CHARIOTS OF FIRE

ULTIMATE DIESEL
BUILDER'S GUIDE

EXCLUSIVE:
DIESEL-POWERED
SPORTS CAR

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F-350 FACELIFT
EXTENDED RANGE FUEL TANK
HOT ROD VW TDI WAGON
MILITARY SURPLUS
A Surplus 6.2L Blazer Gets a Banks Sidewinder Turbo Kit

BY TIM WATTS   •   PHOTOGRAPHY BY LARRY WALTON

Anyone over the age of 50 recalls the old “Jeep for $100” ads that used to be found in the back of such magazines as Popular Mechanics and Popular Science. What they failed to mention: the Jeeps were in crates with some assembly required. However, there’s still a great market for used military vehicles. And these trucks are usually inexpensive and most are diesel powered.

One of the most prevalent models out there is the old square-body Chevrolet Blazer, complete with camo paint and the requisite 24-volt electrical system. It also comes with the 6.2-L diesel, which was not one of GM’s better diesel efforts. However, with a little tending and a turbo, the 6.2L in the Blazer platform can be a great entry-level diesel vehicle.

We know you’ve noticed more and more military surplus vehicles on the road these days, and the reason is that as the U.S. military replenishes its fleet of domestic vehicles with more capable and technologically advanced units, they have begun “retiring” these older vehicles, such as the 1984 Blazer you see here.

OUR BUDGET BLAZER BUY

We picked up this camo beauty for $2,500 from the online auction site www.govliquidation.com. They come in various states of repair, and disrepair, from bases all across the country. Some never left the Status, while others saw front line duty.

A great entry-level diesel vehicle that is found readily on the government auctions is this mid-’80s K5 Blazer with the 6.2L diesel.
Dubbed by the military as an M1009 CUCV (Commercial Utility Cargo Vehicle) our find is much better known as a Chevrolet K5 Blazer. The CUCV Program of the late '70s and early to mid-'80s called for the U.S. military to find a cost-effective vehicle to bridge the gap between a full-blown tactical vehicle and the less expensive civilian vehicle.

Dodge initially supplied vehicles, but by the early '80s, GM had become the supplier of choice. In order to meet military spec, these units were all equipped with the 6.2L diesel engine and used a 24-volt electrical system. It was actually a hybrid 12/24-volt system that used 24 volts under the hood, complete with dual 100-amp alternators, the mandatory NATO slave receptacle for jump starting any NATO vehicle, and hookups for military radios. The rest of the truck was 12 volt.

Like any man who sees potential where others see a lost cause (mostly wives and gffriends), and potential unwanted yard art, I saw the makings of a very capable multi-purpose built rig. A well thought-out and executed build could result in a competent off-road trail rig, a fun weekend driver and a capable tow rig to boot.

The full-size capacity and ability to tow makes this a unique build as opposed to your everyday jeep.

**WEAK 6.2L DIESEL**

To accomplish this meant immediately addressing the power issue, or lack there of. While the 6.2L is a solid and reliable powerplant, it lacks the power to cruise highway speeds with traffic, let alone tow. The odometer only showed a little more than 4K miles, which doesn’t mean “everything” as those 4K miles could easily translate into 40K hours. But upon further inspection, everything seemed to be in good working order requiring nothing but a new set of glow plugs for the old 6.2L to breathe life again.

Options for adding power are pretty limited; a complete engine swap or adding a turbo. While the thought of a well-built Cum-
5. After adjusting the injector pump, you can reinstall the governor spring assembly, sealing washer and guide stud, refill the injector pump with clean diesel, and reinstall the pump cover. New mounting studs for the air chamber/plenum are then installed with 1/8-inch spacers between the stud and the intake manifold. Two 1/4-inch caps and spring clips are used to cover the vent nipples left open by removing the crankcase vent tube assembly. A new gasket is provided for the air chamber to intake surface and the air chamber then installed using sealing washers and locknuts. The air chamber is pre-drilled and tapped for a boost gauge fitting; the fitting or a plug must be installed.

