

THE Aircraftman

OCTOBER, 1943



property of
COMOX AIR FORCE
MUSEUM

- Hughes -

THE TECHNICAL TRAINING SCHOOL

ST. THOMAS

ONTARIO

5TH VICTORY LOAN



B4 Sqn/St Thomas



Left to right, front row: Cpl. J. D. Dionne; LAC's N. Pawoski, G. F. Marks, F. J. Daniels, G. Sykes, W. T. Foster, H. E. Gulocin.

Standing, second row: Flt. Sgt. Bandmaster H. E. Leroy; Cpl. I. B. Bartlett; LAC's J. A. Wilder, W. A. Campbell, J. R. G. Boudreau, N. E. Wyse, A. E. Nelson, A. F. Grant, J. R. Thomas, M. F. MacMillan; Cpl. L. J. Knight; LAC A. J. Nuttall; Cpl. C. M. Kraeling; Cpl. J. M. Hart.

Standing, third row: LAC's F. W. Hart, A. J. Ruthven, W. R. Culp, G. E. Lane, W. B. Knox, G. F. Clyma, C. W. McRitchie, C. B. Foster, R. G. Helmkey, C. J. Hamilton.

IN THE accompanying photo you see our new station band, taken just after the bandmen arrived here from the RCAF station at Gander Bay, Newfoundland. We are taking this opportunity of introducing them to you, as they are definitely going to be "Persons of Note" around here from now on, both in the entertainment and musical fields.

Most of you will have heard the band perform by the time you read this and will have been impressed with the excellence of its performance. This is probably due to the fact that the boys have played together for almost three years, it being one of the first bands organized in the RCAF. As a matter of fact, this is the second time our present band has been under the command of G/C Keens, for he was C.O. of No. 5a Manning Depot at St. Hubert early in the war when the band was stationed there.

Before arriving at TTS, the band spent a thirteen-month sojourn at Gander Bay. In addition to regular RCAF duties, it played for all parades, dances and entertainments of the American Army, the Canadian Army, the RAF and Ferry Command. In doing this the band had the opportunity of accompanying many famous stars of stage and screen brought to

Gander in connection with USO shows for the troops.

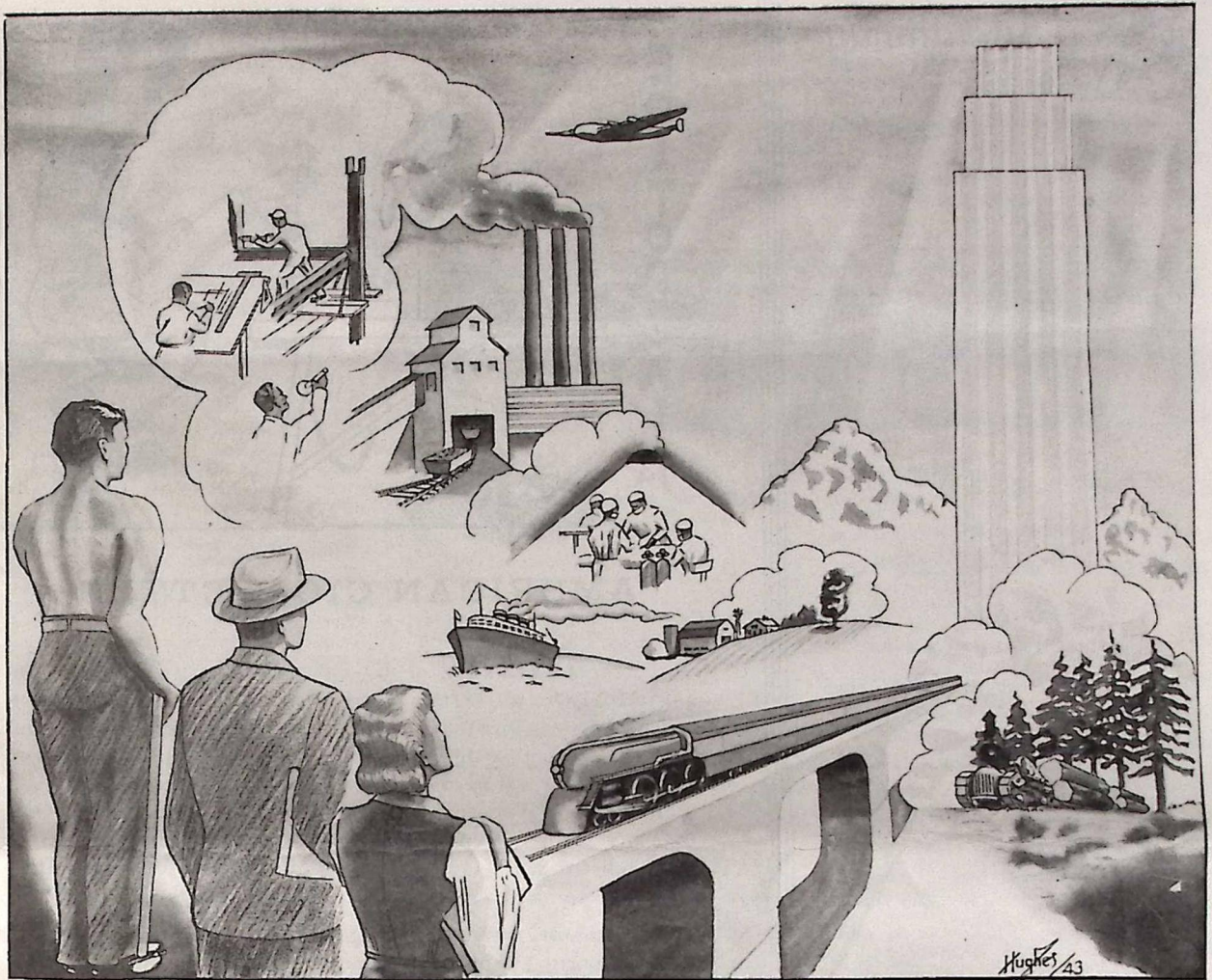
The band is under the direction of bandmaster Flt. Sgt. Leroy, who in civil life was a well-known radio organist and pianist. From Hamilton, Ontario, Flt. Sgt. Leroy confesses to being a member of a band since the age of eleven.

Included in the band itself is an excellent dance orchestra. In its playing, the guiding hand of a couple of former orchestra leaders is much in evidence. LAC Charles Foster, pianist and arranger, was a well-known Montreal orchestra leader, and the lead trumpet player, Cpl. M. Kraeling, had a band of his own on the west coast.

The members of the band are evidently quite a bunch of go-getters! While at Gander Bay they managed to pick off the sports championship of the station, winning in baseball and soccer, coming second in bowling, and third in basketball. They claim, too, to be the only Commando-trained band in the RCAF, having taken this training while at Gander Bay.

So there you have it—a bit of the history of our new station band. In welcoming its members to TTS, we hope that their stay here will prove as eventful and entertaining as their time at Gander Bay.

NEW TTS BAND



OUR artist, Sgt. Jack Hughes, has created a pictorial scene attempting to portray the opportunities that Canada has for us as occupations. In peace time, all Canadians have the privilege of choosing their work and

THE RIGHT TO CHOOSE YOUR WORK

changing their employment.

Little do we need to be reminded

how fortunate we are that the ruling of forced labour as applied in France, Poland and the subjugated countries of Europe, does not apply here in Canada. Is it not the desire of everyone that forced labour will never apply to Canadians?

Let's prove our point . . . buy bonds in Canada's Fifth Victory Loan and safeguard our futures.



The Aircraftman

The Monthly Magazine of the
RCAF Technical Training School

Published by permission of the
COMMANDING OFFICER, GROUP CAPTAIN
J. H. KEENS, A.F.C.

EDITORIAL STAFF

Managing Editor
Sid McLennan, Y.M.C.A.

Advisory Committee
Press Club
Chairman, Sgt. Laskin, M.

Technical Editor
Sqn. Ldr. A. A. Peebles

Photography

Courtesy Harnum Studios

Flt. Sgt. Heath, C. *True or False?*
 Cpl. Davies, G. C. *Station Chatter*
 Sgt. Hughes, J., Cpl. Hambleton,
 LAC Meininger, W. *Art*
 AC2 Roy Jack. *Cartoonist*
 Sgt. Warden, H. J.,
 Cpl. Woodhams, G. *Feature Editors*
 Sgt. Charlton, J. D. *Who's Who, Sports*
 AW2 Gibson. *Women's Division*
 Sgt. Hawke, G.P. *Letters to the Editor*
 Around the Circuit
 AC2 Farrow, L. H. *Typographer*

The Press Club meets on the 1st and 4th Tuesday at 1900 hours in the YMCA office, two wing. For further information ask the above contributors.

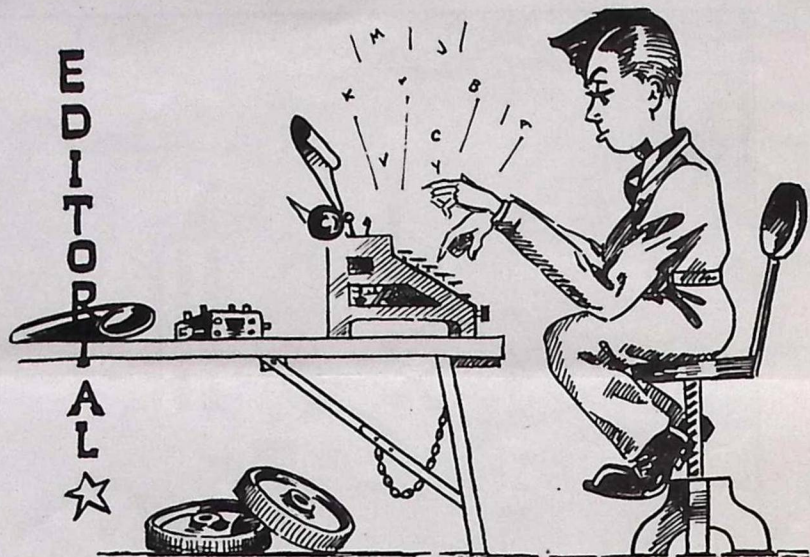
Material appearing in this publication may be copied, provided acknowledgment is made.

Cpl. George Davies

Is a very active and energetic member of the Press Club, having contributed in a major way. In civilian life George had considerable radio experience in Regina and has been active in M.C. work here at TTS. Many will remember the "TTS Titters," also our all-station talent show of last Wednesday, in which George excelled as the M.C.



October, 1943 Vol. 4 No. 3



AMERICAN CIGARETTES

Many of us enjoy American cigarettes but unfortunately for all, certain restrictions in the receiving of American cigarettes as gifts have been introduced by the Customs. Our first reaction to this tightening of regulations would lead one to believe that the Customs Officials were attempting to exercise their authority. On the contrary, the Postal Officials and Custom Officers, many of whom are returned men of the last war, and are partial toward present-day service men, have turned their eyes and attention elsewhere when a lad in uniform is returning to Canada.

The old story of a few "taking advantage" and the illegal practise of importing American cigarettes began to function. This cigarette bootlegging traffic developed at an alarming rate and immediate action by the authorities ensued.

We have no one to blame but ourselves, because a few of us were not content with a carton of cigarettes a month. They created ways of having these cartons reach them and then bootlegging the cigarettes to their friends.

We are still able to receive American cigarettes providing they come from a bona fide American friend or relative. It would be wise to advise your friends or relatives that you cannot receive more than one carton of cigarettes every week. Otherwise a duty of \$3.75 per carton will be assessed before you can collect your gift. This is a very generous allotment but it is necessary for the cigarettes to be called for at the Customs Office, Post Office Building, Mary Street.

SPEED THE VICTORY!

The Fortress of Europe is slowly but surely being smashed by the combined skill and daring of airmen of the RCAF, RAF and USAAF, many of whom were trained on Canadian flying fields. We as trainees are proud of our airmen who, with red blood in their veins and a hatred of Nazi bes-

tiality in their hearts, are helping to smash industrial Germany. We recall with pride their exploits over Cologne, Duisburg, Augsburg, Essen, Hamburg, Berlin and other important targets.

To show our thanks that these dark days are behind us, buy bonds in Canadian 5th Victory Loan!



Buy Bonds

words, it's practically winter once more—oh yes, and they have finally turned the heat on.

Which reminds us that ye editor will have the heat on us for this chunk of journalistic sabotage unless we have it done by morning—so here goes. . . .

Ye Newe Taverne

Naturally most of you realize that the business with the saw and hammer in the general region of your canteens means that something new is going to be added. To wit, a bigger and better tap room with decoration to match, and a new departure in dry canteens.

We are not in a position to tell you much about it yet, but it appears that the decorators will be going to work in earnest in about a month, and soon thereafter you should be enjoying surroundings of unusual interest both from the lighting and wall mural standpoint.

Watch for a full release on this in next month's issue. By that time the current nickel-grabber "Lay That Pistol Down," or "Pack Me Mamma With a Rat-Tat-Ta-Tat" will be worn so thin that both sides of the record will play at once. Maybe then they'll throw it away.

Drill Competition

This monthly station feature was held with all due ceremony and regard in our drill hall on September 28th before a seemly throng.

In addition to the regular drill squads, there appeared upon the scene a group of boys who went through a series of complicated movements with nary a word of command to guide them—the Precision Squad no less—and very fine, too.

Guests at the affair had the opportunity of hearing our new station band for the first time. The first impression in this case was more than favorable.

