

Instructions Manual

Auxiliary Transmission Oil Cooler Install Instructions for the
2003-2006 4.0 TJ / LJ Wrangler
SKU: 310-900-8272



Parts List:

- 1 - 19 Row Black Oil Cooler with Vehicle Specific Support Brackets Part #'s **310-23 / 310-26-D1 / 310-26-D2**)
- 2 - Black -6an Flare to -10an ORB Male O-Ring Fitting Adapter (Part # **003-66**)
- 2 - 18in Hose Assembly w/ 45° -6AN and ATS Billet 3/8in Barb Fitting (Part #)
- 2 - 1/4in x 20 x 3/4in Stainless Steel Flanged Head Bolt (Part # **001-244**)
- 2 - 1/4in - 20 Well Nut (Part # **001-243**)
- 2 - 1/4in Metal Bonded Sealing Washer (Part # **001-246**)
- 2 - 8in Fir Tree Cable Zip Tie (Part # **000-62**)
- 1 - 1 1/4in Zinc Plated P-Clamp (Part # **000-63**)
- 2 - 5/8 - 18 x 5/8 Hex Socket Headless Set Screw (Part # **001-247**)
- 1 - M6 x 1 x 16 Flanged Zinc Bolt (Part # **001-239**)
- 1 - M6 Flanged Lock Nut (Part # **001-236**)

Tools Required:

- 10mm / 13mm / 16mm - 1/4in or 3/8 ratchet - 3/8 swivel head socket
- 5/16 Allen Wrench or Hex Bit Socket
- Small Pick
- 1qt of ATF+4 Transmission Fluid
- Small Funnel
- Drain bucket or pan
- Shop towels
- Brake clean

BEGIN INSTRUCTIONS -

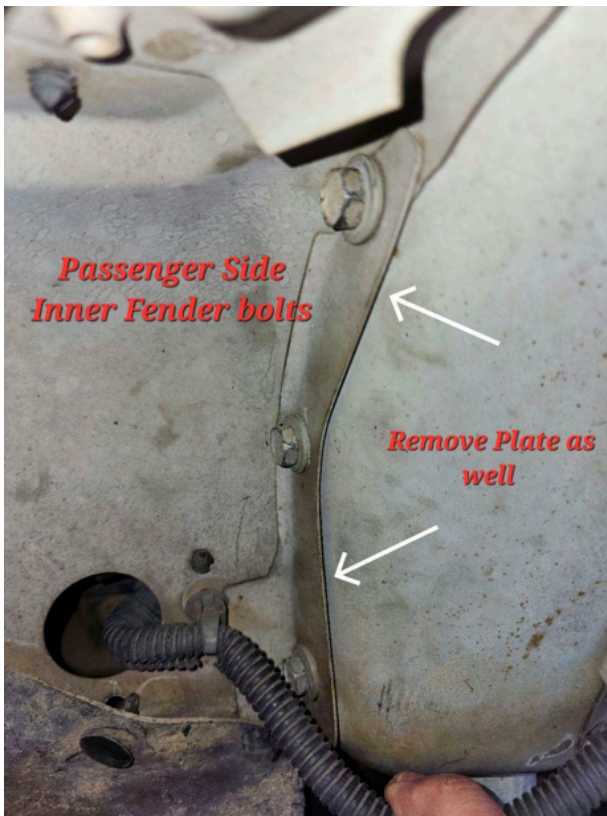
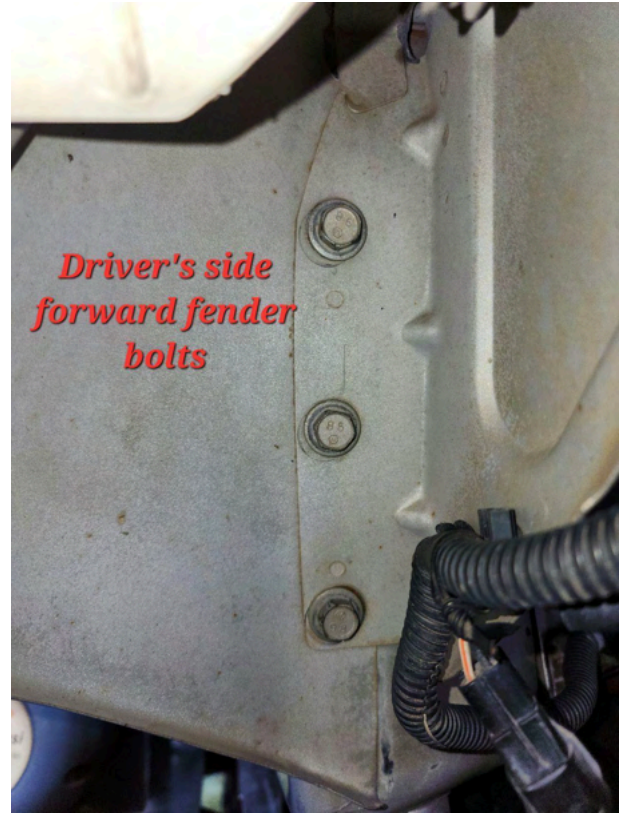
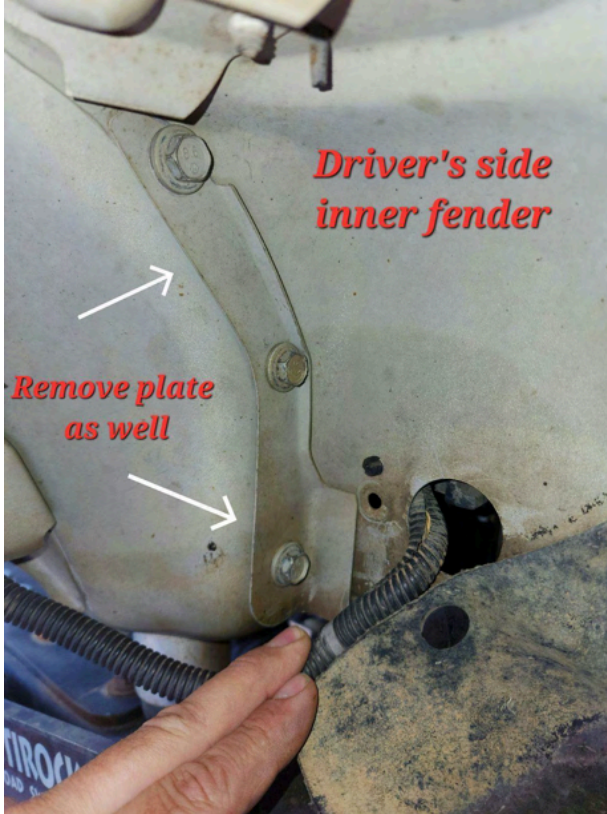
Step 1) Start by opening your hood and laying it fully back against the windshield so it is fully out of the way.

