



JK York Air Supply

AiROCK Installation Document

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The ORO JK air supply kit is a fantastic solution for your On Board Air needs. The kit arrives as pre-assembled as possible, with as many fittings installed as possible. Most of these fittings are factory coated with liquid Teflon, however, ORO technicians are applying Teflon tape to all fittings. In the event that a fitting is found to leak, remove the fitting, add Teflon tape and reinstall.

The package contains all of the parts as seen in the picture below. **Please INSPECT PACKAGES before starting installation.** You can order additional parts to include air fittings and an in cab air gauge.



JK York Air Supply kit components

- | | |
|---|-------------------------------|
| A. York Air Compressor | K. York Dipstick and Paper |
| B. York Mounting Bracket | L. Oil Filter |
| C. Upper Compressor Mounting Bracket – welded | M. Filter Mounting Bracket |
| D. Upper Compressor Mounting Bracket – flat | N. Pressure Switch |
| E. Air Compressor Parts Bag | O. Oil Return Fittings |
| F. Rubber Hose with T | P. Air Supply Loose Parts Bag |
| G. Braided Hose | Q. Air Tank |
| H. Idler Pulley | R. 35' 3/8 airline |
| I. Serpentine Belt | S. 6' 1/4 airline |
| J. York Saver | T. Tubing Cutter |
| | U. Harness |
| | V. Documents |

Tools necessary:

- | | | |
|-----------------|----------------------|----------------------|
| • Tubing cutter | • 7/32" Allen wrench | • 16mm Combo wrench |
| • Ratchet | • 3/16" Allen wrench | • 17mm Combo wrench |
| • Floor Jack | • 15mm socket | • 19mm Combo wrench |
| • Block of wood | • 16mm socket | • 9/16" Combo wrench |
| • 9/16" Socket | • 17mm socket | • 7/16" Combo wrench |
| • 1/2" Socket | • 19mm socket | • 3/8" Ratchet |
| • 3/8" Socket | • 15mm Combo wrench | • 4" Extension |



During the installation of the ORO York compressor, you will be reusing one of the mounting bolts removed from the motor mounting bracket for the added idler pulley installation. This is the smaller of the 2 bolts that gets re-used.

The York compressor will have a paper tag attached to it. This tag verifies that a ORO technician removed the OEM installed Esther oil, and replaced with 12 ounces of Mobil 1 5w30 synthetic motor oil. There is no reason to change the oil, but due to conditions that may arise during shipping, it is wise to verify the oil level before installation. On the supplied York Document, you should find that we strive to have 1-1/8" depth of oil when installed vertically.

Installation:

Start by removing the overflow hose from the two clips on the fan shroud and then remove the radiator overflow bottle by pulling upwards on the bottle until the clips release from the fan shroud. There is enough hose to stand the bottle up on the front bumper. You can also remove the hose from the radiator by removing the clamp and then pulling the hose off the nipple.

Using a 3/8" drive ratchet (this may require an extension) in the square on the tensioner pulley. Rotate the tensioner pulley downward until it stops. Release the belt from one of the other pulleys and then slowly release the tensioner pulley back to its free position. Remove the drive belt from the engine. The arrow in the image to the right depicts the tensioner square drive to insert ratchet



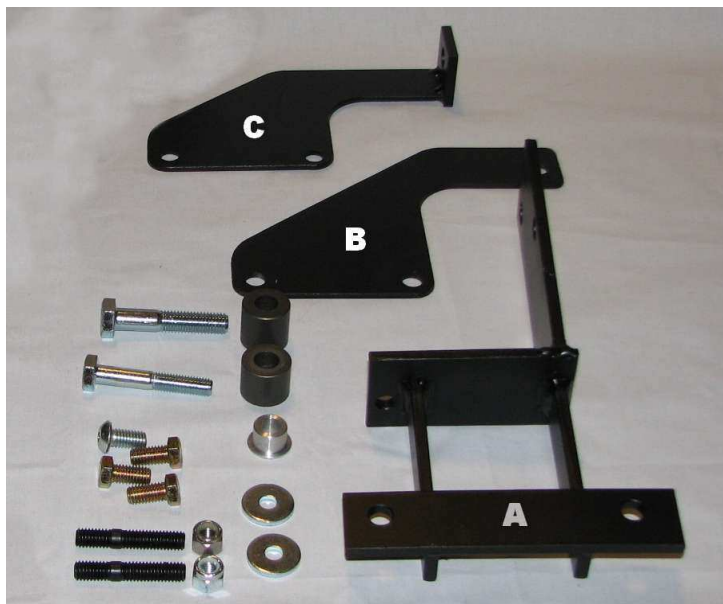
York Compressor brackets and hardware.

