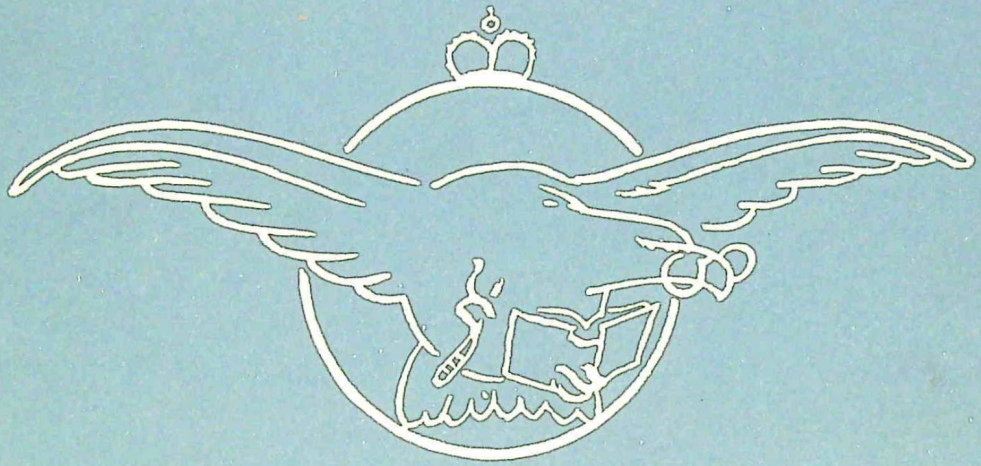
TEE EMM



Vol. 2 No. 1 April 1942

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TEE EMM

April, 1942

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Pilot-Officer Prune says—
"Take Tee Emm *regularly! Prevents that Thinking feeling!"*

I hope that these Training Memoranda will be widely read and studied, since I am certain that they will help us all to improve our efficiency, not only in our training but also in operations against the enemy.

Air Chief Marshal, Chief of the Air Staff

A Year of Tee Emm

THE first of April, as a date, is memorable for three things. They are the coming into being of the Royal Air Force, the birthday of Pilot Officer Prune, and the first issue of TEE EMM—listed, of course, in ascending order of importance. To-day, therefore, the Royal Air Force is celebrating the completion of twenty-four years of existence, and TEE EMM is celebrating the completion of its first year. Pilot Officer Prune is just out celebrating—and probably won't be seen till Friday.

Ignoring both him and the Royal Air Force for the moment, we propose in this, the First Number of our Vol. Two, to come down from the usual editorial pulpit. We propose instead to grab our own trumpet—which we can blow better than anyone else—and tell you a little about our first year, answer publicly a few of the queries that have come in from time to time, remove misapprehensions, engender confidence, raise our own morale, and present a united front to something or other. After all, we aim to be, like Cæsar's wife, all things to all men.

The introduction of an R.A.F. Training Memorandum was due to the realisation by the authorities of two things : (*a*) that there was a lot of valuable training gen for aircrews being continually sent out in various forms from the Air Ministry ; and

(*b*) that not as many people as ought were reading it. (And we personally don't wonder. The official style of writing is in many cases heavy enough to sink a battleship. Why, we have even read with our own eyes a booklet which, wanting to start with something like " Here are some facts about Oxygen which pilots ought to know," actually cracked off with : " In an endeavour to correct some misapprehensions which exist in the minds of even the most experienced pilots in regard to oxygen, the following short Memoranda epitomises some common facts about oxygen." Wow ! Hold us up, Flight Sergeant !)

So TEE EMM came into being, aiming to put the stuff across in a light-hearted manner and without too much " Whitehallese." The general idea was just to make it readable and get it read. As a further object it was felt that TEE EMM might also become a useful medium for the wider ventilation, among all Stations and with official blessing, of training points and problems originating from any one Station. In short, a means of exchanging ideas on training, as well as of pushing out the training doctrine from above.

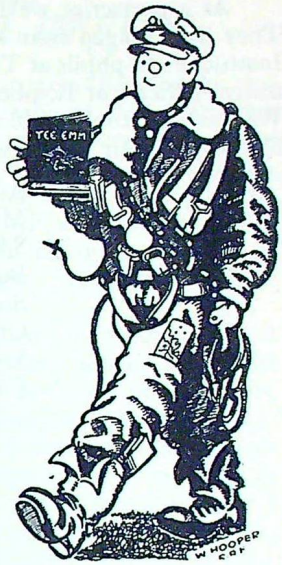
Both these objects, we flatter ourselves, have been reasonably successful. Our Special Representative (generally the Editor, who knows a good thing when he sees it) has travelled round to various Stations at Enormous Expense (to his hosts) and is able to report that TEE EMM *is* considered readable and *is* being read. (As a matter of fact we have a large fan mail to prove it without going on visits, but getting a letter from an admirer is not half such fun as being stood a beer by him.) Further, a large proportion of TEE EMM's contents each month are now sent in from Stations and are not solely Air Ministry gen. Indeed, in several cases such articles, or problems, have given the Air Ministry itself ideas, and alterations have even been made to official publications, such as Pilot's Notes, or changes made in training syllabuses, on the strength of what the police like to call " information received," from those more in contact at the moment with practical operations.

We'd like here to emphasise a couple of points which crop up fairly regularly about contributions to TEE EMM. First, TEE EMM is, after all, a Training Memorandum, not pure entertainment. *You* may like spoonfuls of jam but *we* have to see that there are powders in them somewhere. That is to say, articles for TEE EMM must be fundamentally *helpful*, not merely informative. They must present a training point ; criticise common mistakes ; point a moral ; call for action ; explain a problem ; plug some service or training angle ; or spread doctrine. They cannot be merely descriptive or " newsy." When we get a contribution in, our first reaction is to ask, " What's it in aid of ? " If it isn't in aid of anything, we have reluctantly to push it back. We could fill TEE EMM with interesting and humorous stuff of no basic value whatever and you'd probably love it—but we wouldn't be doing our job, which is to get the powder into the jam.

The next point is that contributions do *not* have to be written in what correspondents so often call " your inimitable TEE EMM style "—and then imitate it. That's what the Editor is for ; he's got to earn his money somehow ! So write the article just as it comes easiest to you or merely give us the facts and the points to be

put over—and we do the rest. Once again we could fill TEE EMM with heavy, officially written stuff of considerable basic value but quite unreadable, and you'd probably hate it—but once again we wouldn't be doing our job, which is to provide the jam round the powder.

Every article sent in, we should add, is vetted by the Air Ministry branch or branches concerned to see that it is not too heretical or just plumb wrong, after which it is finally passed by the Air Member for Training. And, to set your mind completely at rest, every article we re-write (which is all of them) goes back to the authors for approval, to make sure *we* haven't made a boob during alterations. As a writer we may be grand—at least we tell everybody we are—but what we don't know about aircraft and such is just nobody's business. Even Pilot Officer Prune knows more than we do ; and *that* ought to show you.



1942 *and still going strong.*

Now a word about TEE EMM's distribution, which has changed slightly since we started up a year ago. We refer you to A.M.O.'s N288 and N1445 of 1941—if you don't read your A.M.O.'s that's your fault—and the inside back covers of TEE EMM for June and July, 1941, and a short article on page 24 of November, 1941, issue also explain it all very clearly. Briefly, TEE EMM is sent in bulk to Stations and/or Units (and Air Ministry Directorates) to be distributed at the C.O.'s discretion. This distribution should be such that all officers, instructors and sergeant members of aircrews can see it and that those who wish to do so can keep copies. The bulk issue can be varied at any time, to suit these requirements, by units or stations writing to us *direct* (Editor, TEE EMM, Air Ministry, London) and *not* to A.P.F.S., as at first laid down. But we have written more fully on this subject on page 19, in a special word to Adjutants.

