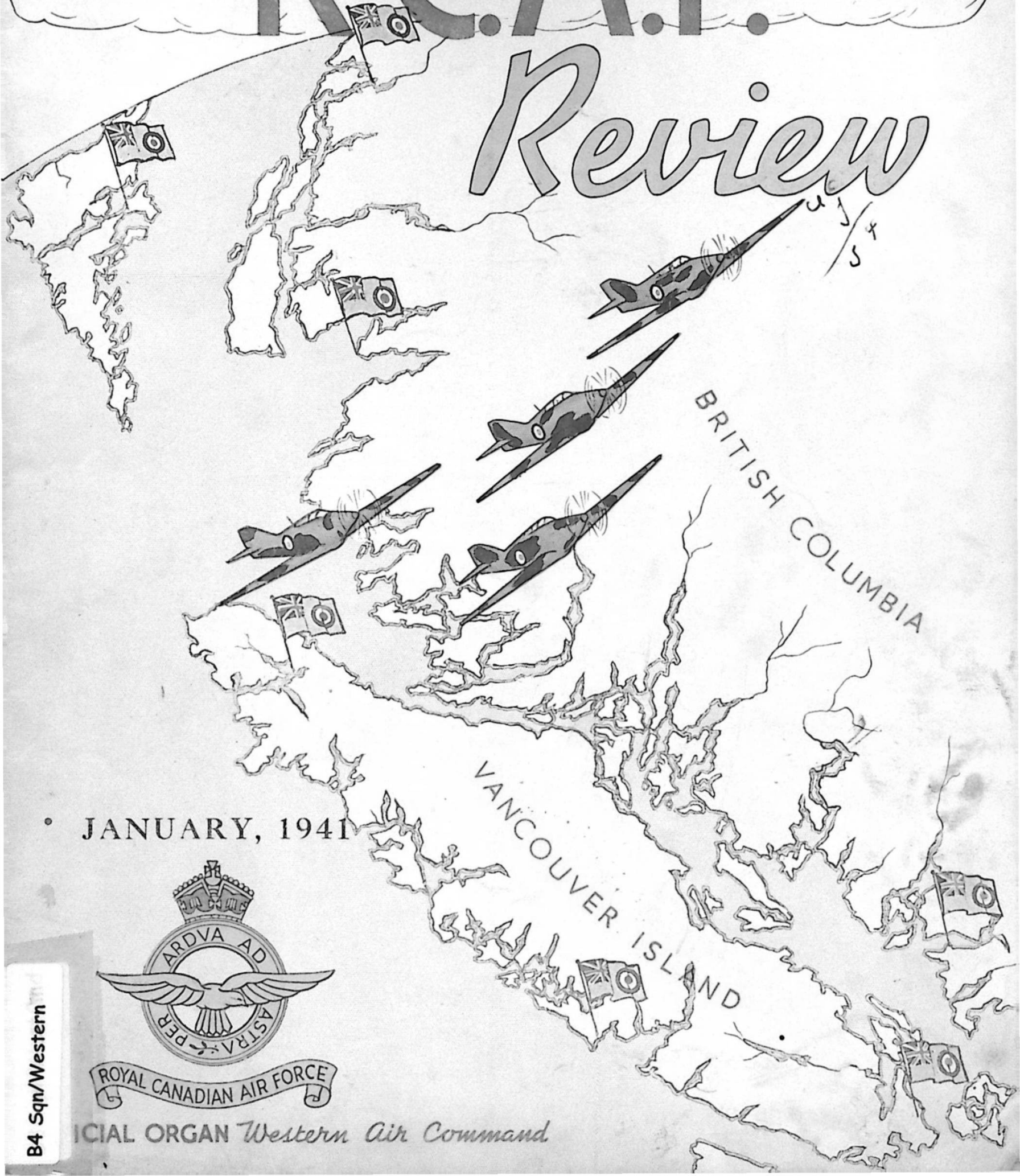


WESTERN **R.C.A.F.** AIR COMMAND

Review



JANUARY, 1941



Official Organ *Western Air Command*

B4 Sqn/Western

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R. C. A. F. Western Air Command Review

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EDITORIAL

This greets the Review in a new Year, as the first issue of 1941. But as this is written at the end of a dying year, our thoughts are directed to the year past—a review of all that has transpired—all the events that have led to you and you and you being in the place—and in the position—doing the particular job you are doing today.

From many provinces, many occupations, you have all converged and are now located in Western Air Command. Many of you wonder about the purpose behind it all, regardless of the old adage of "yours not to wonder why."

We are at the end of an old year. More than that—we are at the end of an old world. A world in which fanatical "isms" are about to be eradicated. Communism, Fascism, Nazism are being battled to oblivion. Verily an old world is dying—an old world has been tried and found wanting. A new world is arising—will arise from the ruins now being created. The panacea offered by the Totalitarian States to judge from the lowering of the standard of living of the average person above has been an example to be avoided at all costs. When the loss of freedom and the every day rights of the individual is added to the score, it becomes obvious that life under any one of these regimes, would be utterly intolerable to us. To those of you who disagree, is offered one solution—pick one of the three types of Government, apart from Democracy, which is available to you—live under it, but in the country of its origin—don't try to introduce it here.

Yea—an old world—a tired old world passeth into History. A new one approacheth—one towards which each and every one of us is contributing his effort—some more, some less, but all are striving for this end.

Going are a lot of prejudices and biases—a lot of annoyances—and lack of tolerance. Approaching are many changes in our mode of life. These changes will always be democratic ones in our Empire. Of that, you and I can be assured. And democracy, by the Grace of God, still stands for the benefit of the majority—not the would-be ruling minority as is the option presented us today.

The "New Order" is flaunted in our faces as a world tonic by our Enemies. The idea is correct. A "New Order" is essential. The term is coined by them, but the consummation of this—the putting of this into effect, is our aim—our object.

The new world is to be OUR world. It is up to each and every one of us, be our present position the very humblest—to do our job to the very utmost of our ability, to ensure that OUR "New Order" prevails.

So may 1941 commence with this aim in view and end with this goal achieved.

HERMANN'S A GERMAN

by Bruce Angrave.



This "paportrait" of General Field Marshal Hermann Wilhelm Goring, Reichsluftfahrtminister and Commander-in-Chief of the German Air Force, is constructed entirely of paper. This is an untouched photograph of the model.

Fat, provided there is enough of it, is in some measure amiable, and a sufficient paunch can be a passport to popularity. So it comes about that it is hard to think of 260-lb. Hermann Wilhelm Goring, General Field Marshal since 1938 and (to quote from his own exuberant visiting card) "ehemals Fuhrer des Jagdgeschwaders 1 der Obersten Heeresleitung Freiherr von Richthofen," as other than a rather likeable fellow. His bulk speaks in his favour; his known habits in the matter of what Rabelais calls "belly furniture" are indicative of a pleasing humanity; the pictures of naked women which adorn the tapestries on the walls of his castle (and which somewhat shocked the over-nice Sir Neville Henderson) make him seem gallantly gay; his love of gorgeous uniforms, immense Mercedes motor-cars, big yachts and huge estates argue an innocently childish delight in display. Murderers, it has been noted by criminologists, are generally teetotallers and non-smokers and the strangling of small children is almost a monopoly of the moral

purity fanatics. But the self-indulgent hulk is seldom harmful. So it comes about that Field Marshal Goring has the reputation among the more easily duped of being a "moderate," of constantly keeping the frenzied Fuhrer on the rails; of being favourably disposed towards England. Alas for the friends of the fat! The truth is otherwise. That's where Goring has the bulge on us. For he is none of the things he ought to be. He is not a tolerant, easy-going person, but a specialist in brutality. He is not a jovial boy, but a vicious bully. His hatred of England has often been expressed and has been testified to by a non-commissioned officer who served under him. His venality is more notorious than his venery. He is the absolute epitome of the gross and the primate of profiteers. As an infantry lieutenant in 1914 he was slimmer than he is now and he had still not begun his fly-blown career when he was awarded the "Pour le Merite" in 1918. Perhaps it was the joining of the Nazi Party in 1922 that started that "lebensraum" waistline; or it may have been the second marriage with a blonde and blousy Boche. At any rate the fresh-complexioned face, with its pale blue eyes, was soon surmounting a "bolting-hutch of beastliness" or a "stuffed cloak-bag of guts." Goring does not take kindly to being teased and I doubt if he will forgive Sir Eric Phipps, then British Ambassador in Berlin, who, when Goring arrived late for an appointment, puffing and blowing, and bawled out that he had just come from the hunt, inquired anxiously: "Animals, I presume?" Rosenheim, in Bavaria, is Goring's birthplace and his age is 47. He was wounded in 1915 on the Somme but was back at duty by March of the next year. He was said to have shot down twenty-two Allied aeroplanes. Like many successful fighters, he is a coarse pilot: "Never give Goring an aeroplane or a motor-car," remarked a friend of his; "he will smash both; give him a pram." But perhaps the keenest comment on Goring's character was provided by himself. For it was he who invented the ceremonial sword which was presented to him by Herr Hitler. And it is a copy of a mediæval hangman's sword. To Goring we may say, echoing the words of King Henry to Falstaff: "Know the grave doth gape for thee thrice wider than for other men." But perhaps we ought in charity to leave this huge hysteric at his best. Let us then finally picture him, beringed, manicured and pungently perfumed, bellying over the dinner table and lustily lushing up the soup with a sound resembling that made by the gushing of dirty water down a drain.

