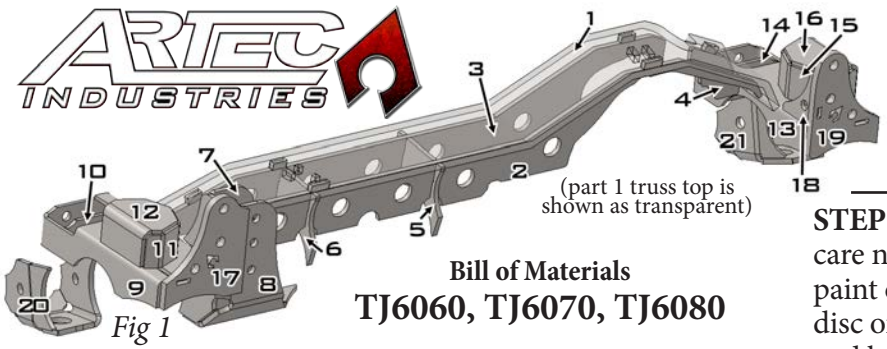
ARTEC INDUSTRIES TJ 1 TON - FRONT DANA 60 SWAP KIT INSTALL INSTRUCTIONS

TYPICAL INSTALL TIME: 6-8 hours

(part appearance will vary between models)

Thank you for your purchase of our swap kit specifically designed to easily install the Ford Dana 60 front axle in the TJ/LJ Jeep Wrangler, XJ Cherokee, ZJ Grand Cherokee, and MJ Comanche. Some of the factory mounting positions have changed due to the size and offset of the differential. For details on these changes, visit the product page on our website. If you have any questions that are not answered in these instructions, please feel free to contact us directly at sales@artecindustries.com and we will be more than happy to help you.



(part 1 truss top is shown as transparent)

Fig 1

Bill of Materials

TJ6060, TJ6070, TJ6080

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.

STEP 2. Remove OEM bracketry from axle. Take care not to grind into the axle tube. Remove rust or paint on top of casting and axle tubes using a flap disc or wire wheel. Remove factory breather hose and barbed fitting from casting. Once welding is complete, reuse OEM barbed fitting at end.

IMPORTANT NOTE PRIOR TO INSTALLATION: The truss dictates the position of all the brackets so only in rare cases will you modify the brackets to change their orientation. The truss and brackets are set to install on the Dana 60 using the factory caster and pinion angle for the vehicle it came from. The pinion is 2.7" higher than the factory TJ low pinion axle so you shouldn't need as high of a pinion angle as you may think. We recommend starting mockup by dropping the truss and brackets exactly as they fit on the axle which is very specific due to the contoured cutouts of the under side of the truss. Small changes can be made from there depending on your needs. MOCKUP OF ALL PARTS IS RECOMMENDED PRIOR TO FINAL WELDING INCLUDING PARTIAL MOCKUP ON VEHICLE.

STEP 3. Slide pieces 5 and 6 into jigging slots of pieces 2 and 3. All jigging slots are of varying depth and can only be installed one way. Place assembly 2356 on the axle. Place piece 1 (truss top) on assembly 2356 and align all the jigs in the slots. Insert piece 4 into the truss slots on the driver side (*see Fig 3*). The truss will contour the differential very tightly. If it doesn't, check that all jigs are completely set, appropriate casting has been cut off and the whole assembly is rotated properly. Clamp the truss to the axle tube for tight fit.

STEP 4. Tack weld pieces 2, 3, 4, 5 and 6 to the axle. LIGHTLY TACK WELD PIECE 1 (TRUSS TOP) TO PIECES 2 & 3. PIECE 1 WILL BE REMOVED LATER FOR FINAL WELDING. DO NOT FINAL WELD ANYTHING UNTIL ALL PIECES ARE COMPLETELY MOCKED UP.

WELDING DETAILS ON NEXT PAGE

STEP 2A. Superduty axle swaps (TJ6070/TJ6080) require significant trimming of the factory casting in order to mount all the required components on the driver side axle tube. You can use a torch, plasma cutter, or grinder with cutoff wheel to trim the casting but a reciprocating saw with a carbide blade or portable bandsaw have seemed to work best. Consult the graphics below for information on what is to be trimmed taking care not to cut into the axle tube itself. Repeated mockup may be necessary. Remove factory Superduty coil buckets (2005+) and trim inner c's to clearance for TJ springs. All models may require extra casting trimming around the driver side LCA bracket (21). Weld the driver side axle tube to the newly cut back casting.

