Dual Mode Dynamite

We install the FR500 exhaust on a 2001 Cobra and the results are shocking.
From the November, 2010 issue of Muscle Mustangs & Fast Fords

Read more:
http://www.musclemustangfastfords.com/tech/0201mmff_500exhaust/index.html#ixzz1fzgZPQJ2

Installing a cat-back exhaust is always a dicey proposition for magazine guys. In a lot of instances, the best you can hope for is a couple of extra rear wheel horsepower and a genuine improvement in sound quality. This isn't a knock on aftermarket cat-back systems, it's just that the stuff Ford has used in its production cars over the last few years is remarkably free-flowing.

Heck, we're old enough to remember when bolting on aftermarket mufflers was worth a serious increase in power. The factory stuff was true junk. Not anymore. State of the art exhaust system technology allows the OE guys to tune the sound of their systems without sacrificing horsepower at all. The problem is when the stories come out and the horsepower increases aren't what the manufacturers' claims said they would be--like it's the fault of the writer for the part's performance, not the manufacturer. Such is life.

That being said, when we were told the FR500 exhaust system sold by Ford Racing Parts was worth 8-10 horsepower at the rear wheels we started shifting in our chairs. I mean, we loved driving the FR500 Mustang at Road Atlanta a couple of years back. We were grateful that some of the parts we sampled were finally hitting the Ford Racing Catalog. Eight-to-10 horsepower from a cat-back system, though? That's a bold claim. Could it be backed up?

There's more to the FR500 exhaust than meets the eye. Under normal loads, the exhaust gases go through the usual muffler baffles to quiet the sound. Under heavy or full throttle, however, the gases force open a trap door in the muffler, giving you a veritable straight-through design--not to mention an insanely wicked sound. They're called dual-mode mufflers.

In addition, there is an X-crossover aft of the mufflers, which increases torque while at the same time getting rid of some unwanted resonance. The whole setup is 2.5-inch 409 stainless, with polished tips.

Sounds great, right? But how does it work in reality? To find out, we enlisted the aid of Richard Howard, a police officer from Clinton, N.J. During the day he patrols the mean streets of Livingston, N.J.; afterwards, he cuts loose in a gorgeous new blue 2001 SVT Cobra.

Now we were really up against it. If the system didn't work, we'd have to worry about Ford Racing and a guy who carries a gun, a nightstick and radar. Who said this job is all fun and games?

Before we made the switch, Howard brought his car to Crazy Horse Racing in South Amboy, N.J., for a session on the DynoJet. To his (and our) delight, the car kicked out 274 rear wheel horsepower and277 lbs.-ft. of torque. This was without a cool-down and very close (at least horsepower-wise) to the car we tested from Ford in the August issue.

Next we met Howard at the Meineke muffler shop in Livingston. Owner Sean O'Malley is as car crazy as anyone. Unfortunately, his tastes run to silly little Bowties. At least he doesn't drive an import, and he was more than happy to work on Howard's Cobra. Upon viewing the Cobra from underneath, we were happy to see how easily the old system could be removed.

Unlike the factory system on solid axle cars, which usually have to be cut off before the rear to facilitate removal, the pipes and mufflers on the Cobra run under the independent rear. Removal was as simple as unbolting a couple of clamps and popping the pipes out of their rubber hangers.