Just as a matter of record, the C.O.'s trophy for September was won by the WD squad under Cpl. Rollefson. She received the cup from Group Captain J. S. Scott of No. 1 TC, who was a guest of Group Captain Keens that evening.

Local Boy Makes TOO Good!

It appears that when the write-up of the E. & I. section in last month's *Aircraftman* came to the notice of one Corporal Dickinson—whose name was featured therein—he found himself to be an electrical engineer no less. Fearing that misguided individuals would carry this information back to his home town, he has asked us to record for posterity that he was electrician, yes; but engineer, no!

Vital Statistics

Add happily departed, Cpls. McEnery and Paulson of the Instrument Section, and Cpl. Simms, fabricworker.

Cigars are being passed around these days by Flt. Sgt. James of the Link Section. He became father to a beautiful—he says—baby daughter on October 2nd.

And in the about-to-be-wed column include Cpl. Rickson of Hangar 23.

Entertainment

With the coming of fall, this is well under way. We have seen our first travelling show, the Victory Entertainers from Hamilton, October 4th, and at this writing the station variety effort is reasonably well into final rehearsal. You may have witnessed it by the time you read this, so we shall say no more.

New Broadcast Set-Up

EVIDENTLY a virile pioneering spirit still deserves and gets its just rewards. Take your daily news commentaries over the mess hall public address system for example. . . .

About a year ago this time, a few hardy and pioneering members of the



By Cpl. Davies

It is amazing how quickly the cold weather drives the boys and girls indoors. Sunday night movies at the Recreation Hall are packed.

The Saturday night dances shall be packing them in soon, too, once the new orchestra gets into the Blue Room stage. They shall be getting their first public airing at the Number Four Section dance on October 9th.

Reports from Officers' Mess indicate that this new dance band is really something. It seems that Group Captain Kerr, the Fingal C.O., was so pleased with their mellow music that he declared he was going to bring his own station orchestra over to listen to these lads so that they might pick up a pointer or two.

So it appears that we may enjoy some really fine dances this winter.

then fledgling Press Club decided that they should try and bring up-to-the-minute news to the trainees as often as possible, in view of the fact that so many of the lads had no time to read a newspaper. So, a start was made by preparing and presenting news summaries over the drill hall public address system before the tri-weekly "Y" movies. This went on more or less regularly all winter, with favorable comment from the lads who appreciated the service, but with very little notice from the higher-ups.

It remained for an article in "Wings" anent the news presentations at Lachine Manning Depot to remove the pioneering light here from under the holden bushel. And all of a sudden persevering news butchers found themselves established in the mess halls with a P.A. system and a long microphone cord. Now the news commentaries were to be given twice daily at noon hour, one on each routine.

The pioneers again set to work with a will, and with the aid of the aforementioned long microphone cord and the comparative sanctuary of the bread room, were able to make regular and reliable daily broadcasts. Conditions were not always good, however, and trouble with cord, equipment, etc., resulted in some interruptions of this looked-for service.

Finally, though a just destiny saw the efforts of the now growing band of newsmen properly rewarded. Through a stroke of good fortune the news of Italy's surrender came to them shortly after it was officially announced by General Eisenhower and the newsmen lost no time in announcing it to full mess halls. It was received with great effect. But the big thing was the fact that the newsmen had broadcast this important announcement even before the BBC or CBC had it on the air!

Now attention was fully focused on the pioneering newsmen, and shortly it was decided to give them a proper set-up for dispensing the news. As a consequence a neat broadcasting studio has been constructed of soundproof board around a corner of the kitchen. It contains amplifier, large clock sweep second hand, table microphone, turntable, shelves for records, and even a chair for the commentator. And from now on the daily news casts and record sessions will be presented from something approaching ideal conditions.

We'll be back again in the November issue. Till then, good hunting!



New Taproom Decorations (?)

Canada Must Keep Pace with the World in Aviation!

By Ralph P. Bell, Director-General, Aircraft Production

THE manufacture of aircraft has become one of the greatest industries in Canada in terms of personnel employed—now over 100,000; dollar value of output; and extent, character, and geographic distribution of the capital facilities involved.

To ensure a permanent future for Canada's aircraft industry two things are necessary:

(1) Design staffs capable of competing with any in the world.

(2) Manufacturing costs competitive with those of England or United States.

It is highly doubtful if there is any company in the Canadian aircraft industry with sufficient financial strength to carry through a program of experimental design, prototype construction, and sales development to a point where production returns would carry the load.

The development of the aircraft industry in both England and the United States has been made possible, largely through contracts from the Government that absorb these development costs, plus the fact that in each case the immediately available markets are much larger than the Canadian market. Even today the demands of the RCAF account for only 48 per cent of the business being handled by the Canadian aircraft industry.

A Baby Industry

Add to this the fact that the aircraft industry in Canada at the outbreak of war was in the most literal sense of the word an infant industry with exceedingly meagre financial resources. That it has not, and is not, being permitted to earn and retain profits that will enable it to build a substantial capital structure and it is obvious that it requires assistance in more than one direction if it is to be successfully guided through the immediate post-war period.

Geographically, Canada is the keystone of the arch of aerial transportation between the most important centres of the world.

For our population we probably have the greatest background of knowledge and experience in "northern" flying of any country on the globe with the possible exception of Russia.

Relative to our population we probably will come out of this war with the largest proportion of trained airmen of any of the Allied Nations.

With First Four

We have long since established ourselves as one of the four first trading nations in the world.

• • •

*This article is reprinted from the Kitchener Daily Record, because it is felt it might help many a ground crew man to size up his post-war future in the aviation industry.

Aviation in Canada will certainly become a major industry, if for no other reason than her geographical position in world air lines. (See map at right.)

None of us are so young—or old—that we won't jump at an opportunity when we see one. Remember, it takes ten ground crew to keep one pilot going.—The Editor.

It would seem obvious and reasonable that under the spirit and broad general terms of the Atlantic Charter, and subject only to adequate "policing" and control by the Allied Nations, post-war, the air oceans of the world, and the great airports of the world, must be free to aerial traffic as the high seas and the world seaports have and must always be.

The part that Canada will play in the field of aerial world transportation and the position our aircraft industry maintains in the post-war economy will in a large measure determine the relative position we continue to maintain in world trade.

That these are closely associated subjects demanding specialized and concentrated study by properly constituted groups of individuals particularly qualified to assess the various complicated factors involved, is a proposition that should enlist unanimous support from every informed source.

Salient Points

(a) Those charged with the defence of Canada in the air—the Department of National Defence, Air Service (RCAF).

(b) Those hundred thousand and more young men and women who have been trained for air service who have gladly and voluntarily offered their lives for the defence of Canada, and for whom suitable occupation must be found when the war is over.

(c) The aircraft industry itself with a hundred thousand or more employees.

(d) Those basic Canadian industries; such as aluminum, magnesium, lumber, etc. on which the aircraft industry is based. Other interests involved include all those agencies, both government and private, connected or in any way associated with transportation, communication, and trade and commerce.

It is a problem requiring the broadest kind of imaginative thinking and planning, coupled with capable executive direction.

Henry Ford's Plans for Post-War

When Henry Ford was asked recently what he was going to do with his colossal new army airplane plant after the war, he replied: "Make planes for everybody." He is not the only prophet who believes our miles and miles of new military plane factories will turn to making "air-flivvers."

The family plane may never be as common as the family car, but there are thoughtful observers who are sure a boom in little airplanes will create an industry big enough to help post-war problems.

There are solid reasons for expecting something of this kind. First, the popularity of light planes was already increasing rapidly when the defense program came along and nipped the boomlet. In 1939 factories produced 3,608 small planes, and production was doubled in 1940. There are 22,000 civilian planes in the air today. This was in the United States alone.

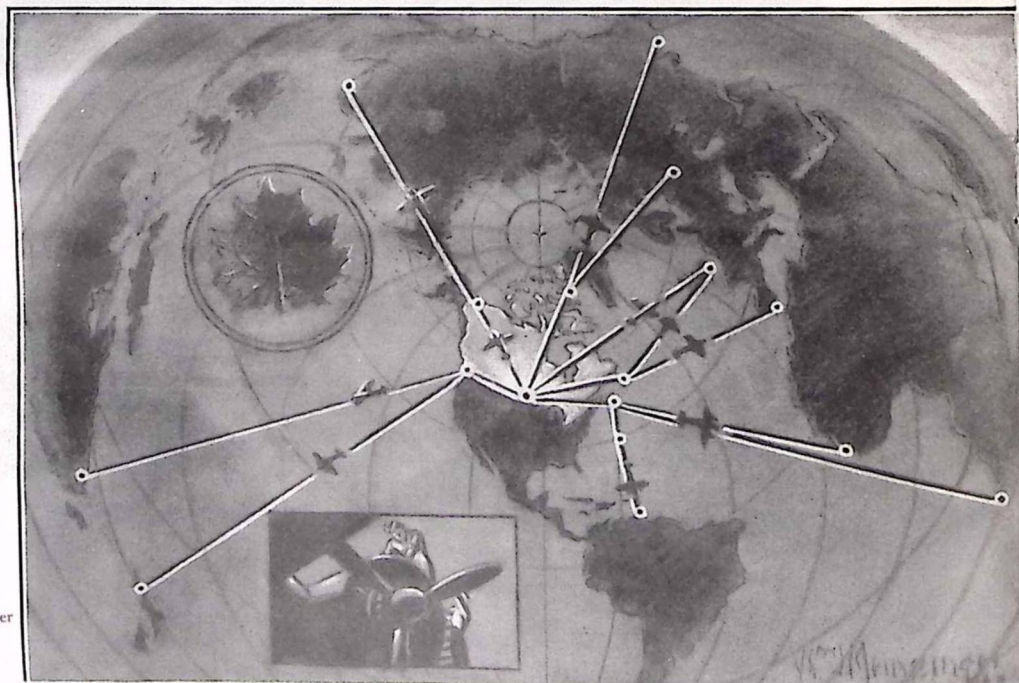
There will be plenty of airports for these new sky-riders; there are 2,000 now in the United States, and planes in the air today. (U.S.)

HOW'S CANADA DOING?

Canadian Pacific Air Lines, Ltd., own and operate approximately 100 aircraft and fly about 5,500,000 airplane-miles annually. In normal years the value of air traffic in Northern Canada amounts to about \$3.5 million. It is generally estimated that about 60 per cent of the total revenue is derived from passengers, 33 per cent from freight, and 7 per cent from mail.

Trans Canada Air Lines mail freight in 1938 was 367,734 pounds. In 1939 the weight of mail carried increased to 539,906 pounds, in 1942 to 2,308,812 pounds.

The number of passengers carried has increased in like manner, rising from a modest 2,086 in 1938 to the substantial total in 1942 of 104,446.



—Illustrated by LAC Wm. Meininger

YOUR BLOOD • HIS LIFE!

By LAC A. W. Chapman

BLOOD PLASMA, modern miracle! Without it he may die. With it, he may cheat the silent grave—come back home to laughter, love, and useful work. Donate now—450 c.c.'s of blood your healthy body will hardly miss. It is easier than you think!

The Red Cross requires plasma or dried blood serum to save lives, due to shock and hemorrhage.

There are many technical difficulties in giving whole blood in the battlefields: donors are not readily materialized on the spot, the blood must be 'grouped' before use, and it requires nearly an hour's work in a modern laboratory to determine what type the blood would be.

Dried serum in many cases is much better than a direct transfusion. No blood typing is necessary, and since it will keep for many years, it can be stored until required. Distilled water is all that is required to be added to the dried serum to bring it back to the equivalent of whole blood. It can be used in places such as bombed areas and near the front line, where it would be impossible to give a direct transfusion.

Fourteen ounces of blood yields about 5½ ounces of serum. It requires on the average 1½-2 donations to make a bottle of dried serum. Frequently 2 or 3 bottles are needed for one seriously injured patient. It is reported that at the battle of El Alemein 8,000 to 10,000 patients were treated with serum. This would require the present output for 6 weeks of all the clinics in Canada. It can be seen that the number of persons regularly giving blood must be very greatly increased if a reserve is to be built up.

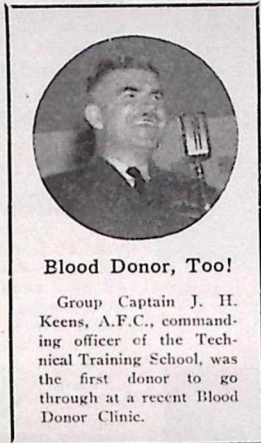
It is not painful to donate blood. The area from which the blood is taken is anaesthetized. It is just a matter of 8 or 10 minutes till the blood is drawn from the donor by our own TTS medical officer. About 450 c.c. or ¾ of a pint is the amount taken from the donor. After resting, if donor so desires, a very excellent meal is served to him. (Airmen were served a meal that they will not forget for some time at a recent Blood Donor Clinic. Chicken, salads, and homemade pie were just part of the appetizing meal

that the airmen enjoyed.) A theatre ticket is given each donor as well as a late pass.

Service personnel are naturally the best donors. They are the most physically fit. Contrary to rumor, attendance at the clinic is entirely voluntary.

Establish Record

Announcing a record week for donations in blood donor clinics across the Dominion, Dr. J. T. Phair, chairman of the National Blood Donor Committee, recently gave out the all-time high figure as 13,434 donations for the week of September 13 to 18, inclusive.



Blood Donor, Too!