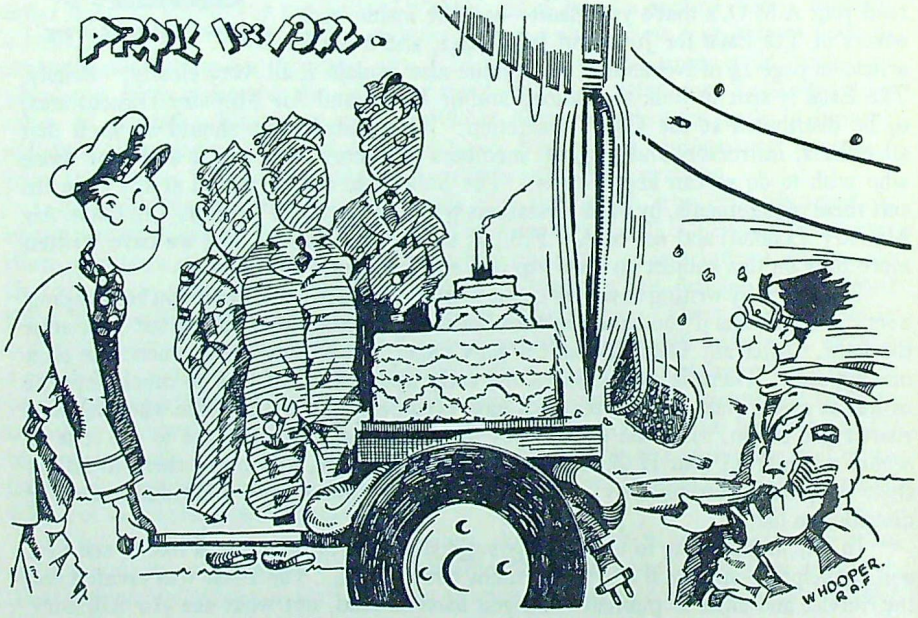
Moreover, by writing to us you can if you like get back numbers if you are keeping a set ; or whole sets if you have not been bothering to keep them, but at last have seen the light. After all, TEE EMM isn't a daily paper, out of date the moment the next one appears. There is, we hope, in the early issues, stuff of just as much interest to-day as ever it was, and you may not have even been in the Air Force when we first roared into action. But the proper way to ensure that you continue to see it is to secure copies from your H.Q. and, as we have said above, it is up to them to adjust their supplies accordingly by writing to us. We cannot put individuals on our distribution list.

In conclusion, write to us with any suggestions for articles you'd like to see that will be helpful—and we'll try to dig them out for you. TEE EMM was created for the Service and aims to publish what you *want* to read, not what the Air Ministry thinks you *ought* to want to read.

As a postscript we'd like to thank all the many contributors of our first year. They have ranged from Air Vice-Marshals down to Sergeants, from O.T.U. Chief Instructors to pupils at Technical Training Schools, from Fighter pilots to Administrative Officers at Bomber Stations, and we are grateful to them all for their help. We wish we could publish names, but as TEE EMM is issued officially by the Air Ministry the Air Ministry is technically the sole author.

A book for Official Use Only
Must not mention authors by name,
Thus nobody gets any credit,
But nobody gets any blame.
So whether your ideas are cracking
Or whether you've made some bad slip,
You miss any chance of promotion,
But you miss getting torn off a strip.

Birthday Party



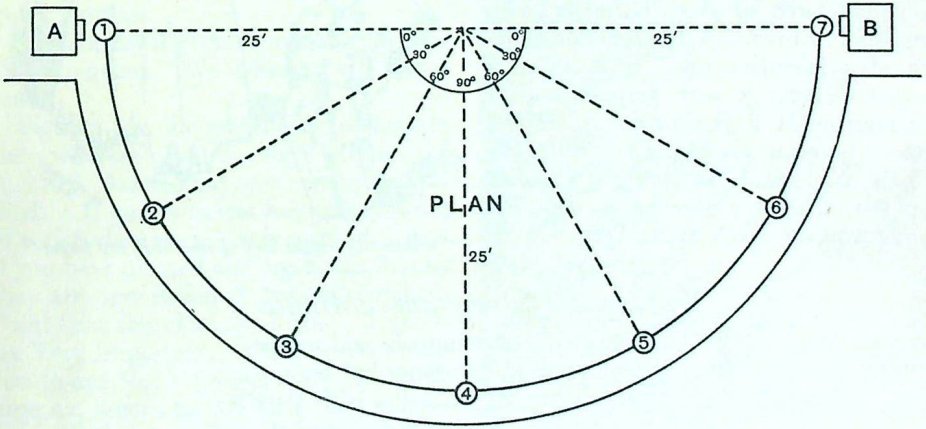
P.O. Prune says it's a nice piece of cake.

Training with Clay Targets

ABOUT eighteen months ago the ordinary shot-gun was in great demand by our newly formed and utterly bloodthirsty Home Guard who at that time were sharing a rifle among every three men and a bullet amongst every five. Then gradually they were given more rifles, bombs, molotoff cocktails, tommy-guns, machine guns, land mines and, finally, pikes—and the shot-gun lost its popularity. Latterly it has found a new sphere of usefulness with the R.A.F. as a preliminary aid to training air crews to shoot. This article of ours aims at telling you how to go about the business—which is by means of a " Skeet Range." (Simple to Make : A Child Can Do It : Have you one at your Station ?)

The Skeet Range is as shown below. It is laid out in a semicircle of diameter 50 yards with seven different firing positions arranged equally round the circumference and a " traphouse " at each corner. Two traps are not essential. You can't use two if you only have one, and so you must make do with one. (P.O Prune here murmurs scornfully, " If we had any bacon, we'd have some bacon-and-eggs, if we had any eggs.") Simply move your one trap from A to B and back as required, and don't hold everything up while you apply—probably fruitlessly—for a second trap. The trap is so sited that the clay target is thrown straight across the chord of the semicircle and so adjusted that the clay passes over the opposite traphouse to fall about 10 yards beyond. It should be fired at when it is midway.

Now looking at the picture again you will see that each firing point gives you the target from a different angle, seven angles with the clay travelling from left to right from A traphouse, and—so that you don't get in the habit of always expecting Me.'s to appear from the same side—seven angles with the target going from right to left from B.



SKEET RANGE

Firing practice, which should always, by the way, be supervised by a qualified instructor, starts from the point opposite the traphouse in use—at No. 1 for instance if trap B is operating. (Which you use depends on which is more suitable from the wind point of view.) The firer thus gets a head-on no-deflection shot and ought to blow the thing out of the sky every time. (" Will *nearly* every time do ? " asks Prune anxiously.) The firer is then moved on to Point No. 2 where the angle has naturally changed, and so on to No. 4 where he gets a full deflection shot. As he goes on farther the deflection angle gets smaller again until he arrives at Point No. 7 where he is at the trap in use with a stern chaser shot and a pretty swift one at that.

The firer should use the " gun-to-shoulder " position—the correct method of mounting has no bearing on the value of the training as such—and in early practices only one trap at a time is used. Later, when the firer is proficient in this, and if you have two traps, " doubles " may be tried, that is, a clay is released from A trap at the instructor's whistle and from B trap at the sound of the first shot. Only for this exercise, of course, should both barrels of the gun be loaded : otherwise one.

The instructor should always stand behind the firer, and, immediately after the shot if the target has been missed (" You mean *when*," says Prune), he can explain the probable reason and the best way to correct the fault next time.

The vital part of the training is harmony : to co-ordinate hand and eye, and so achieve perfect timing. Deflection is applied by following the path of the target, overtaking it, and, when the estimated deflection point is reached, pressing the trigger. Remember, though, not to stop the movement of the gun till after the shot has been fired.

A final word of warning. Because you may have to deal normally with batteries of Brownings don't think a shot-gun is a harmless toy. It is a lethal weapon. Treat it with respect, and if you *must* point it at someone when it's loaded, point it at yourself. It'll save you the trouble of explaining afterwards just how it all happened—unless, of course, you are asked by St. Peter.

