

Jeep TJ and LJ 3 Link Front and 4 Link Rear Suspension Kit Installation Instructions

Thank you for purchasing our TJ and LJ link suspension kit!

Installation Notes:

- This product is designed to be installed on a 1997-2006 Jeep Wrangler TJ or Wrangler Unlimited LJ.
- This kit requires welding, automotive mechanical knowledge, and general fabrication skills, it should only be installed by qualified individuals.
- The components of this kit will need to be painted or powder coated during installation.
- The factory lower frame control arm mounts and the left side frame front upper control arm mount will need to be removed.
- Exhaust modifications will be required to provide clearance for the rear upper suspension links.
- The fuel lines and brake lines that run down the inside of the left frame rail will need to be re-
- Installation of a rear axle truss or rear axle upper link mounts is required, please consult the instructions included with your truss for installation. This set of installation instructions assumes you have already installed a rear axle truss with the required upper control arm mounts.
- Jeep Wrangler Rubicon models will need part# B4WK12517 to relocate the factory air locker pump on the skid plate.
- This kit includes stainless steel hardware on some components. We recommend using a quality anti-seize compound on any stainless hardware during installation.
- Depending on lift height a 1" body lift may be required to use the upper most set of bolts holes for the rear upper links.
- An adjustable front track bar is recommended.
- If a front axle has been swapped using our swap kit the left upper control arm mount will need to be drilled out to accept a 9/16" bolt.

Tools required:

- Welding machine with the capability to weld at least ¼" thick steel.
- Cutting torch, plasma cutter, or other appropriate cutting tool
- Various hand tools
- Grinder to prepare surfaces for welding
- Tape measure
- Jack and jack stands

Possible Kit Combinations

Use the charts below to determine which combination of boxes you will receive for your make and model of Jeep. Each box should have a barcode with the kit part number listed on it.

97-02 Jeep Wrangler TJ Kit Boxes						
Qty	Kit Part Number	Kit Description				
1	B4WK12548	TJ 3 & 4 Link R Bracket Kit				
1	B4WK12549	TJ 3 & 4 Link L Bracket Kit				
1	B4WK12543	97-02 TJ Transfer Case Skid Kit				
1	B4WK12545	TJ 3 & 4 Link Upper Link Kit				
2	B4WK12544	TJ 3 & 4 Link Lower Kit				
	03-06 Jeep Wrangler TJ Kit Boxes					
Qty	Kit Part Number	Kit Description				
1	B4WK12548	TJ 3 & 4 Link R Bracket Kit				
1	B4WK12549	TJ 3 & 4 Link L Bracket Kit				
1	B4WK12542	03-06 TJ & LJ Transfer Case Skid Kit				
1	B4WK12545	TJ 3 & 4 Link Upper Link Kit				
2	B4WK12544	TJ 3 & 4 Link Lower Kit				

04-06 Jeep Wrangler LJ Kit Boxes				
Qty	Kit Part Number	Kit Description		
1	B4WK12546	LJ 3 & 4 Link R Bracket Kit		
1	B4WK12547	LJ 3 & 4 Link L Bracket Kit		
1	B4WK12542	03-06 TJ & LJ Transfer Case Skid Kit		
1	B4WK12551	LJ 3 & 4 Link Lower Kit		
1	B4WK12544	TJ 3 & 4 Link Lower Kit		
1	B4WK12550	LJ 3 & 4 Link Upper Link Kit		

Available Truss Kit Options			
Kit Part Number	Kit Description		
B4WK125311D	TJ Dana 35 Rear Axle Truss Kit With Upper Mounts Prepack		
B4WK125301D	TJ Dana 44 Rear Axle Truss Kit With Upper Mounts Prepack		
B4WK12541	LJ Dana 44 Rear Truss Kit Prepack		
B4WK12475D	TJ 14 Bolt Swap Triangulated Upper Prepack		
B4WK12522D	TJ to Sterling Rear Axle Truss Swap Kit Triangulated Uppers Prepack		
B4WK12580	TJ 3 & 4 Link Kit Rear Truss Upper Control Arm Bracket Pair		
*Consult instr	*Consult instructions with truss kit for listing of parts included		