Step 2) Disconnect the negative battery terminal on the battery.

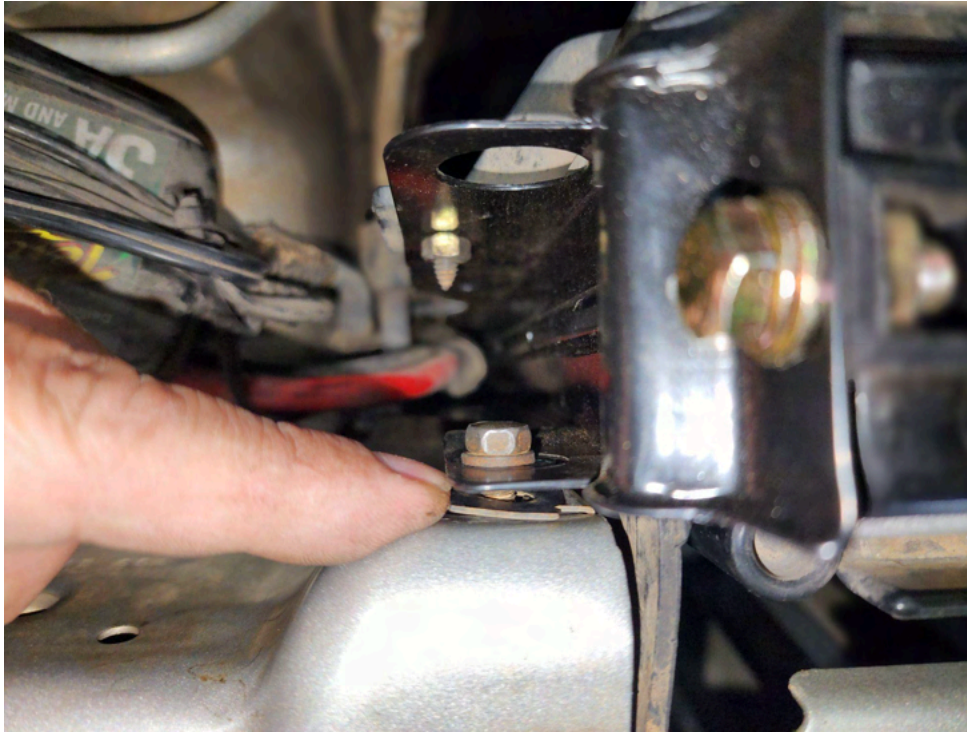
Step 3) We will start by using a 10mm remove the 2 bolts for the A/C Condenser, there is a well nut that secures the bolt through the grill, you will need a pair of pliers to grab that rubber bushing to hold it so you can back out the bolt. Next, using a 13mm socket, remove the 2 bolts securing the radiator support bars (seen at the top and bottom of the image that are circled). If the 2 bolts that secure the radiator to the grill (as circled below) come out without any issue, you will reuse these. If they are rusted and strip when removing, you will follow step 17 below.



