



Rusty's Off-Road Products
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Rusty's Jeep XJ-TJ-ZJ Offset Steering System RS-SC350-UV INSTALLATION INSTRUCTIONS

Last Revised: 10.11.18

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.



For Questions or Suggestions, contact our Tech Department (256-442-0607)



Parts List:

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

Part #	DESCRIPTION:	Quantity
RS-SC350-TR	Rusty's Jeep Offset Tie Rod Conversion Tie Rod Bar Assembly (Contents Below)	1
52007100R	Rusty's Offset Tie Rod End - 22mm Right Hand Thread	1
52007100L	Rusty's Offset Tie Rod End - 22mm Left Hand Thread	1
RS-WS33-OS	Rusty's Tie Rod End Wiper Seals - Delrin	2
RS-SC350-DL	Rusty's Jeep Offset Tie Rod Conversion Drag Link Bar Assembly (Contents Below)	1
52005739R	Steering Tie Rod End (Right)	1
52005739L	Steering Tie Rod End (Left)	1
RS-JN22M-R	Rusty's 22mm Jam Nut (Right Hand Thread)	2
RS-JN22M-L	Rusty's 22mm Jam Nut (Left Hand Thread)	2
RS-SSM-15	Rusty's 1.5" Tubing Flat Stabilizer Bracket (1.25"-1.5" Tubing)	
UB-303	3/8"-16 Thread x 1.5" Diameter U-Bolt Package	1

Installation Instructions

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

1. Properly block and secure vehicle prior to installation. Place the front tires in the straight-ahead position.
2. Measure and record the distance from the center-of-knuckle to center-of-knuckle to determine the length that the supplied Tie Rod Assembly will need to be set to in order to achieve the same toe setting.
3. Ensure the steering wheel and tires are aligned straight with the vehicle.
4. Remove the steering stabilizer by removing the factory hardware that secures it to the steering linkage and axle mount. Retain stabilizer and factory hardware to be reused. (**Note:** This is a good time to check the stabilizer for any signs of leaking or wear.)
5. Remove the factory draglink from the pitman arm by removing the cotter pin and castle nut. (**Note:** The use of a tie rod end puller may be necessary to remove the tie rod ends.)
6. Remove the tie rod ends at each of the steering knuckles by removing the cotter pin and castle nut. (**Note:** The use of a tie rod end puller may be necessary to remove the tie rod ends.)
7. It is recommended to clean the tapered hole locations at the pitman arm and steering knuckles thoroughly before continuing with the installation of the steering components.

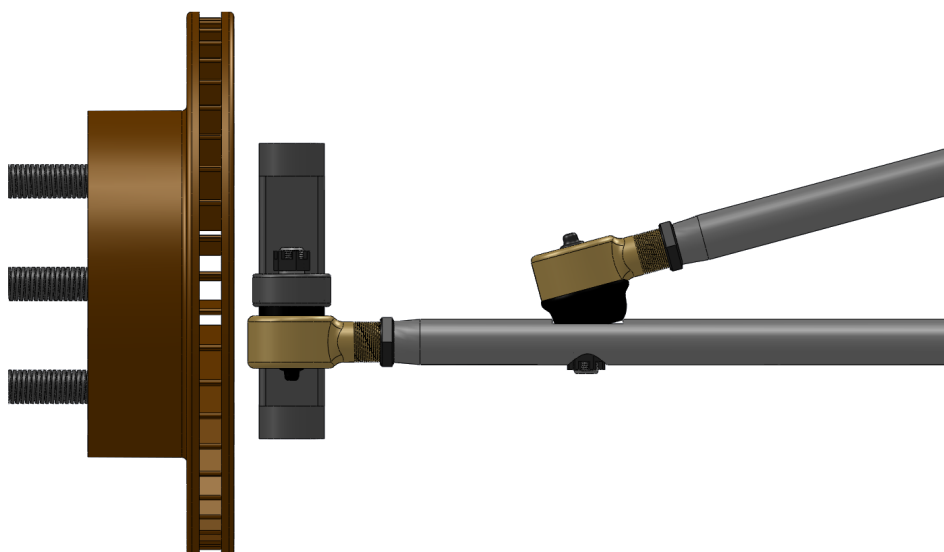
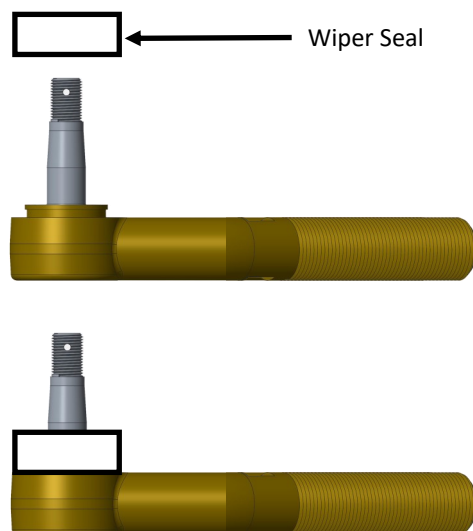


