BULLETPROOFDIESEL®
.COM

INSTALLATION MANUAL

BULLETPROOF OIL COOLER KIT
INTERNATIONAL 4200

NEAL TECHNOLOGIES, INC.
U.S. PATENT 8,375,917. OTHER PATENTS PENDING
1/02/2020

These are the parts included in your kit. Please locate and identify each part prior to starting the installation process. There are some drawings in the back of this manual that can aid you in identifying the proper pieces.

Part Number	Description	Quantity
6400002	¼ NPT Hex Socket Plug	1
6200015	Washer ¼"; 5/8" OD; .051"-.08" Thick; Black-Oxide	5
6200011	14" =20 Hex Locknut; 7/16" W; 7/32" H; Cadmium-Plated Grade C Steel Conical-Top	5
90201022	Thermostatic By-Pass Block Assembly	1
6502308	International 4200 VT365 Mounting Bracket Spacer	2
90100082	90° Elbow; ¾" JIC x #12 SAE/ORB W/Viton O-Ring	3
90100084	#12 ORB Hex Head Plug W/Viton O-Ring	3
6200016	5/16" Washer; ¾" OD; .04-.06" Thick; Black-Oxide 18-8 Stainless Steel	4
6200076	5/16"-18 x ¾; Steel Hex Head Cap Screw Grade 8 Coated Alloy Fully Threaded	2
6200014	5/16"-18 x 1-1/4" Hex Head Cap Screw Grade 8 Coated Alloy Steel	1
6200013	5/16"-18 Hex Locknut; ½" W; 17/64" H; Cadmium-Plated Grade C Steel Conical-Top	1
6200124	Loop Clamp, 1-1/4"	2
6200209	M8 X 1.25 X 16mm Long Pan Head Torx Screw	1
6200210	Cable Tie Bundle Spacer	1
90100081	#12 SAE 37° Flare (JIC) x ORB Adapter w/ Viton O-Ring	1
6502186	1 ¼" Crows Foot Wrench	1

90404200 BulletProof Engine Oil Cooler; 6"x18"x3" DEEP		
6000117	High Capacity Engine Oil Cooler; 6"x18"x3" DEEP	1
6502307	International 4200 VT365 Oil Cooler Mounting Bracket	1
90201028	Oil Cooler Mounting Bracket	1

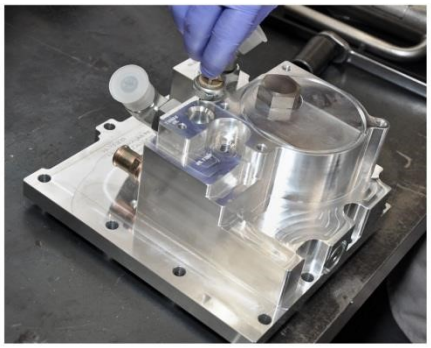
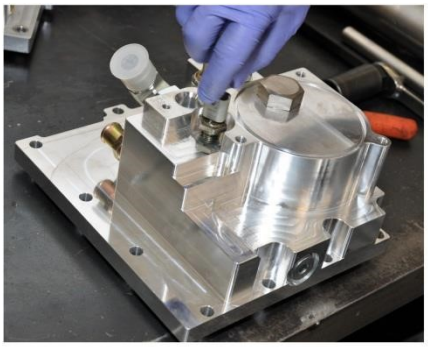
90201163 Hose Prepack, International 4200 VT365		
90100143	35" 0° X 0° - 5/8" SAE Hydraulic Hose	1
90100142	41.5" 0° X 0° - 5/8" SAE Hydraulic Hose	1
90100011	56" 0° X 0° - 5/8" SAE Hydraulic Hose	1