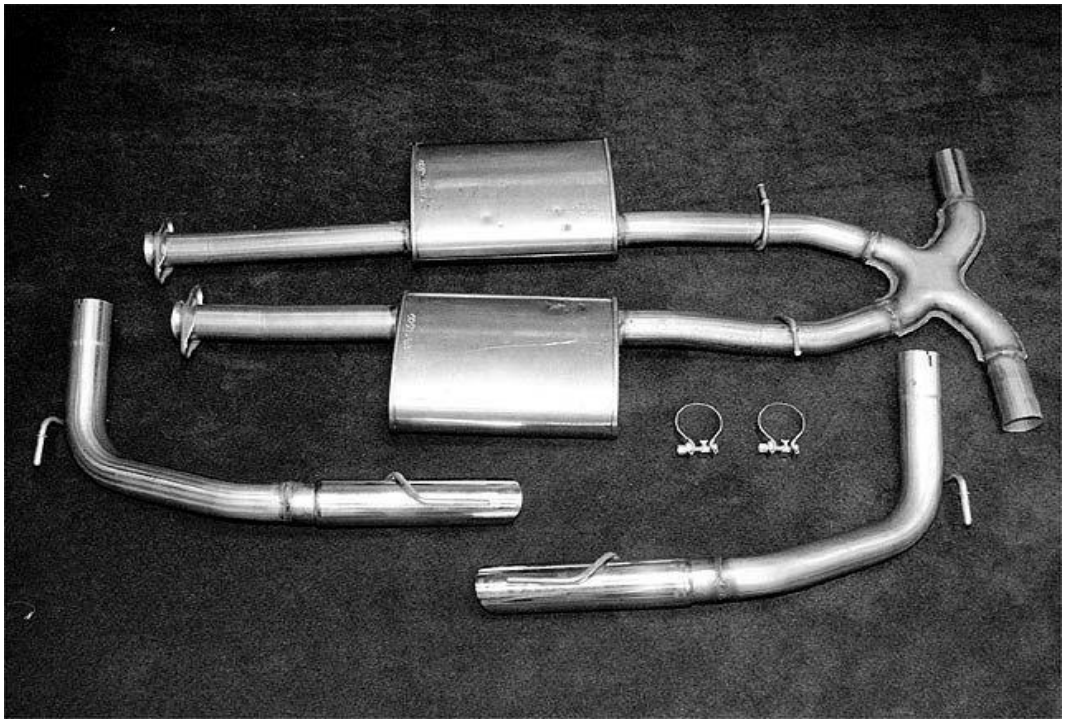
Installation was slightly more complex. The system bolted right in, but the right side pipe ran too close to the vibration damper affixed to the differential. Normally, you can use a large pry bar and move it, but it was much less flexible thanks to the X-pipe.

It took a little coaxing, but O'Malley finally had everything lined up straight. We started the car and there were no leaks. Officer Howard took it for a spin and loved the new sound. At idle, it was actually pretty quiet, but at WOT, it had a nasty howl.

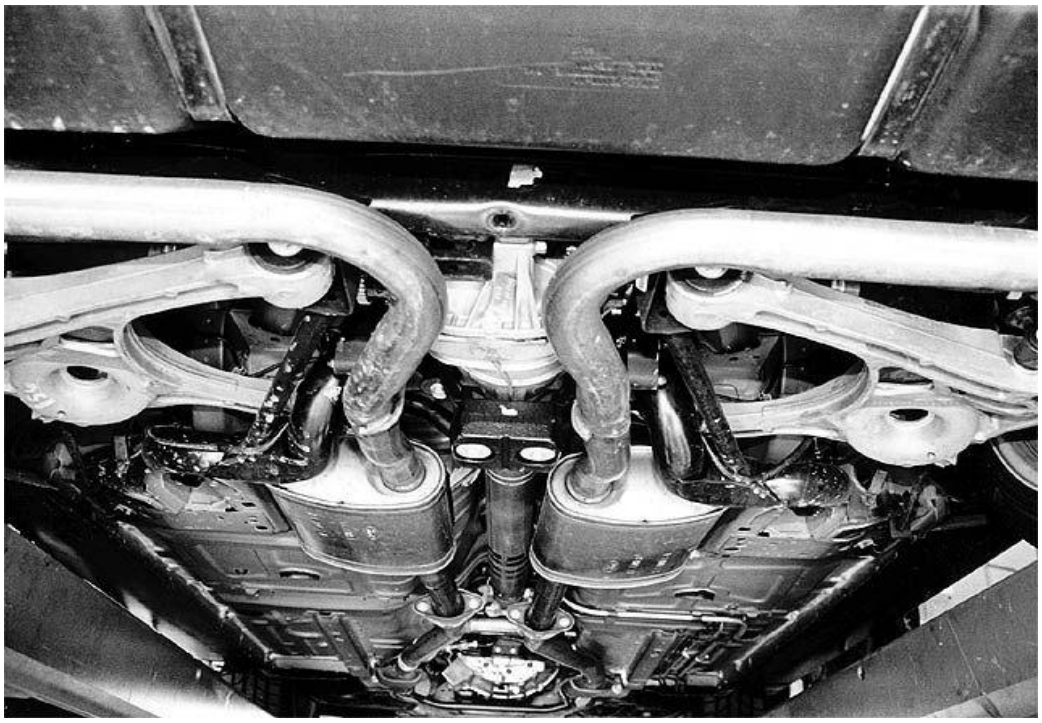
Then it was back to the Crazy Horse dyno. The moment of truth. Again, there was no cool down period; the only rest was while owner Chris Winter tied the Cobra down. He made the pull and the results were more than we could have hoped for. Howard's snake was now producing 287.6 horsepower and (hold on) 292.2 lbs.-ft.of torque. That's 13.6 hp and 15.1 lbs.-ft., sports fans.

