Performance Analysis of the Hymotion PHEV Fleet

Huang, Test Engineer, Hymotion – A123S PHEV 2007
Purpose

- 
-
Hymotion L5 PHEV Pack

- Utilizes A123 Systems™ L1N™ P ECU
- 5-hour charge, 220V AC – 3
Data Logger
Hardware

- K M CAN
- I P CAN
- OBDII
- U W SD
<table>
<thead>
<tr>
<th>Parameters Logged</th>
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</thead>
<tbody>
<tr>
<td>ir inlet temperature to ymotion pack (°C)</td>
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<tr>
<td>ymotion to converter temperature (°C)</td>
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<tr>
<td>rius attery emperature (°C)</td>
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<td>ymotion pack maximum and minimum cell temperature (°C)</td>
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Data Pool

ollected data from vehicles from May –
Data Collection Strategies

- M
- R
- C
- A123S
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- Information
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- Hymotion
• ll parameters were divided into “ack” ( . mode) and “rip”
Fuel Economy Over Trip Distances

Fuel Economy HEV vs. PHEV

Trip Distance Range (km)

Fuel Economy (L/100km)

~1/2
Mean Speed Relationship

**Engine ON Time Over Mean Speed**

- Mean Speed Range (km/h)
  - 20-30
  - 30-40
  - 40-45
  - 50-55
  - 60-65
  - 65-70
  - 70-75
  - 75-80
  - 80-85
  - 85-90
  - >90

- Engine ON Time (%)
  - 0
  - 20
  - 40
  - 60
  - 80
  - 100

**Fuel Economy Over Mean Speed**

- Mean Speed Range (km/h)
  - 20-30
  - 30-40
  - 40-45
  - 50-55
  - 60-65
  - 65-70
  - 70-75
  - 75-80
  - 80-85
  - 85-90
  - >90

- Fuel Economy (L/100km)
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
PHEV Range

Pack Range vs. Mean Speed

- Pack Mean Speed (km/h)
- PHEV Range (km)

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Conclusion

• H–G H PHEV – H PHEV

• T180

• T – A – D PHEV

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Hymotion
For More Information

Individual conversion modules will be available in early 2008. To sign up to receive notice when our SBEVs become available, please fill out our Hymotion SBEV Request Form. If you are a fleet owner, please contact us at fleets@hymotion.com.

Click here to learn about Google's Rechargeit PHEV project.

News & Events:
- June 25, 2007: A123Systems and Hymotion Partner with Google to Convert Fleet of Hybrid Cars into Plug-In Hybrid Electric Vehicles
  View Press Release
- April 20, 2007: A123 awards Hymotion, A123Systems and AeroVironment Contract to Supply the State of California with Plug-In Hybrid Electric Fleet Vehicles
  View Press Release
- December 20, 2006: NYSERDA Issues Multiple Awards to Hymotion and A123Systems for New York State Plug-In Hybrid Vehicle Initiative
  View Press Release

Products
- PHEV Toyota Prius & Ford Escape Hybrid
- Flexible I&O Hybrid Vehicle

Research & Development
- Hydrogen Fuel Cell Powered Ice Rink Resurfacing Machine