Contents of each box

	Bill Of Materials For B4WK12548/TJ 3 & 4 Link R Bracket Kit				
QTY	Part Number	Etch Number	Description		
1	B4W250627	627 B	TJ 4 Link Right Frame Cap		
1	B4W250633	633 B	TJ 3 Link Right FLACM Gusset		
1	B4W250625	625 B	TJ 4 Link Pass Rear Frame UCAM		
1	B4W250623P	623P	TJ Link Kit R Skid Flange Assembly		
1	B4W250629	629 B	TJ 4 Link Rear Frame LCAM Skid		
1	B4W250631	631 B	TJ 3 Link Front Frame LCAM Skid		
1	B4W250630	630	TJ 3 Link Front Frame LCAM Tab		
1	B4W250628	628	TJ 4 Link Rear Frame LCAM Tab		
5	37C100KBCS	NA	3/8"-16 x 1" Button Head Socket Cap Screw Stainless		
5	37NWUSS	NA	3/8" USS Flat Washer SS		

	Bill Of Materials For B4WK12549/TJ 3 & 4 Link L Bracket Kit				
QTY	Part Number	Etch Number	Description		
1	B4W250626	626 B	TJ 4 Link Left Frame Cap		
1	B4W250818P	818P	TJ Link Kit L Skid Flange Assembly		
1	B4W250624	624 B	TJ 4 Link Driver Rear Frame UCAM		
1	B4W250720	720 B	TJ Suspension Kit FFUCAM Outer		
1	B4W250721	721 B	TJ Suspension Kit FFUCAM Inner		
1	B4W250628	628 B	TJ 4 Link Rear Frame LCAM Tab		
1	B4W250630	630	TJ 3 Link Front Frame LCAM Tab		
1	B4W250631	631 B	TJ 3 Link Front Frame LCAM Skid		
1	B4W250629	629 B	TJ 4 Link Rear Frame LCAM Skid		
5	37C100KBCS	NA	3/8"-16 x 1" Button Head Socket Cap Screw Stainless		
5	37NWUSS	NA	3/8" USS Flat Washer SS		

	Bill Of Materials For B4WK12543/97-02 TJ Transfer Case Skid Kit			
QTY	Part Number	Etch Number	Description	
1	B4W250719W	719W BCW	TJ Suspension Kit Skid 97-02 Weldment	
1	B4W188284	284 B	TJ Skid Plate Transmission Mount REVB	
4	37C75KFCS	NA	3/8-16 x 3/4 Flat Soc Cap Screw 18-8 Stainless	
4	37CNTES	NA	3/8-16 Thin Nylock L/N 18-8 SS	

	Bill Of Materials For B4WK12545/TJ 3 & 4 Link Upper Kit			
QTY	Part Number	Etch Number	Description	
3	DOM17515036	NA	DOM 1.75x1.50x36	
1	B4W188660	660 B	TJ Suspension Kit Front Upper Link Axle Bracket	
1	TJFAUCAB9	NA	TJ front axle UCA Bushing 9/16"	
5	56C325HCS8Y	NA	9/16-12 X 3 1/4" Grade 8 Bolt	
6	56CNNE0Y/GC	NA	9/16-12 NYLOCK	
1	1251215175RHMS	NA	Tube Insert 1.25-12RH 1.5ID 1.75OD	
1	JN125012RH	NA	RH 1-1/4"-12 Jam Nut	
1	XM16-CR	NA	Heat Treated Chromoly 1 1/4-12 X 1 RH Long Shank	
1	HMS169ZP	NA	Hi Mis-Alignment Spacer Pair	
1	56C375HCS8Y	NA	9/16"-12 x 3-3/4" Hex Head Yellow Zinc Bolt	
1	B4W135187W	187 BW	TJ 3&4 Link Kit Flag Nut	
4	HMS129ZP	NA	High Misalignment Spacer Pair	
2	JN87514LH	NA	LH 7/8-14 Jam Nut	
2	JN87514RH	NA	RH 7/8-14 Jam Nut	
2	XM12-14-CR	NA	Heat Treated Chromoly 7/8-14 x 3/4 RH Long Shank	
2	XM12-14-CL	NA	Heat Treated Chromoly 7/8-14 x 3/4 LH Long Shank	
2	8751415175LHMS	NA	Tube Insert 7/8-14LH 1.5ID 1.75 OD	
2	8751415175RHMS	NA	Tube Insert 7/8-14RH 1.5ID 1.75 OD	

