Installation Manual
Long Arm Lift Kit Instructions
12+ Manual Jeep Wrangler and Wrangler Unlimited
Last Revision No.: 11/27/12
PN – 3208232

Thank you for purchasing a Clayton Off Road suspension.

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

3208232 – Manual - JK 3.5” Long Arm Lift Kit

	1308101	JK Front Stainless Steel Brakelines (pair)
	1308102	JK Rear Stainless Steel Brakelines (pair)
	1408100	JK Front Bumpstops (pair)
	1408200	JK Rear Bumpstops (pair)
	1508350	JK 3.5” Front coil springs (pair)
	1508351	JK 3.5” Rear coil springs (pair)
	1908020	JK Long Rear Lower Control Arms
	1908030	JK Long Rear Upper Control Arms
	1908100	JK Long Front Control Arm Kit
	2108122	JK 2012+ Manual 3 Piece Long Arm Cross Member
	2208100	JK Long Arm Rear Frame Brackets
	2308101	JK Rear Adjustable Swaybar Links
	4508100	JK Front Adjustable Trackbar
	4508200	JK Rear Adjustable Trackbar Bracket

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: Shocks can be added to any package deal for an additional charge.
Note: An optional adjustable rear trackbar (4508110) can be used with the rear trackbar bracket (4508200). This trackbar is necessary for 2dr models using a CV rear driveshaft or for fine tuning a 4 dr model.
Note : The new 2007+ Jeep Wrangler JKs are equipped with an Electric Stability Program (ESP). Electronic Stability Program aids the driver in maintaining vehicle directional stability, providing oversteer and understeer control to maintain vehicle behavior on various road surfaces. This function is affected when lifting this vehicle and may not function properly. It is highly important to center the steering wheel. Please drive cautiously until you know how your vehicle will react.
Note : It maybe necessary that a front CV shaft be used with this lift on either 2 and 4 door models. 2 door models may also require a CV rear driveshaft.
Note: The 3.5 inch kit is intended to fit 35x12.5 tires. Stock rim backspacing will NOT work. We recommend a backspacing of 4.5 or using a 1.5 inch wheel spacer.
Note: 2012+ models require removing the exhaust loop on the driver side and moving the cross member back for proper driveshaft clearance.

<u>WARNING:</u> 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.

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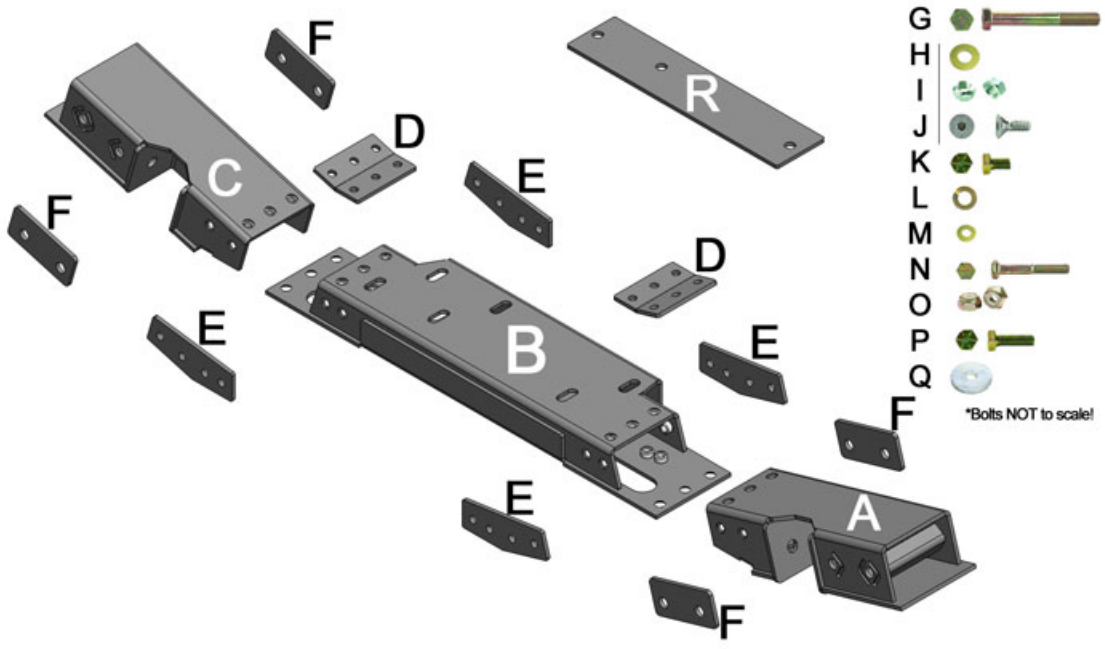
Tool requirements

