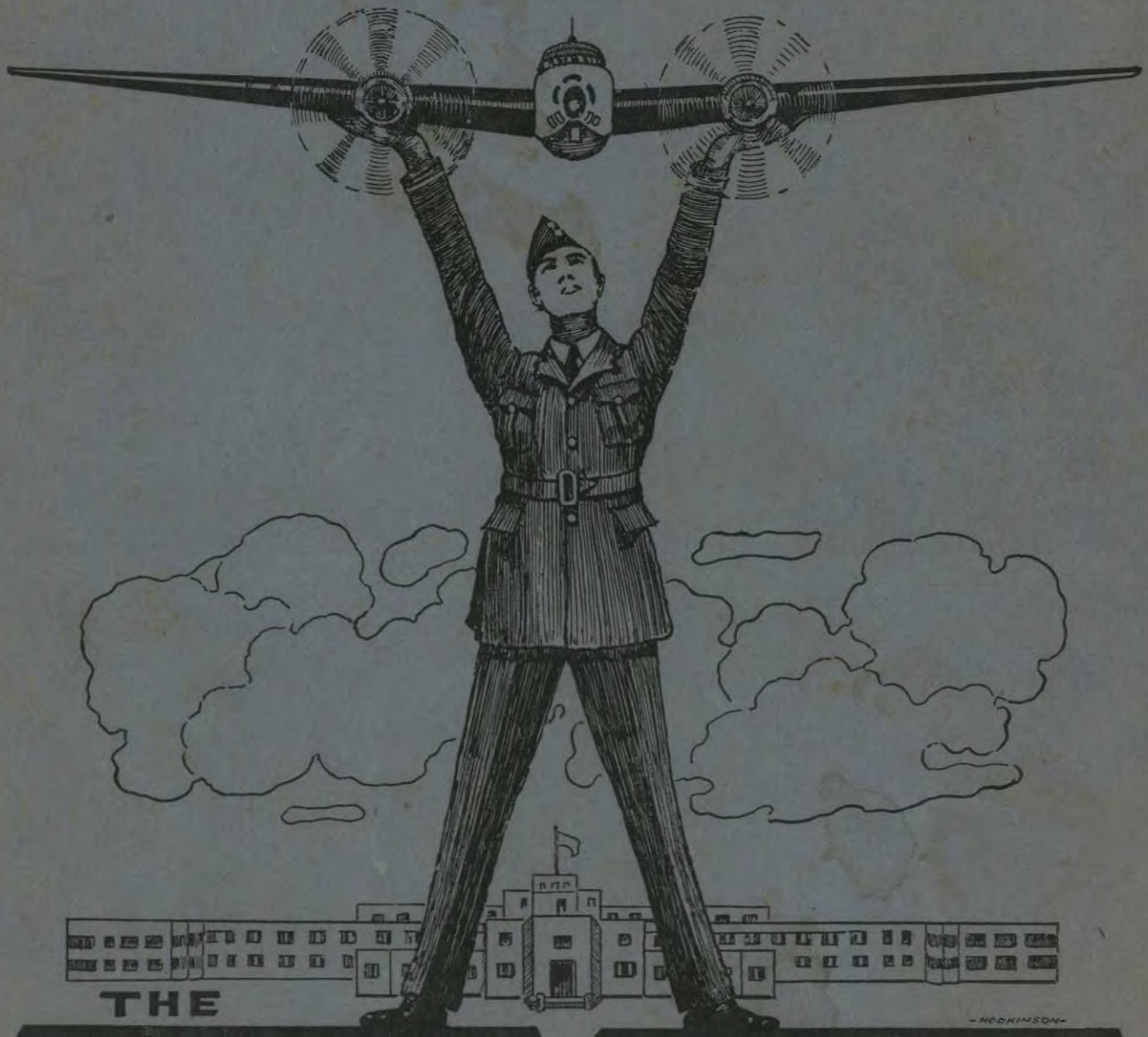


THE *Aircraftman*



THE

**TECHNICAL TRAINING
SCHOOL**

ST. THOMAS

ONTARIO

-HICKINSON-



THE AIRCRAFTMAN

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EDITORIAL STAFF

Managing Editor - E. R. McEwen (Director of Y.M.C.A. Services)

Editors - F/L Porter (Prot. Padre) - F/L Howard (R.C. Padre)

REPORTERS

| | | | |
|--------------------|-------------------------------|--------------------|-----------------------------|
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| | Sq. 2 - Cpl. Tattersall, C.P. | | Sq. 2 - A.C. 2 Cogley |
| | Sq. 3 - A.C. Pearce, B.W. | | Sq. 3 - A.C. McKinnon, N.H. |

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PRAYER FOR CANADA



Almighty God, who didst lead our fathers into this land, give thy grace, we beseech thee, to us their children, that we may prove ourselves a people mindful of thy favour. Save us from lawlessness and discord, pride and arrogance, and fashion into one godly people the multitude brought hither out of many kindreds and tongues. Give to all the spirit of service, love and honour; and in the day of trouble, suffer not our trust in thee to fail. So that, setting thee above all things, we may fulfil thy gracious purpose for this land.

—Amen.

« « EDITORIALS » »

A NEW YEAR'S MESSAGE

By Padre Porter

The New Year into which we are entering belongs to the Air Force. Not to the Nazi Luftwaffe or the winged minions of Mussolini does this year belong, but to the Royal Air Force and its supporting partner the R.C.A.F. The dream for which we have planned and built and trained and suffered is to be realized in a few months. We are to have superiority in the air. To this ascendancy of air strength, the British Commonwealth Air Training Plan will make an invaluable contribution. In what proved to be his last speech, Lord Lothian, British Ambassador to the United States, made this prophecy to his American audience: "You will be surprised at what will come out of Canada in 1941."

This year will be for every man in the Air Force the most distinctive year of his life. He will be living not for the narrow interests which usually prompt activity but everything he does will be touched with reference to the great struggle for freedom. Mechanics, observers, gunners, pilots and general duties will see their tasks in the light of the gigantic forces which are moving in the world. Our work will show that we have those resources of enthusiasm and devotion to duty worthy of the cause we serve. So clearly will we see the issues at stake and the sacrifices necessary to defeat tyranny that it won't matter to our individual effort whether or not we are in the air school of our choice. We can be in Halifax or British Columbia or England and we will give gladly all our skill and energy for victory.

Here is a spirit about a good cause which inspires its followers with vision, strength and the will to act. Conviction and the semblance of a faith are beginning to take shape in the minds of our young men. We, who a few months ago had very little strong feeling one way or another about God or man, believe now to the core of us that Hitlerism means stultification and death, and we must fight with all that is within us to survive this menace to bodies and souls.

The winner of the present titanic struggle has not yet been declared. The end is to be determined by human effort not by fatalistic argument. The fates have not decreed which side shall be vanquished and which victorious.

Victory shall crown the arms of the people who in these coming months invest in their cause a superior energy, skill and devotion. This year of 1941 is ours to win a war and save a world. There is a terrible urgency that we do our job.

* * *

MARTIAL MUSINGS

By F/Lieut. W. S. Lighthall

(NOTE: Due to lapse of time between going to press and publication of the Aircraftman, an up-to-date article on the war is impossible. Prognostication is the only course left and your guess may be just as good as that of the author.)

The first year of this war may be divided into periods of static boredom interspersed by explosions of hectic action, the extent of which, to date, have been limited only by the area of the country to be overrun by the German hordes. However, these bursts were possible only in countries close to Germany where control of the sea was unnecessary. As lines of communication lengthened, blitzkrieg tactics became difficult and no longer so effective, and Hitler has now to look for allies to help him both with supplies and corridors through which to move his troops.

Rumania fell into his orbit giving him apparent sources of much-needed oil, but the heroic defence of Greece so heartened Bulgaria that Hitler's threats and blandishments failed to railroad her into his camp and undoubtedly Russia's advice was to keep clear of such an alliance. Yugo-Slavia, although flirting with Hungary, is still free of Axis entanglements. As to the danger of a German drive from Rumania towards Salonika, this is not as serious as would appear to the uninitiated. The towering Bala Shitza range of mountains bars the way with only two narrow passes, both of which are strongly fortified. The rugged nature of the country would prohibit the use of mechanical equipment, no roads existing and such trails as are to be found would barely allow the passage of donkeys, much less tanks.

The pitiable collapse of the Italian offensive against Greece and the advance of the Greek army in Albania indicate that the Roman partner has changed but little from the boastful coward of Capporetta and cannot be depended upon for assistance against a foe more formidable than a poorly armed Ethiopian. The Latin temperament is receptive to mob panics

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and not much can be expected from any reinforcements sent to Albania when they hear of the rout of the crack battalions, which have collapsed before the rush of savage Greek mountaineers.

Taking advantage of the debacle in Albania, the British have struck at the Italian force preparing to invade Egypt from Lybia. Here, using their own blitzkreig tactics, the armored divisions of Britain broke through the Italian lines after an 80-mile whirlwind advance and, passing to the south of the heavily fortified camp of Sidi Baranni, swung north to the coast, cutting off the spearhead of the invading force. A large part of the Italian African force is affected by this disaster and the remnants are retiring hurriedly along the coast of Lybia, harassed by the guns of the fleet and the bombs and machine guns of the R.A.F., another Italian adventure having been turned into rout.

Knowing the mentality of the Arab, his reaction to the defeat of this force will be to cause uprisings throughout Lybia which will further disrupt Italian organization in this now-isolated colony. What effect this victory will have on Weygand with his powerful army still intact in French Africa is something no one can say but without doubt the Italian garrisons along the Tunisian border are anxiously watching for dustclouds in the west marking approach of the dreaded French Foreign Legion.

Although the collapse of the Italians in Albania may have widespread political results in the Balkans, it must not be considered as giving us a springboard from which to attack Germany from the south. Unfortunately, Albania is surrounded by Yugo-Slavia to the east and north, and it would not be our policy to violate the neutrality of that country for whose freedom we fought so hard in the last war. It will be necessary for us to find some other passage through one of Hitler's present allies.

Hitler's next move may be a diplomatic one attempting to have France take the position of the tottering Italy. Even the jackal Laval cannot force such a course on France, whose people hate the Hun with an undying hatred and are bitterly regretting their surrender. However, Petain's dismissal of Laval may result in the total occupation of France, which would blast any hope on Hitler's part for co-operation from that country.

The increasing support given by the U.S.A. is now being felt in Europe and her defense preparations are viewed with alarm by Japan, who certainly does not want to cross swords with this mighty power while so deeply in-

volved in the Chinese adventure which is going by no means well at present.

Hitler, although in command of an undefeated army, highly equipped and trained to the minute, finds himself in a difficult position. His partner in crime has proven a broken reed, his aerial offensive against Britain is not producing the crushing effect for which he had hoped and expected; British ships still sail the sea and her navy still keeps it fairly clear of German vessels.

The economic blockade deprives Germany of many of her requirements, especially oil, and the R.A.F. continue to disrupt industry and transportation. To the west, Hitler faces the sea and the British navy, to the south-east Turkey awaits at the Bosphorus and Dardanelles, well able to defend herself and block his passage. To the east rises that ever-present shadow of the Russian Bear, that unknown factor which stands as a continual menace to a weakening Germany.

* * *

AIR RAID VICTIMS' RELIEF FUND

It is suggested that all personnel of this Station make a voluntary donation of 25 cents (twenty-five cents) at the January 15th Pay Parade. The money thus collected will be sent to England as a gesture of good will from this Station and will be used to aid the Air Raid Victims.

