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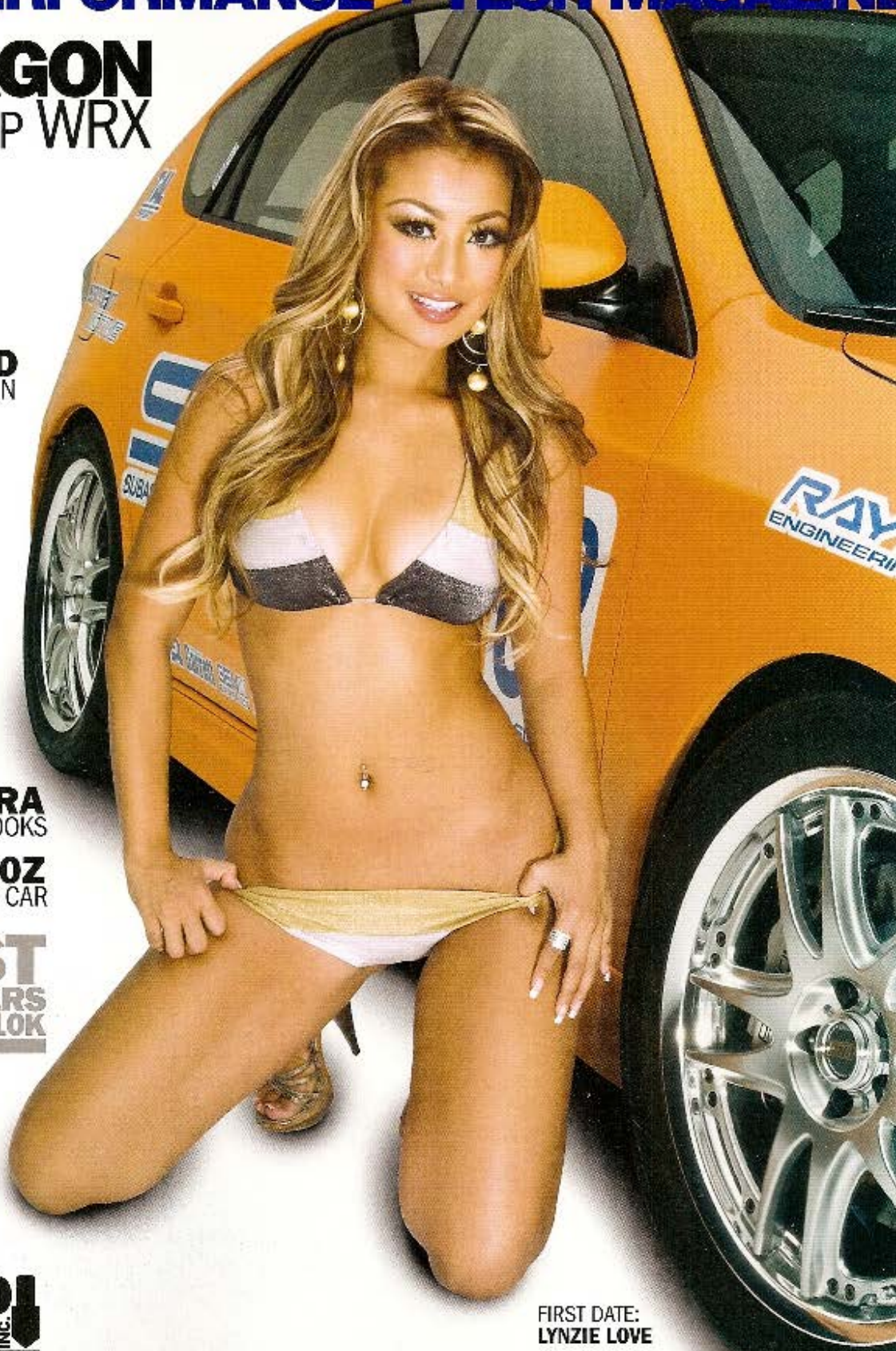