Step 4) Once these are out of the grille, we will be using the 13mm socket to remove the bolts that secure the grill to the fender wells(. Ref the 4 pics below)



Step 5) Once these are all removed, we will now remove the 2 upper bolts securing the radiator to the grill by using a 10mm socket or 10mm wrench. (see Image Below)



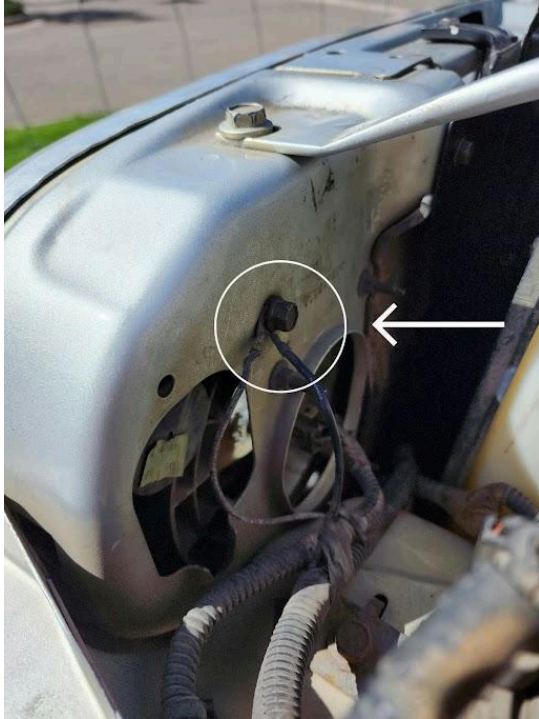
*** NOTE *** There is a rubber seal on both sides that sits between the A/C Condenser and Radiator, please reference this so that when you bolt the radiator back up to the grill, we put it back the exact same way.

Step 6) Now grab the 16mm socket and dead center underneath the grill on the frame, there is a support bar that has a bolt going through securing the grille to the frame. Remove and set aside (ref images below)



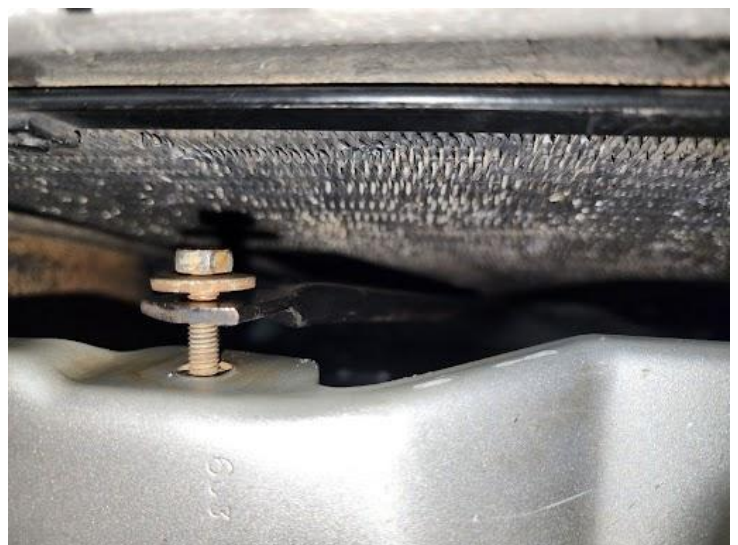
* NOTE * Rubber bushing may move during install, we will realign this later during reassembly. (This image has an additional spacer for a body lift)

Step 7) Now that this bolt has been removed, we will now remove a single bolt on each side using a 10mm socket to remove the grounding wires. (See images below)



Now we have 2 remaining bolts to remove so we can begin the installation.

STEP 8) Through the grill, you will notice the V-Bar which is your main radiator support. There are 2 bolts (1 on either side) that secure the v-bar to the grill. We will use the 10mm socket to remove these and then set these aside for reinstallation.



Now that these are removed, we can get the Cooler Kit and start our installation. Pull out the Cooler that is already pre-assembled by ATS. We want to verify that all fittings and hardware is tightened prior to installation. You will see that the mounting brackets are already fastened to the cooler as well as the 6an to 10an ORB fittings in the cooler opening. These will face downwards and the bracket with the ATS Logo will be on the top.