" *'n then the trigger sort of caught in my finger.*"

Tee Emm's Fragrant Minute

THE Queen of the Cannibals said to me,
As I just escaped becoming her tea :
To just two things me am belly, belly partial—
A slice of ham and an Air Vice-Marshal.

ANON. (*wisely*).

A.S.R.S. Speaking

Pigeons

AT the mention of pigeons P.O. Prune is at once convulsed with laughter. Pigeons to Prune are funny. "No one," says Prune, "really takes pigeons seriously." Why, Prune knows a story about the man who crossed carrier pigeons and parrots: "Stop me if you've heard this one, chaps, but there was once a . . ." He is stopped. We've all heard that one. Still muttering something about "taking verbal messages," Prune is hustled out of the room.

Well, all we can say is that one day Prune may not think pigeons are quite so funny. A pigeon may, for instance, save his life—that is to say, if it's a broad-minded pigeon who thinks Prune's life worth saving. And from then on, probably, instead of pigeons being funny to Prune, the mere mention of the word "Prune" in the pigeon loft at night will be the cause of overwhelming twitters of gusty laughter.

We wonder if Prune knows all the facts about pigeons. We'd like to tell him a few.

Pigeons are an additional method to the wireless S.O.S. for letting the A.S.R.S. know that you are about to ditch. If your wireless has been put out of action they are the *only* method. And if you have ditched and are in the dinghy they are *very definitely the only* method. Point One, therefore, for Prune: Pigeons are Very Important. We need only refer him to our No. 8 (November) TEE EMM, page 22, where he will find the words—"the W/Op. jumped out into the wing leaving the pigeons to their fate, and thereby losing the last chance of letting the A.S.R.S. know what had happened." The result of that error was that the W/Op. and his companions spent nine days in their dinghy instead of possibly nine hours. And naturally there can be no record of the other cases where the same thing has probably happened—but the crew have never been picked up.

Now as to reliability. Not much use to shoot a pigeon into the air if it falls to earth you know not where—and neither does anyone else; equally useless if it pushes off on a toot of its own and is never heard of again. But, in point of

"My dear, the flak was awful!"

fact, 96 per cent. of released pigeons arrive back, or have their message picked up and relayed ; and this from releases in all weathers and up to 400 miles of flight. Point Two for Prune : Pigeons Get There !

Point Three : They only get there, however, if they are released. It is unfortunate that in the majority of cases of ditching, pigeons are *not* released—particularly from dinghies, when they would have been the only means of letting people know that the crew were still on top of the sea and not underneath it. And finally, when they have been released they have in almost every case carried no message. The bird has been searched all over to see if it has pigeon-holed it somewhere, but no. All that is known, therefore, is the information already on the message form, the number and Station of the aircraft, and the deduction that it is in distress—or perhaps has just let its pigeon escape by mistake.

Now the above failure to make full use of pigeons may, of course, be due to a lot of things. First : the pigeons may have been drowned while getting them to the dinghy. Second : the birds just broke away before any proper message could be sent because they weren't handled rightly, due to inexperience. And third : it is asking a little too much of a ditched, wet, cold man, maybe wounded, perhaps in the dark and a gale, that he should fiddle about with paper, pencil, a little message carrier and a live bird whose one idea is to get the hell out of it all.

All these points, however, can be overcome by a little preliminary attention to the subject of pigeons, in general, and your own life-saving pigeons in particular.

Many pigeons were drowned to begin with because the pigeon basket let in the water. This risk has been overcome now by the pigeons being issued in a metal box which can be made instantly water-tight just before the aircraft ditches and yet keeps them alive for half an hour. It is up to you, however, to use the container properly. Don't, for instance, take the luminous breather cap off the box while in the aircraft. For if you do, first, you perhaps won't be able to find the container if the aircraft lights have failed, and secondly, the bird will drown if the box gets in the sea, which makes rather a fool of the man who designed an otherwise watertight box for you. Incidentally, as well as losing the pigeons you'll lose the 25-lbs. extra buoyancy which the box gives you ; and you might be glad of it. For the same reason remember to close the bung lid securely before ditching.

Again, don't forget to open the breather cap once you are safely in the dinghy. If you forget, after half an hour the pigeon will be only useful as an emergency, and pretty horrible, ration. (No one's yet worked out, by the way, whether, assuming you do eat the pigeon, you can then instinctively lay the correct course home !)

And finally, don't let the pigeon get wet before release. Like the Marine Distress Signals, they won't work when wet.

Now for the message. The message carriers are treated with a white dope on the outside, and all that has to be done is to moisten it and write with indelible pencil ; this stays legible, however smudged subsequently.

All messages must be prefixed with "A" for a pigeon released while still

airborne, or " D " for a release from the dinghy. Be sure and put both *time* of ditching and time of pigeon release : they may not be at all the same, for it is advisable to wait for daylight, when the pigeon will have better chances of getting home in good time. For example, D/0240/0620 means that after ditching at 0240 hours you have sent the pigeon off from the dinghy at 0620 hours.

And, our last tip, do practise handling the birds. There's a right way and a wrong way : the pigeon knows the wrong way and doesn't like it. There is an N.C.O. pigeon-keeper in the Station, who comes under the Station Signals Officer, and he'll be only too pleased to demonstrate and instruct—apart from the fact that it's his job—*if* he gets the opportunity.

Give him that opportunity. Maybe one dark wet night you won't regret it.



Good Shooting—but what Prunery !

SOME months ago during a practice air-firing attack with a cine-camera gun by one Hurricane upon another, the attacking pilot pressed the firing button instead of the camera button, and, the guns being loaded, the practice attack suddenly became a very real one. Now it is not for us to go into the why's and wherefore's of this accident : accidents do happen—Pilot Officer Prune, looking over our shoulder, has just said, " *I* think it's amazing the accidents that *don't* happen "—and luckily the pilot who was acting as target was unhurt, though his aircraft was brought down at once.

Our only excuse for bringing the whole unfortunate matter up is that the shooting, though mistaken, was excellent. For the range was 370 yards and the burst was barely three-eighths of a second. Yet in that brief moment the following damage was done : oil cooler punctured, resulting in partial seizure of engine through loss of oil ; port main plane, main spar, centre section boom, rudder stern boom, elevators, fin and one fuselage strut all damaged and holed by bullets ; hydraulic pipe line pierced ; R/T damaged.

Not bad for a beginner—which the offending pilot was, being only ten days out of an O.T.U.—especially as he had completely misjudged his range as well, being under the impression, according to his report, that he was at 200 yards' range, not nearly twice as far off. But there are some experienced pilots, who, while they may never have committed such a boob, have spent far more ammunition at far closer ranges—and yet have not brought an opponent down.

Moral : Good marksmanship is more than half the battle, even though in this case it was nearly tragedy, and certainly severely damaged a valuable aircraft.

Look Out!

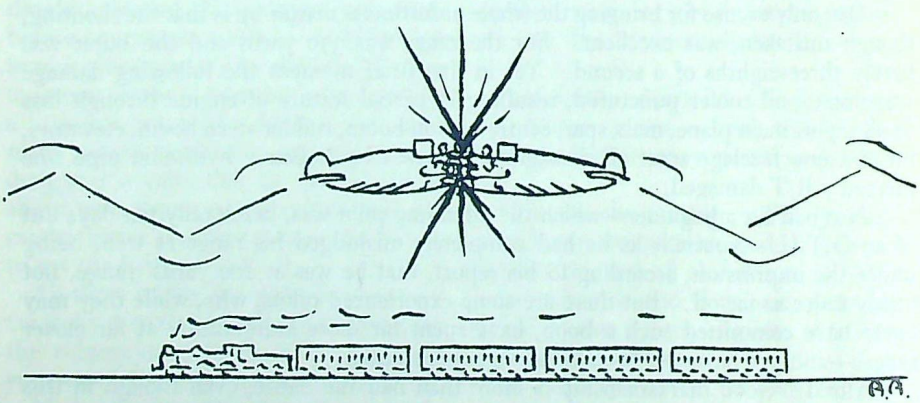
WITH all the air there is about the place, you'd think there'd be enough room in it for everyone, but in these days it's really beginning to get a bit crowded. This isn't to say that aircraft are actually jostling each other out of the sky, but it does mean that it is increasingly important to keep your eyes skinned, particularly with the foggy weather season on us.

