

For Immediate Release:

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MAZDA FURAI CONCEPT: THE EMBODIMENT OF ZOOM-ZOOM

FURAI: (pronounced "foo-rye"), Japanese for sound of the wind

(Richmond Hill, ON): Furai is the sort of car that could only come from a company that incorporates the "Soul of a Sports Car" into everything it builds, but with an eye toward the future and the environment through the use of renewable fuels.

**NAGARE DESIGN THEME** 

Zoom-Zoom is more than simply spirited vehicle performance; it is also insightful design and style. This Zoom-Zoom look can best be seen in previous Mazda NAGARE (pronounced "na-ga-reh", Japanese for flow and the embodiment of motion) design-based efforts, including the Mazda Nagare concept that debuted at Los Angeles in 2006; Mazda Ryuga, which was first shown a year ago in Detroit; Mazda

Hakaze, which appeared in Geneva last year; and Mazda Taiki, the star of the 2007 Tokyo Motor Show.

Manufacturers commonly showcase design studies with little or no intention of actually using the theme presented. Mazda's approach is the opposite: All of the Nagare concepts, including Furai, help evolve this evocative surface language for future use.

Every vehicle Mazda sells embodies the soul of a sports car to achieve a true Zoom-Zoom dynamic character. Nagare provides a glimpse of how this celebration of motion will be portrayed on interior and exterior surfaces in future models. Instead of form following function, the two merge as one.

## **FURAI DESIGN - ALL ABOUT FUNCTION**

The Furai (pronounced "foo-rye", Japanese for 'sound of the wind') concept serves as a turning point in the Nagare developmental process. While the four previous concept cars explored different ways to express Mazda's emerging design philosophy and to explore an aesthetic, this one is all about function – every last texture and detail serves some functional purpose.

An example of this is how Mazda's design and R&D teams worked together to prove that the Furai concept goes far beyond static aerodynamic analysis. To help analyze the effect of air guiding over and through the body of the vehicle, and to demonstrate its functional capabilities on demand, the team constructed Furai as a 180-mph rolling laboratory.

While Furai strikes an incredibly strong presence, the real beauty of the project – and it's most valuable asset as a real-world test-bed – is in the details that were incorporated:

- The body surface provides ample opportunity to feature core design elements such as aggressive headlamps and Mazda's trademark five-point grille.
- The headlamp trim pieces function as guide frames to help cancel aerodynamic lift.
- High-pressure zones just above the front wheels are relieved to serve the same end.
- The air flow package takes air moving under the front of the car and guides it inside the body to the engine-cooling radiators.
- Nagare textures incorporated in the side surfaces feed air to the rear brakes, the oil cooler and the transmission cooler.

 An under-car diffuser that begins rising aft of the cockpit helps draw the volume of air flowing through the heat exchangers and engine bay out the rear.

## CLEAN ENERGY

Furai not only probes future design possibilities, it also ventures ahead with alternative renewable fuels. Furai intuitively expresses the flow made by 'wind', a powerful force in nature and a source of clean energy.

In keeping with this theme, and Mazda's recently announced "Sustainable Zoom-Zoom" initiatives, Furai's three-rotor powerplant has been tuned to run powerfully on 100% on environmentally-friendly ethanol (E100) fuel, produced in partnership with BP.

Franz von Holzhausen, Mazda North American Operations'

(MNAO) Director of Design and the person who lead the team that created the Furai, explains the concept behind the concept, "We were looking for a way to pay homage to Mazda's Motorsports heritage and the production vehicles in our lineup, while also showing that Mazda is committed to a sustainable future through exploring various alternative fuels." He continued, "Furai achieves this by

showing that there is an environmentally-friendly way to produce the horsepower needed to fuel a high-performance car. Zoom-Zoom doesn't need to be sacrificed."

There are exciting advances being made in renewable fuels, from current blends like E10 (10% ethanol and 90% gasoline) with research ongoing in making Ethanol from cellulostic materials, to future renewable gasoline components like Butanol, a higher order alcohol which is fungible with gasoline. The addition of these renewable components improves Mazda's understanding of how these fuels work with the company's technology and reduces the consumption of fossil hydrocarbons and the emission of harmful greenhouse gasses.

"BP has a very green focus in the marketplace, and it's Mazda's intention to sustain its Zoom-Zoom performance image. While Mazda's rotary has proven readily adaptable to various alternative fuels, including considerable work with hydrogen fuel, this is the first time it's been engineered for other renewable Ethanol blends," said von Holzhausen.

Through the BP partnership, Furai has been specially tuned to operate on renewable fuels. BP engineers continue to work to

optimize other fuels, including investigating new future renewable fuel components. This is Mazda's first experience with ethanol fuel in a three-rotor engine, and the results have been convincing that, once again, the Mazda rotary engine is unique in its ability to run well on multiple fuels.

Ethanol is derived from grains such as corn and wheat or soybeans. Corn, the predominant feedstock, is converted to ethanol in either a dry or wet milling process. Future advances for renewable gasoline components include utilizing a wide variety of cellulosic biomass feedstocks, including agricultural plant wastes (corn stover, cereal straws, sugarcane bagasse), plant wastes from industrial processes (sawdust, paper pulp) and energy crops grown specifically for fuel production, such as switchgrass.

## **MOTORSPORTS HERITAGE**

One look at the Furai and it is evident that the dark matte finish with red and orange accents harkens back to the livery worn by Mazda's legendary 787B when it won the 24 Hours of Le Mans in 1991,

making the company the first – and still only – Japanese company to ever win the endurance classic.

While Mazda neither intends to race Furai, nor is it a supercar the company plans to build and sell in the near future, Furai is a design study that lives between those extremes. Without the restrictions imposed by serial production models, and with the freedom of an autoshow environment, Mazda is using the opportunity to evolve the company's Nagare design theme one more step closer to reality.

To truly explore this idea, Mazda begin this project with the real McCoy: a Courage C65 chassis that earned its stripes during two seasons of LMP-2 endurance racing in the American Le Mans Series (ALMS) and actually runs with E100.

Under the hood is a 450-horsepower RENESIS-based R20B three-rotor rotary engine that provides Furai ample Zoom-Zoom. "The ultimate Mazda in our minds is rotary powered; as a company, we have no intention of abandoning that valuable asset." said von Holzhausen.

Sourced straight from the race track, the Courage carboncomposite tub is essentially intact under the new Furai body, including the right-side driver's seat. Instead of the stark interior typical of race cars though, this cockpit is finished with more comfortable but still highly functional surfaces. An electronic display screen and shift paddles are built into the steering wheel.

In the chassis' original racing configuration, the passenger seat is filled with electronic gear, so those components were relocated elsewhere to provide adequate space for two occupants. The greenhouse is somewhat wider than the original cockpit to provide adequate head and shoulder room and suitable outward visibility.

Doors attached with butterfly hinges provide a very efficient means of entering the cockpit. In this instance, the design team followed an approach that has proven very effective during years of endurance racing.

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