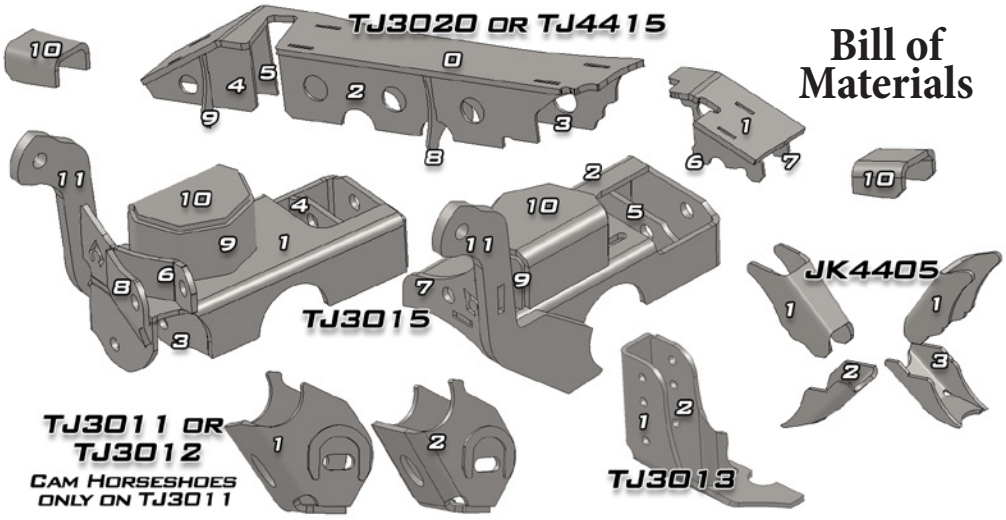
Artec Industries JK2TJ Front Axle Swap Instructions

TYPICAL INSTALL TIME: 5-7 hours

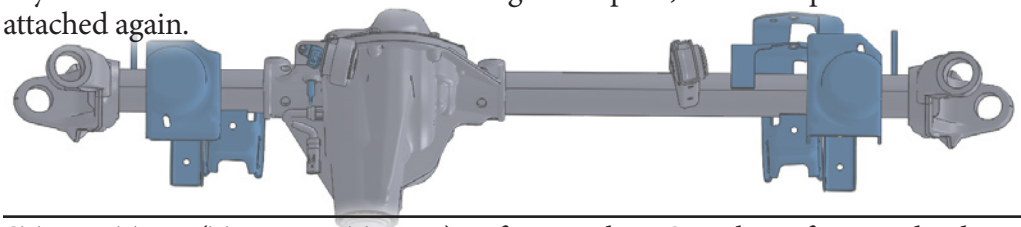
Thank you for your purchase of our swap kit specifically designed to easily install the Jeep JK front axle in the TJ/LJ Jeep Wrangler, XJ Cherokee, ZJ Grand Cherokee, and MJ Comanche. This swap kit allows you to use factory style suspension and also adds strength and rigidity to your axle as well. If you have any questions that are not answered in these instructions, please feel free to contact us directly at sales@artecindustries.com.

Bill of Materials



STEP 1. Unpack contents of shipment. Make sure that all of the parts required are included with your kit. If any items are missing, and packaging is damaged, KEEP ORIGINAL PACKAGING and contact us. This swap kit is a collection of brackets that we offer for both the JK and the TJ. Not every piece will be needed and some slight modifications may be needed depending on your application.

STEP 2. Remove the following OEM bracketry from axle: coil, tracbar, shock, sway bar, and LCA. DO NOT REMOVE the UCA brackets as they will be used for the swap. Take care not to grind into the axle tube. Remove factory breather hose and any electronic connections. Once welding is complete, these components will be attached again.



STEP 3. Inner C (JK4405) Place gussets on inner c's to see where they touch. Remove gussets. Strip all paint from the inner c and axle tube where the gussets touch. Removal of the ball joints is recommended but not necessary if care is taken during welding. Fully weld all areas where gusset makes contact with axle using the welding instructions on the next page.