Group Captain J. H. Keens, A.F.C., commanding officer of the Technical Training School, was the first donor to go through at a recent Blood Donor Clinic.

QUESTIONS AND ANSWERS

Who are eligible? All service personnel.

How much blood do I donate? 450 c.c., which equals about ¾ of a pint.

Do I have to go on a special diet before donation? Only for the meal immediately preceding the donation, which must be free of fats.

Is it painful? No. The area from which the blood is drawn is anaesthetized.

How long does it take? Just a matter of 8 or 10 minutes. Afterwards, dinner is served.

What is done with my blood afterwards? The blood is processed as speedily as possible. The serum is withdrawn and after the necessary tests are made, is pooled and dried. It is the dried serum, packed and hermetically sealed in tins, which is sent overseas.

Are blood donors recognized? After the third and subsequent donations you can easily spot donors by the badge they wear.

How often may blood donations be made? Men—every 10 weeks. Women—every 12 weeks. The blood given is fully replaced in volume and content very soon after each donation.

• • •

Most of us so far have been unable to go overseas, but sending our blood is a very valuable way in which, with little inconvenience, and practically no discomfort, we can support those who are actually facing the enemy, and quite possibly save their lives.

ROYAL CANADIAN AIR FORCE
THE TECHNICAL TRAINING SCHOOL
ST. THOMAS, ONTARIO

Certificate of Merit

HONOUR STUDENTS

who has passed the final examination with outstanding ability and achievement on graduation from
The Technical Training School
Royal Canadian Air Force
St. Thomas, Ont.
this day of _____ 19__

COMMANDING OFFICER
THE TECHNICAL TRAINING SCHOOL
ST. THOMAS, ONTARIO

September Honour Students

AC2 Greengrass, A. I., R219659
Elect., Toronto, Ontario

AC2 Sauer, E. C., R203681
AEM, Southey, Saskatchewan

AC2 Rennington, J. T., R198248
IM, Toronto, Ontario

AC2 Harms, T. A., R189385
AFM, Mission City, British Columbia

AC2 Cowley, J. J., R212291
IM, Mayerthorpe, Alberta

AC2 Shuter, W. T., R169891
Elect., London, Ontario

AC2 Matthews, B., R199582
AFM, Montreal, Quebec

AC2 Fines, G. A., R196075
AEM, Stonewall, Manitoba

AC2 Roy, J. J. B. E., R203688
AEM, Kisbey, Saskatchewan

AC2 Kilpin, R. A., R173836
Elect., Brantford, Ontario

AC2 Spinney, E. W., R183222
AFM, Kentville, Nova Scotia

AC2 Graham, V. P., R204173
IM, Ottawa, Ontario

AC2 Baerg, A. C., R211879
Elect., Calgary, Alberta

AC2 Rowland, R., R204820
AEM, Vancouver, British Columbia

AC2 Lando, H., R215450
AFM, Vancouver, British Columbia

AC2 Allin, J. W., R197661
IM, Princeton, British Columbia

Trade Badges Now Authorized!

Authorized trade badges are to be worn by personnel qualifying for the following trades: Airframe Mechanic, Aero-Engine Mechanic, Instrument Maker, Metal Worker, Works and Buildings (Technical Trades only).

These badges are blue and are to be worn on the right sleeve only, one inch below the albatross by sergeants and below, five inches up from the bottom of the cuff by flight sergeants, on both summer and winter uniforms.

Trade badges are to be awarded to and worn by personnel below the rank of WO2 only, when they have attained "C" grouping in their respective trades.



WITH THE Women's Division

A Day With a W. D.

RECENTLY, by kind permission of Flt. O. J. Laidlaw, O.C. the Women's Division, *The Aircraftman* photographer (lucky stiff) was allowed to follow three W.D.'s about all day to record their activities for our readers and posterity. The three models are LAW's Betty Jary, Peterborough, Ontario; Alice Nelson, Prince Albert, Saskatchewan; and Doris Callender, Sackville, New Brunswick. Here's what he saw . . .



Hard at work in this photograph is our clerk, Doris Callender. An expert typist, "Red" can usually be found officiating in the Technical Orderly Room, Building 20.

Early-bird Nelson goes to work on her hair-do while above her, Callender squints at the clock and stifles a yawn. The sleeping beauty is LAW Jary, who represents the one sleeper-innner who statistics show exists in every three.



This attractive waitress is LAW Nelson, on duty behind the vegetable counter. She may be one reason why they always come back for more.

Listening to the snap, crackle, pop of the briopies, our three airwomen are shown here dressed for work. Left to right: Doris, Betty, Alice. The girls have since revealed that even the photographer got in on this breakfast and he immediately went out and tried to enlist. They wouldn't accept him, but maybe he shouldn't have insisted on joining the WD.



Equipment Assistant Jary leads a busy life in Technical Stores, Building 20.



Time out in the canteen finds Doris and Al reading, but Betty seems to prefer Frank Sinatra. Later, the trio steps out and so ends our "day with a WD."

WHAT'S DOING

• **O.T.C., Toronto** is now under the supervision of F/O K. L. Ball, until recently O.C. the women's division at TTS. In her place we welcome F/O J. L. Laidlaw of Medicine Hat, Alberta, a member of the first squadron of women taken into the force back in 1941. Prior to her posting here, Miss Laidlaw was at Hagersville. . . . • **Also to O.T.C.** has gone F/S Edna Bryanton, who more than qualified for a cadet officer's training during her two years as senior N.C.O. Good luck, Flight! . . . • **Hooks** are now proudly worn on the shoulders of new Corporals P. G. Gould, F. I. Sullivan, P. J. E. Nelson and L. M. Michaelson. . . . • **Black market** almost reared its ugly head when a certain cook smuggled cookies out of the kitchen to be devoured in barracks. Plot was nipped in the bud when other WD's discovered cook and cookies on the way over and demanded their share of "hush" payment. . . . • **Postings** during the past month took LAW Harrington to Torbay, Newfoundland, LAW McLean to Camp Borden, AW1 Craig to Trenton and AW1 Moran to Rockcliffe. . . . • **Wearing wedgies** and Sloppy Joe sweaters again are Cpl. A. C. M. Reid and LAW's M. B. Ingalls and L. M. Ross, returned to civilian life. . . . • **Newcomers** include LAW's Greaves and Gaynes from Camp Borden, AW1 Madren from Trenton, and LAW's Piper and Stevenson from Rockcliffe. . . . • **Winner** of last month's drill competition was the WD squad commanded by Cpl. Rollefson. It was the second win in sixteen months. With plenty of competition, too. . . . • **Weddings** are in the news again with Sgt. Kitty Wye marrying Lieutenant Dave Irwin, R.C.O.C., and LAW Whitehead becoming the bride of LAC Silver. . . . • **Cupidating** seems to have been one of LAW Ham's activities of late. In August we congratulated Audrey on the occasion of her twenty-first birthday and now it's time for a repeat 'cause the gal's gone and got herself engaged. (Full details next month). . . . • **Jacqueline Keens**, 18-year-old daughter of Group Capt. J. H. Keens, A.F.C., is now a member of the RCAF (WD). Taking an arts course at University of Toronto, Jackie chose operational clerk as her trade in the service. . . . • **Pix** appearing on this page proved a lot of fun for a certain St. Thomas photographer and a certain acey-deucey who was his guide during a tour of WD barracks. It is perhaps worthy of mention that when these two privileged gentlemen arrived in a dorm corridor they were greeted by a low-pitched, extremely un-feminine and very wolfish "wheet-wheeeooooo." (Editor's note: The plural of "wolf" is "wolfess.") . . . • **Betty Jary** gets double mention because, although she vigorously denies it, a rumor persists to the effect that she spends her spare time away from Tech. Stores writing a mystery novel. It's titled, "The Case of the Missing Screwdriver."



Administrative Staff

Sitting, left to right: WO2 McDowall, F/L Sedgwick, WO2 Weldon.

Standing, left to right: LAW Richardson, Flt. Sgts. Heirlthy, Thompson (with Coronation Medal), and LAW Oakes.

No. 2 Technical Section

Hangar No. 19

FLIGHT LIEUTENANT Sedgwick is the officer in charge of this section.

It consists of hangars 17 and 19 and part of building No. 18. Installation, minor repairs and metal workers phases are under his direct supervision in Hangar 19. Rigging and hydraulics (a description of whose activities was presented recently) are under F/L Macnab, while F/O Clarke (Nobby) supplies the inspiration for the staff at the examination centre display room and school cinema in building 18.

Instruction is a vital factor in our war effort and especially so in the production of efficient and adequate ground crews to carry out service and maintenance operations on all types of service aircraft.

We, as instructors, are delighted to have this opportunity of placing before the readers of *The Aircraftman* this panoramic view of our activities. We are proud of being considered worthy to be associated with others in this part of our great enterprise; proud of the achievements of this school to date and our share in them.

Our aim is to assist in producing ground crews that will enjoy the full confidence of our pilots on the basis of skill and efficiency alone. Our task is not easy, but our inspiration is derived from our RCAF motto, "Per Ardua Ad Astra." We do not minimize the difficulties but continue symbolically to reach for the stars.

Administrative Staff

WO2 McDowall, J. B., is a permanent force man, having enlisted in Ottawa in 1935. His early training was taken at Camp Borden, but since has added his touch to many Repair Depots. For one and a half years previous to his present posting, he was allocated at No. 8 Repair Depot, Winnipeg. The Major was born in Lennexshire, Scotland, and came to

Canada in 1927. On the third day at sea, his boat sighted Col. Lindbergh, making his famous Atlantic crossing. In civilian life he was a factory worker in Ottawa.

F/L S. G. Sedgwick. The officer in charge of Building 19 has spent long years at both the receiving and dispensing ends of academic and vocational instruction. Following three years' service in the Canadian Forces during the last war, one of these years having been spent in France, he went into business as a garage operator. At the same time he studied and received his teacher's certificate. In 1926 he went to Detroit to learn the automobile industry. After one year's experience with the Studebaker Corporation he spent the next four years with the Ford Motor Company at Highland Park and River Rouge plants. There he worked as a repair man and die maker, but also completed the Ford apprentice course in machine shop work. Eager for more knowledge, he took a course in factory management from the Lincoln Extension University of Cleveland, Ohio. From 1931 to 1940 he was a member of the Kingston Collegiate and Vocational staff. He plays a good game of softball.

WO2 G. S. B. Weldon. Comes from the beautiful Qu'Appelle Valley, Saskatchewan. He joined the permanent force in 1936 and took his basic training at Camp Borden. He was posted overseas as a sergeant in February, 1940, and returned as a WO2. While overseas he was attached to Squadron 400 and later 405. We gather that one of his most vivid memories is six months with the Coastal Command Overseas.

LAW Richardson. The first member of the WD's to be attached to Building 19. She is an equipment assistant, very obliging, too. Miss Richardson is the proud owner of a Ford roadster. When she drives to her home in Toronto she always welcomes one aero-engine, one airframe

mechanic, one electrician—and a metal basher is precious!

Flt. Sgt. E. L. Heirlthy. A permanent force man enlisting in Regina in May, 1937. He was born in Prince Edward Island, but spent most of his life in Saskatchewan. He was overseas three years, being attached to Squadrons 400, 402 and 405. For the past few months he has been the supervisor of the installation phase. He has proven to be a good scout.

Flt. Sgt. M. Thompson. A native of Lewton Heath, England, he came to Canada in 1920. The Flight has tried his hand at farming, trucking, assistant cook in a bakery, a deck hand in lake boats, to a DeHavilland aircraft worker. A permanent force man, he was sent overseas in February, 1940, where he served with the 400th Squadron. He wears a Coronation Medal. He is in charge of minor repairs.

LAW Oakes. She blows from the dust bowl, Maple Creek, Saskatchewan. At present she is employed as an equipment assistant. Prior to enlistment she clerked in a drug store. In the future she hopes to become a pharmacist.

Airframe—Minor Repairs

Cpl. I. A. Grant. Comes from Well-wood, Manitoba, where he was in business with his father, dealing in automobiles, implements and livestock. Has played senior amateur baseball and intermediate hockey. He takes an active part in station sports. Ivan was gold medalist of entry 70 AMW and instructed in that phase before coming to minor repairs.

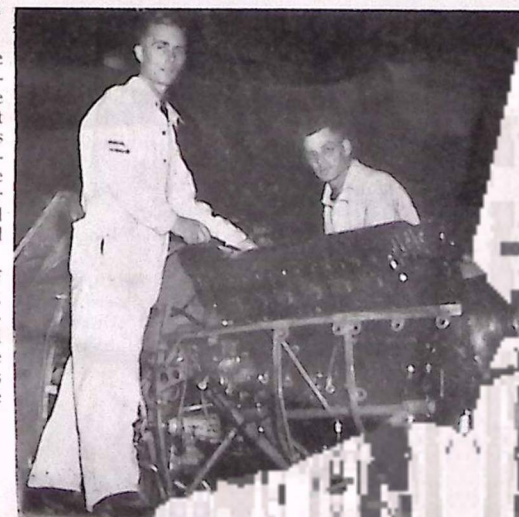
Flt. Sgt. S. E. Martin. An Ontario man, he was employed in the building trade for twelve years and has done his own contracting for seven years. He enlisted January, 1940, and was posted directly overseas. He left as an AC2 but returned in March, 1943, as a Flight Sergeant. Overseas he was attached to Squadron 110, which later became Squadron 400. A great sports enthusiast, he recently broke his jaw while playing softball.