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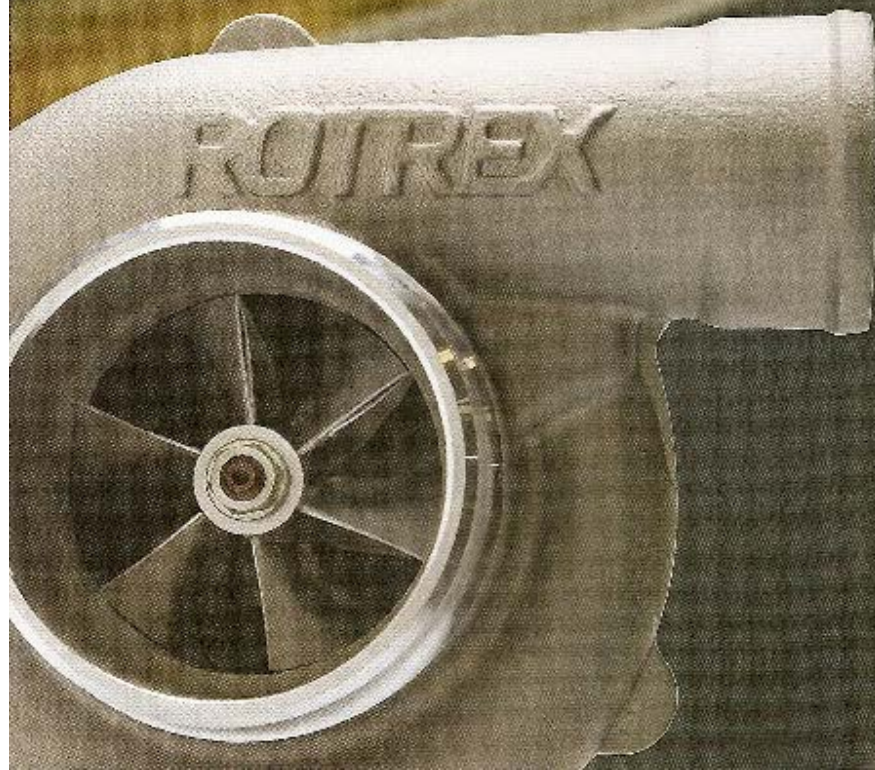
THE SECRET INGREDIENT