STEP 4. Truss (TJ3020 or TJ4415) Reference the BOM above for visual aide. Slide piece 8 into jigging slots of pieces 2 and 3. All jigging slots are of varying depth and can only be installed one way. If the tops of 2 and 3 aren't level when jigged, try reversing piece 8. Follow same procedure with pieces 9, 4, and 5. Place assembly 823 on axle tube between the casting and passenger side upper control arm mount. Place assembly 945 on the other side of the passenger side upper control arm mount. For driver side, place piece 7 on the backside of the axle up against the casting. Place piece 1 on top of piece 7 and line up jig holes. Holding 1 and 7 in place with one hand, slide piece 6 up from underneath on the front of the axle and jig into 1. Arrange until the assembly holds together. Pieces 10 will mount at the ends of JK4405-1.

STEP 5. Using a marker or paint pen, indicate the areas on the axle where the truss touches the axle to prepare for welding. Remove truss pieces from axle. Using an angle grinder with either a flapper disc or wire wheel brush, clean the surface of the axle tube, casting, and upper control arm mount until bare steel is exposed.

PLEASE READ NEXT PAGE FOR WELDING INSTRUCTIONS

NOTE: THIS KIT INVOLVES EXTENSIVE WELDING AND GENERAL FABRICATION SKILLS. ONLY COMPETENT WELDERS SHOULD ATTEMPT TO INSTALL THIS KIT.*

GENERAL WELDING INSTRUCTIONS

Place about 1" long stitch welds between the axle tube and the truss pieces taking care to not let axle tube heat up too much in one area. For best results, weld one stitch and then weld a completely different part of the axle. This will prevent one area from heating too greatly. Take your time. If welded too hot, the axle may warp upon cooling. To weld truss to cast section with best results, preheat casting evenly around where truss contacts to approximately 400 degrees. DO NOT HEAT UNTIL GLOWING RED AS THIS MAY DAMAGE THE CASTING. Once preheated, weld truss to casting before it cools. For best results, use a needle scaler or peening hammer to stress relieve the weld immediately after welding. Post heat the area to approximately the same temp you used to preheat. Wrap axle in a welding blanket to slow the cooling process, the cooling should be slow (18-24hrs.) and uniform. This method relieves the stresses in the materials, and ensures that the plate steel does not cool quicker than the cast. MIG works fine since most of the loads are not transferred to the casting itself but rather to the structure of the truss, but high nickel content rod is a more proven method. Using a True bar can assist with keeping the axle straight though it is not completely necessary.

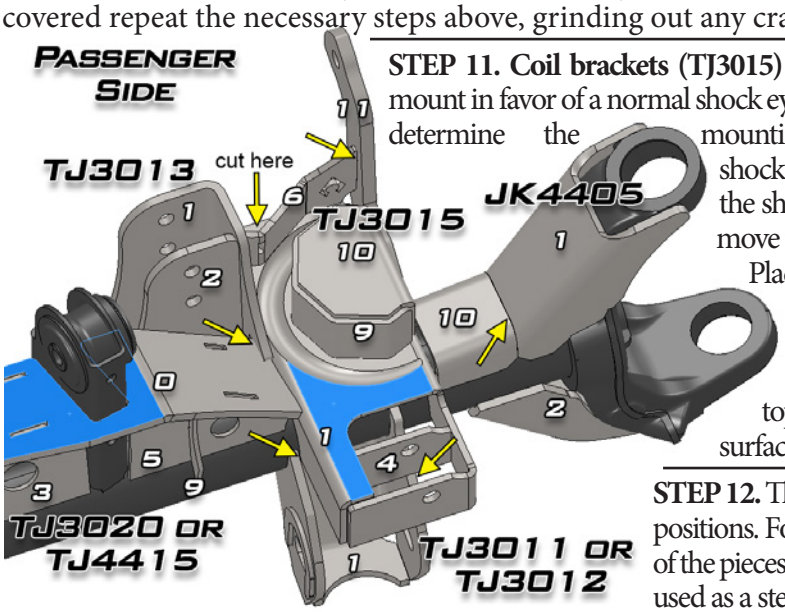
STEP 6. Place assemblies 823, 945, and 167 on axle again. With assemblies on axle, place piece 0 on truss by sliding large slot underneath upper control arm bushing. Jig 0 into place with rest of pieces and ensure truss pieces are straight.