Sgt. K. W. Burnham. A former Saskatchewan pedagogue who has instructed in splicing and minor repairs at TTS. A number of years ago he won the Saskatchewan provincial inter-collegiate three-mile race. He was the honor student of entry 49 AFM, and author of this article.

Cpl. W. Harvey was born in Cornwall, England, and came to Canada in 1928. His home is now at Waterdown, Ontario.

Aero-Engine

Fairey Battle Engine Inspection • Cpls. Jordan and Roughley.



Airframe—Minor Repairs (cont.)

where prior to enlistment he was engaged at market gardening. Bill attended a YTS at Galt and took the AMW course at TTS with the 100th entry. This quiet lad is both capable and dependable. We wonder what the reason is that he likes to spend his 48's in Toronto.

Cpl. R. A. Whitaker. Proves an old adage that a man should be measured from the chin up. Diminutive in size, Bud makes it up by his keenness to learn. Metallurgy is his yen and he is always ready for an argument. Before enlistment, he worked as a salesman and as a furniture finisher. For recreation he likes boxing and comes out of his corner swinging leather. In his milder moments he plays a keen game of chess.

Cpl. L. H. Homer comes from North Battleford, Saskatchewan. There he worked as a stockman, a carpenter and a repair man, but finally settled with the Civil Service. At first he was a postman but had advanced to a despatch clerk by the time of his enlistment. We understand that he has a fine collection of stamps.

Cpl. R. L. Manuel is a Torontonian who as a civilian has experience along various lines. Dick was for some time a packer and shipper for a department store. Later he was a clerk in a tailor shop and the last five years he worked as a drapery salesman and interior display man. In his spare time he clerked in a drug store. Chemistry is his hobby, but it isn't chemistry that calls him to Toronto at every opportunity.

Sgt. D. H. Smith. Commonly known as "Gen" Smith because of the vast store of knowledge he gained through his tireless effort. He was the gold medalist of entry 24. He instructed in hydraulics and AMW course before his advancement to minor repairs. For seven and a half years prior to enlistment he was employed by the Ralston Furnace Company. His wife and two boys reside in Woodstock, Ontario. Model railroading and stamp collecting are his hobbies.

Cpl. H. L. Harewood. Harry informs us that he lived the first twenty years of his life in the golden West and six years in the —, well, in the East. He is a dependable of the minor repair section, having been there since starting instructing over two years ago. Harry likes athletics and won the Saskatchewan Provincial mile swim several years ago. He has

played on the station volleyball team and hopes to see an all-staff team organized.

Sgt. H. G. Stevens. Born in Saskatchewan and raised in Vancouver, longs for the sunny West. Prior to the war, worked at various jobs from store clerk to press operator for the American Can Company. Joined the RCAF June 11, 1940, and came through TTS with the 22nd entry. Had two other brothers in the RCAF, but the younger was killed at Dunnville in the summer of 1941. Sgt. Stevens has taught nearly every phase from metal repairs to flight routine. Also was a member of our trade board. His hobbies are baseball and billiards.

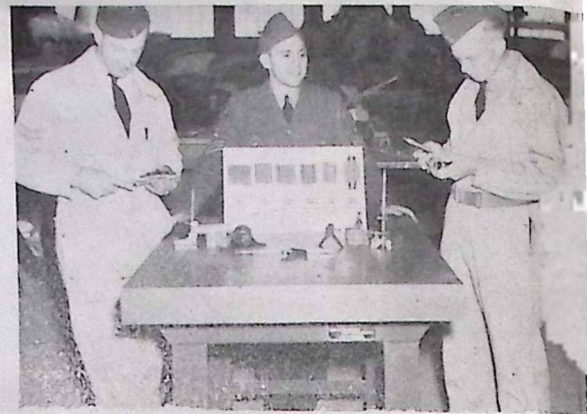
Cpl. A. S. Smith. The chit kid—alias "Attend B" Bill. He was gold medalist of entry 69 AMW. When that phase was discontinued, Bill came to minor repairs. His home is on a farm near Semans, Saskatchewan. Any ear-splitting ejaculation in building 19 means somebody has tickled Bill "from behind." For a hobby, he has a 1929 Chev. and a gas situation.

Cpl. T. McClelland. A farmer prior to enlistment, he comes from Maidstone, Saskatchewan. McClelland was an active member of the Young People's Farm Club. He was especially interested in grafting and experimenting with hardy fruit trees for the West. Tom was the honor student of 109 AFM entry. In the evenings you can see him proudly pushing his knee-action, wartime baby carriage.

Cpl. D. C. McKechnie was, we hope, enjoying harvest leave on his father's Saskatchewan farm when these pictures were taken. Clarence has always been employed on the farm excepting the period he was a Fuller brush salesman for approximately three hours. It is our bet that this lad carries more pretty faces in his wallet than anyone in No. 2 Wing. We give him credit for being an excellent instructor and value his cheerfulness.

Cpl. D. A. Jordan. A very quiet person from the 68th entry. Previous to his enlistment in Vancouver, he was a transport driver. He was an employee of the Canadian Pacific Steamship Lines. His favorite hobby is to gain more and more information about everything.

Cpl. J. E. Roughley hails from the boom town of Edmonton. Five years prior to enlistment was employed by TCA. Previous to that he worked in a garage. Jack was gold medalist of the 47th entry. His hobby is woodcraft.



Minor Repairs • Left to right: Cpl. Grant, Flt. Sgt. Martin, Sgt. Burnham.



Chobert Riveting • Cpls. Harvey, Whitaker, Homer.



Harvard Mainplane Repairs • Cpl. Manuel, Sgt. Smith.

Nine Types of Planes

Nine types of aircraft are being produced in Canada as follows:

Fairchild Cornell—single-engined elementary trainer.

North American Harvard—single-engined advanced trainer.

Canadian Anson—twin-engined bomber and bombing and gunnery trainer.

Bristol Bolingbroke—twin-engined reconnaissance bomber and gunnery trainer.

Catalina PBV-5A—twin-engined coastal reconnaissance amphibian.

Lancaster—four-engined long-range bomber.

Curtiss "Helldiver"—single-engined navy dive-bomber.

Mosquito—twin-engined fighter-bomber.

Noorduyn Norseman—single-engined transport.

840 Miles an Hour!

Lieut. Robert H. Knapp of Norwich, N. Y., was believed to have achieved a speed of approximately 840 miles per hour in a dive during an air flight over Emden, Germany, recently.

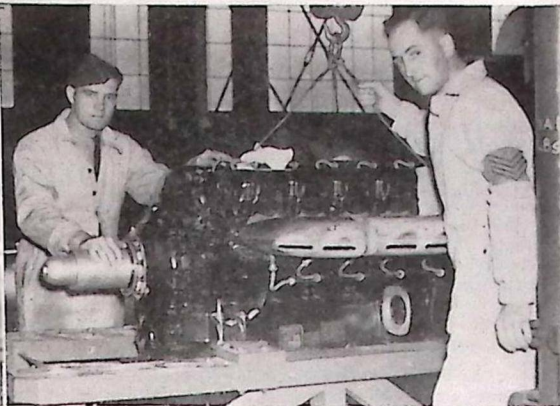
If true, then Knapp, pilot of a Thunderbolt fighter which helped escort heavy bombers in a raid on the German city, probably has flown faster than any human being ever has travelled before.

The greatest speed previously officially recorded by the pilot of a fighter plane was that of Col. Cass Hough, also of the 8th Air Force Fighter Command, when he dove a Thunderbolt "more than 780 miles an hour," which is the speed of sound, in a test flight in England last spring.

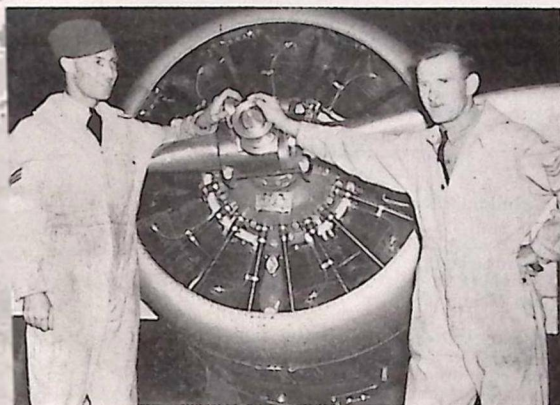
—C. P. News Dispatch



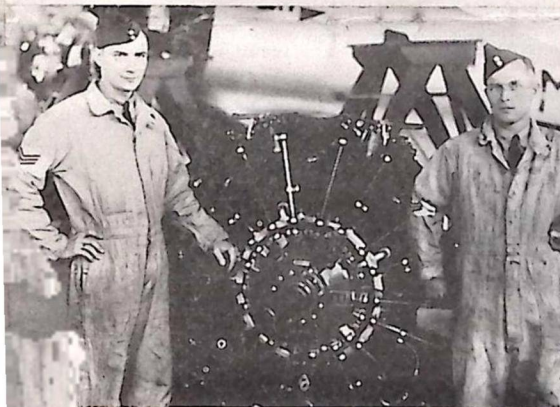
Fairey Battle Stringer Repairs • Cpl. Harewood, Sgt. Stevens, and Cpl. Smith.



Slinging Merlin Engine • Cpl. Howells, Sgt. Beckett.



Delta • Sgts. Dean and Duffy.



Delta Engine • Sgts. Colwell and Hartford.



Radiator Flowtest • Flt. Sgt. Elford, Cpl. Goodwin.

Aero-Engine

Cpl. H. D. Howells. This young Torontonian is one of the newer instructors in the installation phase. He worked three years as an engine fitter at deHavilland aircraft factory in Toronto. His favorite sports are softball and boxing. He has been happily married for six months.

Sgt. R. Beckett. Comes from the biggest little town between Regina and Moose Jaw, namely Pense. Here he operated a farm repair service. He has grown corn in Iowa and raised cattle in Carolina. In his spare time he is an amateur inventor and takes it quite seriously. He is a graduate of the 3rd entry.

Sgt. H. Dean. He is now closer to his home than he has ever been since enlisting in the RCAF, his home being in Galt. He graduated with the 7th entry and has been to Borden, Hagersville, Monte Jolie, Baggotville and TTS. In civilian life he was a garage mechanic. His hobby is photography, when he can get films.

Sgt. Duffy. Military life is nothing new, to Sarge. Duffy as he spent seventeen years in the American and Canadian armies. He has travelled extensively in South and Central America, as well as from coast to coast in Canada and U.S.A. In civilian life the sergeant made his living as a mechanic, operating a garage in Montreal. His chief interests are, second-hand cars, chickens, goats and kids.

Sgt. T. Colwell. Enlisted in October, 1939, and came to TTS with the 1st entry. From here he was posted to Dartmouth, Nova Scotia, where he was attached to No. 1 Fighter Squadron before they went overseas. Later he spent six weeks on temporary duty on the aircraft carriers, "Bairn" and "Furious." He witnessed the "Bairn" unloading an estimated two billion dollars worth of gold shipped from France, before that country's capitulation. The "Bairn" was then outfitted with newly purchased American aircraft. Sarge. informs us that due to the sudden fall of France, these aircraft have been beached at Martinique. He returned to TTS about eight months ago.

Sgt. Hartford hails from a little town

called Blenheim, in Ontario. Worked as lineman for the Ontario Hydro-Electric Power Commission. Has also worked as garage mechanic and salesman.

Flt. Sgt. Elford. He thinks of the cosmopolitan city of Vancouver as his home. There he once worked as a motor mechanic. Later he taught school on the prairies and prior to enlistment he was a transmission unit operator in Alberta. His chief outside interest is the study of refrigeration—perhaps that is what caused him to cut his winter's wood so soon.

Cpl. R. Goodwin. He's that little blond-headed boy out of the 141st entry. Before enlisting, he worked in the advertising department of the Coca Cola Co. in Toronto. At present he has been appointed official sketcher of the hangar, making up all the AFM, AEM, metal workers' and carpenters' section drawings. He is really good at it, too. His chief hobby is photography.

Cpl. H. W. Wice (not in photo). He had his commission in the last war and we think qualified for a commission again this time. He has been in aircraft work for some time and shows unusual talent. He has designed and built aircraft. He plays a wicked game of chess, but his main hobby is photography. Cpl. Wice has a son in the RCAF.

Sgt. E. Cray. At the time of writing, this tall, trim lad is at his home in New Westminster, British Columbia, after escorting a draft to McLeod, Alberta. He has been in the installation phase longer than any other instructor. He was gold medalist of the 22nd entry. Before enlisting he worked as a mechanic, logging truck operator, and in the shipyards for four months. His chief hobby is radio and all its branches.

Sheet Metal

Sgt. J. W. Nesbitt emigrated from Sunderland, England, to St. Catharines at the age of three. In civilian life Nesbitt was a sheet metal worker for five years. A member of entry 16 AFM, he was posted to No. 8 R. D. and recently returned to TTS. (Two of his brothers are also serving with RCAF.)

Typhoon Close-Up

England's Versatile Heavy-Weight Fighter

After four years of secrecy, details of Britain's largest and most formidable fighter have been revealed to the public. Many exceedingly interesting features make the ship stand out from the fighter-plane multitude. The Typhoon is powered by a 24-cylinder, H-type, liquid-cooled, sleeve-valve, Napier Sabre engine developing 2,400 horsepower at take-off. The cylinders are mounted horizontally, reducing the height of the front section of fuselage and giving better visibility. A cartridge starter starts the engine. The Napier Sabre made its debut in 1938 in the Napier-Heston racer which was slated to break the land plane speed record; its estimated speed at sea level was 480 m.p.h. The ship unfortunately cracked up during test flights because of a defective cooling system.

