

NEW OIL COOLER KIT INSTALL AND WHY EVERY 6.0L NEEDS ONE



DIESEL TECH

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VOLUME 10 — ISSUE 3

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INSTALL

BY BRADY L. KAY

NEW 6.0L OIL COOLER

BULLET PROOF DIESEL'S LIQUID ON LIQUID RELOCATION KIT

The Bullet Proof Diesel 6.0L VK688 Oil Cooler Relocation Kit is the perfect product for the 6.0L owner who wants to retain the Ford factory oil filter and oil cooler function, yet remote mount the problematic OEM oil cooler for easier service.

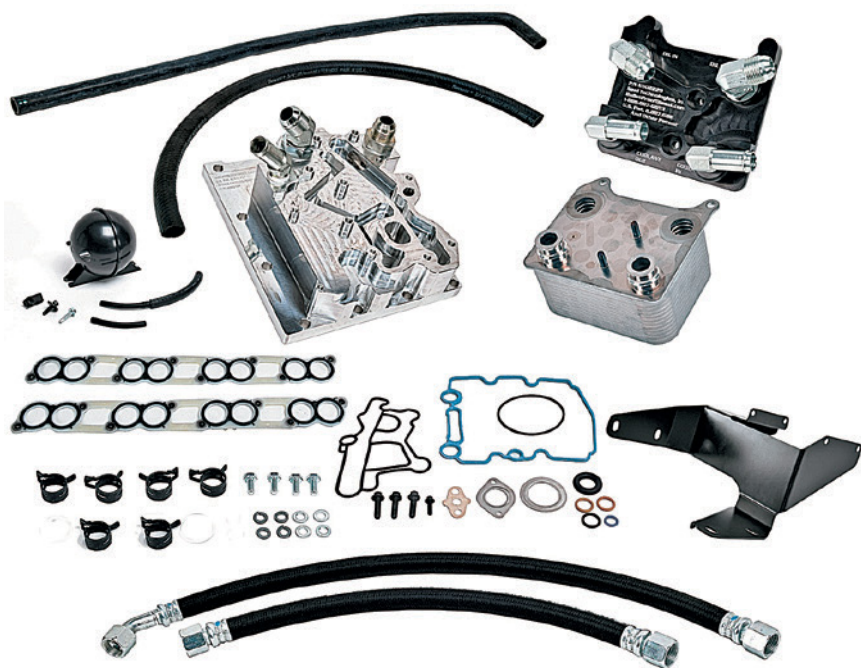
Located in Mesa, Ariz., Bullet Proof Diesel has built its solid reputation in the diesel industry by engineering 6.0L-specific products and making believers out of those who once felt the Power Strokes built from 2003 to 2007 weren't worth modifying. The parking lot is just one indication of how much this company believes in the 6.0L. Everyone from Bullet Proof Diesel owners Ken Neal and his brother Gene, to shop techs Del Wamsley and Jacob Lopez, all own a 6.0L (and that doesn't include Service Manager Andrew Presley or Tech Support Christine Ruggles who both own one too). With nearly 30 total employees, there's no telling how many more are currently owned by BPD employees.

So what do you do when you're Bullet Proof Diesel and you already offer a popular 6.0L Oil Cooler Kit that is loved by diesel enthusiasts all over the country? You improve it, that's what!

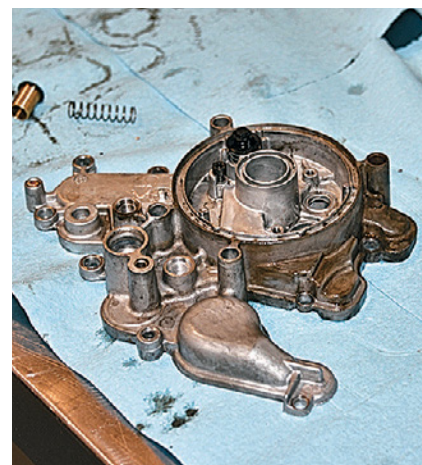
Why You Need It

The 6.0L VK688 Oil Cooler Relocation Kit has many built-in advantages and benefits. The VK688 retains the factory oil filter as well as the OEM-specified oil filter bypass and oil cooler bypass mechanisms, thereby maintaining the OEM oil flow design and specifications. An all-billet oil transfer block permanently removes the OEM oil cooler from the stock location and makes service and replacement easy. Plus the VK688 uses the OEM oil cooler and oil cooler gaskets. The oil cooler mounting bracket is Baja tough and it makes servicing or replacing the OEM oil cooler simple and easy.

