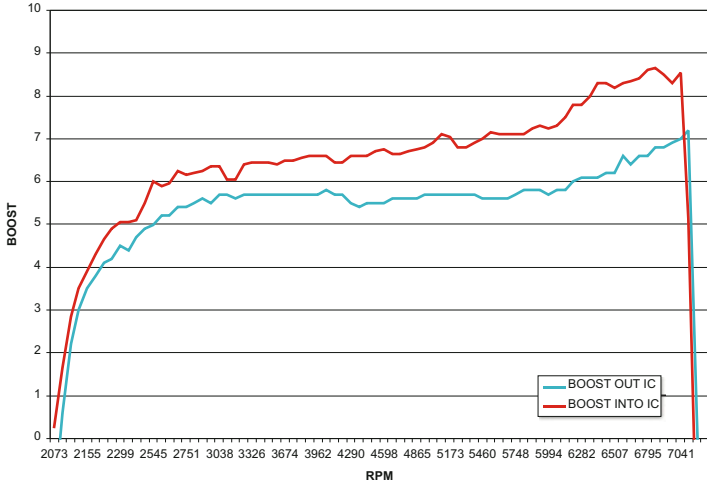


# KENNE BELL TESTING

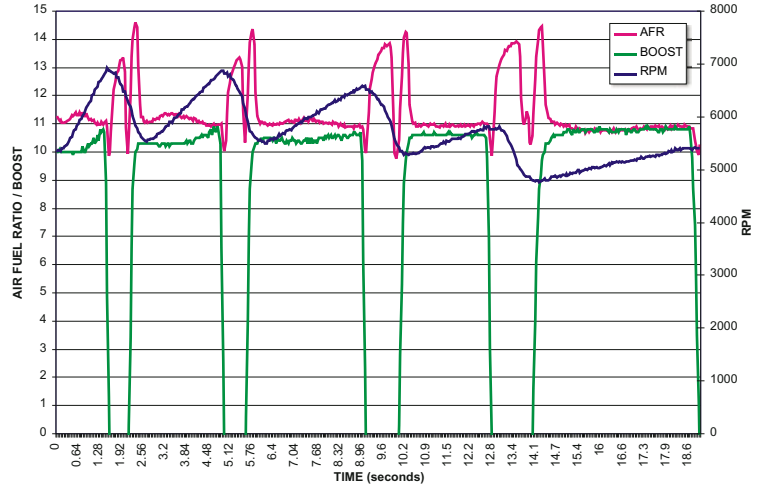
At Kenne Bell, we're serious about our testing. We believe it is the backbone to producing the highly advanced supercharger kits that we are famous for. Thousands of tests are performed before a kit is perfected and released. Our systematic approach to engineering kits is to make them run long, hard and trouble free. We possess the personnel, the chip calibration technology, the dyno/emissions facility and all the testing equipment, computers etc. necessary to dominate our competition. HP, Torque, RPM, Boost, Intercooler In and Out, Temp and PSI, AFT, Exhaust Temp, Flow and Back Pressure, Cylinder Pressure, Speed, Engine Mass Air Flow and Velocity, Knock, Spark, Temp and Load, Fuel Flow, Pressure and Temp are just some of the data we measure and data log. Below are a few examples of our sophisticated testing.

