LETTER FROM TOKYO

Japan's electric auto entries

Japan is pressing development of workable models of electric automobiles. Four Japanese research groups have almost simultaneously produced prototype vehicles.

The Japanese entries appear to be in the class of the heavier, more expensive models being developed by several U.S. auto makers, rather than in the low-priced ($2,750) class on which the Westinghouse Electric Corp. is concentrating. Westinghouse has temporarily suspended production of its Marketeer I, however, in the face of trouble meeting safety standards.

The Japanese approach to the problems of electric autos (SN: 11/4/67, p. 441) is taking a number of technological routes.

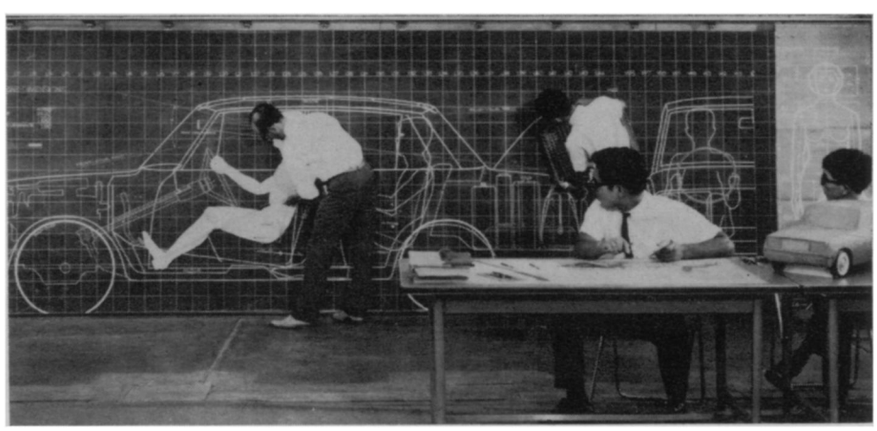
A battery-driven car developed by the Tokyo Shibura Electric Company is said to be able to do 100 kilometers per hour (62.5 mph). The unit mounts a silicon rectifier motor and an SCR chopper controller in the space normally used for the gasoline engine in a Publica Van. The motor uses a direct-current solid-rotor system and thus wears down no components other than its bearing. It is said to have a continuous standard output of 27 horsepower and to develop 20,000 revolutions per minute. That would make it the fastest battery-driven car in Japan thus far.

Another entry in the Nippon electric car sweepstakes is the Yuasa Battery Car No. 1, built by the Yuasa Battery Company of Tokyo and Osaka. Designed for use as a delivery wagon or small public bus, it was constructed by installing storage batteries and a control device for minimizing current loss on a Nissan Caball Light Van.

The Yuasa vehicle has a lead-clad battery of 80 volts which can deliver a 400-ampere current for five hours. Operating at 1,600 cycles in charging and discharge (ordinary batteries run between 500 and 700 cycles), this model can be charged in three or four hours. Ordinary batteries take six to eight hours. It uses a direct-current series motor with an output of 7.9 kilowatts and 2,400 rpm. It will do 40 mph, but its cruising speed is 25. It can go 100 miles on a single charge.

Other Japanese firms with electric cars include Kansai Electric Power (45 mph top speed, 50-mile range) and Chubu Electric (50 mph top speed).

In the long run electric cars would cost less than conventional ones, Japanese engineers maintain. Though manufacture of electrics would cost twice as much as similar gasoline models, maintenance and power would come to only about a third of the cost for internal combustion vehicles. Thus, the engineers figure, the total cost of owning and operating an electric for five years would be about 83 percent of the cost of a gasoline model.



Designing an alkaline-battery-powered electric at Chuba Electric Power Co.

But will the Japanese public buy the electrics? Electric power officials seem confident, but auto manufacturers are doubtful. The auto people point out that the Japanese are just like Americans—when they are going somewhere they want to get there in a hurry. The public just doesn't believe it can get speed from electric cars.

Officials of Japanese cities, however, take a friendlier view of electric propulsion. If economic factors and performance improve as predicted, municipal authorities would like to replace 80 percent of their 1,900 diesel buses with battery driven ones. This could provide enough of a stimulus to get Japan's still hesitant auto manufacturers into the electric business.

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