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**When power meets manoeuvrability:
Zeus Pod Drive System offered by Caterpillar**

Hamburg, Germany – Wouldn't it be great to steer a boat as easily as your car, so that even novices can quickly berth large motor yachts? With joystick-controlled pod drives, this dream has now become a reality. And Caterpillar is already on board, combining its well-proven, electronically-controlled, high-speed, Cat® C9 ACERT® marine engines with the Zeus® Pod Drive System developed by ZF.

Marine propulsion systems making use of steerable pods have been around for some time, particularly in offshore vessels and cruise ships. The Zeus Pod Drive System powered by Caterpillar is a new approach, based on experience gathered with both conventional drive systems and pod systems. The development target was to leverage the principal advantages of a pod drive while resolving the challenges observed in existing pleasure craft applications.

The Zeus Pod Drive System offered by Caterpillar is a complete package comprising of a Cat C9 ACERT marine engine and a pod drive with integrated exhaust and engine cooling system, trim tabs, steering, throttle and shift controls. It requires significantly less time to install, compared to conventional inboards or other pod systems. Reliable, smooth, hydraulic power steers the pods and actuates the integrated trim tabs.

Strong heart

The Cat C9 ACERT used in the Zeus Pod Drive System is an in-line, 6-cylinder, 4-stroke marine engine with 112 mm bore and 149 mm stroke displacing a total 8.8 litres. With the new EPA (US Environmental Protection Agency) Tier 2-compliant E-rating, this engine provides 423 kW (575 mhp) at 2,500 rpm. ACERT technology is used to improve fuel delivery, air management,

combustion and electronic controls, meaning less smoke and noise, better performance and increased fuel efficiency.

C9 ACERT marine engines are manufactured in Caterpillar's most-modern Marine Center of Excellence (MCOE) in Greenville, South Carolina, USA, according to the highest standards in quality and reliability. Now engineered together with the Zeus Pod Drive System, pleasure craft owners relying on Cat marine power can experience a unique blend of control and performance.

Innovative drive

The Zeus Pod Drive System allows each pod to be steered independently and each pod's thrust to be varied as required. This means much smoother and more accurate manoeuvrability. Unlike a standard inboard shaft arrangement, the thrust from pod drives is horizontal and enables the full power of the engines to drive the boat forward instead of pushing the bow down. Furthermore, the hydrodynamic shape of the pod drives creates much less drag than a shaft, strut and rudder. Counter-rotating propellers eliminate rotational losses, produce no lateral forces and minimise cavitation. In addition, the increased blade area permits larger gear ratios to be used.

Compared with other products on the market, the Zeus Pod Drive System powered by Caterpillar offers a number of advantages. An aft-facing pod drive results in greater efficiency, without sacrificing safety. If the drive strikes underwater debris, propellers are protected by the pod's gear case and a skeg. In addition, by mounting the pod in a tunnel, the keel and the torpedo shape of the drive have the same depth. Most floating objects will be deflected downward by the keel and skeg and, therefore, away from the propellers. Should the pod hit a substantial object, the skeg is designed to shear below the torpedo, minimising damage to the drive. In case of severe damage, the pod itself would be pushed into the trim tabs, thus protecting the hull.

The system has integrated, automated trim tabs to improve performance and visibility during acceleration. Because the drives use counter-rotating propellers and are mounted on large rubber supports, gear noise and vibration are significantly reduced, resulting in a quiet, comfortable ride. A dedicated trolling valve enables lowest speeds. And since each pod drive moves

independently, any boat propelled by the Zeus Pod Drive System offered by Caterpillar shows excellent turning efficiency and superb response.

Comprehensive services

Providing great engine technology is one thing. Caterpillar, however, also offers yacht owners a comprehensive range of related services which, for example, permit the combining of financing and extended warranties into a lifetime customer care solution. Cat Financial provides world-wide construction, term and repower financing for ships with Cat marine engines. Cat Insurance offers Extended Service Coverage (ESC) for both new and used engines. Platinum ESC is available for 36-, 48- or 60-month periods and for up to 6,000 operating hours from date of delivery on any new Cat propulsion engine or generator set. Advantage Platinum ESC covers propulsion engines less than eight years old and is available for 12-, 24- or 36-month periods, extending coverage for up to a total of 10 years.

In addition to all this, every Cat marine engine sold comes with an unmatched global sales and service network. More than 2,100 dealer locations across the world offer product support and spare parts when needed. More importantly, 120,000 dealer employees are pledged to provide maximum customer care. Together with 100,000 Caterpillar employees whose job is to provide product and manufacturing excellence, they make up the unique Team Caterpillar.

A solution that fits

The Zeus Pod Drive System offered by Caterpillar has been tested with different yachts and under a variety of conditions. Recently, a 44-foot Sea Ray yacht equipped with the pod system and Cat C9 ACERT marine engines attracted attention during a demo tour along the US East Coast, calling at Atlantic City, New Jersey, Annapolis, Maryland and Beaufort, North Carolina. The same boat is also available for demo tours at the Fort Lauderdale International Boat Show, October 30 to November 3. Regular deliveries of Zeus Pod Drive Systems powered by Caterpillar are scheduled to start in spring 2009, following great interest already expressed by well-known yacht builders world-wide.

Utilising Caterpillar power, the Zeus Pod Drive System provides faster cruising and higher top speeds while enhancing manoeuvrability and fuel economy. It is easy to install and designed for improved efficiency without sacrificing safety. Most importantly, the system allows for a clean, quiet and comfortable ride plus precise one-hand docking thereafter.

“Engineering the Cat C9 ACERT engine together with the Zeus Pod Drive System reflects the desire of our customers for additional power, control and safety”, said David Shannon, Manager Global Pleasure Craft, Caterpillar Marine Power Systems, Greenville, South Carolina, USA. “With Cat C-series marine engines already regarded as a gold standard for performance in pleasure craft, they will now also become recognised for unparalleled enjoyment in pleasure craft!”

Characters: 6,933

Pictures available on request:

- 1.) Cat C9 Marine Engine for Pleasure Craft**
- 2.) Zeus Pod Drive System powered by Cat C9 ACERT Marine Engine**

About Caterpillar Marine Power Systems

Caterpillar Marine Power Systems, with headquarters in Hamburg, Germany, groups all the marketing and service activities for Cat and MaK marine engines within Caterpillar Inc. The organisation provides premier power solutions in the medium- and high-speed segments with outputs from 93 to 16,000 kW in main propulsion and 10 to 7,680 kWe in marine generator sets. The sales and service network includes more than 2,100 dealer locations world-wide dedicated to support customers in ocean-going, commercial marine and pleasure craft wherever they are.

More information is available at: <http://Marine.Cat.com>.

About Caterpillar

For more than 80 years, Caterpillar Inc. has been making progress possible and driving positive and sustainable change on every continent. With 2007 sales and revenues of \$44.958 billion, Caterpillar is a technology leader and the world's leading manufacturer of construction and mining equipment, clean diesel and natural gas engines and industrial gas turbines.

More information is available at www.Cat.com.

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