1. Four large jack stands, ramps or a 4-post drive on lift works best.
2. Various wrenches and shop tools for removing and installing control arms.
3. Electric Drill and drill bits and 3/8-16 tap.
4. 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 Cross Member Installation Procedure

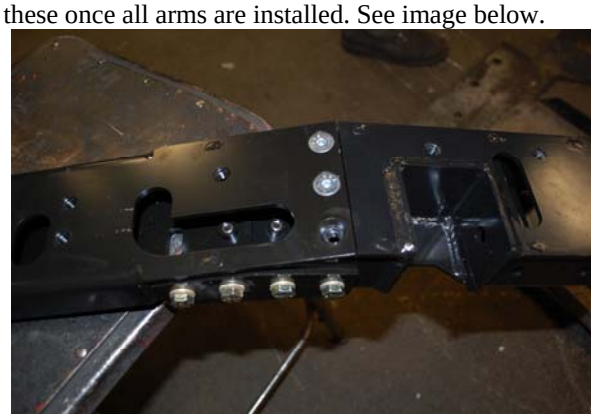
1. Support drivetrain, and remove oem cross member and the oem skid plates if equiped. Retain all oem hardware as some maybe reused.
2. Assemble your new 3 piece cross member. Below is a parts list, and an exploded view of the cross member and where each part goes. Make sure the center section (B) is facing the correct way. Double check by making sure you can install the 9/16s bolts (G) into their mounting location.

Item #	PN	Description	QTY.
A	JKCML	JK cross member left (Driver)	1
B	JKCMC12	2012+ JK cross member center (Auto&Man)	1
C	JKCMR	JK cross member right (Passenger)	1
D	JKCM06	Top mounting plate	2
E	JKCM0512	2012 JK side mounting plate	4
F	JKCM11	Outside mounting plate	4
G	18950	9/16"-18 x 3-3/4" Yellow Zinc Hex Cap Screw	2
H	514071	9/16" SAE Hard Washer	4
I	368168	9/16"-18 IFI GR C ZNCWX All MTL Lock Nut	2
J	94286	3/8"-16x1" Flat Head Socket Cap Screw	8
K	15103	3/8"-16 x 3/4" Yellow Zinc Cap Screw	28
L	33893	3/8" High Alloy Lock Washer	26
M	33815	3/8" SAE Flat Washer Yellow Zinc	2
N	15224	1/2"-13 x 5-1/2" Yellow Zinc Hex Cap Screw	4
O	37187	1/2"-13 Yellow Zinc Nylon Insert Lock Nut	4
P	15107	3/8"-16 x 1-1/4" Yellow Zinc Grade 8 Hex Cap Screw	2
Q	11103739	3/8" x 1.250" x 0.125" Thick Fender Washer	2
R	JKCM0912SHIM	JK 2012+ Manual shim spacer plate	



3.
4. All the above brackets will be used to assemble the cross member except for the outside mounting plates (F). These are used as reinforcement spacers to properly clamp the cross member back into the oem location. Also shim spacer plate (R) is used as a spacer to clear the transmission mount on the mounting plate (D).

5. Once you have assembled the cross member it should look like this. Do NOT install the front (J) allen head bolts yet. They will be in the way of install the (G) 9/16s johnny joint bolts. Install these once all arms are installed. See image below.

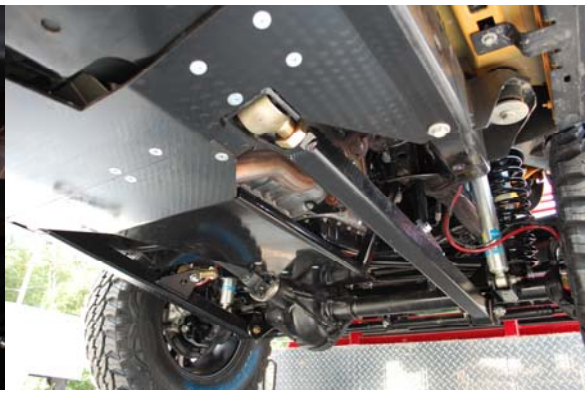


6.
7. You are almost ready to install this cross member into your Jeep JK. Some customer find it easier to install the johnny joints with the cross member out of the Jeep.

