

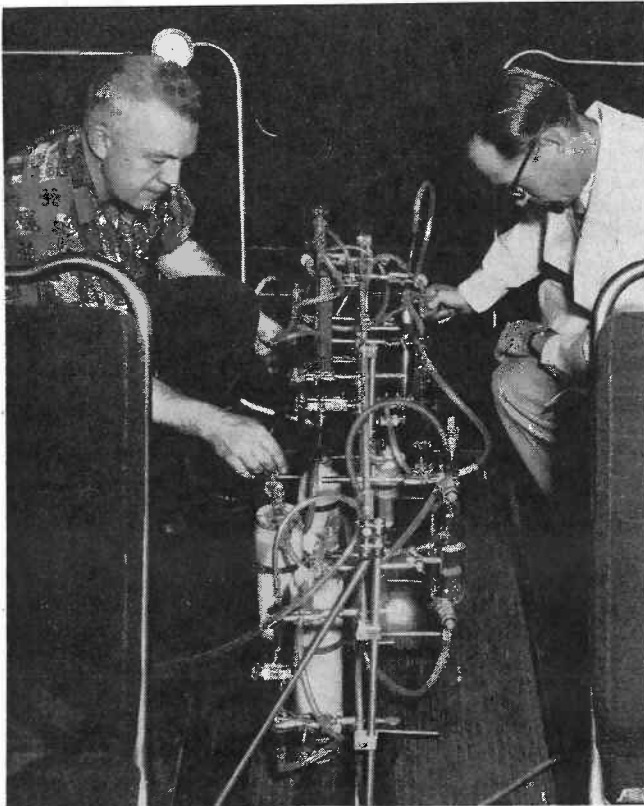
METRO DIESELS DON'T CAUSE SMOG

A CLEAN BILL OF HEALTH was recently given Metro's diesel-powered motor coaches in connection with the SMOG problem in the Los Angeles metropolitan area.

As a result of tests conducted by two independent engineering laboratories—the Smith-Emery Company of Los Angeles, and the Consolidated Engineering Corporation of Pasadena—it was conclusively shown that the GMC diesel engine exhaust is free from (1) air pollutants which cause smog, and (2) carbon monoxide.

Up to the time of the tests, Metropolitan already had made considerable progress toward the elimination of smoke and odorous exhaust fumes through an extensive program of engine overhaul and the establishment of a rigid maintenance program.

TEST APPARATUS as set up in the test bus, Coach 2797, by Smith-Emery Co. Chemist E. N. Rockwell, right, and his assistant, Kenneth Drenon. Mr. Rockwell's hand is holding the shut-off valve of a stainless steel "bomb" used to collect the exhaust gases. White tube tapped into manifold is beyond Mr. Drenon's knee. The entire set-up was clamped rigidly to the bus.



The decision to make the diesel exhaust tests was made during the course of the public hearings before the Los Angeles Board of Public Utilities and Transportation on Metro's proposals to replace streetcars on Hollywood Boulevard and the Glendale-Burbank Line with an all-motor coach service.

The purpose of these tests was to determine whether the diesel exhaust contains any unsaturated hydrocarbons. These invisible irritants are present in gasoline engine exhausts and are considered to be the principal cause of eye and lung irritation, as well as crop damage.

Using a diesel coach with over 100,000 miles of service, including 20,000 miles of travel since its last engine overhaul, comprehensive road tests were conducted over a three-day period. Samples of the exhaust fumes were collected in bottles by means of a $\frac{3}{8}$ inch copper tube tapped into the exhaust manifold. Chemists from the Smith-Emery Co. set up the apparatus, and were assisted on the road tests by Metro's Clarence J. Hatzer, automotive instructor, and George H. Wells, mechanical service supervisor.

Samples were all taken on the road with the engine operating under four different conditions, namely: constant speed, idling, acceleration and deceleration. These samples were then analyzed in the Consolidated Engineering

laboratory by means of an electronic mass spectrometer.

Shortly before the tests were made, Metro had changed over to an even finer diesel fuel than had been earlier available. At the company's request, Standard Oil Company of California began producing a fuel in which the heavier products of distillation were eliminated, and it was this fuel which was used during the tests. The same type fuel is now being exclusively used in all of Metro's diesel coaches.

The test procedures were set up with the assistance of Metro's general attorney, *Waldo K. Greiner*, who is also a qualified civil engineer; *Ray W. Anderson*, superintendent of equipment; *Dr. Martin A. Elliott*, research consultant to the U. S. Bureau of Mines and a member of the faculty of the Illinois Institute of Technology; *Daryl Lemaux*, of GMC Truck and Coach division; and *Hugh MacPherson* and *Jack Payne*, chemists at California Research Institute, an affiliate of Standard Oil Company of California. Dr. Elliott and Mr. Lemaux also testified at the hearing before the City Board.

As a result of these tests, Metro now points out that its diesel coaches actually help solve the smog problem, since each motor coach replaces about 40 gasoline automobiles, which are considered to be among the primary offenders.

WATER-CLEAR —
That's the appearance of the new-type diesel fuel now being used in Metro's coaches.

