

Installation Manual

Clayton Off Road Suspension: XJ 6.5" Coil

Conversion Long Arm Lift Kit

1984 - 2001 Jeep Cherokee

Last Revision No.: 3/1/11

PN – 3501130



Thank you for purchasing a Clayton Off Road suspension.

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

XJ 6.5" Coil Conversion Long Arm Lift Kit	
1100107	3 Link Bridge W/mount
1100108	Front Spring Retainer Kit
1201130	XJ Rear axle bracket kit for 3.00" tubes
1300103	Stainless Steel Brakelines
1501650	XJ 6.5" Front Coil Springs
1900310	Pro Series Long Front Control Arm Kit (3 arms)
1901120	Pro Series Long Rear Control Arm Kit (4 arms)
2101310	XJ 3 Link Automatic (AW-4) cross member W/brace
2101040	Rear coil conversion cross member
2201010	Coil conversion skid plate side bars - Auto - pair
2201030	Coil Conversion Upper Spring Bucket (pair)
2201040	Rear upper shock mount (single)
2400200	XJ Drop Pitman Arm
4101100	XJ ¼ skid plate
4500200	HD Adjustable Trackbar
4500410	Trackbar Drop Bracket
BDS-034211	XJ 6.5" Rear Coil Springs (2" BDS Front XJ coils)
JKS-2001	JKS Front Swaybar disconnects

A photograph showing a collection of suspension components for a vehicle. The parts are laid out on a white background. Visible items include coil springs, control arms, a trackbar, a drop bracket, a cross member, a skid plate, and various brackets and bolts. Some parts are marked with red circles.

If you are missing any of the above items, or are unclear about what parts you need, please call and ask before you begin your installation process.

Clayton Off Road Inc. – 1261 Meriden Road – Waterbury – CT – 06705 – (203) 757-0339 sales@claytonoffroad.com

Note : Welding, cutting and custom fabrication will be required to install this kit and should only be performed by an expert. E-brake mount may need to be relocated. Custom exhaust will need to be installed.

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.

Contact at: (203) 757-0339 or email sales@claytonoffroad.com

Tool requirements

1. 175A or greater mig welder

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2. Plasma cutter and or a good 4.5" grinder with cut off wheels.
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.

Front Installation Procedures

1. Raise truck up on jack stands, ramps or lift.
2. Remove transfer case skid plate if equipped.
3. Put a floor or bottle jack under the transfer case to support it.
4. Remove cross-member by removing the two bolts on each side and the four center bolts.
5. Wire wheel or grind paint away for welding.
6. Find the front of the new cross member. Reference your old cross member for proper transmission mount location. The plates where the new control arms mount should angle the control arms out. **Openings should face forward.** Put the eight-flange plate bolts in, the nuts and lock washers go on the inside and tighten.
7. On automatic cross members the 45 degree angle plates will align. On manual transmission do NOT align the 45 degree plates. A 1 inch drop is needed for clearance issues. The 45 degree plates are opposite.

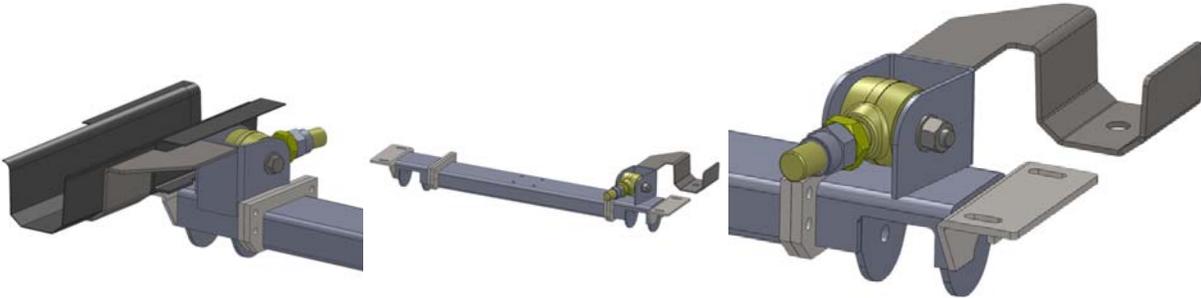


8. Center the new cross member and secure it using the two mounting holes on each side.
9. Make three welds on each side where the cross member contacts the uni-body frame rail, one on the end and one down each side. **Make sure these are good welds!**

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10.
 11. Grind away paint behind this bracket to prepare frame for the 3 link brace. Below are 3 pictures of how the 3 link brace connects to the 3 link mount. **Do NOT use this 3 link kit without the 3 link brace!**