8.
9. This pocket design allows for maximum clearance, however lining up the washers, and bolt is a little tricky. Installing just the johnny joint makes it easier to hold everything in place while you line up the washer, bolt, and nut on the other side. Once everything is installed, an open ended wrench will fit on the outside to hold the nut. On the inside a 13/16 - 3/8 drive socket with an extension will fit. A ½ drive 13/16 will NOT fit. In the above picture we used a 3/8 socket, with a 3/8 to ½ adapter so we can use a ½ impact gun to tighten the 9/16 grade 8 bolt to 155 ft/lbs.
10. This cross member has been designed as a bolt in and can be used without welding. For our customers who are more abusive with their driving style we recommend welding in this cross member for maximum strength. The outside flanges will almost touch the bottom of the frame. If you choose to weld in the cross member, this is the time to prep the frame and the cross member. Because this is a 3 piece cross member, if you need to service the transmission in the future the center section can still be removed.
11. Install cross member into your Jeep JK and make sure it is centered left to right. Reinstall the oem transmission bolts.
12. Use the new (N) ½-13 bolts with the outside spacer plates (F) on each side to clamp the cross member into the factory bracket.
13. We would recommend welding it in at the end, once you have made sure everything fits, and you have made sure everything is installed correctly.


14. If you are reusing the stock skid plates continue with this step. If you purchased our skid plates, skip to step 14. You will need to trim the stock gas tank skid to allow clearance for the new passenger side control arm mount. You will use hardware (K) 3/8 bolt, and washer (M) to reattach the OE skid plate to the new cross member.


15.
16. With our main skid plate you will trim the OE gas tank skid to clear the cross member, and will drill new holes and bolt it together using hardware sent with the skid plate.

17.
18. Next you will need to modify your exhaust. We choose to use the AFE exhaust loop delete kit. Follow their instructions to install their product. In addition to their pipe we used a BDS exhaust spacer kit on the passenger side to push the cross member closer to the cross member, allowing for more clearance between the cross over pipe and driveshaft. Even with this extra room we recommend a CV style driveshaft.

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19.  
20. Now you are ready to install your new long arms. Chock the wheels and remove only the driver side arms.
21. Cut off the lower oem frame mounts.
22.  
23. Measure and make sure both lower arms are the same length. We recommend 36.75 for our 3.5” lift, and 37” for our 4.5” kit.
24. If you are upgrading from our short arm kit you will install your 2 upper arms next. The straight arms will fit on stock housings. Our long arm upgrade kit comes with 1 straight arm, and 1 angled arm. This angled arm is designed to be used on the driver side to help with clearance on larger aftermarket axles.
25. If you find you do need this angled upper arm it is available for purchase, part # 1808006. Otherwise you can cut a 17 degree angle into the arm, reweld it and you will have the same effect.
26. Install 1 upper arm to any length at this time. This will simply hold the pinion so you can proceed to the passenger side. Final adjustments will be made once all arms are installed and vehicle is at ride height.
27. Remove passenger side arms, install passenger side long arm.
28. Set vehicle at ride height, and set your caster angle to about 4.5 degrees. On our 4.5” lifted JK our upper arms are approximately 18.75 inches long. Upper arms do NOT have to be the same length.
29. Oem front skid plate will not work with the long arms or a lifted JK due to clearance issues with the driveshaft and arms.
30. Tighten all suspension bolts and any other bolts you may have removed for this installation.
31. OE style transmission skid plate can NOT be reused. The transfer case and engine skid plates can be reinstalled with some minor trimming, and aftermarket hardware. Use the large (Q) fender washer with (P) 3/8-16 x 1-1/4 cap head screw to reinstall the transfer case skid. See pictures below.