—"Aeronautics."

JERICO BEACH

Headquarters Excerpts.

Below are the gleanings of your news-hungry Station Winchell, winnowed since the last issue of The Review.

Buttons, cap-badges and other brass-ware, gleaming through Vancouver fogs like beacons at sea, this month bespoke a general smartening-up of all ranks. Before long, representatives of the R.C.A.F. from Jericho Beach will be slick enough to take over the guard at Buckingham Palace.

On Wednesday, December 11th, we all started out for a route march only to be wheeled into the stores building to be issued each with two "chairs, folding, airmen for the use of" which were subsequently sat upon at the smoker of which more anon.

THAT SMOKER.

The "Smoker" was really good. No actual bones were broken and no hearts were bent but there was rumpus a'plenty. There were a few downtown dates passed up but everybody agreed that it was worth while and there will be just as big a turn-out for the next one.

ATTENTION CANTEEN FUND.

Liquid refreshments of course should be mentioned first but there is no getting away from it, the highlight of the evening was the pillow-fight between the C.O., Wing-Commander A. H. Wilson and Flying Officer T. S. Carpenter, which was won by the C.O.

As the first mentioned of these important features, Flight Lieutenant Belton did a good job in handing out tickets, one per bottle, while cheese and crackers were plentiful, the latter in increasing ratio as the beer ran out, with the result that whistling of chorusses was muffled after a while.

Another highlight of the evening was the wrestling match between Chief Wahoo (Flight Sergeant McLean) and LAC Applebaum. The Chief, who had vociferously announced the match in advance found himself in difficulties, Applebaum clamping a fierce body-hold on his manly torso. Fate, however, in the strange form of a thirsty Airman, intervened. The thirsty Airman saw his colleague, the Chief, in trouble and leaned into the ring grasping a limb of the said Applebaum in his teeth. The match was over, the winner being Chief Wahoo. The Airman who actually won the match with his teeth, got the biggest hand; he suffered a sore throat but says it was worth it.

A HAPPY EVENT.

One of the happiest events in the history of the

Station took place during the month when two of the personnel were married in a joint ceremony to two Vancouver ladies.

Principals in the double-wedding were Corporal J. R. Robertson and LAC J. R. Wilkinson, whose brides, respectively, were the former Anne Hyde Marklin and Frances Jean Chemage. The ceremony was performed in St. Mark's Anglican Church, close to the barracks, by our Chaplain, Flight Lieutenant F. K. Belton, and was attended by every available airman. Corporal Gagnon acted as best man. The entire personnel of Hut 15A was present, many of them being interested as having "been there themselves." There was plenty of rice and confetti around. Oh yes, but no stimulants — at least not for the bridegrooms.

A PROMOTION.

Perhaps now, the folks back in Wadena, Saskatchewan will get the right address for one, Burness. Ever since he has been at Jericho they have addressed Mr. Burness as "LAC." He was promoted successively, to Corporal, and then Flight Sergeant. Mail still came addressed "LAC" Burness.

From now on will they please make it Flying Officer Burness. The good news of a Commission being given to a hard-working, popular NCO came to Jericho, December 17th. All ranks wish him good luck.

With reference to last month's "exerpts," LAC Howard's waistline is now 48 instead of 60 as previously recorded. Was it because he read the article: "How to Acquire Poise" or because Flight Sergeant Doucet has been keeping him on the run lately. The bicycle in No. 3 Repair will be assigned to you if you don't get down to 40 by the next issue.

Regrets are expressed that LAC Klein is in hospital. Our good friend Flight Lieutenant Badger will see that he is soon out. We hope the trouble wasn't precipitated by the landslide on the clothing section, as predicted by your Winchell last month.

Hostess House is proving an actual home away from home for the boys who are indeed grateful to the gracious ladies who sponsor and manage it. One of the features of the month has been the series of cabarets given by the Junior Hostesses at Alma Academy, floor shows and dancing being provided each evening.

Editor's Note: The use of the "WE" as in the writing above is restricted to three classes: Royalty, editors and a man with a tapeworm.

WROUGHT ALUMINUM ALLOYS

Prepared by Squadron Leader A. A. Rabnett

M.B.E., R.C.A.F.

The modern development of aluminum owes its origin to the simultaneous discovery in 1886, by Hall in America, and Heroult in France, of a practical process to effect the separation of impurities from Aluminum oxides.

Aluminum is found, in most clays, soils, and rocks in which it occurs, as a silicate or as an oxide, but the principal commercial source is the ore, "Bauxite." Bauxite is largely aluminum oxide mixed with impurities which are removed by a chemical process, leaving the pure aluminum oxide "Alumina."

An electrolytic process is used to obtain the aluminum from the oxide. The metallic aluminum obtained by the electrolytic process is cast into pig form. These are later remelted to form the commercial ingots used in rolling, forging, extruding, and other fabricating processes. By addition of other constituents during the remelting operations, many alloys of aluminum are obtained with varying properties.

NOMENCLATURE.

(Canadian and American commercial designations, with British designation included where available.)

The alloys of aluminum may be divided into two classes, the casting alloys and the wrought alloys. The first type of alloy may be cast in sand, die, or permanent moulds, while the second class, with which this publication is concerned, may be fabricated into plate, sheet, and foil; bar, rod wire and rivets; seamless tubing and pipe; moulding and structural shapes, both extruded and rolled; screw machine products; stampings; and forgings.

The Aluminum Company of America (and Canada) nomenclature of the wrought aluminum alloys is simple once it is understood. The symbol consists of three parts. (Example 17-S-T, written 17ST.) First, a number, (17) specified the composition; second, the letter (S) signifies that the material is a wrought product in contrast to a casting; and third one or more letters, (T) define the temper.

In order to identify the various aluminum alloys, they are designated by a number. If the number is followed by the letter "S" it indicates a wrought alloy. Thus:—

3 S, 4 S, 14 S, 17 S, 24 S, 25 S, 51 S.

are all wrought alloys, differing from each other in chemical composition and physical properties. Com-

monly used casting alloys are:—
43, 142, 195.

In a few cases a letter precedes the alloy number, as A 17 S. This letter indicates that the alloy has a slightly different chemical composition from the normal 17 S alloy.

The wrought alloys can be manufactured in a number of different tempers. To distinguish these tempers another letter is added to the "S." The temper of a wrought alloy, that is strain hardened by cold work, is therefore, designated by 1/4 H, 1/2 H, 3/4 H, "H." "H" stands for "hard" and the fractions indicate the relative hardness.

When the material is in the soft annealed state, the letter "O" is appended to the "S." For instance, 3 S material is available in five tempers which bear the following designations:—

3 S O, 3 S 1/4 H, 3 S 1/2 H, 3 S 3/4 H, 3 S H

British designations indicate the number of gauge reductions in rolling after the last annealing as follows:—

2 S H—Hard.

2 S 8—Medium hard or three-quarter hard.

2 S 4—Medium or half hard.

2 S 2—Medium soft or quarter hard.

2 S O—Soft.

Wrought alloys that are hardened by heat treatment are indicated by the addition of a "T" after the "S", thus—

17ST, 24ST, 25ST, 53ST.