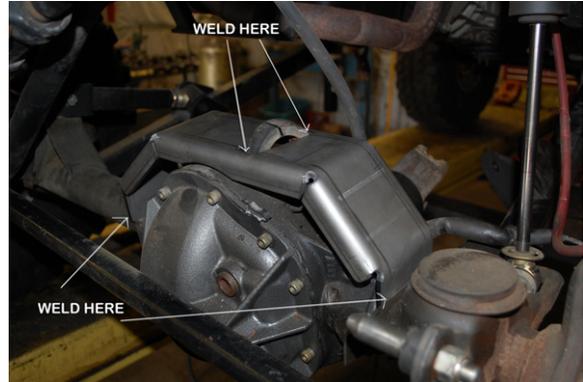


12. Route any fuel or brakelines below the 3 link brace. Shown below left is the 3 link brace ready for welding.

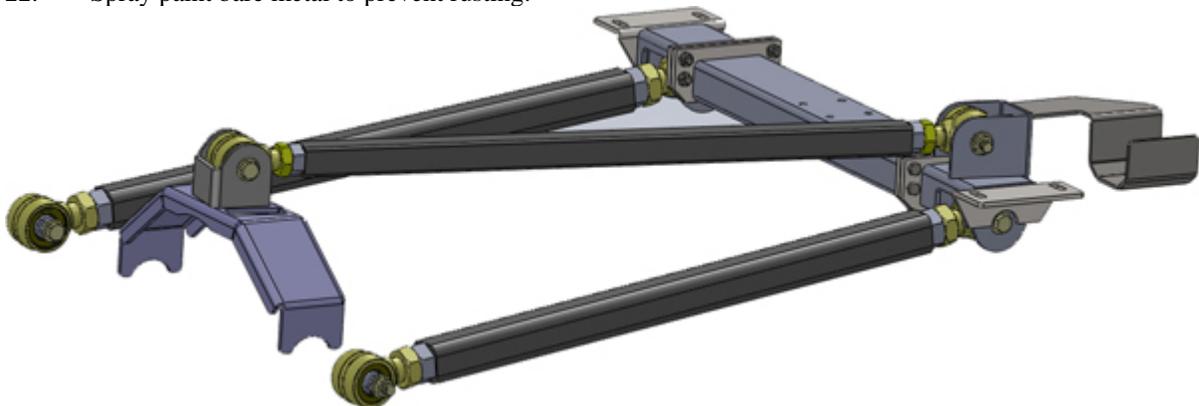


13.
 14. The 3 link brace should be fully welded down both sides, front and rear, and then to the actual 3 link cross member mount. Shown above right.
 15. Remove driver side control arms.
 16. Remove OEM bushing front casting in housing mount. **Do NOT cut off the entire mount.** You may cut a slit in it to make removing the bushings easier.
 17. Drop the new 3 link mount over the stock cast in housing. This will properly line up the truss, and you can mark each axle tube and grind away paint.

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- 18.
19. Weld the 3 link bridge to passenger side and driver side tube, and weld to the cast in top mount as much as you can.
20. Cut the lower control arm mount off of the uni-body as close as possible using a plasma cutter or cut off wheel. Upper mount does not need to be removed.
21. Grind any extra off to make it look as neat as possible.
22. Spray paint bare metal to prevent rusting.



23. Shown above is a complete 3 link.
24. We recommend using our axle bracket kit, our heavy duty lower control arm brackets, or some sort of skid plate for the OEM front lower control arms to protect the johnny joints at the axle side. Install any of those items at this time.
25. Adjust the lower arms to an initial length of 36 inches. Make sure to keep the arm johnny joints equally engaged into the control arm.
26. Install upper arm temporarily to hold axle from rotating. This is a temporary install and does not matter what length. Do not tighten the arm as it will need to be changed in the final setup.
27. Remove passenger side arms, and install lower control arm. Lower arms **MUST** be the same length.
28. Remove the OEM brakelines, trackbar, disconnects, shocks and springs.

Drop Track Bar Installation.

1. Remove factory trackbar and OEM frame bracket.
2. Removing the spring maybe necessary to remove and install OEM bolts, and weld in bracket.
3. Hold bracket in OEM location and mark where you will need to weld. This bracket does not need to be fully welded. We will add a few 1 inch stich welds for added strength.
4. Grind paint away from both sides of frame, top and bottom and where it makes contact with our new trackbar drop bracket. Shown below left.

