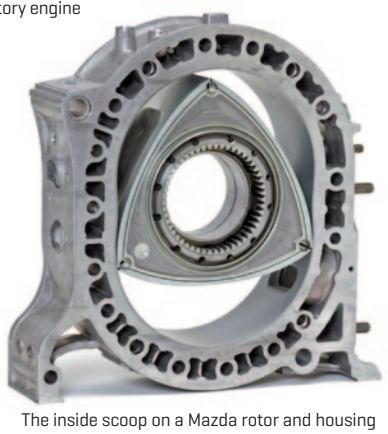
BACKSTAGE PASS

RACING BEAT

Text By **Dave Pankew** // Photos By **Jim Langer www.racingbeat.com**

A close look at a Holley carburator kit for a rotory engine



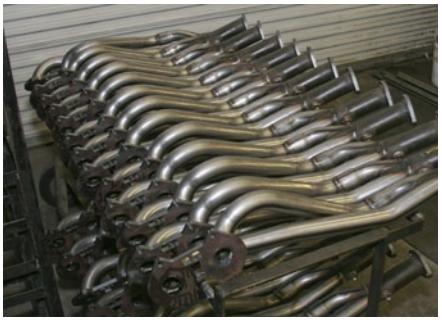
The inside scoop on a Mazda rotor and housing

As big shot magazine editors we get the backstage pass to many places that would otherwise be off limits to the public. Manufacturers roll out the red carpet in order to show our readers the technology behind the parts they buy. When it comes to rotary technology, top tier manufacturers are a rare find in the US but Racing Beat has been at it for decades and has perfected their craft.

Racing Beat's entire operation is contained within two buildings located in Anaheim, CA. The larger, 11,000 sq. ft. building is home to the Sales and Administration staff, the Retail Sales Counter, finished-inventory warehousing and the Receiving/Shipping Departments. The other building is an 8,000 sq. ft. Production facility, which is home to the Engineering and Fabrication team, as well as "Special Projects". The engine dynamometer facility, engine assembly room, welding / fabrication departments, machine shop, and sub-component inventory are housed in this second location.

During the last 40 years, Racing Beat has focused its engineering efforts on developing performance components specifically for Mazda applications. Racing Beat rotary engine racing projects throughout the years have brought success to both Racing Beat and Mazda on the IMSA circuits, the NHRA drag strips and the Bonneville Salt Flats – the latter resulting in three separate RX-7 Bonneville Land Speed records and an El Mirage Dry Lake Land Speed Record.

Racing Beat's co-founders, Jim Mederer and Takayuki Oku, initially developed a small number of performance parts for their early Mazda rotary racing efforts. To support an increasing venue of rotary racing projects worldwide, Racing Beat continued its engineering efforts and today offers an expanded catalog of performance parts that includes components for all Mazda rotary-powered vehicles, with a strong emphasis on the



The Racing Beat fabrication team is always busy at work, as they were welding a Mazda RX-7 presilencer

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RX-7 and the Renesis-powered RX-8. Additionally, Racing Beat has recently added the Miata/MX-5, Mazda 3, Mazdaspeed 3, Mazda 5, Mazda 6, and Mazda Protegé chassis to their performance parts line-up.

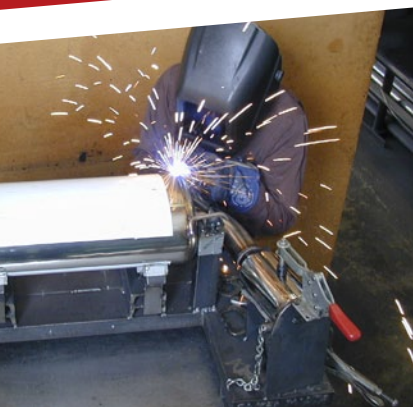
Racing Beat relies heavily on its in-house professional engineering team and extensive product testing to develop Racing Beat-branded performance components. To aid in research and development, they use their comprehensive engine dynamometer facility, and a Mazda "Stand-Alone Worldwide Diagnostic System" computer system. For in-chassis/on-track testing, they employ a Racelogic Velocity Box GPS with on-road data acquisition and, when necessary, they also have ready access to a chassis dynamometer.

