SBL10R-UV	Rusty's Rear Extended Stainless Steel Brake Hose	1
RB-SBL10-MB	Brake Hose Frame Mounting Bracket	1
RB-SBL10-RC	Brake Hose Mounting Bracket Retaining Clip	1
67378927	5/16" -18 x .625" Length Hex Head Thread Cutting Screw	1

**RB-SBL10R-UV Installation Instructions**

Note: Save all factory components and hardware for reuse, unless noted.

1. The installation of the rear brake line can be installed with the vehicle on the ground. You need to park the vehicle on level ground and chock the tires to prevent any movement.
2. Inspect all of the brake components and repair or replace components as necessary.
3. Disconnect the factory soft line from the hardline connection at the frame rail. Retain the factory hardware for reuse.
4. Remove the bolt that attaches the factory soft line to the frame rail. Retain the factory hardware for reuse.
5. Disconnect the two hard lines at the brake line fitting on the rear axle.



## **RB-SBL10R-UV Installation Instructions (Continued)**

7. Clean and inspect all of the mounting surfaces before continuing.
8. Mount the supplied brake hose mounting bracket to the frame rail in the factory mounting hole with the original hardware. (**Note:** If needed use the supplied 5/16" -18 x .625" Length Hex Head Thread Cutting Screws to mount brake hose mounting brackets to the frame rail if you need to relocate the lines for any reason.)
9. Insert the supplied brake hose through the mounting bracket opening then insert the supplied retaining clip to secure the line.
10. Attach the brake hose to the factory hard line at the frame by starting the threaded fitting on the factory hard line by hand then tighten to factory specifications.
11. Attach the brake hose fitting to the axle tube using the fitting that the rear axle breather tube is attached with.
12. Connect both of the factory hard lines on the axle tube to the threaded fittings on the rear brake hose junction block by starting the threaded fittings on the factory hard lines by hand then tighten to factory specifications.
13. Connect both of the factory hard lines on the axle tube to the threaded fittings on the rear brake hose junction block by starting the threaded fittings on the factory hard lines by hand then tighten to factory specifications.
14. If only installing the rear brake hose at this time you may go ahead and bleed the brake lines using standard brake system bleeding procedures.

## **Important Safety Notes**

**CAUTION!!!** Failure to properly bleed the brake system will cause your brakes not to work properly. Before the vehicle is ready to drive you will need to refill the brake reservoir with brake fluid and bleed any air out of the brake lines. If you have any reservations or not experienced in this procedure please do not attempt the installation and seek professional assistance or help in order to ensure the effectiveness of your brake system.

## **WARNING**

It is the owners' responsibility to inspect all Rusty's products for proper torque specs to prevent loosening of components. Seat belts and shoulder harnesses should be worn at all times. Re-check all bolts and nuts after the first 300 miles and after any off-road usage during the first 300 miles. Although all of our products are made from the highest quality materials possible, they are not a substitute for Safe and Careful driving. In other words, have good safe on-road / off-road sense. Know the terrain, the speed limitations, and any obstacles that may lie ahead. Please remember to preserve our right to enjoy public land through the proper use of off-road vehicles. Thank you for choosing Rusty's Off Road Products.