	Bill Of Materials For B4WK12544-TJ 3 & 4 Link Lower Kit				
QTY	Part Number	Etch Number	Description		
2	DOM201524	NA	DOM 2"X1.5"X24"		
2	125HWRH	NA	Heavy Wall Tube Insert (1 1/4"-12) For 1 1/2" I.D. Tubing		
2	125HWLH	NA	Heavy Wall Tube Insert (1 1/4"-12) For 1 1/2" I.D. Tubing		
2	JN125012LH	NA	LH 1-1/4"-12 Jam Nut		
2	JN125012RH	NA	RH 1-1/4"-12 Jam Nut		
4	HMS169ZP	NA	Hi Mis-Alignment Spacer Pair		
2	XM16-CR	NA	Heat Treated Chromoly 1 1/4-12 X 1 RH Long Shank		
2	XM16-CL	NA	Heat Treated Chromoly 1 1/4-12 X 1 LH Long Shank		
2	56C400HCS8Y	NA	9/16-12x4 GRADE 8 BOLT		
2	56CNNE0Y/GC	NA	9/16-12 NYLOCK		

	Bill Of Materials For B4WK12542/03-06 TJ & LJ Transfer Case Skid Kit			
QTY	Part Number	Etch Number	Description	
1	B4W250622W	622W BCW	03-06 TJ & LJ 3 & 4 Link Transfer Case Skid Plate Kit	
1	B4W188284	284 B	TJ Skid Plate Transmission Mount REVB	
4	37C75KFCS	NA	3/8-16 x 3/4 Flat Soc Cap Screw 18-8 Stainless	
4	37CNTES	NA	3/8-16 Thin Nylock L/N 18-8 SS	

	Bill Of Materials For B4WK12546/LJ 3 & 4 Link R Bracket Kit				
QTY	Part Number	Etch Number	Description		
1	B4W250627	627 B	TJ 4 Link Right Frame Cap		
1	B4W250633	633 B	TJ 3 Link Right FLACM Gusset		
1	B4W250814	814 B	LJ RR Frame Upper 4 Link Bracket		
1	B4W250623P	623P	TJ Link Kit R Skid Flange Assembly		
1	B4W250629	629 B	TJ 4 Link Rear Frame LCAM Skid		
1	B4W250631	631 B	TJ 3 Link Front Frame LCAM Skid		
1	B4W250630	630	TJ 3 Link Front Frame LCAM Tab		
1	B4W250628	628	TJ 4 Link Rear Frame LCAM Tab		
5	37C100KBCS	NA	3/8"-16 x 1" Button Head Socket Cap Screw Stainless		
5	37NWUSS	NA	3/8" USS Flat Washer SS		