Best of all, it can be done in your driveway with the car supported on jack stands. All you need is basic hand tools. This is one exhaust story I didn't mind writing.

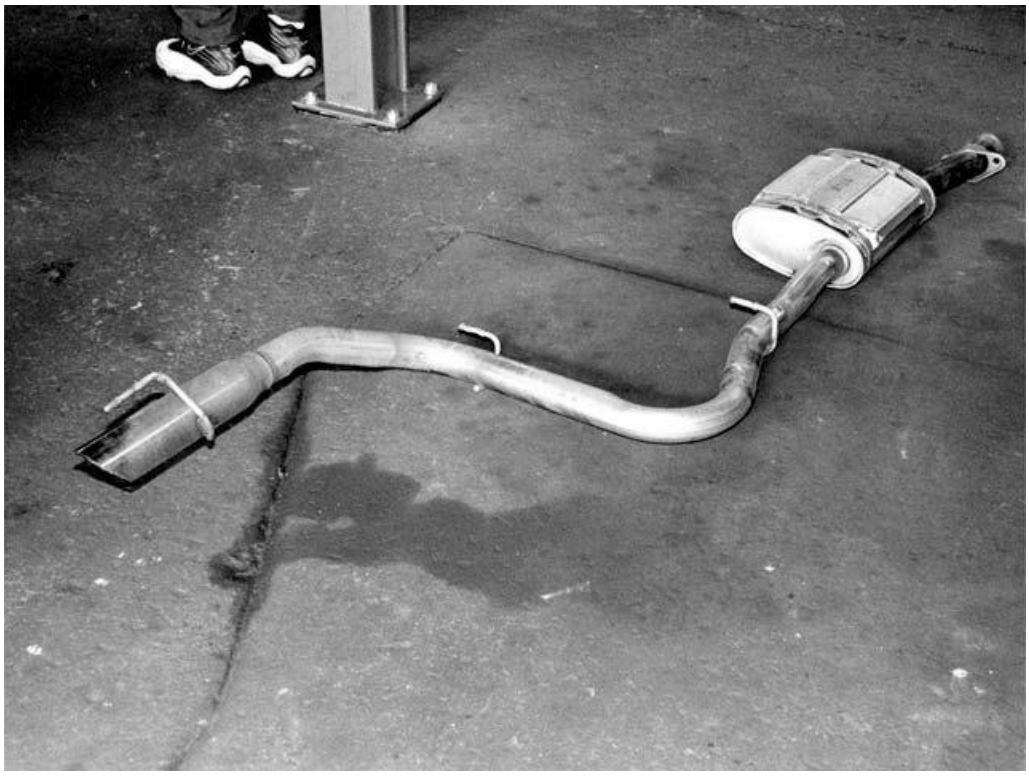
Finally, goodies from the FR500 show car are making it to the Ford Racing Parts outlets. In addition to the FR500 cat-back exhaust, the FR heads are on sale. So is the fat-wrap steering wheel, if that's your thing.



The FR500 kit comes complete with hangers, clamps, bolts, etc. The X-pipe aft of the mufflers cuts down on resonance and adds a bit of torque.

