

IRON ROCK OFF ROAD

TJ Ford 8.8 Axle Swap Bracket Kit

Installation Instructions

1-877-919-JEEP www.ironrockoffroad.com

Shipping Checklist:

Box 1 (12x12x6)

- LCA mount left 85006 (1)
- LCA mount right 85005 (1)
- UCA mount left 85001 (1)
- UCA mount right 85000 (1)
- Track bar mount inner 99057 (1)
- Track bar mount outer 85023 (1)
- With Standard Coil Spring Pad**
 - OEM coil spring pad 85025 (2)
 - Spring pad gusset 85026 (6)
- Optional: With Offset coil Spring Pad**
 - Offset coil spring pad 85028 (2)
 - Offset coil spring pad gusset 85030 (4)
 - Middle coil spring retainer 85029 (2)
 - 7/16 x 1 3/4 hex bolt (2)
- Lower coil spring retainer 85022 (2)
- Middle coil spring retainer 85029 (2)
- Upper coil spring retainer (clipped edges) 85021 (2)
- Shock mount 99060 (2)
- Shock mount gusset plate 85032 (2)
- Sway bar mount 85024 (2)

#52 – TJ 8.8 Swap Hardware (1)

- 7/16 x 1 hex bolt, gr8 (2)
- M10 X 30 hex bolt, c110.9 (4)
- M12 x 60 hex bolt, c110.9 (2)
- M12 x 80 hex bolt, c110.9 (1)
- 7/16 hex nut, gr8 (2)
- M10 hex nut, c110.9 (4)
- M12 nylock nut, c110.9 (3)
- 7/16 USS washer (6)
- 3/8 USS washer (4)
- 1/8" forged cable clamp (4)

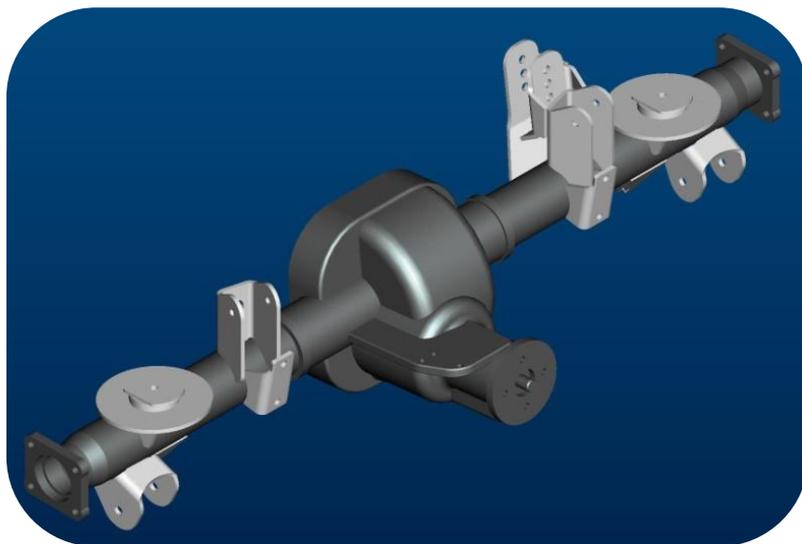
Installation Instructions:

Before you begin:

1. This kit requires welding and advanced fabrication skills. If this project is beyond your capabilities, check with a 4wd shop, welding shop, or other fabrication shop for assistance.
2. Read and understand all installation instructions.
3. If you have any questions before, during, or after installation contact Iron Rock Off Road (see contact information above).
4. Ensure that **all parts are present** and in good condition per shipping checklist above.
5. Tools required: Oxy/Acetylene torch, welder capable of welding 1/4" plate, angle grinder, wire wheel on an angle grinder or drill, good quality angle finder (slope gauge), dial indicator with magnetic base, sharpie marker (silver works well), tape measure, basic hand tools

Find and inspect donor axle:

6. Recommended axle to use: Ford 8.8 rear axle assembly from 1995 -01 Ford Explorer with disc brakes. Older axles will work but will not have disc brakes, very old or car axles may have undesirable smaller axle shafts. Many Ford 8.8s have limited slip differentials. Be sure to get the correct gear ratio. Avoid excessive rust, excessive oil leaks, and rolled over donor vehicles. Be sure to get brake calipers, brake lines, companion flange and bolts for pinion yoke. www.car-part.com is a great place to look for a donor axle assembly.
7. Check housing and tubes for straightness: Using an angle finder, with the pinion horizontal, check the slope along the entire length of each tube. Any variance of 1/2 degree or more must be straightened or the housing replaced. Be sure to remove any rust or dirt from under the angle finder. Perform the same check with the pinion vertical.
8. Check for mechanical issues: Remove differential cover and inspect all internal components for rust, metal shavings, excessive play, wear pattern, etc....