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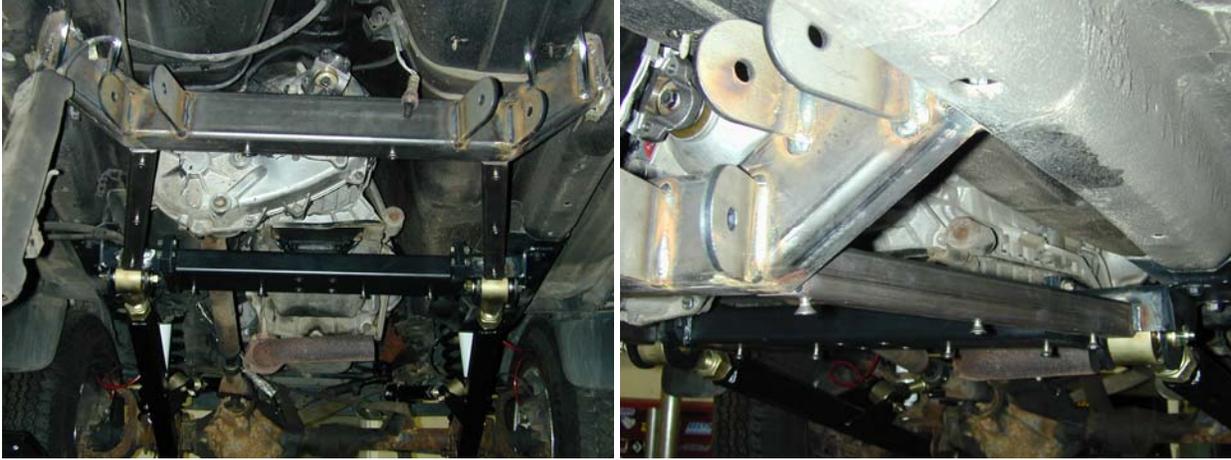


5. Bolt into OEM location reusing the OEM bolts and tighten all bolts to factory specs.
6. Weld in trackbar drop bracket. A 1-2 inch stitch weld on both sides and bottom is adequate.
7. Let bracket cool, and paint.
8. Install axle side of your new adjustable trackbar reusing your factory bolt.
9. Temporarily set vehicle track until springs are installed front and rear.
10. Adjust Johnny Joint so that the supplied 9/16s bolt easily slides through the new trackbar drop bracket.
11. Install springs with new OEM style spring retainers using supplied self tapping bolts.
12. Install shocks.
13. Install brakelines.
14. Install JKS swaybar disconnects.
15. Install drop pitman arm.
16. 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 Coil Conversion Truss and Skid Plate Installation Procedures

1. Once you have completed the front installation level the vehicle and support it on jack stands.
2. The following items will need to be removed at this time. Axle, shocks, leaf springs, exhaust at the cat and the drive shaft.
3. The rear control arm truss welds in 19.4375" back from the front cross member. Grind away all the paint and undercoating so you get a nice clean weld.
4. Put the rear truss into position and hold it with a floor jack or bottle jack. Make sure the truss is square to the front cross member. There is a place on the frame rail were it is double thickness. The rear truss should be about 4.625" in front of this point. Check to make sure the skid plate stringers fit between the two. They are made of 1.5" square tube with angles cut on both ends.
5. Weld the rear truss in making four welds on each side. Top, bottom and two sides.
6. C-clip the skid plate into position on the front cross member and rear truss. Place the skid plate stringers in position and tack weld them into place. Drill and tap for the 12 5/16"-18 flat head screws.
7. Remove the skid plate and finish welding the stringers in.
8. Paint all bare metal.
9. Re-install the skid plate.

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Rear Upper Spring Perch Installation Procedures

1. Remove the bump stops from the uni-body frame rail on both sides.
2. You need to create a pocket in the frame for the new spring perches. The pocket should be centered on these bump stop bolt holes. The pocket needs to be 6.375" wide this will be about .750" from the center of each hole to the outside. The depth is .3125" from the back of the frame rail. You need to make this a nice fit for easy welding later. Remove the frame rail up to the floor board. Refer to drawing.
3. ***** WARNING – Next step requires welding to the uni-body. The carpet inside and any materials should be removed to avoid any chance of starting a fire. This metal is very thin, and the heat will go through and can and will set the carpet or any flammable items on fire. *****
4. Once the spring perch is sitting in the frame rail tack weld it into place. Welding these into place is a little tricky. Use stitch welding so you don't burn through the uni-body. These are little short welds pausing in between to allow the thin metal to cool. Weld down both sides, across under the frame rail on both sides and across the back. You can weld along the lip that turns up on the inner fender and along the floor also. Be careful this metal is very thin. What you're trying to do is just seal up the frame rail from dirt and mud getting in there it has little structural purpose.
5. Paint all bare metal.
6. Place spring puck on the post before installing springs.

