

Daily Messenger (Canandaigua, NY)

Return of the diesel

A Corning invention has put clean, efficient diesels back on the market, and locals who want to use less fuel are lining up to try them. SPOTLIGHT Energy prices

MORGAN WESSON Messenger Post Correspondent

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As oil prices cruised over \$140 a barrel last week, 67-year-old Charlie Bliss, a plumbing inspector from Irondequoit, prepared to test drive a new diesel car. "I like a diesel," he said.

He's not alone.

Slowly, Americans are again lining up for diesel autos, if they can find them. The cars were popular during the last oil shocks of the 1970s and earlier in this decade.

Then federal tailpipe-emissions testing limited their availability in the U.S. car market.

Volkswagen diesels return to New York after a two-year absence, even with fuel priced 20 percent above gasoline at the pump - \$5 a gallon versus about \$4.20 for gas.

That has slowed sales of some diesel light trucks.

Bliss owned three 50 mpg VW Rabbit diesels in the 1970s. Last week, he drove a demonstrator VW Jetta TDI, a five-passenger sedan stickered at \$21,999; the wagon version Charlie wants is \$25,000. His demo was plastered with leafy green decals.

What's so green about Jetta TDI diesel emissions? They are relatively clean and odor-free and meets legal emissions standards in all 50 states, thanks to a new Corning Inc. exhaust gas catalyst that reduces carbon particulates, or by another name, soot.

A second innovation cleaned up diesels. Low-sulfur diesel fuel reduced this contaminant that older engines could digest. Mandated for years in Europe, low-sulfur fuel hit American fuel pumps late in 2006, just as Corning engineers solved the carbon-particulate problem.

Diesel engines generate high torque and are long-lived, so most heavy trucks use them. Rudolf Diesel's invention creates internal combustion without spark plugs by compressing fuel and air until it explodes, for a 30 to 40 percent efficiency bump over gas engines of the same size. Today's common rail injection turbo-charged diesels are quieter than older engines.

Identical VW Jettas burning gas return 24 mpg on average. This car with a diesel and an automatic transmission returns 33 mpg, according to an Environmental Protection Agency statistic printed by law on a new car's window sticker.

Volkswagen begs to differ.

"When the EPA numbers came out, we knew there would be a hue and cry from the dealers," said VW spokesman Keith Price by phone from VW's American headquarters in Herndon, Va. "A year ago, they (EPA) switched EPA cycles to a new format."

So VW hired tester AMCI for an independent study that delivered a higher fuel economy number, 41 miles per gallon on average for the Jetta TDI. That's not enough to catch Toyota's smaller Prius hybrid, which gets above 44 mpg on cheaper gasoline, but it beats many other cars.

More clean diesel cars, light trucks and SUVs are coming from Chrysler, General Motors, Honda, Hyundai, BMW, Mercedes, Ford and others. Jeep already sells a few Grand Cherokee diesels. GM may offer a diesel Suburban again, though it sells a nearly identical GMC branded hybrid SUV. Mercedes sells diesel cars and SUVs.

Honda plans diesels for 2010. Detroit's Big Three all sell economical diesel medium-duty pickups, and next fall, Dodge and GM roll out half-ton diesel trucks at a lower price.

Cars and trucks with diesels cost more for the bulked-up engines. The latest Jetta TDI costs about \$4,000 more than its gas powered sister car. So far, high diesel resale value is returning that premium and then some, according to Kelley Blue Book and Edmunds.com used-car guides.

Penfield resident Bill Mallory is replacing his aging Audi A4 with a Jetta diesel. His job with Exxon Mobil Corp. took him all over the world.

"I grew up in Canandaigua, went to Canandaigua high school," said Bill, a German-car buff who also owns a 1988 Porsche 911. "I've driven (diesels) in

Europe. I've driven them in Brazil. I've been thinking about this for a while." He cites resale value and fuel efficiency.

"That's drawing me to the car. For me it's a little bit of both. Now I wish I had not waited" to order a car, said Bill.

Dorschel sales manager Tom Camp sees diesel cars appealing to high-mileage road warriors and people who keep cars. "Life expectancy: They drive a diesel vehicle 200, 300 or 500,000 miles because they have a strong engine block compared to gas engine blocks."

Dorschel in Henrietta is a high-volume dealer that sold 700 gas-powered VWs last year, making it the highest VW seller statewide. Diesel car sales may add 10 percent to that this year. "It's a growth opportunity, yes," said Camp.

He is hedging his bets, though. Dorschel's Nissan store laid in lots of Nissan Altima hybrids, a car that still qualifies for federal income-tax breaks and returns an EPA-listed 33 mpg.

