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OCTOBER 2016
VOLUME 11, NUMBER 10
\$6.99 U.S.
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Stay Cool

Project Grocery Getter Gets a **Cooling System Upgrade from Bullet Proof Diesel**

BY ADAM BLATTENBERG

Project Grocery Getter has been “Bulletproofed” already with a Bullet Proof Diesel remote oil cooler, Bullet Proof EGR cooler, head studs and more. Her turbo has been upgraded, along with injectors and now she sits at a respectable 500-plus horsepower level. There’s not a ton left we plan to do to this powerful yet reliable family wagon’s 6.0L, but since we’re in the middle of summer, we figured it was the perfect time to get the Excursion’s cooling system following suite.



The nod was of course given yet again to the 6.0L reliability experts at Bullet Proof Diesel out of Mesa Arizona. This time they'd be addressing the water pump, as well as the electronically activated fan clutch. The factory installed water pump on the 6.0L uses a composite impeller, which over time takes a



1 Bullet Proof's Del Wamsley began by draining the coolant from our 6.0L and then started removing things like the upper radiator hose and fan shrouds to gain access to the water pump and fan assembly.



2 Next, Del used a special fan clutch tool to remove the clutch and fan as an assembly.



3 The 6.0L has multiple fan shrouds. After unbolting the final one, the fan assembly and shroud were removed together.

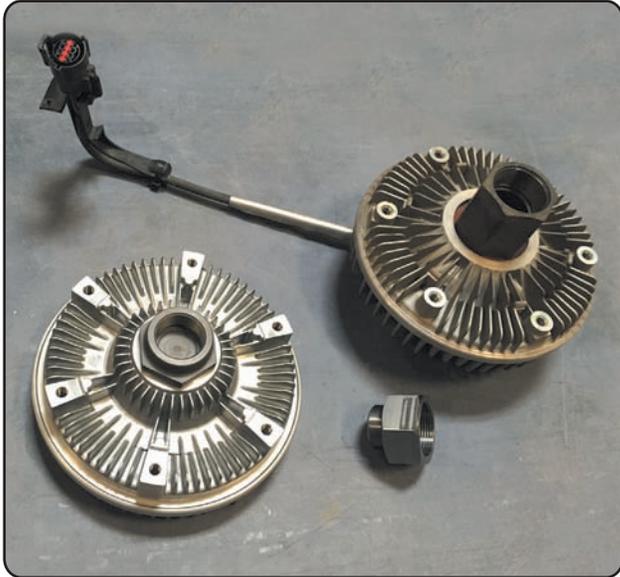
beating from cavitation, SCA's and more. The wheel has also been known to spin on the shaft in higher horsepower applications hindering its ability to pump sufficient amounts of coolant through the system, eventually overheating the engine. Bullet-Proof Diesel has a fix for this in the form of their billet aluminum water pump upgrade. The pump is exactly that, a billet pump with tighter tolerances and much more robust construction than the factory cast piece. It features a stainless steel shaft as well as a billet impeller wheel, which will handle the stress eons better than the factory composite piece will.



4 Here's the main reason for swapping out the 6.0L electronic clutch: The wires that control it live in a very harsh environment and can easily come in contact with the fan. Once that happens, the fan will cease to work altogether.



5 Since we'll be swapping out the 6.0L clutch for the 7.3L unit the first thing Del did was to remove the six bolts securing the fan to the 6.0L clutch.



7 6.0L clutch on the right and 7.3L clutch on the left. In between the two is BulletProof's adaptor, which allows the 6.0L water pump to bolt up to the 7.3L fan as the two use a different thread size and pitch.



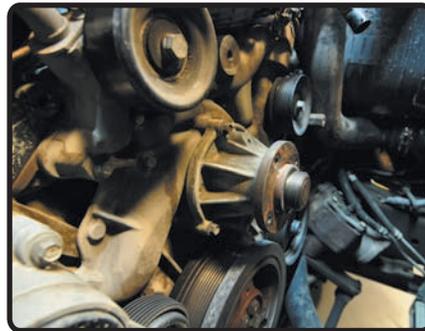
8 The Bullet Proof adaptor simply threads onto the 7.3L clutch.



9 With the fan now ready to go on, Del set it aside and moved onto the water pump.



10 The water pump pulley must be removed in order to remove the factory water pump. To stop the pump from spinning, while removing the bolts securing the pulley to the pump, Del kept the accessory drive belt installed while he removed all but one bolt. The last bolt was simply loosened to then be removed later—after the belt had been removed.

