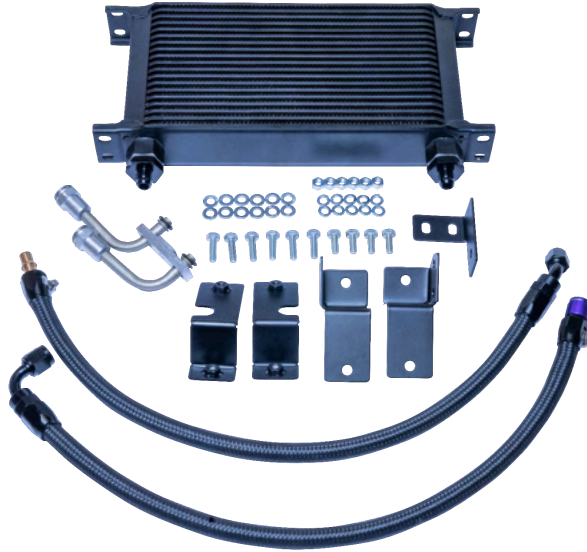


Instructions Manual
Auxiliary Transmission Oil Cooler Install Instructions for the
2007-2011 3.8 JK Wrangler
SKU: 310-901-8320



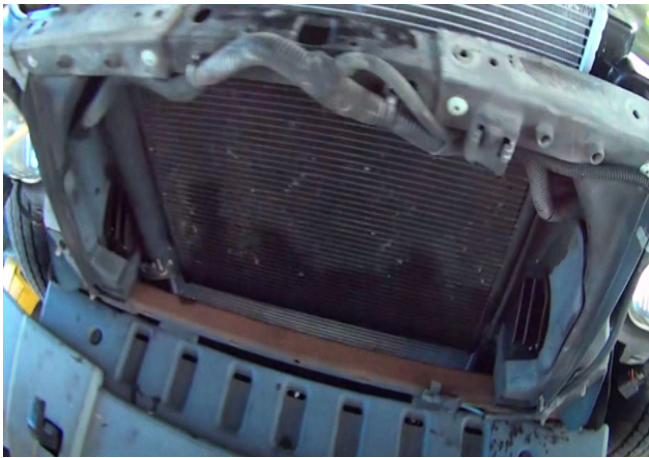

BILL OF MATERIALS:

1. 1 - 19 Row Black Oil Cooler (Part # **310-23**)
2. 1 - ATS Vehicle Specific Oil Cooler Bracket Kit (Part # **310-20**)
3. 1 - 3/8 Billet Quick Connect to 3/8 Barbed Line Fitting (Part # **300-809**)
4. 2 - Black -6an Flare to 10an ORB Male O-Ring Fitting Adapter (Part # **003-66**)
5. 1 - 20in Hose Assembly w/ Brass transmission line fitting and 45° -6AN fitting (Part #)
6. 1 - 20in Hose Assembly w/ ATS Billet 3/8 fitting and 90° -6AN fitting (Part #)
7. 1 - OE Transmission Cooler Jumper Line (Part # **310-24**) (only included if running OE Upgraded Transmission Cooler - Part # 310-900-8321)
8. 6 - M6 x 1 x 20 Flanged Zinc Bolt (Part # **001-238**)
9. 6 - M6 Flanged Lock Nut (Part # **001-236**)
10. 4 - M6 x 1 x 16 Flanged Zinc Bolt (Part # **001-239**)
11. 1 - Black Push in Bracket Retainer (Part # **001-240**)

TOOLS REQUIRED:

1. 19mm Open End Wrench or AN fitting adjustable wrench (if you have one available)
2. 10mm socket
3. Small Flat Head ScrewDriver
4. 8mm hex head socket (only if you have OE Transmission cooler displayed in image 2 below)
5. 4mm Allen Head (only if you have OE transmission cooler displayed in image 2 below)
6. 1qt of ATF+4 Transmission Fluid
7. Small Funnel
8. Drain bucket or pan
9. Shop towels
10. Brake clean

NOTE Please verify to see if you do or do not already have a transmission cooler on your vehicle. See images below -

<p>3.8 with no Aftermarket Transmission Cooler only A/C Condenser Transmission Cooler</p>	<p>3.8 With OEM or RT Off-road / Crown Automotive Transmission Cooler</p>
<ul style="list-style-type: none"> • Image 1 	<ul style="list-style-type: none"> • Image 2
	

If your Jeep looks similar to the one on the right in Image 2, you will need to remove this kit to install our ATS Transmission Cooler and use the supplied new OE Fitting for your A/C Condenser and toss this older style transmission cooler as you will no longer need this.(see instructions below). If your vehicle looks like the image on the left, you are good to go and ready to start installation.