Collectors will be available at the Pay Parade and you will only be asked to make One voluntary donation. One donation of "twenty-five cents" — no more, nor no less.

* * *

SEARCHLIGHT ON DISCIPLINE

By S/Ldr. N. McLeod

Discipline may be said to be the Science of Conduct, or a system of moral ethics relating to conduct. Sir John Moore, the "Father of British Discipline" terms it "a spirit which will make of the whole (Army, etc.) a living organism to replace a mechanical instrument." Moore's idea was to encourage, not to suppress, intelligence; to make the development of the individual contribute to the effective unity of the whole; to enlist the zeal of all ranks in order to perfect the whole. He set up as his ideal, and history shows how well he lived up to it, a perfect knowledge and an exact performance, and required of his subordinates a correct knowledge of their profession, ardent minds, order and regularity of conduct and unremitting attention to duty.

An undisciplined armed force is a menace to organized society. Without discipline there

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can be no orderly effort of any kind. Discipline represents regulated control. Discipline is not peculiar to the armed forces. It is the basis of any society; where it ceases, chaos rules. Railway and steamship lines are models of discipline. They have to be, or accidents would multiply and the lines be put out of business. There is a rigid discipline of the church, of finance, of science, or every human endeavor and activity. The rights of man and the entire sphere of his activities are irrevocably bound up with discipline.

Discipline is much more than a system of punishment. Punishment may be termed the negative aspect of discipline. The positive aspect is seen in the results. Well disciplined officers and airmen will instinctively do the right thing no matter what the circumstances. Individually they are better men, mentally inured to hardships, prepared to sacrifice self in the larger cause; collectively, they are a force to be depended upon—far superior in action, and with greater ability to withstand the vicissitudes of war than are indifferently disciplined personnel. Discipline results in concerted action—the application of power at any desired point, at a given time, and for a specific purpose.

The true basis of discipline is a spirit of willingness, cheerful obedience and regulated enthusiasm. It ensures team work, the working with precision and exactness of the multiple parts which make up the Air Force machine. K. R. & O. for the R.C.A.F. defines discipline as a willing, prompt and implicit obedience of all ranks to superior authority. Elsewhere it has been defined as the habit of instantaneous and instinctive obedience under any and all circumstances.

The term "Military Discipline" to a civilian is almost synonymous with the term "punishment." The term "Air Force Discipline" is almost too new for the public to have any set ideas upon. A good soldier, however, takes a definite pride in his discipline as, to him, it implies personal efficiency and a high standard of conduct. He realizes that discipline is the bedrock of pride in the unit. Air Force discipline must be such as not only to engender pride in the individual and the unit by the airmen themselves but by the public as well. Army discipline has evolved from conditions of sheer brutality to the present high standard where it

is humane and where the rights of all are protected. Air Force discipline, although similar to the present-day Army discipline, has no such history. The whole Air Force idea is a new creation in the minds of the people. Hence, by our conduct shall Air Force discipline be known.

In time of peace there is a tendency for the spirit of true discipline to disappear. Personnel tend to pay more attention to their own welfare than to the welfare of those under them. Personal considerations are given place before service. Personal ambition tends to override service responsibility. Too much thought is given to such ideas as promotion, additional pay, privileges, etc.

"A chain is as strong as its weakest link." Don't be the weak link in the Air Force chain of command. Also, have due respect for all other links. Do not attempt to "short cut." One of the fundamental things in an Air Force is the proper observance of the chain of command. In the ultimate sense, there is no equality in the Air Force. Someone is always senior to someone else, until one reaches the unassailable pinnacle, and someone is always junior to someone else until one reaches the irreducible minimum. Nothing is more derogatory to discipline than failure to observe the proper chain of command and channel of communication.

Discipline in armed forces is not the same the world over. Japanese discipline is an ardent "faith." The Japanese child is inculcated with the ideal of service and discipline from its earliest days. To die for the emperor is their highest concept of attainment. French discipline is largely administered by N.C.O.'s and depends much more than our own on punishment. American discipline is built up on ideas of personal initiative in the national cause. Our own discipline presupposes a high sense of personal honor, intelligence and dogged determination and, whereas, it does not stifle initiative, its aim is "collectivism" as opposed to "individualism." The Soviet ideal entirely ignores the individual. Their ideal is the "machine." The very fact that there is such a variation in the idea of discipline impresses upon us the importance of a common doctrine within our Air Force—a doctrine conforming to the British ideal. We are lost if every commander and N.C.O. attempts to apply his own pet version of discipline.



« « SPORTS » »

SQUADRON 2, WING 2, REPEATS, HOLDS COMMANDING OFFICER'S TROPHY FOR DECEMBER

2 Squad, 2 Wing, having once tasted the fruits of victory in the Commanding Officer's Trophy competition for October, came right back in November to establish themselves as the first double winner in the history of the competition. 2 Squad, 1 Wing, is in second place, 6 points behind the leader.

Orchids and four stars to the officer and personnel of 2 Squad, 2 Wing, for a grand all-round display in November.

All the signs point to increased inter-squadron rivalry and with hockey about to enter the picture, hotter and hotter competition is expected for the Commanding Officer's Trophy in the winter months ahead.

| WING 1 | | | | WING 2 | | |
|-------------|-------|-------|-------|--------|-------|-------|
| E. & A.T.S. | Sq. 1 | Sq. 2 | Sq. 3 | Sq. 1 | Sq. 2 | Sq. 3 |
| 1½ | 1 | 9 | 1½ | — | 15 | 5 |

* * *

HOCKEY

The Technical Training Centre in St. Thomas has entered a team both in the Ontario Hockey Association and the St. Thomas City League in the hope that it will provide recreation for the many hockey fans attached to the school.

The team is composed of the best hockey material at present attached to the Training Centre and each man has had a previous record in the game.

W/O Downes, the manager of the team, has long been associated with the game, having managed teams in many parts of the Dominion for the past number of years, devoting a great deal of his time and energy in the interest of hockey.

The team is coached by a man outstanding in the field of athletics. F/Sgt. Stanyar has an enviable career in hockey, baseball, rugby, boxing and lacrosse. During the Fall of 1927 he played quarter back for the Sons of Canada, Champions of the Big Three League of the Pacific Coast, and in the Winter of the same year was a member of the Victoria Capitals, winners of the Pacific Coast League Hockey Championship. He was transferred to Camp Borden in 1928, where for three years he was a valuable member of their rugby, hockey and

lacrosse teams. From 1933 to 1937 he played in the Senior City Hockey League of Ottawa, as well as playing the centre position on the Ottawa Roughriders Rugby team. He was runner-up in the Provincial Boxing Championships in 1924 and has competed in track and field events throughout Canada.

The Business Manager, W. O. Hopkins, has had a wide experience in this position on the hockey executive, having acted as such for Air Force teams in the past.

"Robby" Robertson, the goal tender for the Flyers, is a brother of Earl Robertson, who plays the same position for New York Americans. He has played Junior and Senior Hockey in Western Canada for Regina and Calgary and has proved himself an outstanding guardian of the nets in the both games played to date.

"Shorty" Ray will share the duties of goal keeper with Robertson. He has played Senior Hockey with London in the Michigan-Ontario League. "Shorty" has spent much of his time in the atmosphere of Hockey, having practiced many times with professional players.

"Dick" Coss, the husky 170-lb. defence man, played intermediate and senior hockey with Quebec Aces. He is one of the best back checkers on the team and his prowess as a boxer is well known. His cheery disposition makes him a welcome member in any company.

"Andy" Anderson, another defence player, was a member of Montreal Royals Junior Team. He had a tryout with Eddie Shore's Springfield Indians this year and had the Air Force not called him he would have been carried with that team. He is suffering from the result of an injury incurred in the last game and may be off the line-up for the next two or three games.

The British National League makes a contribution to the Flyers in the person of "Bill" Borland, who played in that league for the past three years. He was selected to play on the British Olympic Team which defeated Canada for the first time. "Bill" has been laid up with the flu and may possibly be out of action for the first league game.

Another defence man is "Porkey" Lavigne, who played semi-professional hockey in the United States with Minneapolis and Duluth. When "Porkey" gets into condition he should be a valuable asset to the team.

Innes, another defence player, learned his hockey in the Maritimes. He came up to Lon-

don, where for two years he played in the M.-O. League. He is handicapped because of the necessity to wear glasses while on the ice.

The last but not the least of the defence players on the team is "Frenchy" Lavasseur. "Frenchy" played with Owen Sound last year and with a little more experience in Senior Hockey should prove a big asset to the team.

One forward line consists of Robertson, Andress and Fink. This is known as the "London Line" for the three men were team mates with London in the Intermediate League, and should have many followers in this district when the team plays its home games in London.

Underwood, Bonneau and Trudel form a second forward line. Underwood was a former team mate of Anderson's with Montreal Royals. Bonneau is called the "French-Canadian Spark Plug" because of his energy which never seems to abate. Trudel is another Westerner having played with Portage La Prairie and Winnipeg. "Trudy" possesses the traditional Western speed.

The last line consists of Howden, Goderich and Feldman. "Don" Howden is a Western

Canada boy who came to St. Thomas last year, where he was voted the most valuable player in the St. Thomas City League. He is a good play-maker and tricky stick-handler. Goderich played right wing for Point Edward in the Intermediate League. He has a wicked shot which keeps the opposing goalie guessing. "Darky" Feldman hails from Toronto, where last year he played Intermediate hockey. He is a left winger and is thoroughly conversant with that position.

The ability of the team has been tested, first by their performance against Brantford on November 29th, where they lost a hard-fought battle by the score of 5 to 2, and secondly by their win over Western Mustangs in London on December 2nd. Those who witnessed the latter game can vouch for the fighting power of the team chosen to represent this Station.

However, a hockey team must have support to ensure a high standard of hockey, so we call on every man stationed at the school to back this team of ours to the fullest and place it in the top berth of both the O.H.A. and the St. Thomas City League.

* * *

« STATION STATIC »

"HITLER'S ARRIVAL IN HELL"

By C. P. G.

A meeting was held of those who dwell,
Down in the innermost depths of Hell;
The chairman was one who is known to be pious,
He goes by the name of Old Ananias.

There were murderers, thieves, and Whitaker
Wrights,
And the devil was there to stop any fights;
A number of Germans arrived very late,
But quite soon enough to boast of their fate.

The meeting was held to elect the best liar,
For one whose duties of tending the fire;
A motion was put to elect "Goebels"
Who'd give his attention to it right well.

HITLER then rose and recounted the deeds,
Of his cunning and treachery, while fighting
round Leige;

The faces of all went suddenly white,
When they heard of Dunkirk on that terrible
night.

To exterminate the British was his great desire,
And defied Ananias such stories to beat,
But the chairman replied that he had no desire,
For he thought that HITLER should look after
the fire.

The meeting then voted that all of these crimes,
Committed by HITLER and his barbarous
tribes,
Deserved recognition at the hands of Old Nick,
For the way they had worked the confidence
trick.

So HITLER from Germany got the job on the
spot,
For the lies that he told beat the whole lot;
Even Old Ananias was bound to admit
He'd proven his claim to the bottomless pit.

STATION ACTIVITIES

WINNIPEG NIGHT

(As reported in the *St. Thomas Times-Journal*,
December 16th, 1940)

Seventy-five men from Winnipeg, now at the R.C.A.F. Technical Training School, were entertained at Alma College last Saturday evening when the fun reached a Mexican climax with the breaking of the pinata (the Mexican equivalent of a Christmas tree) and a scramble for the gifts it held.