KB MIATA Kenne Bell Laminova Intercooler  
Pressure drop BOOST IN VS BOOST OUT



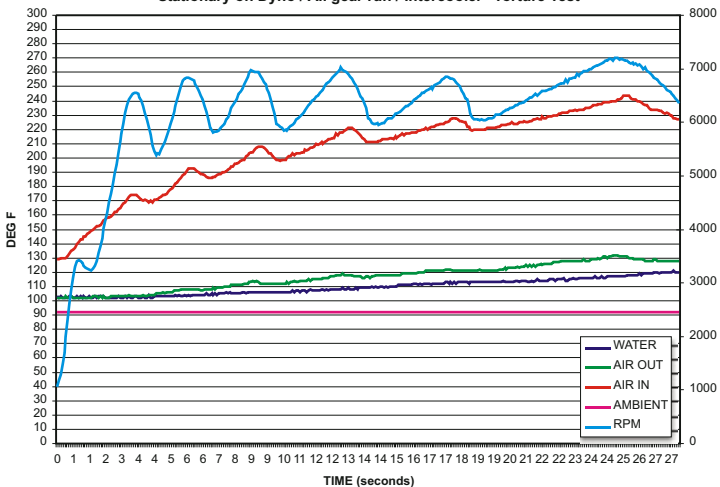
Another important part of kit design is the pressure loss through intercoolers. The Laminova is .5-1.5 psi in this test. Pressure losses are data logged through all inlet and discharge components that make up a kit. Air fuel ratio is varied to determine power losses or gains from fuel and detonation threshold.

KENNE BELL SUPERCHARGED / INTERCOOLED '02 MIATA  
Street All Gear Run AFR / BOOST / RPM



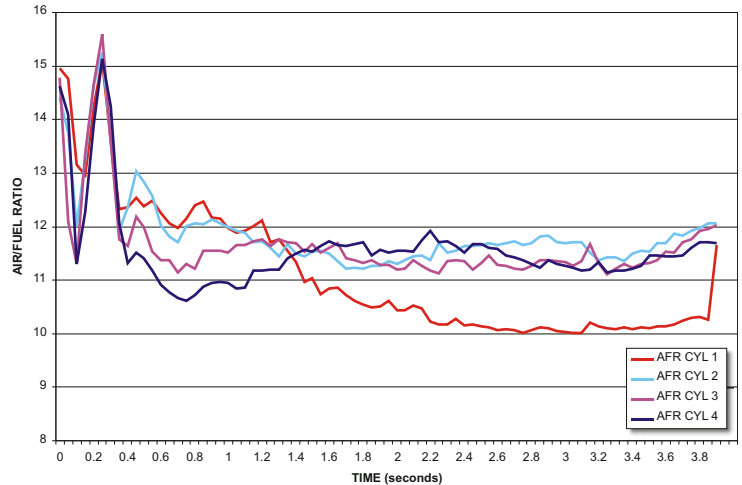
This AFR, Boost and RPM data is from a WOT "all gear run" to 160 mph (graph begins with 2nd gear). The data clearly reveals we have calibrated a near perfect AFR in all 6 gears. Here, AFR is purposely leaned in lower gears and slightly richened with vehicle speed and gear, but remains at our ideal 11:1 ± 3%. Also check consistent full boost in all gears.

KENNE BELL 2001 SUPERCHARGED MIATA INTERCOOLER TEMPERATURE  
Stationary on Dyno / All gear run / Intercooler "Torture Test"