Immediately below the fuselage nose are housed radiators for motor coolant and oil; centering of carburetor and supercharger air intakes in the assembly cowl enclosing them give the Ty-

phoon a deep-bosomed appearance. The roomy pilot's cockpit is equipped with an automobile-type door on the starboard side; windows on each side of the pilot can be cranked up or down. Rudder pedals are adjustable in flight. A push-button radio automatically tunes in on selected wave lengths.

The RAF has two Typhoon types now in service: 1a—with twelve .303 caliber machine guns, six in each wing; 1b—with four 20-mm. Hispano-Suiza high velocity cannons. Provision is made for a camera to be fitted into the leading edge of the port wing's centre section.

Its span is 41' 7" and its fuselage length 31' 11". The British claim a speed of over 400 m.p.h. Because of its rather high wing loading, the ship lands with engine off at 120 m.p.h. In a power approach with engine on, the landing speed is 105 m.p.h. The cockpit cover can be jettisoned by pulling handles on each side of the windshield.

—Air Progress

TRUE or FALSE?

By Sgt. C. Heath

A surefire method of self-rating! In other words, your own Trade Board. Here's how: Count 5 marks for each correct answer, 60 to 80 is "C" grouping; 80 to 85 is "B" grouping; over 85, you can write the questions and probably tell your instructor a thing or two! Let's go!

- 1 • A dry cell is not dry.
- 2 • Pinking shears are fractures caused by using low octane fuel.
- 3 • Removing one wire from 3 phase makes it 2 phase.
- 4 • Altitude mixture control, controls air entering carburettor.
- 5 • Reduction gear increases the speed of propeller.
- 6 • Lean fuel-air mixture is used for cruising.
- 7 • Ceramic insulation is a better heat conductor than mica.
- 8 • The case of a suction gauge is airtight.
- 9 • Loose transverse bolts would cause low oil pressure.
- 10 • A magnetic field is a magnet wire.
- 11 • A third brush generator produces 3 phase alternating current.
- 12 • A battery cut-out does not prevent the battery being overcharged.
- 13 • The letters N.T.S. on a blueprint means nickel—tungsten—steel.
- 14 • The safety spark gap is fitted in the primary circuit.
- 15 • A scribe is used to mark out aluminum sheet.
- 16 • All A/C hydraulic systems utilize the same fluid.
- 17 • The main relief valve governs the greatest pressure built up in the hydraulic system.
- 18 • A balance cable is used to maintain equilibrium of A/C in flight.
- 19 • A bias tub is used for patching small holes in fabric.
- 20 • Air brakes are used for slowing an aircraft in flight.

Answers to Last Month

True—1, 3, 7, 9, 11, 15, 16, 18, 20.
False—2, 4, 5, 6, 12, 13, 14, 17, 19, 10.

Sheet Metal Workers

Float Patching • Cpl. Conlin, Sgt. Foster.
Repairs to Fuel Tanks • Sgt. House.
Making Funnels • Sgt. Nesbitt.
Repairs to P40 Mainplane • Left to right: Sgt. Hodgins, AC2's White, Campior.

Sheet Metal (cont.)

Cpl. A. J. Hooley learned and for thirteen years practised the sheet metal trade in Yorkton, Saskatchewan. Later he worked at his trade in Flin Flon, Manitoba, and Melfort, Saskatchewan. In the spring of 1942, Joe was posted to the station workshops at Aylmer, Ontario. Recently Joe returned to TTS to expound his knowledge to trainees on the sheet metal course.

Cpl. R. G. W. Conlin comes from Smith Falls, Ontario. In civilian life he was employed there at truck driving, garage work, and farming. Conlin was in entry 73 AFM and took the AMW course. He was posted to No. 8 R.D., Winnipeg, to work in the metal shop. This lad intends to remain in the RCAF after the war.

Sgt. A. F. Foster came from London, England, to Canada in 1914. For nine years he blacksmithed in the CPR shops, Toronto. He then became an orthopedic mechanic (blacksmith, metal worker, machinist fitter) and followed the trade fourteen years. Coming to TTS with entry 15, he was in the first class of AMW. He served two years, eight months at Dunnville before returning to TTS.

Sgt. J. P. Stone. A North Dakotian by birth, he served four years apprenticeship in sheet metal work at Chicago. Following this he took eighteen months of sheet metal drafting at the Union Trade School, St. Louis. For the last five years he was employed by the Ford Motor Company. Stone enlisted in October, 1939, and has served at St. Johns, New Brunswick, No. 4 Repair Depot, Scoudouc, and No. 5 SFTS, Brantford, Ontario. His chief hobby is building sailboats.

Sgt. N. J. House. A native of Cornwall, England, Sgt. House served six years apprenticeship in the sheet metal trade there. In 1928 he took up residence in Windsor and continued in his trade. Enlisting in October, 1939, he was posted directly to the Central Flying School, Trenton. Later he was in charge of the workshops at Mountain View, Ontario. In July, 1943, he was posted here. The sergeant is a flying fanatic, but age barred him from aircrew.

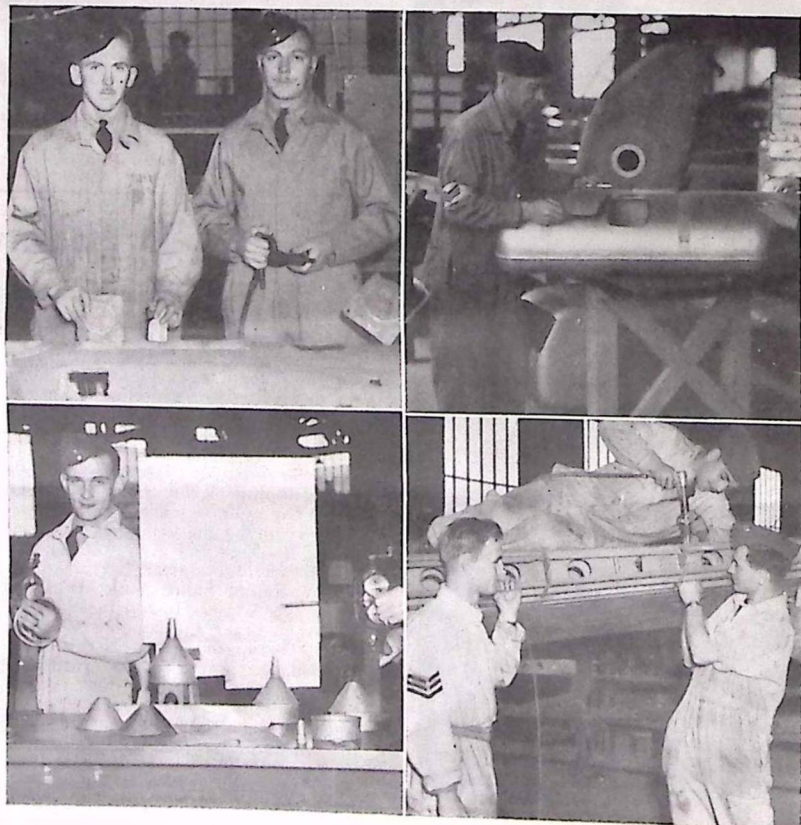
Sgt. T. Norman. Unfortunately, when the pictures were taken he was confined to hospital. He is a native of Kingston, Ontario, where he was a sheet metal worker for 23 years, and for 6 years prior to enlistment had his own business. Came to TTS with the 14th entry and upon graduation was posted to Calgary and then to St. Hubert, Quebec, returning to TTS recently to instruct sheet metal work here.

Civilian Cleaners

We feel that any account of the staff in Building No. 19 would be incomplete if it did not include the names of our two civilian cleaners, Mr. Hopkiss and Mr. McGugan. Theirs is the nearly impossible task of keeping such a workshop clean.

Mr. Hopkiss served in the 142nd Battalion from London, Ontario. He was, however, injured and discharged before going overseas. He has been employed at TTS for two and a half years.

Mr. McGugan is a farmer by occupation, but has considerable experience in constructing bridges and docks. He has been with us for a year and ten months.



Speed the Victory! Buy War Bonds.

The war is now costing the United Kingdom 69.2 per cent, Canada 45.4, Australia 40.3, and New Zealand 63.4 of the national income.

IT IS announced by Ottawa that, opening October 18th, Canada's Fifth Victory Loan with a minimum objective of \$1,200,000,000, will be launched. This new issue will have two maturities—a fifteen-year and two months issue, and another of three years and six months.

The new slogan of "Speed the Victory" will be wise for us all to heed. We are all quite aware of the importance and necessity of war loans. In addition to them being necessary for Victory, they create a shock-absorber for the post-war readjustment period that will shortly come to all of us in the service.

So think of your War Bonds as "Your War" Bonds, and ask yourself if your freedom isn't worth some further sacrifice. Remember that War Bonds really cost you nothing—that they're only dollars loaned, to come back again, with interest, for you to spend again.

"Spend wisely, save carefully" and create for yourself a strong and healthy reserve that will assist you in fulfilling some of your fondest dreams in the post-war world. *Don't hesitate! Buy now!*

And here's a message from Air Vice Marshal J. A. Sully, chief of air staff: "The total amount asked for by the minister of finance is considerably larger than on the Fourth Victory Loan, and it is hoped that all units will do their utmost to meet the country's requirements. All ranks should put forth their maximum effort to this end."



PARTITA IN A FLAT (VERY)

We came across a beaming face the other day. Faces rarely beam so brightly these days, so we asked, "Whyfore?"



Max Fargeon

The owner of the beaming face (hereinafter called the party of the first part) told us all about it.

"It's the new booth!"

"Booth," we echoed, our mind flitting for the moment . . . a rustic log cabin—

fireplace—the great outdoors—the inevitable booth behind the cabin . . . but the party of the first part was saying . . . "and what a grand difference it makes to the fidelity of tone. First Thursday you're better, come down to No. 2 Mess Hall and listen to it yourself."

We dwelt on those Thursday night concerts—and considered that it wasn't the pneumonia that mattered as much as the void created by all those Thursday nights spent in our virgin hospital couch, thinking of those lucky so-and-so's in the South Wing Mess Hall, studying and reading under the soothing strains of Strauss or the inspiration of Beethoven. TTS owes much indeed to the efforts of S/L Waters of the entertainment committee and to the YMCA War Services.

"Ah, me," we sighed. But, inexorably the party of the first part (namely, Cpl.

Sarah Janes of the Music Appreciation Sub-Committee, nacherly) continued . . . "And everybody is so enthusiastic about the programs planned for the next few months."

"Show him what he's missing!" said a twirpy voice in the doorway. We raised our head and opened one eye to see who owned that voice. Of course, it was Corporal Ann Goodfellow (hereinafter called the party of the second part). We reached for an overripe peach to throw, but someone had eaten it. Anyway she was well protected. Three members of the sub-committee had formed a hollow square about her: Eugene Dimitro (hereinafter called the party of the third part), LAW Ann Morgan (hereinafter called the party of the fourth part), and Bob Willett (he of the golden voice, hereinafter called "Butch").

"Go on," taunted the party of the second part, "show him what he's missing."

With that, the party of the first part thrust under our nose this:

October 21st

- Ravel.....Tzigane Rhapsody
- Selections.....Nights at the Ballet
- Tchaikowsky.....Romeo and Juliet
- Wagner.....Liebstod
- Tchaikowsky...None but the Lonely Heart
- Brahms.....Wigenleid

"And that isn't all," said she maliciously. "Wait until you've seen the others."

At this juncture we broke down. "Okay," we sobbed, "I'll stop swinging the lead. Where's the M.O.? I'll confess! I wanna get outa here on accounta because he who hath no music in his soul . . ."

(Editor's note: Max Fargeon, president of the Music Appreciation Sub-Committee, writes this from his bed in the hospital, where he is convalescing. We wish him a speedy recovery.)



PRECISION SQUAD (A F M 165)

MANY on the station may have wondered at the fine work done by Precision Squad, AFM 165. They arrived at TTS on July 5th to commence training. Very shortly it was decided that they should become a precision squad. Under the able guidance of F/O Morley, WO2 Devooght, Flt. Sgt. Musselwhite and Sgt. Connor (these instructors are not in the picture), the new squad, believed to be the first all groundcrew precision squad in Canada, began to take shape.

Besides the regular drill periods, both instructors and airmen put in a goodly amount of time after working hours. Once they even turned out at 0600 hours to get in a bit of needed practice.

The squad's first appearance was at the August drill competition, where they put on a fine show. In fact, they were considered good enough to go along with this station's representatives to the University of Western Ontario track meet held in London. The precision squad's final appearance was at the station's annual

sports day, September 8th. Again they acquitted themselves very well, as was shown by the rousing applause of the spectators. Particularly notable in all the squad's performances was one of the last movements, which consisted of a large "V" formed by the airmen.

AFM 165 left on September 23rd. May they do as well at their jobs as they did on the precision squad. The squad's record shows what can be done by a group of average airmen in the line of drill if they have the will to learn.



No. 1 Training Command Lacrosse Champions

Left to right: AC2's Horton, Bokstrum, Jenzen, Katienna, Sharpe, Law, G. Burrell, Mgr. (YMCA) Dougan, Cpl. Bowles, (Capt.) Watt, F/O Sansone P.T. and D. officer, Smith, Phillips, Doran, Greenius, Coccia and Pelleius.