An interesting feature in McLachlin Hall early in the evening was the presentation by Dr. P. S. Dobson of the flag that had flown over the Y.M.C.A. hut when he was secretary in the R.A.F. at Camp Borden during the Great War. E. R. McEwen, chief of the Y.M.C.A. staff at the Technical Training School, accepted the gift, which will be deposited at the School.

After words of welcome by Dr. Dobson and the presentation, Jayne Turner, with Miss Netta Stewart at the piano, conducted a sing-song. Miss Ann Bartlet and Dora Baillie had charge of the social and folk dances in the gymnasium. Miss Netta Stewart, Helen Shields and Leva Avison were pianists. Refreshments and singing closed a happy evening for which one of the guests moved a vote of thanks.

* * *

STAMP CLUB

A/C Dion, H.

Aims of the Stamp Club

- To foster good fellowship;
- To brighten leisure hours;
- To introduce to the uninitiated the pleasures of the world's largest hobby;
- To create a Station collection;
- To form a medium of exchange for the enthusiasts.

Perhaps you may wonder what is to be learned from studying and collecting stamps. A study of the later Canadian stamps gives a knowledge of various places of interest across the Dominion. The ten-cent carmine-rose depicts the Memorial Tower of the Peace Chamber in Ottawa, while the twenty-cent red-brown stamp shows old Fort George gate at Winnipeg, and so on.

The next time that you see a stamp on an envelope, examine it closely for there is a story

behind each and every one. Note the number of perforations; the color, the texture of the paper, the engraving, and the features which you never noticed before. Airmail stamps are of special interest. For instance, do you know what kind of aircraft is shown on our six-cent airmail stamp? Find out and then come and join our Stamp Club for no dues are charged and no previous experience is demanded, and we shall show you a lot more points of interest.

* * *

THE R. C. A. F. CAMERA CLUB

By A/C Pearce

The Club is still meeting every Wednesday night. The time, however, has been changed to 7:30 instead of 6:30. Its attendance is slowly growing large but there is plenty of room for enlargement.

Boys, that is one place for you to while away your time and gain some mighty good experience at the same time. You will never regret the time spent there. There is something going on there all the time. Age or experience means nothing. It is for all of you. Pay us a visit next Wednesday night and see for yourself. If you come once, you will want to come again. There are all kinds of contests going on. If you have had no experience, there will be someone there to guide you and help you in all your troubles.

Let's see you there next Wednesday. I am counting on YOU.

* * *

FROM THE LIBRARY CORNER

By the Librarian

We are equipped with new bookshelves and have been busy listing and marking several hundred new-old books recently donated to the Library. It is fine to see a number of comparatively recent books among our new acquisitions. Others have been published for some years but are still very readable. Books like Gunther's "Inside Europe," and "Retreat from Glory" by R. H. Lockhart should not be missed. But don't read Margaret Halsey's "With Malice Towards Some" if you are English and believe that all England does and says is too precious for joking; because she'll certainly make you mad. But if you like a joke with a bite to it, read Margaret.

AMONG THE SQUADRONS

Squadron 1, Wing 1

Of course, Squadron 1 Wing 1 has been with us a long time, and the purpose of this survey of the history of the squadron is not so much to introduce a newcomer but to give a summary of the achievements of an old friend. Squadron 1 Wing 1 has been known throughout its history for its excellent "esprit-de-corps and team play," a fact which has been illustrated by its high standing in the Drill competition and its low percentage of offenders against Station rules.

In the realm of sports the squadron made an excellent record. It won the largest number of points in the Wing Inter-Squadron Track Meet, getting possession of the trophy. It also won the Station Inter-Squadron Track Meet and two of its members, Hartley and Hutchinson, were of such excellent calibre that they were members of the R.C.A.F. Services team that won the competition held by the Services. These men were very close to establishing new Canadian records.

The history of the squadron's participation in the competition for the Commanding Officer's trophy is also excellent. They were the first winners of the trophy for the month of August and they placed second for the months of September and October in the total number of points gained in the competition for the four months, August, September, October and November. Squadron 1 Wing 1 placed second to Squadron 2 Wing 2, having 33 points as against 42 points.

In the last month or two, unfortunately, the squadron has not done so well in inter-squadron sports, but it is hoped that it will not be content to rest on the laurels of past glories, but will resume its position among the leaders.

* * *

"THE AWFUL TRUTH"

Many and strange are the stories told in the bays on the morning after the night before. The mob jeers while the foolish squirm. It appears that one of the boys on C floor decided that the conclusion of a night's carousal should be a good wash. All proceeded according to schedule. Soap and water fulfilled their ordained functions and then the time came for the final towelling. Our hero calmly dropped

his towel on the floor, stood on it and dried his face on the floor mat. Such are the wages of sin.

And then there was the chum who calmly prepared for slumber by climbing into his pajamas. The fit did not seem all that it should be but he did not discover that he had his pajama coat on instead of the pants until he found the collar flapping around his nether regions.

Occasionally, the note of pathos enters these stories. Longing for the feel of good honest mud about his feet instead of the polished surface of the corridors, an airman girded himself and, in the midst of a snow storm, went out to view a farm which he thought of buying. The deed was done, the deal was made but we understand that he brought back mud on his boots equal to the value of his first payment.

Unfortunately, other men than the culprits are sometimes victims of these flights of fancy. One of the men got big-hearted. He told the rest of the innocents that he owned six hotels and four boarding houses in Toronto. An open invitation was given to all to be his guests. Such was the simplicity of the aforesaid innocents that they arrived in Toronto and began to look for the above-mentioned six hotels and four boarding houses. But alas and alack, woe is me; sad to relate, six hotels and four boarding houses were lost. Result: many disconsolate Airmen walking the streets of the Queen City.

* * *

RHAPSODY

By A/C Tutton

It had been a glorious week-end, the fleeting hours of a 48-hour leave had gone all too quickly. I can see her now, her silken blond hair and large appealing eyes that gazed on me in wonder as I related my experiences with the Fairey Battle as I wrestled with it during a blinding storm during the course of my duties here in St. Thomas. Yes! I can see her beautiful rounded face and pearly teeth and the snug little restaurant where we had our parting meal. It is all so vivid even the waitress, as she stood there with pad and pencil in hand waiting for our selection of the menu. Yes, the

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waitress; what mannish features, even a blue shaving mark I had not noticed before. How strange! A waitress with brass buttons. Oh! how ghastly. At last I awoke to the horrible realization I had overslept. It was the Sergeant waiting for my name and number.

* * *



"Useful thing around the corridors, SIR!
Think I could get a patent on it?"

* * * *

Squadron 2, Wing 1

HISTORY OF THE FIGHTING THIRTY-NINTH

By A/C 2 Liston, J. F.

On the evening of Friday, November 22nd, there arrived in St. Thomas a happy band of ninety men, henceforth to be known as the Thirty-ninth Entry of the Technical Training School, R.C.A.F., St. Thomas.

To trace this band back to the origin of its individuals would require a complete map of Canada, since our members hail from every province from British Columbia to Prince Edward Island. There is never a lack of conversation in this particular entry for all that is necessary to start an evening's discussion is for a Nova Scotian to pass some more or less disparaging remark concerning the West or

the people in it, or for one of the several Torontonians to start expounding the virtues of Toronto "the Good" in the hearing of a proud citizen of Ottawa, Winnipeg or Calgary.

However, as a group, we may say that we had our origin in Manning Pool No. 1, Toronto, where, after signing up as Aero-Engine Mechanics we were immediately on graduation from the various line-ups, presented with large and very heavy Ross rifles and bayonets and were told that we were now the Security Guard. Then, after a week's intensive training, we were sent away to Camp Borden to enjoy a vacation with the odd bit of guard duty in occasional two-hour stretches — so we were told.

Well, the guard duty was quite all right, except for the rainstorms, freezing nights and tornadoes, particularly on that Monday night when everything in Camp Borden, not tied down with anchor bolts, was lifted into the air and carried bodily to a new location. We understand from the guards on duty that night that heavy bombers took off, training ships fluttered through the air and a freight-car skittered merrily down the track for several hundred yards, all on wind power. But aside from actual guard duty, drills and fatigues rather cut into our vacation time. What with caring for fires all night, sweeping, scrubbing floors, window-washing and potato-peeling, everyone was very happy to hear that finally we were going to start our training in that "palace of training schools" St. Thomas — after six weeks of Security Guard duty.

Then, two days before our scheduled departure, one man broke out with measles and we were all quarantined — for three weeks, we thought. Next the word went around that if no further cases of measles developed in our ranks we would leave as per schedule. So, for the final day of our stay, every man moved about under the suspicious scrutiny of his fellows, knowing that if he broke out in a rash his fate would be a mysterious ending to his military career and six feet of Camp Borden sand.

But no further cases developed, probably due to mass concentration of mind over matter and, on the great day, we presented our cooks with a token of our appreciation, pocketed what was left of our four dollars' part pay (after shelling out one and a half dollars mess fee) and set out for the "promised land," poor but hopeful.

At first glance our wildest dreams seemed to have come true—streamline structure, huge marble corridors, luxurious bathroom fixtures—but then came our first shock. No sheets

and a mattress one thin quarter of an inch thick. Those of us who slept at all awakened with the pattern of the bed springs engraved on our backs. Of course, we became inured to it in a few days and one of our lads found out that he had slept all night on a coat hanger without noticing it.

Our meals were no shock. The case-hardened bacon and sausage are the natural result of having to feed five thousand men. But we really did put in a "beef" that could have been heard back home when we found that since there was no pay, until the end of the month, we would have to live for three weeks on two and a half dollars. Finally, the powers-that-be relented and December 6th became a joyous occasion, except that we had to dress in blues, have pay parade, clothing parade and pose for a photograph, all in the space of two hours. Too bad some of the more decorative members were still on clothing parade when the Entry was preserved on film for posterity.

Never mind! Christmas is come and gone. Maybe it wasn't all that we had hoped for, but it was a whale of a lot better than we had expected. Funny, how things are never quite as bad as they seem.

* * *

HEARD AROUND THE SQUADRON

By Cpl. Tattersall, C. P.

Airman—Say, Sergeant, is this the best patrol wagon you have?

Sergeant—No; but it'll do in a pinch.

Congratulations to all of our squadron boxers for the fine show they put on. Nice work, boys!

Why not project the Air Force song, "To the Stars," on the screen at the movies and give the boys a chance to sing their own song?

Why has the size of the milk bottles been reduced?