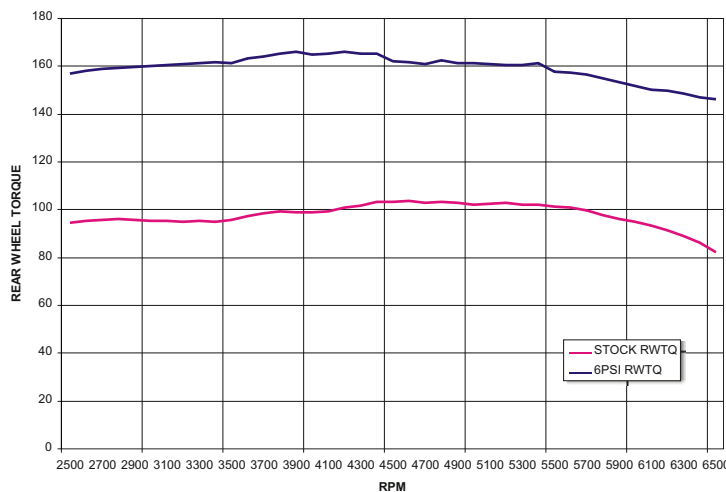
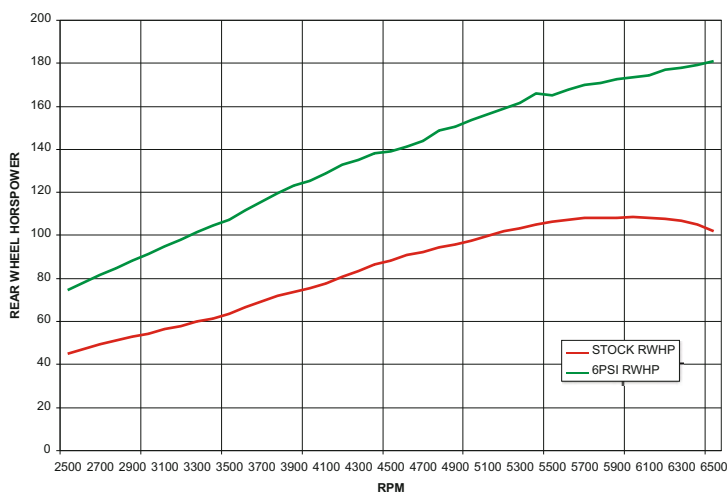
We even torture test for worst case scenarios. Here, intercooler efficiency is being evaluated in all 6 gears from 0-160 mph on our Dynojet Dyno with a stationary vehicle! There is, of course, no ambient (outside air) blowing through the heat exchanger and the boost is adjusted abnormally high for the test. These severe stationary test conditions clearly illustrates that even with heat soaked components, "0" air flow and 6000+ rpm in 6th gear, the Kenne Bell Laminova intercooler lowers the AIR OUT temperature nearly 100° for a remarkable 73% efficiency. Also note that the intercooler WATER temp is only 8° above the AIR OUT and the AIR OUT is a mere 36° above ambient. Do not attempt this test in your garage with the Mazda on jack stands.

KB MAZDA MIATA AIR/FUEL CYLINDER DISTRIBUTION TESTS  
SINGLE GEAR RUN 8 PSI BOOST



At Kenne Bell we never perceive any engine as a "4" or "8" cylinder. For example, we view the Mazda 4 as four (4) one (1) cylinder engines trying to perform in harmony. AFR (air fuel ratio) is the most important engine functions, yet only a select few have the capability of measuring it ACCURATELY! Kenne Bell not only has the OEM grade equipment, we measure all the cylinders with Horiba sensors - a standard practice for us since 1991. Excessively rich cylinders reduce power and increase surface wear. Lean cylinders promote detonation and potential engine damage. We strive for an AFR of 11:1 with ± 3% max variation for supercharging in ALL cylinders at ANY rpm. See anything wrong with a cylinder in this test?

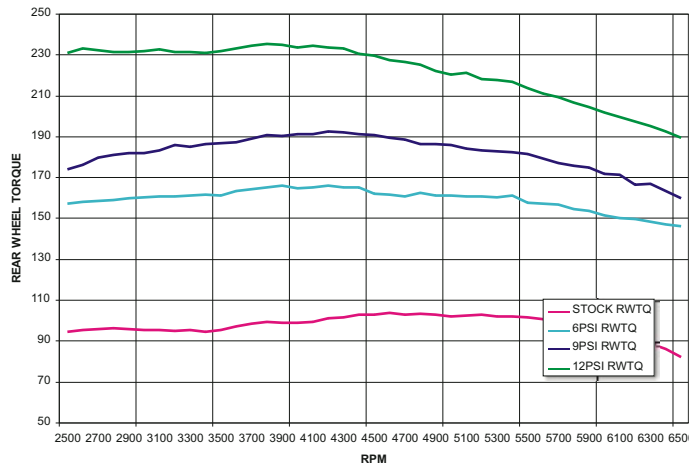
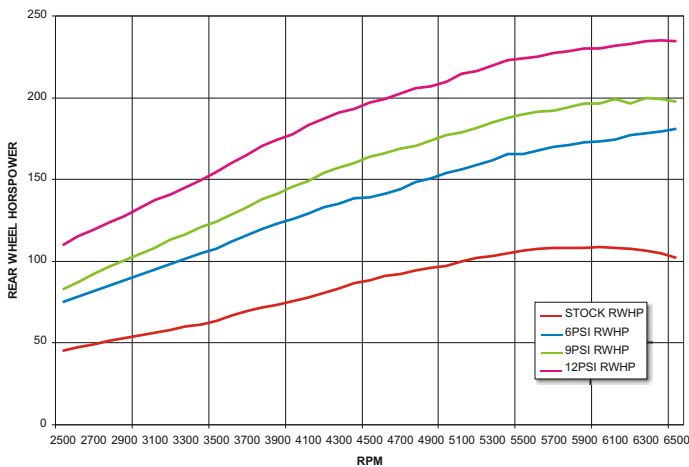
We offer kits in 3 boost (power) levels. HP is increased from 109 to 180, 201 or 235. All 3 are perfectly calibrated with the Kenne Bell OPTIMIZER. Pulls strong from 2500-7000. Easily upgraded. There's no waiting for high rpm to feel those little HP gains from headers, exhaust, cool air, cams etc. The Kenne Bell kits make BIG power and torque at ANY rpm - and acceleration you can really feel.