	Bill Of Materials For B4WK12547/LJ 3 & 4 Link L Bracket Kit				
QTY	Part Number	Etch Number	Description		
1	B4W250626	626 B	TJ 4 Link Left Frame Cap		
1	B4W250818P	818P	TJ Link Kit L Skid Flange Assembly		
1	B4W250815	815 B	LJ LR Frame Upper 4 Link Bracket		
1	B4W250720	720 B	TJ Suspension Kit FFUCAM Outer		
1	B4W250721	721 B	TJ Suspension Kit FFUCAM Inner		
1	B4W250628	628 B	TJ 4 Link Rear Frame LCAM Tab		
1	B4W250630	630	TJ 3 Link Front Frame LCAM Tab		
1	B4W250631	631 B	TJ 3 Link Front Frame LCAM Skid		
1	B4W250629	629 B	TJ 4 Link Rear Frame LCAM Skid		
5	37C100KBCS	NA	3/8"-16 x 1" Button Head Socket Cap Screw Stainless		
5	37NWUSS	NA	3/8" USS Flat Washer SS		

	Bill Of Materials For B4WK12551/LJ 3 & 4 Link Lower Kit				
QTY	Part Number	Etch Number	Description		
2	DOM201536	NA	DOM 2"X1.5"X36"		
2	125HWRH	NA	Heavy Wall Tube Insert (1 1/4"-12) For 1 1/2" I.D. Tubing		
2	125HWLH	NA	Heavy Wall Tube Insert (1 1/4"-12) For 1 1/2" I.D. Tubing		
2	JN125012LH	NA	LH 1-1/4"-12 Jam Nut		
2	JN125012RH	NA	RH 1-1/4"-12 Jam Nut		
4	HMS169ZP	NA	Hi Mis-Alignment Spacer Pair		
2	XM16-CR	NA	Heat Treated Chromoly 1 1/4-12 X 1 RH Long Shank		
2	XM16-CL	NA	Heat Treated Chromoly 1 1/4-12 X 1 LH Long Shank		
2	56C400HCS8Y	NA	9/16-12x4 GRADE 8 BOLT		
2	56CNNE0Y/GC	NA	9/16-12 NYLOCK		

Bill Of Materials For B4WK12550/LJ 3 & 4 Link Upper Link Kit					
QTY	Part Number	Etch Number	Description		
1	DOM17515036	NA	DOM 1.75x1.50x36		
1	B4W188660	660 B	TJ Suspension Kit Front Upper Link Axle Bracket		
1	TJFAUCAB9	NA	TJ Front Axle UCA Bushing 9/16"		
5	56C325HCS8Y	NA	9/16-12 X 3 1/4" Grade 8 Bolt		
6	56CNNE0Y/GC	NA	9/16-12 NYLOCK		
1	1251215175RHMS	NA	Tube Insert 1.25-12RH 1.5ID 1.75OD		
1	JN125012RH	NA	RH 1-1/4"-12 Jam Nut		
1	XM16-CR	NA	Heat Treated Chromoly 1 1/4-12 X 1 RH Long Shank		
1	HMS169ZP	NA	Hi Mis-Alignment Spacer Pair		
1	56C375HCS8Y	NA	9/16"-12 x 3-3/4" Hex Head Yellow Zinc Bolt		
1	B4W135187W	187 BW	TJ 3&4 Link Kit Flag Nut		
4	HMS129ZP	NA	High Misalignment Spacer Pair		
2	JN87514LH	NA	LH 7/8-14 Jam Nut		
2	JN87514RH	NA	RH 7/8-14 Jam Nut		
2	XM12-14-CR	NA	Heat Treated Chromoly 7/8-14 x 3/4 RH Long Shank		
2	XM12-14-CL	NA	Heat Treated Chromoly 7/8-14 x 3/4 LH Long Shank		
2	8751415175LHMS	NA	Tube Insert 7/8-14LH 1.5ID 1.75 OD		
2	8751415175RHMS	NA	Tube Insert 7/8-14RH 1.5ID 1.75 OD		
2	DOM171548	NA	DOM 1.75"X1.5"X48		