* * * *

Squadron 3, Wing 1

* * *

Identification For Mechanics

Their L.A.C. Groupings have been a subject of discussion for some time among the A.E.M. boys. To some branches of the Service, these awards are given after the Group has completed six months of Service. Now we are not saying that they should not be handed out in

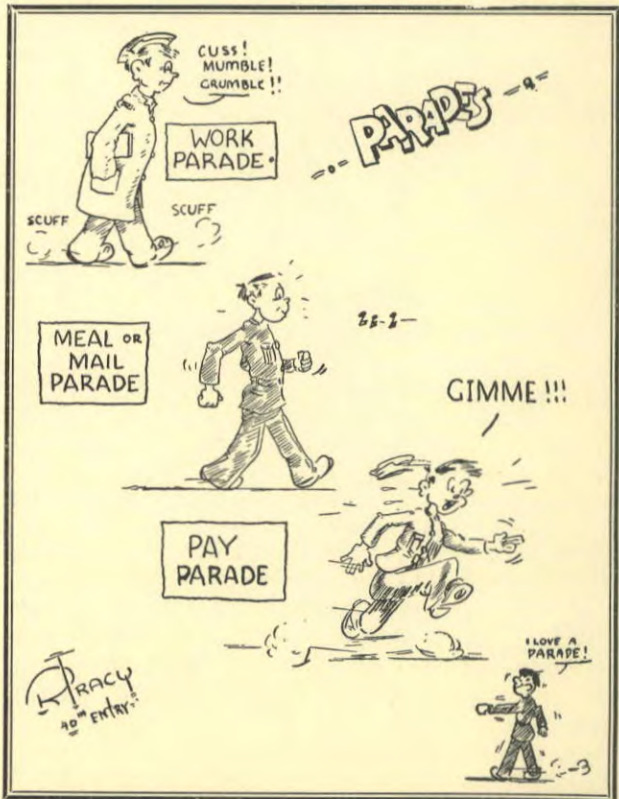
this manner, but we do feel this. The A.E.M. goes through a stiff course here at St. Thomas; he has to attain a certain standard set down by the Trade Test Board and he does not do this without hard work and study. After his course is completed, he is sent out to a Squadron, where, within a certain time and providing he proves himself worthy, he is given his "B" Grouping. The next step, still later, is, of course, the L.A.C. Grouping and he gets his "Props."

It can be plainly seen that the A.E.M. does not acquire these "Props" without a lot of work.

The point of the discussion is this: a member of the aircrew is given, at the end of his studies, an emblem, of one sort or another, on his uniform to show definitely to which branch of the Service he belongs. The mechanic on the other hand has no mark of identification whatsoever to proclaim the fact that he belongs to the A.E.M. Group. His "Props" do not show that he is a mechanic, for do not all branches get these?

We, mechanics, are proud of our trade and of our place in the life of the Air Force. It is for this reason that we would like to see a special tab on our uniforms to show that we are the mechanics, "The men who keep the fliers flying."

* * *



THE AIRCRAFTMAN

TRIED IT ONCE

A certain airman on leave in London went into a club to wile away an idle hour. Looking around, he saw a portly old gent sitting alone. He addressed the old gent with the characteristic courtesy of airmen.

"Pardon me, sir, would you like to join me in a drink?"

Looking him up and down, the old gent replied.

"No thank you. I tried it once and didn't like it."

"Well, sir, would you care for a game of cards?"

"No thank you. I tried it once and didn't like it."

The airman had the tenacity of his breed. "Look here, I have several hours to fill, is there anything you would like to play? How about a game of billiards?"

"Well," replied the old gentleman, "I don't play myself but my son will be here soon and I am sure that he would like to play."

The airman scrutinized him for a while, and then, "Your ONLY son I assume?"

* * *

"JEST RAMBLING"

By A/C 2 Pearce

The noisy 27th is finally getting out from behind that little old eight ball.

* * *

The 40th entry is running the 27th a close second for the title of the rowdiest entry in 3rd Squadron.

* * *

We wonder how Lemon is going to get to London every night after he is posted.

* * *

Mickey, we didn't think that you could do it, but boy you fooled us.

* * *

3 cheers for Ray Tracey and his Cartoons! They are O.K., lad.

* * *

Shh! Don't tell anyone but we sure as H— could use some new brooms!

* * *

I've seen some funny weather but this takes the prize!

It snows steadily for two weeks and suddenly, one night it all melts.

Hey, boys! The girls down in the States really go for the Canadian uniform. And how!

* * *

There must be something in the hospital that I haven't seen yet. All the boys seem to go there. We wonder why.

* * *

We wonder what civilian did Sarg wrong. Boy, does she hate them?

* * *

A new recruit on the Station, looking over a Fairey Battle, was heard asking a Tech N.C.O., "Sarg," do big ships like this crash often?" The Sarg. replied, "No son, only once."

* * *

The other day some of the boys saw a certain F/O in No. 1 Wing cranking his car and exclaimed in amazement, "Sir! Your car is smoking."

To him came a solemn reply, "That's all right, it's old enough."

* * *

The howl heard every night, "Where are those d— buses? Especially on pay night!"

* * *



Squadron 1, Wing 2

EDITORIAL CORNER

By A/C 2 Rose

Since the latest edition of The Aircraftman, the editorial staff has made a number of changes in the publication, all, of course, for the advancement of the paper. Among the most noteworthy of these changes is the fact that the press staff, under the able direction of its Managing Editor, Mr. E. R. McEwen (Director of the Y.M.C.A. Services) here at the Station, has made this paper a personal issue. It has allotted to each squadron a page of its own to report sports, news, current events and happenings in the lighter vein within its own ranks.

So, fellows, now that this is our paper to either make or break, let's put all we have into it and make it go over with a bang. This paper has been increasing in popularity as the months have rolled by and, even now, is anticipated eagerly by the folks in the small towns as well as by our lads on the Station. Who knows, some day our paper may have national recognition. So once more, may your Reporting Staff ask for your co-operation by turning in all items of interest. The following men are anxious to have your help.

Sports—George Yerex, Floor A.

News and Current Events—A/C2 Scrimshaw, Floor A.

Editorials and Humor—Chas. Rose and S. V. Patterson—Floor C.

* * *

STATIC AND STATISTICS OF E. 4.

(Nester's Angels)

By A/C 2 Patterson

It's no wonder that Corporal Nester is getting deep creases in his forehead now that E4 (Nesters Angels) are nearing the Trade Test Board and General Duties.

* * *

We were sorry to hear that one of our would-be sheiks (the self-styled Junior Electrical Engineer in person) had to push the big 1940 Packard (? ?) up and down Talbot Street all one evening, and him with that serious foot injury compelling him to take the tunnel to and from class each day for the past several weeks.

* * *

Any time you want transportation to or from anywhere on the Continent get in touch with E.4's Minister of Finance and Transport who operates a late Model 29, two-tone Chev.,

heater, radio and tire repair kit included. He'll even allow you to help push, all for one low price.

We're rather surprised that Corporals of Squadron 1, Wing 1, made the mistake of taking the passes away from E.3 on Friday, mistaking them for I.3. Because, after all, I.3 are really an intelligent looking group of men.

* * *

SPORTS

By A/C 2 Yerex

I feel sure at some time in your life you have watched a sport and said to yourself, "I wish I was in there. I'd show them how it's done." Well, that's the kind of spirit which seems to be lost in No. 1 Squad. It isn't lost, though. Many of our fellows go over to the sports and watch them but never get into them. By just looking or listening to the fellows you can see or hear that they are very much alive. If this energy could be brought into a team or teams of the particular sport you like instead of being wasted in the halls and your bays it would surely cause some trouble for other Squads. I am sure the other Squads have heard what you can do in sport but always remember "the proof of the pudding is in the eating." Gentlemen interested in playing basketball, volleyball, badminton or boxing are advised to see Corporal Miller. Running shoes will be supplied by our Orderly Room.

* * *

JOKES

A bigamist is a man who makes the same mistake twice.

A Flight Sergeant was walking down the street when an old lady asked him what the chevrons meant. He said the crown meant a wife and the stripes, children. The next day she saw a Sergeant and broke her umbrella over his head.

* * *

**WITH APOLOGIES
TO SIR WALTER SCOTT**

By George Yerex

Breathes there a man
With soul so dead,
Who never to himself has said,
Why aren't our colors flying?

Whose heart has ne'er
Within him burned
When he has seen
What victories other squads have earned.

If such there breathes,
Go! Fetch him in,

THE AIRCRAFTMAN

For he will ever,
Ever be,
The man our C.O. likes to see.

P.S.—It's the point not the poetry that counts.

* * *



* * *

Squadron 2, Wing 2

EDITORIAL

By A/C 2 Cogley

The majority of the boys promise themselves in the very near future they will join the discussion, hobby, or sport groups. However, it seems when they do that will be the frosty Friday.

If after school they were to immerse themselves in some of the diversions, even though it be strenuous, they would feel like a new-washed morn. They would have more restful sleeps and be capable for deeper thought, due to a balanced mental and physical state, leaving a reserve on either side for that critical moment.

* * *

THE TWENTY-THIRD

By A/C 2 Ellis, C.

The 23rd are a bunch of boys
Who love to fight and make a noise.
That Evoy is one of the worst
(The boy who claims he's never curs'd),

But we all know him far too well,
We know he's headed straight for —
Dunbar, the sap, is just as bad,
He plays the man and acts the cad;
He only thinks of women and wine,
But he has someone who'll ketch him in time.
Brother Green our passes must sign—
If he don't get them, hear us Whine.
Gray is an innocent lad from the West
Who claims he's bad but is the best.
There's canyon-mouth Ferris—
We wish sometime his voice would perish.
Then there's Dixie Dean, a wrestler fine,
But his little wife makes him toe the line.
Duperon, too, is a fighter fair
When he meets with drink you had better beware.

Eversfield's from Chilliwack,
At piloting he's had a crack;
We don't know that he know's so much
For with instructors he gets in dutch.
Mutt and Jeff are Jorgy and Freeman,
The way they argue is scarcely human;
But underneath they're really friends,
And for all their fights they make amends.
Fehler, the dope, is a poker fiend
And from that game he'll have to be weaned.
Then there's Ellis, who is one big noise;
He's sure to be mobbed by a bunch of the boys;
If the noise itself wasn't bad enough,
There's rotten poetry and other stuff.
Hughes from the North is quite a wit,
But at times we know he blows a bit;
Just the same, he's a real smart man—
One day he'll stop old canyon-mouth's bellow.
Dorsey is a playboy type,
Now he's married, so his time is ripe
To let him know he's not the boss,
For now he has his wife to cross.
Then old Falkins ends our list,
He's married and thinks life's a bliss.
Wait until that posting day—
Like all the rest, he'll go away
To blow old Hitler off the map.
Boys, will we give that guy a scrap!
And the ones that give that heel the bird
Will be the boys of the 23rd.

* * *

"THE BATMAN"

By A/C 2 Swain

How many of you realize that up till a few weeks ago we had in our squadron a very famous personality by the name of Cecil McKenzie.

Perhaps hearing him referred to as the Batman will recall to you a much publicized young man, who with a pair of fabric wings attached to his arms and a webbing affair strapped between his legs in the form of a fin has been bailing out of aeroplanes at 10,000 ft., swoop-

THE AIRCRAFTMAN

ing, soaring, gliding to the earth, to the amazement of thousands upon thousands of spectators in the United States and Canada.



Cec is Canada's only "Batman"; his Batwings are the largest in the world; they have $3\frac{1}{2}$ degrees dihedral and a 2 ft. sweepback. The wings are constructed of duraluminum covered with aeroplane fabric. Cec attains such a terrific speed during his descent, averaging 90 miles per hour, that he finds it necessary to wear two parachutes in order to cut down his landing speed. Before bailing out from his plane, his Batwings are locked in position; the downward dip is controlled by maneuvering the webbing which stretches between his legs; this webbing acts as his rudder.

Before turning into a Batman, Cec made over 200 parachute jumps. He had been flying for thirteen years, had even built a plane which was government tested and licensed. Previous to joining the R.C.A.F. he was giving parachute folding and jumping instruction.

Would you believe it, Cec's one ambition in life is to be able to discard his parachutes and complete his landing by using only his wings and rudder.

Ed. Note: Instructions will be given in the drill hall the first frosty Friday in the new year on "Batwinging."

* * *

SPORTS

A Tribute

We can think of no finer way of making our sports debut on this page than by paying tribute to a few men who have been the main cogs in our successful drive for the Commanding Officer's Trophy.