90201164 Pre-Pack Box International 4200 VT365		
6000013	Diesel Oil Filter; WIX P/N: 51832	1
90100144	Hardware Prepack, International Oil Cooler 4200 VT365	1
6502039_BK	Oil Filter Adapter; BLACK Anodized, Ford 6.0L	1
90201000	Oil Transfer Block; Ford F-Series 6.0L Diesel	1
6502309	International 4200 VT365 Oil Filter Bracket	1
90100077	BulletProof EGR/Intake Gasket + Turbo Drain Hardware	1

Installation Stage 1: The Oil Transfer Block

1. Follow the OE oil cooler replacement procedures (which include removal of the intake manifold and turbo).

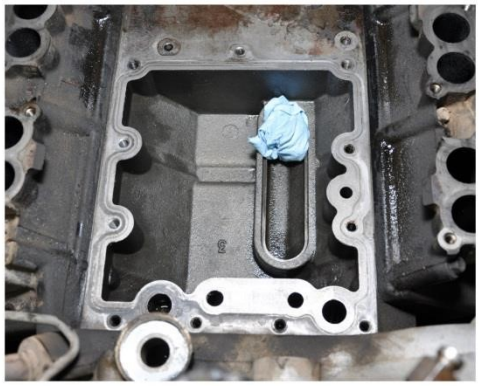
2. Install the OE oil cooler gasket into the Bullet Proof Diesel (BPD) Oil Transfer Block.

3. Remove the oil pressure sender and oil temperature sensor from the OE oil cooler housing.

4. Gently clean and install the oil temperature sensor and the oil pressure sender into the oil transfer block.

5. When the OE oil cooler is completely removed, remove all the oil and debris from the HPOP reservoir.




TIP:
Plug the oil port with a lint free cloth to keep debris out of the system while cleaning.

6. Remove and discard the HPOP filter. The BPD Oil Transfer Block has an integral HPOP screen, made from stainless steel, which operates in place of the OE HPOP filter.

7. Use the OE bolts and torque specifications to install the BPD Oil Transfer Block.

8. Discard the OE silicone coolant hose. This is replaced by the silicone hose and spring clamps supplied in the kit. We recommend using the spring clamps over regular hose clamps due to the location and the difficulty involved with tightening regular hose clamps after the installation is complete. Spring clamps, by design, will tighten as the silicone rubber relaxes.

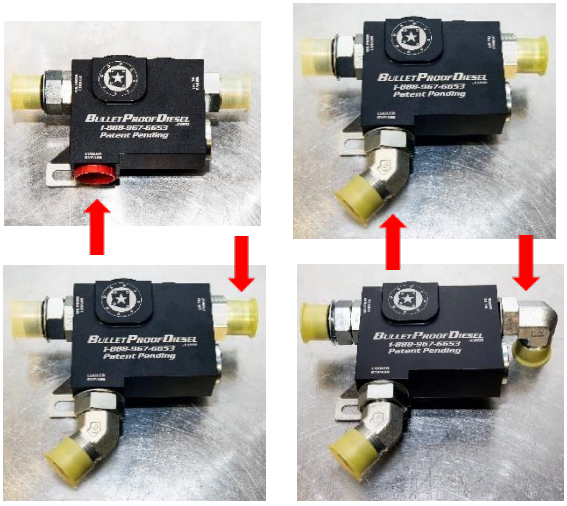
9. Continue following the OE installation procedure.

10. Do not re-install the oil filter housing, it is no longer needed.

11. Complete the installation procedures except for installing the air filter assembly and intercooler air hose.

Installation Stage 2: The Oil Cooler and Oil Filter

1. Find the oil thermostat and the 45° fitting in the Hardware pre-pack. Remove the red plastic plug And install the 45° fitting hand tight.

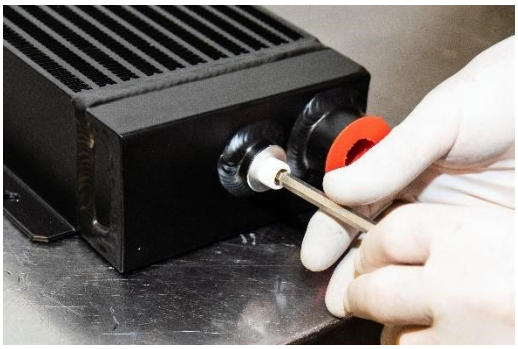


2. Next, remove the straight fitting on the 'oil to engine' port and install the supplied 90° fitting. Orientate the fitting positioning towards the back away from the thermostat.