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Rear Axle Brackets Installation Procedures

1. Remove all old spring perches and shock mounts.
2. Grind all paint off the axle tubes.
3. Check to see if truss will clear breather vent. If it does proceed. If it is in the way, you will need to weld it shut, and drill a new breather tube which does not interfere with the axle truss. Make sure to clean out axle tubes of any metal shavings that may have drop in while drilling this new hole.
4. Set axle on jack stands and set desired pinion angle. You will probably be around 17 degrees for a low pinion or 12 degrees for a high pinion when using a SYE kit. Please also refer to the AutoCAD drawing at the end of these instructions.
5. Start by welding on the lower control arm mounts. They should be welded on level with the pinion angle set were you want it. You can use the arms as spacers for the mounts. Refer to drawing for spacing. One good weld on the outside of each mount is fine.
6. Set the spring perch plates on the lower control mounts. Weld on both side around the axle tube and make some one-inch welds in the front to the lower control arm mounts.
7. Position the spring bucket plates on the axles and weld them into place with 3 inch weld around the outside. One on each side in the front and one in the back inside corner.
8. Put the poly spring bucket on with the retainer tab.
9. Place the axle truss on the axle. Center the truss on the axle. Make your measurements from the rim or brake assembly. Don't use the differential housing as a reference point.
10. Weld shock mounts on the axle they should be level with the pinion angle set. Refer to drawing.
11. Drill and tap to mount brake distribution block on truss and run brake lines.

Passenger Size Upper Shock Mount Installation Procedures

1. This mount goes in the same way as the drives side mount. Clean away all paint to get a nice clean weld.
2. Position mount and weld in where ever it contacts the vehicle body.