A/C2 Burr, Cameron, McCleod, and Breathit, we thank you for your splendid efforts and wish you the best of luck in your new postings.

A Knock

The tribute was directed toward 3 or 4 air-

men; the knock is directed at the whole Squadron, excluding the O.C. 2 Squad men have been conspicuous by their absence at the various scheduled games in the Drill Hall. We would like to see some organized support given to the boys. Read your Notice Boards.

A New Sport?

A/C2 Cogley of Bay 6C, 2 Squad is trying with the support of the Y.M.C.A. to organize a club to learn the art of Foiling. Anyone interested in the sport please communicate with the Station "Y" office.

New entries interested in any sport contact Corporal Gaudet in the Squad Orderly Room.

Tally-ho till next month.

* * *

BREEZEY BITS

Having a stentorious voice is O.K., but making it echo half the night is K.O. "Hi, Dutch."

* * *

We wonder who the airman watching the sports with the O.C. is? Could it be the Little Man Who Wasn't There?

* * *

Does a late pass entitle bearer to arouse his bay at 2 a.m.?

* * *

Our Group Picture

Airmen sitting near the O.C. (during picture) make excellent prospects for the photo salesman.

* * *

The well-known Whistling entry OO have quite a number of Nelson Eddy's also. Keeping in step is their nemesis.

* * *

The lad in the 40th entry who doesn't know the difference between the Air Force and Major Bowes hour. Step out, Son.

* * *

Potpourri

The centre of pressure of the weight of your coat while hung on a hanger is located at the point where it comes in contact with the hook of the hanger—say, the nail on the wall, you high-hat.

* * *

Squadron 3, Wing 2

* * *

A NEW YEAR'S MESSAGE

By Corporal A. W. J. Carroll

By the time this reaches press, Christmas will have come and gone. For many of us we

THE AIRCRAFTMAN

will have put a momentous year behind, a year which we will never forget, a year of unselfish sacrifices for the right to live in freedom. A year in which we have prepared to fight for our very lives, the lives of our women and children and our homes. Let us take heart, before another Christmas comes around we will have crushed to and into the earth that hideous monster that threatens us. The world and heavens will soon resound with the great victory cry: you and I and others will be proud to have done our part: a new and greater history will be written.

Before I take leave, please let me quote an extract from a story on "Hitler's Rise and Madness," by Captain Fritz Von Ulrich (which isn't his name), former righthand man of the Fuehrer and now in exile.

"The mad beast of Europe must be destroyed. For Hitler is mad. Insane — with an all-consuming lust for power and destruction. I should know—I who, for seventeen years, devotedly served and supported Adolph Hitler. I who obeyed him blindly. I who revered him like a second Messiah. 'God help me.'

"I who heard the success-surfeited Marshal Goering tell me of Hitler, 'For his (Hitler's) own good and protection we must keep him isolated,—protected, you understand,—against himself. And sometime soon,—again for his own protection, you understand,—we may have to . . .' Goering made a significant gesture."

So here's wishing, as with all the fervency of a freedom loving Airman, that soon, sometime real soon, the rest of that sentence will be finished.

To our Officers and fellow Airmen, this writer and the squadron send our best wishes for a happy New Year; may everything you wish for come true; may the new year see us at our posts, fighting for that which is our heritage and our children's.

* * *

HERE AND THERE IN SQUADRON 3, WING 2

*By Cpl. Carroll, A. W. J., and
A/C 2 McSorley*

The editorial on our Commanding Officer, Group Captain R. Collis, proved interesting and enlightening. In view of the fact that there are thousands of men on the Station new to the service, the editorial was timely. It's nice to know something of the background of the officers who make this place function; here especially, where one hears of those "up front" yet knows nothing of them. This armchair

pilot right now bids for more of these minute biographies.

It's nice to return to this column again after an absence of several weeks to find that our Station paper has not only increased in volume but that a greater interest is manifested in it, as evidence the numerous contributions, all very interesting and in most cases constructive.

Orchids to No. 2 Squadron, this wing, in winning the Commanding Officer's Trophy; they did a splendid job. We are sorry that it wasn't our lads that made the grade, but we are pleased that the wing produced a squadron that did. Guard your step, though, for 3 Squadron will be right up there fighting, this month, and, if current rumors are concrete, we may have the pleasure of taking it away from where it now rests.

Plane facts are news to many and any news of a continental nature is always interesting, but how about the Canadian field? There is a wealth of material here for reporters to dig into. How about our Roy Browns, Bishops, Hollick-Kenyons, "Wop" Mays, "Punch" Dickens, and countless others who have played vital parts in Canadian aviation? What about our Air Force and the men who made and kept it what it is today? I'm sure we would all like to know more about them.

I'm told No. 3 Squadron is accepting the challenge of No. 2 Squadron, this wing, and will attempt to pull them off the pedestal which they now occupy through means of the following qualifications: One battling Irishman in 135 lb. class; an undefeated fast-working basketball team that possesses plenty of oomph; two well-experienced badminton players who possess speed and are in the pink of condition; a 160 lb. wrestler who will out-grunt and out-groan any man, any weight, either Olympic or Catch-as-catch-can rules; one weight lifter who lays corner-stones single-handed; a speed skater who can really sizzle the ice. Hot stuff, boy!

Heard on a Cook's tour of the Station:

Paging F/Sgt. Snider: "Now is there any exchange on razor blades?"

* * *

"If you insist on picking my size, I wish you'd punch a few holes in front so I can see through."

* * *

"I'd like a pair of low rubbers for my oxfords."—Grrrrr.

"They tell me that the lad who designed these cute 'Yukons' died of a swell head."

The cultured Sergeant (so we hope) who was chastising a few Airmen who held up the south wall:

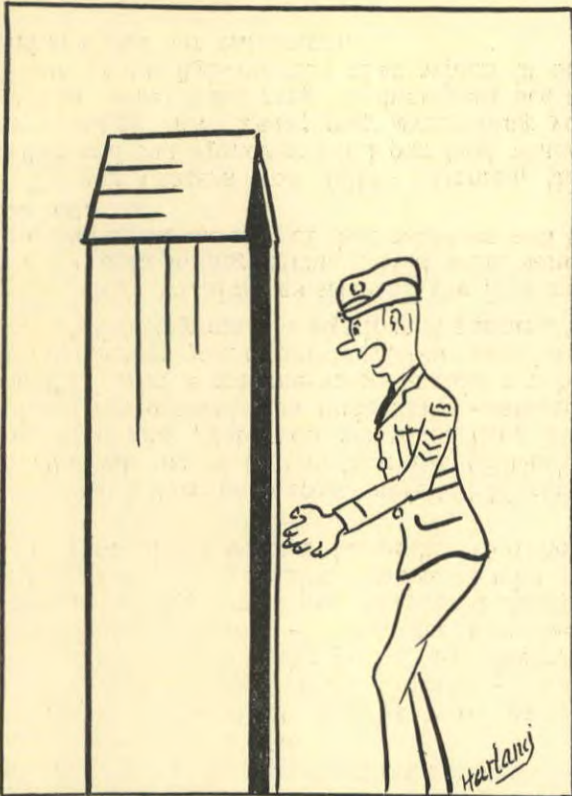
"Fellows, listen to me:

"Lost somewhere between sun-set and sun-down, two golden hours, each set with sixty diamond minutes. No reward offered, for they are gone forever.

"Now move on!"

That'll be the day, eh fellows?

* * *



"Listen, Stupid, that's a sentry box...not a -"

* * *

*Equipment and Accountant
Training School*

HELLO AND GOOD-BYE

By A/C 2 Bricker, J.

Early in January, the 13th Equipment Class and the 5th Clerks Accountant Class will be posted to the various stations and units throughout Canada. There they will receive

further training, prior to being sent overseas. It will be with genuine regret that many of us will say good-bye to our new-found friends because this group, formed of men from every walk of life, have very quickly welded themselves into a homogeneous group.

E. & A. T. S., through their editor, would like to thank our instructors for their able teaching and the efforts they have made to make the course an interesting one. Our thanks also to the boys who through their erring ways have added a touch of humor to barrack life and to A/C 2 Bronfman, G., and A/C 2 Clarke, E. V., whose co-operation have made this page possible.

It is only when you get to a Training Depot like the one here that you first realize the number of essential groups, trades and units that go together to make a well-oiled fighting machine. The E. & A. T. S. speaks as one small cog in hoping for an early and victorious peace.

* * *

DISCREPANCY REPORTS

One of our A/C2 received a letter from his mother in reply to the one he wrote home telling his family that there were no Christmas leaves granted and therefore he'd have to go A.W.O.L. or he wouldn't be home to collect his stocking.

Mother very feelingly replied in this gem: "Why don't you see the man in charge? I'm sure he will arrange for you to come home to me for Christmas."

* * *

Before the Bays were Rearranged, a lot of self-appointed F/O's appeared. One of these B.B.R. F/O's is not keeping the boys awake at night any longer. He says the bathtub full of cold water and he in it with pyjamas and dressing gown . . . don't go well together.

* * *

What certain young man is courting what certain young lady in London, and has the romance died because of the non-arrival of car and insurance. There is one thing we know and that is that Romance and High X Marks don't go together.

* * *

Why do sore feet and calouses keep some people off route marches but not stop them (him) from playing basketball in St. Thomas against the girls. Maybe one offers a rub down?

* * *

Have just learned that we have 31 clerks accountants and 157 equipment assistants. Don't understand how 31 men are going to be able to straighten out the vouchers that 157

THE AIRCRAFTMAN

men are going to mess up—but I understand there are hundreds of C.A's throughout the Air Force. Maybe the 157 men are sent out to balance the mess.

* * *

Seems that the war in St. Thomas is between the A/C2's and their N.C.O's.

REASON: St. Thomas' fairest.

BATTLEFIELD: Restaurant, Grand Central Hotel.

RESULT: No hits, no runs, no errors, no scoring.

* * *

The C.A's are all of the opinion that it is no longer nice to sleep in, in the morning. All stayed in bed till 6.45 a.m. the other day. Result, en masse open arrest. Oh, for the life of Riley.

* * *

E. and A. T. S.

We all came down from Manning Pool
To learn Equipment at the T. T. School,
And now we slave behind these bars
Sending all Demands to the I. and R.

* * *

First it was Issues and then a Demand,
But we obey our Flight to the last command.
Tall, Dark and Handsome, he holds the room—
He with his lectures and we with the broom.

We must wear blues while staying here,
But what can you do when you spill some beer.
We have just one suit, keep it clean they say,
And yet sweep floors and clean the bay.

But when we leave for the East or West
Our blues will have a well-earned rest,
During all the day we will stay in brown,
And only dress up to see the town.

Through these pages, when the New Year
comes round,
We would like to say to the new friends we
found:
We have enjoyed our stay, and we wish you the
best—

A Happy New Year, and a pass in your test.

—E. V. C.

« DO YOU KNOW? »

That the Y.M.C.A. movies are being shown every Tuesday night in the Hospital. Operators A/C Salt and A/C Eaton deserve a hand for volunteering for this double duty.

* * * *

That two of the three Canadians to win Victoria Crosses in the air during the last war were from Manitoba.

* * * *

That the Station Stamp Club is going to donate all extra stamps which it collects on the Station to the Red Cross so that the proceeds may be donated to war work.

* * * *

That although aerial warfare was conducted on a minor scale compared to other forms of combat, nevertheless, from 1914 to 1918, the British Air Forces destroyed 8,000 enemy aircraft.

