CLEAN-AIR CAR RACE

Miss Purity, a car built by student engineers at the University of Toronto, recently tied for first place in its class in a race in which time meant very little and speed even less. The criterion in the cross-country dash from Cambridge, Massachusetts, through Ontario to Pasadena, California, was the amount of pollutants discharged into the atmosphere.

The drivers who entered the clean-air car race sponsored by the Massachusetts Institute of Technology (MIT) and the California Institute of Technology were trying to prove that cars need not cause air-pollution.

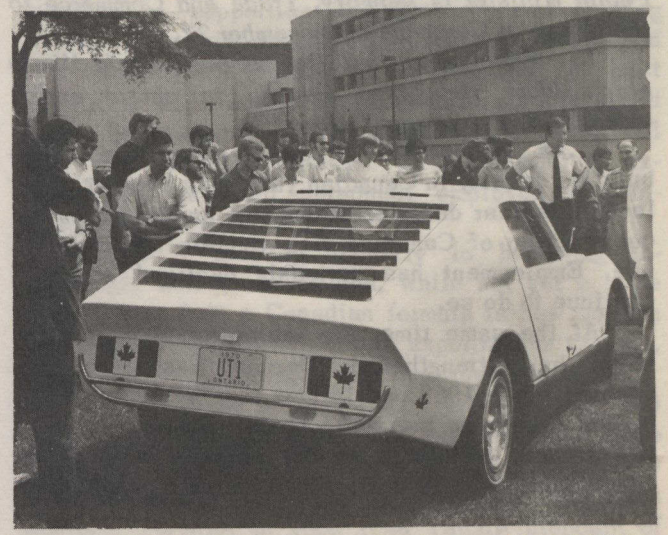
Ontario Hydro

The crew of Miss Purity *(Douglas Venn, captain, centre) are happy to have won their prize.*

The University of Toronto's entry, with 41 other cars, had to undergo extensive tests at the MIT campus before setting out on the 3,600-mile trek. Race officials checked everything from performance and manoeuvrability to exhaust emissions, and *Miss Purity*, an "electric-propane hybrid", driven by a crew of three, eventually won $5,000 in prize money. The only other Canadian entry, which has a modified internal-combustion engine that burns propane, was built by students at St. Clair College in Windsor, Ontario. Also in the line-up were electric cars, propane-electric hybrids, "steamers", turbines, diesels and liquified natural gas burners.

UNIQUE SERVICE STATIONS

Ontario Hydro and four municipal utilities installed "filling stations" for the electric cars on the Ontario leg of the race. The 100-kilowatt charging stations were set up at the Burlington Mall, Varsity Stadium, on Highway 401 and at London, Chatham and Windsor.



Ontario Hydro

UT 1 is the number plate of the car made by students at the University of Toronto.

The rules of the race required that all cars be driven and maintained by students along the entire route, while race observers checked their progress. More than one flat tire had to be changed by the student engineers, who had more interest in electronics than in wheel-changing.

In Ontario, most of the attention was centred on registration plate UT 1 – that of *Miss Purity*. Five students had worked on the car full time at the university, beginning last April, and about 20 more helped on a part-time basis.

Douglas Venn, captain of the crew, a 23-year-old heat engineering graduate, explained that the car was capable of running on three propulsion systems: an all-propane engine; a propane engine running at constant speed, charging ten storage batteries that run an electric motor; or an all-electric engine. From Boston to Toronto, he said, his car made the 540-mile trip on propane alone except for one mile where it ran electrically. He stated that more intensive research into batteries was needed before the electric car (which has a range of from 80 to 100 miles before recharging) could be perfected. "There's nothing wrong with the electrics," he declared, "we've even got dash-mounted mini computers – but longer-charged batteries capable of going longer distances are what's needed."

During 1969, 5,028 million gallons of gasoline were sold for consumption on Canadian public roads and highways. This was 5.7 percent more than the 4,758 million gallons sold in 1968. Corresponding sales of diesel oil also increased by 13.0 per cent to 388 million gallons from 343 million.