Kraftwerks USA S2000 Supercharger

Text and Photos by Robert Choo

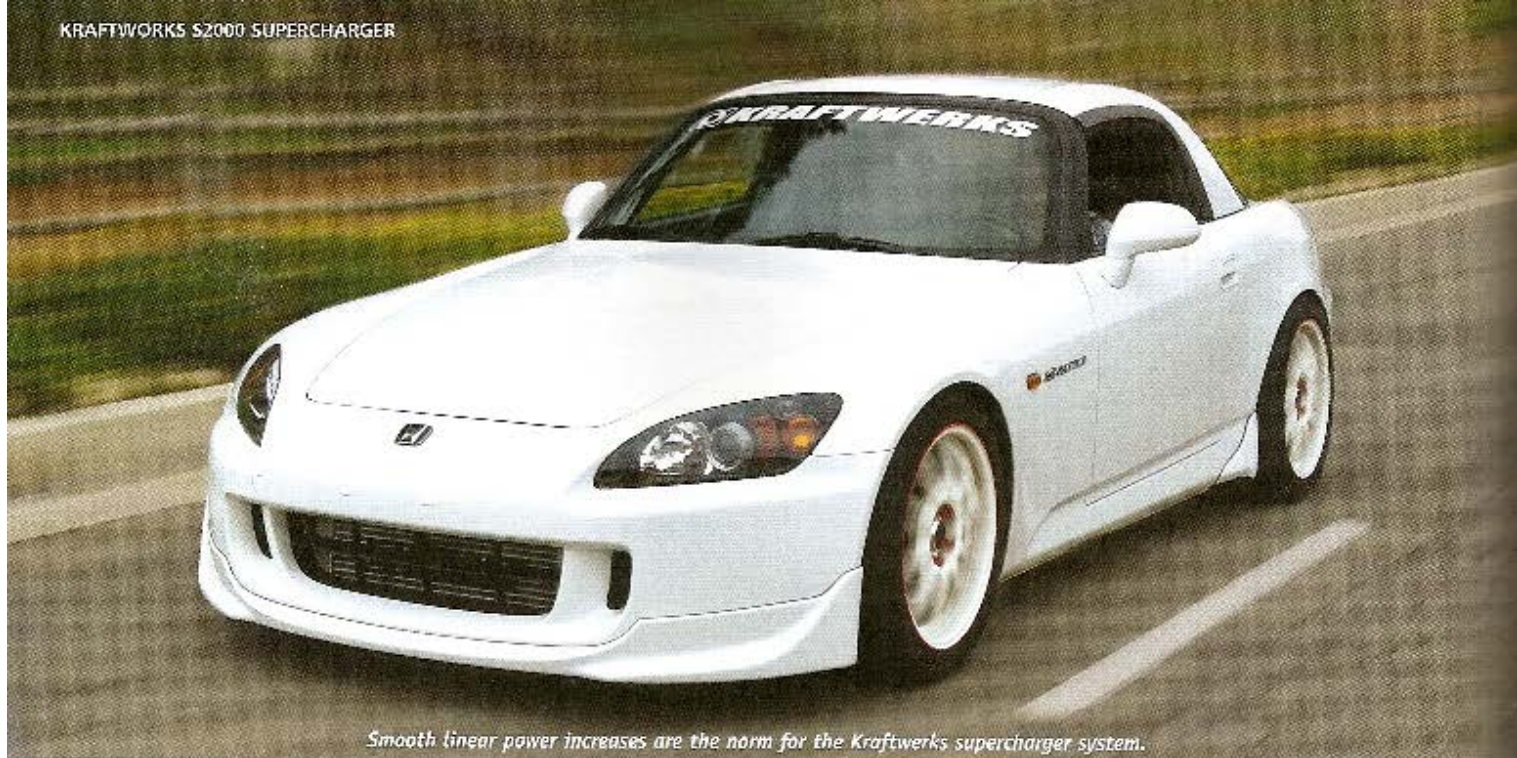
THE DIFFERENCE BETWEEN a magnificent recipe and a lack-luster entree can be as simple as one secret ingredient. The Honda S2000 is one of those cars that has many of the components of a masterpiece: razor-sharp handling, balanced chassis, good brakes and awesome looks. However, the S2000 lacks one key ingredient: serious horsepower. While the F22C engine introduced in 2004 delivered some additional torque over the previous-generation F20C engine, both engines still lack the raw power and torque that many crave. To satisfy this craving, Kraftwerks Performance Group in Norco, California developed a Rotrex-based, centrifugal supercharger kit for the S2000. While the name may be new, Kraftwerks is no stranger to performance, as it was formed by Oscar Jackson and Group-A Autosports.

The first supercharger system from Kraftwerks fits the 2006-08 Honda S2000. The core of the supercharger kit is a Rotrex C30-94 supercharger, and regulated to six psi of boost pressure (10 psi for the High-Boost kit). The most striking feature of the Rotrex supercharger is its rather small size. The Rotrex C30-94 supercharger is extremely compact and lightweight, weighing just 11.2 pounds. Rotrex uses a turbocharger-derived compressor housing and Rotrex's patented traction-drive transmission to deliver high flow from a compact design.