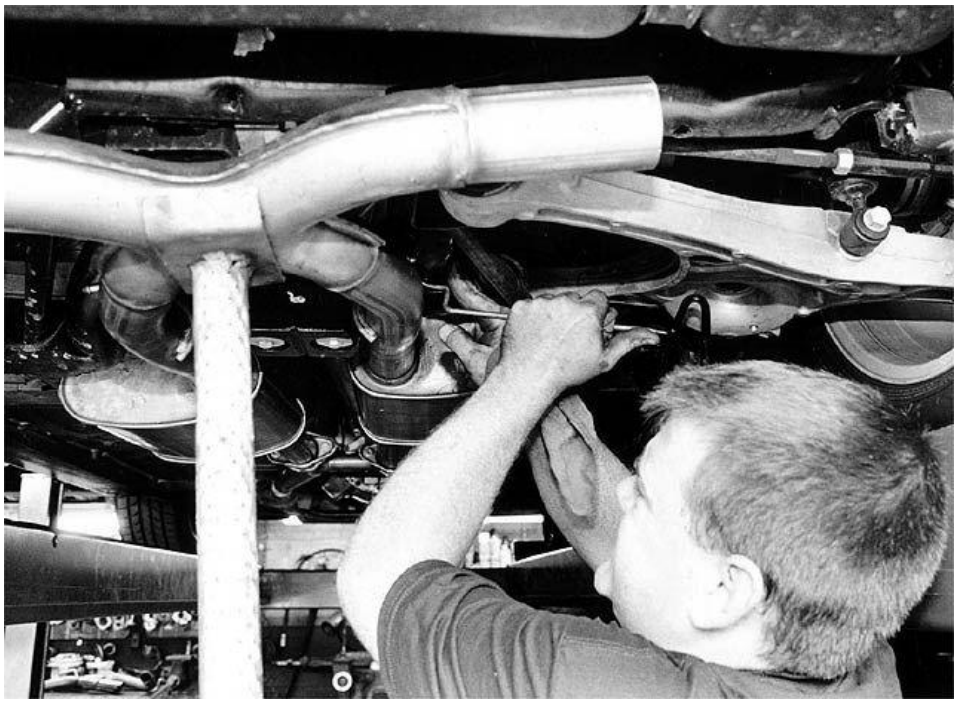


Here's the stock Cobra exhaust system. Note how close the right muffler is to the vibration damper on the differential. The fact that it runs under the IRS made removal a snap.

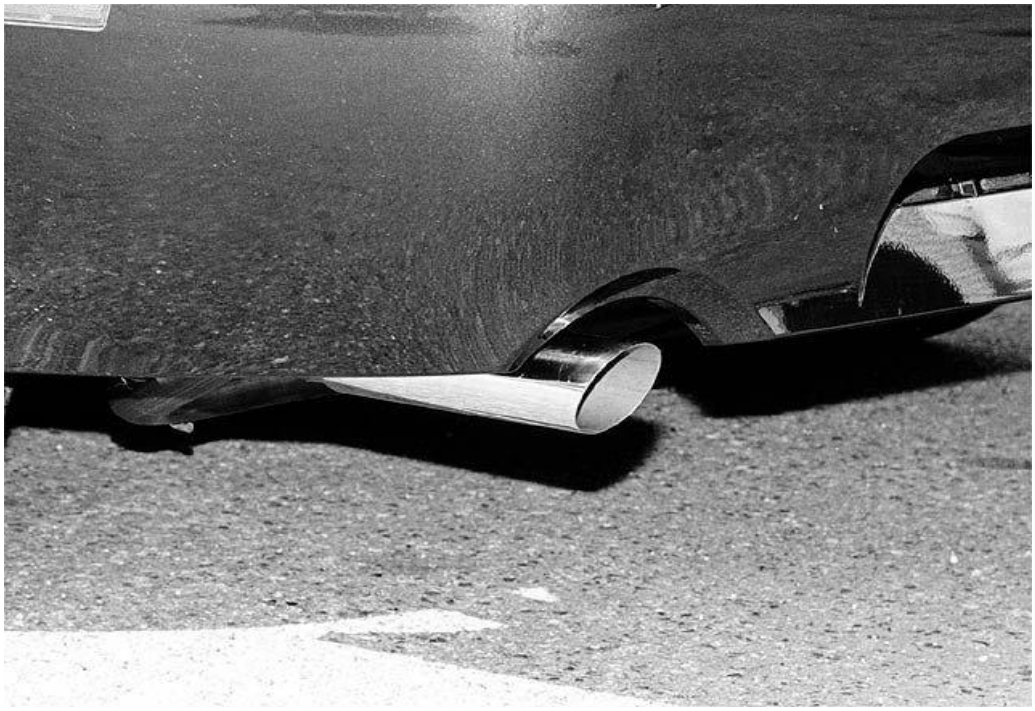


We were somewhat relieved that the stock system could be removed intact. That way if the FR500 exhaust didn't work, we could put it back on Patrolman Howard's car without worrying about doing serious jail time.