These heat treatable alloys in the soft annealed state are designated by the letter "O" following the "S," as—

17SO, 24SO, 25SO, 53SO.

Alloys in the heat treated temper may be strain hardened to improve their physical properties. When this is done, the alloy is designated by the insertion of an "R" between the S and T, as in 17 SRT, 24 SRT.

Alloys such as 51 ST, A 51 ST, 53 ST develop their full strength, i.e., their "T" temper, only if the solution heat treatment is followed by a precipitation heat treatment. This consists in artificially aging the alloy at a temperature appreciably higher than room temperature. The symbol "W" may be used only with these alloys to designate the intermediate temper which results, if they are not subjected to aging.

Therefore, after solution heat treatment, the

material is known as 51SW, A 51 SW and 53 SW, and when the precipitation heat treatment is completed they are designated as being in the "ST" temper.

"Alclad" is the name given to standard alloys, such as 17 S and 24 S, when they have been coated with a thin layer of high purity aluminum. Due to the fact that pure aluminum is highly resistant to corrosion, it protects the alloy sandwiched between two surface layers.

In aircraft work the following Alclades are often used — Alclad 17 ST, 17 SRT, 24 ST, 24 SRT. A given thickness of Alclad will not be so strong as the same thickness of the standard alloy. The reduction in strength is about 8 to 10 per cent.

This corrosion-resistant product consists of a heat treated aluminum alloy base with a smooth, dense, non-porous surface of pure aluminum of uniform thickness, alloyed and integral with the core.

CLASSIFICATION.

Wrought aluminum alloys are classified under one of two groups, either strain hardened or heat treatable alloys.

In strain hardened alloys the physical properties are improved by cold working only; they do not respond to any heat treatment other than softening, annealing treatment. The two extreme tempers which can be obtained are the soft, annealed temper, and the full hard temper; the full hard temper being produced by cold working the metal the maximum amount that is commercially practical. The intermediate tempers, such as 1/4 H,

(Continued on Page 14)



EQUIVALENT SPECIFICATIONS — WROUGHT LIGHT ALLOY

Aluminum Co. of Canada

British Standard or D.T.D.

ALLOY AND TEMPER	SHEET	TUBING	WIRE, ROD, BAR, SHAPES AND EXTRUDED SECTIONS
AC. 2S - O	BSS 2L 17		Wire for Rivets L 36
AC. 2S - 1/4 H		BSS 4T9	
AC. 2S - 1/2 H	BSS 2L 16		
AC. 2S - 3/4 H			Rods, Bar and Shapes L 34
AC. 2S - H	BSS 2L 4		
AC. 3S - O			
AC. 3S - 1/4 H			
AC. 3S - 1/2 H	D.T.D. 213		
AC. 3S - 3/4 H			
AC. 3S - H			
AC. 4S - O	D.T.D. 278	D.T.D. 310	
AC. 4S - 1/4 H			
AC. 4S - 1/2 H	D.T.D. 266		
AC. 4S - 3/4 H	D.T.D. 249		
AC. 4S - H			
AC. 17S - O	BSS 4L3		Wire for Rivets L 37
AC. 17S - T	BSS 4L3	BSS 4T4	Bars up to 3-inches 5L1
AC. 17S - RT			Rod and Bar L39
Alclad AC. 17S - O	BSS L38		
" " 17S - T	BSS L38		
" " 17S - RT			
AC. 24S - O	D.T.D. 270		
AC. 24S - T	D.T.D. 270	D.T.D. 273	Bars D.T.D. 280
AC. 24S - RT		D.T.D. 273	Extruded section D.T.D. 290
Alclad AC. 24S - O	D.T.D. 275		
" " 24S - T	D.T.D. 275		
" " 24S - RT			

"WINGS OF VICTORY"

Miss Rosemary Leveson Gower,

Somewhere in England,
Though I cannot say where,
Came masses of 'planes
Simply filling the air.
Heinkels and junkers
And old Messerschmitts
Roared over in numbers
To blow England to bits.

Poor Adolph's plans
Seem to have run quite amuck,
And to put it quite plainly
He appeared to be stuck,
For the 15th of August
Was the day carefully planned
That he'd shout to his people
From his new conquered land.
A quick change of plans
To keep up with our pace
Is his only move left
To save his red face.

The Blitzkrieg has started
Here come the huns
But my God! what a welcome
They got from our guns.
Up went our Spitfires
With fiery speed,
And blood-thirsty spirit
Hungry with greed
To send every hun
That polluted the air
Crashing to earth
In a hell-dizzy flare.

The death fight was on
What value is life
In a war-crazy world
Of uncivilized strife?

But a battle's a battle
And this we must win,
So GO TO IT boys—
There's three in a spin!
Great bursts of flame
Tail-spin dives
See the great Luftwaffe
Flee for their lives.
Deafening the din
Of our A.A. guns booming
Rattling machine guns
Wings of hell zooming.
Red hot the heavens
Smoking and burning.
The battle seems endless,
Which way is it turning?
Though increasing in numbers
They were dropping like flies.
They had felt quite enough
Of our fighter surprise.

Crashing to earth
In ribbons of flame
One after the other
Continuous they came.



Editor's Note — The verses herewith were written by Miss Leveson Gower, during the "blitzkrieg" of London, on the day when the R.A.F. bagged 130 Luftwaffe aircraft. Miss Leveson Gower, a native of Western Canada went to London to study dramatics at the R.A.D. just before the outbreak of war. She stayed for the fun and is now engaged in war-work.

They bargained to smash
In this form of attack
But for every bomb dropped
Bullets three-fold went back.

The din was decreasing
The fighting grew less
Raiders soon turned
On their tails in distress
Leaving behind them
The curse of the hun,
But they'll pay for the crimes
And the killing they've done.
They'll know on what judgment
Their destiny hangs
When they've sucked of the sap
In their own deadly fangs.

The air became clearer
Not a Nazi in sight
We'd swept the skies clean
Of this poisonous blight.
What was left of the Luftwaffe
Went back to their base,
But imagine the look
On old Goering's face
When waiting with band
To give cheers to his crew
They came not in hundreds
But a pitiful — few.
Not a word of defeat
Must be breathed to the mob
So he cheered them victoriously

For doing the job.
Shouting "Here come your heroes
The Nazis hold fort,
Just what we do next
Will take time and much thought."
But under his breath
Raving mad from the blow
He gutturally muttered
"That's all they shall know."

Heaven preserve us
From this tyrannous rule
Where lies and words
Are a fighting tool.
And thank God for a country
Where truth is our aim
Where life is our own
And God grant may remain.

Here's a toast to those brave ones.
Never need we despair
As long as we're blessed
With such MEN OF THE AIR!

DAT GODDAM BIRD DE LINK

For two, t'ree mont' my brudder Pierre
Take Course on Link to fly de h'air.
She's hareplane of special make
On first solo your nerves he's shake,
You take heem off wit' nose to sky:
Dat Goddam t'ing, to floor she's tie.
Wit' needle, ball and h'airspeed dial
You fly like Hell for two, t'ree mile.

Wit' system Pierre call "One, two, t'ree,"
Dat Link she's fly like Hay, Bee, See.
Go right, Go Left. It's h'all de same,
Dat needle, she's like bear to tame.
But Pierre, he's tell me once on leave,
He's Boss, call' Slim, gets plenty peeve'
When h'airspeed, height above de groun'd,
Don't stay put; go h'up an' down.

Dat Link, she's funny bird to see,
Got wings and tail, so Pierre tell' me.
I ask him why he's not fly home,
Dat Link she's nail' to floor of stone.
I visit once on Trenton place,
D'ose Links line up like for de race,
But we'en dey give wot's call' "De gun"
D'oy's back to where she's started from.

Pierre comes home for H'easter H'eggs,
Starts talking "Beams, and Cones, and Legs."
Dat's radio noise on Link he's ride,
Duck under hood Pierre mus' hide
Wit' phone on ear and eye on board,
Hear noise from Hell and voice from Lord.
Pierre say eyes get cross' one day,
He's turn to lef,' go odder way.

Pierre, he's change', his modder t'ink,
Since he's been riding on dat Link.
He's appetite on week-end trips
She's shrunk on down to leedle bits,
But two week more Pierre pass by
No more in Links he's got to fly.
He's prove' to Slim he's now ver'able
To fly dat Link from a Goddam table.