Step 9) Go through and tighten the 8 - M6 bolts using a 10mm socket and a 10mm box wrench.

Step 10) Next, grab a 19mm box wrench to ensure that the fittings on the cooler are just over snug. * NOTE * Do not overtighten these, otherwise you will damage the o-ring inside.

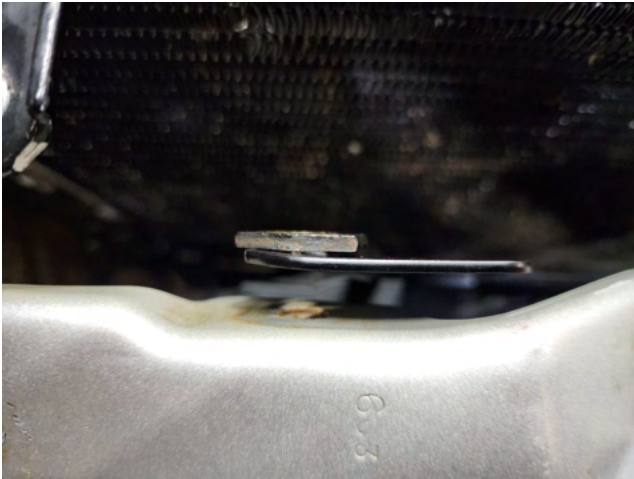
Step 11) Next we will grab the 2 supplied 18in pre-assembled hoses with the 45° fittings and ATS Transmission Line Adapter Fittings. Go ahead and install the 45° fittings on the fittings on the cooler and tighten until snug, then give them an additional 1/8in turn. Once tightened, rotate the swivel fittings so that the 45° are facing slightly backwards and to the outside of the cooler. (Reference image below)



Step 12) Once this is done, we can go ahead and install the cooler. Start by pulling the grille towards the front of the jeep and prying the V-Bar on both sides backwards so you have at least 2-3in between the top of the grill and the v-bar itself.

Step 13) With the cooler in hand, with the ATS Logo at the top and being legible, you want to slide the cooler down in front of the v-bar. As you are sliding this into position, you will notice the lower bracket will slide over the v-bar using it as the lower support. Do not force the cooler into position otherwise you can damage the fins on the cooler.

Step 14) Once the cooler is below the top of the grill, you can maneuver the cooler into position so that it is sitting level. The upper bracket supports will be your guide. You will use the original hardware that you removed for the top of the v-bar. Once set into position *NOTE* The new upper bracket will sit between the grill and v-bar to be secured. The lower bracket will slide over the V-Bar with the flat section facing the radiator. (reference images below)

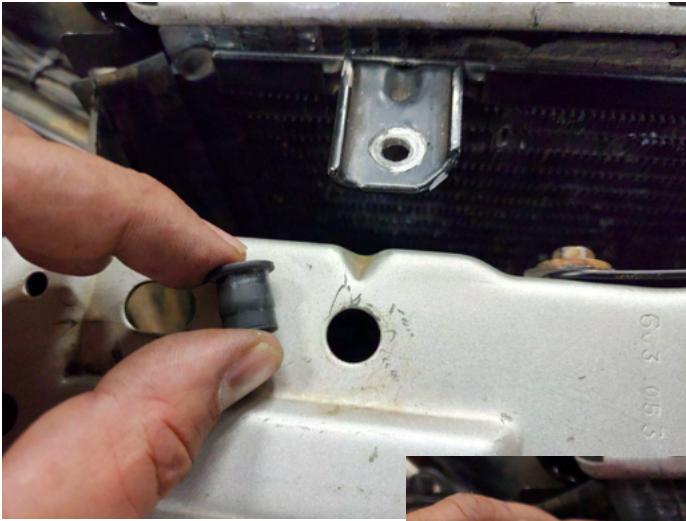


Step 15) Using the 10mm socket, go ahead and grab the 2 bolts that you removed for the V-Bar and use them to secure the v-bar and new bracket back to the grill. The bracket end by the hole (see image above) will bend slightly to conform to the grill. This will help keep tension on the bolt after both have been tightened.

