

TERAFLEX

INSTALLATION GUIDE

Installation Guide for the '99 and newer Grand Cherokee four-inch Suspension Kit Part #001491466 (S4W)



The TeraFlex 4" WJ Suspension System is engineered to maximize trail performance and highway handling. It will provide room to run 265/75/16 tires.



Qty.	Item	Torque Specs.
1	Front track bar lowering bracket	
1	Bolt (1/2" x 3")	57 - 75 ft. lbs.
1	Nut, 1/2" lock	
1	Drop pitman arm	
1	A-Arm spacer block	
3	Bolts (14mm x 80mm) for A-Arm assembly	78 - 104 ft. lbs.
2	Front springs	
2	Rear springs	
4	1/2" Lock washers	
4	3/4" Flat washers	
4	5/16" Flat washers	
3	14mm Lock washers	
2	Front bump stop extensions	
4	Bolts (8mm x 75mm) for front bump stop ext.	14 - 19 ft. lbs.
2	Front spring retainers (round alum. 3" dia. x 2 1/4" tall)	
2	1/2" X 20 x 1.5" bolts for front spring retainers	
2	Rear bump stop extensions	
2	Bolts, self-tapping (3/8" x 2") for rear bump stop ext.	23 - 31 ft. lbs.
1	WJ Quick Disconnects	
WJ Transfer Case Lowering Kit		
10	Spacers, aluminum	
6	Washers	
4	Bolts, (10mm x 130mm)	27 - 37 ft. lbs.
2	Bolts, (10mm x 40mm)	27 - 37 ft. lbs.

Note: This kit may not come as pictured or as listed to the right. Due to suspension revisions, some items may not be necessary, and will not be included.

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Think safety first when installing your new suspension system. Use these instructions to install the TeraFlex four-inch suspension system and lift for WJ Grand Cherokees. Installation information for the lower control arms is included at the end of these instructions.

Recommended tools:

Pitman arm puller
Spring Compressor

Optional accessories:

Adjustable upper control arms

Rear Installation

Preparation

1. Raise the rear of the vehicle with a floor jack and secure by placing jack stands under the unibody, not the axle. Removing the tires will make installation easier.
2. Remove the shocks and remove the rear sway bar links. Save the bolts and nuts.
3. Remove the rear springs. Lowering the differential will make removal of the rear springs easier. Remove the rubber bump stop.

A-arm Spacer Installation

4. Raise the differential to ease removal of the three bolts connecting the ball joint bracket to the differential.



5. Position the aluminum spacer block between the A-arm and the top of the differential.
6. Secure the A-arm mounting bracket and spacer to the differential using the three 14mm x 80mm bolts included with the kit. Torque to specifications.

Hint: Connect the spacer to the A-arm first. Because the ball joint can be rotated, it will be much easier to insert all three bolts through the ball joint first, then to the spacer and later to the differential.

Bump Stops



7. Two options exist for installing the rear bump stops:

Vehicles with Up Country suspensions - Remove the existing bump stop spacer and use a 10mm bolt included with the kit to secure the bump stop to the upper pedestal. The Up Country's bump stop extensions will not be needed.

Vehicles WITHOUT the Up Country suspension - Drill a 5/16" hole in the upper pedestal and tap it using the 3/8" x 2" self-tapping bolts.



8. Torque bolts to specifications.
 9. Install the springs starting with the passenger side. Place the rubber bump stop removed in step 3 inside the coil before placing the spring into position.
 10. Install the extended rear sway bar links using the factory bolts.
 11. Install the shocks.
 12. Reinstall tires.
- Rear installation is complete.

Front Installation

Preparation

1. Secure the vehicle on jack stands and remove the tires.
2. Disconnect the shocks, front sway bar links, and front track bar.
3. Remove the front springs.
4. Pry the rubber bump stop from the bump stop cup. Remove the two bolts inside the bump stop cup.



5. Place the bump stop spacer block between the bump stop cup and frame. Secure it in place using the 8mm x 80mm bolts included with the kit. Replace rubber bump stop into the cup.

Drop Pitman Arm

6. Disconnect the drag link.
7. Remove the stock pitman arm with a pitman arm puller.
8. Install the new drop pitman arm and reconnect the drag link.



Front Track Bar Lowering Bracket

9. Use the two bolts used to secure the motor mounts to connect the front track bar lowering bracket to the vehicle. Remove the bolt nearest the front of the vehicle. Loosen the second bolt.
10. Position the bracket in place. When properly positioned, the new bracket will fit where the front track bar originally connected to the vehicle and the holes in the upper portion of the new bracket will line up with the locations of the bolts in step 9. Secure in place using the bolts removed/loosened in step 9.
11. Install the new 1/2" x 3" bolt supplied in the kit in the upper position where the original track bar connected. Torque bolt to 30-37 ft. lbs.



