



First Row (L. to R.)—F/L J. W. Kerr; F/L R. G. Shortreed; F/L G. B. McGillivray; F/O R. A. Stewart; WO1 H. B. Smith.
 Second Row—LAC Monague, L. J.; Sgt. Blatt, D.G.; AW2 MacRae, A. I.; F/S Pearsall, A. A.; Sgt. Cruickshank, J.
 Third Row—AC1 Hayes, M.M.; F/S Hinett, F. G.; F/S Young, W. A.; Sgt. Caswell, T. E.
 Fourth Row—LAC Jones, A. B.; AC1 Curry, M. L.; AC1 Holte.

Ground Instructional Section

Only Ground School in Canada Operating at Outbreak of War

As might be expected of the R.C.A.F.'s oldest training station, No. 1 S.F.T.S., Camp Borden, the Ground Instructional Section here was the only Ground School in Canada operating at the outbreak of war. In retrospect it seems a far cry from the first weeks of the war, and the hectic uncertain days when the training syllabus was being devised and revised, when ground instructors were practically non-existent, and when instructional material was most conspicuous by its almost complete absence.

The G.I.S. at Camp Borden in September, 1939, was all located in what is now hangar A-12, and only that part of A-12 which was not occupied by Headquarters of the then Intermediate Training Squadron. The lecture space consisted of three small rooms, inadequately lighted and sometimes heated by decrepit coke stoves which exuded a continuous haze of coal gas and assisted in lulling the pupils into somnolence and inactivity. The staff consisted of the O.C., Squadron Leader Carter, F/O MacDonald and F/O McCulloch on the Navigation branch, and two senior N.C.O.'s in charge of Armament. The G.I.S. Orderly Room staff at that time consisted of three LAC's, one of whom, Sgt. Wright, has recently returned to this station and is at present taking the Aircrew course.

The first classes of pupils were enough to strike terror to the heart of most young instructors—the famed "bush pilots" courses—wonderful men, who had rallied at the first roll of the drums of war, and had given up their civil flying career to enter the Service. In looking back, one realizes how privileged one was at that time to be trusted with the ground training of these men.

The Air Training Plan developed rapidly and G.I.S. was moved from A-12 to its present location. It was obvious from the time that the first stakes were driven for the new buildings that they were going to prove inadequate sooner or later for the Training Plan Courses. One will never forget the agonized pleadings of F/O MacDonald when the walls and partitions began to go up—and it was apparent that the inside of G.I.S. was going to resemble the average egg crate!

However, there it was in March, 1940, and here it is today. The record of G.I.S. in the meantime has been a good one. We have had many excellent instructors; we have had others who would never make instructors. We have had many outstanding pupils, and an unfortunate few who could not make the grade. G.I.S. has developed a reputation for careful and conscientious instruction, followed by meticulously fair examinations, and the standard of pupils turned out throughout the three years of war has always been at least as high and more often than not, much higher than that of our contemporary schools.

The present staff of G.I.S. is well qualified to maintain the high standard of instruction set. The O.C. of the school, S/L McCulloch, has been attached to this school since October, 1939, continuously, starting off as Junior Navigation Instructor and presently, since July, 1941, having charge of the ground training. His early training at Naval College in England, and subsequent years in the British Merchant Marine and Royal Navy, well equipped him for his present position. S/L McCulloch has taken a personal interest in each and all of the many students who have passed through the

school, and by reason of his stay at Camp Borden of almost three years, is an established authority on the transition of this station from peace time to its present war-time basis.

The subject which calls for the largest proportion of syllabus hours is navigation. This important branch of the training must be dealt with in the most thorough and capable manner possible—it is no secret that the need for every pilot, irrespective of the type of aircraft he is to fly, to have a thorough grounding in Navigation is not only desirable, but essential. The closest co-operation should exist between the Navigation staff, G.I.S. and the Navigation flight, and this is one of the problems which must be solved before the full value of the Navigation training can be obtained.