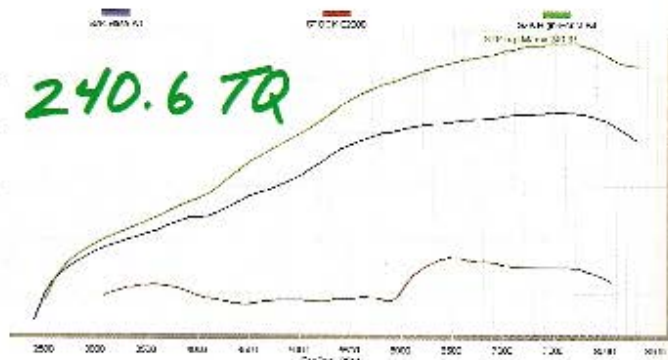
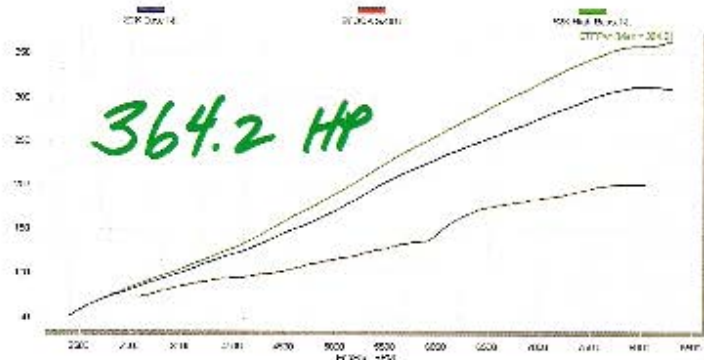


“With a Rotrex supercharger, shaft speeds are up to four-times faster. Higher shaft speeds allow for high-flow rates with a physically smaller compressor section.”





Smooth linear power increases are the norm for the Kraftwerks supercharger system.



"KRAFTWERKS MAY JUST HAVE THE SECRET INGREDIENT THAT AN S2000 NEEDS."

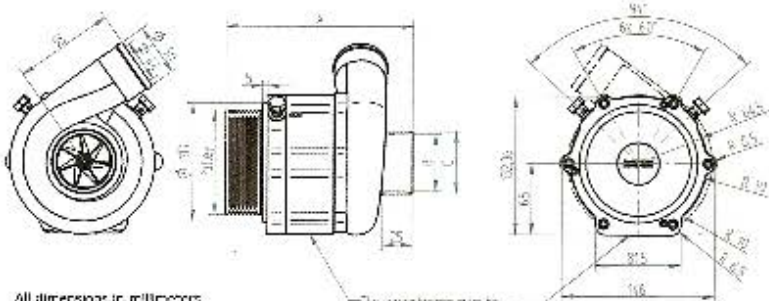
Conventional Centrifugal Superchargers

Most centrifugal superchargers use a gear-driven transmission to overdrive the impeller to speeds up to 70,000 RPM. According to Oscar Jackson of Kraftwerks, the shaft speeds of most conventional centrifugal superchargers are too slow to work with a compact, turbine-charger compressor section. As a result, companies producing gear-driven centrifugal superchargers use large compressor sections to provide the desired flow at lower shaft speeds. With a robust supercharger, shaft speeds are up to

The Kraftwerks supercharger kit transforms the F22C engine into a 364-horsepower screamer.



"Kraftwerks teamed with Hondata to develop a razor-sharp tune for the supercharger system."

