

CANADIAN SCENE

by DOUGLAS A. SHENSTONE

"L'AFFAIRE MU"

(Ed. Note: Through the kindness of Vernon Pope, Montreal Soaring Council and members we are able to bring you The Mu Story at last, in two installments; first of which appears below.)

Four years ago, unexpected by all but a very few, four immigrants arrived in this country. They had been liberated from Germany, had gone to England, and been spirited across the Atlantic. Travel-worn and showing the effects of their hard lives in varying degrees they were, it was learned, being cared for by the National Research Council until they could be placed in suitable homes—four German-built sailplanes in a very sailplane-hungry land.

Two of the newcomers were Grunau Babies with complete instrument panels and in flyable condition, or nearly so. Another GB was considerably knocked about. The last member of the group was an MU 13D, badly weathered. After four years of continuous setbacks this last machine is now nearing a flyable state, and its progress has stimulated more curiosity than all three GBs combined. It is, in fact, doubtful if any other glider in Canada—the LOUDON excepted—has occasioned more comment than the MU in those four years.

It was at first intended that the gliders should go to clubs at Universities. One of the two good GBs, however went to the Navy Club then flying with the Gatineau group in Ottawa, the connections of the latter group with the NRC providing probably the best facilities in Canada for making repairs and conducting research. The other good GB went to the Queen's U. Gliding Club at Kingston. The MU was handed over to the McGill Club and the bashed-about GB was shipped off to the University of British Columbia.

The McGill Club, at the time the MU was obtained realized that there was a good deal of work to be done, but many of them believed it could be done quickly. The pessimists foresaw it as a long and expensive job; but even the pessimists undershot by two fields and a couple of fences.

The MU 13D is a development of an earlier model, of which it retains—it is hoped—the desirable characteristics of low rate of sink and good gliding ratio. Some faults existed in the early model, notably poor control characteristics, poor penetration and embarrassingly low placarded speeds. Although the truth that the first of these faults has been largely remedied will not be known until it is airborne it is believed in the newer model. The last one has been only a little improved if any, according to the placards on the glider when it was received. Penetration, it is believed, is unchanged because it is due to the airfoil section used. There is some hope of slight improvement through the design of a new and better cockpit canopy, but no one expects a really respectable speed range.

When it was brought from Arnprior to the McGill Club's workshop the MU at once became the subject of a small war between the "rush-it-through" and the "do-it-right" schools. Fortunately the latter won out. The train of events which followed shows that if

the former had prevailed we would now almost surely have a pile of bits and pieces and perhaps even an obituary as a reward for eagerness.

Once the course had been decided, the difficulties of really doing the job right began to parade themselves. The design of sailplanes for special qualities of performance leads to the employment of complicated ultra-light structures of critical fragility, and in this the MU is true to type. And there were no drawings, technical information or even a good picture to be had. Letters to England, France and Germany—to anyone anywhere who might help—gained nothing. One particularly irritating incident was to be roundly scolded (second-hand) by a man who had sent us a full set of plans several months before he sent the scolding. By then they could not even be traced.

No one we knew in Canada was familiar with the construction of the machine, so it would be necessary to prelude all repairs by very careful design work. So, with many misgivings the work went forward.

Work was begun with the left wing leading edge and torsion box, which went quite satisfactorily. Biscuit patches were used and pressure by means of strips of inner tube. Even a bad portion of skin on the top of the torsion box offered but little trouble. In short order, in 1947, the left wing was presumed to be finished. Then the rudder and elevator were completely dismantled and every piece painstakingly reassembled.

Inspection of the right wing showed that the spar—which is the only main part of the wings to which the fuselage attaches—had deteriorated so badly that the entire spar and wing section inboard of the torsion box had to be rebuilt. This, which was to prove the most difficult job of all, was started in McGill's shop on University Street. However, when winter came no heat was forthcoming from "Works and Bricks" so the job stopped. In the spring two club members who had inspected the wing with a great gusto, removing parts and irreplaceable tubular rivets on wing pickup fittings, became inactive. The job then progressed sporadically and slowly, until the McGill authorities pushed the final nail into the coffin by tearing down the workshop!

The parts were stored until the Canadair Club was organized with a heated workshop, when chief "tearer-downer" for earlier inspection became—with one other member—our workshop supervisor and spark plug and 1949 became a year of progress.

The fuselage was completely stripped and inspected and every joint and tube was steel-wooled. The two main fuselage longerons were so badly corroded that replacement was necessary. The problem of splicing in tubing of less than .016" wall thickness without buckling the frame had not been surmounted by anyone who had tried repairing MUS in Europe; but we had to try.

Arrangements were made at Canadair through the Soaring Club to try to effect this extremely difficult repair at cost price. After we had supplied and fitted the new parts, Canadair built a Rube Goldberg structure of 2"x4"s, piano wire and turnbuckles around, in and on the fuselage, and assigned two of their best welders to it. In 80 hours of hysterical welding and straightening, the job was finished. (The bill—\$234.68 for six welds).

All control cables, fittings and pulleys were re-

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