6. The exhaust can now be removed. You must retain one exhaust to manifold flange and hardware for reuse as well as one donut gasket. In our case, both donut gaskets were pretty much shot, so we picked up a new one anyway.

7. The fuel lines are then disconnected at the lift pump. The lift pump and factory spacer plate are removed. The fuel pump rod will want to slip out, but a good coating of grease will help keep it in place while the mounting surface is cleaned and a new spacer plate is installed before reattaching the lift pump. The new spacer plate contains a tube used for the return of oil from the turbo.

8 & 9. The right-side glow plugs are then removed as well as the factory manifold. Twenty-six years can create an incredible bond, even as the studs were not the easiest to remove. To gain greater access, the batteries and battery trays were removed. Despite the additional clearance, one exhaust manifold bolt still had to be cut. After removing the factory manifold, a bolt was waited where the left bolt went. The bolt was removed.

10. The coolant is then drained from the radiator but the new lower radiator hose can be installed. There is a ground wire to frame attachment bolt that must be relocated to prevent chafing of the new hose. Once new hose is installed, the radiator can be refilled.

11. The return fuel line to the injector pump is located on the front side of the right cylinder head. This line must be carefully bent and rerouted to keep it as far away as possible from the new exhaust manifold. As you can see, we removed the right-hand alternator to gain more access to the line.
12A, B, C. A pyrometer probe adapter is installed in the new exhaust manifold using anti-seize on the threads. The new exhaust manifold can then be installed using the original mounting bolts. The Banke instructions recommend that the bolts should be inserted into the manifold and then secured using rubber bands until the bolts are started. We thought we knew a better way and didn’t need the rubber bands. After several failed attempts, due to bolts falling out, and a good bit of cursing, we can say from experience that a small package of rubber bands is money well spent! Once the manifold is in place, the glue plugs can be reinstalled, and the drive plug wiring and fuel return lines between the injectors should be routed (03 and away from the manifold).

12. A drain tube used to connect the new lift pump spacer plate can now be mounted to the center bearing assembly of the turbo.

13. The turbo is then temporarily mounted to the exhaust manifold and the center bearing assembly is rotated so that the drain tube aligns with the spacer plate tube on the lift pump. Lightly snug one of the six bolts on the turbo to secure the position of the turbine housing. The boost tube is then temporarily installed between the air chamber and plenum. The turbo compressor housing is rotated to align with the boost tube and a bolt tightened to secure its position as well. The boost tube and turbo are then removed and all 16 bolts are tightened and pre-installed locking nuts are bolted into place to secure the bolts.

14. The new exhaust crossover pipe is dropped into position and the new head pipe is positioned between the engine and the right frame rail.

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min or a late-model Duramax makes me smile, the added expense, labor and down-time involved to do the swap kinda kills the low-budget theme we have for this truck.

THE BANKS SOLUTION

When someone says “turbo,” the name Banks is usually not far behind. When you’re the first to do something, people remember your name. Gale Banks was a true pioneer in the diesel performance aftermarket we all enjoy today. Much of his personal and business success can be traced back to being the first to truly address the lack of power in the 6.2L.

Believe it or not, Banks still offers their Chevy Sidewinder kit for the 6.2L and told us it would be almost a drop-in for the military K5. So I ordered up the needed Banks’ Turbo kit (Bank’s Chevy Sidewinder #8293), read through the instructions (several times), and called the Bank’s tech line with some questions. I also
17. Bolt the exhaust pipe to the new manifold using the supplied gasket and stainless collet locknuts. A heat shield is positioned on the head pipe to help protect the lift pump from direct heat. The factory floating exhaust flange is slipped on the new crossover pipe and the new doughtnut gasket is installed in the manifold before installing the crossover pipe between the new head pipe and the left side exhaust manifold. The crossover pipe slips into the new head pipe and is secured using a 3-inch exhaust U-clamp. The head pipe and gasket is now mounted to the turbo as well.