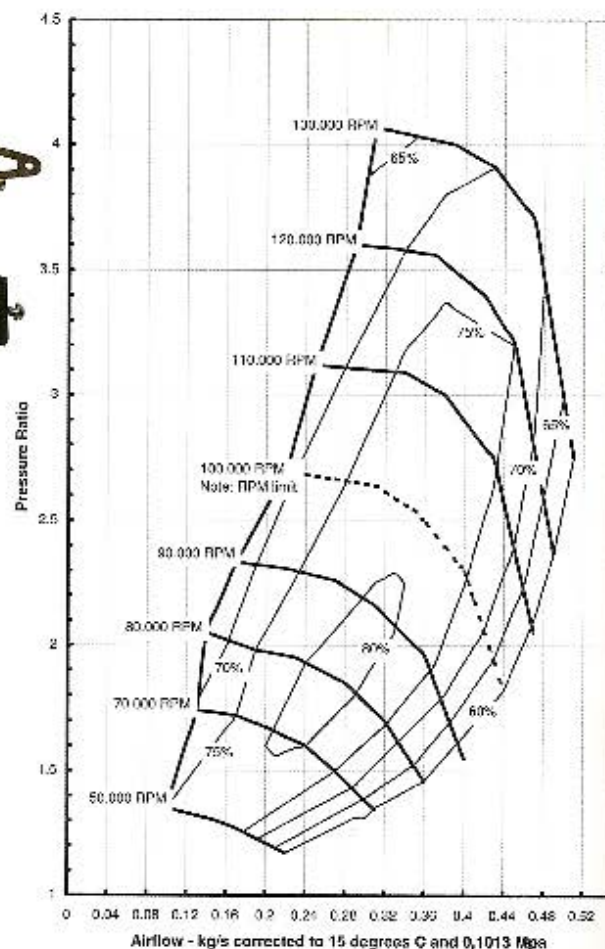


All dimensions in millimeters

	A	B	C
C20-5d	180	40	60
C20-7d	180	51	60
C20-8d	185	51	76
C20-9d	185	61	76

Flange	70	75	80	85	90	95	100	105	110
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The supercharger must be resonant with the flywheel housing and the crankshaft.



four times faster than a conventional centrifugal supercharger. Higher shaft speeds allow for high-flow rates with a physically smaller compressor section.

The Rotrex Difference

With Rotrex's traction-drive transmission, the impeller shaft speed can be spun up to 200,000 RPM. This is a unique quality of Rotrex's traction-drive system. The traction-drive system has a drive ratio of 1:12.67, enabling the impeller to spin much faster than gear-driven superchargers. Unlike most centrifugal superchargers that use internal gear drives to increase the impeller shaft speed, the Rotrex unit uses an elastic annulus and three roller planets with bearings to drive the supercharger spindle. Rotrex's patented "ramp effect" increases efficiency and reliability in the transmission by regulating the torque transfer capability on demand through self-adjusting planet geometry. The Rotrex transmission is lubricated by a specially-developed synthetic traction fluid (5X100). Besides lubrication, the traction fluid also enhances the traction-drive performance by securing optimum friction between the rolling elements. The Rotrex supercharger system also uses its own self-contained lubrication system and oil cooler. In addition to lubrication, the oil aids in the cooling of the supercharger. According to Rotrex, high-impeller speeds and low noise are just some of the advantages of the traction drive system over traditional gear-driven transmissions.

Fuelin' It

Supplying fuel for the additional volume of air forced into the cylinders is extremely critical to overall engine performance and longevity. The Kraftwerks

kit includes higher capacity 650 cc/min fuel injectors and Kraftwerks' plug-and-play injector clips. The Kraftwerks connectors eliminate the need to cut and resolder the injector clips allowing for a cleaner and quicker installation. Fuel and ignition timing are controlled by a Hondata/Kraftwerks ECU reflash. Kraftwerks teamed with Hondata to develop a razor-sharp tune for the supercharger system.

Perfect Recipes

The Kraftwerks S2000 kit includes all required hardware and electronics for a complete installation. The base supercharger kit is currently pending CARB-certification. Kraftwerks generated 312.6 horsepower and 209.4 lb-ft of torque to the rear wheels with the base kit. For comparison, a stock S2000 generated 200 wheel horsepower on this same dyno. With the high boost kit, power levels jump to 364.2 horsepower and 240.6 lb-ft of torque at the wheels. That's serious power for a street-driven S2000.

Some chefs spend years in search of the perfect recipe. The team at Kraftwerks may just have the secret ingredient to spice up any S2000.

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