- Check for bent axle shafts: Using a dial indicator, check wheel mounting surface of each axle shaft for runout. Runout must be less than .008". Do not skip this step, if you do not have a dial indicator, an unwarped brake rotor bolted tightly to the wheel mounting surface can be used. Spin the axle shaft and look very closely, if you see any runout replace the axle shaft and check it again. A slightly bent axle shaft can cause a difficult to diagnose driveline vibration.

Jeep measurements:

- Do you want to change the angle of your coil spring pad?
- Do you want to move your lower control arm mounts up (requires optional adjustable control arms)?
- Do your shocks have enough up travel to move the shock mount up 1/2"?

Prepare the axle assembly:

- Cut off any brackets attached to the axle tubes. A plasma cutter, oxy/acetylene torch, or angle grinder with a cut off wheel can be used. Be careful not to cut into the axle tubes.
- Using an angle grinder, remove any remaining bracketry. Be careful not to grind away any axle tube material.

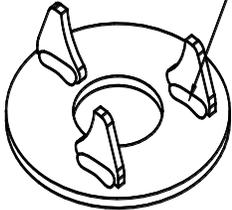
Weld tubes to housing:

- The tubes should be welded to the housing for added strength. Be sure your welding material is suitable for welding to cast iron.
- Thoroughly clean the surfaces where the axle tubes meet the differential housing. Failure to remove all contaminants will result in weld porosity.
- Preheat the differential housing where it meets one axle tube to 425 degrees. Heat the entire area slowly and uniformly. Weld the tube to the axle housing. Weld a 1.5" bead, then move to the opposite side of the same tube and repeat. Continue until weld is complete. Repeat for other axle tube. Allow the assembly to cool as slowly as possible.
- Remove all rust and debris from entire axle assembly as desired. All surfaces to be welded must be free of rust or contaminants.
- Repeat step 7 to verify the axle has not warped.

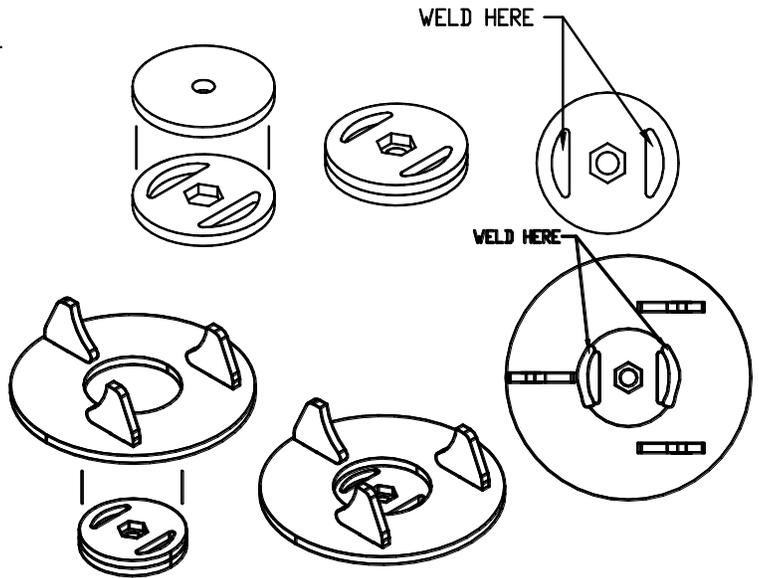
Build spring pads:

- Assemble and weld coil spring retainer middle plates as shown.
- Assemble and weld gussets.

