

## Installation Manual

### Clayton Off Road Suspension: XJ 4.5" Short Arm Lift 1984 - 2001 Jeep Cherokee

Last Revision No.: 3/1/11

PN – 2901030

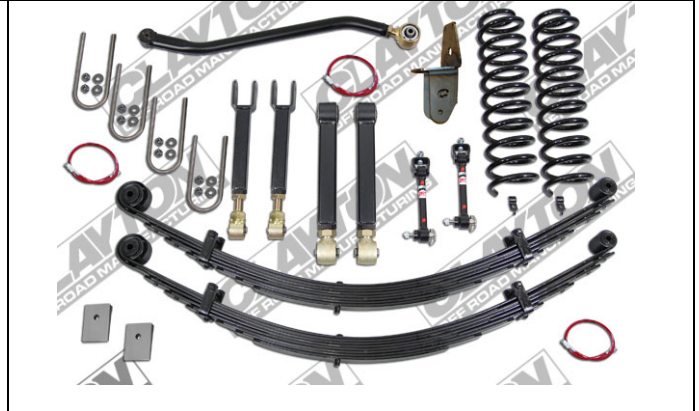


Thank you for purchasing a Clayton Off Road suspension.

Please check to make sure you have all necessary parts before you start your install.

#### 2901030 – XJ 4.5" Ultimate Level Short Arm Lift Kit

1100108	Front Spring Retainer Kit
1201207	XJ 7 Degree Shim (pair)
1201300	XJ U-bolts – set of 4 w/hardware
1300103	Stainless Steel Brakelines
1505500	XJ 4.5" Front Coil Springs
1601400	XJ 4.5" Leaf Springs (pair)
1800100	Adjustable Short Lower Control Arms
1800101	Adjustable Short front uppers
4500100	Adjustable Trackbar
4500400	Trackbar Bracket
JKS-2001	JKS Front Swaybar disconnects



Note : Drilling is required to install this suspension system. This kit is intended to be used with a CV style driveshaft.

**WARNING: Suspension systems and their components are designed to enhance your vehicles off-road performance. This may cause your vehicle to handle differently, on and off-road, then it did from the factory. Always wear your seatbelts, and take extra care when driving a modified vehicle. Failure to do so can result in loss of control which may result in a rollover causing serious injury, even death to the driver and/or passengers of the vehicle. Regular maintenance and constant inspections are required to keep your modified vehicle safe and function properly.**

**These systems and any components should be installed by certified technicians. Attempts to install these products without proper knowledge can lead to poor performance, or possible failure, which may jeopardize the safety of the vehicle and its passengers. The installer is responsible for proper installation insuring a safe and properly functioning vehicle. Take extra care when operating a modified vehicle and thoroughly inspect your vehicle before and after every off-road use.**

**Please read the entire instruction manual before starting the installation. If anything is unclear, please contact us before starting your installation.**

#### Tool requirements

1. Electric drill and drill bits
2. Spring Compressor (not necessary, but recommended)
3. Four large jack stands, ramps or a 4-post drive on lift works best.
4. Various wrenches and shop tools for removing and installing control arms.
5. A 1 7/16 wrench is needed to tighten the upper control arm jam nuts, and a 46mm wrench is needed to tighten the lower control arm jam nuts.

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**Front Installation Procedures**

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1. Raise truck up on jack stands, ramps or lift.
2. Remove wheels.
3. Remove the OEM brakelines, trackbar, disconnects, shocks and springs.
4. Remove upper and lower control arms. Entry level kits do not remove the lower control arms. Loosening the bolts may help installing springs as the axle will move more freely.

**Front Lower Arm Installation Procedures**

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1. Set both driver side and passenger side lower arms to the same measurement.
2. Remove one lower front arm.
3. Install new adjustable arm with bushing on the axle end, with the offset down for clearance during articulation. Gold Johnny joint goes at the frame end. Recommended that the grease fitting be pointed up or its more likely to get ripped off on rocks. Reuse the oem bolt on the axle side, and the new 9/16 grade 8 bolt on the frame side.
4. Center Johnny joint and tighten jam nut.
5. Repeat steps 2-4 on other side.

**Front Upper Arm Installation Procedures**

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1. Upper arms do NOT have to be the same length. They can be, but its more critical to keep even load on each bushing rather than forcing one bolt through in order to set the same length.
2. Make sure track is set correctly.
3. Put bottle jack under front axle to hold its position. Axle will most likely want to twist forward.
4. Remove both upper arms.
5. Set desired pinion/caster angle. We recommend 4.0 to 4.5 degrees of caster angle.
6. Upper frame mounts need to be drilled out to 7/16s.
7. Install both upper arms at the same time, then remove jack. This will cause even load on both upper arms.
8. The 7/16s grade 8 greaseable bolt are used at the frame side, and the silver 10 mm bolts are used on the axle side.
9. Center Johnny joint and tighten jam nut.



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#### Front Coil, Brakeline, Swaybar Disconnect Installation

1. Install new coil springs and coil spring retainers.
2. Install brakelines. Please check for proper length during flexing. Brakelines may need to be relocated farther down on the frame rail depending on lift height and flex.
3. Install JKS swaybar disconnects using their supplied instructions.

