



Uptime News to help drive your business

AltFuels

2004 GM full-size CNG pickup with service body by Royal Truck Body, an independent upfitter; see note below.



ZW9 – AT YOUR SERVICE

CNG chassis with box-delete option helps fleets meet federal regulations

Sometimes it's what you leave out that makes all the difference. In this case, it's a pickup box that's been removed, leaving a compressed natural gas (CNG) chassis that's a perfect fit for service bodies installed by independent upfitters. And it gives fleets another option for meeting federal mandates.

The GM CNG 3/4-ton full-size pickup truck with the box-delete option (ZW9) is a natural choice for companies, such as natural gas utilities, that want to comply with Energy Policy Act mandates. The ZW9 option gives them a CNG-powered, light-duty truck with ample room for a service body they can use for fieldwork, such as installing and maintaining gas meters. And they have full access to the CNG tanks, in case something needs to be replaced.

Royal Truck Body of Paramount, Calif., has created a special service body for the ZW9 that was co-developed with GM. The key advantage of this truck is its integrated service body design — developed specifically to fit a CNG-powered vehicle, rather than as an afterthought. Both upfitter and manufacturer were eager to solicit customer input during development, so it was designed with the user in mind.

Manny Dominguez, Royal Truck Body's marketing manager, says ergonomic function was a big part of the design consideration. "We looked at ways for users of the

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A note about vehicle alterations by independent suppliers: This newsletter shows vehicles that have been altered or upfitted with equipment, bodies or components supplied to GM or its dealers by independent suppliers. GM is not responsible for the safety or quality of design features, materials or workmanship of any alterations by any such supplier. See Owners Manual for information on Alterations and Warranties.

FLEXIBLE SOLUTIONS

GM is committed to providing solutions for its customers' alternative fuel vehicle (AFV) needs — now and in the future.

Our 2004 lineup includes E85 pickup trucks and SUVs, bi-fuel and dedicated CNG vehicles, hybrid pickup trucks and now, an engine that's compatible with the B5 biodiesel blend (see page 3).

And we're listening carefully to customer requests for vehicle alternatives that will meet federal mandates while getting the job done.

The ZW9 box-delete option on the CNG pickup chassis (see cover story) is just one example of how we listened — and delivered. Our CNG van cutaways are another response to the needs of commercial users (see customer profile on back page).

While we're working to serve today's customers with alternative fuel options, we're also committed to our customers down the road — investing our resources in future technologies, such as hydrogen fuel cells (see page 2).

You can count on our ongoing commitment to meet alternative fuel demand.



John Gaydash
Director of Marketing,
GM Fleet and Commercial Operations

vehicle to have fast access to their tools and parts inventory,” he explains. “We installed grab handles at the rear of the service body, and a bumper with a 10-inch step, instead of the conventional 6-inch step, for quick entry and egress from the bed area. In addition, we added a side ladder rack that lowers to approximately shoulder height to facilitate easy access to a ladder.”

Dominguez adds that the CNG chassis with Royal Truck Body’s service body adds up to a simple solution for meeting alternative fuel mandates. “It’s fully crash tested and considered an approved CNG service vehicle, and makes a great choice for utilities that want to comply with the federal standard.”

GLOSSARY

- AFV** Alternative Fuel Vehicle
- B5** A blend of 5% biodiesel and 95% petroleum diesel
- CNG** Compressed Natural Gas
- E85** A blend of 85% ethanol and 15% unleaded gasoline

FUELING RESEARCH

GM and Dow team up to refine the fuel cell

Fuel cells, one of the future technologies being explored for automobiles, are now helping power a large chemical plant in Texas — the result of a landmark deal between General Motors and The Dow Chemical Company.

GM and Dow Chemical recently began operating a GM hydrogen fuel cell that converts hydrogen into electricity at the chemical giant’s Freeport, Texas, manufacturing plant. The cells will use by-product hydrogen produced by Dow to ultimately deliver up to 35 megawatts of electricity for the plant (sufficient for approximately 25,000 homes).

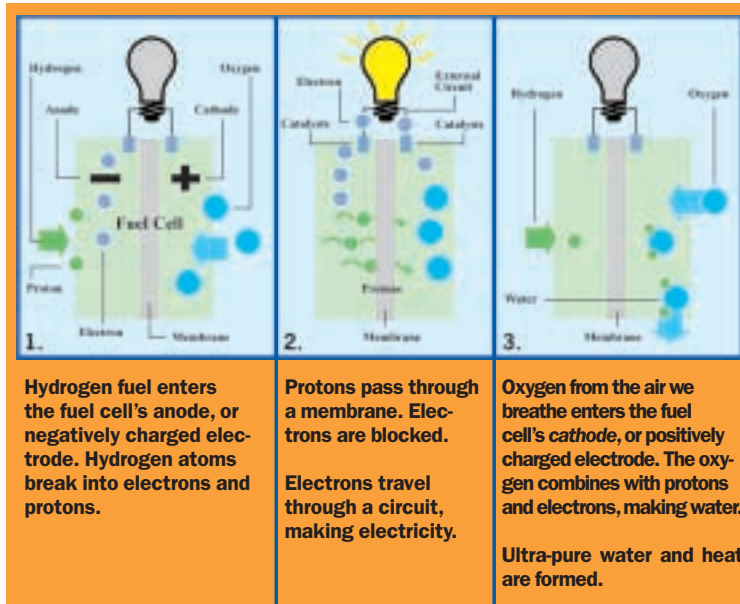
For GM, it is an opportunity to put its fuel cell technology to a real-world test. For Dow, it is a chance to get power from a chemical process by-product — transforming it into energy and cost savings.

