

# Electronics & Controls



## Telematics Via Wi-Fi

“Seeing” Urea Quality

Sensor+Test Review

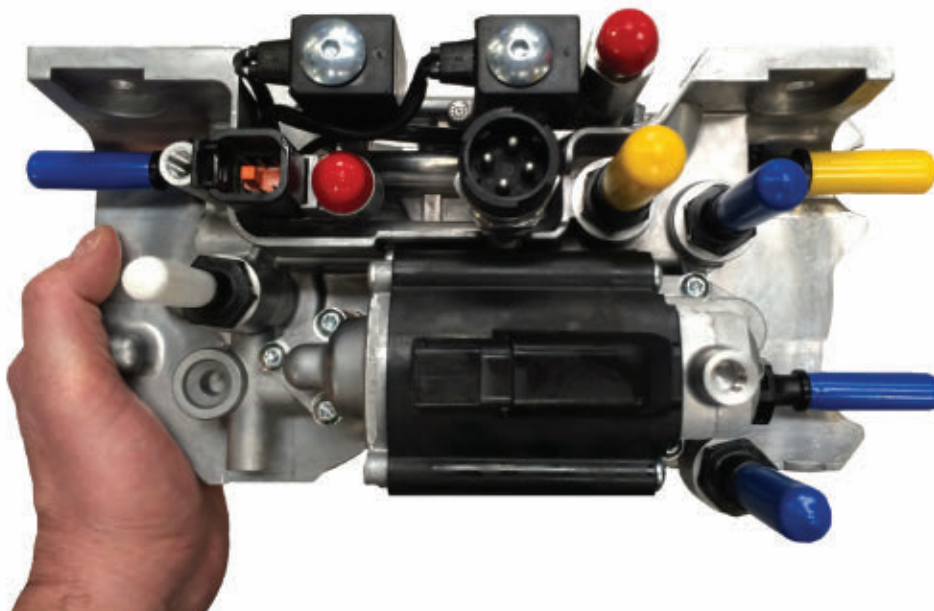
FORECAST  
**2015:**

Better, Or More Of The Same?

PLUS

Cat's New Rental  
Telehandlers





A new primary and secondary fuel filtration module with an integrated hydrocarbon dosing system and electric pump has been developed by the Racor Division of Parker Hannifin's Filtration Group. The system was developed to help heavy-duty trucks meet Euro 6 emissions standards.

BY IAN CAMERON

**A** new primary and secondary fuel filtration module with an integrated hydrocarbon dosing system and electric pump has been developed by the Racor Division of the Parker Hannifin Filtration Group.

The company said the product, designed to help truck manufacturers meet stringent Euro 6 emissions legislation, represents the first time the company has integrated an advanced hydrocarbon injection (AHI) system into the fuel module. The previous stand-alone AHI module from Parker was developed and integrated into this new filtration module.

The filtration module is now in production for a global truck manufacturer that the company declined to name.

Racor said the new module ensures that particulates produced by the combustion process that are captured by the diesel particulate filter (DPF) can be burnt off effectively and efficiently.

The aim of the original development was to design and build a fuel filter module that could assist engines in meeting Euro 6 emissions regulations. Racor supplies 100% of the diesel fuel filters for its truck manufacturer customer.

In addition to the filtration function, Racor integrated a hydrocarbon-dosing unit into the module to provide for au-

## PUTTING IT ALL IN ONE

Racor's new module combines primary and secondary fuel filtration with hydrocarbon dosing system

tomatic injection of atomized diesel fuel into the exhaust system ahead to the DPF. As the engine operates during the vehicle's daily duty cycle, it produces particulate matter, or soot, some of which is burnt away by the exhaust temperature prior to it reaching the DPF. The rest collects on the DPF.

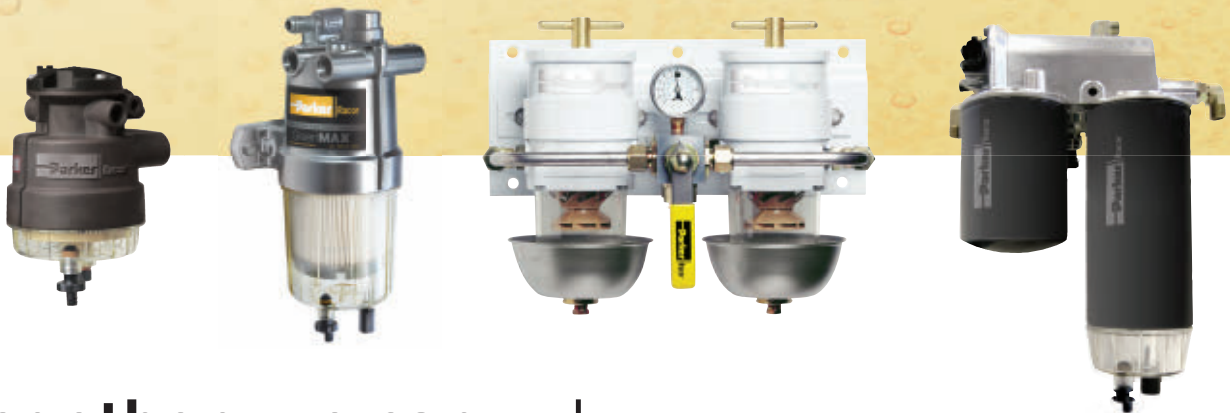
Over time, the amount of soot on the DPF will build up the point where regeneration is required. In many cases, particularly if the vehicle is operating at higher speeds on motorways, the exhaust temperature alone will be sufficient to cause the oxidation of the collected soot. However in some instances there may not be sufficient exhaust heat — when the vehicle spends extended periods at idle or low operating speeds or is operating in low ambient temperatures — to trigger a needed regeneration. The integrated AHI system has been specifically designed to compensate for those periods, the company said.

Controlled by the engine's electronic control unit (ECU), the AHI sys-

tem receives a signal when it needs to dose the hydrocarbon — diesel fuel — into the exhaust stream. The signal will open a series of valves in the unit, which injects the fuel into the exhaust. The fuel reacts chemically with the hot exhaust gas, which raises the temperature of the exhaust significantly, causing the soot on the DPF to be burnt away. The overall aim, Racor said, is to have the capability to burn off excess soot no matter where or how the vehicle is operated.

The injection system incorporates Parker's patented Macrospray nozzle technology, originally developed by the company's Gas Turbine Fuel Systems Division. Racor said the nozzle delivers a consistent, even spray of droplets, which means more consistent and thorough heat in the exhaust and therefore more complete and even oxidation of soot. [dpi](#)

FOR MORE INFORMATION  
[www.parker.com/racor](http://www.parker.com/racor)



## Together, we can solve any challenge with any fuel at any flow.

With ever more complex demands on engines, rising fuel costs and concerns about the environment, the benefits of filtration in terms of more efficient combustion and reduced emissions are greater than ever. Collaborating with customers, one challenge, one engine at a time, we're creating a new age of integrated solutions — all cleaner, smaller, lighter and leaner. On and off road, in the field and on the water, the result is a collection of patented innovations that have fast become industry standards for engine performance.

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

[www.parker.com/racor](http://www.parker.com/racor) [racor@parker.com](mailto:racor@parker.com)

USA  
1 209 521 7860

UK  
+44 (0) 1926 317 878

Germany  
49 711 7071 290 10

Brazil  
55 12 4009 3500

(Shanghai) Co., Ltd.  
(86) 21 2899 5000

(Thailand) Co., Ltd.  
(66) 2 717 8140

Korea  
(82) 31 359 0720