Install the Lower Compressor Support Bracket. This is denoted as bracket "A" in the image to the right.

NOTE: ORO recommends supporting the engine during the next step. Utilizing a block of wood to prevent oil pan damage, place a jack under the oil pan, not to lift the engine, but simply to prevent the mount from shifting.

Remove the lower two cylinder block-to-insulator mount bolts with a 15mm and 16mm socket or combo wrench. You will **reuse the short bolt** for the idler pulley that needs to be installed later.

Remove the lower bolt from the timing chain cover on the front of the engine with a 13mm socket or combo wrench.



Lower the bracket into place and reinstall the lower bolt for the timing chain cover through the Lower Compressor Support Bracket. This will support the bracket while you install the bracket spacers for the cylinder block-to-insulator mount.

Rotate the bracket up and install the bracket spacers and bolts in the following order: Bolt, washer, bracket, spacer. The larger spacer is for the upper front bolt hole. Install these bolts back into the bolt holes for the cylinder block-to-insulator mount.



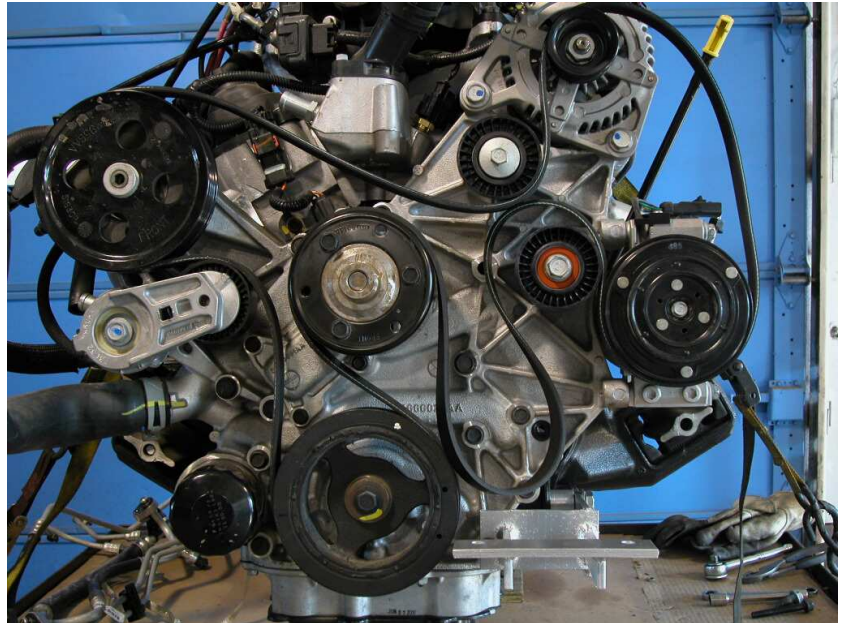
Install the smaller idler pulley. The idler pulley supplied should replace the factory idler just to the lower left of the Alternator, and then using the ORO supplied shoulder bushing, reinstall the original idler just above the York compressor clutch area utilizing the boss on the face of the timing cover.

Install the provided aluminum step bushing into one side of the idler pulley (this will be the side against the timing chain cover). The image to the right illustrates idler pulley locations and correct serpentine belt routing.

Install the idler pulley to the machined boss on the front of the timing chain cover using the short bolt from the cylinder block-to-insulator mount that you removed earlier.

Remove the upper bolt from the timing chain cover (bolt is between the center pulley and the A/C compressor pulley). This will require a 15mm socket and 4" extension.

