

Bolt On Product Dyno Test Summary

This information may not agree with what you've heard or read on the internet or in magazines - and it may not be what you or others want to hear - but it is reliable test data recorded at our dyno facility. It is not our intent to argue with anyone. All we can do is present the facts and data from the dyno tests and hope that the information may help you to better understand your PT Cruiser.

The sign on our dyno reads "One of the real dangers in running a test is you're bound to get data." Anyone who seriously disagrees is welcome to arrange a test at our dyno. We only ask that a magazine writer or editor be in attendance and the dyno results - good or bad - be printed in the magazine. We have all the high tech scanners and tuning tools necessary for an accurate factual analysis of any product.

Kenne Bell was fortunate in that we were the first aftermarket company to receive a production PT Cruiser from Chrysler. It was transformed in record time into the much publicized "PT Bruizer." We were also the first company to perform extensive dyno testing on the inlet and exhaust potential, ignition, pulleys, headers, chips etc. Kenne Bell was again first to develop a supercharger and intercooler kit. However, production was held up until we perfected the OPTIMIZER II™. These kits are scheduled for production April 1, 2002. And now there's an intercooled version. The OPTIMIZER II™ is perfected and ready. If your budget won't allow for a supercharger and you're looking for tangible horsepower and performance that you can feel, your only option is the OPTIMIZER II™.

OPTIMIZER II™ - The OPTIMIZER II™ increases engine horsepower and torque, firms up the transmission shifting and lowers the engine's operating temperature. Fuel, spark, fan cooling and the transmission functions are all re-calibrated. This is the result of 3 years of research and development. Thousands of dyno tests and man hours were dedicated to optimizing the calibrations for the PT Cruiser - and all the other Chrysler vehicles. The OPTIMIZER II™ is by far the best choice and value for bolt on performance. Anyone doubting this statement need only look at the dyno test comparisons. With 17 rear wheel / 21 engine HP, you will FEEL the difference. We also re-calibrate the PT Cruiser automatic transmission for firmer, quicker shifts and improved acceleration.

Kenne Bell doesn't offer an exhaust or intake system because, according to all our dyno tests, neither increased power or performance. However, if your bag is elevated engine and exhaust noise - with only placebo performance - these products may suit you.

EXHAUST SYSTEMS - Be aware that exhaust systems do not "make HP." A more efficient system merely relieves excess restriction or back pressure if it exists. **Note:** *If someone ever tells you that "all exhaust systems need some backpressure," you are talking to the wrong guy.* If an exhaust system does not restrict the flow of gases exiting the catalytic converter, then there can be no further HP increase. We verify the dyno results with an air fuel ratio meter, mass air meter and back pressure sensor. At Kenne Bell, we systematically remove the exhaust system piece by piece checking for any power increase. If the muffler and entire tailpipe from the cat back have been removed, how could any exhaust system work any better? The best, lowest restriction exhaust system is always - none at all!

INLET SYSTEM - As with the exhaust, if there is no inlet restriction in the factory filter, canister, inlet tube, hose etc. so there can be no power increase. We found "0" HP potential in the inlet. Chrysler engineers did their homework on the PT Cruiser's inlet and exhaust systems. They left nothing. Note: The cheap exposed underhood cone filter replacements dropped 16HP on our dyno with the hood closed. They may, of course, work O.K. if you can drive around with the hood up to cool the engine compartment.

IGNITION SYSTEMS - We tried several, even though we knew the results before installing them. "0" HP increase. If an ignition system isn't misfiring, what can a hotter version possibly do? The stock ignition will fire at 8 psi boost.

FUEL PRESSURE (pumps, orifices, switches) - Already too rich. Leave it as is. Don't believe that more fuel makes more power.

"PLUG IN" GIMMICKS - Leave the re-calibration to those in the know. Any device that modifies, alters or "fools" the engine or transmission sensors or wiring should be avoided. The new OBD II systems are extremely complex and sensitive to these gimmicks - which typically do nothing but create new problems for everyone involved. If the chip does not also modify and improve transmission shifting and reprogram the electric fan on-off settings, it is a "plug in" gimmick.

UNDERDRIVE PULLEYS - 3HP at 6000 rpm (approx. 1/2HP per 1000 rpm). Careful of charging and overheating problems.

HEADS - Never tested.

MANIFOLD - We flow bench tested the runners. Don't look for anything here.

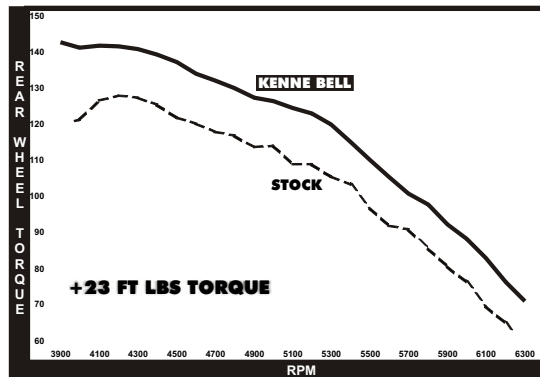
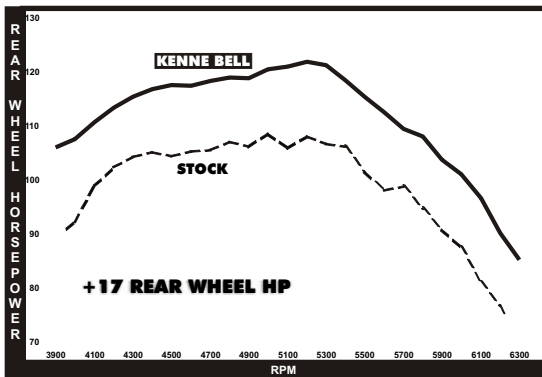
HEADERS - We tried several approaches with very limited success. Just look at the PT's factory cast iron header. They're not all that bad.

THROTTLE BODY - We tried a larger one. "0" HP.

SUPERCHARGER - As always, the ultimate power adder. Our kits add 40-60% more power depending on whether it's intercooled.

THERMOSTAT - The Kenne Bell PT Coolstat (\$15.00) allows the engine to operate at 180° vs 195°-220° factory. However, a low temp thermostat will not - and cannot - lower engine operating temp unless the fan on-off setting is re-programmed for the specific thermostat. Kenne Bell thermostats are all pre-tested and calibrated to the OPTIMIZER II™ calibration (non supercharged and supercharged).

Like it or not, there is little if anything to be gained from the usual bolt ons. You can spend a lot of money on traditional "what everyone said or thought works" products and get nothing for your money except more inlet and exhaust noise. We call this "placebo performance." If the above mentioned "0" HP products we refer to had any potential whatsoever to increase power, we would have offered them ourselves. The number 1 bolt on product value is obviously the Kenne Bell OPTIMIZER II™. After that, it's supercharger time. Hopefully, the Tech Tips have been helpful to you. Good luck with the PT. Similar Tech Tips are available for other Chrysler vehicles.



We monitor and data log many vehicles functions during a test. We typically dyno test in 3rd gear. In this test, we recorded HP from 0-115 mph in all 3 gears.

Test run #10986 data:
TEMP: ENGINE, COOLANT, TRANS, DIFF, INLET, EXHAUST, FUEL
PSI: EXHAUST, INLET FUEL, COOLANT
AIR FUEL: AFR, CFM, MASS

To achieve this performance increase it requires a combination of fuel, spark, transmission and fan re-calibration.