**STOCK MIATA 1.8 vs KENNE BELL SUPERCHARGED 6 PSI**  
**REAR WHEEL HORSEPOWER & TORQUE**  
(DIVIDE BY .8 TO GET APPROX. ENGINE HP & TQ)

### INTERCOOLING

What's the best choice - Kenne Bell Intercooler or headers/exhaust/cool air kit? The intercooler is a guaranteed 20-55HP, depending on boost. Forget the ads, rhetoric and hype. According to our dyno tests, headers were 8HP, exhaust 2HP and cool air kit 5HP for a 15HP total. Do the math. Compare the HP gain per dollar spent and the intercooler is clearly the winner. The intercooler is \$1200 or \$22/HP whereas the headers/exhaust/cool air are \$1000 or \$66/HP - 3 times the cost of the intercooler kit. While on the subject of HP, let us not forget the 10HP advantage (lower parasitic loss) of the Twin Screw vs. the Roots style. Clearly, this isn't a wimpy little supercharger that is "just big enough for 6 psi" and a new one must be purchased if more boost and HP is desired with the intercooler. The Kenne Bell Twin Screw Supercharger does not have to be replaced or upgraded for higher boost levels. It produces 6-12 psi all with the same supercharger. The Kenne Bell kits are factory engineered and tuned to provide maximum flexibility in selecting the power level that suits your needs. We eliminate the guesswork, time, risk and expense of customer "self tuning" as the OPTIMIZER is pre-programmed to automatically compensate for all boost levels.



**STOCK MIATA 1.8 vs KENNE BELL SUPERCHARGED/INTERCOOLED**  
**REAR WHEEL HORSEPOWER & TORQUE**  
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**6 psi Supercharger Kit 180RWHP / 225EHP:** A whopping 65% increase - without an intercooler! Our #1 seller. No amount of "bolt ons" can even come close to this power increase - even at twice the price of the 6 psi kit. Full boost from 2500 up guarantees gobs of HP and torque all the way to redline. OK with 91 octane. The Miata 4 feels like a V8 with this kit. Easily updated to 9 or 12 psi Intercooled Kits.

**9 psi Supercharger/Intercooler Kit 201RWHP / 251EHP:** Huge 84% power increase. A killer street kit. Intercooled kit includes Laminova intercooler, heat exchanger, small water tank, revamped discharge tubing, smaller pulley and serpentine belt. Air charge temp is significantly reduced (see tests) thereby allowing higher boost levels. Kit is "tunable" to various power levels.

**12 psi Supercharger/Intercooler Kit 235RWHP / 293EHP:** Massive 115% increase in HP and torque. More than double the stock 109HP. Same as 9 psi kit except for a smaller supercharger pulley and serpentine belt. 9 and 12 psi pulleys may be alternated to meet your specific performance needs. It takes 1 bolt and 10 minutes to change boost from 12 to 11, 10, 9, 8, 7 or 6 psi. The stock clutch will not hold at this power level. (See Tech Tips for specific recommendations).

**Note: See Price List for Intercooler & pulley upgrades.**