* * * *

That not long ago, sand-hogs and deep sea divers used to have a monopoly on the painful, crippling and sometimes fatal

ailment known as the bends caused by a sudden change of air pressure. Today, high flying pilots have to guard against these same bends.

* * * *

That the Oratorical Club holds weekly discussions on current events. Come out and keep up with the world.

* * * *

That Padres Howard, Davies and Porter are most happy to have airmen drop into their offices for a chat?

* * * *

That among the top 12 of Canada's air fighters in the last war, five were Mcs. They were McLeod, McCall, McElroy, McKeever and Maclaren.

* * * *

That you are invited to join the "Toc H" Club. For details, please contact Corporal Baker, No. 2 Squadron, 2 Wing.

* * * *

That for a number of years many wealthy New Yorkers have been going to work in their

THE AIRCRAFTMAN

private seaplanes, making it possible to commute daily from their homes as far as 120 miles away. Landing facilities are available on both the Hudson and East Rivers, close to Wall Street and Times Square.

* * * *

That the Baptist Church invites the Airmen to attend their Fireside Hour held every Sunday evening following the service.

* * * *

That the first American coast-to-coast air mail flight started on September 8, 1920, from Mineola, New York, arriving in San Francisco three days later.

* * * *

That Airmen desiring accommodation for their wives and families in St. Thomas may secure a list of rooms for light house-keeping, apartments and vacant houses from Padre Porter, Padre Howard or E. R. McEwen, Y. M. C. A. Secretary. The St. Thomas Times-Journal has provided us with a list of over 100 places offering accommodation to Airmen. Many have found satisfactory quarters with a minimum of trouble through the use of our catalogue.

* * * *

That your uniform gives you full membership privileges in any Y. M. C. A. in Canada.

* * *

"PLANE FACTS"

By L/AC Harland, M. W.

Our *crazy* airmen are unnerving the Germans. According to Edwin Hartrich, Columbia broadcasting man who has just returned from Berlin: a German pilot told of a night air raid over Britain in which the Germans were attacked by a single Spitfire and driven back to their base. This *crazy* Britisher followed them home, roared down over the airport and strafed them. The same German told of another *crazy* man in the R.A.F. who causes plenty of trouble, too. He flies on the Channel coast patrol, blasting away at them, always with a big cigar sticking out of his mouth.

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Canada's air warriors in the last war were crack-shots. They practiced fanatically during their spare time to keep their aim true.

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American pilots are being hired to ferry bombers across the Atlantic, at \$1,000.00 per

trip. The same job netted Lindbergh about \$1,000,000.

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Germany has protested regarding British aircraft passing over Switzerland. The Swiss say that if Germany cannot stop them, how can they?

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Air Marshal William Avery Bishop, V.C., D.S.O., M.C., D.F.C., achieved a record far surpassing that of any other pilot in any of the world's forces: he shot down 25 enemy airplanes in 12 days. In all his incredibly hazardous career as a fighting airman, he was never wounded.

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At the top of the Empire State Building, 1,075-foot structure in New York City, is a mooring mast for airships. Whether it was built for utility or publicity is not known, but a few years ago a Goodyear Rubber Company experimental and advertising blimp made a two-hour attempt to tie up there, without success.

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Some of the newest aircraft can ascend at the rate of 5,000 feet per minute.

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On one of their exploring trips, the late Martin Johnson and his wife, Osa, landed an amphibian near a tribe of natives who had never seen an airplane. The chief of the tribe wanted an egg of the great bird so he could have it hatched.

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United States airmen are stationed on the Hawaiian Islands in considerable strength. Actual figures are, of course, unavailable, but two tons of turkey were fed to them on Thanksgiving Day. At one pound each, that comes to a few thousand men.

TECHNICAL TOPICS

AIRFRAMES INSPECTION and MAINTENANCE

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FOREWORD

Military experts state that a small, well-trained fighting force is of much greater value in this mechanized age than a large, poorly-trained force. This holds true for the British Air Force.

Our answer to the production of thousands of enemy aeroplanes is not only *quantity*, but *quality* of same. The same applies to the men who operate and maintain them.

The Empire Air Training Plan will turn out thousands of trained mechanics, and as time goes on, both the number of mechanics and their standard of skill will become greater.

Each day comes news of more daring exploits of the intrepid personnel of the British Air Force.

These exploits are made possible by the skilled airmen who maintain the aircraft and the courage of the air crews. The greater the standard of excellence of the ground crews, the greater will be the striking power of our aircraft, as the pilot who knows his aeroplane is properly and carefully maintained, has greater confidence in his aircraft and, therefore, greater daring.

While the work of our ground crews may be less glamorous than that of the air crews, good maintenance is just as important as good flying as it is the former that makes the latter possible.

Therefore, let the quality of our "Maintenance" reach ever towards perfection, so that the pilots may feel that they have, not only the benediction of their country, but the benefits of her most highly skilled mechanics.

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INTRODUCTION

The military aeroplane — essentially of a very high performance as a weapon of war — depends largely in its routine operation on a specially organized system of Maintenance and Overhaul but, before giving an outline of this system, it is advisable to deal firstly with the various stages of development and, secondly,

with the organization which has been found necessary to ensure its successful operation.

In the early stages of military aviation so much of the time of each aircraft was spent in the hangar in adjusting the rigging and the engines and getting them into satisfactory flying trim. This was largely due to the fact that in those early days systematic methods of maintenance and overhaul had not developed to the stage they have reached today.

Different people had different ideas, and work was carried out at the discretion of the individual, largely because of their different experience and in the absence of accumulated records of systematic operation.

The "Serviceability" of an aeroplane and the safety of its occupants are dependent not only on the correct running of the engine but also on the functioning of fuel, oil and cooling systems, the correct operation of controls and moving parts, and the ability of each part of the airframe structure to withstand the varying loads imposed upon it during take-off, flight and landing. Deterioration, mostly caused by inconsistent cleaning, corrosion, defects inherent in design, defects due to workmanship or material, lack of lubrication, excessive wear and cracked or broken parts may all contribute to or cause an accident. It is essential, therefore, to ensure that every part of the aeroplane is inspected at regular intervals and also where any abnormal stresses occasioned by such incidents as heavy landings, etc., are suspected.

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INSPECTION OF AIRFRAMES

Object of Inspections

It should be realized that inspection is only a means to an end and not an end in itself. It is of little use to discover a defect if the defect is not remedied before the aircraft is allowed to fly. It can be said, therefore, that the object of inspection is to disclose the necessity for doing work on the aeroplane. This work is termed "MAINTENANCE." It does not cover the work to be done during "OVERHAULS."

System of Inspections

Normally, a staff of qualified mechanics is employed to do inspection and maintenance. However competent and experienced this staff may be, there is always a possibility of a vital part being overlooked unless an organized system of inspection is followed. Moreover, both

time and labor are saved if the work is done systematically.

Influence of Design

The system adopted and the ease with which inspections can be done will be governed to a large extent by the design of the aeroplane. Unfortunately, in the race for performance, the development of new methods of construction and the necessity for fitting complicated equipment in modern aeroplanes, designers have so much to think about that the case of inspection and maintenance tends to be regarded as of secondary importance.

Consideration of the following points at the early design stage would, however, do much to simplify the task of the inspectional staff and contribute towards efficient maintenance:

1. The materials and type of construction employed, their liability to deterioration, corrosion and damage, and the facility with which they lend themselves to repair.

2. The selection of an efficient anti-corrosive treatment and its careful application.

3. The provision of suitable inspection points or doors giving easy access to parts requiring frequent attention. These should not be limited to working parts, *i.e.*, controls, etc., but should allow access to attachment fittings, liable to fracture after heavy landings, pipe unions, tanks where they are fitted inside the mainplanes, and generally permit inspection of the interior structure of all parts of the airframe.

4. The grouping and accessibility of lubrication nipples.

5. The provision of adequate bearing areas for working parts.

6. The accessibility of instruments, equipment and auxiliary units.

7. The fitting of replaceable bushes to obviate the necessity for oversize pins or bolts.

8. The necessity for interchangeability of all parts or components.

Scope of Inspections

As has already been stated, the main object of inspection is to disclose the necessity for doing maintenance work, but whatever system is adopted it must also cater for refuelling, lubrication and other essential services. It must be framed to reveal defects due to faulty design, material or workmanship, excessive wear on bearings and working parts, and deterioration or corrosion in their early stages. It should impose the least restriction upon flying; be designed to eliminate extensive partial overhauls likely to result in protracted un-serviceability; obviate dislocation due to change of inspectional staff and be co-ordinated with

any defect or modification procedure. In short, it must provide for periodical inspection and progressive repair and replacement.

Periodical Inspections

In the choice of a system of periodical inspections, many factors may have to be considered. Possibly the most important are:

1. The type of aeroplane and construction, *e.g.*, whether landplane or seaplane, and whether it is of wooden, metal or composite construction.

2. The operations or service on which the aeroplane is employed and the climatic conditions under which it is operating.

3. The nature and surface of the landing grounds and the housing facilities provided.

The efficiency of any system will depend on its possibility to allow for varying conditions. Experience has shown that it is practicable to build up schedules of inspections for each individual type from a standard base and to frame the maintenance instructions to give the necessary flexibility.

Suggested Basis of Periodic Inspections

There are probably several bases upon which a system of inspection can be compiled, but in general, the choice will lay between flying hours or time. It may be difficult to decide which of these is more appropriate. Refuelling, lubrication, inspection of working parts, and of those parts liable to failure from vibration or shock are primarily dependent on the hours flown; on the other hand, liability to corrosion or deterioration is mainly a question of time.

It is usual to provide for inspection of aeroplanes in continuous flying service on a flying hour basis, as the time basis tends to be restrictive. The scheme can always allow local application of a time basis to provide for periods of little or no flying, or to cover any special climatic conditions which might render the aeroplane particularly susceptible to corrosion or deterioration. Where inspections on a time basis are introduced to meet special circumstances they should be complementary to a standard scheme of inspection. For example: where an inspection on a flying hour basis is due before the time inspection, the former should have preference. There is, of course, no need to duplicate the work when inspections upon a time basis coincide with inspections upon a flying hour basis.

The inspections should be organized in groups in a series of graduated operations in the form of a schedule; a typical example will be given later. At best, these periodical inspections can only disclose defects due to normal wear and tear; special inspections will have to

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be made when it is suspected that damage has been occasioned by abnormal stresses during handling, taxi-ing, taking off, flying manoeuvres or landing.

Periods Between Inspections

In this article it is assumed that the flying hour basis is accepted. It remains to determine the most suitable intervals between inspections; any attempt to fix these arbitrarily is bound to lead to controversy. It is proposed, however, to examine a standard system which can be adopted and applied to all types of aircraft and under all conditions of operation. Experience has shown that inspection daily, between flight, and at intervals of 10, 20, or 40 and 120 hours flying is a practical base for initial compilation of an inspection schedule. At first sight it may appear that to call for routine inspections at such frequent intervals is unnecessary, particularly when a large reconnaissance aeroplane or flying boat is making one flight of 10 hours or more each day. The principle applies, however, if the inspections are progressive and inclusive, *i.e.*, the work to be done at the longer periods should include that scheduled for each of the shorter periods. For the large aeroplanes mentioned above, the daily, between flight and 10-hour inspection should be combined into one inspection.

It will be noted that the periods between inspections are based on 10, 20 or 40 and 120 flying hours. This is purely for the purpose of example. As it is obviously the desire of all aircraft operators to extend the flying hours between inspections and so increase the time spent in the air and not on the ground. Therefore, it will generally be found that aircraft of modern design, after practical service trials, have periods between inspections extended above those shown here.