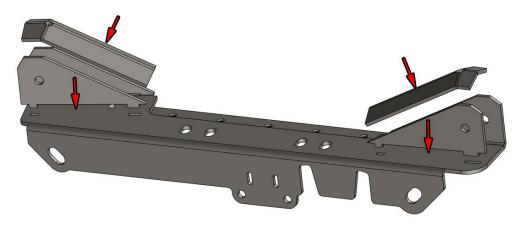
Step1:

Install the skid flange assemblies on the frame caps for both sides of the vehicle. Place the flanges on the top surface of both frame caps with the threaded inserts facing up. Use the 1/4" holes that have been provided to align the flange assemblies to both frame caps. Place welds around the flanges, but only on the top side surface shown in the image below. If welds are placed on the bottom side, they will interfere with the installation of the skid plate.



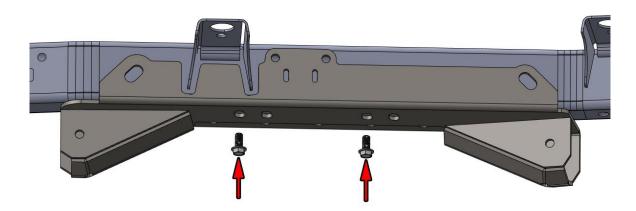
Step 2:

Install the lower control arm bracket tabs and skids on both frame cap assemblies. The tabs are designed to be inserted into slots on each frame cap, the slots are sized so that only the correct tab can be installed in its correct location. We highly recommend installing a spacer, and bolt and nut to "jig" the assembly together while welding. This will make installing the suspension joints in later steps much easier. The skid will then be placed on the bracket, take care to ensure that the correct length skid is placed on the correct bracket. Align the edges and bends of the skid with the profile of the bracket and weld in place.



Step 3:

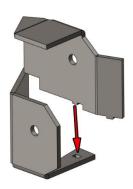
Support the transmission and transfer case under the Jeep with a jack and jack stand and remove the existing transfer case skid from the Jeep. Place the frame cap assemblies on the frame rail under each side of the Jeep and bolt in place with 4 of the bolts that were removed from the transmission skid. Each frame cap will have 4 slots but only 2 slots will be used, the center body mount will locate the frame cap and the bolts will be able to be placed in the matching slots and threaded into the frame. Ensure the frame cap is up against the outside of the frame rail and tighten the bolts to hold the frame cap in place.



Step 4:

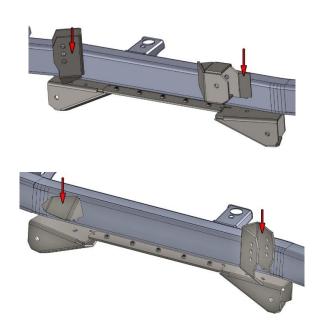
The front frame upper control arm bracket now needs the be assembled and welded.

Assemble the two halves of the brackets using the slot and tab provided on each part and weld together. We highly recommend installing a spacer, and bolt and nut to "jig" the assembly together while welding.



Step 5:

The upper control arm mounting brackets and the inner frame gusset now need to be tack welded into place. Starting on the right side of the Jeep place the rear upper control arm bracket in the slot on the back of the frame cap assembly and the inner frame gusset in the slot on the front of the frame cap. Ensure that the bracket and the gusset contact the inside of the frame rail and tack weld the bracket and gusset to the frame cap assembly but not to the frame. Repeat this procedure for the left side of the Jeep with the front upper control arm bracket that was assembled in step 4, and the rear upper control arm mount.



Step 6:

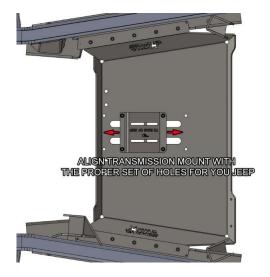
Mark all locations where the frame cap assembly contacts the frame rail with a felt tipped marker or grease pen. Remove the frame cap assemblies from both frame rails by removing the 4 bolts installed in step 3. Completely weld the upper control arm brackets and the frame gusset to the frame cap assembly.

