BY STEVE TEMPLE ■ PHOTOGRAPHY STEVE TEMPLE

PROJECT DIESEL X

PART 1: BUILDING A 200,000-MILE TRUCK INTO AN 11-SECOND DEMON

Face it, the Cummins-powered Dodge Ram is the king of hot rod diesel trucks. The Cummins engine has more performance parts available for it than any other diesel. The trucks are simple and easy to work on, and if you go to the dragstrip or sled pulls, the winner's circle is packed with these pickups.

So when *Diesel Power* wanted to build its own hot rod diesel truck, there was no question what we were going to start with or who we were going to enlist to help us. We teamed up with Kirk Manuel of Manuel Auto Group in Ft. Worth, Texas, to build the truck and Greg Hogue, driver of the world's quickest diesel pickup, to turn a 200,000-mile Dodge Ram 2500 Quad Cab into an 11-second drag truck that will get driven every day.

The complete conversion took place in less than three weeks in a bay at Manuel Auto Group's service department. Working with Hogue, we spec'd out the components we'd need and had them shipped to Texas to be installed. Our initial testing (in the parking lot behind Manuel Auto Group's Lincoln dealership) told us we had a winner.

If you like what you see, stick around. This is just the first installment of Project X Diesel. Check back next month where we'll show you how we mowed down dozens of unsuspecting muscle cars at the dragstrip. **DP**

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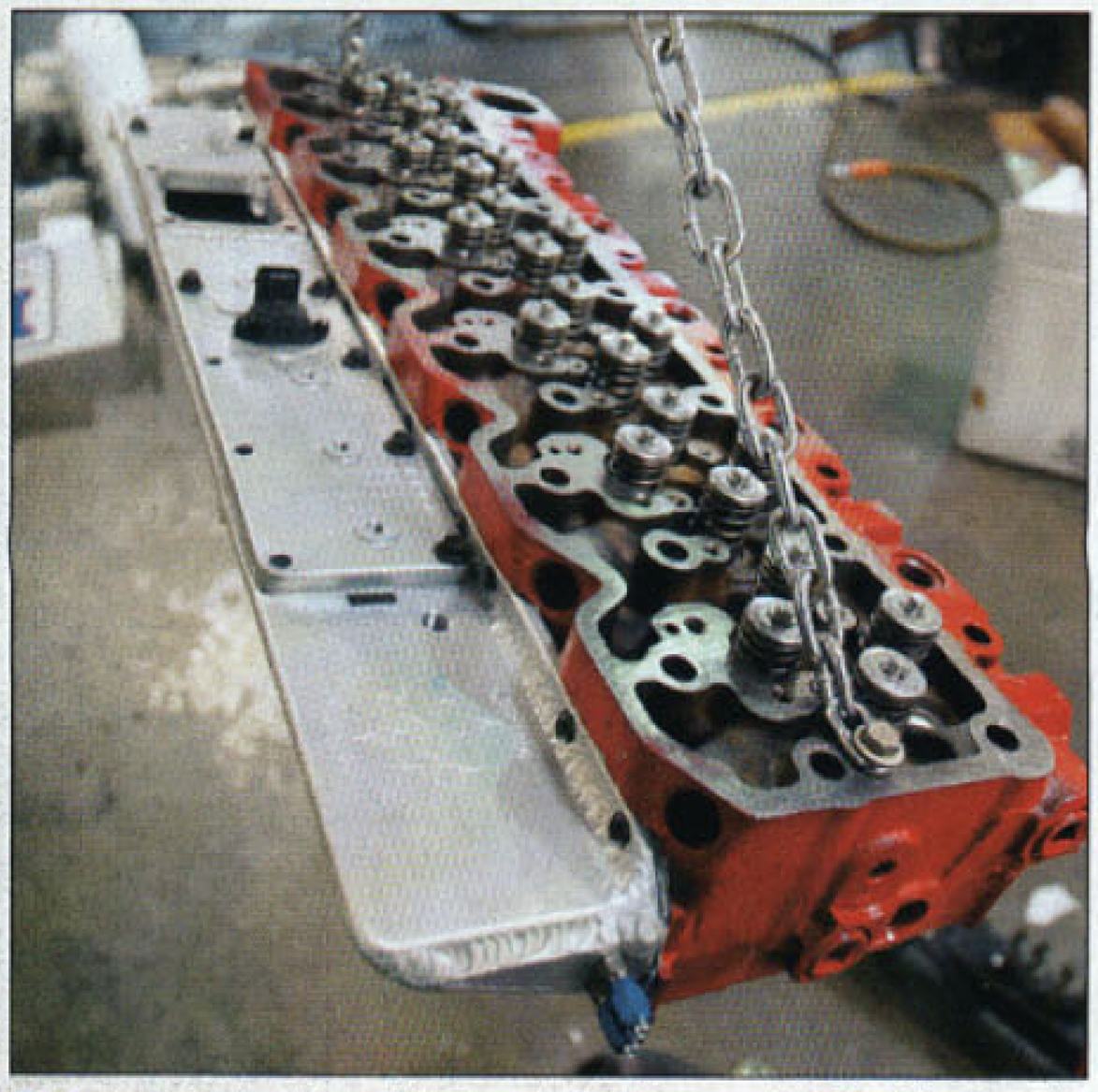
1. It all starts with the engine. Greg Hogue's build of the '03 Cummins began with removing the cylinder head and swapping in a custom-ground Bullet camshaft. According to Hogue, his proprietary cam grind will "pulse" the healthy-sized turbocharger to help it build boost.

