IN THE AIR

"FISH AWAY!"

By D. G. Carmichael

Sault Ste. Marie, Ont. — Sometime next spring, a de Havilland "Beaver" bushplane bearing the black and yellow markings of the Division of Air Services, Lands and Forests, will fly toward a small Algoma lake with 12,000 or more fingerling fish aboard — twice as many as have ever been carried in this type of aircraft before.

The extra payload is the result of a development conceived in the workshops of the Air Services here by District Biologist Ken Loftus and D.A.S.'s George Miles.

What's more unusual still is the fact that when this aircraft reaches the lake it won't land to transfer its finny cargo to the water . . . the fish will be dropped from an altitude of 300 to 500 feet.

The peak load of live fish in the past has been determined as 6,000 fingerlings. But the reason for this relatively small load was the fact that the fish cans, used to transport the large amounts of water needed to keep the fish alive during transfer, were the size and weight of milk cans. And the water was heavy too.

Answer? Bottled oxygen.

In recent tests at the Tarentorus Trout Rearing Station, the device, weighing no more than 100 lb., kept 12,000 fingerlings alive for one hour. A 100-lb tank of oxygen was used.

The new apparatus consists of two metal tanks (sheet aluminum), fed individually from a T-tube hooked to an oxygen tank. Another T-tube in each tank leads to two lengths of carborundum pipe, one at each end. Carborundum is a highly porous silicide of carbon which allows oxygen fed in under pressure, to emerge in fine bubble form.

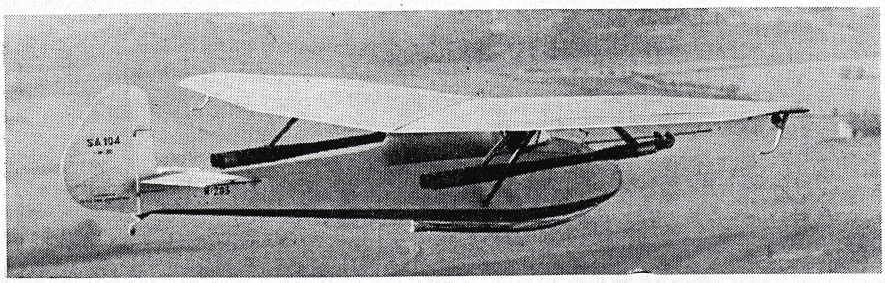
Both tanks are connected to a central outlet valve with individual stop cocks on the pipes, which permits water to flow into a funnel fitted with a rubber plunger.

The funnel has been designed so that it fits snugly into the camera hole on the floor of the Beaver, and the bottom of it is curved back in the direction of the craft's slipstream.

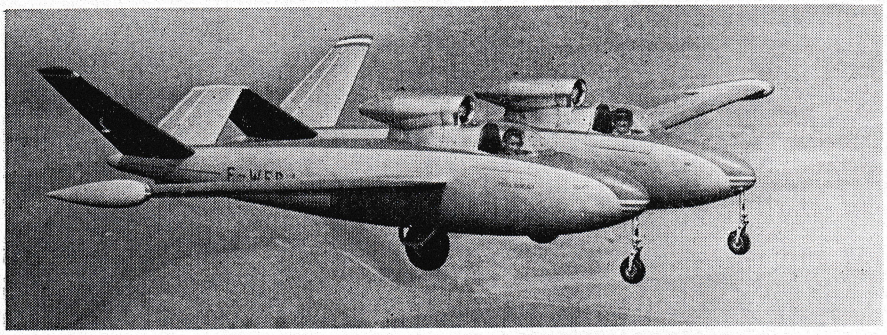
Racks or traps containing the small fry are placed in the tanks. These prevent the fish from grouping and resultant suffocation. Naturally less water is needed because the oxygen injection "freshens" it.

Specialists in Quebec and California have been working on the same problem. In California they drop fish in ice but this involves a weight problem.

The first Ontario aerial drop will be tried in the spring. The fish will be dropped into a trap so that a survival count can be made.

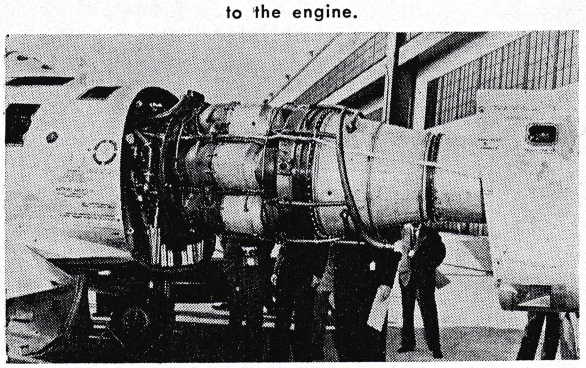


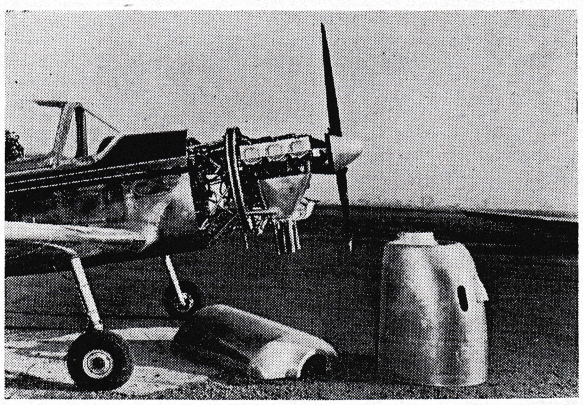
PULSE-JET GLIDER — This is the Emouchet glider fitted with four Escopette pulse-jet engines. It was demonstrated in flight at the Paris Air Show. Resembling a stove pipe with a peculiar "walking stick" curve at the front, the pulse jet has no moving parts. Fuel is injected and burned under pressure. Thrust of each unit is 22 lb.



ABOVE—One of the most interesting developments in the promising field of lightplane jets is this two-seat Fouga Gemeaux I. A French design, it consists of two Cyclop lightplanes, the fuselages being joined by a wing centre section and a single bracing strut under the tail assembly. Each fuselage has a single cockpit, like the twin Mustang. All instruments and controls are duplicated so that it can be flown from either cockpit. Top speed is 205 mph. Each of the Pimène turbojets delivers a thrust of 220 lb.

ORENDA IN SABRE—The Avro Orenda engine eventually may power the Sabre jet fighter which is in production at the Canadair plant. In this illustration, the Orenda has been installed experimentally in a Sabre. The tail section of the Sabre fuselage detaches to give access to the engine.





—*Warren D. Shipp Photo.*

LYCOMING-POWERED CHIPMUNK — Probably destined to be the only one of its kind, this Chipmunk is powered with a 190-hp Lycoming 0-435 engine. A purely experimental installation, the Lycoming version has a special two-piece cowl and extra-long exhaust stacks as seen in the illustration.