WELD ONE SIDE OF EACH GUSSET

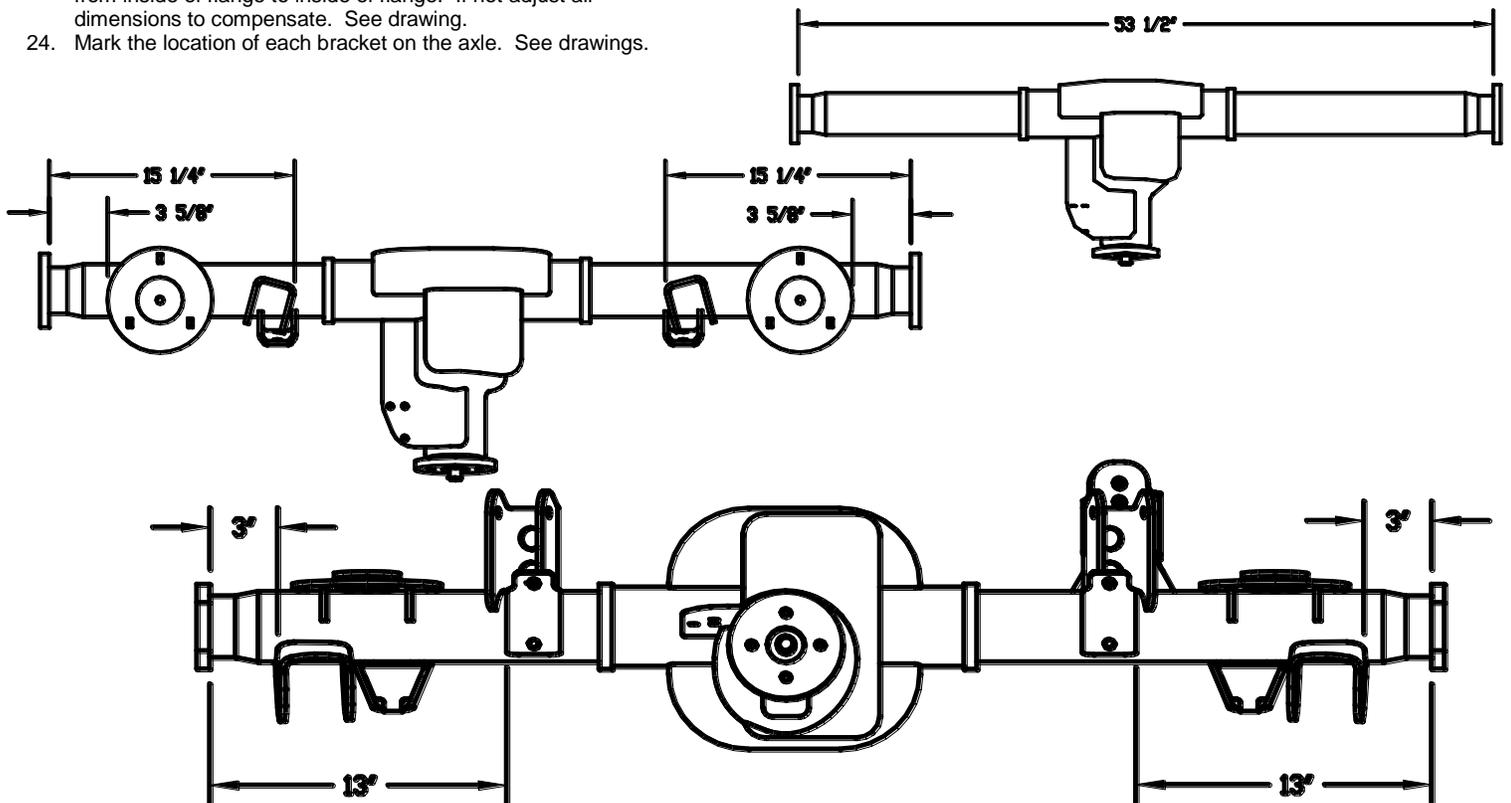


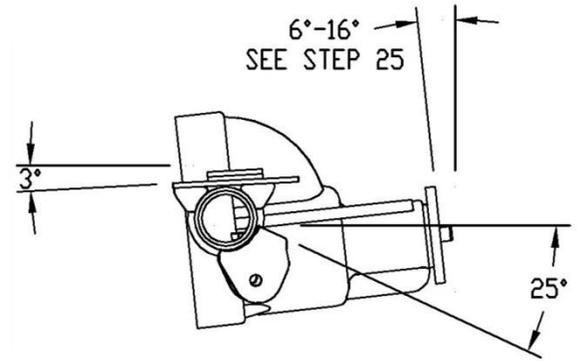
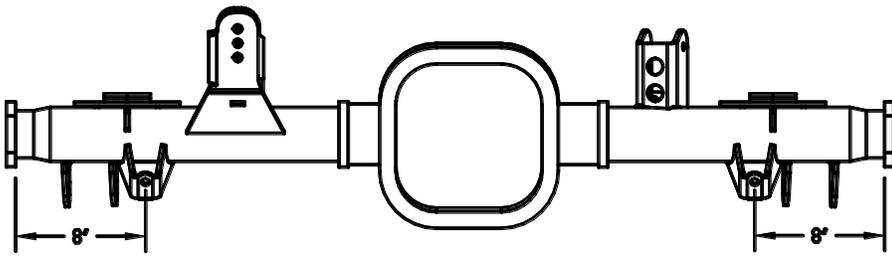
- Assemble and weld coil spring retainer middle plates to lower plate as shown.