After J. W. Drummond,
by C. W. McLEOD, F/O,
R.C.A.F.

AT PATRICIA BAY

By *Flt. Lt. J. S. Williamson*

PAT BAY MAKE MERRY

New Year, 1941, came in with a rip-roaring bang at Patricia Bay, when a celebration dance was held in the Officers' Mess, and the new station orchestra "did its stuff" nobly in providing peppy music.

Principal guests of the evening were Air Commodore and Mrs. A. E. Godfrey, M.C., A.F.C., Air Officer Commanding Western Air Command; Group Captain and Mrs. G. A. Mercer and Wing Commander and Mrs. Slemon. There was a goodly contingent of officers and their ladies from Western Air Command headquarters and the Army and Navy to swell the party that taxed the accommodations of the new officers' mess.

Wing Commander and Mrs. L. E. Wray, Station Commanding Officer, received the guests as they arrived and bid them welcome to the first New Year's party at Pat. Bay.

Fun was hilarious during the evening, rising to high jinks as the hoary Old Man With The Scythe was bounced out at midnight to a cacophony sound from massed tin whistles, trumpets and weird noise-makers.

A buffet supper was served that was a credit to the cooks of the station, as midnight faded and the New Year dawned.

The mess decorations were an eye-opener, and showed painstaking effort on the part of the mess committee who worked indefatigably to make the affair a success. The season's motifs were everywhere in evidence. F/O H. Ashdown, chief decorator, did some tall scrounging in the environs of Victoria to gather such a mass of decorations.

The fun was all the merrier because of the orchestra—Pat Bay's own—all members of the new Station band, and some of the finest



In doorway: Group Capt. G. A. Mercer. Left to right: Air Commodore A. E. Godfrey, M.C.; A.F.C.; V.D.; A.D.C.; Mrs. Godfrey, Mrs. Wray, Wing Commander L. E. Wray.



Left to right: Wing Commander C. R. Slemon, Mrs. Slemon, Mrs. Mercer, Mrs. Godfrey, Group Captain G. A. Mercer, Wing Commander L. E. Wray.

musicians on the Pacific Coast, under Bandmaster A. E. Tutte.

Congratulations for success of the party are due to Flight-Lieut.

Louis Leigh, P.M.C.; Flight-Lieut. Harry Winny, mess secretary; Flight-Lieut. J. Lynch, bar officer, and their helpers.

AN INTRODUCTION TO AERO ENGINE PRINCIPLES

By *Flight-Lieutenant Dunphy*
(PART II)

The first article in this series outlined the effects of air density on the power developed by an aero engine and while the majority of space was taken up with the effects of natural variations in atmospheric density due to altitude, some attention was devoted to the variation due to manual control. It was explained that the power developed depended to a large extent on the amount of air available in the combustion chamber and that this amount could be varied by use of the throttle. Stress was placed on the fact that the throttle varied the weight of air consumed and not its volume as is often, though erroneously believed — speaking of course in terms of consumption per cycle of operation.

Mention was also made of the effect of altitude on the petrol-air ration of the fuel mixture. It is with carburetors generally and with the means employed to regulate the mixture strength that this second article is chiefly concerned.

The modern aero engine carburetor, into which is incorporated the mixture control, is the result of perhaps more experiment and research than any other part of the engine. It has in consequence developed into a very complicated piece of mechanism and one in which the recruit has difficulty in understanding.

An automobile operates in an atmosphere of only slightly varying density and its carburetor is therefore usually devoid of any means of mixture control independent of the throttle. It is often fitted with a choke which can almost completely blank off the air intake passage in order to provide an extremely rich mixture for cold starting but this must not be associated with the aero engines mixture control. The aero engine's mixture control is something entirely new as far as the average automobile engineer is concerned.

MIXTURE STRENGTH.

An engine will function with a mixture strength of between eight to sixteen parts of air to one of petrol while the maximum power is obtained with a mixture of twelve to fourteen parts of air to one of petrol. If economy in fuel consumption was the only consideration the operator would naturally run the engine with as lean a mixture as possible but unfortunately there are other considerations which necessitate a richer mixture. Cylinder temperatures, especially those of air cooled engines, are greatly affected by the petrol-air ratio and increase rapidly as the mixture is leaned out.

At full throttle extensive heat is generated through the comparatively heavy weight of the charge and it is therefore necessary to use a rich mixture in order to counteract this tendency and keep the temperature within safe limits. This can be done by using an extra petrol jet called a power jet which is brought into action after the throttle has been opened to a certain point. A cam coupled to the throttle leverage usually controls this operation so that there are no extra control levers in the cockpit; the power jet coming into use automatically at the desired throttle position. After take off or at any time when maximum power is not required, the pilot can throttle back beyond the position when the power jet is brought into action and, with the engine running at reduced temperature through the reduction in the weight of the charge, can use a more economical mixture of about sixteen parts of air to one of petrol. In this position the engine can continue running for lengthy periods without becoming too hot and provided the aeroplane does not gain altitude will do so with the carburetor turned to supply the most economical mixture. As the aeroplane gains altitude however, the weight of air drawn into the engine decreases with the decrease in air density. The mixture delivered by the carburetor becomes richer at a rate inversely proportional to the square root of change in air density. It is to compensate for the change in mixture strength due to altitude that the mixture control mentioned earlier is provided.

Like any other part of an engine modern mixture controls vary in detail. The most popular types can however be grouped into two classes: those that control the difference in air pressure between float chamber and venturi and those that act directly on the flow of petrol to the jet. Of these the former is perhaps the most common.

The float chamber suction or back suction control as this type is called, operates by placing a controllable proportion of the air intake suction upon the air in the float chamber so that it opposes the suction existing at the main jet. In its simplest form it consists of a passage between the venturi and the top of the float chamber with a valve situated at a convenient point in order to control the amount of air passing through. Another passage connects the float chamber to the atmosphere. With the valve closed as in the full rich position the normal carburetor conditions exist; the petrol being drawn through the jet by the suction existing in the venturi. There is no suction but simply atmospheric

pressure in the float chamber as in the automobile engine. Under these conditions the mixture strength should be suitable for ground level operations. With the need for leaning out the mixture as the aeroplane gains altitude the valve is opened and some of the suction in the venturi is imposed on the float chamber, thereby opposing the jet suction and decreasing the fuel flow.

The valve is sometimes placed in the passage connecting the float chamber to atmosphere instead of in the passage between float chamber and venturi. In this case the valve would be closed for full lean. Under these conditions there would be no fuel flow at all because the suction would be the same on both sides of the jet system. If the valve is opened however, air is admitted to the float chamber, reducing the suction on that side of the jet system and allowing fuel to flow on account of the higher suction on the jet in the venturi.

In actual practice the suction connection is usually taken from a location of lower suction than exists at the jet and the air flow further hampered by placing a small restricting air jet in the passage. With this arrangement the valve may be completely closed without entirely stopping the flow of fuel.

The other type of control mentioned earlier which acts directly on the flow of petrol to the jet consists of a conventional needle valve acting as a restriction in the passage between the float chamber and the jet. A small by-pass hole between the float chamber and the petrol passage permits some fuel to flow even though the needle valve is completely closed. The size of the by-pass opening determines the range of control.

The range of the mixture control is usually designated in terms of altitude. If a carburetor has a mixture range of 25,000 feet it will supply a mixture at that altitude



BEHOLD THEIR SHATTERED DREAMS

When they joined the air force as fitters, the recruiting sergeant probably told them considerable ground work would be necessary before they started to fly. They never realized it would include a short, intensive course in peeling spuds.

with the mixture control set in full lean position, of the same petrol-air ratio as it will at sea level with the control set full rich. After the limit of mixture control correction has been reached the aeroplane can ascend another five or six thousand feet before the mixture will become rich enough to cause the engine to lose power and several thousand feet more before the engine starts to run roughly.

IMPORTANT DETAIL.

One of the details which is of great importance in the design of a carburetor is the location of the float chamber atmospheric vents. The pressure caused by the propeller slip stream often has considerable effect on the performance of the carburetor. It is essential therefore that whatever pressure disturbance is caused by the slip stream should operate on both sides of the petrol jet system so that the petrol flow will be responsive only to the difference in pressures resulting from the flow of air through the carburetor. Any pressure disturbance resulting from the propeller blast or forward motion of the aeroplane is thereby balanced equally in the

float chamber and in the petrol jet.