We have just had a Ferry Pilot in to see us. He has many hundreds of hours flying, in all sorts of aircraft, behind him. Indeed, he has flown five different types in one day, ranging from Scotland to Cornwall and back, so you can see that he is not a fellow to be easily dismayed. Yet his one bugbear is the pilot who doesn't observe the rule of the air. " I have to fly all over the country in all weathers without crew or radio," he told us, " so I have to do a lot of ' Bradshaw ' flying. Do implore the R.A.F. pilots *not* to fly down the *left*-hand sides of railways, rivers or roads."

As that jolly little publication, *Air Sense* (A.M.P.117, and free of charge) tells you, no precautions are of any use against the casual or careless pilot. On the other hand there is no danger of collision between two aircraft whose pilots see each other at even a few seconds' distance and know the rules.

Remember that in bad weather all such features as main railway lines, main roads, large rivers, etc., are likely to be used as guides and that the clouds may seriously reduce the free room available. Therefore apply the old international rule of keeping well to the right of such features if your track lies along them. This means that traffic coming the other way will pass you on the left, as it should. If your track crosses such lines, get over and well clear as soon as you can.

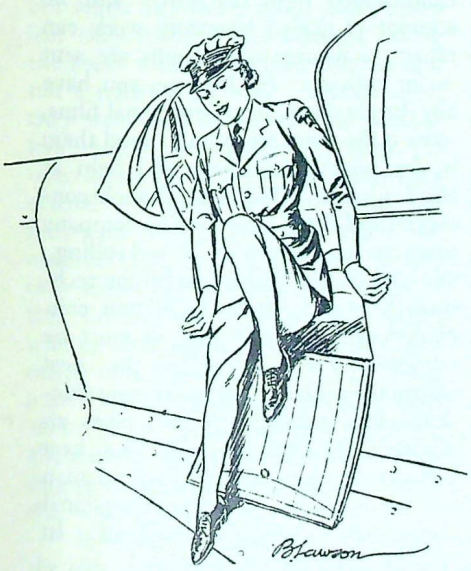
So, for the sake of the other fellow as well as of yourself, and of both your aircraft—*look out !*



" P.O. Prune never did know his left hand from his right."

The Making of Instructional Films

YOU have all of you seen R.A.F. instructional films at one time or another. They cover every subject from the Thermionic Valve to Artillery Reconnaissance Patrols, from German Warships to Beam Approach. Maybe you have thought of something not on the list and have written in asking for a film on that subject. Prune, for instance, keeps asking for " How to Get In and Out of the Spitfire VB, featuring either Betty Grable or at any rate 'Waff Winsum'." Maybe you wonder why your suggestion isn't instantly taken up. (Prune has a shrewd idea why *his* suggestion isn't taken up ; but he says he'd be quite content with even a Spitfire I as the supporting cast.)



" Featuring Waff Winsum."

Well, perhaps you haven't quite realised the enormous amount of detailed work and professional knowledge which has to go into the making of even the most non-technical films. To give you an idea, here is the " time-table " of an instructional film just nearing completion at the moment, the object of which is to explain the drill and procedure following the ditching of a Halifax. The first thing was to get a writer, and since writing the shooting script of any film is a highly skilled job in itself, and you are extremely unlikely to find any Halifax aircrew member who is a script-writer, and equally unlikely to find a script-writer who knows all about a Halifax, this meant that the writer selected had first to be taught the ditching drill for each member of the crew before he could even start on the script. By the time, therefore, this had been done, and then the complete script written, vetted by the Air Sea Rescue people, and passed as correct, all of two months had elapsed. Meanwhile arrangements had had to be made to secure the star performer — the Halifax itself — together with a large hangar, and to detach two aircrews from a Halifax Squadron. The cast, including the film unit, about a dozen technicians, were billetted in a near-by town and then the shooting of the interior aircraft scenes began, which for various reasons had all to be done at night.

During this, the necessary part of a Halifax, actually floating in a sheltered bay somewhere on the coast, was being

reconstructed, and, in the adjoining film studio, sets were built representing an Ops. Room, a Rescue Launch, an Officers' Hut, a D/F Station, and so on. Three to four weeks shooting of these then took place—hampered, as usual in England, by weather conditions. Next came two or three weeks' cutting, adding engine noises and so forth, together with the laboratory work of making "opticals," that is, fades, mixes and dissolves—at which stage the film at present is. Viewing and okaying are yet to be done and about eight days' final laboratory work. Not till then will the film be ready. Nor, you must remember, is it the only one being made.

So you can see that making an Instructional Film is a lengthy and highly skilled job requiring not only laboratory facilities and masses of expensive apparatus, but also professionals to make it. Instructional films are a very valuable adjunct to training, but, like any other type of film from feature to documentary, they *must* be of good quality, or they'll probably send you to sleep and so defeat their own purpose.

For this reason, while we do not want to damp enthusiastic film amateurs, we do ask them to bear the previous paragraph in mind. A short while ago a 16 mm. film was produced by an R.A.F. School. It was a very creditable effort, *but*, unfortunately, it was just a little boring. And the sole reason for this was that it did not have the professiona touch. It was 1,600 feet long and could have been done in 800, and it was poorly graded owing to exposure mistakes and bad lighting. It did avoid, at least, the mistake common to amateurs of using ordinary film stock and reversible stock together in the same film—which results, among other things, in a pilot's wings appearing on the right side of his chest at one point and the wrong side later on—but not all home-made films are so lucky, and the result is apt to cause humorous comment in the audience.

Naturally, to those who had made this particular film, it was grand, because they knew all the characters and had a natural parental affection for their baby; but to the outsider it definitely lacked that "snap" which every film, if it's going to hold an audience at all, *must* have.

Don't think the Air Ministry Film Branch is jealous or believes its thunder is being stolen. It merely wants everyone to realise that with inadequate equipment, stock, and processing facilities any would-be maker of films is handicapped from the start; and no account of skilled laboratory work can repair the damage when results are sent in for copying. If, therefore, you have any bright ideas for instructional films, work it the other way round: send them in for professional advice and help at the beginning. The A.M. Branch concerned will detail an expert film company to do the job and will set the ball rolling; and will *then* be grateful for all the technical help and advice the Station concerned can give. After all, it must be admitted that to produce the best instructional films you must have instructional film experts, just as it takes an experienced artist to paint the best pictures or an experienced cook to turn out the best meals—or even a professional shoe-maker to make the best shoes. In fact, there's a proverb about it.

phenomena of scintillation caused by the stars, *i.e.*, if I placed myself in a certain position, I could see the glare of a particular star circling around certain hill tops ; this glare which became strong as a beacon enabled me to see my shadow in its light. This is evidently what L—— had seen : I therefore forbade him to look for it, and decided to find the plane at all costs."

In spite, however, of everything the pilot and W./Op. could say, the observer insisted in starting off to look for this mirage beacon on the far side of a steep mountain in the blazing sun of midday. He was never seen again.

After further search for their aircraft the pilot and W./Op. returned to a cave and sheltered for a while from the sun. Continuing their hunt later they eventually saw it at the bottom of a gorge, but when they had climbed down 1,000 feet they found it was smashed among the rocks with one engine burnt out and not a trace of any water. Discouraged, they went back to the cave and another five hours rest followed ; then, at 0300 hours the next day, the 27th, they started off again, skirting round the mountain towards the east which the observer had set out to climb, hoping they might run into him. Six hours of this brought them to a small valley, where, after failing to find water and eating only some aloe berries, they found a cave just big enough to hold the two of them lying flat side by side. Covering themselves with sand, into which they dug to keep cool, they remained there all the blazing afternoon.