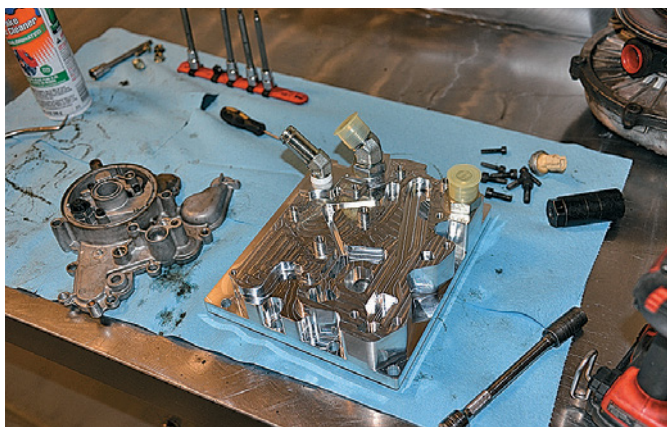
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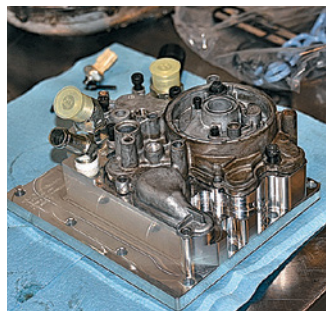
Tear-down on the 2006 Ford F350 Power Stroke began shortly after the dually first pulled into the shop. Del Wamsley was the shop tech assigned to the install and after five plus years with Bullet Proof Diesel he clearly knows his way around the 6.0L engine.



Following the OE oil cooler removal procedure—which included the removal of the intake manifold and turbo—Del removes the oil filter base that will be reused.



On the new transfer block, the elbow with the white tape on the threads shows just one of the improvements over the first version. The original was straight, but the new 45-degree fitting will fit perfectly under the turbo when installed.



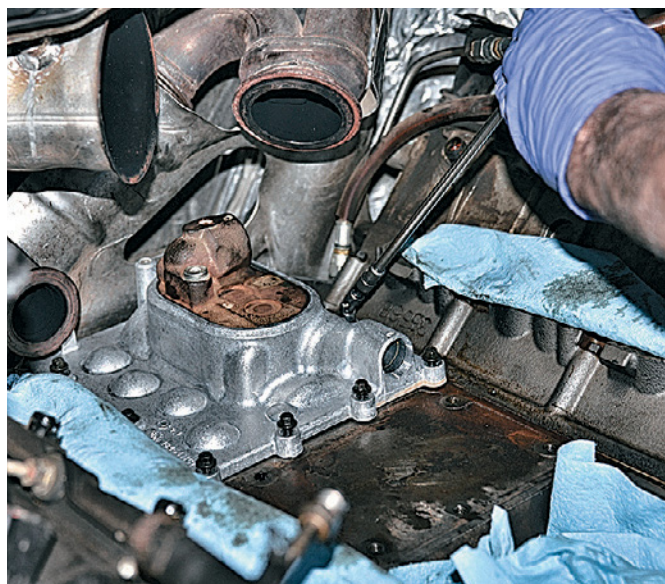
After cleaning the seal groove of the OE oil filter base, the provided replacement seal is added and then bolted to the new oil cooler transfer block.



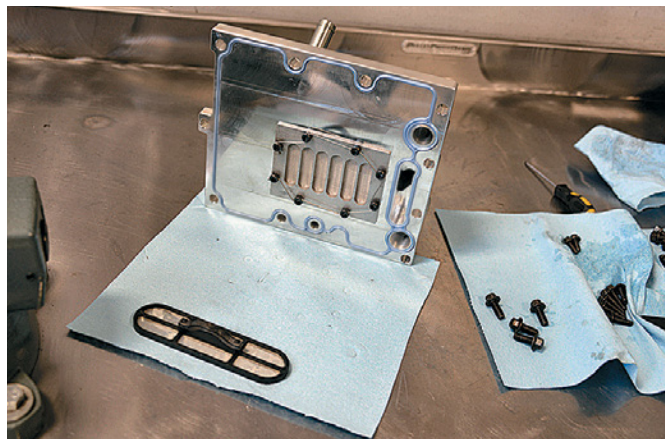
The upgraded high pressure oil pump (HPOP) pressure fitting replaces the original "snap-to-connect" fitting. It's a good idea while this is apart to do the optional STC upgrade.