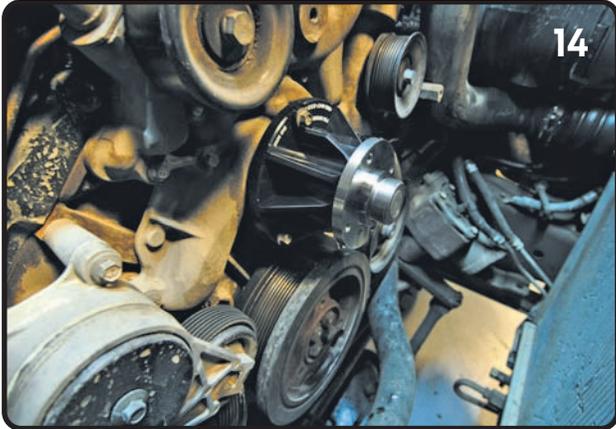


11 Front and center: the factory FoMoCo pump. After removing the four bolts securing it, Del gave it a light tap with a dead blow hammer and the pump came out easily.



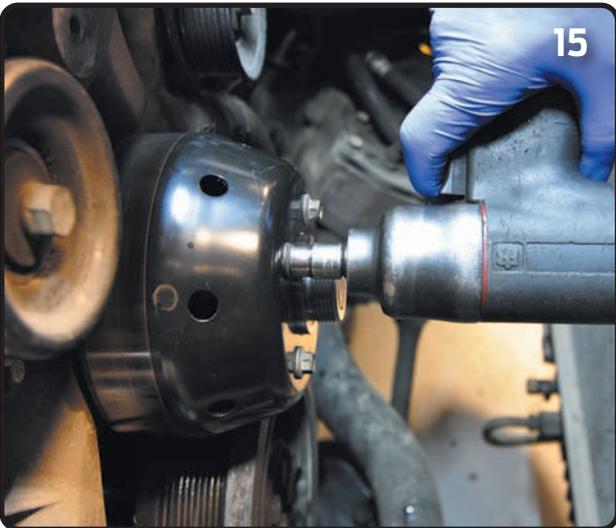
12, 13 Bullet Proof water pump next to the factory pump. The Bulletproof pump is 100-percent billet machined from high-grade aluminum and stainless steel for strength, longevity and to ensure a perfect fit with exact tolerances for problem-free performance. The aluminum impeller is much stronger than the factory plastic impeller and resists spinning on the pump shaft like the factory one can under heavy loads. The factory impeller also flexes under load, which causes cavitation that beats up on the front cover eventually leading to failure. This is virtually impossible with the Bullet Proof aluminum impeller.





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14, 15, 16 Installation of the new pump took Del only a couple minutes, and he then moved on to buttoning up the Excursion.



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The second issue Bullet Proof took care of was the fan clutch. Now the fan clutch itself isn't really a problem: It's how it's controlled. The six-liter uses an electronically controlled fan clutch. The wires to it live in a very harsh environment, and therefore, can and do get damaged often causing the fan to default into unlocked position; once this happens, the result is substantially reduced air being pulled across the radiator, ac condenser, inter-cooler and other fluid coolers in the stack making for higher temperatures across the board, as well as decreased air conditioner performance. Bullet Proof's fix is to replace the electronically controlled clutch with a mechanical thermostat controlled clutch used on the 6.0's sibling: the 7.3L Power Stroke. The clutch is a direct bolt-on to the fan, but will not mount to the 6.0L water pump without Bullet Proof's stainless steel cnc'd adaptor. Once finished, we noticed more consistent activation of the fan and noticeably better air conditioning performance. Couple that with the peace of mind that the factory clutch could now never leave us stranded on the side of the highway, we consider this a must-do modification for any 6.0L owner. Also, it's cheap and relatively simple to do yourself. All said and done, the water pump and fan clutch modification took only a few hours to complete, and the Excursion was back on the road. **DW**

Final Thoughts

Once done, Bullet Proof did a 500-mile test drive with Project Grocery Getter. While problems are rare, Bullet Proof wants any potential problems to occur while in their hands, not the customers, and we were no different. After the test drive was complete, we finally got to drive the truck ourselves. While the new H2O pump and fan clutch modification were mainly done as preventative maintenance, we actually did notice a difference in driveability. The air conditioning was noticeably cooler. While we didn't have any previous "over heating issues," Bullet Proof tells us that while towing and/or climbing steep grades, they have seen a decrease in overall engine temperatures. Cooler temperatures and peace of mind that our cooling system will be problem free for years to come sounds great to us.



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