F/L Shortreed has charge of the Navigation instruction—a graduate of the No. 1 Air Observers' Course at the start of the Air Training Plan, he has had enough practical experience on the East Coast before coming to Borden in the early summer of 1941, to enable him to instruct with authority, and a complete knowledge of what is required of the pilot, be it in a single seater fighter or multi-engine bomber insofar as Navigation is concerned. F/L Shortreed is extremely fortunate in that he has the closest co-operation of his two junior instructors, F/L Kerr, a graduate of the University of Toronto and former High School teacher of Mathematics, and F/O Stewart, a graduate Engineer of Manitoba University. Both these officers are doing an excellent job in putting across their subjects in the short time available, and with such satisfactory results.

F/Sgt. Pearsall, formerly an Instructor at the T.T.S. at St. Thomas, has charge of the Instruction in Engines and Airframes and is doing a remarkably good job. The syllabus of training calls for a large amount of detail to be taught in a very short space of

time and with a difficult subject, the results are most complimentary to the N.C.O. concerned.

Airmanship lectures are given by—or should one say, rather, that they are extracted from—a number of flying instructors, each of whom lectures on the subdivision of the subject with which he is most competent to deal. Meteorology is handled by the station civilian Meteorology staff, who make the finest instruction, backed by excellent scholastic training and years of practical experience, available to the pupils.

A note on the G.I.S. Signals Section appears elsewhere in this issue and need not be repeated here other than to pay tribute to F/Sgt Young, N.C.O. in charge of the Signals Section, who is doing an outstanding job. The results obtained by the Section in the Morse training for aircrew have seldom been approached by any other similar station and have certainly never been topped.

The Armament Section is also dealt with in another section of the magazine and speaks sufficiently well of itself.

G.I.S. has helped to train many young pilots who have already made contact with the enemy and acquitted themselves with honour. We who are entrusted with the ground training, and who do not have the opportunity or privilege of meeting the Hun and Japs in the air, feel that we are at least giving our pilots the best training on the ground that is possible to give, and are confident that our efforts may have some little effect in the results obtained by our pilots.

—RCAF—

G.I.S. SIGNALS

Modern radio of today has advanced beyond expectations in rendering aid, directing, locating and general communications in the Air Force.

With the use of the radio locator, direction finding apparatus, and "beams," pilots of today may fly in zero weather, take-offs and landings, courses to steer, objectives and other such operations.

Another radio feature is the sensitive radio altimeter instrument which will register a rise in the ground below or any obstacle which may be ahead, this being used a lot commercially as well.

Together with the pilot being a good "flyer," a marksman for air firing, and a navigator, he must understand the fundamentals of radio and its limitations.

The primary theoretical and practical instruction the student pilots are taught at



"Who let that armament man in here?"

WINGS OVER BORDEN, SEPTEMBER, 1942

PARACHUTE SECTION



LEFT TO RIGHT—Cpl. A. C. Mathewson, AW1 E. Thacker, Sgt. D. E. Manchester, AW1 D. Hay, LAC V. Budden (Aus).



F/O Stewart instructing a group of pupils in Gyroscope

S.F.T.S.'s is more or less a foundation for operational work, and it is essential that they know this fundamental work so they may apply that learning to the more advanced instruction.

The long, lengthy R/T procedure which is learned here is shortened somewhat on operations, but the "phrases" remain the same, and an immediate understanding is known when these phrases or words are used.

With our aircraft fitted with radio, the student pilots learn in practice "how," "when" and "what" the radio can do. (No remarks, please.)

The morse code—d' d' daw—a dreadful monotonous buzzing signal—but essential—and practice makes perfect. In knowing this at a fair speed, visual signalling by Aldis Lamp may be read and other types

of signals relayed from ground to aircraft and vice-versa when the necessity arises.

The pilots have to know the general maintenance and functioning properties also—such as the accumulator (battery) being well charged, that the ignition wiring is well shielded, the a/c bonded at all necessary joints and other such necessities as their microphones and head sets in good working order to ensure maximum performance in transmitting and receiving.

Although the word radio and its operation appears to be something supernatural and mystic, it is learned by asking questions, study and demonstrations, by analogies, and practical use. (Are there any questions?)

The instructional staff here will be only too glad to give extra instruction to those who so desire same.

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PAGE FIVE