Another detail which is not found on an automobile carburetor is the auxiliary jet commonly known as the enrichment jet. This jet is similar to the power jet mentioned earlier in that its use is necessitated when excessively high temperatures would otherwise be developed at wide open throttle positions; the enriched mixture thus produced tending to counteract the development of excessive heat. The two jets are entirely independent of each other, however. Practically all aero engine carburetors incorporate a power jet while the enrichment jet is an additional jet fitted to supercharged engines which incorporate automatic throttle controls. The Bristol Pegasus carburetors used on this coast are so fitted.

Mention was made in Part I of "take-off boost" this being an induction pipe pressure somewhat higher than rated boost which the designer allows for a few minutes duration only. It is during this period that an enriched mixture is necessary and the enrichment jet is brought into use automatically at the same time as the "take-off boost" control or "override" is operated.

A PAGE FOR A LAUGH OR TWO



INSPECTION DAY ON THE WEST COAST - WEATHER "FAIR & MILD"
THE SQUADRON IS NOW SHRUNK SOMEWHAT. (BUT NOT DUE TO CASUALTIES.)



THE DESIGN IS PERFECT BUT I FORGOT TO MAKE ROOM FOR THE PILOT



ON THIS JOB I CANNOT SUBMIT EXPENSE ACCOUNT FOR WAKING UP IN THE NIGHT AND THINKING OVER THE CASE



"WHAT MAKES THIS MEAT TASTE SO QUEER?"
"I CAN'T IMAGINE - I BURNED IT A LITTLE BUT I PUT CARRON OIL ON IT AT ONCE"



- A.P.M. -
"SABOTAGE! ARREST THAT FIFTH COLUMNIST!"
"BUT SIR? HE'S THE C.O.'S MECHANIC"

Good Ole Pal

A mother loves her child,
And its natural that she should.
A cowboy loves his horse and,
Always treats him good.
But the only love in this old world,
To compare with the love of a
mother,
Is the infinite, lingering, passion-
ate love,
Of one Dead Drunk for another.

Then there was the story of the man who had been to a nudist colony to dinner and was telling his friends about it.
"The butler came and opened the door," he said.
"How did you know it was the butler?" someone asked.
"Well I knew right away it wasn't the maid."

Zoology — How the Camel Developed His Hump.

The private life of the Camel
Is stranger than anyone thinks.
In one of his amatory moments
He attempted to "kiss" the
Sphinx.

Now the Sphinx's Oscitational
Orifice
Was plugged with the mud of
the Nile
Which accounts for the "Hump" on
the Camel,
And the Sphinx's inscrutable
smile.

Tasty Pies

There is the story of the Bull
Cook at one R.C.A.F. Station, who
inadvertently backed into the meat
grinder, and has got "A little Be-
hind" in his meat pies these days.

Good Natured Pity the Blind

A very congenial Equipment
Officer was asked how it happen-
ed that, in spite of the fact he was
inundated with work, and was be-
coming bogged down with insuf-
ficient crew to handle the situa-
tion, he was able to be so calm,
collected and good humoured. Re-
plied that some years ago when
farming on the Prairie he had oc-
casion to drive a bull team, which
made him so confoundedly mad,
that no one had since succeeded in
even coming near to annoying
him.

On the front of a lady named Hale
Was tatoood the price of Pale Ale
And on her behind, for the sake of
the blind,
Was the same information in Brail.

VERBAL GYMNASTICS

Thinking tennis too tame, Thomas Tintwhistle took train to the Terai to try tiger tracking. There, taking three tough tribesmen to transport the tackle, Thomas travelled towards the thickets that thronged the terrain.

The three tribesmen, thirsty through tramping, thievishly took Thomas's treasured tippie. To teach them temperance, Thomas thrashed them thoroughly, Thereupon the three toughs, threatening terrible tragedies, trotted to their tribal temple to tell their troubles to their theological tutors.

Thomas toiled through the timber till twilight; then, tying the tent to three trees, Thomas took tea that tasted terrible. Towards ten, Thomas, tired, turned toes to the tent top; thereafter torpid tranquility triumphed.

The tired traveller's trombone tunes thrilled through the tropic twilight. Three tigers, toddling through the thicket, thought the thunder threatened; two, terrified turned tail; the third trotted towards the tent. The tiger tentatively toured the tent, till the twitching tail touched the trestle table. Thomas's thermos thudded to terra-firma, telling Thomas that trouble threatened. Thomas's torch twinkled, the tiger, thundering throatily, turned to tackle the traveller. Thomas, though terrified, tried to throttle the tremendous tomcat. The tiger, to terminate this tentative trachotomy, tore Thomas's trousers to tatters. The traveller, thereupon, tried to tie the tiger's tail to the trestle table. This terrible tustle terminated tragically; the tiger trepanned Thomas! Towards twelve, the tiger-tummy too tight to trot — toiled top-heavily through the trees, taking tasty bits to the tigress that tarried to tend the twins. Twittering toucans trilled Thomas Tintwhistle's threnody.

Advice has been received by the Service, that following an inspection of facilities the firm is authorized to overhaul and repair aircraft and electrical aircraft instruments and to issue clearance certificates.



ALARM!!!

Top—Wearing hurriedly-donned gas-masks, airmen at a west coast station race to man anti-aircraft defence posts in their section as the siren wails warning of approaching enemy planes. The manoeuvres were carried out as part of a combined station air raid and gas defence scheme.

Lower—Group shown here are removing their facepieces after a stiff run during anti-gas exercises. Relief is depicted on some faces as if glad to get their breath normally. Interest on left flank created by one man stumbling during endurance test.

TECHNICAL INFORMATION

Q. Why are the sides of an aeroplane called Port and Starboard?

A. Port and Starboard like many other aeronautical terms are taken from the time honored jargon of the sea. Originally the left side of a ship was referred to as Larboard but owing to its resemblance in sound to "Starboard" it was replaced by command of the British Admiralty by the term "Port." Starboard is derived from the Anglo-Saxon Steorbord — steor, a rudder; bord, the side of a ship — it being the practise in those days to steer a boat by the aid of an oar-like rudder fastened on the right side instead of in the centre of the stern as today. Obviously this rudder would be in danger if allowed to bump against a jetty wall so whenever possible the boat was brought alongside with the left side to the wall and to load the freight from that position. The left side of the ship then became known as the ladebord — lade, a load. Larboard is merely a corruption of the original ladebord. There is some doubt as to the origin of the term "port." It is likely that as ships became bigger it was necessary to incorporate a door or gate on the ladebord for convenience of loading so when a new term was suggested, owing to the confusion between larboard and starboard, "Port" was an obvious alternative — "Porta" being the Latin for gate.

Q. Why are engine cylinders usually painted dull black?

A. Because a dull rough surface has the property of assisting the radiation of heat and so help to cool the engine.

Q. What is meant by the Octane rating of fuel?

A. The anti-knock value of a fuel and is usually expressed in terms of an Octane number. It is defined as the percentage by vol-

ume of iso-octane in a mixture of iso-octane and normal heptane which exactly matches, in anti-detonating value, the fuel under examination. The test is carried out under similar conditions in a specially designed engine in which the compression ratio can be varied. For fuels other than petrol it is sometimes necessary to state the anti-knock rating in terms of highest useful compression ratio since they may as in the case of alcohol have a higher knock rating than iso-octane itself.

Q. What happens when an engine "ices up"?

A. Heat is absorbed in the evaporation of petrol in the carburetor and the temperature of the air in the vicinity is consequently lowered and some of the water vapour in the air deposited as water. The temperature might easily fall below freezing point and this water will therefore freeze and obstruct the passages in the carburetor particularly on the throttle and on the walls adjoining it. Under certain conditions ice formation will arise from super-cooled moisture in the air in which case the ice will be deposited in any projection in the carburetor such as the deffuser. The result of course will be that the carburetor will be unable to supply the engine with a suitable fuel mixture and the engine will lose power.

Q. What type of carburetor is fitted to the Bristol Perseus XII?

A. The Bristol Perseus XII are fitted with Claudel Hobson duplex carburetors, type A.V.T. 85 MB. These carburetors differ considerably from previous carburetors of this make in that, in addition to many design improvements, they incorporate integrally

automatic boost and mixture control units.