3. Locate the ¼ inch brass pipe-plug supplied in the kit and wrap with thread tape.

4. Install brass pipe plug into correct port on oil cooler. **DO NOT OVER TIGHTEN.**

5. Install the thermostat onto the oil cooler, hand tight.



6. Install the 90° fitting onto the other side of the air cooler hand tight

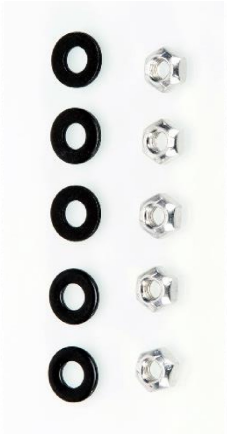
7. The O-ring boss style fittings that are used can be set at different depths. Make sure to adjust BOTH the 90° and the thermostat so that the hardline connection is lined up properly, once they are properly aligned, tighten the jam nut on both the 90° fitting and the thermostat. Once the Jam nuts are tightened, set the hard line aside you are ready to mount the cooler to the bracket.



DO NOT ATTACH THE HARD LINE AT THIS TIME

Mounting The Oil Cooler To The Bracket:

1. Use the mounting studs on the condenser bracket along with the supplied hardware to secure the air cooler in place. Tighten all nuts permanently.

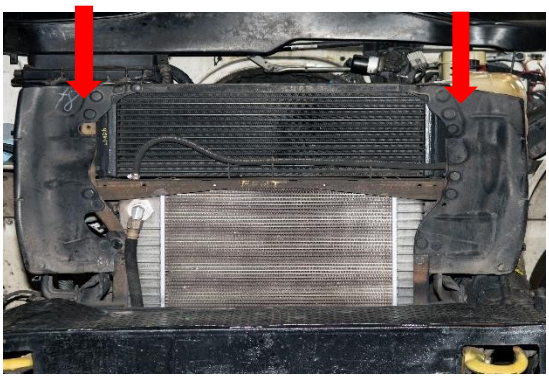



This is the bottom view of the hardline once tightened for reference.

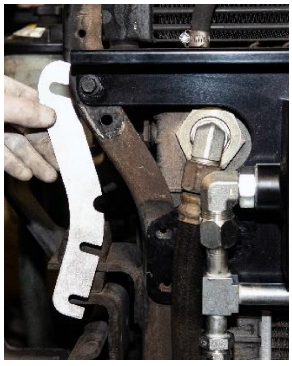
2. Now, securely tighten the hardline to the fittings as shown.

Installing The Oil Cooler:

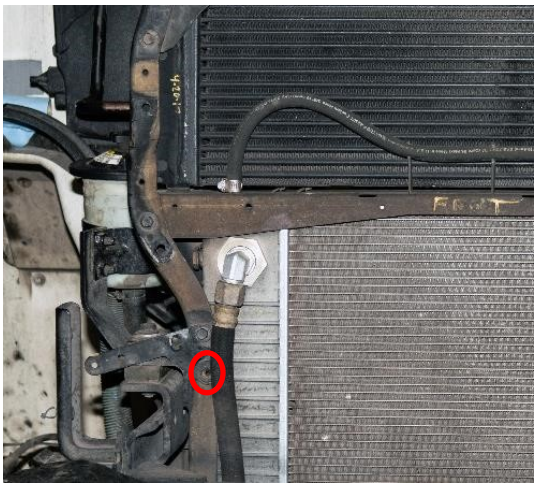
1. Remove the rubber air dams and bolts from the radiator core support to prepare for oil cooler mounting. NOTE: Removing the hood will make this section easier to complete.