GM hopes to learn enough from the Dow partnership to reduce the costs of fuel cell technology enough to make mass-production in automobiles feasible in the not-so-distant future.

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HOW DO FUEL CELLS WORK?

Fuel cells produce energy through a chemical reaction between hydrogen and oxygen. The energy can be used to power an electric motor in a car when many fuel cells are combined together in a fuel cell stack. Water is the only regulated tailpipe emission.



GM BRINGS CARS AND TECHNOLOGY TO THE CAPITOL

Last May, GM brought the first of six vehicles to be used in a fleet of hydrogen-powered HydroGen3 minivans to Washington, D.C., for a two-year stay. The minivans will provide thousands of test-drives for legislators, policy makers and other interested parties — letting them see for themselves what the future of automotive propulsion may look like.



Hydrogen-powered vehicles have reduced emissions compared with automobiles powered by internal combustion engines. By providing the test-drives, GM hopes to demonstrate the technology, opportunities and remaining challenges toward building the massive network of fuel-cell refueling stations around the country that is key to making the technology a reality.

For the trials, Shell Hydrogen (U.S.) will open the nation’s first hydrogen refueling pumps at a commercial station. Pumps dispensing both liquid and compressed hydrogen will be located at a conventional retail gas station in Washington, D.C. To learn more about this program and other GM involvement with fuel cell technology, visit www.gmability.com.

Easy-to-use biodiesel blends are petroleum-free

ANOTHER CHOICE FOR FLEETS

Beginning with the January 2004 production cycle, GM's Duramax Diesel engines will be approved for B5, a blend of 5% biodiesel fuel, giving fleets another choice for fueling and for complying with state and federal requirements.

"Increased biodiesel consumption is important for the United States for a better environment and domestic energy security," says Joe Jobe, executive director of the National Biodiesel Board (NBB). "GM has recognized biodiesel's valuable role in this country's energy portfolio, and has worked with the National Biodiesel Board on a variety of technical programs. We commend GM for taking this important step."

Biodiesel is a petroleum-free fuel made from fats and oils (such as soybean oil), which are refined to remove the glycerin. This leaves a clean-burning fuel that can be blended at any level with petroleum diesel.

While fuel-grade biodiesel is made from vegetable oils, it isn't the same type you cook with. It is a federally-registered motor fuel approved by the Environmental Protection Agency, Department of Transportation and Department of Energy. It has achieved a full specification from the American Society of Testing and Materials (ASTM D 6751).

Essentially free of sulfur and aromatics, biodiesel is biodegradable and nontoxic. The "B5" designation refers to the biodiesel/petroleum diesel blend ratio — here, 5% biodiesel is blended with 95% petroleum diesel for enhanced lubricity, improved domestic energy security and some emissions benefits with no loss in performance.

For more information about biodiesel, including where it can be purchased in the United States, visit www.biodiesel.org or call the National Biodiesel Board at 1-800-841-5849.

WEBWISE JUST A CLICK AWAY

On www.gmaltfuel.com, you can learn about the complete GM product offerings for CNG, E85 Flex-Fuel Ethanol and Clean Fuel Fleet low emissions vehicles. You'll find vehicle specifications on 2004 pickup trucks (including the new 2004 Silverado and Sierra Hybrids), passenger, cargo and

cutaway vans, sedans and SUVs.

Determining the availability of various emissions levels for GM vehicles is also just a click away with the new online emissions tool. And the site lists state and federal incentive programs as well as locations of the nearest refueling stations and AFV certified dealers.

CONTACT YOUR AFV SALES MANAGER

Fleet buyers have an excellent resource available when acquiring GM Alternative Fuel Vehicles (AFVs) or participating in a fleet program — their nearest GM AFV sales manager. Here is the listing of AFV sales managers by region; you can also visit www.gmaltfuel.com/contact/yourGMrep.



