

Tomorrow's transport: ELECTRIC SWITCH?



Anti-pollution considerations aside, electric cars, delivery vans and buses are demonstrating impressive operating, maintenance cost savings.

To get more miles per kilowatt-hour builders are relying on more aluminum in bodies, motors and drive parts. Battery breakthrough imminent?

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FILLERUP—with kilowatts, not gallons.

The wave of the future in motoring? Could be. A growing number of firms are betting that a substantial portion of tomorrow's cars, buses and delivery vans will be powered not by cleaned-up V-8's or Wankels or other gas-burning engines, but by emission-free battery-operated motors.

The most compelling reason for this embryonic revolution centers on federal regulations limiting exhaust emissions from internal combustion (IC) engines. Anti-pollution devices will not only add to the cost and weight of vehicles but also adversely affect performance and reduce gas mileage at a time when motorists are becoming concerned over gasoline shortages and soaring gas prices.

There are other advantages. The

electric traction motor is a smaller, lighter version of the thoroughly proven motors that once powered streetcars and trolley buses. They're much less complicated than IC engines (fewer moving parts), and are said to last up to 20 years.

Noise pollution in urban centers would be greatly reduced by electric cars. You can barely hear the gentle whirr of the motor over the sound of tires against pavement.

Look ma, no parts

From the maintenance standpoint, the electric has it all over the IC engine. No carburetor to adjust. No fuel or water pumps, starter motor or muffler to replace. No radiator to fill with anti-freeze. No spark plugs, ignition points, etc., hence no periodic tune-ups. No oil changes. No oil or air filters to buy. The list is long.

The cost to operate an electric vehicle consists, simply, of the cost to recharge the batteries and, eventually, replace them.

Operating cost varies depending on type of vehicle, but can be as low as 2 to 3¢/mile compared to 6-8¢ mile for the typical IC car.

There are drawbacks, too. Electrics currently in production, or even on the drawing boards, can't touch the speed, range and overall performance of today's Belchfire 8.

While speeds of around 60 mph have been attained, cruising speed and range of most electrics are about 25-35 and 40-70 miles respectively.

Limitations of the electric vehicle begin and end with its power source—usually a number of 12-volt lead/acid storage batteries which can weigh 1000 lbs or more. More important, the batteries can store