Measure:

- Verify width measurement on your axle. It should be 53 1/2" from inside of flange to inside of flange. If not adjust all dimensions to compensate. See drawing.
- Mark the location of each bracket on the axle. See drawings.

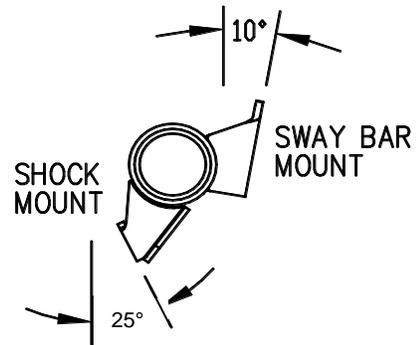




25. Support the axle assembly on jack stands. Set the pinion angle to exactly 6 degrees up. If you are using a slip-yoke eliminator, now is the time to adjust your pinion angle up higher to compensate. (We have found that 16° works well for this).

Install brackets:

26. Tack weld lower control arm mounts to the axle with the top surface at a 25 degree down angle. Note left and right bracket. If you wish to move your lower control mounts up, making the top surface level will move the bolt hole up 1" and forward 1 1/4". See drawing.
*****Tip: When tack welding, ensure your tack welds are strong enough for a test fit, but easy to cut apart if necessary.
27. Tack weld upper control arm mounts to axle with rear surface exactly vertical.
28. Tack weld spring pads to axle with front side up at a 3 degree angle. 3 degree angle is OEM, adjust if desired. Spring pad angle will be verified and perfected if needed during test fit.
29. Fully weld the front 1" of differential side of each upper control arm mount to allow mounting of sway bar mounts.
30. Install sway bar mounts with the front surface forward at a 10 degree angle. See drawing.
31. Tack weld shock mounts in place with the rear surface at a 25 degree angle. See Drawing. Tack weld shock mount gusset plates to the bottom of the shock mounts.
32. Tack weld track bar mounts to the axle tube and upper control arm mount. See Drawing.



Test fit:

33. Test fit axle assembly into vehicle: Loosely install lower and upper control arms.
34. Install the springs (see spring retainer diagram to the left) and put the weight of the vehicle onto the axle assembly. Note: the front of the vehicle must also be resting on the tires or jack stands under the axle so no weight is transferred onto or off of the rear axle.
35. Verify that weight applied to the rear suspension exactly matches typical driving conditions.
36. Verify pinion angle is perfect.
37. Verify spring pad angle is perfect. The spring pads are reversible if desired and spring pads are available with additional offset if you wish to move your spring pad further forward or back.
38. Verify shock mounting locations are perfect.
39. Verify track bar mount location is perfect.
40. Make adjustments as needed.



Finish weld:

41. Remove axle assembly from the vehicle.
42. Fully weld each bracket to the axle tubes.
***Tip: If desired, the spring pads need not be fully welded to the axle tubes. About 1" of weld on each gusset is sufficient. This allows you to easily change the spring pad angle if needed for suspension upgrades or installation of a transfer case slip yoke eliminator.
***Tip: to avoid warpage, avoid excessive heat buildup. Weld in short time increments in one area then move to another part of the axle. Allow time to cool between welds in the same spot.
43. Repeat step 7 to verify the axle has not warped.
44. Prep and paint, run brake lines, and install into Jeep
45. Connect E-Brake cables. Wrap loose end of e-brake cable around the e-brake lever and install two u-bolt clamps per side. Saddle of clamp MUST be on the live end of the cable. Remember, "Never saddle a dead horse". This may require adjusting cables to allow enough cable to wrap around e-brake levers.