We started our tour of Racing Beat at the front desk and their staff was eager to share the Engineering / Production facility with us. On any given day, it is difficult to determine exactly what components and/or chassis will be under construction. If we had come on a special day, we might have seen a Mazda Corporation project vehicle being developed and/or tested in a joint effort with Racing Beat.

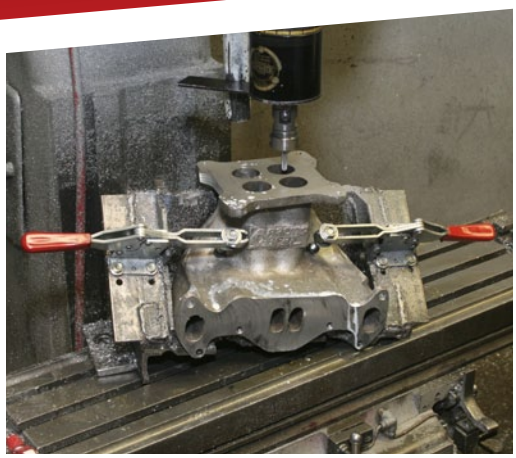
A Racing Beat Miata C-Pipe taking shape for a lucky enthusiast to enjoy

Sway bar bending at its best

Racing Beat porting demo



Welding a new Racing Beat muffler



Holley manifolds making their way through the shop

Racing Beat dissects a new 2010 RX-8 to ensure they develop only the best Mazda-specific performance parts

Racing Beat maintains a close working relationship with Mazda North America's R&D department in nearby Irvine, CA as new prototype projects and variants are continually being developed, tested, and evaluated.

With Racing Beat's continuous, almost daily, emphasis on designing and manufacturing specialty exhaust components we witnessed first-hand the cutting, fabrication, and welding of exhaust headers, mufflers, pre-silencers, etc. While many of the newer-chassis-application exhaust components utilize 304 series stainless steel materials, many of the rotary applications still benefit from thick-walled mild steel tubing to help reduce the shrill exhaust noise inherent to the rotary engine. With the extremely high exhaust gas temperatures present in the rotary engine combined with its harsh exhaust pulsations, an exhaust fabricated with poorly selected, inferior materials is very likely to prematurely fail.

Racing Beat is world renown for its purpose-built rotary engines in the automotive racing, aviation, and industrial power plant circles. Racing Beat's proprietary aluminum front, intermediate, and rear housings provide significant weight savings, compared with the stock cast-iron versions, and exemplary wear characteristics.

Racing Beat's Peripheral Port Rotor Housings have been used by winning teams in the Rolex 24 at Daytona for years, and have become the standard for high performance rotary racing.

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Mazda P port housings

Working late on the Mazda RX-8 ECU test bench

Another area of specialization for Racing Beat over the years has been the development of replacement, carbureted intake systems for the rotary engine. Racing Beat offers ready-to-install manifolds and carburetor kits for rotary applications. Racing Beat-spec Holley Carburetors are engineered for a number of specific rotary engine applications, including stock, street-port engine and bridge-port engine. This large selection allows the rotary enthusiast to install a carbureted intake system without the need to attempt his own "trial and error" tuning. Each cast-aluminum manifold is ported and machined by Racing Beat, then ball-burnished to a shiny surface finish.

Racing Beat also offers a wide variety of suspension components, including the Racing Beat brand of sway bars and suspension springs. Many of their sway bars are produced in-house by our Fabrication and Machining Departments. The sway bar ends are either machine-finished or heated and pressed. Urethane bushings, lateral movement stopper bushings and replacement bar clamps compliment each Racing Beat sway bar.

If you have a Mazda or some rotary-powered beast, Racing Beat is the source for many of your needs. Plus, they design and manufacture their products in the US, which is an increasingly important consideration these days. PAS

Racing Beat's co-founders, Takayuki Oku (left) and Jim Mederer (right) are passionate about their work

Racing Beat
Mazda Specialists
www.racingbeat.com