When re-installing the HPOP that is in the very back of the engine compartment, be sure to remove all of the oil and debris from the HPOP reservoir first.



Del advises to use extreme caution during this process because he knows that if he drops something back here, it will be gone. The kit comes with new bolt hardware and with this upgrade there really shouldn't be a reason to ever have to go back in this deep again. Simply put, the truck is now bulletproof.

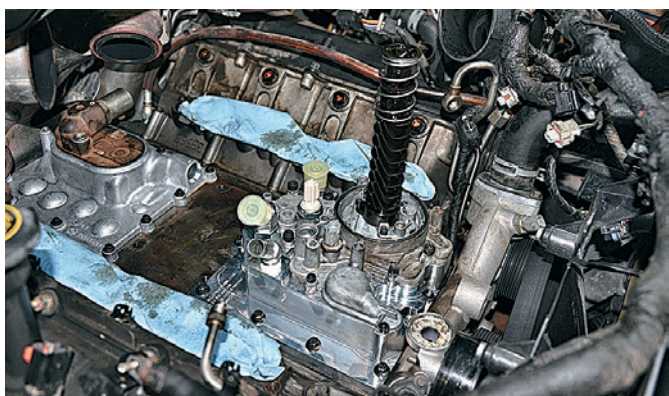


The old cheap OE HPOP filter that often breaks can now be discarded. You can see that the new BPD oil transfer block has an integral HPOP screen that is made from stainless steel and is a huge quality upgrade from the stock filter.

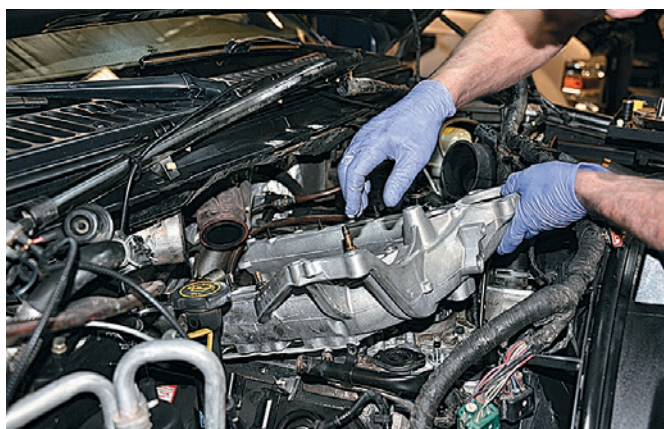


Using the OE bolts and following torque specifications, the new BPD oil transfer block can now be re-installed. The only downside to this polished piece is that it's now going to be buried where it won't be easily seen.

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At this time the OE filter housing and oil filter are not reinstalled; this comes after the oil transfer hoses and intake manifold are installed. The old block will now be recycled since Bullet Proof Diesel recycles everything they possibly can.



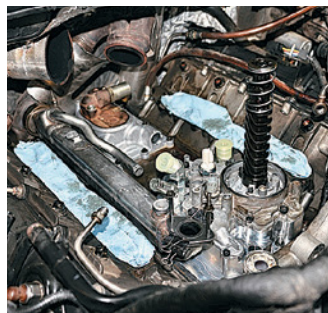
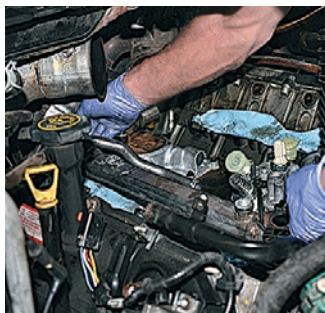
Next the manifold is installed.