" It was then," writes the pilot, " that the idea occurred to me that these mountains were not of the usual type ; all the peaks were of the same height, and reminded one of the cliffs that border certain seas. I presumed that we were in a depression and that, above, there was a plateau, which constituted the normal level of the desert. Hence there was no hope of circling round the escarpment ; the cliff had to be climbed. To make a success of the climb this time, I decided to spend the first half of the night in resting."

That evening, however, at 2000 hours while again looking for berries, they came across traces of the observer, in the shape of " tired footprints," and set out to look for him, but in spite of further search till 0600 hours, they were unable to find him and concluded he must have dragged himself into some cave in his last despairing efforts.

The following day at dawn they set out to climb the mountain while they still had enough strength. Four and a half hours of struggle brought them to the top with a view of limitless desert stretching in front of them to the north. They had now roughly plotted their position and decided to travel on a course of 10° east, aiming for Fuka on the coast. Taking direction from the stars, and the sun, at 0700 hours, they walked very slowly and gave themselves half an hour's rest after every hour. The first part of the morning they used in looking for a cave where they could shelter and cover their legs with sand while the sun was at its height.

For three whole days they journeyed in this way. All the time the sun and heat were sapping their strength. The supply of aloe berries had run out but the pilot had seen some small shells and in the words of the W./Op., " he broke

them with his teeth and then seemed to suck something out of the shell. He told me it was good so I straightaway picked up a shell and put it to my nose. The smell was putrid and I brought up in that instant the little I had in my stomach. Early next morning there seemed to be nothing else but these shells on the ground which I then discovered were snails. I was absolutely dry by then and decided to try one. I did and found that they had a very minute quantity of water and that after sucking about thirty of them, which was a very disgusting operation, one felt refreshed for about one hour, and so it went on until May 31st, when the snails ran out. There were just the empty shells. It seems that the birds were a little ahead of us. Anyway, that particular morning I had a very strong feeling that we would strike something or other, and told the pilot about it, but he did not believe or trust my intuition, so I kept it to myself with the thought that at the first opportunity I would prove myself right or wrong. I had not to wait long as my pilot asked me if I would like to walk on another mile or two and see if there were any more snails, while he looked for some shelter. I immediately got up and set off at a pace which surprised me, and after about two and a half miles I did manage to pick up a few that had been left by the birds. I signalled to my pilot to come and then carried on due north by means of the sun. After walking another five and a half miles, I struck a camp which had just been made a Forced Landing Ground for No. —— Squadron. After having some water and something to eat, I accompanied the M.O. in an ambulance to where I had left my pilot."

So, after five days of almost superhuman endurance and steady perseverance the two men were once more in safety and soon were being flown back to their own squadron and so to hospital. It is interesting to note that so true had been their rough daily calculation of their course that, assuming they could have held out another two days, they would have arrived directly at Fuka.

From their ordeal lessons have been learnt that are beneficial to others who may be similarly situated. Rest in the shade during the day, if any can be found, and march during the night. At all times avoid exposure to the sun as far as possible and keep the mouth shut. A cave is most likely to be the best shelter available; if there is one, take cover in it from the sun. If the cover is not enough, protect your legs by heaping sand over them. This will not only help you to avoid heatstroke, but will keep down the amount of water lost by perspiration. Do not, however, try to effect this by covering yourself with any form of grease—the pilot had been smearing himself with the fatty parts of the snails in order to prevent evaporation —as this is more likely to cause condensation of sweat and thereby add to the temperature and create an even greater desire for water. Above all, those lost must fight against madness, and resist the temptation to run towards water mirages in the apparent near distance. Water, indeed, is the most important item of all for preserving the lives of men lost in the desert. Those flying over desert should always carry as much as possible in the aircraft and if baling out is necessary a water-bottle should be taken by each member of the crew.

It may be of interest to mention here that an emergency equipment, to be stowed in the parachute harness back pad, has now been devised ; it contains a small quantity of water, food and other equipment. This is to help lessen the hardships of any who may have the misfortune to follow in the footsteps of those whose experience has been described above.

Tee Emm's Ruthless Rhyme

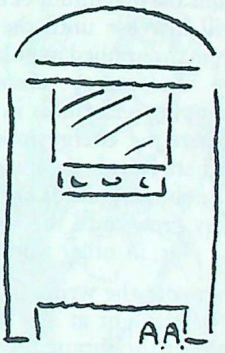
A Warning to Wireless Operators.

YOUNG Sergeant Trembler was the W/Op.
Of a bomber that ditched on a North Sea hop.
Trembler didn't know the tricks ;
So M.F.D.F. got no fix :
From H.F. to M.F. he'd failed to switch.
The dinghy and crew spent ten days in the ditch—
All except Trember, who spent only one ;
For they pushed him out when they learned what he'd done !

They said on the whole they thought it better :
He'd been so wet he *couldn't* get wetter !

Extract from an Official Memorandum.

" Young officers should be encouraged to take an interest in everyday affairs. . . ."



"Here is the six o'clock news —
and this is Pilot-Officer Poope not listening to it..."

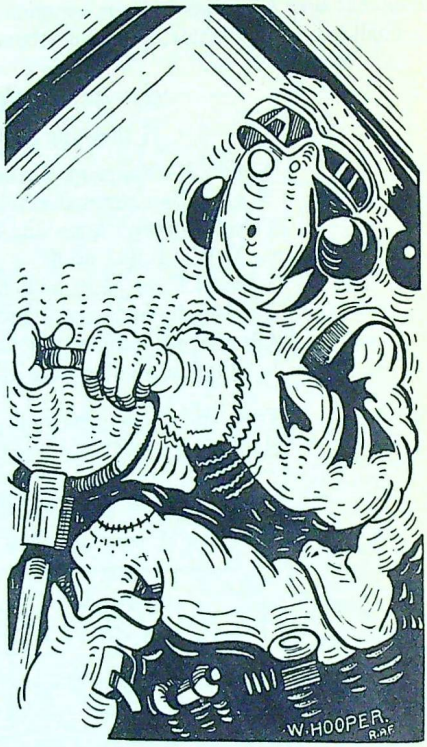
How Are Your Vibrations?

WE have received a "Paper" on Vibration in aircraft. It is a very learned paper and we regret we can't publish it in full, because of space. We will, however, try and give you the gist of it.

It starts off by saying that vibration is a fascinating subject covering everything from radiolocation to the shaky hand of the morning after. This last, by the way, intrigued us so much that we pried about further in the article and found a sentence which seems definitely to have a bearing on the latter phenomenon. It runs:

> "Where a series of pulls—so timed as to coincide with the 'free' frequency—is given, a continuous supply of energy is provided to sustain the oscillation imparted by the initial pull, and under these conditions the magnitude of the oscillations will increase until the energy input from the applied impulses is balanced by the energy absorbed by the damping resistances in the structure. Where the energy input is large or if there is little damping in the structure the magnitude of the oscillations may grow until the structure is damaged or even destroyed."

Or, in other words, passes out. . . .



P.O. Prune says his are q-q-quite a-all r-r-right t-t-thankyo-o-o-o.

Actually the writer is talking about vibrations in inanimate structures—and not what we thought at all—and basically it concerns aircraft. Some aircraft at times are subject to vibration, which may cause discomfort or even alarm. This may be due to either the engine, the propeller, or possibly the aircraft itself, if unduly sensitive to vibratory influence.

If the propeller is suspected, it is a good thing to check the balance, but first find out if the vibration gets worse as the R.P.M. increase, or if it happens only at certain engine speeds—because this will greatly help you in looking for the trouble.

The first case—which isn't common—shows that there is a serious amount of *static unbalance* which must be dealt with. Small amounts do not matter so much, for few installations are sensitive to an inch ounce or so ; indeed hundreds of propellers have run for thousands of hours as much as 12–15 inch-ounces out of balance.