2. Install oil cooler to core support, install the spacers between the oil cooler bracket and core support PRIOR to tightening the bolts down.

3. Replace the bottom bolt on the passenger side with provided cap head bolt.

NOTE: BE SURE TO REINSTALL THE BRACKETS THAT WERE PREVIOUSLY REMOVED.

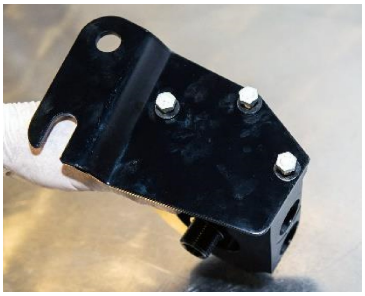
4. Make sure to get the oil cooler positioned all the way to the driver's side of the vehicle.

NOTE: BE SURE THAT THE OIL LINE COMING FROM THE RADIATOR DOES NOT MAKE CONTACT WITH THE COLD WEATHER MANIFOLD. IT MAY BE NECESSARY TO LOOSEN THE FITTING AND ROTATE AWAY FROM HOSE TO MAKE CLEARANCE.

NOTE: CAP HEAD REPLACEMENT BOLT POSITION.

Assembling The Oil Filter Adapter And Bracket:

1. Install the adapter onto the bracket using the supplied hardware as shown.


2. The straight fitting that was previously removed from the thermostat goes into the 'Oil In' port and points toward the rear of the vehicle.
3. The 90° fitting goes to the 'Oil Out' port and points towards the front of the vehicle.
4. The remaining two ports get a plug installed.

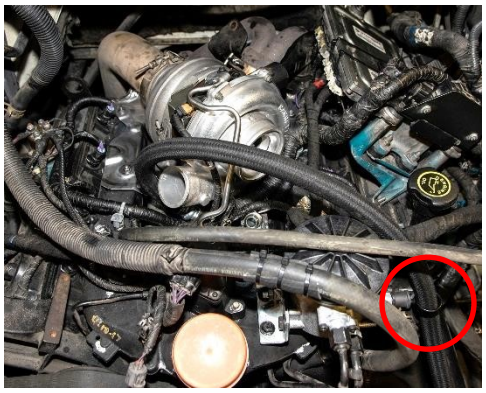

5. Locate power steering fluid reservoir bracket.
6. Remove the upper bolt in the frame and loosen, but do not completely remove the lower bolt to prepare to mount the oil filter bracket.
7. Mount the oil filter housing, tighten the bolts.

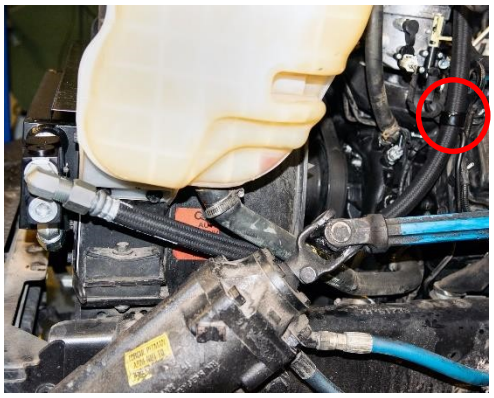


Installation Stage 3: Oil Hose Routing

1. Starting at the engine, install the 56” straight, straight hose to the ‘Oil In’ port on the oil transfer block and attach the other end to the 90° fitting coming off the cold weather thermostat.
    a. Use the supplied clamp to secure this hose to the engine lifting bracket. This is to avoid possible chafing of the hose.