2. The original Cummins cylinder head was reworked by RayMac Racing Engines. Over 20 hours of machine work goes into its Phase 2 Cummins head to increase the airflow. The integrated cast-iron intake manifold gets machined off so that the intake ports can be opened up. Extensive port work was also done on the exhaust side to improve the exhaust energy available to the turbocharger.



3. RayMac drilled and tapped the Cummins head to accept the ZZ Fabrications aluminum intake manifold with Nitrous Express spray bars.

4. No twins here. Feeding Project X is an Industrial Injection Silver Bullet turbo mounted on an ATS Diesel exhaust manifold. With so much more air moving in and out of the engine, we also swapped in a set of Industrial Injection injectors and a CP3 injection pump to meet the new fuel demands.

5. Knowing that Project X would see just as many street miles as track miles, we wanted the biggest air filter we could find to protect our Silver Bullet turbo without choking it. On went an off-the-shelf aFe intake like the one we tested in the October issue of *Diesel Power*. To everyone's surprise, our engine made more power on the chassis dyno with the air filter on than with no filter at all.

6. At the power levels we were targeting, running the factory exhaust would have meant huge EGT numbers and restricted flow. For the least amount of restriction possible we went with a 5-inch aluminized mandrel-bent turbo-back exhaust from MBRP.