STEP 7. Place large tack welds between the axle and the ends of pieces 2, 3, 4, 5, 6, and 7 to secure these pieces in place. DO NOT WELD THE TRUSS TOPS IN THIS STEP, TOP PIECES (0 AND 1) ARE USED ONLY TO ENSURE PROPER LOCATION OF PIECES 2, 3, 4, 5, 6, 7.

STEP 8. With bottom pieces secured, remove pieces 0 and 1 from assembly to weld inside the truss. Weld piece 8 to pieces 2 and 3 inside the truss for maximum strength. Repeat procedure for assembly 945.

STEP 9. Before welds cool too much, replace pieces 0 and 1 back on assembly and tack weld them to assembly. Once all welds have sufficiently cooled, proceed to weld exterior of truss including to the cast steel using the GENERAL WELDING INSTRUCTIONS above. Remember to take your time and spread out your welds so one area does not heat up too much. It is not necessary for every seam to be completely welded. Let cool slowly.

STEP 10. When completely cooled, check for any cracks in weld especially around the casting. If cracks are discovered repeat the necessary steps above, grinding out any cracked welds and prepping the area.



STEP 11. Coil brackets (TJ3015) This bracket eliminates the bar pin style of lower shock mount in favor of a normal shock eye using a bolt. While coil bucket is off axle, take piece 4 and determine the mounting width of your bottom shock eyelet. Modifications to the shock bushing may be necessary depending on your brand. Bolt the shock to pieces 1 and 4 and tack weld piece 4 to piece 1. Remove the shock and weld piece 4 fully. Place pieces 9 and 10 on 1. Place your coil spring on piece 1 in the stamped coil relief and use the spring to center pieces 9 and 10. Remove the spring and tack weld all pieces together. Place TJ3015-1 and 2 (coil bucket bases) on the axle at the ends of the truss. Rotate the top to 9.5 degrees back from the truss top (see highlighted surfaces). Tack weld into place on axle.

STEP 12. The rest of the pieces all jig into specific locations in the correct positions. Follow the diagrams to locate the jig and slot that locates each of the pieces. The end of TJ3015-6 will need to be trimmed off and either used as a steering stabilizer shock tab or discarded. Pieces TJ3015-6 and 11 jig together using the tabs and slots. Bolt up your tracbar to TJ3013-1 and 2 to set width and tack weld together and then to the assembly using the slots to align. TJ3011-1 (or TJ3012-1) orient on the axle nearly completely under TJ3015 with the inside edge of the inner flange of the LCA bracket 1/16" away from the outside edge of the inner flange and rotated up to about 1/16" from contacting the shock tab above. TJ3020-10 (or TJ4415-10) locates between JK4405-1 and TJ-3015 and may need trimming. TJ3015-3 and 8 are not used and may be discarded or repurposed. Repeat these steps for driver side. Remember parts are mirrored opposites. Once tack welded in place, check all alignments and angles and proceed to fully weld pieces to axle using the welding instructions above.

FOR BEST RESULTS, MOCK-UP AXLE IN VEHICLE PRIOR TO FULLY WELDING.

STEP 13. Once axle is completely cooled and ready, paint axle where bare steel is exposed to prevent rusting. After paint is dry, reinstall axle breather hose, electric locker wire, and any other components. Install axle to factory specs.

***Artec Industries, LLC is not responsible or liable for improper installation of this kit. Use common sense when installing.**

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