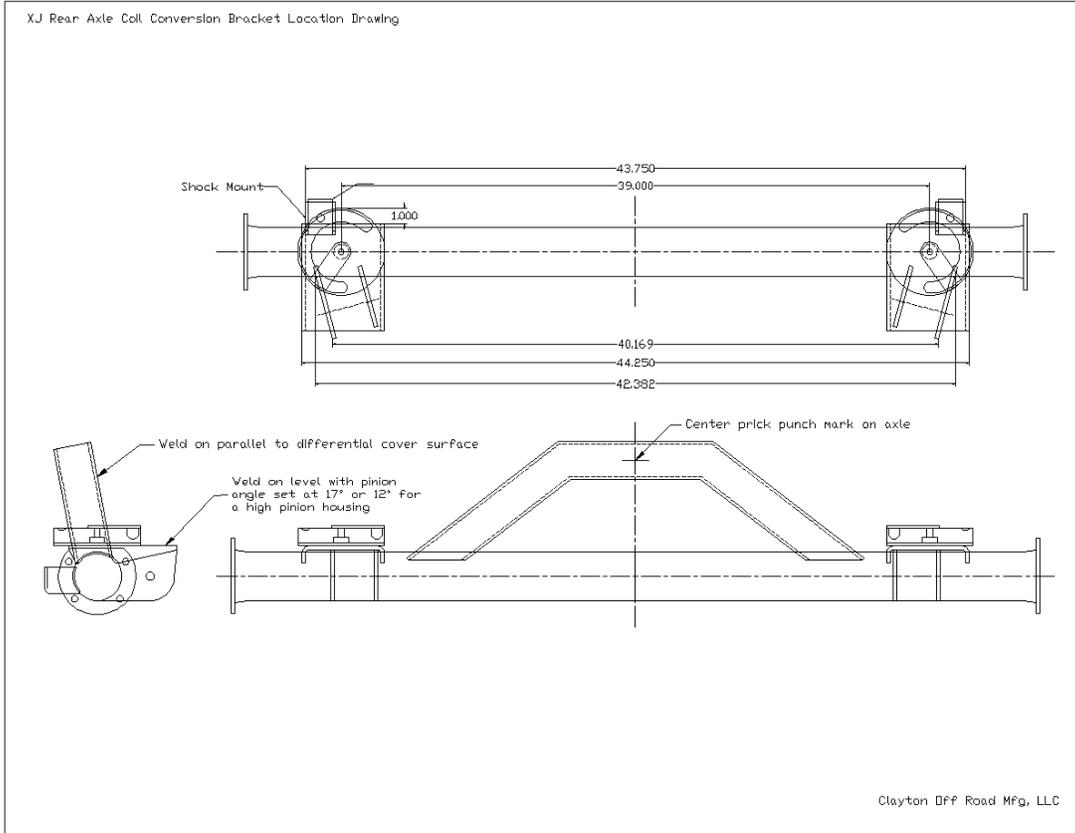
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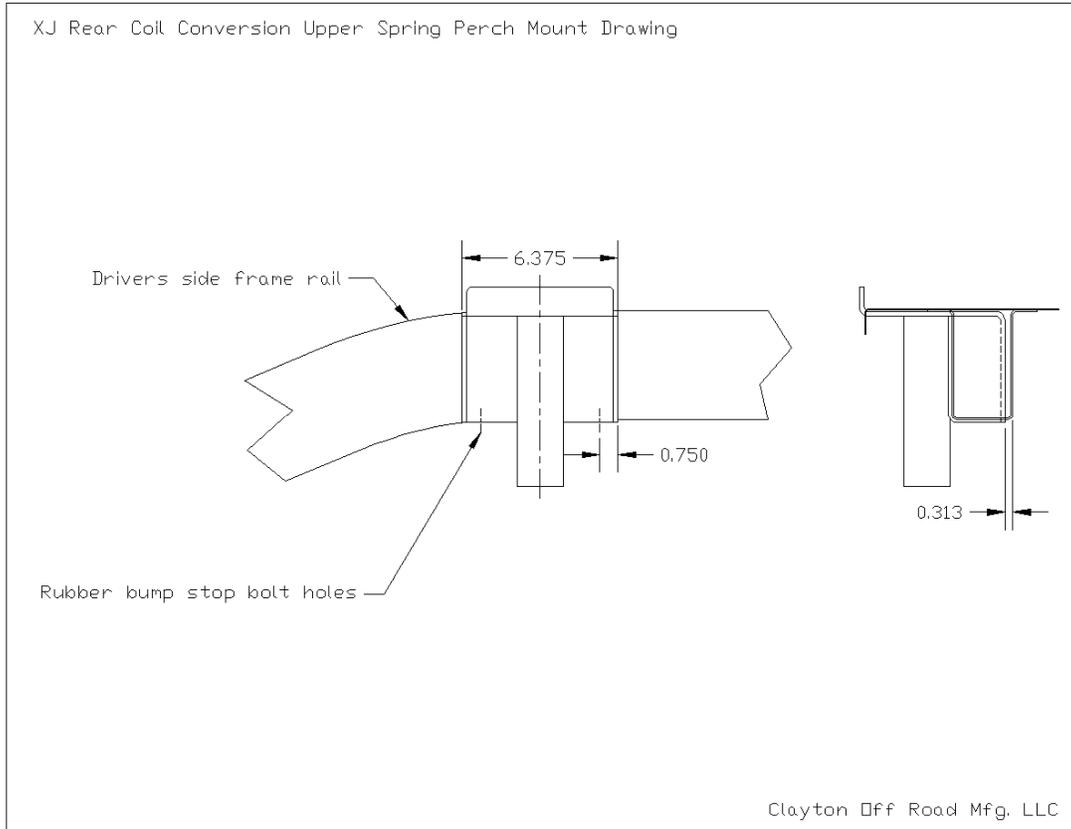
Final Assembly Installation Procedures

1. Position the axle back under the vehicle. Using jack stands or putting the tires on will work.
2. Install the lower control arms. Make sure they are set to the same length. Final length may need to be adjusted later depending on lift height.
3. Lift the rear of the vehicle and install the springs. Lower vehicle on to the springs.
4. Adjust the pinion angle and use a ratchet strap to center the body over the axle.
5. Install the upper arms. Align the bend in the arm with the floorboards for clearance.
6. Don't worry about making the arms the same length just make all the bolts go in easily. This will keep the track set properly.
7. Install the shocks.
8. Lock down the lower spring retainers.
9. Bleed the brakes.
10. Install the rear drive shaft.

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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 may be required to submit photos of damaged parts before new parts are sent. Damage parts may be requested to be returned for inspection.

Return Policy: You have 30 days to return a product in its 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. Returns are subject to inspection and may be 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.

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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.

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