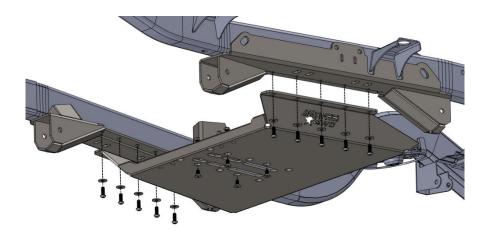
Step 7:

Using the marks added in the last step as a guide grind the paint off from the frame to prepare the frame for welding. Bolt both frame rail cap assemblies back on the frame rails and weld them in place. It is not necessary or recommended to weld 100% around the frame cap assembly. We recommend staggered welds of 2"-3" long with a space between them equal to that. The frame gusset and upper control arm mounts should be welded at all points of contact with the frame where possible.

Step 8:

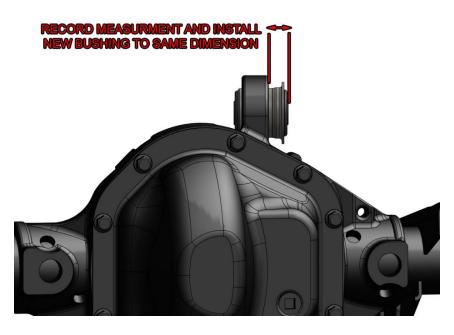
The skid plate is now ready to be installed. Place the transmission mounting bracket on top of the skid and lift the skid plate into place and install 4 of the included 3/8" x 1" button head screws with washers into the frame cap flanges to hold the skid in place. Align the slots in the transmission mounting bracket with the studs on the transmission mount in the Jeep to determine which holes will need to be used in the skid plate to install the transmission mounting bracket. Remove the 4 bolts holding the skid plate on the jeep and lower the skid plate back down. Install the 4 provided 3/8" x 3/4" countersunk bolts in the holes in the bottom of the skid that align with the holes in the transmission mounting bracket. Install the 4 provided 3/8" thin nylock nuts on the 3/8" bolts and tighten to hold the transmission mounting bracket in place. Lift the skid plate back into place and install all 10 of the provided 3/8" x 1" button head bolts and washers. Lower the transmission and transfer case assembly onto the skid and install the 4 nuts on the studs of the transmission mount.





Step 9:

The provided front axle right side control arm bushing now needs to be installed in the front axle. Remove the front left upper control arm from the Jeep. Take a measurement from the side of the casting to the end of the bushing and record this measurement. The old bushing now needs to be removed this can be accomplished with multiple methods however, using a pneumatic air hammer to drive the old bushing out is the most effective method. The new bushing will now need to be installed to the same dimension as recorded above. A ball joint press or other appropriate tool can be used to press the new bushing in.



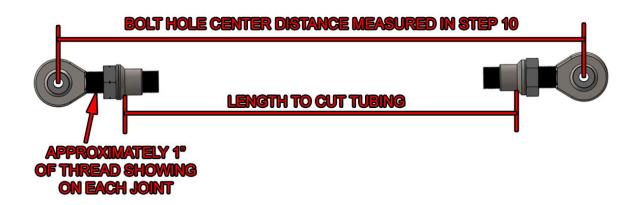
Step 10:

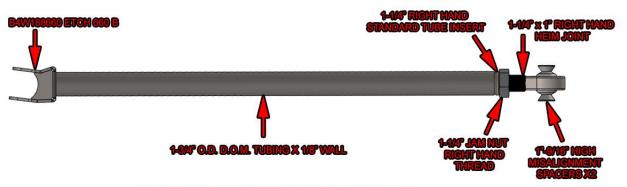
With the Jeep sitting at ride height measure the bolt hole center distances from each bracket on the subframe to the accompanying bracket on the axle and record these measurements in the table below. The measurements taken here will be used to build the new control arms.

