



SKYACTIV-D: world-beating clean diesel technology

Praised in Europe, Mazda's revolutionary clean diesel engines have made huge inroads in previously diesel-free Japan and they're soon heading for America, too.

<u>Leverkusen</u>, 01 February 2013. With a unique combination of class-beating performance and fuel efficiency, Mazda's SKYACTIV-D line-up of clean diesel engines is attracting the admiration of automotive experts and consumers worldwide.

The success of Mazda's innovative new diesel technology is global in scale, reaching beyond traditional diesel strongholds to also achieve unparalleled traction elsewhere. Unlike in Europe, where diesel engines power more than half of all new passenger cars sold, they are virtually non-existent in Japan, representing a mere 0.4% of the passenger car market. In contrast, four out of five Mazda CX-5s sold in Japan thus far have a 2.2-litre SKYACTIV-D under the bonnet.

One of a kind

The SKYACTIV-D is indeed as unique as its success thus far, and a perfect example of how Mazda continues to defy convention. Its 14:1 compression ratio – unusually low for a diesel and the lowest currently available – enhances the combustion of fuel and therefore efficiency while reducing harmful emissions, especially of nitrogen oxides (NO_x). In fact, the remarkably smooth and quiet SKYACTIV-D is the only diesel to comply with Euro 6 without NO_x aftertreatment, and long before the new standard takes effect in September 2014. The engine's variable twin turbocharger boosts torque and responsiveness throughout the rpm range right up to the unusually high redline of well over 5,000rpm. Yet it still delivers best-inclass fuel economy and CO₂ emissions* starting at 3.9 l/100km and 104 g/km on the all-new Mazda6 sedan, and only 4.6 l/100km and 119 g/km on the CX-5. The SKYACTIV-D is thus a very viable alternative to hybrids, and it's a lot of fun, too.

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Mazda's clean diesel technology is now destined for North America, another traditionally weak diesel market (at around 3%). Slated for arrival later in 2013, the all-new Mazda6 will be the first passenger car powered by a modern clean diesel to be offered by any Asian manufacturer in the U.S.

"Mazda's SKYACTIV-D engines have what it takes to change people's attitudes and overturn the negative preconceptions towards diesels that prevail in the U.S. and Canada," explained Mazda North America President and CEO Jim O'Sullivan. "We think they're going to make a huge splash, especially when you consider how our clean diesel technology addresses growing consumer concerns, both about rising fuel costs as well as the environment."

One clear advantage of the SKYACTIV-D is the fact that it not only meets strict emissions requirements in Europe, but also in Japan and North America. And unlike its competitors, who need to offer special green versions of their diesel-powered models, Mazda's diesels do not require expensive NO_x aftertreatment in those markets, either. Unsurprisingly, a SKYACTIV-D 2.2 will contend for the 2013 International Engine of the Year awards to be handed out in June at Engine Expo in Stuttgart, Germany.

"Because of its unique characteristics as a clean diesel, the SKYACTIV-D gives Mazda a major competitive advantage throughout the world," says Ichiro Hirose, Mazda's European head of R&D. "This engine has been a target of praise across Europe, where it is already considered one of the best diesels available. And we're confident the SKYACTIV-D will help Mazda play a leading role in the proliferation of diesel-powered passenger cars in other regions, too."

The SKYACTIV-D 2.2 has been an awards magnet since its introduction in the Mazda CX-5. For example, the all-new compact SUV was voted Japan's "2012-13 Car of the Year" as jurors praised its "revolutionary" clean diesel technology. The CX-5 with SKYACTIV-D 2.2





was also admitted to Japan's Automotive Hall of Fame, finishing first in the "2012-13 Car Technology of the Year" category. Recent honours for the CX-5 and SKYACTIV-D in Europe include first place in the SUV category for the 2012 What Car? Green Awards, which honour Britain's best economical vehicles. The same car-engine combination also received the 2013 "SUV trophy" presented by French weekly I'Argus de I'Automobile and Motor Mundial's "SUV of the Year" in Spain. On its own, the SKYACTIV-D 2.2 finished second at the International Paul Pietsch Award 2013, a German prize announced in January honouring innovative automotive technology developments.

About SKYACTIV

Like all SKYACTIV TECHNOLOGY, which includes petrol engines, transmissions, car bodies and chassis, Mazda started from a clean slate when developing the SKYACTIV-D. SKYACTIV is a core element of the company's Sustainable Zoom-Zoom strategy, which calls for increasingly fuel-efficient and lightweight yet safe cars without compromising on Mazda's patented driving fun or reliability.

The Mazda CX-5, introduced in early 2012, was the first model equipped with the full range of SKYACTIV TECHNOLOGY. In addition to the aforementioned awards, the growing list of accolades for Mazda's first compact crossover SUV includes a number of "Car of the Year" honours, among others, in Switzerland, Austria, Germany and beyond. The all-new Mazda6, the company's C/D segment flagship and the second model of the SKYACTIV generation, is currently being launched in Europe and features Mazda's brand new i-ELOOP brake energy regeneration system.

* European specifications

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