Q. What is used in a water cooled engine to prevent freezing?

A. Many substances have been proposed to lower the freezing point of water used as an aero engine coolant. Soluble salts have been tried but found as unsatisfactory on account of their corrosive properties. Ethyl alcohol has been used but difficulties occur through the volatility of the alcohol. Ethylene glycol although it has not a low freezing point will give adequate protection down to -15 degrees if mixed with water to 30 per cent. A mixture of 30 per cent. of glycerine with water has been used with success down to the same temperature but it is important to use non-frothing glycerine or to introduce a small percentage of an innocuous anti-frothing agent, so as to avoid loss of coolant in operation.

Q. What is casein glue made from?

A. As the name implies, the base of this glue is casein, made from milk which is coagulated by means of acid or rennet. The curdled casein is then filtered off, dried, ground, and mixed with lime, soda and one or two other minor additions or so-called secret ingredients producing a white powder. The powder is mixed with water immediately before use.

Q. Why is aluminum coloured dope used so extensively on aircraft?

A. Fabric and other components are seriously affected if exposed to sunlight and while pigmented dopes supply considerable

(Continued on Page 20)

Editor's Note—Questions of an Aeronautical character may be sent to Flt. Lt. W. P. Dunphy, Technical Officer, No. 3 Repair Depot, R.C.A.F. Station, Vancouver. A selection considered to be of most interest will be answered in each issue of *The Review*. Questions should be kept as short as possible.

No. III ON OPERATIONS

Things are really "revving up" in No. 111 (Fighter) Squadron these days as practice co-operation with the army has swung into its stride, and the ingenuity and resourcefulness of personnel are tested in devising schemes.

Aircraft "D.I's" are done as soon as flying is through for the day in order that operations may commence first thing in the morning. Even major inspections are carried out at night, with crews working through the night to complete them.

Early in December co-operation commenced, with the C.A.C. Detachment coming under operational control of M.D. 11. A scheme has been evolved whereby pilots and observers carry out exercises with the various forts in the Victoria and Vancouver areas, and also with the infantry in those two areas, and at Nanaimo.

One of the most popular types of operation, both with pilots and those strafed, is simulated dive-bombing attacks on the forts and troops. To make things realistic, "bombs," of course, were necessary. The bombs (?) are really small paper bags of flour which splatter and mark the spot they hit.

In this way it is possible to check up on hits and improve aim from photos taken by the observer.

Aim, by the way, is getting pretty good, although the pilots bemoan the fact they have not yet landed a bag of flour on personnel — rather a mean streak that, especially on a wet day. It would be kind of a doughy mess to clean off one's tunic.

Much good experience is being gained by both sides in reconnaissance work, both in active and passive resistance. Several sorties

have already been carried out along this line with troops and transport learning to take good advantage of cover when planes are overhead.

Among other operations being carried out are supply dropping. Canisters of supplies are dropped by the parachute route to troops supposedly in advanced positions. Ingenuity was well tested here when a makeshift canister had to be improvised for the first few attempts. This was soon overcome by the use of an expended parachute flare container, dropped from the flare tube. It worked excellently.

No such good luck attended the test drop of a pukka canister, though. The 'chute failed to open. Fortunately the canister dropped in muddy ground. It was bent a little, but was easily repairable.

Brains are being racked just now in an endeavor to evolve some gadget that will simulate an aerial gas attack upon the troops. Several have been tried, and success appears to be near.

As a further aid to these tactical schemes between aircraft and ground troops, the squadron wireless section has constructed a mobile transmitter and receiver. This, in charge of Corporal Richards, works with the troops in the field maintaining communication between troops and aircraft where called for by the particular scheme being carried out.

Spotting for the forts firing on supposedly attacking enemy ships is giving excellent practice to both pilots and gunners, discussions after the practice revealing valuable information, and working operations up to a smoothly clicking routine.

Most of Pat. Bay personnel were taken by surprise recently when they suddenly found hordes

of Canadian Scottish scrambling over the field, and a sham battle in progress. When the "battle" was over the lads in blue were practically "prisoners of war." Parachute troops had supposedly taken over, and friendly dive bombers failed to route them with flour bags before their supporting troops arrived. These had successfully hidden themselves en route from aerial observation. They were only discovered by friendly planes when they were practically ready to scramble over the fences.

NOBILITY STATIONED AT PAT. BAY

By Corporal Yarker, J.F.

A young man of an aristocratic Polish family, Count George Wal-evski-Laschinsky, is stationed here as a rotating trainee for his period of Security Guard.

The Count has never seen Poland, having been born in Harbin Manchuria of a Polish father and a Russian mother. He comes from a family with a long military standing. His father fought in the last War with the lancers. Wounded in the only cavalry battle that the Lancers had with the Hungarians, he went to Japan to recuperate. He then went to China to fight the Bolsheviks, afterwards settling there.

His next move was to Tientsin, then to Vancouver, where the family became British subjects. But, still on the move, the young Count left for the United States where he studied engineering and army ordinance at the University of New York.

The 22-year-old Count is very
(Continued on Page 20)



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(Continued from Page 5)

1/2 H, and 3/4 H, are produced by varying the amount of cold work after annealing. Strain hardened alloys available are—

2 S, 3 S, 4 S, and 52 S.

They are not used for primary structural purposes because of their strength. However, they are readily bent, formed, and welded, and so are used for tanks cowling, and fairings. In tubular form they are used for electrical conduits, fuel and oil lines.

In heat treatable alloys the properties are improved by heat treatment, and further improvement is obtainable by cold working slightly after heat treatment. Heat treatable alloys can be obtained in the soft annealed condition, heat treated, or the heat treated and cold worked condition, and since greater strength is obtainable, they are used primarily for structural purposes.

Practically all working of aluminum alloys is done cold. Cold work increases the strength at the expense of ductility. If the ability of the material **COLD WORKING ALUMINUM ALLOYS.**

to deform is exceeded during the forming operations, such as bending, a fracture will appear in the piece on the outside of the forming radius. The proper remedy for such a result is to employ a more liberal radius, or use a more workable temper.

In the case of 17 S, or 24 S, the most plastic condition is the annealed temper, next in workability is the material, promptly after it has been quenched, from the heat treating temperature. This is followed by 17 ST, or 24 ST, which represents the fully aged condition and, finally, by 17 SRT, or 24 SRT, which consists of 17 ST, or 24 ST, that has received some further cold working.

- (1) Alclad 17 S and Alclad 24 S can be bent over slightly smaller radii than the corresponding tempers of the uncoated alloy.
- (2) Immediately after quenching, these alloys can be formed over appreciably smaller radii.

Note—Minimum permissible radius varies with the nature of the forming operation, type of forming equipment, and design and condition of tools. Minimum working radius for given material, or hardest alloy and temper for a given radius can be ascertained only by actual trial under contemplated conditions of fabrication.

Approximate Radii for 90° Cold Bends in Terms of the Thickness "T"
Approximate Thickness in Inches

Temper	0.016	0.032	0.064	0.128
17S-O (1)	O	O	O-1t	O-1t
17S-T (1) (2)	1t-2t	1½t-3t	2t-4t	3t-5t
17S-RT (1)	1½t-3t	2t-4t	3t-5t	4t-6t
24S-O (1)	O	O	O	O
24S-t (1) (2)	1½t-3t	2t-4t	3t-5t	4t-6t
24S-RT (1)	2t-4t	3t-5t	3t-5t	4t-6t

Approximate Radii for 90° Cold Bends in Terms of the Thickness "T"
Approximate Thickness in Inches

Temper	0.016	0.032	0.064	0.128
2S-½H	O	O	O	O
2S-¾H	O	O	O	½t-1½t
2S-H	O-1t	½t-1½t	1t-2t	1½t-3t
3S-½H	O	O	O	O
3S-¾H	O-1t	O-1t	½t-1½t	1t-2t
3S-H	½t-1½t	1t-2t	1½t-3t	2t-4t
4S-½H	O-1t	½t-1½t	1t-2t	1½t-3t
4S-¾H	1t-2t	1½t-3t	2t-4t	3t-5t
4S-H	1½t-3t	2t-4t	3t-5t	4t-6t

An Aircraft Maker Grows

Like many other aircraft concerns organized in the early '20's Fairchild Aircraft was the outgrowth of a general repair service and sales organization dealing largely in war surplus planes, engines and parts. Organized as Kreider-Reisner Aircraft Co., Inc., in September, 1925, by Ammen Kreider, a shoe manufacturer who had earlier taken to flying for sport and excitement, and by L. E. Reisner, who had been running a general aircraft service depot, the business of selling, repairing and rebuilding other people's airplanes did not occupy it for long.