Daily and Between Flight Inspections

The daily and between flight inspection are primarily intended for aeroplanes which are making a number of short flights at irregular intervals or for aeroplanes employed in flying training, where a number of short flights are made every day.

10-Hour Inspections

Well-designed and well-constructed aeroplanes should be capable of standing up to flying stresses for at least a period of 20 hours but, nevertheless, a 10-hour inspection is advisable during the early stages of the life of an aeroplane. Once, however, sufficient experience has been gained of the behavior of the aeroplane it is more than probable that this inspection may be unnecessary. If it is found to be superfluous the inspection should be eliminated

by transferring the operations either to the daily inspection or to the 20-hour periods, whichever is the more suitable. Instructions should be framed to permit this when the inspectional staff are satisfied that it can be done with safety.

20, 40 and 120-Hour Inspections

Again it may be found, as the result of experience, that inspection of certain items in the original schedule are either unnecessary or are called for too frequently. Where operations are unnecessary they should be eliminated; where they are over-frequent they should, if possible, be transferred to a later period. The standard intervals, however, must be adhered to once they have been fixed. If, for instance, it has been found that some items in the 20-hour inspection could be transferred with safety for a further 10 hours but not to the 40-hour inspection, it would be better to retain them in the 20-hour period rather than to complicate the system by introducing a special 30-hour inspection. It is quite impossible to compile an initial schedule for any aeroplane which will not require some alteration from time to time. It has been emphasized previously that the system must be flexible and capable of adaptation to meet local conditions.

It may also be necessary to allow some latitude to delay inspections when the aeroplane is required for a special flight. This, however, must be carefully controlled; any delay in the inspections up to the 20-hour period should be of short duration and not allowed to affect the hours at which the 40 and 120-hour inspections are due.

Progressive Repair and Replacements

It is essential that any work found necessary at an inspection should be done at once. This applies even to minor jobs, such as the removal of slight corrosion. Any tendency to postpone maintenance work disclosed at one inspection to a later inspection period will lead to an accumulation of work and, possibly, to a protracted period of unserviceability, during which the aeroplane cannot be flown. If the system is to be efficient and economical, the instructions should ensure that both inspection and maintenance work are done progressively.

Grouping of Inspections

It has already been indicated that some method of arranging the inspections in well-defined groups would be the most efficient. The modern aeroplane and its accessories form an extremely complex entity, and without a definite system of grouping the problem of maintenance is liable to be unnecessarily complicated. Correct selection of the groups will tend to ensure that the aeroplane is adequately

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inspected, and reduce considerably the possibility of any points being overlooked. It is also a most important factor in reducing the time taken to do the inspections. By suitable arrangements of the groups and the operations inside each group, in a regular sequence so that they are progressive as the mechanic moves around the aeroplane, the necessity for making several visits to the same part of the aeroplane is obviated. Moreover, it should be possible to employ a number of mechanics of the same or different trades to do inspections at the same time, with a minimum risk of interfering with one another, again offering a reduction in the length of time necessary to do the inspection. Reference to the specimen schedule will show how these points have been considered in building it up.

The complexity of the modern engine installation, providing as it does a source of power for various electrical, hydraulic and pneumatic services used to operate the airframe component such as retractable undercarriages and flaps, renders it difficult to separate the engine schedule from that of the airframe. It is not easy to say where one ends and the other begins. In practice, however, it will be found that separate schedules can be drawn up. The same principle applies to a lesser degree to wireless or any other special equipment which may be fitted to the aeroplane. Possibly the most satisfactory way of dealing with this difficulty is to make the primary division of the inspection according to the trade classification of the inspectional staff employed, *i.e.*, to make Engine and Airframe Mechanics Schedules, etc. It may then be possible to subdivide the aeroplane into the following inspectional group to provide a convenient and practical arrangement:

Airscrew
Power Plant
Undercarriage
Cockpit and Cabins
Fuselage and Hull
Tail Unit
Mainplanes

This method has been used in the specimen schedule for the Airframe Mechanic.

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PREPARATION OF SCHEDULES

It is now possible to examine in detail the method used in compiling the specimen schedule. The basis is one of flying hours and the grouping, as indicated in previous paragraph. It is usual to repeat the main essentials to each schedule, something on the following lines is all that should be necessary:

1. This schedule describes the technical detail of routine inspections necessary in normal circumstances. It does not absolve the inspectional staff from doing any additional work which may be necessary.

2. The details of the inspections are given in progressive form and for any period, the complete inspections will be obtained by adding the detail for all the shorter periods.

3. The sequence of operations should be followed as far as possible, and the appropriate engineer is responsible that no operation is missed.

4. Every effort should be made to do the inspections at the times stated. Any latitude in these times will only be allowed in an emergency.

5. Amendments to inspection schedules are only made with authority, as a result of experience or to meet local conditions.

The technical information for compiling the original schedules is obtained in the first instance from the designers and manufacturers of the particular aeroplane, with experience of similar types previously in use taken into account. The peculiar characteristics of the aeroplane and any special equipment with which it may be fitted must be taken into consideration in conjunction with the following factors:

1. The necessity for each inspection operation.
2. The most suitable tradesmen for the work.
3. The appropriate aeroplane group.
4. The sequence of operations that will lead to the most efficient work.
5. The ability to perform the operations with the standard tools and appliances which are available.

Every entry in the schedule should show clearly what defects are to be looked for and the particular point at which defects are likely to occur. An indeterminate entry, such as, for instance, "Inspect the aileron controls," is useless. On most types of aeroplanes the aileron controls are not readily accessible and a considerable waste of time may occur in tracing them and examining them in detail when possibly inspection at two or three points would suffice.

A study of the manner in which this inspection has been carried will serve to illustrate these points.

The first step is to determine what can go wrong with the controls. The most likely troubles are: lack of lubrication, wear of working parts, fraying of the cables and looseness

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or unsecurity of attachment points. Attention should, therefore, be directed to these. Next, the points on the controls at which these faults may occur. The parts requiring lubrication are listed by the designer or manufacturer and a simple description of their positions should be given. Wear and fraying are most likely to occur in fairleads or in the vicinity of pulleys. The position of these should be defined and also the position of the attachment points. The next stage is to determine the intervals or periods between which inspection of each part is necessary. Experience has shown that this varies for each point and that the inspection can be spread therefore over the 10, 20 or 40-hour periods according to their importance. Finally, it is necessary to ensure that the inspectional operations are allocated to the correct groups, and that the sequence of operations inside each group is arranged so that the work can be done efficiently and with the greatest economy in time and labor.

The aileron controls begin in the cockpit; this is one of the suggested inspectional groups. They continue and end in the mainplanes; another group. The inspection can now be correctly subdivided, and in the schedule becomes:

INSPECTION EVERY 10 HOURS

Cockpit and Cabin

Inspect for security the aft end of the aileron torque shaft and the bolts securing the joint to the spar. Examine the chains for lubrication.

NOTE: Access is obtained through the door in the guard on the rear face of the front spar.

Mainplanes

Inspect for wear and lubrication of the shackles and pins at the aileron levers. See that levers and turnbuckles are secure.

INSPECTION EVERY 20 HOURS

Cockpit and Cabin

Examine the aileron control attachments for security and the pins, turnbuckles and splices for wear and security.

NOTE: Access to the aileron cables is obtained by removing the guard on the rear face of the front spar.

Mainplanes

Check the setting of the ailerons and the correct tension of the aileron control cables.

INSPECTION EVERY 40 HOURS

Mainplanes

Inspect for security the aileron cable pulleys; examine the ball bearings for slackness and lubricate them.

This is not necessarily complete but this is

sufficient to illustrate the general principles employed in building up the complete schedule in which every part of the aeroplane has been treated in a similar manner. If these operations are done correctly they should result in a systematic inspection of the vital parts of the controls spread over a period which makes the work practical, efficient and economic. All unnecessary work is eliminated but, at the same time, the correct functioning of the controls is reasonably assured.

It is necessary to include in the schedule a few general clauses to remind the inspectional staff of their responsibilities; for example: "See that all loose articles are correctly stowed," and "See that cowling points and inspection doors are securely fastened." Such operations are usually included in the "Between Flight" and "Daily" inspections only. Those found in the specimen schedule have been included as the result of considerable experience to cover points which may be overlooked and if so, may result at least in the inconvenience of the occupants of an aeroplane, if with no more serious consequences.

INSPECTION SCHEDULES

Specimen Schedule of Inspection

In order to compile a specimen schedule of inspections certain assumptions have been made. It is assumed, for example, that the aeroplane is a typical modern low wing monoplane, with steel tubular fuselage, wooden box spar wings covered with ply, and a retractable undercarriage. Its all-up top weight is considered as in the neighborhood of 7,000 lbs. The schedule would be issued for guidance only and would be subject to amendment or alteration as the result of experience. As previously suggested, the schedule should be headed by a short preamble on the responsibilities of the mechanics.

NOTE: *This specimen schedule is NOT to be used as an official guide in the maintenance of aircraft in the R.C.A.F.*

AIRFRAME MECHANIC

Inspection Between Flights

1. See pilot's report.
2. Inspect the undercarriage for damage and see that the pressure in the compression struts and tires appears normal.
3. Examine the tail wheel for damage and see that the pressure in the tire appears normal.
4. Check the pressure in the compressed air container for the wheel brakes.

NOTE: The pressure should be at least 130 lbs. per square inch, as shown on the indicator gauge on the pilot's instrument board.

5. Examine the safety pins of the pilot's

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safety belt for distortion and security.

6. See that all loose articles are properly stowed.

7. Report to the pilot before he takes off.

NOTE: The details of this inspection need not be recorded.

INSPECTION DAILY

NOTES: (1) See pilot's reports. (2) Details of the aeroplane and the lubricants to be used are given in the maker's handbook.

Undercarriage

1. See that the wheels are properly secured and the axle joints clean.

2. See that the pressure in the tires is normal and examine the tires for cuts and other damage.

3. See that the length of the sliding portion of the compression struts is normal and check the pressure by the special indication gauge.

NOTE: Loss of pressure will be indicated by excessive wrinkling of the leather stocking.

4. See that the undercarriage attachments are secure and not damaged.

Cockpit and Cabin

1. Operate the elevator and aileron controls and see that full and free travel is obtainable.

2. Operate the rudder controls and see that full and free travel is obtainable.

3. Check the action of the elevator and rudder trimming controls and see that they move freely.

4. Inspect the pilot's safety belt and its anchorages for security.

5. See that the fire extinguishers are securely stowed.

NOTE: One is fitted to the right of the pilot's seat and the other forward of the cabin door.

6. Check the pressure in the wheel brake and container by the triple indicator gauge on the pilot's instrument board and replenish as necessary.

NOTE: The pressure should not be below 130 lbs. per square inch and the maximum pressure is 210 lbs. per square inch.

7. See that the sliding window panels operate freely and that the catches fasten correctly. See that the windows are clean and not cracked.

8. Examine the starboard door for security and the catch for correct fastening.

Fuselage

1. See that the covering and lacing are

undamaged and that the main plane and tail fillets are secure.

Tail Unit

1. Inspect the tailplane, fin rudder, elevator and trimmers for damage.

2. See that the tail wheel is properly secured and the fittings undamaged.

3. See that the pressure in the tail wheel tire appears normal and examine the tire for cuts or other damage.

Mainplanes

1. Inspect the covering of the mainplanes and ailerons for damage, particularly on the lower surface in the airscrew slipstream area.

