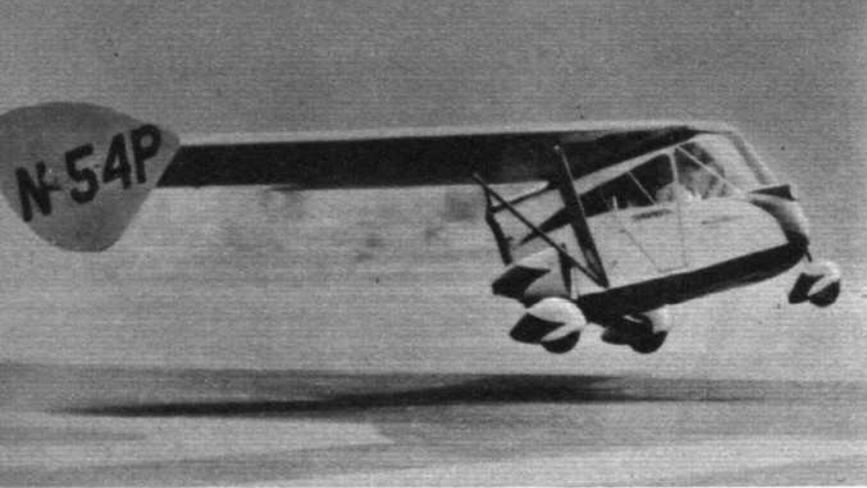


Roadable Aircraft

MORE AMERICAN ENDEAVOURS TO
MAKE THE BEST OF BOTH WORLDS



PERHAPS by reason of the spider's web of official red tape in which an owner would almost certainly find himself enmeshed, few attempts have been made in this country to construct so-called roadable aircraft. In America such ventures have been of frequent occurrence, though most of the designs have rapidly faded into obscurity after an initial blaze of publicity.

On this page are seen three of the most recent transatlantic efforts. At the top is a high-wing design by Waldo Waterman of San Diego, said to be capable of 130 m.p.h. in the air and 70 m.p.h. on the road, on the power of a 165 h.p. engine. It bears the unprepossessing name of Aerobile. The two centre pictures are air and road impressions of Leland Bryan's Autoplane, built from standard Ercoupe parts and said to be such a familiar sight on the roads round Milford, Mich., that local motorists do not give it a second glance. Road and air speeds of 60 and 95 m.p.h. are claimed.

The fourth photograph is of a more truly professional venture, this time by Igor Bensen, founder of Bensen Aircraft Corporation, makers of light helicopters. Known as the B-7M Gyro-Copter (40 h.p. Nelson H-59 engine), it was recently the subject of a demonstration in which Bensen flew 15 miles from his factory into the suburbs of Raleigh, North Carolina, landed, filled up at a petrol station (see picture), visited a bank, and went shopping.



GAS TURBINE VIBRATION INDICATOR

IGNITION analysers for piston engines have been in wide use for a number of years; and the Sperry Gyroscope Co., Ltd., has now produced an equivalent device for gas turbine engines. Known as the Sperry turbine engine vibration indicator, it senses any vibration in an engine which may indicate impending failure.

The Sperry equipment has been designed specifically for use as a permanently mounted aircraft installation to give continuous vibration indications and alarm signals in flight. It consists of a pick-up of the seismic type, with a velocity output, and which can be mounted anywhere on the engine; an amplifier to process the signals; and a galvanometer dial to give readable indications. An adjustable trip-circuit can be included to set off an alarm when vibration exceeds a preset level. With plug-in amplifiers, filter assemblies and selector switches this basic equipment can be adapted to suit any type of engine installation.

The pick-up has a base 2.5in high and a diameter of 1.5in; it weighs 0.5 lb and has a temperature range from -55 deg C to 270 deg C. Valve amplifiers are used to give stability at low frequencies and over wide temperature ranges. Maximum weight for a composite installation would be 18.5 lb and power requirements 32 W at 115 V, 400 c/s.

MARCONI FREQUENCY STANDARD

A FREQUENCY standard believed to provide the highest degree of stability so far obtained by quartz control in an item of production equipment is now being marketed by Marconi's Wireless Telegraph Co., Ltd. It was exhibited at the Western Electronic Convention in San Francisco last month, and has already aroused great interest in many countries. The standard achieves weekly stabilities to within two parts of 10^{10} and, in observatories and laboratories, can serve as an operational standard checked occasionally by an atomic resonance. It can also be used as the master control to monitor such navigational aids as Loran and Gee.

The full title of the new equipment is Marconi Quartz Servo Frequency-Standard Equipment, Type R.D.101. It weighs 440 lb, has a power consumption of about 500 VA, produces outputs at 10 Mc/s, 1 Mc/s and 0.1 Mc/s with at least 1 V (r.m.s.) into 75 Ohms. Open construction with "slide out and tilt" panels, full metering facilities and the possibility of servicing without interrupting operation are attractive features. Inter-Services preferred valves have been used. A high-precision Marconi 5 Mc/s crystal, noted for low drift rate and immunity from vibration effects, is employed.