The TTS lacrosse team was so good they couldn't find opposition in this district. Hagersville, whom they beat 25-1 here, declined to have them return the visit. In the game for the Command Championship, Camp Borden gave them a good game, but the Champs won 11-8 and showed superiority

all the way.

The two outstanding players of the team were AC2's Sharpe and Smith, both former coast stars. But the team was well balanced with Cpl. Bowles and AC2 Pelletier deserving orchids for particularly good efforts.

No. 1 Training Command Lacrosse Champions



C.O.'S TROPHY

THE Commanding Officer's Trophy was a bitter contest all the way down the stretch in September. No. 3 Squadron 2 Wing and 2 Squadron 2 Wing finished tied. As they were also tied in the softball series, these two teams played a softball game, 3 Squadron 2 Wing winning 4-3, and a very exciting game.

This gave 3 Squadron 2 Wing (or No. 6 Squadron as it is now called) 3 wins in a row. And the entire squadron from F/L Tuer, the O.C., and Cpl. Munro, the sports NCO, down are planning to keep the mug.

SOFTBALL

AC2 Carr, L.	AC2 Scheer, W. D.
AC2 Paul, A. S.	AC2 Sequin, J. A. L.
AC2 Bullock, P. L.	AC2 Ogroskin, S.
AC2 Wasilchuk, J.	AC2 Collins, H. W.
AC2 Friedel, W. J.	AC2 Reid, R. C.

All six squadrons had good softball teams. The teams from 5 and 6 Squadron also excelled. Perhaps the best pitcher of the month was Dyett, a former senior from St. Catharines, who played for 5 Squadron. While the dynamo of the champion 6 Squadron team was their catcher, Carr.

SOCCER

Soccer had a lot of unfortunate defaults in September. No. 6 Squadron was good credit for the title, however, winning from everyone but 3 Squadron, who tied them in their game. No. 5 Squadron lost the C.O.'s trophy by a rather inept showing in football. AC2 Bowyer was the winners' best man. Cpl. Saunders also being good. The outstanding forward during September was Shuster of 3 Squadron. The winning 6 Squadron

team were: AC2's K. Bowyer (captain), W. B. Wilson, W. J. G. Atwood, W. G. Espenosa, G. Gilbert, E. A. Peel, C. B. Smith, A. C. Dompouse, G. Alm, G. C. Campbell, I. Trimmell and Cpl. G. M. Saunders.

TENNIS

No. 6 Squadron was unbeaten in tennis with 5 Squadron only losing one night. In AC's Lando and Lavut the winners had unbeaten singles men. Cpl.'s Leach and Pluym of 4 Squadron won all their doubles matches. Another good player was AC2 Lemieux of 5 Squadron.

The scroll winners from 5 Squadron were AC2's H. Lando, T. Lavut, J. Borrin, J. Stewart, R. F. Wood, M. Bouchard, Z. R. D'Aoust (captain), J. R. Talbot.

LACROSSE

No. 5 Squadron was unbeaten in lacrosse during September. In fact they only lost one game all summer. No. 6 Squadron was their closest rival. And in an exhibition game at the end of the season only lost 6-4 to the champs. With the exception of Cpl. Bowles and AC2 Law, No. 5 Squadron boys were all new arrivals. The best players of the month were Red Smith of 4 Squadron and Pelletier of 6 Squadron.

Presented with scrolls were: Cpl. E. D. Bowles (captain), AC2's R. J. Saundry, J. A. F. St. Armand, L. W. T. Lobb, E. Alexander, A. B. Sutherland, S. G. Simcock, K. C. Law and W. G. Boyd.

WINTER SPORTS

The C.O.'s Trophy has moved indoors for the next seven months. And interest seems to be quite keen. No. 6 Squadron is out to beat 5 Squadron's big records. While 4 and 3 Squadrons are particularly active.

For lack of birds, badminton has been suspended. Perhaps later on we can have a tournament similar to the very successful tennis competition of August.

Borden ball, a game similar to rugby and basketball, is being played during October in the outdoor rinks. Although new to most boys, we predict it will become very popular.

Basketball and volleyball players will have as incentive the hope of playing on the TTS team in the district and we hope command competition. Cpl. Rabin is already getting the basketeers lined up.

During the winter we should also have monthly ping pong competition if balls are available. While several boxing shows will be run off, and weight men will also be struggling nightly. All and all there's no dearth of opportunity for sports endeavour.

Last winter's small games competitions are to be revived. It is hoped that weekly tournaments in checkers and chess can be held. We have some very good players in both games here. Cpl. Wrigley being about tops in checkers, and Flt. Sgt. Heath in chess. Cribbage players who would like to play for the TTS team in the City League on Mondays at the Legion Hall should get in touch with Geo. Howarth in No. 17 hangar. The sergeants are back at their bowling again. Having an 8-team league, bowling on Monday nights in town. TTS is being represented in the City Bowling League by a team bedecked in issue shirts. These pin-bashers are Sgts. Henry, Yates, Courage, Thompson, and Cpls. Truitt and James.

The officers had a tennis tournament of their own, H. Enns (YMCA) winning the singles from F/L Baker. The latter teamed with S/L Bennett to win the doubles.



Joe
AIRMAN

DEAR MAW • Perhaps by this time you have had an opportunity of reading the September issue of our station publication, *The Aircraftman*. The poor Press Club are always taking the blunt end of things; however, their shoulders are broad and I suppose they can stand all of the slams and bangs that usually are going their way. I don't know how you feel, Maw, about last month's copy of *The Aircraftman*, but I think from the talk around our bay, the past issue was an issue of which TTS can well be proud. You might let me know what Hank Jacob down at the Daily Recorder thinks of the station paper. Hank has a great time preparing all the chatter around home and he might be interested in seeing our station paper.

I took your suggestion about a visit to Aunt Sophie's and on returning to the station by train I experienced a very unusual accident. You know the milk train that chugs between Aunt Sophie's and London and how it crawls along and stops at almost every milk stand. As we crossed the highway which runs through Thorndale we struck an oil truck dead centre. Very fortunately, the train was only crawling, but the weight and momentum was sufficient to completely wreck the oil truck. Naturally, all the passengers rushed from the train as it came to a stop and the confusion with the passengers and the town folk from Thorndale reached a high pitch. The driver was pinned in a mass of twisted steel and was a gruesome sight for anyone to witness. Now the next part, Maw, was most amazing and inspirational to me. Three Service lads who had St. John's Ambulance training took complete charge of this milling, confused mass of people. The one boy called for the doctor and ambulance, the other two boys removed the seriously injured driver from the twisted mass of steel. They secured warm water for bathing his injured face, blankets to keep him warm, and removed him to a sheltered spot. Through this accident, I learned that the first principle of First Aid is to move the injured person as little as possible. It seems that a spectator wishing to help was wanting to move the driver indoors, but since it was

HOW HIGH IS YOUR MORALE

HOW HIGH is your morale? Are you complacent or worried? Do you believe rumors or are you skeptical of everything? Is your hair falling out, or are those bags under your eyes disappearing? *The Aircraftman* has worked out a simple test for measuring morale. If you're not sure of the degree of morale you possess, this test will help you find out.

Check the one statement under each question that comes closest to describing your usual reaction; then total up your score and resolve to be a good gremlin from now on.

If you get 80 to 100, Damn Good Show; 60 to 80, Good Show; 50 to 60, Poor Show; under 40, Try Again.



1. When you hear an airman crab about the weather, do you:
 - (a) Agree that it's pretty lousy.
 - (b) Admit there's room for improvement.
 - (c) Tell him to go work for stores, he deserves to be there.
 - (d) Point out that you enjoy it immensely.
2. When you hear an airman say he is "hooked" or "taken for a ride," do you:
 - (a) Ask him what he means?
 - (b) Say: "You ain't got nuttin' on me, bud."
 - (c) Report him to the service police.
 - (d) Tell him to smarten up, he doesn't realize how lucky he is.
3. When you hear an airman complain about the chow, do you:
 - (a) Tell him it's like your mother used to make.
 - (b) Push his face in a plate of potatoes.
 - (c) Ask him how he'd like to swap his daily dish with a Greek.
 - (d) Volunteer to buy him a meal at Gettas' one week from Tuesday.
4. When you hear an airman claim he missed promotion because someone had the hooks into him do you:
 - (a) Suggest he take his grievance to his O.C.
 - (b) Advise him to tell off his section head.
 - (c) Tell him to try harder on the next trade board.
 - (d) Tell him to swing the lead and beat the rap.
5. When an airman says the Air Force is not organized on an efficient basis, do you:
 - (a) Compliment him on his sound observation.
 - (b) Argue that it is the most efficient organization you know.
 - (c) Tell him: "They also serve who only stand and wait."
 - (d) Point out its immense success in spite of inevitable shortcomings.
6. When an airman gloomily predicts post-war depression, do you:
 - (a) Ask him what he is fighting for.
 - (b) Say you have more confidence in Canada than that.
 - (c) Tell him you're not worried — you have a good job lined up.
 - (d) Ask him to join your expedition to the moon in search of the more abundant life.
7. When you hear the United Nations have lost a battle, do you:
 - (a) Realize any army or navy suffers some defeats.
 - (b) Feel completely discouraged and give up hope of final victory.
 - (c) Determine to work harder for that victory.
 - (d) Retain an optimistic outlook.
8. When you read the war news in the daily papers, do you:
 - (a) Feel generally that only good news is released.
 - (b) Believe those newspaper guys are a bunch of liars.
 - (c) Feel most of it is sheer propaganda.
 - (d) Feel sure the reports are honest and as full as possible.
9. If you were asked to go back to your civilian trade and serve Canada in essential war work, would you:
 - (a) Do it only if it meant a pay increase?
 - (b) Refuse to do it because this is a free country.
 - (c) Do it only if the government compelled you.
 - (d) Do it even if it broke your heart to leave TTS.
10. When you hear an airman running down a WD, do you:
 - (a) Say: "Sir, you are speaking of the woman I love!"
 - (b) Agree and repeat the latest rumor you've heard.
 - (c) Ask him to prove his statement.
 - (d) Say you don't believe it and wish more would arrive on the station.

—From "Thumbs Up"

not cold and he was in a sheltered spot, covered with warm blankets, it would have perhaps added to his injury if he was moved. It was at this point that one of the Service lads insisted that this spectator refrain from disturbing the injured man. You know, Maw, we are constantly reminded about certain extra activities we should be interested in and after witnessing this accident, I am going to secure some information on the St. John's Ambulance First Aid. You may have noticed the new insignia that is being

worn on the left sleeve of many Airmen about the country. This is the insignia of the St. John's Ambulance Group, which qualifies them to render First Aid.

Give my best wishes to all the folks around the town and write soon, and if possible send me a few of those cookies to repay the treats that I have enjoyed from some of the boys in the Bay.

Bye bye,
Your son,
JOE.

IN SPITE of the increasing use of light alloys of aluminum and magnesium in the aircraft and certain other industries, iron is still incomparably the most important of all industrial metals. The use of pure iron is to a large extent limited, it is true, to the electrical industry, in which it is extensively employed. Its major industrial importance, however, arises from the fact that it is the basic material in all the wide range of carbon and alloy steels which are of such vital importance in the engineering world.

In view of its many technical and industrial applications, some knowledge of iron, and of the steels derived from iron, is surely of vital importance to mechanics and to all others engaged in work connected with any branch of engineering and the allied industries. In the case of welders and smiths such knowledge is essential. If a steel is heated to a forging or welding temperature and allowed to cool in the air its physical properties may be entirely changed, particularly if the steel has been previously heat treated.

The most important controlling factor in the physical properties of a steel is the carbon content. On this factor depends the qualities of strength, hardness, ductility, toughness, etc. which a steel possesses, or may be induced to possess by suitable heat treatments. On this factor also depends the nature of the heat treatment required to produce any given results. The introduction of alloying ele-

ments, such as manganese, silicon, nickel, vanadium and many others, into a steel may have profound effects on the physical properties and desirable heat treatment but even in such steels the carbon content remains the controlling factor in all but one or two exceptional cases.

AC solidification is complete, and the area between the two curves AB and AC is known as the solidification zone. At temperatures between these curves the metal will be partially liquid and partially solid, or austenitic.

It should be noted that whereas pure iron (carbon content zero) commences to melt at about 2750. deg. F. and is completely molten at 2800 deg. F., steel with 1.8% carbon commences to melt at 2060 deg. F. and is entirely molten at 2460 deg. F. Hence it is clear that the higher the carbon content of a steel the lower will be its melting point. It is also important to note that pure iron and low-carbon steels in their molten state are viscous and do not pour readily. Hence they cannot be used to make poured castings.

The curve AD is known as Gotowsky's Limit. It indicates the limiting temperature for welding. If the metal is heated above the temperatures indicated by this curve it will burn. Temperatures between the curves AD and QR are normally used in welding, while those between QR and ST are forging temperatures. Note that Gotowsky's Limit, and the normal welding and forging temperatures, all drop sharply as the carbon content of the steel increases.