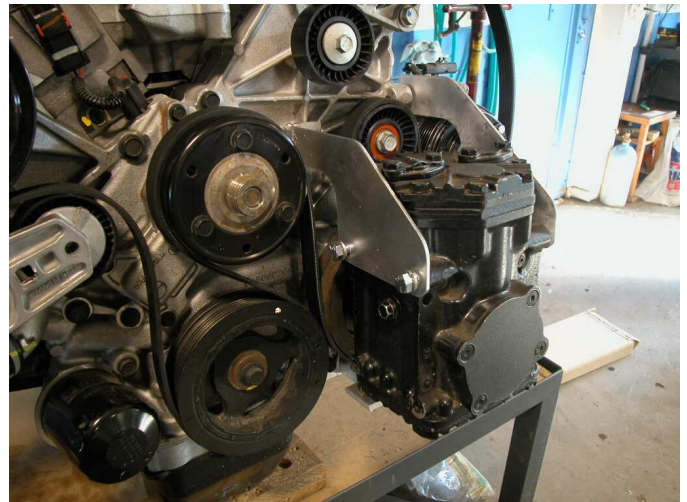
Route the new drive belt. Leave the belt off the upper idler pulley, as this will give you enough slack to position the belt later.



Install the Left Side Compressor Support using the bolt with lock washer and button head Allen screw. Leave these loose, you will need to adjust the position of the compressor later. These will require a 9/16" Socket and a 7/32" allen wrench. Image on to the right shows correct orientation.

Using a 13mm combo wrench, loosen the three (2 front, 1 back) A/C compressor mount bolts.

Remove the A/C compressor front lower bolt and insert the spacer (washer) between the timing chain cover and the A/C compressor. Reinstall the bolt, but do not tighten. Next, remove the A/C compressor rear bolt and insert the spacer between the timing chain cover and the A/C compressor. Reinstall the bolt, but do not tighten. Finally, remove the front upper bolt from the A/C compressor.

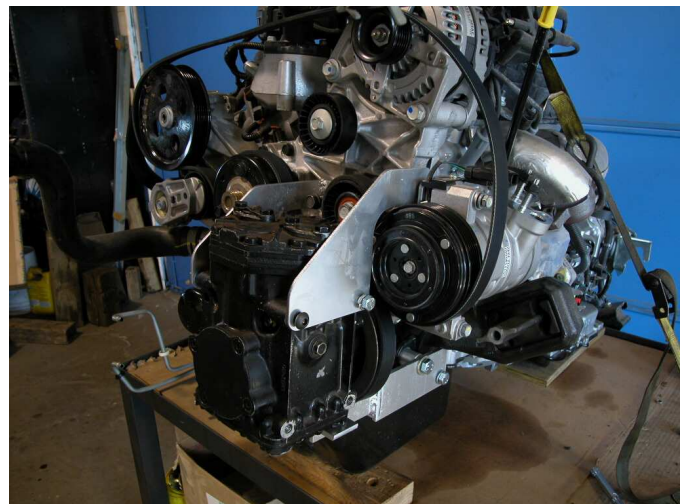


Install the 2 studs in the bottom of the compressor. The studs go on the same side as the York pulley. The studs will bottom out on the compressor.

Carefully lower the York Air compressor down onto the Lower Compressor Support Bracket and tilt it towards the engine so that the Left Side Compressor Support goes between the A/C compressor and the timing chain cover. Note: The drive belt will need to go around the compressor pulley. You may have to lower the compressor in sideways and then turn it to clear the hoses.

Reinstall the front upper bolt for the A/C compressor.

Using a 9/16" socket, install the washers and nuts onto the lower studs of the compressor. Snug, but do not tighten yet.





Install the Right Side Compressor Support with the bolts and lockwashers. These will require a 9/16" Socket. Place the clamp for the magnetic clutch wire on this side.

Reinstall the upper bolt from the timing chain cover. This will require a 15mm socket and 4" extension

Tighten the bolts in the following sequence.