Armed with the plans for a light airplane, the company built a racer for entry in the events to be held at the Philadelphia Sesquicentennial Exposition. It was powered by a Wright-Morehouse two-cylinder 29 hp engine and when fully loaded weighed 490 pounds; its empty weight was 289 pounds; the wing span was 20 feet.

Completed only a day before the races and test flown on the following morning, it took off on its second flight as a competing ship in the race for the Scientific American Trophy. It not only won this event, but also another race in which Reisner, dropping out because of the loss of the nose spinner, rejoined the race, and, although a lap behind, came on to win.

Spurred to greater effort by its success in Philadelphia, the company determined to secure a plane to compete in the 1927 Ford Reliability Tour. Finding no manufacturer who would incorporate its new ideas, Kreider-Reisner built the airplane themselves. So began the production of Kreider-Reisner aircraft.

During 1930 factory operations were almost at a standstill due to complete absence of a demand for commercial airplanes. However, Fairchild retained its technical organization which throughout sub-

sequent years designed and developed many notable aircraft products. Soon a new two-place commercial airplane was taking shape — the Fairchild 22, a two-place open cockpit, high-wing monoplane, which was produced to sell at slightly more than \$2,000. It was the company's opinion that such a plane could be marketed in spite of the many other larger and more expensive planes which were then a drug on the market. Not only price, but economy of operation was stressed in this model.

The Fairchild 22 was so well received by operators and private owners that a demand was made to produce a cabin airplane of the same quality and incorporating the flying characteristics of the 22. Again the technical organization went to work, and in 1932 the first Fairchild 24 was produced. This was a two-place, side-by-side, high-wing cabin monoplane powered with a Warner 125 h.p. engine; it was the backbone of the present Fairchild 24, which is now a four-place airplane powered either with the ranger 175 h.p. engine or the Warner 145 h.p. engine. Throughout the years the technical organization of Fairchild Aircraft continually worked on improving this model, never losing sight of the fact that quality and ease of flying combined to make the best private owner airplane. This model has been a "staple" in the Fairchild line throughout the years, and not only is it widely accepted in the United States, but also in many foreign countries.

A departure was made in the policy of the company in 1934, when in co-operation with the U.S. Army Air Corps a special cargo-carrying airplane was developed. It was intended that this plane should be a flying freight car stressing rugged construction and low cost operations. Although official tests proved the airplane to be a most efficient cargo carrier,

the subsequent trend toward twin-engine transports forced its abandonment. Also in 1934, the company undertook to develop a single-engine, all-metal amphibion to specifications of Pan American Airways. Several are still in daily operation on the South American river routes, but again, however, the trend toward twin-engine transports caused officials of the company to decide that such a plane had no definite future.

In 1938 Fairchild Aircraft concluded that there was a need for a modern military training airplane, and the technical organization was given the problem of developing such a plane with the understanding that it must be rugged and have the most desirable flying characteristics for the purpose intended. A low-wing type was selected on the theory that all modern military and commercial aircraft are of this design and that, therefore, the transition from a primary trainer to more advanced types would be relatively simple. This has since been proven. After extensive research and engineering Fairchild Aircraft produced a primary trainer which not only met the U.S. Army Air Corps design requirements, but also incorporated aerodynamic and structural refinements intended to increase safety and extend the usefulness of this type of plane. The plane was submitted to the Air Corps in 1913, and shortly thereafter a contract for 270 units was received. An additional quantity was later added. The Army Air Corps designation for the airplane is PT-19, while the commercial designation is model M-62A.

The primary trainer program resulting from the Government orders, in addition to the regular commercial program, has necessitated further extensive expansion so that the plant area now exceeds 100,000 sq. ft.

"IF"

(Dedicated to all Aircraft Inspectors with Apologies to

Mr. Rudyard Kipling)

Dedicated to all Aircraft Inspectors
 (With apologies to Mr. Rudyard Kipling)

IF you can come to work on Monday morning,
 And feel you're quite contented with your lot,
 IF you can laugh and say you're feeling happy,
 No matter what may come, don't care a jot.
 IF you can take a fitting with its blueprint,
 And fancy that you're going to find it right;
 No need to send it back for an adjustment,
 Nor find it made too loose or else too tight.
 IF you can find it wrong and firmly "scrap" it,
 And tell the foreman so right to his face;
 IF you can stand the rude remarks he passes,
 Although with him you've fallen in disgrace.
 IF you can prove it when you show your lay-out,
 And tell the man who made it he's to blame;
 IF you can make him think you're feeling sorry,
 Nor let him pass remarks against your name.
 IF you can take a main spar in its rough state,
 And for that matter other timber too,
 Then feel for certain it is safe to pass it,
 Before you see what "spindling" will do.
 IF you can feel you are a human "X-Ray"
 To look for faults which often lie below;
 IF you can say "I think that I can chance it,"
 And stand the racket if a fault should show.
 IF you can walk around among the tinsmiths,
 And guarantee a tank contains no leak;
 IF you can say all Dural is "heat treated,"
 And never make a "slip-up" all the week.
 IF you can pick up an expensive fitting,
 With lugs and bends and angles in galore;
 Then find it has been made exact to drawing —
 But "wrong material" issued from the Store.
 IF you can "scrap" the part and say "rejected,"
 With ne'er a thought of fear within your mind
 Although you know the time and money wasted
 Will add to "Costs" and cause the "Heads" to blind.
 IF you can vouch for work done by erectors,
 And know each pin and bolt is in its place;
 IF when you're asked to go up for a test flight
 You start off with a smile upon your face.
 IF you accept a plane and give it "Final"
 And feel assured that she will make a show;
 IF you can smile a very short time after,
 When pilot says "She's flying right wing low."
 IF you can feel that all the work is perfect
 And never fear the eyes of A.I.D.
 Then is the time to put your stamp upon it—
 But not before, with that you must agree.
 IF you can keep on good terms with the workmen,
 And know that they respect you just the same;
 IF you can make them think of your position,
 And if things go wrong then you're to blame.
 IF you can hold your own with those above you
 And back your opinion for its worth;
 IF you can tell them where they're "getting off at,"
 And let them know they do not rule the earth.
 IF you can grasp the fundamental meaning,
 Which underlies the stamp you daily use;
 By it you stand or fall — watch when you use it,
 None can compel if only you refuse,
 IF you can feel you answer these requirements,
 And think each night your job was truly done,
 IF you can stick the work and say you like it,
 You'll make a good Inspector then, my son.

MARCHING SONG

By N. W. Emmott, Flt. Sgt.

Route-marching's the accepted thing at all our Air Force stations,
 And does its part to keep our country's place among the nations,
 But with my patriotic thoughts I've known my feet lose patience,
 And say, "I hate to walk and walk,
 Oh, how I hate to walk and walk."

Because the Air Force is a military institution,
 Route-marching to its worries yet may offer some solution,
 A lecture helps the mind; route-marching helps the constitution,
 But still I hate to walk and walk,
 Oh, how I hate to walk and walk.

To me the idea sometimes seems to lack both rhyme and reason,
 Although I've heard some seem to think such sentiments are treason,
 I wish they'd clamp restrictions down and have a one-week season,
 In which we'd have to walk and walk,
 And walk and walk and walk and walk.

As all the troops march bravely past behind the brass band's blaring,
 The shrilling notes are almost drowned by cursing and by swearing,

And muttered comments on the nails that stud the shoes they're wearing,
 That make the men all say, "I hate to walk,
 Oh, how I hate to walk and walk."

The pay-off really comes of course upon a morning after,
 When your enlistment seems quite daft, route-marching even dafter,
 When as each pace wipes fro myour face each trace of joy and laughter,
 You say, "I hate to walk and walk,
 Oh, how I hate to walk and walk."