Step 1) Please start by opening the hood and removing the 6 either screw fittings or clip fitting that secure the top of the grille to the front frame. See images below



If you have the screw in type, use a phillips head screwdriver and do not press down hard, lightly rotate the screw as these can get stuck and damage the plastic phillips head screw. We would also recommend that you use a small flat head or pick to help assist the screw upwards while unscrewing. With the left style, using a small flat head, pry upwards and lift until the center piece is 3/4 of the way out, then with the same flat head screwdriver, lift from underneath the round section until the entire piece is removed. If you have the press in style, use a small flat head screwdriver or pick and hook set, slide in and rotate to pop up. Once all 6 pieces are out, set aside to reuse later during reinstallation.

Step 2) Please locate your turn signal lights on the grille. On the back side of the grille, you are able to see the connector that attaches to the lights. You will rotate these lights downwards to release. They will become loose, pull these out of the lens housing on each side and let your lights hang down and we will reinstall these later.

Step 3) Now you can remove your grille. Start by grabbing the grille and pulling towards you with a quick motion to release the grille from its clips. If you have a winch that is possibly blocking the lower portion of the grille, be careful when pulling away as to not damage it.

Once the grille is removed, now we can get to work on installing your new transmission cooler.

***** NOTE ***** If your Jeep does not have the transmission cooler as displayed in Image 1 above, please move to **Step 13.** If your Jeep does have the OEM Transmission cooler as displayed in Image 2, please proceed to **Step 4** and follow from there.

Step 4) If your jeep looks like Image 2 above, this is where you will start. Locate the transmission lines coming out of your a/c Condenser at the bottom driver's side with a fitting that is screwed into the lower portion of the a/c condenser.

Step 5) Typically, you can access the quick connect transmission line fittings through the drivers side fender liner right above the frame by the steering box. You will see these 2 fittings coming out of the A/C Condenser that connect to the transmission cooler lines and there is a white and black plastic clip retainer covering each small metal clip. Please remove the black clip retainer by prying backwards slightly to move the clips back and out of the way.

Step 6) Next you will remove the metal clip on the black transmission cooler line quick connect fitting and set aside.
(*NOTE* Transmission fluid will come out of the line)



Step 7) Now look at the transmission cooler and remove the 2 plastic retainers on the quick connect fittings at the bottom of the cooler. Using a small pick, please remove both metal clips on the fitting below to remove the cooler lines from the cooler itself.

NOTE When disconnecting the cooler lines, you will have some fluid coming out of the cooler so have a bucket or something ready for when you do disconnect the fittings.



Step 8) Now, grab a 4mm allen socket or allen wrench and remove the 2 screws that secure the cooler to the brackets as seen in the images below.

Passenger Side Facing Jeep



Drivers Side Facing Jeep



Step 9) Grab a 8mm small socket with a swivel head and remove the 3 bolts securing the brackets that were holding the cooler on. There are 2 on the passenger side and one on the top driver side. These screws also secure the a/c condenser to the radiator. (ref both upper holes in brackets above and 1 in the bracket on the passenger side. Once these brackets are removed, please reinsert these 3 screws back into their original locations and tighten to hand tight and then give an additional 1/4 turn.

Step 10) Now, grab a 10mm socket and remove the metal bracket that has the 2 cooler lines coming out of it. One of these is the one you pulled out earlier from the main transmission lines and the other connected to the transmission cooler

on the passenger side. Retain the small bolt you just removed and reuse in step 11. Ref images below. You will not be using these, so you can toss if you would like.



Step 11) Once this line is out and out of the way, we can install the supplied OE Transmission Oil Cooler Supply and return line. (Ref image below)



Step 12) You will see, on the bottom drivers side of the radiator, there are the two holes that you just removed the other lines from, with the transmission line connectors facing backwards towards the engine, insert the fitting in the image above back into the holes on the a/c condenser. Reuse the small bolt you took out in Step 10 and tighten.



Start of instructions for Jeep with out the OEM transmission cooler - Follow steps 1-3 prior to starting step 13.

Step 13) Please locate the transmission lines with the quick connect fittings



Step 14) The line with the black plastic cover on it is the return line, using a small flat head or pick, pry from the connector and slide backwards on the silver line.

Step 15) Next, with a small pick, pull out the 1 metal clip to allow the transmission hard line to be pulled out of the quick connect fitting. You will need to hold the line coming out of the A/C Condenser and then by either reaching over the radiator or by going through the fender liner, pull the hard line away from the quick connect fitting.

Step 16) Next we will have you reinsert the small metal clip that you just removed and place back into the quick connect fitting.