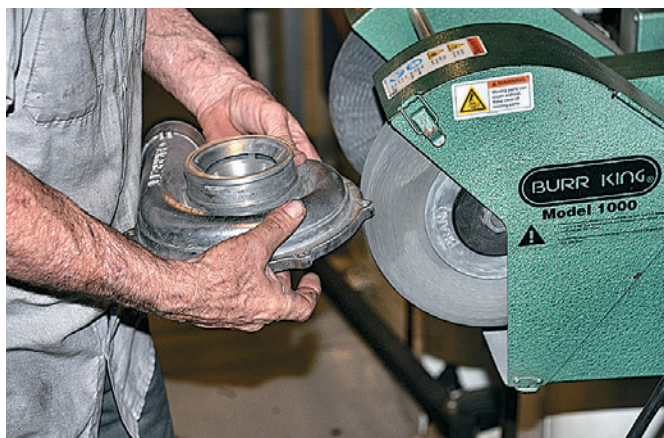
The manifolds are cleaned by a local radiator shop since they can clean them better than the in-house parts washer. Here Del Wamsley preps the manifold before he installs it. Every chance they get, BPD upgrades the hardware so no small part can possibly cause failure down the road. Again, it's the bulletproof theme the company is founded on.



Extra steps are taken to give each customer the best possible service. First Del pressure washes the turbo housing, followed by a trip to have it sand blasted.



The old EGR cooler is replaced with Bullet Proof Diesel's proven replacement.



After assembling the turbo, Del puts the finishing touches to it by polishing it so it will really shine when the install is complete.



On a daily basis BPD takes old EGR coolers and remanufactures each one for Power Stroke owners who truly want a truck that is bulletproof.

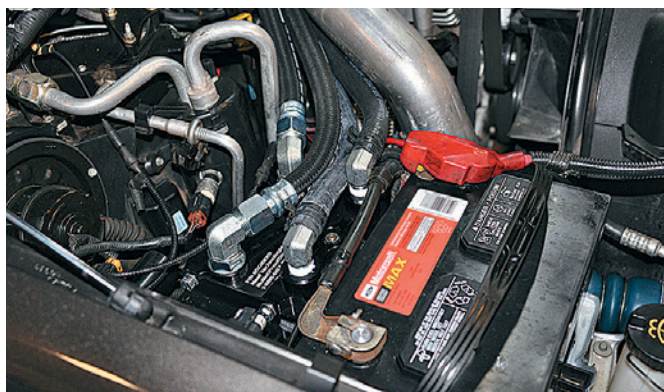
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For quality control purposes, all the hoses are manufactured in-house.



The oil filter and cover can now be reinstalled after all the hoses have been connected.



Each coolant and oil hose can now be connected to the proper fitting.



After removing the battery and tray on the passenger side, the black oil cooler bracket is installed after the vacuum reservoir is also removed. Then the stock tray is reinstalled and is now part of the bracket design.



Bare aluminum tends to stain over time so instead of being shiny, the new oil cooler is black and the lettering really stands out to indicate which fitting goes to which hose. It is designed for cross flow with oil and coolant and each is clearly marked so there's no chance for a possible mix-up when installing.



To make room for the new oil cooler, the old vacuum reservoir had to be removed. A smaller vacuum reservoir is provided and is easily installed on the side of the engine compartment.



Del places the assembled oil cooler relocation plate and oil cooler into the new bracket and secures it with the provided hardware.



The battery can now be reinstalled and the install is complete. Nothing is forced with this new kit. It's not disturbing anything and it all fits together nicely as if it were original equipment right off the assembly line.

Like everything Bullet Proof Diesel offers, the new Oil Cooler Kit is extremely over-built, which of course only helps tie in the company's name and back its reputation in the industry. This newer version still allows you to use the factory oil filter and being liquid on liquid-cooled—and not air-cooled—is the biggest advantage. Plus it's now easier and more convenient to service.

Not being reliant on a fan, the liquid oil cooler will be noticed the most when towing, yet is still practical enough to see improvements just in daily driving.

The major surgery on the 6.0L is now complete and the Ford dually is now ready for the open road as well as any possible mountain range it may encounter. **DT**

SOURCES:

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Using the OEM oil cooler hardware from the oil cooler removed earlier, the next step is to bolt the new oil cooler to the relocation plate.

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