Critical Points

Iron in the solid state between the curve AC and the lines EGKC is known as Gamma iron. The carbon is held in this iron in solid solution in the form of Cementite or iron carbide, the solution of the Cementite in the Gamma iron being known as Austenite. The line KC, known as the "Acm" line, is the saturation line of carbon in the iron. The higher its temperature the more carbon will the iron absorb. Thus at 1500 deg. F. indicated by the point a, the iron will hold in solution 1.08% of carbon, while at 2060 deg. F., indicated by the point C, it will hold 1.8%; but it will not hold more carbon at any given temperature in solid solution than the quantities indicated by this line. Thus if steel containing 1.5% carbon is at a temperature of 1600 deg. F. (point b on diagram) it will hold 1.2% of the carbon in solution, as indicated by the point e, and .3% (1.5%-1.2%) as free Cementite, or iron carbide. If, however, the iron is further heated to 1830 deg. F. (point d) the whole of the carbon will be taken up by the iron in the form of Cementite, and held in solid solution. As the iron cools again the excess carbon is thrown out of solution and re-appears as free Cementite. In other words, above the line KC the metal is purely austenitic; below this line it consists of austenitic plus free Cementite.

The line EG is designated the "Ar3" line. Points on this line are called the upper critical points. If steel containing less than .42% carbon is allowed to cool from a temperature above this line it will be found that at the line the cooling is temporarily arrested. Heat continues to be given off without any decrease in the temperature of the metal. A change in structure, accompanied by the evolution of heat, is taking place, and the Gamma iron is being converted to Beta iron. Note that as the carbon content increases the temperature at which this critical point

occurs decreases.

The line FG, designated the "Ar2" line, gives the second critical point. If the steel is further cooled from the temperature indicated by the line EG, another change of structure occurs, accompanied by a further evolution of heat and retardation of the cooling process. The Beta iron is converted into Alpha Iron and Austenite, the conversion occurring at a temperature of about 1400 deg. F.

A third critical point, known as the lowest critical point, occurs at a temperature of about 1300 deg. F., indicated by the line HK. This line is designated the "Ar1" line. Below this temperature the iron is known as Alpha iron.

If the steel contains from .42 to .85% carbon the Ar3 and Ar2 lines merge into the line GK, known as the Ar32 line. Steels in this range have only two critical points located along the lines GK and HK. Steels of over .85% carbon have only one critical point, indicated by the line KL, designated as the Ar321 line.

If steel is heated from air temperature similar critical points are observed. At these points the process of heating is arrested, and the steel absorbs heat without rise in temperature. This latent heat causes the reverse changes of structure to those which occurred on cooling, but the temperatures at which these critical points occur on heating are from 30 to 60 deg. F. higher than the corresponding points on cooling. On heating the lines corresponding to Ar1, Ar2, Ar3, etc., are designated Ac1, Ac2, and so on.

Sqdn. Lr. A. A. Peebles

During the last two years, S/L Peebles has given untiringly of his time as Technical Editor of the station Publication, *The Aircraftman*. S/L Peebles has had considerable theory and practical experience in the Technical School. His apprenticeship in the engineering shops of Glasgow, Scotland, stand him



in good stead and as a graduate of University College, London, England, he has an excellent knowledge of the theory of technical engineering. During the First World War, S/L Peebles served with the Canadian Forces from August, 1914, to September, 1919. After his army career, the next three years were spent with the International Correspondence Schools in London, England, as a senior instructor of mechanical engineering. His next line of duty was as Technical Education Officer with the RAF. The call to Canada was strong and in 1925 he returned to Calgary and for the following thirteen years was associated and in charge of the Aeronautical section in the Provincial Institute of Technology and Art in Calgary. S/L Peebles is a member of the Society of Automotive Engineers and an Associate of the Royal Aeronautical Society.

Technical Topics

The Carbon-Iron Diagram

By Squadron Leader A. A. Peebles

The Carbon-Iron Diagram

The writer has been asked, on several occasions, to interpret for the benefit of Technical N.C.O.'s on this station the Carbon-Iron diagram. The explanations given in standard text books are usually lengthy and involved. It has been thought, therefore, that a shorter and simpler interpretation of this important diagram might form a suitable subject for an article in "Technical Topics," particularly as it gives in graphical form most of the information required concerning the effects of heat on iron and steel.

The Iron-Carbon diagram is shown in Fig. 1. The vertical scale on the left gives the temperatures in degrees F. and on the right is a scale showing the colors corresponding to the various temperatures. Along the base is the horizontal scale giving carbon content of the steels in percent.

At temperature above those indicated by the curve AB the metal is in a molten or liquid condition, while at temperatures below this curve solidification commences. At temperatures below the curve

The shaded area between the lines GKL and 4256 indicates the range of temperature for full annealing and hardening. In the former process the steel

is heated to a temperature within the indicated range, soaked at that temperature, and allowed to cool slowly in the oven. The slower cooling as compared with the normalising process makes the steel softer and more ductile, but less strong, than that obtained by normalising.

In the hardening process the steel is heated to the temperature indicated on the diagram, and the metal is then cooled rapidly by immersion in oil, water or brine, depending on the steel and the degree of hardness required. This process makes the steel very hard and strong, but too brittle and with too little ductility for most purposes. The hardened steel is therefore subjected to a further process called tempering or "drawing," by means of which some of the hardness is "drawn" from the steel. In this process the steel is re-heated to a temperature usually between 600 deg. F. and 1300 deg. F. and allowed to cool in air. The lower temperature leaves the steel hard and strong, but less brittle and somewhat more ductile than the fully hardened steel, while the higher temperature gives the steel high ductility and toughness at the expense of strength and hardness. Intermediate temperatures give, of course, intermediate results. It should be noted that low-carbon steels do not harden well and are therefore seldom given this treatment. They may be annealed, but are usually rendered sufficiently tough and ductile by normalising. A further important point to be observed is that the higher the carbon content of a steel the harder and stronger it will become as the result of any given heat treatment, but these qualities are obtained at the cost of toughness and ductility.

If steel is allowed to cool slowly through the austenitic phase to air temperature it will be coarse grained. Reheating to above the upper critical point refines the grain, and this refinement is retained to a greater or lesser extent on cooling. The physical properties of the steel depend upon grain size, and grain size depends upon the temperature from which the steel is cooled and the rate of cooling.

Types of Steel

There are three types of carbon steel—Eutectoid, Hypo-eutectoid and hyper-eutectoid. The first named contains .85% carbon, and has only one critical point, indicated on the diagram by the point K. Eutectoid steel consists of pure pearlite, so called from the pearl-like appearance of its fracture, without any excess ferrite or cementite. Pearlite combines considerable strength (ultimate strength in tension about 100,000 lbs. per sq. in.) and hardness with fair ductility (about 10% elongation). It also possesses maximum hardening power, i.e. the greatest hardness can be obtained from .85% carbon steel as the result of heat treatment.

Hypo-eutectoid steel is steel containing less than .85% carbon. Except where alloy steels are employed, practically all steel used in airframe structures is of this type. Hypo-eutectoid steel consists of pearlite plus excess ferrite. Pure iron consists entirely of ferrite; it is soft, weak (ultimate tensile strength about 40,000 lbs. per sq. in.) tough, malleable and very ductile, and does not respond to heat treatment. As carbon is added, up to .85%, the pearlite content increases and the percentage of excess ferrite decreases until, when the .85% point is reached, there is no excess ferrite. As the pearlite content increases the steel tends to be-

come more amenable to heat treatments, which may be made to yield harder and stronger, but usually less tough and ductile qualities of steel. It should be noted that hardness and strength are usually accompanying qualities in steel, and that these qualities can be obtained only at the cost of toughness and ductility.

Hyper-eutectoid steel contains more than .85% carbon. It consists of pearlite plus excess cementite. These steels harden well and are very amenable to heat treatments. They can be heat-treated to give great strength and hardness combined with sufficient ductility and toughness for most purposes.

Properties of Iron

All pure iron from normal air temperature up to about 1350 deg. F., indicated by the line HKL, is known as Alpha iron. It will not absorb carbon, it is magnetic, and of a fibrous structure, as distinct from the granular structure of steels and cast iron.

Beta iron exists only at temperatures between the Ar2 and Ar3 lines (EG and FG on diagram) in steels having a carbon content of less than .42%. It has similar properties to those of Alpha iron, except that it becomes non-magnetic as its temperature reaches the Ar2 line (FG) on cooling. Hence this critical point, where Beta iron changes to Alpha iron, can be detected by means of a magnet.

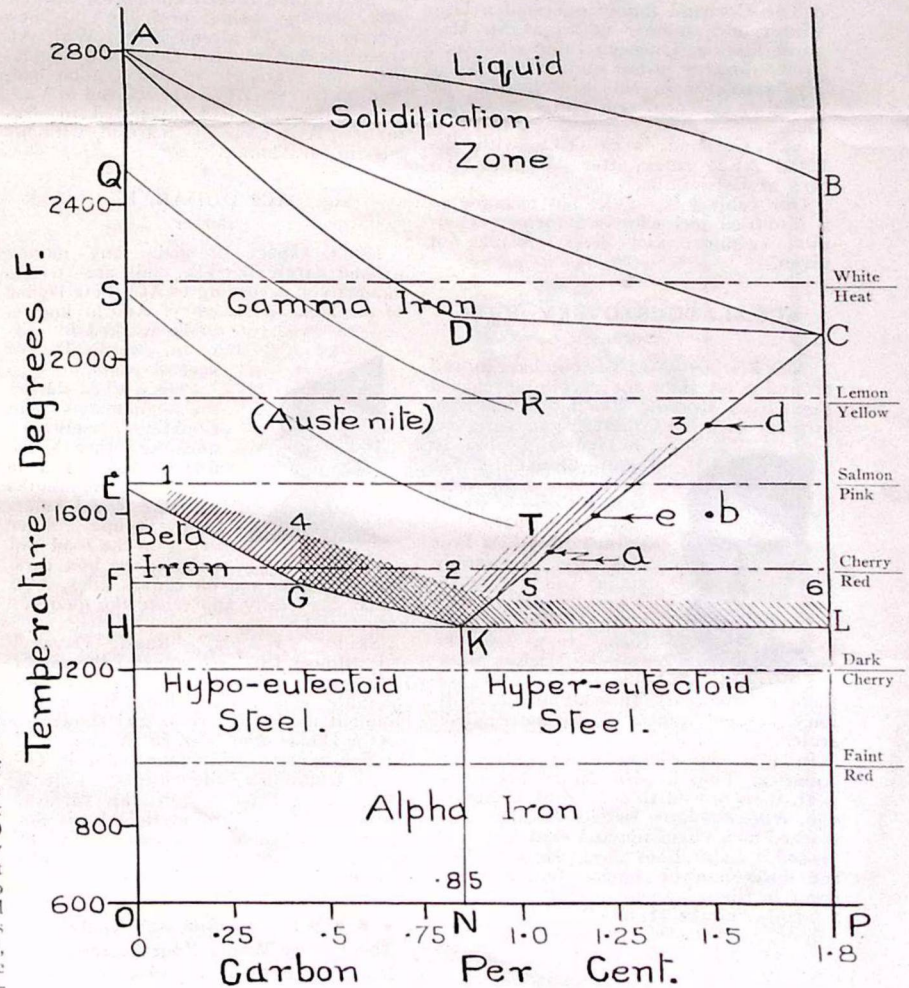
Gamma iron exists at temperatures be-

tween the curve AC and the lines EGKC. It will absorb carbon, and hold it in solid solution in the form of iron carbide (cementite) in quantities which depend upon temperature, and which are indicated by the Acm line (KC on diagram). It is non-magnetic, and working (forging, rolling, etc.) improves and refines its structure. Undisturbed heating and cooling without working, however, causes grain growth and crystallization.

Exigencies of space do not permit of a more exhaustive analysis of the Iron-Carbon diagram. Possibly enough has been written to give a general understanding of the interpretation of this diagram, and once this is understood more complete information can be gleaned from any good book on metallurgy. It should at least be clear from what has been said that if a hardened and tempered steel is heated to the welding or forging temperature and allowed to cool in air its physical properties will be entirely changed, and that in all such cases further heat treatment is required to restore the original properties if the risk of failure is to be eliminated.

Son, give the woman her way; for when her point is accomplished, then shall she surrender all she hath fought for. —Lilliput

• • • Who is Listening?
Your Talk May Cost Lives.





Who's Who

AC2 COCHRANE, E. G.

Skiing Instructor

When AC2 Cochand is posted from St. Thomas, he wants to go somewhere where there is lots of snow, so he can get back to his favorite sport, skiing.



Emil comes from a skiing family, his father being a former Swiss champion. In the September edition of "Wings" considerable publicity was given to a brother, F/O Louis Cochand, now in the Aleutians. This brother of Emil's is also a ski champ,

having represented Canada at the 1938 Olympics.

AC2 Emil Cochand claims he is just as good as his brother. He holds the Quebec Championship won in 1940 and 1941, and not contested since.

The Cochand family operated a large winter and summer resort at St. Margaret Station, Quebec. Emil acted as a sports director in the summer and a skiing instructor in the winter. He also served as ski "pro" one winter at a Banff Club.

AC2 Cochand is at TTS with the 172nd AEM entry after doing a YTS turn at Cartierville.

Our subject is single, but engaged to a Montreal girl who is a former champion swimmer and diver. Name not given.

AC2 ZLATOUSTOVSKY, IGOR

Evacuee

AC2 Zlatoustovsky's family have moved around a lot since the revolution chased them from Moscow. The father had been director of a bank there. Igor was born in Irkutsk, Siberia, to where his family, who were White Russians with a Cossack strain, had fled in 1917.