Step 16) Once tightened, we will feed the hoses down on each side. Notice on the grill, there is a hump that raises on each side, you will feed the line between the A/C Condenser and the grill right before the hump on each side (see image below)



Step 17) Now that the cooler is installed on the grill, we can now reassemble everything we just removed. Start with the A/C condenser as we will be using the supplied hardware and well nuts that came with your cooler kit. We will start by inserting the 2 provided 1/4in - 20 well nuts with the flanged side on top in the hole that we removed the a/c condenser hardware from originally. This will go under the a/c condenser bracket to provide additional vibration protection. Once set, pull the a/c condenser towards the grill and using the 2 supplied 1/4 x 20 x 3/4 stainless steel flanged bolts and sealing washers, tighten until the well nut looks like image #5 below. (reference images below)



Step 18) Once we have these tightened, we can reinstall all of the hardware we removed before moving forward and attaching the new cooler lines.

Step 19) Start by securing the radiator back to the grille (be sure to check the rubber dividing seal so that it is seated properly between the a/c condenser and the radiator before using the 10mm socket to tighten.

Step 20) Reinstall the 2 screws for the ground wires that were on each side by the headlights.

Step 21) Now we will reinstall the 6 fender bolts that were on each side by the wheel wells. We recommend starting each bolt (be sure to place the support bracket for the inner fender area before reinstalling the bolts and leave loose). You will need to make small adjustments to the grill so that every bolt hole lines up properly. We recommend using Anti-Seize on the threads to prevent these bolts from rusting in the future.

Step 22) Next, we will grab the 16mm socket and reinstall the bolt we pulled out from the frame support. Be sure to align and start the bolt prior to tightening to prevent cross threading, again, we recommend using Anti-seize on these threads.

Step 23) Now that this bolt is back in the frame, using the 13mm socket, grab the 2 bolts we removed for the upper radiator support bars. Add anti-seize to the threads here and reinstall back into the grill and tighten.

Step 24) Go through all bolts using the 13mm socket and tighten. Then grab your 16mm socket and tighten the lower bolt back into the frame support for the grill.

Now that everything is tightened and reassembled, we can finish up by attaching the transmission lines. Our kit bypasses the radiator all together allowing for a quicker flow and better cooling capabilities for your Jeep.

Step 25) Grab your bucket and set it under the radiator area. Slide underneath the jeep and see the transmission lines that are going into the radiator fittings.(see images below - yours may look different)



Step 26) You will slide the plastic cover for the retaining clips backwards onto the transmission lines. Then using the pick, you want to remove the 2 quick connect clips that are on the radiator fittings securing the transmission lines.

Step 27) Once the clips are out, grab your bucket and do one line at a time. Starting on the passenger side, pull out the transmission line from the radiator fitting, grab your new cooler line with the purple ATS Fitting (already has the retaining clip and o-ring installed for ease of installation) and push that purple fitting onto your factory transmission line that you just disconnected. (you will lose a little fluid from the line and radiator fitting, this is what the bucket is for) Now slide the white clip retainer over your new fitting end and press firmly to ensure that it seats properly.

Step 28) Once completed, using a 19mm wrench, remove the radiator fitting and install one of the supplied 5/8 - 18 x 5/8 Hex Socket Headless Set Screw (we teflon coat these) using a 5/16 hex bit or allen wrench and tighten until snug.

Step 29) Next, move to the driver's side transmission line and repeat **Step 26** for the drivers side.

If any fluid spilled out or got on any other components, use brake clean and a towel to clean that up.

Step 30) Now grab the 2 supplied Fir Tree Cable Zip Ties that came in your hardware kit, notice in the last 2 images above, there are 2 holes in the fan shroud with one being in the left image and the other in the right image right by the lines. You will push each Fir Tree Zip Tie into these 2 holes and then secure each zip tie to the line to keep it secure from moving around.

Step 31) Now grab the supplied P-clamp that came in the hardware kit (the metal clamp with rubber lining). In the above image on the left, we found that securing this clamp around the two transmission lines that are touching, this gives the lines less ability to move around. Wrap the clamp around these 2 hoses and using the supplied 6mm bolt and nut, tighten to secure.

Step 32) Now we will grab the quart of ATF +4 fluid and add 1/2 quart of fluid into your transmission dipstick with the small funnel. Start the Jeep and let it idle for 20 min or so to get the Jeep up to full operating temperature.

Step 33) Once at operating temperature, check the fluid level again and fill with additional ATF +4 until at the proper fill line.

CONGRATS ON YOUR NEW ATS 4.0L TJ / LJ WRANGLER TRANSMISSION COOLER. Be sure to check your cooler line fittings at the cooler and quick connect fittings after the first 50 miles to ensure no leaking has occurred and that all of your fittings are fully tightened. After driving, please check your transmission fluid levels to make sure that they are at the proper operating levels and now you can enjoy your Jeep Wrangler without the fear of it overheating again. With our tests, we have seen a 25-40° temperature change with the new transmission cooler and we are hoping that you experience the same.