12. Connect the front track bar to the lower position in the front track bar lowering bracket using the factory bolt. Torque bolt to 27-35 ft. lbs.

Springs

13. It will be necessary to tap the hole in the front upper pedestal once the spring has been removed. Use a 1/2"-20 tap.
14. Install the front springs using a spring compressor. Be sure to have the retainers inside the spring before releasing the springs.
15. Secure the included aluminum spring retainers to the underside of the pedestal using the 1/2"x2" bolts. Torque bolts.



Quick Disconnects

16. Install the lower mounting stud. Place the metal sleeve where the sway bar originally connected. The lower mounting stud inserts where the bolt that secured the lower end of the sway bar link was located. The stud portion points to the outside of the vehicle. Use Loctite and secure with a nut.



Hint: A hitch pin inserted in the mounting stud will make tightening easier. It is important to get the pin tight. If necessary, Vise-Grip type pliers can be used, but use a piece of leather or similar material to protect the stud's finish.

17. Install the upper mounting stud into the hole in the end of the front sway bar. **Note:** The upper mounting stud is shorter than the lower one. Use Loctite on the stud and fasten securely.
18. The disconnect arm connects as one piece with one eyelet for each stud. The arm is secured in place using washers and hitch pins. The new arms are offset one inch outwards at the bottom mount.
19. Connect shocks. Replace tires.

Transfer Case Lowering Kit

20. Starting on one side of the vehicle, remove the four bolts that secure the cross member (factory skid plate) to the frame. Keep the bolts.
21. Position the aluminum spacers in their proper locations between the frame and crossmember.
22. Secure the transfer case using the bolts removed in step 20. The larger bolts removed from the outer edges of the cross member will be used to secure the cross member where the shorter bolts were. New bolts included with the kit will be used in the outer bolt locations.
23. Repeat this process for the opposite side of the vehicle.

Pitman arm pullers

Avoid using an impact wrench on a pitman arm puller. The sector shaft has an aluminum locator and can brake.

Shocks

The RS9255 are a good fit for the front. The RS9112 fits the lift, but users may experience some internal shock noise.

Notes:

Front Wheel Shimmy

Some kits may experience front wheel shimmy. Front wheel shimmy is not a warranty issue but rather a design limitation to the 1999+ WJ Jeep Grand Cherokee.

Some customers have found relief from front wheel shimmy or "death wobble" by using a 4-5 degree caster and 0.25 degree toe-in adjustments.

In some cases, customers have found that the specific tire used on the vehicle has contributed to the shimmy. Those customers experienced positive results by changing tires.

In most cases these adjustments will resolve front end shimmy situations. If other efforts have been exhausted and the condition persists, a modification of the front lower control arm triangulation should compensate for the design limitations of the WJ Grand Cherokee.

This kit involves adding a simple, weld-on bracket to the front axle tube to further spread the mounting points of the lower control arms. Lower control arms that are in new condition can be exchanged at minimal cost. Less than five percent of units have required this modification.

Tera Manufacturing assumes no incurred expenses caused by the correction of this condition.

FlexArm System Components Part#001491001 (SW)

All control arms have been set to stock length before leaving the factory. Flex Arms will give years of trouble free service, when properly maintained.

Proper maintenance includes greasing the arm a minimum of every month and, if used heavily off-road, greased before and after every trip. The grease zerk in the arm provides grease to the entire arm including bushings and forces out all contaminants such as dirt and water. Grease is very important especially if the arms are submerged under water at any time. Failure to grease these Flex Arms will void any applicable warranty.

Install the Flex Arm with the zerk end of the arm towards the frame, with the zerk facing up, out of harms way. Grease before use!

Retorque lower control arm bolts to 130-145 ft. lbs., and 37-47 ft. lbs. for upper arms.

Remember grease, grease, and more grease.

factory control arm lengths

- all front upper control arms- 15 1/8"
- all rear upper control arms- 13 1/4"
- all TJ lower and ZJ front lower arms- 15 3/4"
- XJ front lower control arms- 16 1/4"
- ZJ rear lower control arms- 16 11/16"
- WJ front lower control arms- 16"
- WJ rear lower control arms- 19"

Adjustments can be made to the front arms to adjust the caster, and to the rear to adjust the pinion angle. Flex Arms may be lengthened or shortened if necessary. Adjusting the arms in or out more than 3/4" from factory settings will void any warranty.