Step 17) We will start with the installation of your new cooler. Grab the mounting brackets and the supplied hardware. There will be 6 - M6x20 bolts and 6 - M6 flanged lock nuts for the brackets to mount to the new Cooler and then there will be 4 - M6x15 flanged bolts to secure the brackets together. Start by attaching the matching lower brackets that mount to the cooler. Now attach the upper bracket to the inside mount of the cooler, with the flat section facing forwards.

NOTE This cooler will sit right against the factory A/C condenser when mounted. You will want to remove the ambient temp sensor at this time and let it hang to the side. We will relocate this later on in **Step 26**.

Step 18) With the brackets now loosely installed on the cooler, place transmission cooler in and against the a/c condenser on the drivers side to the right of the center of the grille and attach the secondary brackets and loosely secure the cooler onto the grille support.

Step 19) You will now move the cooler over to ensure that the clip holes for the grille are not being blocked or obscured and so that the upper bracket can clip into the upper hole so the cooler sits straight and vertical. (Be sure that the longer side of the upper clip is towards the inside of the cooler as seen below.

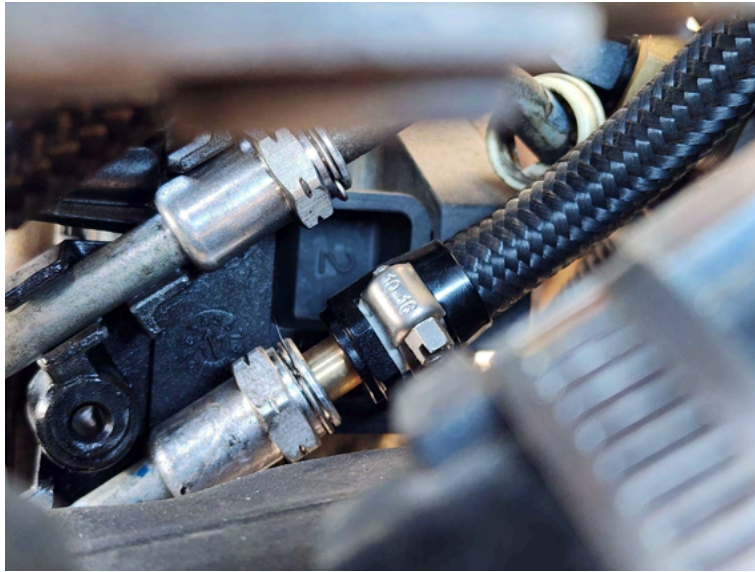


Step 20) Once you have the cooler properly placed, attach the lower halves of the brackets with the curved portion facing inwards on each side. Secure and tighten all hardware that you have on the mounting brackets for the new transmission cooler.

Step 21) Next, grab the supplied 20in pre-assembled hose with the 45° fitting on one end and the brass fitting on the other. (as seen below)



You will insert this into the fitting that we removed the return line from in **Step 13**. Be sure to press in firmly to make sure that it is seated fully. Pull out slightly to ensure the connection is made. This will be your upper cooler hose that we will attach to the cooler in the next step. (Ref image below)



Step 22) Now feed the other end with the 45° fitting up and through between the radiator and grille support as seen in the image below and attach to ORB fitting on the cooler. Using an 18mm open wrench or AN wrench, hold the ORB fitting on the cooler so that it does not overtighten the o-ring. Tighten until it is snug, then give an additional 1/8 turn. Once done, you can use a ziptie to secure wiring back to the radiator support hole as seen in the image below.



Step 23) Next, grab the 2nd supplied 20in pre-assembled hose with the 90° fitting and custom barbed 3/8 quick connect fitting as seen in the image below.