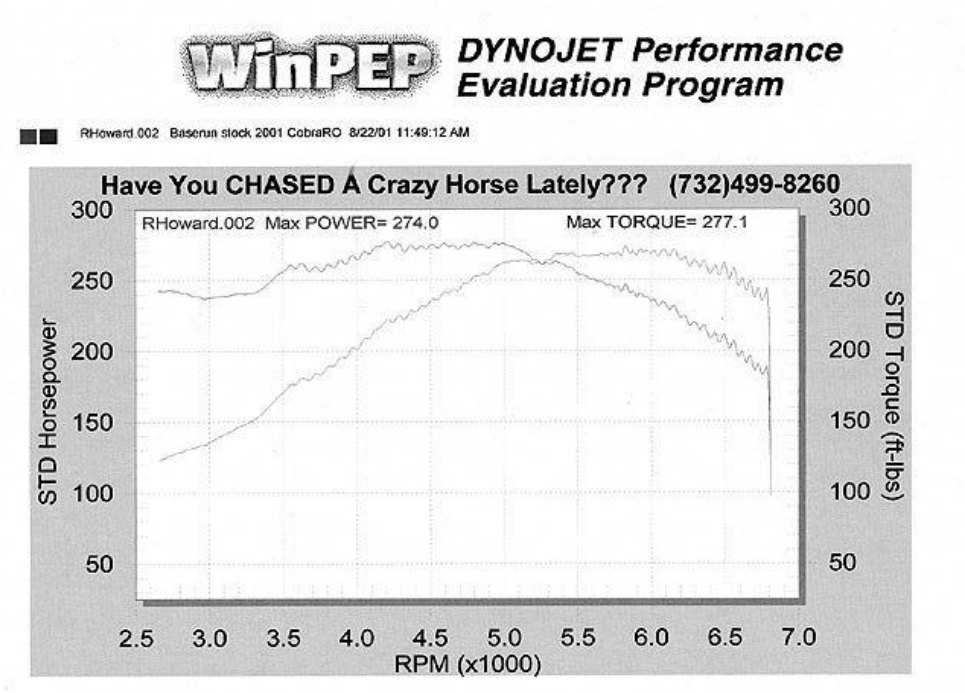
Using a pole jack to support the rear of the setup, O'Malley lined up the dual-mode mufflers to the factory H-pipe.



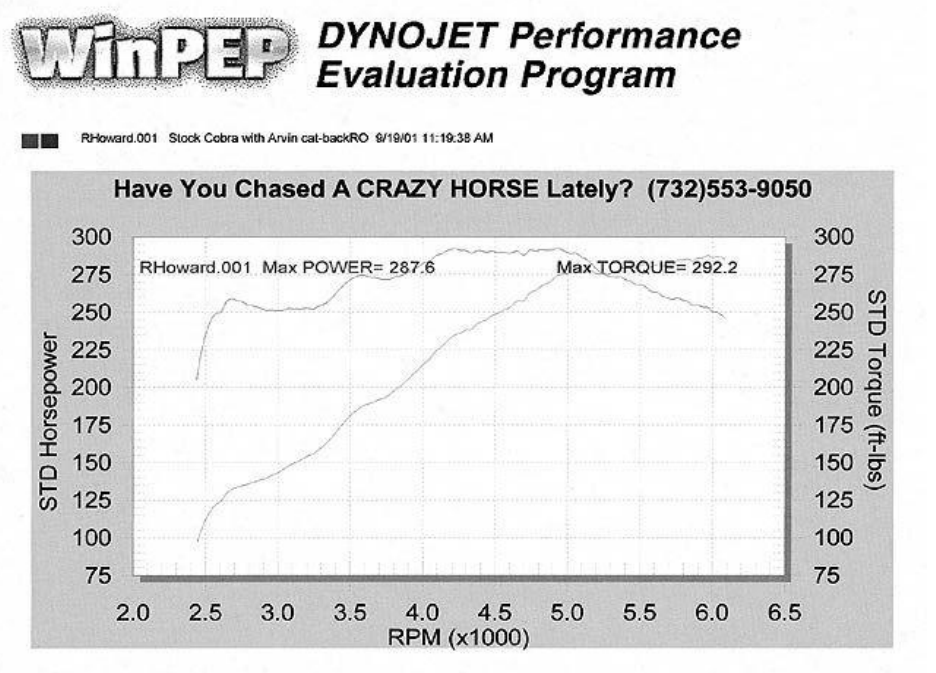
Check out the special whiz-bang tool specially designed for sliding steel hangers into rubber exhaust system mounts. You don't need one for the job, but O'Malley called it the greatest tool ever invented. He then slipped the tailpipe hanger in, but this turned out to be an incorrect move.



The tailpipes look great coming out of the stock cutouts. The performance was even better.



Here's the "before" dyno graph. No doubt, 274 horsepower from a stock Cobra is nothing to sneeze at, nor is 277 lbs.-ft. of torque. Obviously, the horsepower problems from '99 have been worked out.



Of course, if 274 horsepower is good, 287.6 is a lot better. And look at that torque curve. We've never seen a car pick up 15 lbs.-ft. of torque from a cat-back system before.