Order	Bolt	√
1.	Lower timing chain cover bolt	_____
2.	Cylinder block-to-insulator mount	_____
3.	A/C compressor bolts (Pulling up on the compressor side mount will give a little more clearance from the pulley)	_____
4.	Upper timing chain cover bolt	_____
5.	Side bracket to compressor bolts	_____
6.	Bottom compressor to bracket bolts	_____

Reinstall the drive belt. Route the belt around all the pulleys, ensuring that the serpentine belt is centered on the pulley. Using a 3/8" drive ratchet and extension in the square on the tensioner pulley, rotate the tensioner pulley until it stops. Place the belt on the tensioner pulley and then slowly release the tensioner pulley back to its tensioned position. Remove the ratchet from the tensioner pulley.

Reinstall the radiator overflow bottle by sliding it down between the compressor and the steering gear, align the clips on the bottle with the holes in the radiator fan shroud and slide down into position.

Reinstall the hose into the two clips on the fan shroud.

If you removed the hose from the radiator, push the end of the hose over the nipple and replace the clamp.

Manifold / bracket installation

The manifold assembly can mount anywhere you wish. With the AiROCK harness the blue and black wires to connect to the pressure switch will be near the master cylinder, so mounting the manifold in that area will make wiring a breeze.

Drill 2 holes in the inner fender area to mount the bracket as shown in the image to the right.

If you are doing the mini Compressor kit install, there will be 2 plugs in the manifold for future expansion. If you are installing an AiROCK air supply, then you will have 2 open 3/8" air line ports. One will go to the air tank and the other will go to the filter/regulator.

Install the braided compressor discharge hose fitting into the brass fitting on the manifold. These flare fittings do not require pipe tape on the flare side.

If you haven't already done so, there are 2 fittings supplied for the compressor head. One side is flare, the other is 3/8" pipe. Apply pipe tape to the pipe side and thread them into the compressor head, after removing the 5/16" hex plugs. Attach the braided hose to the outlet (passenger side on 2007-2011 JK 3.8L install)

The supplied rubber hose will be inserted into the brass hose barb fitting, and attached to the inlet of the compressor. The other end of the rubber line will use the plastic Tee and connect to the rubber hose between the air box and the valve cover. This will draw air filtered by the ending filter into the compressor.





Air Tank Mounting

Mount the air tank to the crossmember that runs above the rear track bar, as seen in the image to the right. The new setup has removable brackets. Slide the brackets onto the tank, position the tank in a spot to clear the track bar, mark off the holes to drill, remove the tank and drill crossmember for the self tapping 5/16" screws, drill hole to 1/4" and use screws to thread the holes before installing the tank, this will make it easier.

NOTE: remember that the track bar will raise up into this area as the suspension compresses, ensure to angle to the tank as necessary to clear the track bar.



Wiring

If you are installing the Mini York Kit, you should have a harness in a bag. This harness will connect to a battery positive (orange wire with the fuse holder inline) and chassis ground (Black wire with ground lug) The relay is all prewired and ready to go. Mount that relay near the connections to the power and ground. Then simply take the red wire and run that to the pressure switch, wherever you mounted the manifold, and cut the wire, install the supplied terminals on both ends of the cuts, and slide onto the pressure switch terminals. Then the last of the red wire, run that to the switch. Mount that inside the jeep, under the hood, wherever you wish. This switch will turn the pressure switch on and when the pressure in the line is below 110 it will turn the compressor on, and when it gets to 150 it will turn off.

There is a heavy gauge black wire that will go to the compressor connection, this should plug into the connection on the compressor.

AiROCK wiring

On the wiring harness, route the wires safely so as to not get caught in the engine. There is a wire with a weatherpack connector on it coming off the relay. This attaches to the York Compressor.

The RED wire is the one tied to the Fuse shown in the image to the right. This is the link that powers everything up. This is installed on the FUSED side of the fuse. Be sure to clearance a bit of the fuse box to allow the RED wire not to be pinched when the fuse box is put back together.

The BLACK wire is tied to a ground. The ORANGE wires with the fuses attach to the bolt in the fuse box, as seen in image to the right. Attach the Relay to the firewall somewhere near the battery. The YELLOW wire from the harness will attach to the YELLOW wire from the York Saver. You can use the included solder seal to attach the two wires together. If you have not installed the York Saver yet, do not attach the York Saver wire to the harness at this time. Make the connection when you are finished with the York Saver install. There are two wires with crimp on connectors. The BLACK and BLUE wires get plugged into the pressure switch.