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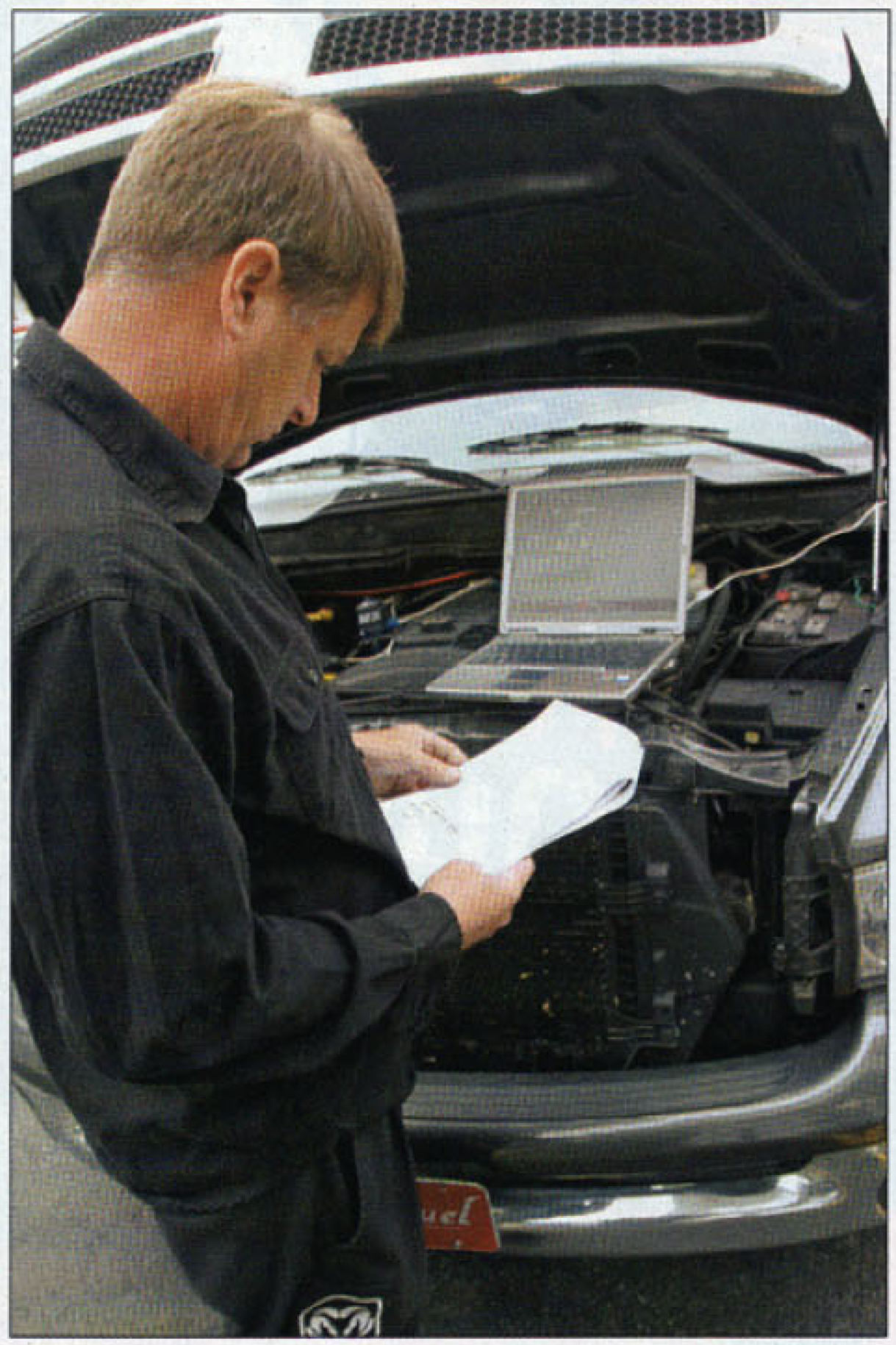
7. We're using the factory Dodge air-to-air intercooler, so we wanted to add water injection to help us tune in the engine power yet manage the EGT. Matt Snow from Snow Performance came down to Texas to install his Boost Cooler system for us.

8. The Snow Performance Boost Cooler will inject water from a reservoir into the Cummins intake manifold automatically based on engine load and EGT. The kit comes with a new reservoir, but we plan to tap the factory windshield-washer bottle for ease of installation.

9. The ATS Diesel exhaust manifold comes with a cast-in boss, where we mounted the EGT probe. You can also see the Nitrous Express carbon fiber nitrous solenoids that will control the two stages of nitrous injection. The first stage is injected on the hot side of the air intake just before the intercooler. The second stage of nitrous feeds the spray bar installed in the ZZ Fabrication intake manifold. Sharp-eyed readers will notice the cylinder head was reinstalled with ARP head studs to ensure head gasket failures wouldn't be an issue.



10. The key to the Nitrous Express system is the fully programmable progressive controller that lets the user adjust the amount of nitrous injected. We set ours up with a laptop computer to tune in the nitrous in relation to boost pressure.