In the second case, however, you will probably find the propeller O.K. for *static balance* and what you've got to get after are the foot-pounds of *aerodynamic unbalance* which may be set up by quite small variations in the blade angles. This you do by checking the accuracy of the blade forms and settings. If you find these are wrong and you are able to correct them, well and good. If, on the other hand, they are O.K. already (or, to put it technically, "if the propeller is within tolerance in all respects") but the vibration continues, it is then a matter for all the manufacturers concerned.

And finally, if nobody is howling about vibration in the aircraft then there can be *no* question of balance or unbalance in the propeller.

A Word in the Adjutant's Ear

How are you off for TEE EMM's at your Station or in your Unit? Are things

Like this — *or* — *Like this*

We make a bulk issue for you to distribute but the size of that bulk issue is in your own hands. You've only got to drop us a line and we'll increase or decrease it according to your requirements.

If you have too many don't let them kick around unread. They may get into the wrong hands, and, anyway, it's waste of paper. Send back your surplus to us —and, when you do, *do* remember to say who they are from so that we can reduce your future allotment accordingly.

If you have too few—and remember that the Air Member for Training has laid down that copies must be available for all officers, instructors, and members of aircrews to see and to keep if they want—then again write to us and we'll put your distribution up. You may want more for crew rooms. Or the Officers' Mess. Or the Sergeants' Mess, where, from all we hear, there never seem to be enough. A plaint lies on our desk at this very moment from a Sergeant-pilot of the R.C.A.F.: " Copies are short where I come from because fellows tear out the important bits they want to keep and consequently when you go to look for TEE EMM it contains only a few pages." While we are flattered by the assumption that the pages were torn out *to be kept* (we've had it put differently), we do ask you not to mutilate copies. It's not fair on people who haven't read it. It's not fair on people who—well, in fact, it's bleeding selfish ! Take steps, instead, to see that your unit gets a bigger issue. In fact, ask the Adjutant or the Assistant Adjutant or someone with influence, or write to us for any particular copy in which you are interested.

Here's another idea which we hear has been taken up by several stations. Keep a definite set of TEE EMM's in the Officers' and Sergeants' Messes. Now our first year is over you have the first volume complete. Why not get it bound ? We can't supply uniform covers, as we've been asked, because no one will quote prices without knowing how many are wanted—and that we have no means of finding out, short of a circular letter to all messes, and there are enough circular letters in this war already without our adding to them.

And now we've talked enough about TEE EMM to last us for our second year, so we'll leave it at that. P.O. Prune is getting his hat. It's past eleven-thirty, he says, and he's knocking off for lunch.

THE MONTH'S PRUNERY

THE MOST HIGHLY DEROGATORY ORDER OF THE IRREMOVEABLE FINGER (Patron : Pilot Officer Prune) has this month been awarded to Pilot Officer —— for Conspicuous Wetness.

This pilot spotted a dummy aerodrome just north of B—— with six dummy aircraft on the ground. He at once carried out an attack and later reported that he left one dummy aircraft in flames and severely damaged a dummy building on the edge of the dummy aerodrome.

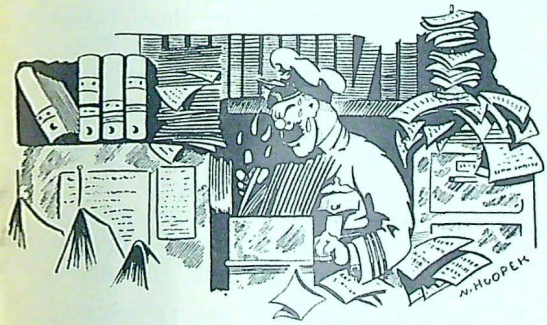
The Paper Snowball

PAPER work can be a damn nuisance. Cynics have remarked on this in no uncertain terms. One has compared it to a snowball—the more you push it about the bigger it grows. Another has said that it takes five tons of paper to get one ton of aeroplane into the air. Yet another has defined the Happy Warrior as one who has never learned to read, or —thank God !—write.

Nevertheless, we can't do without paper work, try as we may. What we *can* do, is to decide whether it is going to be a good servant or a bad master.

Take a look first into three different Flight Offices, where paper has been a bad master ! One is run by a man who is a " slave to paper." He is the man who keeps and files every scrap. He is the man who can hardly say " Good morning " without giving it to you in writing and keeping a carbon for himself. His office is a welter of useless but carefully docketted junk, all meaningless, all put away and cross-referenced in file after superfluous file.

The second office is in charge of a muddlehead. He is a fellow whose papers are never filed, but simply jumbled in one confusing, incredible heap on every table and desk and chair. He does this so that he " can put his hand on anything he wants." Of course he can't. " I know I've seen it in writing *somewhere*," is his constant cry. " Wait a moment ! It's sure to be *here*." But although he can produce you " Armament " letters written way back in 1928, yet he can't find the one written last week about not carrying detonators in the pocket with the knife, fork and spoon —or even the report of the Court of Inquiry upon the airman who did.



" He knows he's seen it somewhere."

The third office is run by a cross between the previous two. He doesn't hoard so many papers, but he doesn't keep them in a heap. He does put them away, but he spurns any proper filing system. He is more than a nuisance, he is a damn nuisance ; because his important papers are embedded and lost among trivial ones. You know this type of fellow's Flight Order book ; you have to read and sign it as having been understood, through a haze of fifty or sixty out-of-date signatures already scribbled in. It contains perhaps a couple of hundred enclosures, jumping inconsequently from " Keep-off-the-Grass " and " Wearing-of-Greatcoats-in-Inclement-Weather " letters to really important ones about the use of airscrew pitch controls and night taxying precautions. One emerges from a whole morning's reading with a mind as unreceptive as a village pond and a head like a buzz-saw. So much for paper as a bad master.

Now let us consider it as a good servant. We will assume you have taken over a Flight Office looking like Hampstead Heath after Bank Holiday, and you have conquered your first desire to burst into tears. You now want to reduce the paper-work to proper perspective. How do you set about it ?

It is, of course, just chaos. But, to simplify, you must codify. So go through everything and separate it into a dozen or so heaps, whose titles will soon suggest themselves as you get on with it. *Airmanship* will obviously apply to most paper, with such " heap " titles as *Aircraft Handling*, *Engine Handling*, *Night Flying*, *Bombing*, *Gunnery*, *Photography*. Then will come a few general heaps—*Discipline*, *Personal Letters*, etc. Next disembowel the Flight Order Books if their contents are scribbed on, or out of date ; and reduce them to a number of essential letters of constant importance to your pilots. Be ruthless ! Destroy everything that is obviously trivial. You may make the odd mistake, but letters can be replaced by copies if needed. Now put away the letters that everybody doesn't have to see into half a dozen file covers—and concentrate on the showmanship. This counts, as business firms have discovered.

Next, what are the essentials in a Flight Office ? A few up-to-date statistics. Probably day and night flying times, logged daily, for air crews and aircraft. Get the Flight Artist busy on these—it's a gold watch to a Nazi promise that every flight in the R.A.F. can produce at least one man who is good at this sort of work. Vigorous bold charts in coloured pencil are what you want.

Now, the books. One Progress Book, maybe, with a clearly printed white label stuck slap over the front cover, and the pages ruled off for names. Two Flight Order Books for general flying orders, and orders relating to your particular aircraft. Let them have snappy labels as well. Don't let people sign over the letters, but have forms gummed in the front by the left hand edge only ; then they can be torn out when signatures are out of date.

The Flight Sergeant will soon knock you up two good racks—or get some lesser form of life to do it—one for " Pilot's Notes," and similar books in constant use, one for flying log books, another for order books. Fix them to the wall in a suitable corner. Print bold labels for the racks, put chairs underneath, and a table covered with green baize. The Flight Sergeant will soon strip a billiard table for you—and get away with it !