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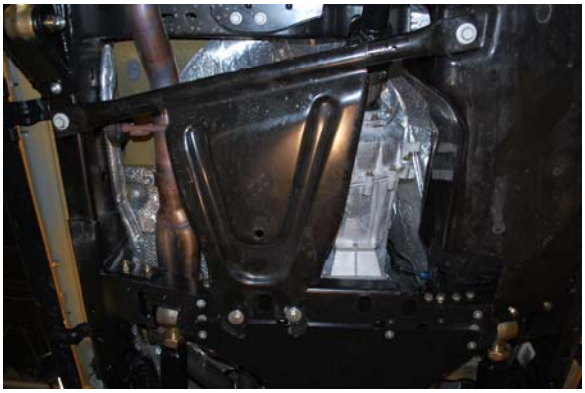
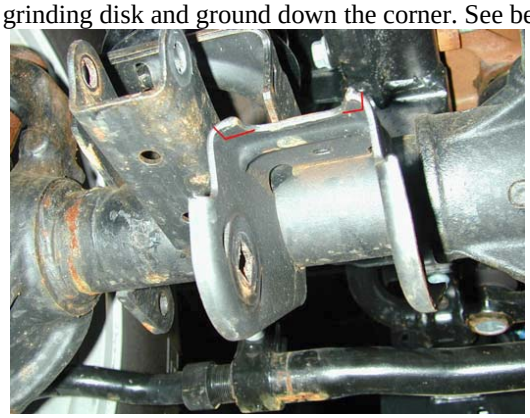


Front End Components Installation

1. Unclip the ABS lines in order to allow for additional length.
2. With a Rubicon model, unclip the locker lines to allow for additional length.
3. Remove the shocks, swaybar disconnects, and front trackbar. These items will NOT be reused, however some of their hardware may, so do not discard them.
4. Remove the OEM brakelines and install the new provided brakelines. There is a front and rear set so please pay attention to the label on the bag. Make sure the caliper end is facing away from the caliper. This routes the brakeline away from the tire. Front is labeled 1308101, and the rear is labeled 1308102. Use the provided frame brackets with the OEM screws in the OEM locations. See Photo below

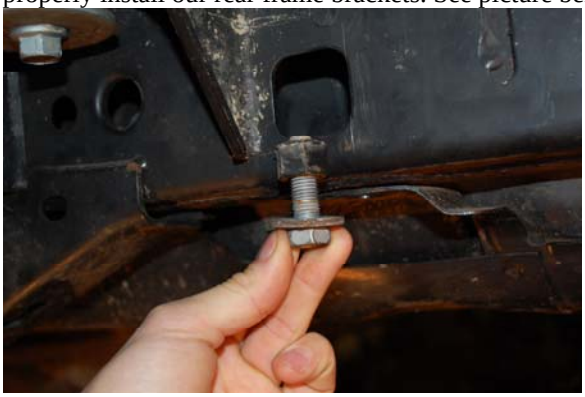

5. Also shown in Photo # 1 is the front axle breather. Lower the clip approximately 4 inches to allow for the added lift.
6. In order to allow clearance for your new arms you might need to grind away the corners of the lower OEM frame brackets. We simply took a grinding disk and ground down the corner. See below.



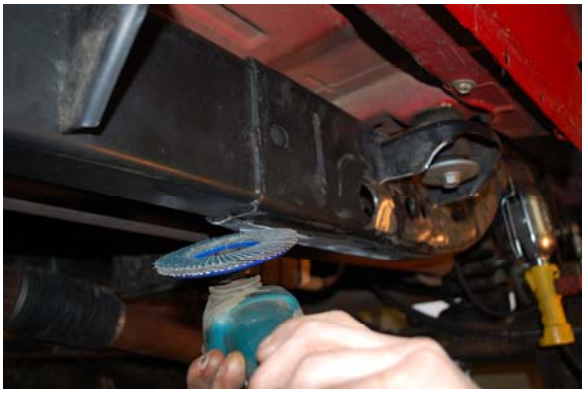

7. With your extended brakelines installed, ABS lines unclipped, skid plate removed, shocks removed and our arms installed, you should be able to lower the front axle with minimal effort.
8. Once you remove the OEM coils, you will need to drill and tap a hole in the center of the lower perch in order to