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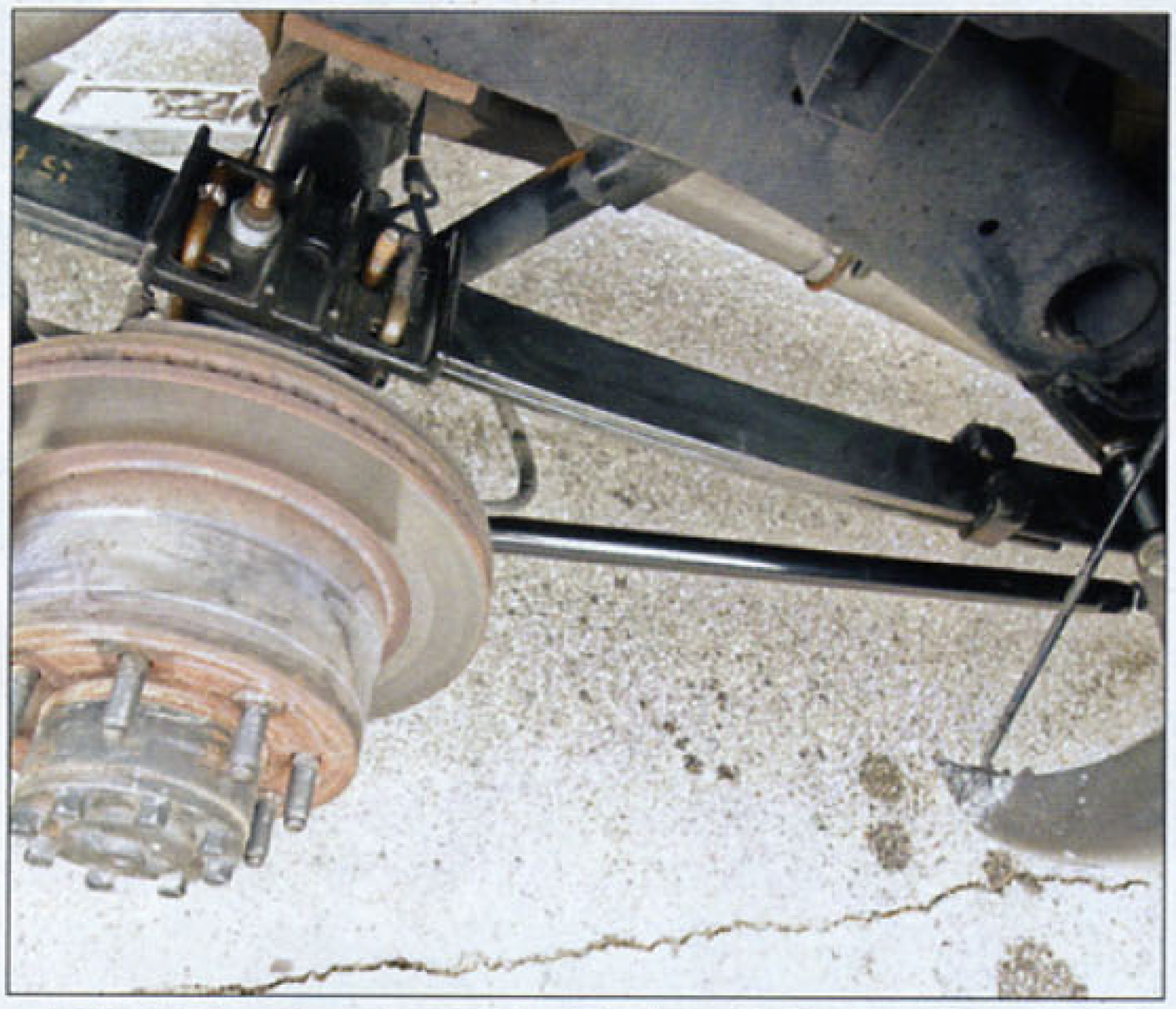

15. Here's where the voodoo must come in. In order to plant our M&Hs and launch the truck with virtually zero tire spin, we removed all but two leaves from the rear spring packs and added these Caltracs traction bars. They are designed to load the rear tires by controlling axlewrap and forcing the instant center of the rear suspension forward. The Caltracs bars were critical to the setup of our truck. If you want to race your diesel pickup, you need Caltracs as part of your rear suspension—or plan on losing to all the guys who have them.

16. Project X was built to burn up thousands of miles on the street yet still be ready to assassinate unsuspecting competition at the track. In order to conceal our 15-pound Nitrous Express bottle and drag tires, we called on Downey Products to get its latest Top Spin soft tonneau cover. We've marveled at how versatile this bed cover is. When in place, aluminum side rails work in conjunction with aluminum tubes that span the bed's width to provide a sturdy structure for the smooth vinyl skin. In seconds, the top rolls up and out of the way and is able to unroll quickly and Velcro in place easily without needing two people to wrestle it into position.

In our next installment of Project X we'll apply our Cummins's earth-dominating torque and take on all comers at *Hot Rod* magazine's Drag Week. We'll give you a sneak peak of what this truck is capable of when we plug in the Dr. Performance Predator module and Diablo Sport tuner. To date, this truck has run 11.76 at 115 mph in the quarter-mile. Not bad for a 6,300-pound truck you can drive every day!

Sources

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