#### Trackbar Installation Procedures

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1. Remove factory trackbar. Lower axle end OEM bolt will be reused.
2. On Entry Level and Premium kits you will need to drill out the factory frame trackbar bracket to 9/16"s.
3. On the Ultimate kit, unbolt the entire trackbar mount. Install our new trackbar bracket into the OEM location reusing the OEM bolts. We recommend a few stitch welds for added strength, but it is not required to complete this installation.
4. Install trackbar at axle end, leave hand tight at this time.
5. Make sure steering wheel is un-locked and set your vehicle track.
6. Once track is set, adjust the Currie Joint until it lines up with the hole. You need a minimum of 1 inch of thread engaged in the trackbar for full strength.
7. Install 9/16s bolt through Johnny Joint and tighten.
8. Tighten lower axle end bolt.
9. Tighten jam nut.



5. Front install should be complete, however keep everything loose at this time until rear is lifted, then final adjustments can be made and everything can be tightened.

#### Rear Suspension Installation Procedures

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1. Remove shocks.
2. Remove OEM leaf springs.
3. Install new leaf spring packs reusing OEM hardware and new U-bolts and shims. Do not force center pin into the hole. It may need to be drilled out to 9/16s depending on your axle.
4. Tighten OEM bolts to factory specs, and tighten U-bolts to 125ft/lbs. These bolts should be retorqued after 50 miles, again after 250 miles and periodically after that.
5. Install shocks.
6. Install brakeline.

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### Final Adjustments

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1. Make sure all springs are properly seated and lower vehicle onto its own weight.
2. Front trackbar alignment and caster angle procedure.
  - a. Make sure steering wheel is unlocked.
  - b. Remove trackbar at frame end.
  - c. Use bottle jack to hold axle from twisting forward or backwards and remove both upper arms at the axle end.
  - d. Use bottle jack to set 4.5-5 degrees of caster. (DO NOT install arms yet)
  - e. Set vehicle track.
  - f. Once track is set, double check caster angle and install both upper arms at the same time. Meaning do NOT install one upper arm, remove the jack and then install the other. This will cause unequal load on one arm, and cause the bushings to wear out faster. Upper arms do NOT have to be the same length.
3. Go through the entire Jeep and tighten all suspension bolts and any other items you may have unbolted or loosened.
4. Tighten all suspension jam nuts. Lower use a 46 mm wrench. Uppers use a 1 7/16 wrench.
5. Properly bleed brakelines and check for any leaks and a firm pedal.

Your vehicle should now be sitting under its own weight with everything installed. **This is the time to double check measurements, check pinion angles, caster angles, and vehicle track.** All Johnny joints come pregreased. Go for a test drive and just add a small amount of grease to each grease fitting as everything should have settled in. After that its recommended you grease your joints every oil change or more frequently if you see a lot of mud, water and especially sand.

**Please recheck all bolts after 50 miles and again after every off-road trip.**

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**Damage or Missing Parts Policy:** If you receive a product that is damaged or missing parts you must contact us within 14 days to arrange replacement. You maybe required to submit photos of damaged parts before new parts are sent. Damage parts maybe request to be returned for inspection.

**Return Policy:** You have 30 days to return a product in it original packaging. Parts cannot have been installed, painted and/or modified in any way. You must contact us to obtain a RGA # (Return Goods Authorization) before shipping your product back. All returns are subject to a 15% restocking fee. Your return must have the return authorization number clearly marked on the outside of the package and must be shipped prepaid. Packages shipped COD will be refused. Return's are subject to inspection and maybe refused if they are damaged or used. You are responsible for proper shipping to ensure product is not damaged or lost. We recommend insuring your product for the full amount in the case it is damaged or lost during return shipment.

**Warranty Policy:** Clayton Off Road Inc. comes with our abuse proof limited lifetime warranty against bending or breaking our control arms only. This covers the original purchaser of our suspension lift. This warranty cannot be transferred to a secondary purchaser and is void if the control arm is modified in any form or not used in its proper application. Original purchaser must obtain a RGA # and is responsible for shipping the product back and agrees to return shipment charges. This warranty does not cover worn bushings, missing snap rings, or any kind of rust damage to the threads or inserts or actual arm.

#### **What is not covered:**

Clayton Off Road Inc. components may have minor finish damage to powder coated or plated surfaces, which may occur during shipping and is not covered under warranty. Johnny Joint bushings, washers, snap rings, OEM rubber bushings, hardware, brake lines, shocks, springs, skid plates, trackbars, and any mounting brackets are not covered. These parts are subject to wear and are not considered defective when worn. They are warranted for 90 days from the date of purchase for defects in workmanship only. Products or components which have been subjected to abuse, accident, alteration, modification, improper installation, tampering, negligence, misuse, or products installed on a vehicle used in sanctioned racing events. A race is defined as any contest between two or more vehicles, or any contest of one or more vehicles against the clock, whether or not such contest is for a prize.

Clayton Off Road Inc. is not responsible for any retail parts that maybe sold.

Clayton Off Road Inc. shall not be liable for any loss, damage or injury, whether ordinary, direct, special, incidental or consequential damages, arising from the manufacture, sale, installation, resale, delivery, possession, handling or use of its products.

Clayton Off Road Inc. is not responsible for typographical errors either in pricing or in content.

Warranties, policies and prices subject to change without notice.