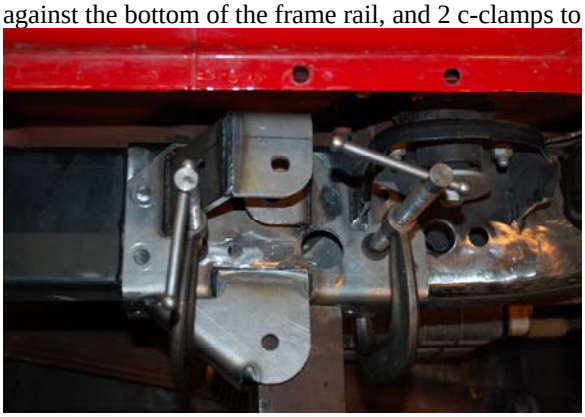
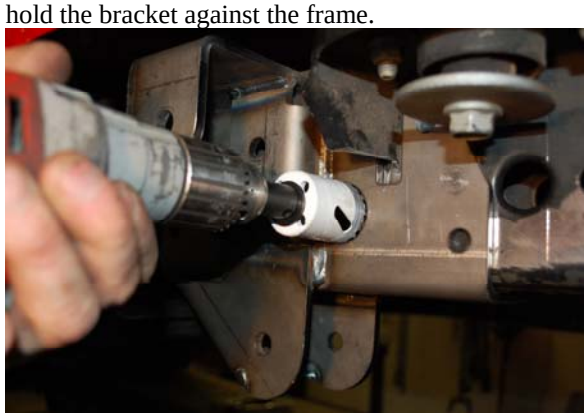
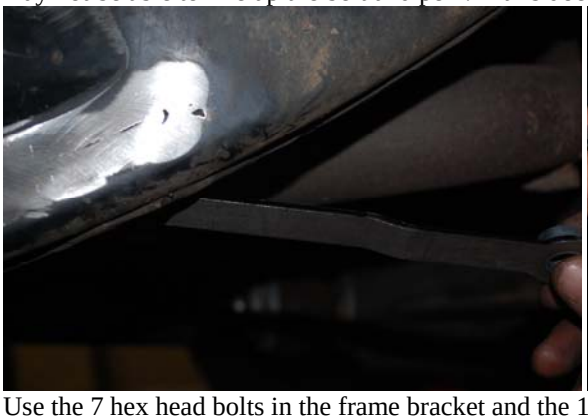
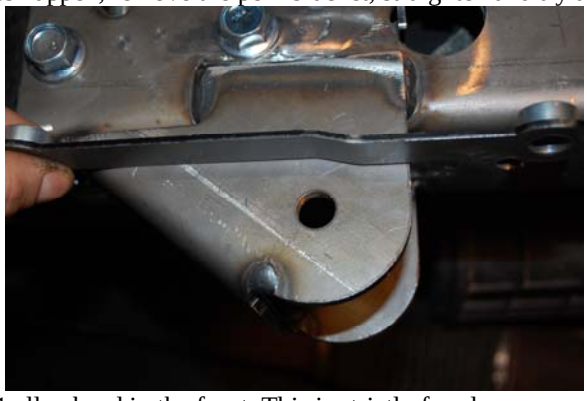
install the new bumpstop. Drill a 5/16 hole and use a 3/8-16 tap. Once the lower hole is drilled and tapped, hold the bumpstop in the coil and place it over the perch and tighten the center bolt.
9. Set the trackbar at an initial setting of 32 7/8" center to center reusing the OEM bolts. Install the bushing at the axle end. The johnny joint goes at the frame end, and should be readjusted and tightened to factory specs once the vehicle is sitting under its own weight with the new springs front and rear. Bend goes up to clear the differential.
10. Install shocks. Make sure you install the bolts from the inside out. The nut has to be on the outside, closer to the tire, in order to allow clearance for the lower control arm during articulation.
11. If you purchased the optional JKS swaybar disconnects following their instructions. If you have a Rubicon and/or did not purchase the disconnects, use the rear swaybar links in the front. They are the same except 4" longer which will compensate for the lift height.