In 1922, when Igor was three, the family again had to move. The revolutionaries again catching up to them, they had to move to Harbin, Manchuria. They lived there for six years, Igor attending a military academy operated on an English scale.

In 1928 the Zlatoustovskys came to America. They lived in New York for a year, then moved to a farm at Wetaskiwin, Alberta. Igor, besides farming, has worked as a chauffeur and clerk. He attended YTS at Edmonton. Here he had the distinction of having the hardest name in the school to pronounce. He is a member of the 171st AFM entry.

Igor has a brother in the army. He is still single. He has a diversion of guitar playing.

AC1 LANDO, H.

Honour Student

Every week, four airmen get special recognition here at TTS for scholastic attainments. We present AC1 Lando, who led the large 167th AFM entry, finishing with a mark of 89.3. Lando has been kept here as a potential instructor.



A Vancouver boy, Harold has had a better start than most of the airmen in training. A graduate lawyer with his B.A. and T.T.B. from the University of British Columbia, he practiced

for two years. Then he spent a year on an aeronautical course at the Aero Industries Technical Institute of Glendale, California, and then as an instructor for six months at the Vancouver WEPT.

AC1 Lando is well known for his tennis playing, being probably the best player ever to attend TTS. With AC Lemieux he won the Command doubles title this year. He is also a good badminton player. At university and in Vancouver he was also interested in dramatics. AC1 Lando is married, with his wife in St. Thomas.

AC2 DUDAR, P.

Barker

Don't expect to make any money around carnivals. The odds are strictly against you according to AC2 Pete Dudar of the 172nd AFM entry. And he knows, as he worked for different carnivals for several years.



Pete worked during the summers with Conklin's, Sullivan's and the other Canadian shows. And in the winter months with the Royal American Troupe. After living on the road and sleeping in box cars, under wagons and on canvas piles, AC2 Dudar can really appreciate the quarters here at TTS.

"Skillo," "Hoopla," "Razzle Dazzle," and "Blower Pan" are some of the games Pete barked for. Also, he has had considerable experience telling the entertainment merit of various girl shows.

AC2 Dudar was born in Winnipeg of Russian ancestry. His home now is Toronto, where his wife resides. Pete is hoping to get back into the carnival business. At the present time he is doing quite well on his course and trying to keep away from dice and cards, his obsession still being gambling.

• • • Why Did She Ask That?
The Enemy Wants Your Secrets.
Don't be an Amateur Judas.

Major J. Wood



The above photo was taken of Major J. Wood in November, 1939, on the steps in front of the Administration Building. Those who remember November, 1939, will recall that it was the year the R.C.A.F. converted the Ontario Hospital into what is now the largest and finest Technical Training School of the Royal Canadian Air Force. Major Wood has been responsible for all the food supplies that have been consumed by the great many Airmen and WD's over the past four years. It is with much regret that we say adieu to this great soldier, but we wish him every success in his new posting to Winnipeg. In saying good-bye to Major Wood we swing wide the gate of welcome to Captain Freil. The editors are sorry that there is no photo available of Captain Freil but we promise you a picture of the new officer in charge of supplies in the near future.

AC2 TROTTIER, J. M.

Trapper

AC2 Jack Trottier prefers the far north country to Southern Ontario, and claims he was never happier than at this lonely existence as a trapper. His trap lines got quite close to James and Hudson's Bay and he was after fox, mink and muskrat.



Of powerful physique, with a 43-inch chest and a 30-inch waist, AC2 Trottier was well able to stand the intensely cold winter months. Jack still owns six sled dogs.

AC2 Trottier is of mixed ancestry, being 1/8 Indian, 5/8 French and 2/8 English. One of 12 children, he was born and educated at Montrock, near Iroquois Falls, Ontario. He attended Ottawa Tech School after enlisting in the RCAF and after a short stay at Lachine MD, came to TTS with the 173rd AEM entry.

Besides studying hard, AC2 Trottier is doing a little at his hobby of trick photography. After this war, Jack is hoping to use some of his Air Force knowledge in doing some bush piloting in Northern Quebec and Ontario.



AROUND THE CIRCUIT



Compiled by Sgt. Horeyke

Heil Hitler!

A Nazi Stormtrooper was driving his superior officer on an important mission and was making great speed down a country road. The car struck and killed a fine hunting dog.

"Fritz," admonished the captain, "you must go into the farmhouse and apologize for killing the dog."

Fritz went and returned soon with a puzzled look. His arms were heaped high with sausages, cakes and bottles of schnapps.

"The woman of the farm gave me this, Herr Captain," he said. "Wasn't she angry?"

"No, she was very, vary happy. I don't understand."

"What did you say to her?"
"All I said, Herr Captain, was: 'Heil Hitler! The dog is dead.'"

—The Tail Skid, Lawson Field



Mm-m-m!

Breathes there a man
with soul so dead
Who has never turned
around and said
Mm-m-m-m-m-m . . .
not bad!

Where Ignorance Is Bliss!

Before I heard the doctors tell
The dangers of a kiss,
I had considered kissing you
The nearest thing to bliss.
But now I know biology—
And sit and sigh and moan—
Six million mad bacteria!—
And I thought we were alone!

—The Fly Paper, Jarvis

Submarine Menace!

A transport had been sunk and several lifeboats were cruising about the surrounding waters picking up survivors. A completely bald-headed sailor popped up alongside one of the boats. One of the Irishmen manning the oars spotted him and with a snort of rage, brought his oar down smack on the bald man's pate. "This is no time for fooling," he cried. "Go down and come up straight."

—Thumbs Up, Dartmouth

Shakespeare Rationed!

Acting under difficulties, the touring company was producing "The Merchant of Venice" in a small country town.

"Give me my pound of flesh," demanded Shylock.

From the gallery came a voice:
"Where's your ration book?"

A wolf's prayer: Give me this day
my daily bread.

A FROSTY FRIDAY MORNING

On a frosty Friday morning, when
this bloody war is o'er,
When the last air raid has sounded
from the siren's mighty roar,
When they've taken down the black-
outs, and lit the old street lights,
When a man can see for certain
what he's taking out at nights.

When there ain't no Air Force rations
and they issue T-bone steaks,
When all the Sgt.-Majors are stricken
with the shakes,
And all the Cpls. and Sgts. lose their
lusty power,

When the water's sometimes warm
when you go to take a shower;
That will be the day, my lads, and
you'll be glad that you were born,
They tell me that it's coming some
frosty Friday morn!

We'll toss away our uniforms and
heavy issue shoes,
We'll watch the cooks all dining on
their own mysterious stews;
We won't be there on church parades,
no guards and no fatigues,
No more blistering route march or
those would-be blitzkreigs.
We'll hang our rusty rifle upon the
C.O.'s wall,

And give him back his forty rounds
he issued us last fall,
And when our web equipment some
farmer's mules adorn,
We'll all be very happy, that frosty
Friday morn.

—By LAC Morrow,
The Mountain Viewpoint

The soldier was a new arrival in the
Solomons. "Gee," he said, "I thought
I'd see some monkeys around here."

Said a second G.I.: "They're in the
jungle making love."

"I wonder," said the new arrival,
"if they'd come out for peanuts."

The second soldier's look was scornful:
"Would you?"

—The Tail Skid, Lawson Field

Quick Change Artist

A man slightly soused tried to navigate a revolving door. Finally he gave up in disgust and leaned against a nearby lamp post.

Another man came along and walked into the door. As it revolved, a pretty girl came out from the other side. The inebriate blinked.

"It's a good trick all right, but I still don't seee wha' the guy did with his other clothes."

—The Beachcomber, Vancouver

He: "I'm not feeling myself tonight."

She: "You're telling me!"

—The Beachcomber, Vancouver

Johnny Doughboy

From being number such and such on induction day, Johnny soon finds out that he's a "dumb boot" to his first sergeant, another mouth to feed and two more feet to shoe to the Army Service Forces; he's a trainee, he's manpower, he's an expeditionary force and he's strategic reserve. One of these days he's going to be a landing force and an advance element. To the general's staff he's an expendable, and to the medical corps, just another potential casualty.

—Albert Maisel, Miracles of Military
Medicine (Duell, Sloan & Pearce)

"A 'better home' is a place my dad is proud to support, my mother loves to take care of, and we like to be in. It is a place to grow old in."

—Marie M. Meloney

An American bomber group moved into their new British base, one of England's best women's colleges in prewar days. A few minutes after the officers had settled in their rooms, bells began to ring all over the halls. An adjutant rushed over to see what was the matter. Behind every door, he found a button with the sign: "Ring twice for the mistress."

—John G. Norris in Collier's



Heard In the Mess

Cook: "I was reading the other day that an ostrich can see very little and can digest anything."

AC2: "What an ideal airman."

Recruit: "Here, sir, taste this."
Officer: "What's wrong? That's good soup."

Recruit: "But the cook claims it's coffee, sir."

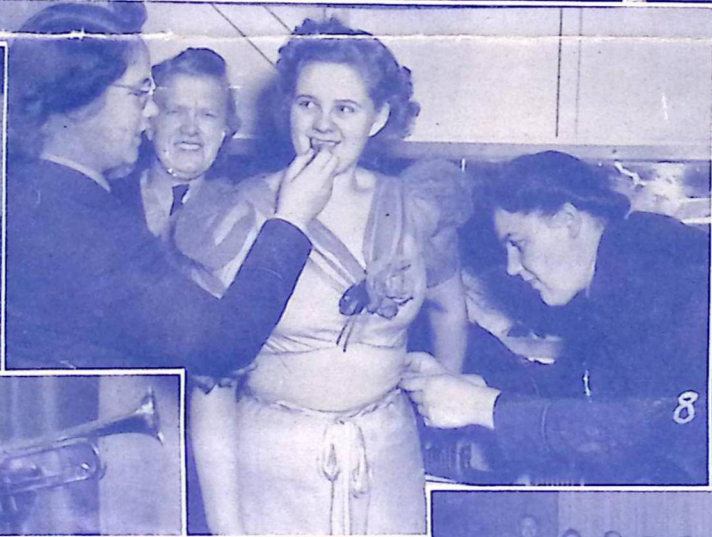
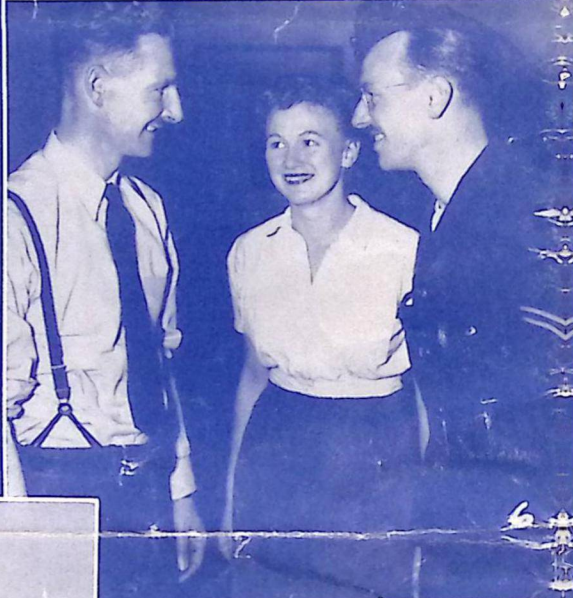
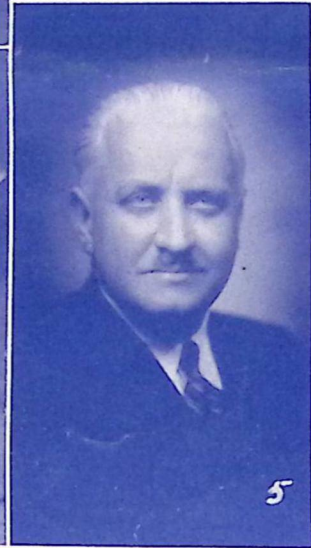
Regarding This War Business

God gave us two ends to use;
One to think with, one to sit with.
Success depends upon which we
choose;

Heads we win; tails we lose!

—Fingal Observer

WHAT A SHOW! "TTS ON PARADE" BEST YET!



(1) The No. 4 Troupe, London Little Theatre. This Group will visit TTS on November 2nd. (2) Charlie Kilgour (YMCA) tunes the Glee Club. (3) S/L Morton, member, TTS Entertainment Committee, discusses sound equipment with (4) Flt. Sgt. Charlie McCready. (5) Dr. Allan Skinner, chairman, Entertainment Division, London Citizens' Auxiliary War Services Committee. (6) S/L Waters, President, TTS Entertainment Committee, removes his tunic and gets down to "brass tacks" with Cpl. Waddington, piano maestro of the station show, "TTS On Parade," and Betty Kalar, the versatile fast stage tap dancer of the station show. (7) Captain Chet. Smith, Auxiliary Services Officer, M.D. 1. (8) S/O Owens makes up Kay Edis, who displays here "wares" on the piano-accordion in the "TTS On Parade" Show; S/O Fraser puts a few tucks into Kay's dress to be certain that it will pass the critical eye of the station audience. (9) The Victory Entertainers of Hamilton. TTS will be lavoured by the "Merry-Map-Cap" review of Hamilton on December 6th. (10) Don Wright, musical director, entertainment division, London Citizens' Auxiliary War Services Committee. (11) The No. 2 Troupe, namely the London Life. This group will perform for the troops at TTS on December 16th. (12) "The Originals" No. 1 Troupe of London, Alf Tibbs, will visit TTS on November 22nd.

BYE-BYE BUY BONDS