N. W. Emmott, Flight Sergeant,
 R.C.A.F. Station, Patricia Bay.



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At the Canteen

Mother's Boy in Camp

The Department of National Defense has announced that canteens at Non-Permanent Active Militia training centres will be dry. The decision has been reached out of deference to the mothers of the draftees many of whom consider their sons to be mere boys who must be saved from temptation by the demon Drink.

While the dry canteen is a pleasing innovation to mothers, there are a few other trifling suggestions which the authorities might well consider. These are outlined in the following letter mailed yesterday to Major General Griesbach by a Vancouver lady, who writes:

"Dear General:

"I am glad there will be no beer in camp where my young son is going. He is still very much of a child, really even if he is nearly twenty-two, six feet one, weighs 216 pounds and has red hair.

"Please don't let anybody call him 'Ginger' a nickname I have abhorred ever since it was first inflicted on him years ago. My, my, how time does fly.

"Do like a good man, arrange for the corporal, or whoever is in command of his regiment, to see to it that his companions in arms address him as Archibald, the name he inherited from his paternal grandfather.

MENU FOR THE WEEK

"I don't know what an army eats, but Archibald has always been very particular about his food. He has very strong likes and dislikes and his appetite must often be tempted with dainty dishes. I enclose a list of menus for twenty-one meals, which please instruct the cook to serve exactly as indicated. On no account may crab meat be substituted for lobster in salads and all clear soups must be served in cups.

"My boy always sleeps in until eleven o'clock on Sunday mornings, and you must excuse him from early parade on that day. He is not a regular church goer, so it would be well to excuse him from

(Continued on Page 19)

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church parade too. He is however, a consistent observer of Sunday as a day of rest, so do not on any account assign him to fatigue duty over the week-end as this would upset his routine habits.

"While route marches may be good military training for some men, Archibald has never cared for pedestrianism. If it is necessary for him to go to some distant place with his regiment, please provide him with a motor cycle. You may charge the gas to me personally.

CREATURE COMFORTS

"Although Archibald is entering the N.P.A.M. as a private, I assume he will be assigned a batman to look after him. Please find changes his socks promptly when one who will see to it that the boy ever he gets his feet wet, and that he has a comfortable easy chair for evening's rest. If he can also persuade him to carry an umbrella in showery weather I shall be most appreciative. Archibald has been rather self-willed in this respect of late years.

"I must mention that Archibald likes a room with a southern exposure, but not on the ground floor. As he often comes home quite late at night it will be necessary to provide him with a latch-key to the barracks. He is sometimes forgetful of trifles so the sentry must not mind if he does not remember the day's password. Perhaps you might arrange a permanent password for him, if this is not contrary to army regulations. It would simplify matters, wouldn't it?

NO DISAGREEABLE DUTIES

"As Archibald is an only child, he has been allowed to have his own way ever since he can remember. Because of this he is certain to find discipline irksome, and the officers must govern themselves accordingly. He should not be asked to discharge any duty which is disagreeable to him, or which he does not particularly fancy. This can easily be avoided by having the sergeant-major call for volunteers for peeling potatoes, drying dishes or making beds, tasks which Archibald would never dream of doing at home.

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Technical Information
(Continued from Page 12)

protection, they do nevertheless absorb much heat. A final aluminum coating is therefore given as by this means the heat rays are reflected and do not enter the wing itself.

Q. What is "Y" alloy?
A. An aluminum alloy of the following composition: Copper, from 3.5 to 4.5%; Nickel, 1.8 to 2.3%; Magnesium, 1.2 to 1.7%, and aluminum the remainder. This material possesses the great advantage that the strength of the castings may be greatly increased by heat treatment.

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137 W. Broadway Vancouver, B. C.

Pat Bay
(Continued from Page 13)

anxious to see Active Service and avenge the cruel injustice done to the land of his ancestors by Hitler and he thought the best way to help was to join the Royal Canadian Air Force.

Despite his long residence in the United States, the Count held and cherished his British citizenship, and joined His Majesty's Royal Canadian Air Force.

Widely known in New York society, he is a member of such exclusive clubs as the Wing Foot Yacht Club, Pittsfield Polo Club, New York Athletic Club, and the famous Stork Club. Before joining the Air Force the Count was doing British War Relief work with the widely known debutante and socialite Brenda Frazier.

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The Recruiting Centre

Do you remember when you were a civilian and haunted the Recruiting Centre day after day waiting in line for an interview and then the same thing over again until you received your medical examination?

You thought you would be going the next day and you waited patiently for your call, still pestering the much over-worked Recruiting Officers; finally it came and now you are in the R.C.A.F. The Recruiting Centres are just as busy as ever and I'll bet that you forgotten all about us.

After all, we are the only link that the civilian knows between Mufti and Air Force Blue. So here is where they come with all their troubles. The poor mother who, be the airmen, does not get her allowance that her son told her she would get. The little wife whose allowance does not come through on time; or the child that has finally become too old to get the twelve dollars per has her case pleaded with tears.

Did you ever stop to think who has to answer the questions of some broken hearted parent whose pride and glory has been found medically unfit for service? They are sure that their son can do anything that anyone else's son is capable of doing.

And remember when you joined up, we told you that after you were in we could not help you muster; that it is up to the unit; and when you pay us a visit don't crab because we can do nothing about it.

Sometimes I think that we would be better titled as INFORMATION PLEASE for the questions that we have to answer

Thank goodness that it is not all like this, there is also a lot of humour attached to these duties. The answers that we receive from some of the applicants to their Trade Tests are funny. Could you keep a straight face when you asked a man what a bowline in a bight was and he said that it had some-

Continued on Page 22

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Every night upon the beat,
When we hear those marching feet,
We look up, and from our seat,
Halt — who goes there?

When we jump the Corporal,
Who it is we know damn well,
All the same we shout like hell,
Halt — who goes there?

Makes no difference if its friend or foe,
He must advance before we let him go,
'Joe' or no.

Every night and every day,
Shouting in the same old way,
We'll be here until we're grey,
Halt — who goes there?
Composers and Sole Publishers,
'Joes' Hutchison and Wallace,
Jericho Beach, Vancouver,
Dec., 1940

THE RECRUITING CENTRE
Continued from Page 21

thing to do with artificial teeth or when you asked a man how to box a compass and he proceeded to tell you how to build a wooden box and the proper method of suspending it? And what about the poor fellow that got hopelessly tied up trying to explain how a six stroke cycle engine worked? These, and many others too numerous to mention, are common occurrences.

Finally, it has its recompenses, because after all is said and done we are proud of the part that we are playing and, when some of the boys that we have enlisted remember us, we appreciate the few lines they send, telling us the details of their new life. It assists us in giving the new recruits an idea of what to expect. Most likely the following telegram that was sent by a shipment of Pilots would take first prize: **CONGRATULATIONS ON THE FINE BODY OF MEN YOU SENT AWAY YESTERDAY.** (Signed) **THE FINE BODY OF MEN.**

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The Habitant From Ucluelet

In my big bois far in the Province de Quebec, me Baptiste Latouche I hear about this air force and vite, like that, I decide to become an aviateur, the Anglish they call it a "birdman" or something that way . . .

My little siseuraa Eglantine she write to Ottawa for some papiers and me Baptiste, Antoine, Telephone Latouche I put my X where my siseuraa she tell me. The papiers they go back and soon I, Baptiste Latouche, am told to make the voyage to Quebec. Pierre Leblanc, the big boss of the bois, he tell me I should not let go my axe to be a bird . . . but Pierre, the pauvre garcon, he can no speaky the anglish like me . . .

I go to Quebec and quick like that they send me to a large place called Camp Borden. Pauvre Baptiste instead of birding I push une mop around and around until I like it no more. Then they send me far, far by the Pacifique . . . until I reach a place they call the "Country of Rain." . . .

Baptiste he is happy once more . . . no roads in this nice bois. The C.O. he tell Baptiste to cut the trees just like in the Province de Quebec . . . Every day Baptiste he cut more trees and nobody ever bothers Baptiste in that place like the nord of Quebec but called . . . UCLUELET.

PLANE MAKERS URGED TO SPEED

The United States War Department recently announced a drive to accelerate warplane output. Manufacturers not operating on a 24-hour basis were urged to do so where feasible.

Major-Gen. Henry H. Arnold, air corps chief, said contracts already are being revised to accelerate the rate of production, which defense commission officials say is now approaching 1,000 planes a month.

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