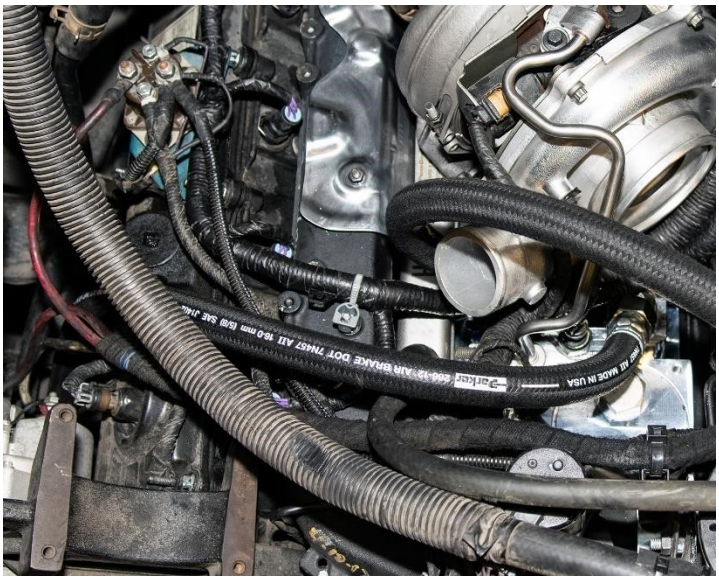
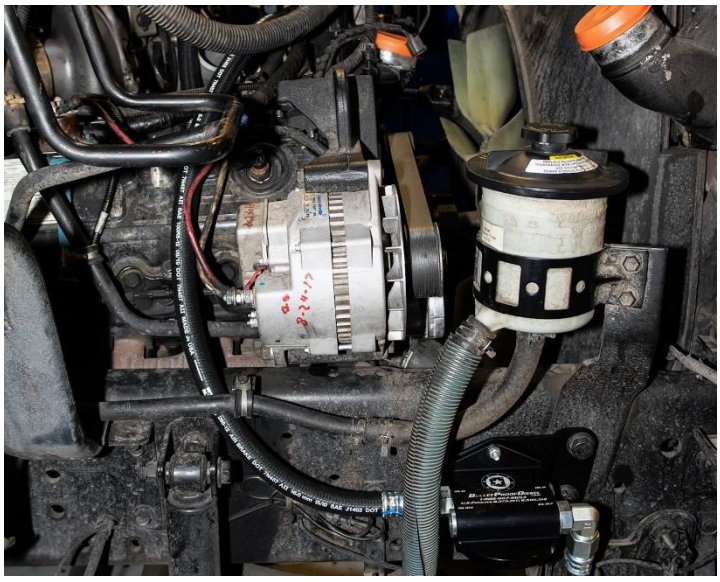


Once the hose routing is complete be sure to install the hose strap to keep the degas bottle hose and oil line from rubbing on each other.

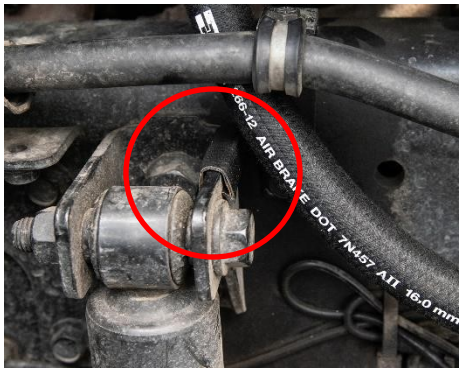
2. Attach the 35.5 straight, straight hose to the cold weather tee then rotate it along the transmission cooler line and over to the oil out /90° fitting on the oil filter adapter.
    a. Make sure to attach the clamp around the hose and mount to the bracket where the transmission cooler hoses attach.



3. Starting at the engine, install the 41.5-inch straight, straight hose to the 'Oil Out' port on the oil transfer block.
    a. This hose will route toward the passenger side of the vehicle. Route the hose over the valve cover and connect it to the straight fitting on the 'Oil In' port in the filter adapter.

To avoid hose chafing install the screw thread protector on the valve cover bolt.



Install the edge protector on the upper shock mount to protect the hose from chafing.

After all the hoses and hardware is secured, you can install the oil filter and fill the system with oil. The truck is now ready to start.