Already the office is beginning to look business like. For the first time you will notice that the pencils need sharpening and that the inside of an empty detonator tin makes a good pencil rack, also that the stove needs blackleading, and that certain officers' habits of putting their flying kit in the wrong place must be corrected. And don't forget those two essentials, the " IN " and " OUT " trays and their labels. Not for you, so much as for P.O. Prune, who in his thirst for gin* often snoops into the office for a pre-view and shovels what he's reading back into the first tray he sees when he hears the door handle being turned. You might even try labelling your IN tray " Holy Ground " for his

* We actually wrote "gen" but it's such a nice printer's error that we're letting it stay in !

especial benefit. (Here in TEE EMM's office, we might add we have only three trays. One is labelled "Out", the second "Work to be Done", and the third "Work to be Avoided").

Lastly—Duties. One pilot to log books, one to charts, one to order-books, and so on. They must be responsible to you for keeping the charts and books up to date, and for seeing that crews read the latest orders that affect them.

All this will take up about three of those afternoons when cloud base is 150-300 feet, viz. ½ mile, continuous slight drizzle. Thus you will have got things into a system; and anyone can walk in and see in five minutes exactly how everything stands.

Now, if you have learned anything from these notes, go to it and show the bumph who it is that cracks the whip in your Nissen hut!

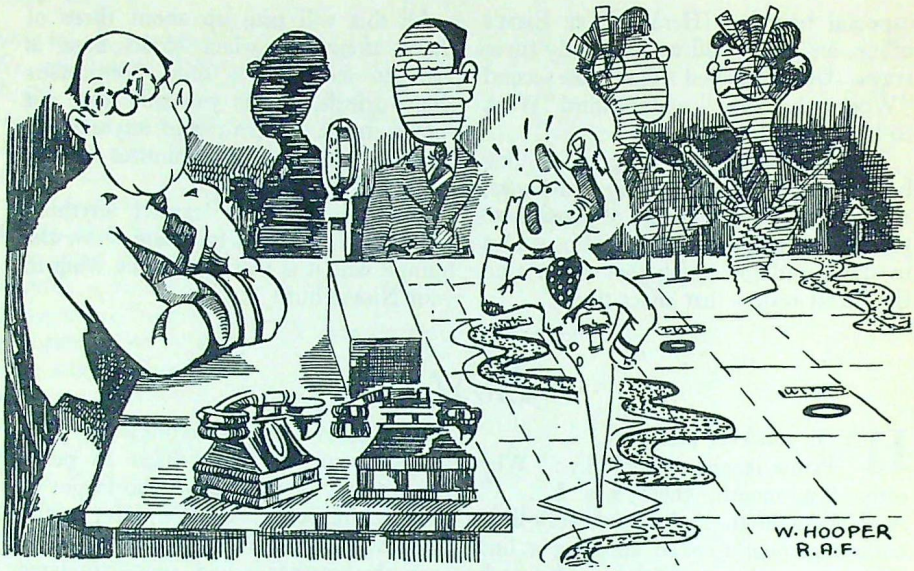
Lost?

HAVE you ever been lost?

Prune laughs sardonically: "Why only last month, there was I. . . ." And many another pilot needs very little encouragement to start shooting a line about the night when he struggled back from Hunland—no stars, not a hope in hell of getting a fix, and a dud wireless set anyway, not a smell of the coast on this side, and, "where the hell *are* we? Haven't seen a damned thing for hours and the gravy's nearly gone. Better do a steam round—might recognise something."

Now, although you may not see anything, that steam round, provided you are over or near this country, may make all the difference. For every night Flying Control Officers sit in the Ops. Rooms of certain Fighter Groups, a plotting chart in front of them and a telephone keyboard at their side, their eyes watching the plots of our aircraft as they crawl across the operations table. They know which targets you have attacked, and the bases towards which your plots are, or should be, heading if you are on course. If the weather is good, they have little to do but watch your steady progress with perhaps an occasional curse for the fellow who forgot to identify himself, and, therefore, might be a cat amongst the pigeons. If, however, the weather is bad, sooner or later someone starts to steam around, his plot meanders aimlessly about, and something snappy has to be done if that pilot isn't to come to an abrupt and sticky ending.

Here's where the Flying Control (ex-Regional Control) Officer comes in. He has a complete weather state on the wall in front of him. His telephone keyboard can put him into instant touch with aerodromes, searchlight detachments, observer centres, and, if necessary, the Air Ministry. He watches your meanderings for a minute or two, and in that time has a pretty good idea what is going on inside your aircraft. Then he begins to get busy. If you are over the sea, and within visual distance of the coast, you may suddenly see the good old peacetime coastal lights winking at you and beckoning you on. You turn, and your plot now begins to show some purpose.



As you approach the coast, suddenly up will come the searchlights, not blinding you or showing you up to the Hun, but pointing towards home sweet home. The Control Officer now sees your plot following the searchlights and as soon as it shows you have really spotted them, he presses another key on his switchboard and in a very few minutes (all night flying aerodromes are at five minutes' notice to light up) up come the aerodrome lights, perhaps mortars and rockets go up as well, and—there you are !

If, on the other hand, you have crossed the coast before you start to meander about, the Control Officer will at once get the searchlights turned on for you and light up all aerodromes you are likely to pass until at last you see one and park. You may not know exactly where, but that doesn't matter—you are *back*.

All this sounds very easy, but the men who watch you every night as you crawl about the table in front of them, have put in plenty of this work, so that they can generally spot the fellow in trouble. They know their way round the intricacies of the telephone system so that they can start taking all possible action to help you. They know just the way to talk to the fellow at the other end—so that an immediate response is obtained. Above all, they have put their hearts into the job and are determined to get you down safely, somewhere, somehow, if humanly possible.

Here's an actual extract from a recent report from one of these officers :—

" . . . The aircraft was first plotted as a hostile aircraft off the South Coast travelling South towards France. It circled and then flew North again towards the English Coast. When half-way across the Channel the plot was changed from

hostile to friendly. The aircraft finally made landfall at C., and in view of its previous movements was considered to be lost. Searchlight action was immediately taken to H., which aerodrome was illuminated. The weather, however, was too thick for the pilot to make a safe landing at this aerodrome and the aircraft was observed to fly off towards the West. W. was immediately illuminated, pyrotechnics were fired, and instructions issued to call the aircraft on " Darky." Whilst still some miles East of W., the aircraft turned North-West and searchlight action was therefore taken to B. The aircraft then changed course North-East, following the searchlights to B., where it finally landed. . . ."

Perhaps somebody, somewhere, will say " That's me." Anyhow, *we* know who it is—he told us.

So, next time you struggle home in filthy weather with your wireless dud, and even " Darky " has died on you, if you are pretty certain you are over this country or near the coast, start steaming round and keep your eyes skinned for searchlights, pyrotechnics and flare paths. (Don't forget to switch your navigation lights on and off so that the Observers know you want help.) Somebody will be watching you crawling about the table in front of him and he will do his damndest to get you down safely.




CORNERS AND EDGES

NEARLY all sailors are handy with a paint brush. This is not just because so much of their lives is spent in painting ship, but because the painting they do has to be done so well. Salt-water corrosion is the enemy of steel ships, and paint is the enemy of corrosion ; so the sailor's painting is judged most critically, and more by the corners and edges of his work than by the job as a whole. Corners and edges. Just where the rot can start unseen and do the most mischief.

What do you do about the corners and edges in *yor* job ? For instance, as a navigator, are you one of those people who say " Dome refraction, my eye ! " or " Deviation, my foot ! " or " Position error, my posterior ! " ? Or do you belong to the " Errors-will-cancel-out " society, or the " Pilot-can't-steer-to-within-five-degrees-anyway " guild ? We hope not. Corrosion does not attack steel ships alone, neither is it caused only by salt water. It can get at *any* job of work where the corners and edges are overlooked.

Navigation is full of little loopholes and corrections and errors to be applied. Every one that you can eliminate improves your chances of getting to your target and safely back again. Every one you ignore lessens those chances. Corners and edges are vital. Watch 'em.