Selling fuel-sippers can be tense. At Vincent VW in East Rochester, a specialty dealer with loyal customers, General Sales Manager Domenic Mancuso talked to Charlie Bliss about his pickup, relieved to hear he didn't plan to trade it in. It can be traumatic negotiating trades involving a gas guzzler: "We have to tell them it's worthless and watch them go berserk," said Domenic.

In Geneva, used-car retailer Joel Osserman sells 15 used VW diesels each year at [Selecteurocars.com](http://Selecteurocars.com).

Six months ago he sold a 2006 Jetta TDI to a customer for \$20,900. "That's above original sticker price," said Joel, who delivered another TDI recently to a West Coast customer at the Buffalo airport.

Osserman prefers selling used diesels to used hybrid cars, though he has sold a few hybrids. He advises used hybrid customers to buy service contracts and check to be sure that pricey parts, like regenerative brakes, are covered and working well.

Osserman has also seen something new lately: buyers looking solely at gallons of fuel, not overall costs to own and operate the car.

"They want to cut down on petroleum consumption, period," he said.

Domenic Mancuso, a Victor resident, commutes to Vincent VW in the dealer's diesel Jetta demo car now.

He is enjoying the slow moving fuel gauge and good acceleration. "It's not a problem, selling this car.

It's about supply."

Contact Morgan Wesson at (585) 394-0770, Ext.

256, or at [messenger@messengerpostmedia.com](mailto:messenger@messengerpostmedia.com).

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The little filter that could

A device that removes nearly all the soot from diesel exhaust made it possible for a new generation of diesels to re-enter the U.S. market.

MORGAN WESSON Messenger Post Correspondent

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Some-times it's all about what you don't see. Drivers of 2009 diesel Jetta TDIs can't see anything much coming out the tailpipe of their cars - and there's the rub.

Between the Jetta's diesel-engine exhaust and the outside world sits the Dura Trap AT diesel filter, Corning's aluminum titanate ceramic catalyst created for diesel VWs.

Hundreds of thousands of VWs with the Corning Dura-Trap AT are already on the road in Europe and elsewhere.

They arrive on the U.S. market in September.

Corning Inc.'s filter removes 99 percent of a diesel's excess carbon soot from the exhaust, making Jetta emissions cleaner than some gasoline vehicles.

Corning's ceramic diesel exhaust filters may not seem very high-tech, but it generates great black ink on company balance sheets. Net diesel product sales, including heavy truck diesel filters, rose to \$249 million in 2007 from \$164 million in 2006.

"This new filter enables clean diesel. It has a membrane that traps soot.

When soot accumulates and reaches a certain level, it is basically burned off," said Thomas Appelt, the diesel filter project's team leader. Appelt is vice president and general manager of Corning's Auto Technologies Division.

"Here in upstate New York, you can pull this off, from research and development through manufacturing.

We did all this over 12 to 18 months," said Appelt, who helped solve a thorny automotive problem in the process.

In the 110 years since Rudolf Diesel's very first commercial diesel engine got delivered in 1898 to a Bavarian match factory, these engines have become known for great fuel efficiency, brute power, durability, and something else: soot.

Unburned carbon particulates are an all too breathable air pollutant forever wafting out the exhaust stacks of diesel buses, trucks, factories, ships and car tailpipes.

American emissions regulators all but banished diesel cars in many states after 2003. The move hurt VW most as the world's fourth-largest car producer and largest diesel-passenger-car maker.

The Corning Dura Trap AT collects and burns carbon particulates inside the filter at exhaust temperatures produced in normal consumer driving cycles, around 250 to 900 degrees Celsius, in some ways like a self cleaning oven. "It is designed to last the lifetime of the vehicle," said Thomas Appelt: The filter appears now in VW's diesel cars. But soon it will arrive on Hyundai diesel cars and SUVs plus four other undisclosed manufacturer's diesel cars, trucks and SUVs. Honda will bring a diesel car to the US with a catalyst of its own design.

Contact Morgan Wesson at (585) 394-0770, Ext.256, or at [messenger@messengerpostme-dia.com](mailto:messenger@messengerpostme-dia.com).

The Corning Dura Trap AT filter (aluminum titanate).

According to the company, here's how it works: The new filter has a cellular structure with individual channels open and plugged at opposite ends.

Exhaust gases enter the open end, flow through the pores of the cell walls, and exit through the adjacent channel. Soot particles are too large to flow through the pores, and they collect on the channel walls. Periodically, the filter is regenerated - or heated - to consume the soot and clean the filter.

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Caption:APPELT

PHOTOS COURTESY OF CORNING INC This cutaway shows the new filter in a portion of the diesel exhaust system.

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