

VEHICLE TECHNOLOGIES PROGRAM

PHEV Accelerated Testing Results – May 2008 Advanced Vehicle Testing Activity



2007 Hymotion Prius - Version I Battery

VIN #
JTDK82OU577558820

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

Accelerated testing was completed in May 2008 and the final results can be found in the table to the right. The Hymotion Prius averaged 79.5 mpg over the 5,591 miles of testing (5,440-mile goal). Based on an electricity cost of 10 cents per kWh and a gasoline cost of \$3.00 per gallon, the fuel cost was 1.18 cents per mile for electricity and 3.77 cents per mile for gasoline, for a total fuel cost of 4.95 cents per mile for the Hymotion Prius PHEV. The Prius HEVs tested by the AVTA averaged 44 mpg, so the conventional HEV Prius fuel cost would average 6.82 cents per mile.

If the Hymotion Prius PHEV were operated for 100,000 miles at 79.5 mpg, it would use 1,258 gallons of gasoline while the HEV Prius would use 2,273 gallons of gasoline over 100,000 miles at 44 mpg – 81% more gasoline than the Hymotion PHEV Prius.

This testing also documented over 100+ mpg testing results when the Hymotion PHEV Prius vehicle is driven in urban applications, so depending how this vehicle is operated, actual petroleum savings can be much greater.

Hymotion Prius – Accelerated Testing

| Cycle (mi) | Urban (10 mi) | Highway (10 mi) | Charge (hr) | Reps (N) | Total (mi) | Electricity (kWh) | Gasoline | |
|---------------|------------------|--------------------|----------------|-------------|---------------|-------------------------|----------|-------------|
| | | | | | | | Gals | MPG |
| 10 | 1 | 0 | 4 | 60 | 600 | 136.33 | 4.81 | 127.2 |
| 20 | 1 | 1 | 8 | 30 | 600 | 122.02 | 5.37 | 115.9 |
| 40 | 4 | 0 | 12 | 15 | 600 | 84.10 | 6.05 | 101.1 |
| 40 | 2 | 2 | 12 | 15 | 600 | 87.22 | 5.78 | 106.9 |
| 40 | 0 | 4 | 12 | 15 | 600 | 79.82 | 8.54 | 73.1 |
| 60 | 2 | 4 | 12 | 10 | 600 | 55.33 | 8.98 | 68.9 |
| 80 | 2 | 6 | 12 | 8 | 640 | 43.99 | 11.36 | 58.3 |
| 100 | 2 | 8 | 12 | 6 | 600 | 35.98 | 8.43 | 73.2 |
| 200 | 2 | 18 | 12 | 3 | 600 | 15.0 | 11.02 | 54.8 |
| Total | 2340 | 3100 | 1404 | 167 | 5,440 | Weighted Average | | 79.5 |

Each total distance slightly greater than 600 and 640 miles. HEV version = 44 mpg



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