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**LAND-SPEED
RECORD-SETTING
GM IMPACT**

Impact

- On March 11, 1994 the General Motors Impact electric vehicle (EV) established two new international and U.S. land-speed records for EVs. The Impact achieved a two-way average speed of 183.822 miles per hour over one kilometer and 183.075 miles per hour over one mile at the Fort Stockton (Texas) Test Center's 7.7 mile track.
- The record attempts were sanctioned by the United States Auto Club (USAC) and were begun from a standing start. The records are for EVs in the 1,000 kilogram and over category. The international records were confirmed by the Federation Internationale de l'Automobile (FIA).
- The record-setting Impact is a modified test vehicle that successfully completed its propulsion durability testing assignment for the GM PrEView Drive Program in the fall of 1993. The two-year PrEView Drive Program, which began in June 1994, is a nationwide consumer test drive of the Impact to determine consumer needs and expectations and infrastructure requirements to support electric vehicles.
- This accomplishment emphasizes GM's commitment to developing EV technologies. In addition, the lessons learned and the technologies pioneered in this vehicle are already moving into GM's future transportation programs.



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LAND-SPEED RECORD-SETTING IMPACT

DIMENSIONS

Length, with tailcone	188.5 inches
Width	69.3 inches
Height	49.0 inches
Wheelbase	98.9 inches
Curb Weight	3,250 pounds
Drag Coefficient	0.137

SPECIAL FEATURES

Maintenance-Free Lead Acid Battery Pack
Three-Phase AC Induction Motor
IGBT Power Inverter Module
Electro-Hydraulic Braking System
High Voltage Isolation Assurance

IMPACT MODIFICATIONS

The Impact electric vehicle that established the land-speed record included the following vehicle and propulsion modifications:

- Six additional propulsion battery modules (total of 33 battery modules).
- High-speed rated 205/50 R15 tires.
- Inverter software and hardware upgrades to deliver increased current to the drive motor to operate at a higher voltage.
- Drive unit assembly modified to provide additional cooling and a special 3.491:1 drive ratio replaced the normal 10.96:1 ratio to accommodate higher vehicle speeds.
- The radiator was replaced by a special insulated container filled with a mixture of ice and water to cool the inverter and drive motor.
- Aerodynamic drag was reduced by removing the outside side-view mirrors, lowering the ground clearance, covering the wiper blade cavity with a carbon fiber panel, attaching smooth disc covers to the wheels, and adding an aerodynamic tailcone to the rear of the vehicle.
- The Impact was equipped with a steel rollcage, safety seat with a five-point harness and a fire extinguisher system for safety purposes.
- It did not have, however, such amenities as air conditioning, power steering, power door locks, or radio. It did retain the power assisted brakes and power windows.