



FLIGHT HORIZONS

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CANADA'S IROQUOIS TURBO-JET ENGINE PACKS TERRIFIC POWER

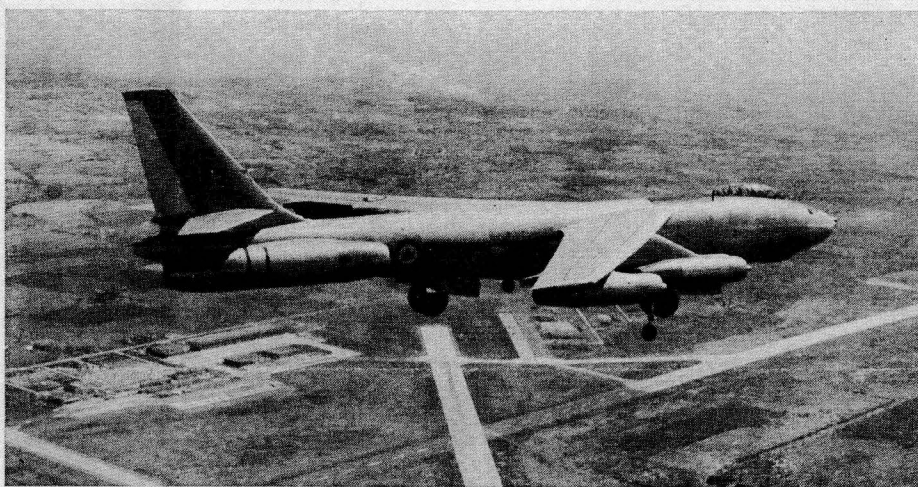
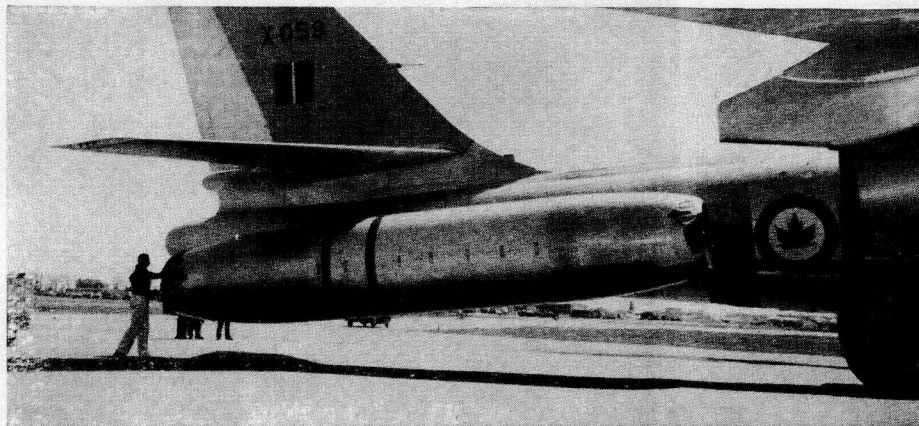
*New Orenda Development Being
Flight-Tested On Borrowed B-47
Bomber "Flying Test-Bed"*

✦ Imagine the concentrated power of 100 modern automobile engines—the equivalent almost of that required to drive the giant liner Queen Mary. Then, imagine that power contained within a single jet engine compact enough to fit easily into a modern living room.

The result, actual, not imaginary, is the mighty new Iroquois jet engine, designed and developed in Canada by Orenda Engines Limited, Malton, Ontario, as the power plant for the R.C.A.F.'s CF-105 supersonic all-weather interceptor. Experts consider it to be one of the most powerful turbo-jet engines known to be in an advanced stage of development anywhere in the Western world.

The evolution of the Iroquois involved years of intensive engineering and manufacturing effort—Orenda designers put the first plans on paper late in 1953. It also required imaginative pioneering during manufacture. Many new materials are used in its construction, among them titanium, a metal as strong as steel, but weighing only 60% as much.

THE RELATIVE size of the engine "pod" can be seen in comparison with the man, left. The Iroquois by itself develops more power than four of the B-47's own engines.



THE "POD" bearing the new Iroquois engine can be seen under the tail of the B-47 above on a recent test flight.

Airborne testing of the new engine is, of course, essential, and great care was exercised in selecting the "flying test bed". The choice of the B-47 bomber, under loan from the U.S.A.F., was a natural one, because of its size, speed, capacity, climb capabilities, and other important factors. Conversion of the aircraft entailed detailed engin-

eer work and Orenda pilots and ground crew received training on B-47's at one of the U.S.A.F. Strategic Air Command training bases.

Developing more than 20,000 pounds thrust, more than four of the B-47's six engines together, the Iroquois is mounted at the rear of the fuselage beneath the tail.

During proving flights, the co-pilot is in charge of the separate controls for the Iroquois engine, while the captain flies the B-47 which is literally packed with electronic measuring and recording equipment.

Photo recorders take pictures of information appearing on the pilot's instrument panel. Oscillograph recorders, using rapidly-moving sensitized papers, collect data subject to rapid change, while frequency modulation radio techniques explore vibration characteristics and transmit information to ground stations within a radius of 100 miles.

These flight tests in the B-47 will be carried on for a considerable time, and at a later date, in faster, higher-flying aircraft. Canadian turbo-jet engineers are confident they will amply prove the Iroquois to be a winning entry for Canada and the free world, in the race for air power.