Rear Long Arm Installation

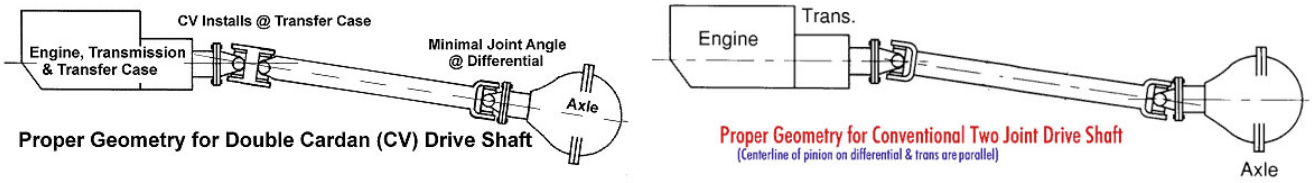
1. The JK rear long arm brackets are designed with the ability to be installed without removing the gas tank. However you will need to cut and grind brackets very close to the gas tank. Therefore we highly recommend that you remove the gas tank for safety reasons.
2. Rubicon rocker panels, and most likely any other rocker panels will need to be removed in order to properly install the rear brackets. Some rocker panels may need to be modified to be reinstalled.
3. Start by removing the passenger side gas tank nut insert. Unscrew the bolt about half way down, then hit it with a 5 lb. sledge hammer until the bolt forces the nut insert out. It is slightly welded on the inside of the frame and needs to be removed to properly install our rear frame brackets. See picture below.
4.  
5. Next you will need to cut off the OEM tab which is part of the gas tank skid plate. See picture above.
6. The rear body mounts need to be trimmed on both sides, on the front and back. Measure from the bottom up 2" and remove the lower section. See picture below.
7.  

8. Once you have trimmed the rear body mounts, remove the lower control arm mount and the rear upper mount.
9. Take a grinder to the bottom and front of the frame and make sure the frame is clean where the new bracket will be clamped. Make sure to smooth down the section of the frame where they are welded together. This will be the alignment point for the front of the new frame bracket.

10.  

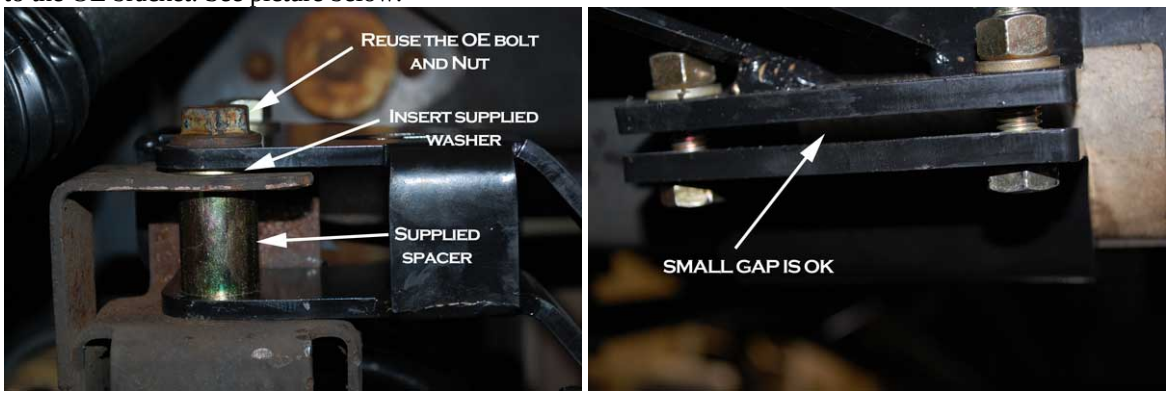
11. The rear frame bracket should be aligned with the front of the double edge of the frame. Take a few c-clamps and make sure the bracket is properly positioned before you start drilling holes. We used a bottle jack and a block to press the bracket tight against the bottom of the frame rail, and 2 c-clamps to hold the bracket against the frame.
12.  
13. On the passenger side, the frame has a square access hole which will allow you to install the pem fasteners which clamp the bracket to the frame. On the driver side you will need to drill a 1 ½ hole using a hole saw. Make sure your bracket is properly positioned and c-clamped while you drill this access hole.
14. Next you will need to drill eight ½ holes in the frame and then insert the pem fasteners through the access holes and start each bolt. Line up the driver side and passenger side brackets and the appropriate pem fastener brackets. We recommend starting with the lower 2 holes, drill them and bolt the bracket in. With the bracket now bolted and still c-clamped to the frame, drill the next set of 3 holes. Bolt in those 3, then move on to the last set. This will make it less likely something moves and should make it easier to align all the bolts with the pem fastener brackets.
15. Feed the lower straight bracket in through a hole in the bottom of the frame with the long side in first. There is a step in the frame and this is too allow for a proper fit. Do not force the bolts into the pem fastener brackets as they may bend and you may not be able to line up the bolt and pem. If this does happen, remove the pem bracket, straighten and try again.
16.  
17. Use the 7 hex head bolts in the frame bracket and the 1 allen head in the front. This is strictly for clearance against rocks. Once all bolts are started, torque each to 80-110 ft/lbs.

