

Formula E Opens With A Crash

By Lucas Laursen

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The first race in the ten-race electric Formula E series ended with a crash this past Saturday in Beijing. e.dams-Renault driver Nico Prost held the lead toward the end of the race, but as he approached the final lap, Venturi driver Nick Heidfeld passed Prost on the inside. Prost bumped Heidfeld, sending the Venturi car into a crash barrier and into the air. After landing upside down, Heidfeld scrambled out of the car and accosted Prost. Audi Sport ABT driver Lucas di Grassi passed the pair and took first place.

Though Formula E cars are heavier than the Formula One cars that inspired them, and much quieter, race organizers are betting that they can put on enough of a show to attract a new generation of race fans (see ["Electrifying Formula One"](http://spectrum.ieee.org/transportation/advanced-cars/electrifying-formula-one) (<http://spectrum.ieee.org/transportation/advanced-cars/electrifying-formula-one>) 24 October 2013, *IEEE Spectrum*). The inaugural race showed that Formula E, in which drivers put single-seat electric race cars through their paces, can deliver much of the same drama as competitions featuring cars with internal combustion engines. Before the final-lap dust-up, other drivers grazed each other, damaging one car. Other cars suffered technical problems, forcing them out of the race.



Photo: Ng Han Guan/AP Photo

The series may also attract fans who care about the engineering challenges of pushing electric cars around city streets at upward of 200 kilometers per hour. The chief engineer of the e.dams-Renault team, Christophe Boittin, said ahead of the race that the biggest challenges have to do with managing the car's battery condition and energy

usage over the course of the race. The teams are limited by the rules to using 28 kilowatt-hours over the course of each race. Formula E cars, all of which are the same for the inaugural season, also have limited telemetry, so "You have to plan ahead of time and talk to [the driver] on the radio," Boittin said.

Amlin Aguri driver Katherine Legge had radio problems that prevented her from discussing her car's energy situation with her technical team and used more than her energy allocation. Her teammate Takuma Sato, who had the fastest single-lap time of the race, encountered bigger problems: powertrain trouble forced him out of the race four laps short of completion. Legge said in a statement, "There were a few snags technically which we need to eliminate before the next race, and if we can sort those out I think we will see a significant improvement in Malaysia." The next race is November 22 in Putrajaya, Malaysia (see the entire calendar [here](http://www.fiaformulae.com/en/calendar.aspx) (<http://www.fiaformulae.com/en/calendar.aspx>)).

In the meantime, drivers and team engineers will be applying the lessons learned from this weekend's race. Boittin says the area most in need of improvement is in battery management. So while teams seek to tweak the way they handle their energy allotments, they'll also be working on driving basics known even to teenage drivers, such as checking both ways before turning. After the Beijing race, Prost, who had just sent his competitor into a wall, [tweeted](https://twitter.com/nico_prost/status/510779085967351808?refsrc=email) (https://twitter.com/nico_prost/status/510779085967351808?refsrc=email), "...after looking at the videos I understand that I am responsible. I just did not see him, feel very bad."