For the 1999 model year, Dodge offered its popular Ram van/wagon with an optional natural gas engine. With this vehicle, Dodge marked its return to the natural gas market after stopping production of natural gas vehicles in 1996. From 1996 to 1999, Dodge evaluated new manufacturing techniques, as well as storage and emissions reduction technologies. Dodge’s original CNG van, introduced in 1993, was the first full-size van to meet low-emission vehicle (LEV) standards. The 1999 CNG van was designed to meet California’s super-ultra low emission vehicle (SULEV) standards. Most of the improvements for this model were in the fuel storage and delivery systems. Four carbon-fiber-wrapped steel tanks give a total of 18.7 gasoline gallon equivalent at 3600 pounds per square inch—a 46% improvement over the previous model. This gives the van a range of 200–300 miles per fill. And because the CNG tanks are located under the body of the van, no cargo or passenger space is sacrificed. Other improvements include using hardened materials in the engine for increased durability, a special natural gas catalyst, and a fuel shut-off solenoid to minimize evaporative emissions coming from the engine when it is turned off. To meet a fleet’s individual needs, the CNG Ram van/wagon is available in 2500 or 3500 models, and in two body lengths.

Note that test planning for this vehicle did not include side-by-side testing with a gasoline control model because of project funding constraints. DaimlerChrysler provided the gasoline test values listed here for comparison.

**General Description**

<table>
<thead>
<tr>
<th>CNG B2500</th>
<th>Gasoline B2500†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine:</td>
<td>Engine:</td>
</tr>
<tr>
<td>Displacement Configuration</td>
<td>5.2 liter V8</td>
</tr>
<tr>
<td>Transmission</td>
<td>4-speed automatic OD</td>
</tr>
<tr>
<td>Fuel System</td>
<td>Sequential multi-port FI</td>
</tr>
<tr>
<td>Engine Family Code</td>
<td>XCRXT05.26RC</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>9.1:1</td>
</tr>
</tbody>
</table>

**Capacities:**

- **Fuel:** 18.7 equivalent gal vs. 36 gal
- **Passengers:** 2 front/6 rear vs. 2 front/6 rear
- **Payload (lb):** 2642 vs. 2990

**Dimensions:**

- **Length:** 210.6 in. vs. 210.6 in.
- **Width:** 78.8 in. vs. 78.8 in.
- **GVWR:** 7700 lb vs. 7700 lb

Other options:
- Rear wheel drive, 8-passenger wagon equipped with air conditioning, power steering, power brakes, power door locks and windows, tilt wheel, antilock brake system (ABS), and cruise control.

† not tested - for comparison only

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Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 20% postconsumer waste
Subjective Ratings:

The CNG Dodge Ram was the last in a series of alternative fuel vehicles tested under this project. Test planning for this vehicle did not include side-by-side testing with a gasoline control model. DaimlerChrysler provided the gasoline test values listed here for comparison. Evaluators in the driveability and handling test gave high marks to this van in all categories. Drivers reported good stability during panic stops and the ABS prevented wheel lock-up in all stops. Acceleration was rated good, but several evaluators noticed a lack of power during wide-open-throttle accelerations. Fuel economy results show that the CNG van gets 10.6 mpg in the city and a little over 14 mpg on the highway. For comparison, the gasoline Ram van has an EPA mileage rating of 13 city/18 highway. In the cold start tests, the CNG Ram van did not start at –20° F, but did start successfully at –5° F, with a crank time of only 12 sec. Although our test vehicle did not start at –10° F, DaimlerChrysler representatives report no problems starting at –10° F in their testing of CNG vans.

Although the gasoline version of this van is certified to EPA Tier 1 levels, the dedicated CNG Ram van is certified to federal ULEV standards (red lines on the graph above). Non-methane hydrocarbons, carbon monoxide, and oxides of nitrogen emissions are all well below this standard. Emissions of total potency weighted toxics (PWT) (including benzene, 1,3-butadiene, formaldehyde, and acetaldehyde)* for the CNG van were very low (0.08). This is more than 90% lower than the previous model dedicated CNG Ram van.**

* For more information on the calculation of PWT emissions, see the section on emissions on the Web site (www.ott.doe.gov/otu/field_ops/mve).
** The 1994 dedicated CNG and gasoline Dodge Ram vans were tested in an earlier project. For detailed emissions results from this study, go to the Web site: http://www.ott.doe.gov/otu/field_ops/emiss_data.html

Evaluation Summary

The CNG Dodge Ram was the last in a series of alternative fuel vehicles tested under this project. Test planning for this vehicle did not include side-by-side testing with a gasoline control model. DaimlerChrysler provided the gasoline test values listed here for comparison. Evaluators in the driveability and handling test gave high marks to this van in all categories. Drivers reported good stability during panic stops and the ABS prevented wheel lock-up in all stops. Acceleration was rated good, but several evaluators noticed a lack of power during wide-open-throttle accelerations. Fuel economy results show that the CNG van gets 10.6 mpg in the city and a little over 14 mpg on the highway. For comparison, the gasoline Ram van has an EPA mileage rating of 13 city/18 highway. In the cold start tests, the CNG Ram van did not start at –20° F, but did start successfully at –5° F, with a crank time of only 12 sec. Although our test vehicle did not start at –10° F, DaimlerChrysler representatives report no problems starting at –10° F in their testing of CNG vans.

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