Installation Instructions (Continued)

8. Set the supplied tie rod assembly to the length recorded in step 2 (Knuckle to Knuckle Measurement)
The amount of exposed thread on each tie rod end should be close to equal. Position the tie rod assembly with the machined hole towards the passenger side of the vehicle and attach the tie rod to each of the steering knuckles.
9. Rotate the tie rod bar so that the wide end of the machined tapered hole faces up and the narrow end is towards the ground. This means that once the draglink is installed in the tapered hole in the tie rod assembly the castle nut should be facing the ground. Sometimes to set the correct alignment, settings and keep the toe setting, the tie rod ends may need to be adjusted. Check the toe measurement once again and adjust as necessary while keeping the tapered hole in the upright position as shown in the image below.

IMPORTANT NOTE:

Please note that the supplied wiper seals are to be installed **ONLY** on the **Tie Rod Ends on the Tie Rod Bar Assembly** prior to installation.



Installation Instructions (Continued)

10. Tighten each of the supplied castle nuts on each offset tie rod ends to 55-60 ft.-lbs., then align and install the supplied cotter keys.
11. Apply red thread locking compound and tighten each of the supplied jam nuts on each offset tie rod end to 180 ft.-lbs. Make sure to hold the tie rod bar while tightening in order to keep the bar in the correct orientation explained in step 9.
12. Verify that the steering wheel is still in the centered location and the wheels are still straight forward.
13. Adjust the drag link assembly to match the distance from the tapered hole location on the passenger side of the tie rod assembly and to the pitman arm. Attach the tie rod end to tapered hole location in the passenger side of the tie rod bar assembly and secure with the supplied castle nut.
14. Attach the drag link to the pitman arm and adjust the length of the drag link if needed by rotating the tubing to lengthen or shorten the drag link assembly to fit in the pitman arm hole location. Do not move the pitman arm to attach the tie rod end.
15. Verify that the steering wheel and the wheels are both in the straight position. Adjust the draglink if needed so that the steering wheel and the wheels are located in the straight position.
16. Tighten each of the supplied castle nuts on each offset tie rod ends to 55-60 ft.-lbs. then align and install the supplied cotter keys.
17. Apply red thread locking compound and tighten each of the supplied jam nuts on each tie rod end to 180 ft.-lbs.
18. Reinstall the steering stabilizer to the axle side mounting point with the use of the factory hardware retained from step 4.
19. Mount the opposing end of the steering stabilizer to the supplied Rusty's 1.5" Tubing Flat Stabilizer Bracket. Position the steering stabilizer directly behind the drag link with the stabilizer bracket located on the bottom side of the draglink as shown in the image below.





Installation Instructions (Continued)

21. Pull the steering stabilizer shaft out half of the fully extended length then install the supplied 3/8"-16 Thread x 1.5" Diameter U-Bolts around the drag link tubing and loosely install the washers and nuts to the u-bolts. Adjust the stabilizer to make sure that the it is not going to bind when the steering is cycled from lock to lock.
22. Tighten each of the supplied lock nuts on each u-bolts to 30 ft.-lbs.
23. Have an assistant cycle the steering from lock to lock to double check that all the components and hardware have proper clearances. Verify that the steering stabilizer does not interfere with the steering in either direction.
24. Verify all hardware is tighten to the correct torque specifications.
25. Test drive the vehicle and check for proper handling. A professional alignment is highly recommended to ensure that the vehicle handles correctly and safely.
26. The installation is now completed!

Final Notes

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: 7.5 Degrees Positive
- Camber: 0

WARNING

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