1. WESTERN REGION

Clay Okabayashi
P: 909-600-5962
F: 909-600-5972
E-mail: clay.1.okabayashi@gm.com

2. SOUTH CENTRAL REGION

Mark Warren
P: 972-541-6079
F: 972-541-5436
E-mail: mark.warren@gm.com

3. NORTH CENTRAL REGION

Douglas Dittrich
(Illinois, Iowa, Wisconsin, North Dakota, South Dakota, Minnesota)
P: 630-961-6353
F: 630-961-6371
E-mail 1: doug.dittrich@gm.com
E-mail 2: doug.dittrich@palm.net

Jerry Leanderson
(Michigan, Ohio, Indiana)
P: 630-778-4941
F: 630-961-6371
E-mail: jerry.leanderson@gm.com

4. SOUTHEAST REGION

Jim Mellon
(Florida, Puerto Rico, Virgin Islands)
P: 407-656-7265
F: 407-656-0885
E-mail: james.mellon@gm.com

John Freking
(South Carolina, North Carolina, Virginia, West Virginia)

P: 678-393-1348
F: 678-393-0712
E-mail: john.1.freking@gm.com

Randy Queen
(Georgia, Alabama, Tennessee, Kentucky)
P: 770-321-6140
F: 770-321-6139
E-mail: randy.queen@gm.com

5. NORTHEAST REGION

Michael Paritee
(Rhode Island, Massachusetts, Vermont, New Hampshire, Maine)
P: 508-698-9710
F: 508-698-6087
E-mail: michael.paritee@gm.com

Chuck Compagnoni
(Connecticut, New York, New Jersey)
P: 914-701-6909
F: 914-701-6944
E-mail: chuck.l.compagnoni@gm.com

Brad Beauchamp
(Pennsylvania, Delaware, Maryland, District of Columbia)
P: 610-212-1289
F: 610-212-1289
E-mail: brad.beauchamp@gm.com

6. CANADIAN REGION

Randy Pidlubny
P: 905-644-5037
F: 905-644-3873
E-mail: randy.pidlubny@gm.com

NATURAL GAS MOVES NATURAL FOOD

CNG-powered delivery truck mirrors mission of health-food co-op

For more than 30 years, doing things the natural way has been the vision of the operators of Outpost Natural Foods, a natural foods co-op based in the greater Milwaukee, Wis., area.

With more than 10,000 current shareholders in the health-food business, it has expanded from a small grocery store offering organic produce and groceries into a full-service operation specializing in baked goods, fresh seafood, meats, a deli counter, catering, a flower shop and personal care products. Three years ago, a second location was established in nearby Wauwatosa.

Empowered by community support, the management team recently decided to take its environmentally conscious message to the streets — literally. The co-op has replaced its gasoline-fueled delivery van with a 2003 GMC Savana full-size van powered by compressed natural gas (CNG). Not only does it make deliveries, it makes a statement.

“We felt the CNG van would mirror our values as an organization because part of what we do is educational, providing a resource for other businesses or individuals,” says Lisa Malmarowski, Outpost’s director of marketing. “When we decided to build our second store, it was designed as a ‘green’



Outpost Natural Foods makes a statement while delivering groceries with its CNG-powered 2003 GMC Savana (shown here with an upfit by an independent supplier; see note on page 1).

building to stand as a physical representation of what our values are. We think of the CNG truck in the same way.”

GMC dealer Bob Fish of West Bend, Wis., provided the guidance in upfitting the cutaway van chassis with a 14-ft. Supreme body and a refrigeration unit by Thermo King Corporation. A rear rail gate has been included to make it easier to hook into loading docks. A special feature is the body’s side entry, a recessed stairwell that provides easy access to the cargo compartment from ground level.

Malmarowski says the CNG van is perfect for making the numerous daily short-distance deliveries around the Milwaukee area, and that several refueling stations are conveniently located within the travel radius.

“Making the choice to go with CNG power was easy,” she says. “If you’ll pardon the pun, it was the natural thing to do.”

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CELEBRATE A DECADE OF DRIVE

Join Clean Cities in May for a special conference



The 10th annual National Clean Cities Conference and Expo will be “Celebrating a Decade of Drive,” as it recognizes the growth and progress of the alternative-fuel vehicle (AFV) market in the United States.

As the world’s largest AFV exposition, the 2004 Clean Cities conference aims to promote the use of alternative technologies and support fleet customers and businesses in the AFV industry. The event, set for May 2–5 in Ft. Lauderdale, Fla., will center on the concerns and issues of fleet operators, who form the primary constituency of AFV owner/operators.

“We’ll be reviewing any legislation that involves a national energy policy or any tax credits, as well as looking at ways to stimulate the resale value of AFVs and how to remarket them,” said Kimberly Taylor, senior project leader with the National Renewable Energy Laboratory’s Center for Transportation Technology and Systems, based in Golden, Colo.

This year, General Motors will sponsor the National Partner Awards which honors the people, agencies and companies that have made significant strides in advancing the sale and use of AFVs and the fuels that power them.

Another expected highlight is the annual auction, Taylor says, at which 25 government-retired AFVs will go under the hammer.

“It’s one-stop shopping for anybody — from novice to professional — interested in AFV use,” she says. “If you’re involved in operating a fleet of any scale that includes AFVs, this is the place to be.”



To add a person or business to the *Uptime AltFuels* distribution list, please e-mail names and addresses to uptimeaf@campbell-ewald.com, along with any comments or story ideas.

FOR MORE INFORMATION

You can contact us at 1-888-GM-AFV-4U or visit us online at www.gmaltfuel.com.

IN OUR NEXT ISSUE

- GM AFV lineup for the 2005 model year
- Learn more about GM mild hybrids
- Seattle bus line orders Allison Hybrids

