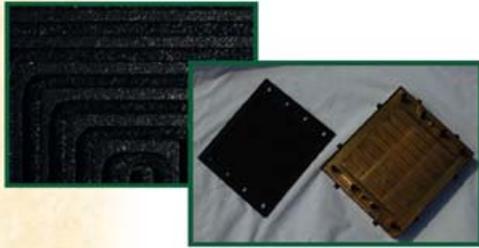


FreedomCAR & Vehicle Technologies



- **Carbon Composite Bipolar Plate** for PEM fuel cells is ultra-lightweight and low in cost. The carbon composite plate (left) is about half the weight of the conventional graphite plate (right).

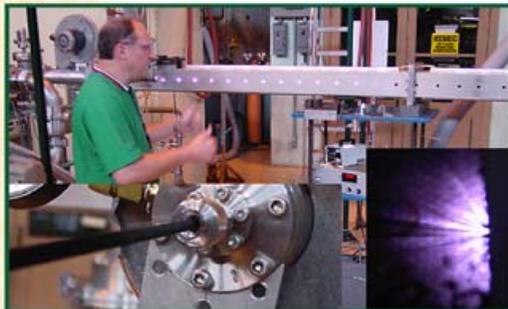
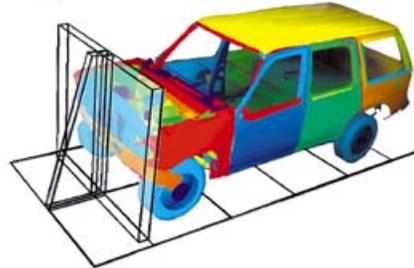


- **An ORNL-developed Soft-switching Inverter** was tested in one of Chattanooga's electric buses. It makes the vehicle lighter and more energy-efficient.



- **This Diesel Engine** is being checked out on an eddy-current dynamometer for a shaft speed test.

- **This Computer Simulation** details the damage to a sport utility vehicle crashing against a rigid barrier.



- **Carbon Fiber Manufacturing and Processing** technologies are being developed to make the materials and technologies affordable in an automotive manufacturing environment.



- **The High Temperature Materials Laboratory** is a National User Facility that supports research conducted by DOE's Office of Transportation Technologies.

