

CANADA BUILDS FLYING-SAUCER

Revolutionary plane now in the mock-up stage

NEW YORK—The U.S. Air Force, which has batted down many a flying-saucer report, has long wished (in private) that it could build one.

By last week, the Air Force was prepared to invest heavily to make hallucination come true.

Air Force men have inspected a Canadian mock-up saucer, approved a more advanced design, and hope within three years to have a prototype that can take off straight up, hover in mid-air, and fly at mach 2.5 (nearly 2000 mph at sea level).

Its designer: John C. M. Frost, 35, a tall, shy Briton, with a passion for flowers and flying saucers.

Frost, who lives in Toronto with his wife and son, helped to design wartime gliders, later the Vampire jet, and DH-108 tailless jet.

As chief design engineer for special pro-

jects at A. V. Roe, Canada, Ltd (part of Britain's famed Hawker-Siddeley aircraft group), he worked on Canada's first home-built jet

first home-built jet fighter, the CF-100.

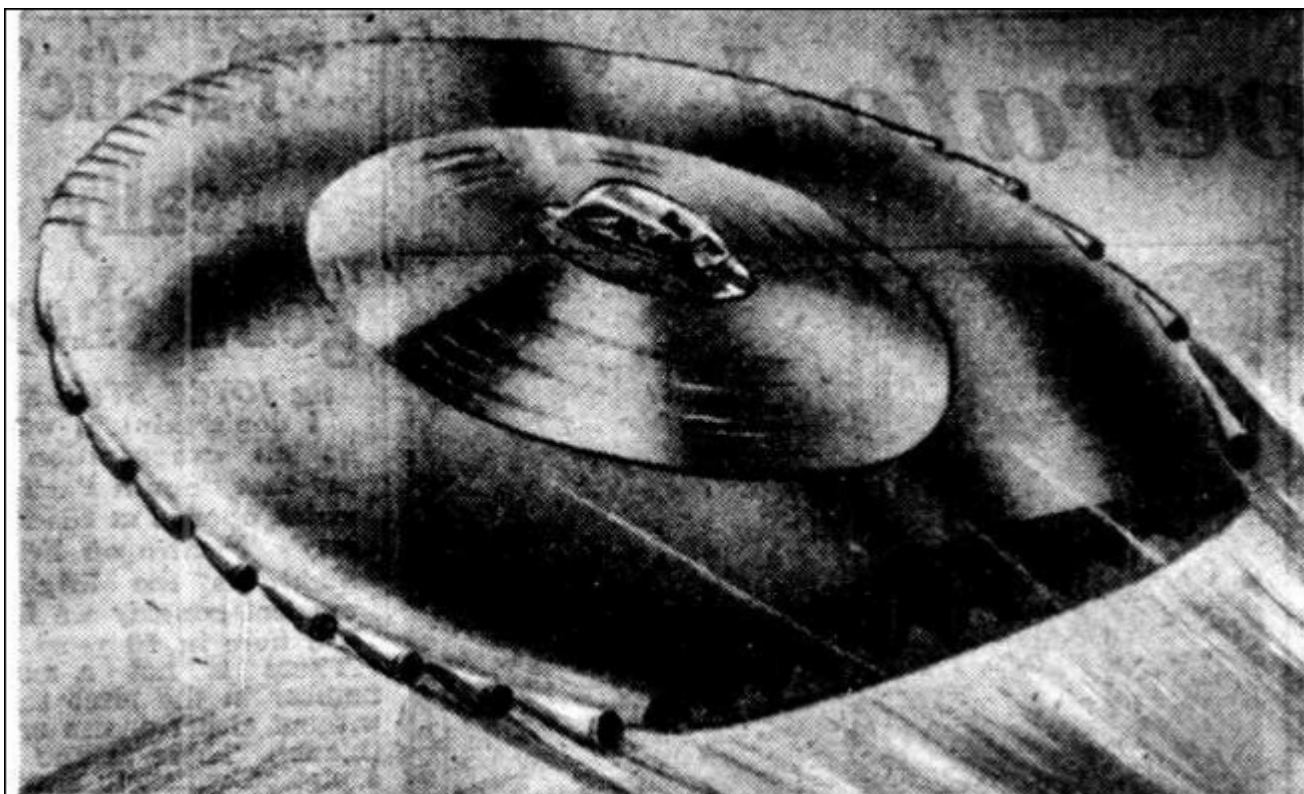
Meanwhile, in a top-secret screened area at Avro's Malton plant, he designed flying-saucers — at least one 40ft mockup, with a flattened end and spindly undercarriage.

Coanda effect was secret

This model, quickly nicknamed Praying Mantis, was designed to take off at a 40deg angle after a short run.

But Frost wanted a vertical take-off — which is quite a trick.

Even such a power-



AN ARTIST'S impression of the Avro-Canada flying-saucer which the US Air Force is very interested in.

ful jet engine as Pratt and Whitney's J-57, with about 10,000lb of thrust, can barely lift its own weight vertically.

After countless wind-tunnel tests, Frost finally found what he thinks is a solution in an aerodynamic principle known as "the Coanda effect."

Rumanian-born Henri Coanda, 68, a successful inventor who lives in Paris, designed a primitive turbine-engine plane in 1909 and a scale-model saucer in 1947.

But his great contribution to the art of making flying saucers was the principle he discovered in 1937: curving one side of a nozzle will deflect a jet

blast to follow the curved side.

Around the Coanda effect, Avro's Frost created a startling design shaped like a saucer, 40ft in diameter with a squat jet engine in the middle and a bubble cockpit perched above.

From the engine's 35-burner tubes blasts would radiate to 180 exhaust ports all around the saucer's edge.

To apply the Coanda effect the pilot needs some kind of movable control over one lip of each exhaust.

Controls set to blast downward

blast downward

To take off he would set these controls to deflect the blasts downward.

The downblasts carry along with them more air from above the plane than from below it. This decreases air pressure on the top, causing the saucer to rise.

If he rises as he is supposed to, the pilot would then reset the exhaust controls for normal jet flight.

He could fly in any direction by choosing the appropriate set of burners in his circular power plant.