18. This is a good time to make sure all fuel lines have adequate clearance from the new exhaust head pipe. In this instance, all the fuel lines required re-routing, but Banks includes plenty of new fuel hose to allow for this.

19. The new airbox assembly gets its fresh flow of air through an inlet duct in the radiator support. If not removed (as in this case) the duct is pre-punched and requires removal before you can install the plastic inlet hood.

20. When we started, we weren't sure if there were any differences in the military version that would present any issues or require modification. In the end, there were only two such issues. The first of which is a result of the 24-volt charging system. On a normal everyday K5 you would find one battery on each side of the vehicle. However ours has dual batteries located on the right side of the vehicle. The new Banks air filter housing mounts to the front-right battery tray; however, as you can see in the comparison, the battery tray used in the military truck is considerably larger than those normally found. This means we must heavily modify the existing tray, manufacture a new one or replace it with a tray from a civilian-style K5. Looking at how the box mounted quickly sent us searching for a replacement. Within minutes we had located what we needed at www.imtruck.com.

21. The airbox mounting bracket mounts to the battery tray supports and requires drilling. Using the bracket as a template, we drilled the mounting holes and installed the new tray, bracket, airbox and filter assembly.

22. After mounting the airbox, you can now install the connection hose between the anti-depression valve and the airbox. The hose hooks to the airbox via a plastic nipple screwed into the rear of the box. We had to modify the supplied hose as the anti-depression valve is located above the right valve cover rather than over the alternator like the civilian trucks. We used a piece of stainless tucking and some hose clamps to extend the hose the correct distance.

23. The turbo receives oil from the engine from an oil port located just above the oil filter. Fittings and a stainless steel braided hose are provided to make the connection. Beware: the port is not easily reached! The 1/8-inch-square factory plug can easily be stripped off! After stripping the plug, we had to make a custom 1/8-inch drill bit long enough to reach the plug so we could get a remover tool in the correct position for the plug to be removed. Once out, installing the fittings and routing the hose were a snap. The hose should be left loose where it connects to the turbo to ensure that oil is flowing prior to starting the engine.

The kit comes complete, and we mean complete, with every-
24. We were then ready to install the rest of the exhaust system as well as the pyrometer and boost gauges. The Banks exhaust system uses preformed pieces that slip fit into one another and exhaust U-clamps to secure them. The exhaust system fits easily and literally fell right into place. Installing the Banks pyrometer and optional Boost gauge was as straightforward as the exhaust system. A dual-gauge faceplate and all connectors were provided, making installation quick and easy.

25. Prior to reconnecting the batteries, it's time to give everything a final double-check. All fuel lines and wiring should be checked to ensure adequate clearance from heat sources. Banks provides some heat shielding that can be installed at this time as well.

26. Finally, it was time to reconnect the batteries and turn this baby over. However, the factory batteries which looked to be out of a mid-'90s John Deere combine were way to large to fit the smaller battery tray we installed with the new airbox. We needed two smaller, yet amped-up juice boxes to fit the spot. Optima Batteries offers a wide selection of sizes, side- and post-mounts, and various juice options that gave us the perfect fit for our requirements. We opted for a pair of deep-cycle Yellow Top Optima batteries from AutoZone. The Yellow Top Optima's have excellent cranking power, are vibration-resistant, and are known to cycle extremely well.

27. Now we are ready for the initial run. There was only one thing left to do, and that was change the engine oil. Instead of just yanking our favorite brand off the shelf at the local store, we had heard that Joe Gibbs Racing has released its own brand of premium oils, so we decided to order some up and give it a try.

28. After the oil change, we were ready for the initial run. The engine cranked right away and didn't take long to purge any remaining air from the fuel system. As far as results are concerned, Banks claims an increase of up to 80-plus horsepower and 115-plus lb/ft torque.

Sources:

AutoZone
123 S. Front St.
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www.autozone.com

Gale Banks Engineering
Dept. DW
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