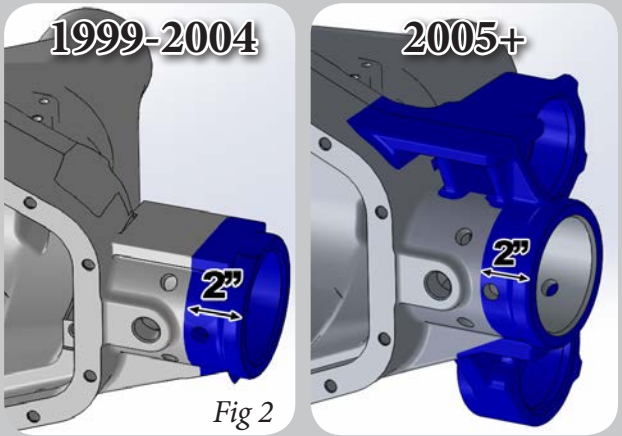


Fig 2

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 5. Place pieces 9 and 13 (coil bucket bases) on the axle at the ends of the truss. Piece 9 will have a slot which lines up with a tab on piece 3 to orient it in the factory rotation (*see Fig 4*). This tab can be cut off if you need to adjust the angle of the coil bucket however BE WARNED that this changes the relationship between the coil bucket and the UCA, LCA, tracbar, and swaybar brackets and additional modifications may be necessary. It also means you are changing the caster that the axle was intended to have for best performance from the factory. If you need to make modifications, it is better to modify the truss underside so the entire assembly rotates rather than just one of the brackets. Piece 13 will sit partially on the casting over the axle tube. Additional trimming of the casting may be neccessary once to allow the piece to sit correctly on the axle and line up with the truss. Match the angle of piece 13 with that of the jigged piece 9 using an angle finder. Tack weld each piece into place

STEP 6. 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. Pieces 11/12 and 15/16 do not jig but sit on top of the coil bucket. Place a coil spring on the coil bucket to center these pieces and then remove the spring and tack weld them in. Pieces 10 and 14 eliminate the bar pin style shock mount with a normal bolt. Once you remove the bar pin from your shocks, determine the mounting width and set these tabs to the proper width and tack weld on. Pieces 7, 8, 17, 18 and 19 all jig together using the tabs and slots. Pieces 20 and 21 orient on the axle almost as far out as they can go and rotated up to about 1/16" from contacting the shock tabs above. Extra grinding on the driver side casting may be necessary to fit piece 21.

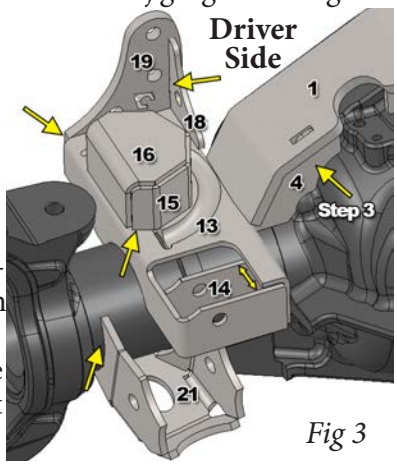


Fig 3

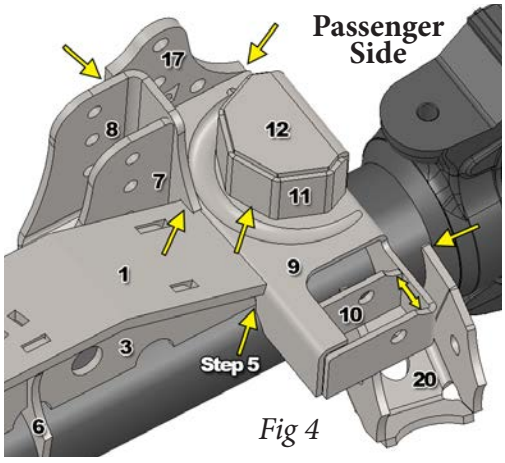


Fig 4

STEP 7. Installation of the UCA brackets will vary depending on the style you choose. For Bushings and Johnny Joints, the parts labeled TJ6001 will jig into the predetermined slots on part 1 (truss top). Follow the diagram for placement. Center the tube sleeves between the two tabs for welding. For the 3-link bracket, place on top of part 1 (truss top) centering the bracket on the slots cut out for the TJ6001. Mock up with your existing upper link prior to final welding.

Fig 5

STEP 8. Once mockup is completed and results are satisfactory, grind off the tack weld on piece 1 (truss top) and remove. Weld the inside of the truss gussets using the techniques in ***GENERAL WELDING INSTRUCTIONS*** above. Replace piece 1 on the truss and begin final welding of all pieces. Remember to take your time and spread out your welds. It is not necessary for every seam to be completely welded. Let cool slowly as described above.

STEP 9. When completely cooled, check for cracks in the weld around the casting. If cracks are discovered repeat the necessary steps above, grinding out any cracked welds and prepping the area prior to rewelding.

STEP 10. Once axle is welded and cooled, paint truss and axle where bare steel is exposed to prevent rusting. After paint is dry, reinstall axle breather hose, and all other components. Install axle according to factory specs. Choose the best hole on the tracbar bracket that enables the tracbar and the draglink to be parallel.

*Artec Industries, LLC is not responsible or liable for improper installation of this kit. Use common sense when installing. This swap pairs axles with a vehicle that were not intended from either OEM manufacturers. Use at your own risk.

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