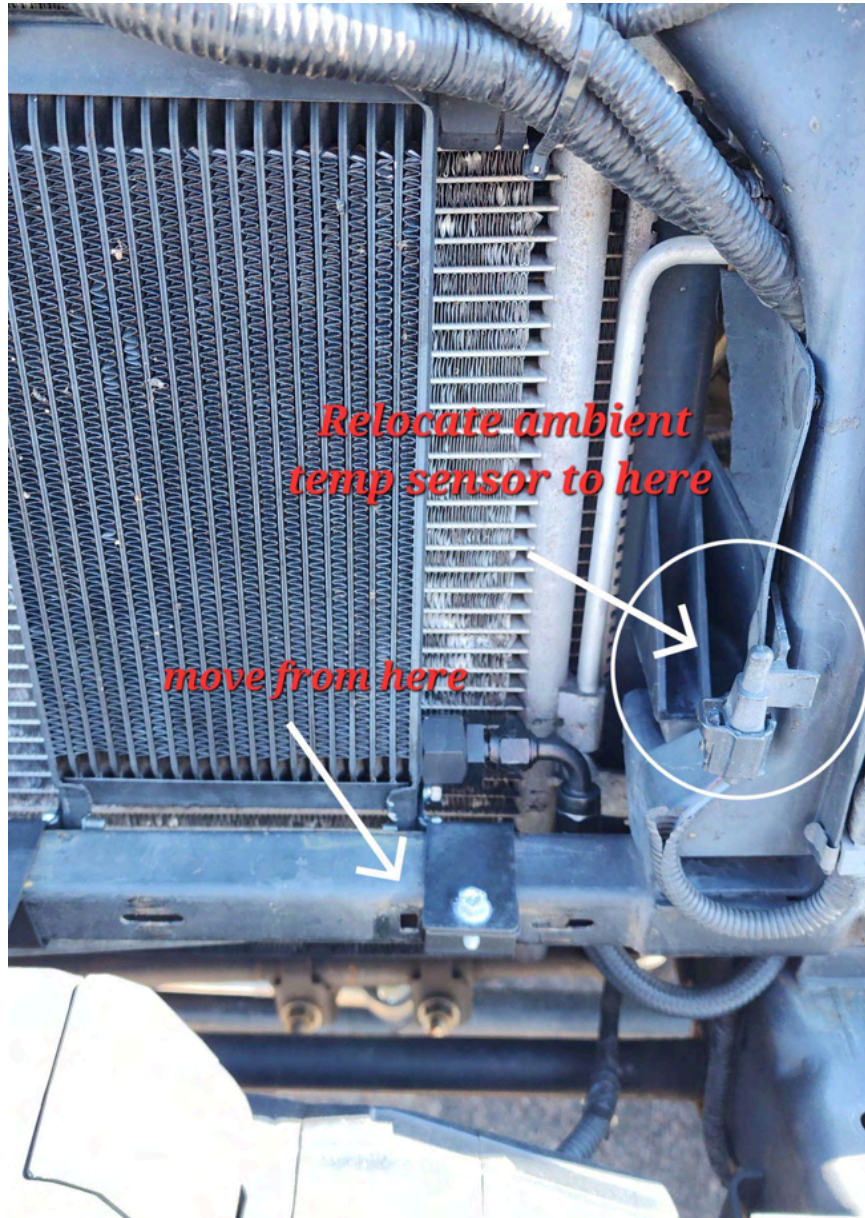
This will be your lower cooler line that is your return line that will attach to your factory transmission line that we disconnected in **Step 15** as well as the lower fitting on the new transmission cooler.

Step 24) Now attach the 90° fitting to your new transmission cooler and tighten. Feed the hose with the ATS anodized quick connect fitting towards the back of the vehicle as seen in the images below. Now, attach this fitting to your factory transmission return line. Press in firmly to ensure that the line is fully seated. Slide black plastic clip retainer back over and ensure that it is seated properly.



Step 25) Go back through and ensure that everything is fully connected before moving on.

Step 26) Locate the Ambient temp sensor that you removed earlier in **Step 17**, locate the flap that is secure to the radiator support by 2 plastic retaining clips. Using a pry tool, remove the lower plastic clip and relocate the ambient temp sensor as seen below. Push the plastic clip through the sensor hole and back into the same hole that you removed it from previously. Be sure that the sensor is sitting as you see it in the image below.



Step 27) To finalize the install, start by grabbing your small funnel and adding ½ qts of transmission fluid into your transmission dipstick tube. Please start your vehicle and let the vehicle get up to operating temperature (15-20min). During idle, your transmission can get up to about 120-140° and under load with your new cooler, it could get up to 180°.



Once at operating temp, check the fluid level again and add fluid until you reach your full line. Now that the fluid level is where it needs to be, you are good to go and your new transmission cooler is fully installed.

FINAL STEP OF INSTALL - Reinstall your Grille by lining up the clips in the lower support and pressing firmly on the grille just inside the headlights to make sure that all of your clips have been seated. Reinstall the 6 plastic retaining clips that you removed earlier in the top of the radiator shroud for your Grille. Reattach your turn signal connectors by placing them back into the back side of the turn signal housing and checking to see that they are seated properly, then rotate 1/4 of a turn downwards and they will lock back in.

CONGRATS ON YOUR NEW ATS 3.8L JK 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 snug and secure and properly attached. After driving, please check your transmission fluid levels to make sure that they are at the proper operating levels. Now you are good to go. Enjoy your new ATS Direct Fit Transmissions Cooler.