General

1. See that all cowling panels and inspection doors are undamaged and securely fastened.

2. Make the necessary entries on the inspection form.

INSPECTION EVERY 10 HOURS

Undercarriage

1. See that the axle forks are not damaged and lubricate the compression strut and radius rod bottom bearings.

2. Inspect the bolts at the top ends of the radius rods and see that they are locked; lubricate if necessary.

3. See that the radius rod fairings are properly secured.

4. Inspect for slackness the chains of the retracting gear and lubricate if necessary.

5. Lubricate the pivot bearings of the release levers.

Cockpit and Cabin

1. Lubricate the control wheel spindle bearing.

2. Inspect for security and lubricate the teeth of the pinions inter-connecting the rudder pedal torque shafts and the pins securing the cables.

NOTE: The rudder pedal torque shafts are at the back of the instrument board.

3. Inspect for security the undercarriage retracting gear handle. Lubricate the bearing of the winding handle.

NOTE: Access to the bearing is obtained by removing the cushion of the pilot's seat.

4. Lubricate the bevel gears and the clutch faces of the undercarriage retracting gear.

5. Inspect for security the aft end of the aileron torque shaft and the bolts securing the joint to the spar. Lubricate the chains.

NOTE: Access is obtained through the door on the guard on the main cross member.

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Fuselage

NOTE: For inspections 1-9 enumerated below it will be necessary to remove the detachable panel under the pilot's cockpit floor.

1. Inspect for security the control-column and the attachment of its fulcrum brackets to the floor.

2. Inspect for security and lubricate the universal joint pin at the bottom end of the control-column.

3. Inspect for security and lubricate the pin securing the front end of the aileron torque shaft to the control-column.

4. Inspect for security the pins securing both ends of the elevator connecting rod.

5. Inspect for security the bolts securing the elevator lever on the bottom face of the front spar and lubricate the shackle pin.

6. Inspect for security the front pulleys of the rudder cable controls.

7. Inspect for security the rudder cable pulleys aft of the front spar and under the floor.

8. Inspect for security the bottom end of the countershaft of the retracting undercarriage gear.

9. Inspect for security and lubricate the elevator rocking lever bearing, pins and shackles, on the underside of the front spar.

Tail Unit

1. Inspect for security and lubricate the elevator rocking lever bearing, pins and shackles at the tail end of the fuselage.

2. Inspect for security and lubricate the pins at the top and bottom of the tail wheel shock absorber strut.

3. Lubricate the tail wheel rocking beam at all three points.

4. Inspect for security, at both ends, the elevator connecting rod at the rear end of the fuselage.

5. Inspect for security and lubricate the pins securing the rudder cables to the rudder quadrant.

6. Inspect the attachments of the rudder cable pulleys for security.

7. Inspect for security and fractures the attachment fittings of the tail plane to the fuselage.

Mainplanes

1. Inspect for wear and lubricate the shackles and pins at the aileron levers; see that the levers and turnbuckles are secure.

INSPECTION EVERY 20 HOURS

Undercarriage

1. Lubricate the undercarriage retracting

frame countershaft bearings.

2. Lubricate the compression strut top bearings.

3. Check the pressure in the compression struts by gauge.

NOTE: The correct pressure is 470 lbs. per square inch.

4. Lubricate the gland packing compression struts.

5. Check the pressure in the tires by gauge.

NOTE: The correct pressure is 35 lbs. per square inch.

6. Test the brakes for accurate operation and make sure that the blocks are not rubbing when the brake lever is released.

NOTE: With the brake hand lever pulled upwards three notches in the quadrant the indicator on the dashboard should show the same pressure in each wheel. With the hand lever hard on and the rudder central both wheels should be locked.

7. Inspect the undercarriage locking control bowden cable and springs for wear, fractures and security. Lubricate the pins.

8. See that the bowden cables operating the undercarriage locking device are correctly adjusted so as to ensure that when the control lever in the cockpit is raised the lock on the undercarriage frame is released.

NOTE: Access to the cable adjustment turnbuckle is obtained through the inspection door located on the outside of the fuselage.

Cockpit and Cabin

1. Inspect the cable splices, pins, turnbuckles and shackles for wear, damage and security and lubricate the pins for the following cables:

(i) The rudder trimming control cables from the front side of the cabin roof;

(ii) The elevator trimming control cables from the starboard side of engine control unit.

2. Lubricate sparingly the sprocket chain and bearing for the rudder trimming control on the cabin roof.

3. Examine the aileron and rudder control cable attachments for security of the splices, pins, turnbuckles and shackles for wear, damage and security.

NOTE: Access to the aileron control cables is obtained by removing the guard on the main cross member.

4. Inspect the brake relay valve and pipe-line for leaks. Inspect for security and lubricate the pins and fork ends on the connecting rod between the brake relay valve and the rudder pedals.

NOTE: To avoid damage to the relay valve

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care must be taken to adjust the length of the connecting rod so that the rudder pedal hits the floor stop before the lever on the relay valve reaches its maximum movement.

Fuselage

1. Examine for wear and security the elevator cables at the connections to the lever on the bottom face of the front spar.

NOTE: Remove the detachable panel under the pilot's floor for this inspection.

2. Inspect the control cables inside the fuselage for fraying, at the portions that bear on fairleads or pulleys for rudder cables, elevator cables, rudder trimming control cables, elevator trimming control cables.

NOTE: Access is obtained by removing the detachable panels under the floor.

3. Inspect the longerons, fuselage struts and fittings for damage or corrosion.

4. Examine the aerial mast for damage and security.

5. Examine the control cables for corrosion and fraying where they pass through the fabric coverings.

Tail Unit

1. Remove the detachable panels and inspect the cable splices, turnbuckles and shackles for fraying, security and wear.

NOTE: The following are the cables concerned: Elevator cables at the rear rocking lever. Rudder cables at the attachment to the quadrant at the bottom of the rudder. Elevator trimming control cables. Rudder trimming control cables.

2. Inspect for damage and lubricate all bearings and pins for the rudder and elevator trimming controls at the rear end of the fuselage.

3. Inspect for damage and lubricate all bearings and pins for the rudder and elevator trimming controls at the rear end of the fuselage.

4. Lubricate the hinges of the rudder and elevator trimmers.

5. Check the pressure in the tail wheel tire by gauge.

NOTE: The correct pressure is 35 lbs. per square inch.

6. Examine the tail wheel centralizing spring for damage and lubricate the shackle pin.

7. Inspect for security the top attachment of the tail wheel shock absorbing strut to the fuselage. Inspect the pins at the top of the strut for wear.

NOTE: Access is obtained through the tear-off patch port side of the fuselage under the fin. Replace with new patch.

8. See that the fin is securely attached.

9. Examine the control cables for corrosion and fraying where they pass through the fabric coverings.

Mainplanes

1. Check the setting of the ailerons and the tension of the aileron cables.

2. Inspect the aileron cables for fraying at the pulleys.

3. Inspect the engine nacelle struts and fittings at the points of attachment to the spar for cracks or damage.

NOTE: Access to these points is obtained by removing rear inspection panel.

INSPECTION EVERY 40 HOURS

Undercarriage

1. Remove the wheels and inspect the axles for damage or wear.

2. See that the brake blocks are clean and free from oil.

3. Examine the brake linings for wear and cracks and the drums for scoring.

4. See that there is no excessive slackness of wheels on axles. Check that there is no side play on the wheels.

5. Examine for defects and lubricate the ball bearings. See that wheels are replaced securely.

6. Check the chains of the undercarriage gear for stretch. Inspect for slackness and lubricate the ball races on the vertical countershafts.

7. Inspect the axle fork on the radius rod for cracks and fractures, particularly at the welds.

Cockpit and Cabin

1. Examine for stretch the chain of the rudder trimming controls on the cabin roof.

2. Check the action of the clutch on the undercarriage winding handle.

3. Inspect for security the hand lever for the undercarriage release gear. Lubricate the plunger at the top of the handle and the bearing at the bottom.

4. Check for axial play and lubricate the controls for the undercarriage warning device.

Fuselage

1. Inspect the dural plating of the nose for damage and corrosion. Examine the bolts and attachment fittings to the centre portion for security.

2. Remove the control-column chain guard; inspect the chain for stretch and lubricate as necessary.

3. Inspect for slackness and lubricate the

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ball bearings at the bottom pivot of the control-column.

4. Inspect for slackness and lubricate the ball bearings at the attachment of the control-column to the fulcrum brackets. Examine the brackets for security and fractures.

5. Inspect for slackness and lubricate the ball bearings at both ends of the aileron torque shaft.

NOTE: Open the inspection door in the guard on the front main cross member for access to rear end bearing.

6. Inspect for slackness and lubricate the ball bearings at both ends of the elevator connecting shaft.

7. Inspect for slackness and lubricate the ball bearings for the elevator lever on the front cross member.

8. Inspect for slackness and lubricate the ball bearings in the front pulleys for the rudder cable controls.

9. Inspect for slackness and lubricate the rudder cable pulleys rear of the front main cross member under the floor.

10. Examine all removable and sliding panels; see that they are not damaged and the catches lock correctly. Lubricate as necessary.

11. See that all emergency exits are undamaged and secure.

Tail Unit

1. Remove the tail wheel and inspect the axle for damage; see that there is no excessive play of the wheel on the axle.

2. Examine for defects and lubricate the ball bearings in the tail wheel. See that the wheel is replaced securely.

3. Inspect for security and slackness the ball bearing hinges on the elevator and rudder. Lubricate as necessary.

4. Inspect for slackness and lubricate the ball bearings at both ends of the elevator connecting rod.

5. Inspect for slackness and lubricate the elevator and rudder cable pulleys at the rear end of the fuselage.

6. Inspect for security and lubricate the elevator trimmer turnbuckle and the oiling pad around the cable drum.

NOTE: Access is obtained through the inspection door on the underside of the fairing.

7. Inspect for security and lubricate the rudder trimmer turnbuckle.

NOTE: Access is obtained through the inspection door on the port side of the fin.

8. Inspect for security and lubricate the trimmer pulleys in the tailplane, fin and end of fuselage.

Mainplanes

1. Inspect the engine mountings for damage and the bolts, struts, and attachment fittings for corrosion and security.

NOTE: The cowling must be removed.

2. Inspect the attachment fittings of the fuel tanks for fractures, corrosion and security.

3. Inspect for security the aileron cable pulleys. Examine the ball bearings for slackness and lubricate.

4. Examine for slackness and lubricate the ball bearing hinges on the ailerons.

5. Inspect the main planes and ailerons externally for signs of internal damage.

6. Inspect the four points of attachment of the wing to the fuselage for damage, corrosion and security.

INSPECTION EVERY 120 HOURS

Undercarriage

1. Drain the gear boxes of the retracting gear and refill with new oil.

2. Remove and examine for wear the pivot bolts at the top of the compression struts.

Fuselage

1. Fold back the fuselage coverings and inspect all fuselage members for bowing and fittings for security and corrosion.

2. Check the security of the fairing and decking clips on the longerons.

3. Check the tension of bracing wires and the locking of stringers.

NOTE: Before any adjustments are made the aeroplane must be placed in rigging position.

Tail Unit

1. Open the inspection covers and inspect internally for signs of damage and corrosion.

2. See that all draining eyelets are clear.

Mainplanes

1. Open all inspection covers and door and inspect internally for signs of damage and corrosion.

2. See that all draining eyelets are clear.

General

1. Check the rigging of the complete aeroplane.