18. You may need to bend in the factory gas tank skid plate in order to allow the 9/16s bolt and nut to fit.
19. Now you are ready to install the arms. The lower arms have a certain angle to properly line up with the oem axle brackets. Make sure to keep both lower arms the same length.
20. Rear lower arms we recommend a starting measurement of 32.5" on a 3.5" kit and 32.75" on a 4.5" kit. Final adjustments may need to be made depending on actual tire size, vehicle weight and bumpers used.
21. Rear uppers on a 2 dr model we recommend 31 ¾ and 30 ½ on a 4 door. These are only starting measurements and final measurements should be made depending on your driveshaft type and angles. See chart below.



22.
23. The rear upper arms also have a driver and passenger side to allow for a tire clearance bend. Set your desired pinion angle and then adjust the adjuster so the bolt slides in easily. The rear uppers do NOT have to be the same length.
24. Make sure when you tighten the jam nuts that the Johnny joints are centered in the bracket to allow for even articulation.
25. A completed install should like the pictures below.
26. 

Rear Trackbar Bracket Installation

1. With vehicle at ride height, under its own weight, remove the OE rear trackbar at the axle end. Loosen at the frame end.
2. This trackbar bracket is designed to be used on JK vehicles from 3 to 5 inches of lift.
3. Slide the bracket into place. Your OE bolt will be reused in the stock location along with the spacer and 1 of the 9/16s washers. Get the bottom half of the bracket in place and start all the bolts.
4. Make sure the spacer is in the correct location and the spacer is installed. This will provide the necessary clamping force to the OE bracket. See picture below.
5. 

6. This bracket is designed to bolt around the OE axle tube for additional support. Torque 3/8-16 grade 8 bolts to 35-45 ft/lbs. Once your bolts are tight, approximately a 3/16s gap is normal. See picture above.
7. Reinstall your OE or aftermarket trackbar in one of the 2 posible locations. Lower hole is for a 3-4 inch lift, and the upper hole is for a 4-5 inch lift.
8. Use the new 9/16s grade 8 bolt, 2 washers and lock nut in one of the 2 holes and torque 9/16s bolt to 130-170 ft/lbs.
9. Below is a completed install with a stock trackbar (left) and adjustable (right) used on a 3.5" lift kit.
10.  
11. Tighten trackbar, and check for any clearance issues during articulation cycle.

Optional Rear Trackbar
1. Trackbar is required for 2 dr models and optional on 4 dr models.
2. Once the vehicle is sitting under its own weight, set your proper driveshaft angle.
3. Now set the vehicle track using a ratchet strap.
4. With pinion angle set, and track set, install new adjustable trackbar with bushing in the new bolt on bracket, and the johnny joint in the OEM frame bracket.

1. Install the new rear swaybar adjustable links. For a 3.5 inch kit 12.5 inch center to center should work. For a 4.5 inch kit 13.5 should work. You can make final adjustments as needed. Max length is 13.75 center to center. Please make sure the jam nuts are tight once you have set your desired length.
2. Install rear bumpstops after you adjust your rear pinion angle. Once the rear bumpstops are installed, you will NOT be able to remove the upper control arm bolt. They mount to the OEM flat plate welded to the top of the axle. The plate should already have 2 holes drilled in them which you will use to attach these bumpstops. Use the allen bolt with a nut on the bottom of the bracket.

Final Adjustments
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. Rear pinion angle procedure.
a. Put jack under rear pinion.
b. Remove both upper arms at axle end.
c. Set pinion angle.
d. Install both upper arms at the same time for the same reason as the front uppers. Upper arms do NOT have to be the same length.
4. Go through the entire Jeep and tighten all suspension bolts and any other items you may have unbolted or loosened.

5. Tighten all suspension jam nuts. Lowers use a 46 mm wrench. Uppers use a 1 7/16 wrench.
6. Properly bleed brakelines and check for any leaks and a firm pedal.
7. Check tire clearance on rear body panel. Depending on tire size, lift height, rear arm length you may need to trim this lower piece accordingly. See Photo # 7.
8. We recommend doing a test drive with the ESP manually disengaged. We highly recommend this system be updated to properly function with you new lift height and larger tires. A proper alignment is a critical part to having the ESP function properly.

We hope your installation went smoothly. Please let us know if you have any questions, suggestions or comments. Here are some finished vehicle photos below.




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 or 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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