Right Front Lower	
Left Front Lower	
Right Front Upper	
Right Rear Lower	
Left Rear Lower	
Right Rear Upper	
Left Rear Upper	

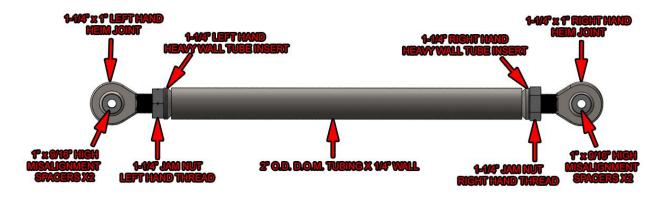
Step 11:

The control arms now need to be assembled. The provided tubing will need to be cut to length and the threaded inserts welded into each tube. If you are installing this kit on an LJ the longer lengths of tubing will need to be used to build the rear upper and lower axle links. The upper, the front lower, and the rear lower link components will be packaged in individual boxes. Referencing the images below for component placement, assemble each heim joint, tube insert and jam nut with 1" of thread showing between the end of the jam nut and the end of the threads on the heim. This will allow for some adjustment after installation if needed. Place the assembled components on a table or other flat surface and arrange them based on the bolt hole center measurements taken in step 10. Measure the distances between the tube inserts and cut the tubing to this length. Remove the heim joints from the threaded inserts, install the inserts in the tubing, and weld in place for each link.

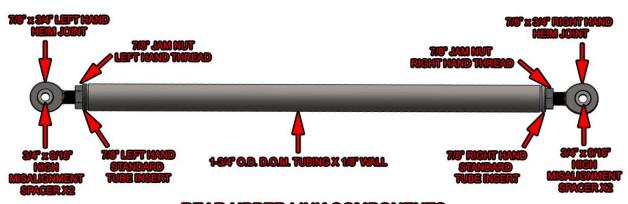




FRONT UPPER LINK COMPONENTS



LOWER LINK COMPONENTS FRONT OR REAR



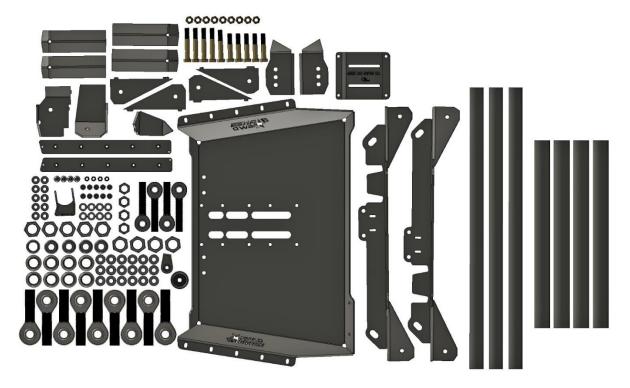
REAR UPPER LINK COMPONENTS

Step 12:

The frame front left upper control arm mount and all the frame lower control arm mounting brackets will need to be cut off from the frame. This can be done all at the same time or one at a time. If only removing one link and frame bracket at a time, the new link can be then installed in its place. This is a useful method if installing this kit without the use of a vehicle lift.

Hardware has been provided for all the frame brackets and the uppers at the axle, the factory bolts for the lowers at the axle will be reused. The remaining upper control arm brackets on the frame and axle can be removed if desired or left in place. Refer to the chart below for the provided hardware locations. Tighten all 9/16" hardware to 110 Ft-lbs.

Hardware Location	Qty	Hardware description
Front upper at the axle		9/16" x 3-1/4" bolt with nylock
Front upper at the frame	1	9/16" x 3-3/4" bolt with flag nut
Front and rear lowers at the frame	4	9/16" x 4" with nylock
Rear uppers at the frame	2	9/16" x 3-1/4" with nylock
Rear uppers at the axle	2	9/16" x 3-1/4" with nylock



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