Marksmanship

DESTROY the enemy. That is the main object of the R.A.F. Ask the first twelve people you meet what is necessary for this purpose. They will all tell you reliable aircraft, good armament and the ability to fly. How many of them will add the equally vital quality of marksmanship—the ability to hit enemy aircraft and hostile objectives when flying at high speeds ? The most highly skilled flying in the world is of little use in a scrap if good marksmanship is lacking, for on this depends the success of an engagement. Moreover, in an engagement involving several aircraft on either side the fighter pilot who is a bad marksman is worse than useless. Not only does he fail to bag his opposite number, but he is risking unnecessarily a valuable aeroplane, and has to be protected by his companions. His skill as a pilot, all the teaching that has gone to give him that skill, all the efforts of the technical and maintenance staff, and all the planning of the operational organisation have merely put him and a costly aircraft in a position of complete ineffectuality.

The bullet-deflecting characteristics of metal-skinned aircraft and the advent of armour have necessitated larger guns in fighters, with a reduction in the number of guns and in the size and density of the pattern and in the amount of ammunition that can be carried. A higher standard of marksmanship is, therefore, more important in 1942 than it was in 1940. But, so far as results are concerned, four 20 mm. guns are equivalent to two .303 Brownings, if both miss the target.

The fighter pilot's training has, hitherto, been largely designed to produce a pilot. The emphasis on flying training, instrument flying, beam approach, Link training, and so on has tended to push the importance of marksmanship into the background and the young pilot is naturally inclined to look upon a fighter more as a flying machine than as a gun platform.

That is all wrong. A fighter is really a gun platform and nothing more. It is not intended as a sort of aerial super-sports car in which it is good fun to hare around the skies. It is meant as a fighting machine which must be pointed in the right direction, and not as a means of joy-riding. So first you learn to fly ; then you must learn to shoot while flying.

It is even more important that the rear gunner in a bomber aircraft should make himself a super marksman. He has not even the excuse that he has to fly besides shoot. He has, too, a far more costly aeroplane to protect, and, above all, the lives of the rest of the crew may depend on his skill in hitting an attacking enemy fighter. A rear gunner who is a bad marksman is therefore far worse than a passenger. He is worse even than ballast, for he contributes useless weight and his comrades rely on a skill in shooting that he has failed to achieve.

A soldier in the army spends 84 hours during his recruit stage on rifle training. Then another 80 hours are taken up in making him a marksman. But shooting with a rifle is far easier than from an aircraft. Yet few air gunners or pilots fully realise the difficulties of good marksmanship. Indeed, enemy aircraft are often thought to be well protected by armour plate when all that has really protected them is poor shooting. In this respect the fighter pilot is not so fortunate as the bomb aimer who may miss his target but hit something equally important. If the fighter misses he does so completely. He must hit what he aims at. There is no such thing as a bow at a venture for him. And close range is essential. So get close and make sure of your bird.

GUIDE TO ARTICLES IN VOLUME I

(This is not meant to be a complete and accurate index. It is, in response to many requests, a brief indication, under rough subject headings, of the whereabouts of some of the more important or interesting Tee Emm *articles which have appeared during our first year, in the issues from April, 1941, to March, 1942. And has it been a job working it out? . . .)*

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GUIDE TO ARTICLES IN VOLUME I

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P.O. Prune Pulls Out a Plum	July
Love Me, Love my Log	August
Calling All Navigators	September
Are Fighters Paupers ?	October
Seeing Stars	December
Course Sense is Horse Sense	January
Coriolis	February
Calling All Chauffeurs	March

PERSONAL EFFICIENCY

It Came to Pieces in me 'and	April
Moderation	April
Saluting	May
Editorial (Complacency)	June
Editorial (Offensive Spirit)	July
Editorial (Preparedness)	August
Get Your Eight Hours	August
Editorial (Duty before Safety)	September
Editorial (Appearances)	December
Editorial (Who are " *They* " ?)	March
What's in a Uniform ?	March

SECURITY

Careless Writing	April
Sense *v.* Security	July
Shooting a Line May Shoot Down Your Best Friend	August
Security Memorandum	December
Do you Pay for Your Lifts ?	January
Ever Done A Jig Saw ?	February
The Hun Tunes In	March

SERVICE EFFICIENCY

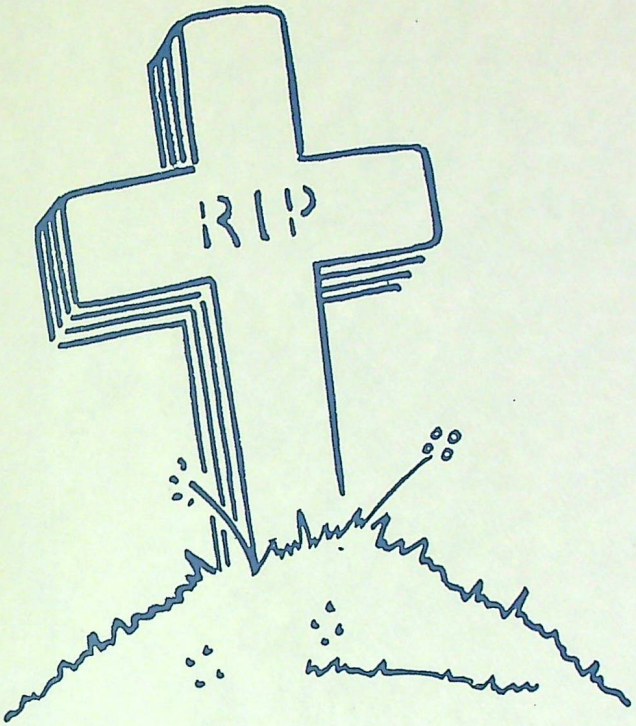
Make an Aircraft in Your Spare Time	June
Help Miss Mustering to Become Miss Square Peg	July
Don't Keep a Good Man Down	August.
Ground Staff	October
Junior N.C.O.'s Technical Course	October
The Central Trade Test Board	November
You Don't Wear Boots in Bed	December
Don't Send a Boy to Do a Man's Work	January

TRAINING

The Battle of Training	June
Editorial (Training all the time)	October
Blindfold Drills.	October
The Swift Training Rifle	February
How's Your Shooting ?	November

WIRELESS AND R/T.

What did you say ?	September
R/T.	November
Wireless, O.K., Sir ?	January



"He was a guy who could always get away with it."

TEE EMM.

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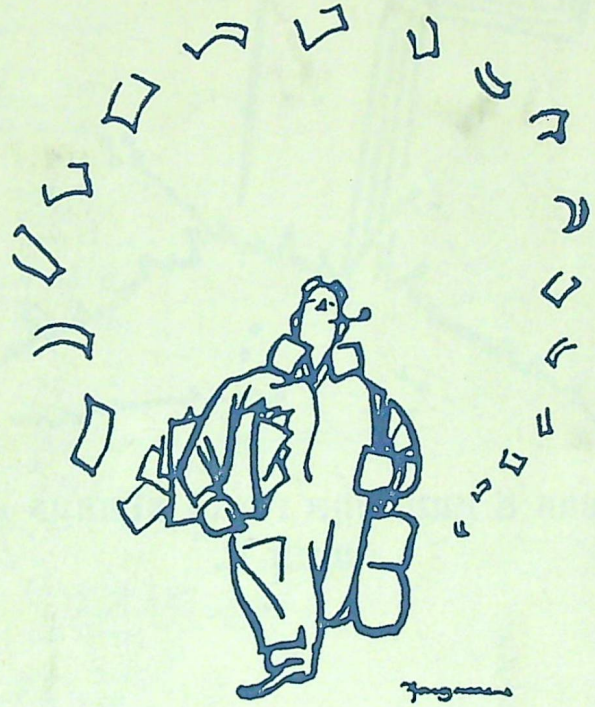

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