

TEE EMM



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



"I hope that these Training Memoranda will continue to be as widely read and studied as they have been during the past two years. It is impossible to exaggerate the importance of constant training in ensuring the highest operational efficiency."

Air Chief Marshal, Chief of the Air Staff

Boredom Can Be Bracing

IN Richard Hilary's book "The Last Enemy," there is this very significant passage: "The man who believes enough in what he is fighting for to put up with the periods of boredom is twice as important in the winning of the war as the man who rises to a crisis."

War has been somewhere described as a long period of great boredom, interspersed with short moments of great excitement. This does not, however, mean as many have chosen to think, that there are periods when you can slack off, so long as you are on the top line when it's necessary—periods when you can, so to speak, let your emotional hair down, so long as you put it up efficiently and quickly when the call comes. Emotional instability can't very well be measured with mathematical certainty: the strong-willed can always exert considerable control over their emotions. But what is certain is that those who are unstable during periods of boredom are not as capable, when the time comes, of facing an emergency as those who have put up with—and forced themselves to put up with—the boredom in the first place.

It is so easy to allow a period of boredom or of relative inactivity, or a routine from which repetition has drained all excitement, to affect you to such a degree that

your morale suffers. Your morale in this case is regarded as your mental state of spiritual confidence, the sum total of your emotional reactions towards war, in time of war. Morale may be individual or mass, *but it is contagious.*

You have all seen those persons who cannot face up to boredom. They are unstable, impatient, intolerant, and they either ignore the niceties of military courtesy, or reluctantly comply with its rules. They are continually complaining about conditions which affect their everyday life, such as the weather, the rations, the bump, anything that comes within their personal ken. They bind perpetually; they make no attempt to offer constructive criticism. They are unhappy and yet they do nothing about it. They do not take full advantage of their time by studying, by exercise, by training, and, more particularly, by doing what they have to do with their full force, whether it is composing a letter, doing Orderly Officer duty, looking after their men, even playing games. They are always asking for transfers to other Units, to other theatres of operations, to anywhere but where they are. They expect to find Utopia on the other side of the rainbow, but if they do get their wish, they again find the period of boredom, and soon start complaining all over again.

Why? *Because the boredom is 90 per cent. in themselves.*

Remember this and you will be able to tackle the problem in the right way. That is to say you must look on these periods of boredom, however long or short, as god-given periods during which you can face up to yourself, take yourself in hand, and learn to know yourself. They may be periods of relaxation from actual hard, exciting, or dangerous work, but they are not periods of relaxation from the business of living. During them you can and should learn so to develop and control your inner self so that that self will rise automatically to the crisis when it comes, rather than with a mere reactionary sense of relief at having "something to do at last."

We Do Some Good

APPARENTLY TEE EMM *is* of some use. Here's a report on a forced landing by a Ventura. Trying to come in, the pilot found that due to a technical failure the starboard wheel would not lock down. He circled for 1½ hours trying all he knew and was finally instructed from the ground to make a belly-landing.

An extract from the formal report reads: "The pilot made an excellent belly-landing and both he and the crew did everything possible to get the starboard under-carriage down, even to the extent of using urine to top up the emergency hydraulic tank when the fluid was exhausted. The inspiration for this came from the report of a similar incident which appeared in Tee Emm."

There you are! The TEE EMM piece referred to ("Even Fuller Marks") was published in November, 1942 and a similar incident (but using coffee), in June, 1942 called "Full Marks." Always remember that coffee *can* also be used.



"They should have had me there," says "Binder."

Service Terms Illustrated

by

*Well-known Newspaper Cartoonists*No. 11. GITTINS of *The Evening News*.



Do You Carry a Gun?

Though this piece comes to us from the Fleet Air Arm, don't get the idea that there's nothing in it for the R.A.F. and other Air Forces.

Those of you who flew Swordfish and Skuas in the early days will remember the enormous .45 revolver with which you were issued. This ponderous piece of ordnance you were informed was for the defence of the realm in case of invasion and of your own person in case of a forced landing in enemy territory.

You wore the things zealously for the first day; then you carried them slung over your shoulder by the cartridge belt, and finally you just left them on the peg in your cabin. As for taking them in the air, they were uncomfortable to wear and got entangled with everything, from the rudder bias and tail trimming controls to one's parachute. Generally speaking they were left behind. A heroic few, however, persevered and used to hang them round the compass, being determined to lack nothing in equipment when the great emergency came. We never did hear just what happened to those chaps!

Since then times—and manners—have changed, with the exception of the desert (which appears to have remarkably little of anything in it, including the enemy). We have been fighting over inhabited and civilised territory and it has become apparent that the primary equipment on forced landing, is escape and evasion, and that a gun is by no means indispensable.

On the other hand the Pacific and Indian Wars intensify, and here while escape and evasion are just as necessary, the conditions are somewhat different.

Some of you may remember that when the American Volunteer Group (the Fighting Tigers)—who had been fighting the Japs long before any bombs had dropped on Rangoon—first joined the R.A.F. in Burma, they always packed a gun when flying, and indeed at all other times. It seemed a little 'cowboy' to the British, but they soon realised the sense of it. For in Burma forced landing means jungles and swamps, and these in turn mean wild animals, snakes, and above all the Japanese.

Now the Hun, though a pretty miser-

able rat as rats go, does at least keep approximately to the rules, so far as prisoners are concerned. If you are forced to surrender, or are caught evading in a suit borrowed from a local scarecrow you can generally count on not being shot out of hand. The Japanese are different. The ordinary soldier is uncivilised and almost devoid of intelligence or decent feelings and is apt to behave like a homicidal gorilla. The officers (at least those of them who have been to the better Japanese Public Schools) are if anything rather worse.

Under these circumstances it behoves the castaway aviator to conduct his affairs with great caution, and, if surrender becomes an absolute necessity, to choose the man to whom he gives himself up with considerable care. If, on the other hand, he feels shy of accepting Japanese hospitality and happens to run into one who seems disposed to thrust the friendliest of bayonets into his honourable guts, he is apt to feel embarrassed unless he can display an equally warm welcome.

In addition, the Jap—like the crocodile—isn't dead till his head is off. This means that if, instead of your force-landing in his midst, he force-lands in yours, it is not a question of his giving himself up respectably as the Hun might do, even if you're unarmed. The Jap considers it "Not done" to be taken prisoner. He'll start to fight at once, and then it's just a question of who is quickest on the draw.

Apart from the Jap and/or other wild beasts, there are local villagers. They are by no means always friendly—and often acutely hostile, if there is a price on

your head. A well-armed man, however, exerts quite a bit of influence and they tend to respect him a little more than the money.

All the above has perhaps put over the idea that it's as well to carry a gun out East, and here's a little tip that the writer got from a gentleman who used to be in the wine and spirit trade in Chicago in the roaring twenties. It is a little shoulder holster which allows its .38 revolver to nestle as comfortably under the armpit as an earwig under its favourite stone. You will find it inconvenient you very little, and, although you won't want it often, remember that there were once fellows who flew without parachutes.

When you get your gun, use it. Remember it's not only for killing Japanese. You may be faced with a longish walk through the jungle or over mountains and you may if you are lucky have a chance of augmenting your emergency rations. There is plenty of ammunition in the ship to practise with, but when the emergency arises you won't have a round to waste, so learn to *hit* things. If you can't do it with one hand use both, lay it on the crook of your arm, nail the darned thing to a tree, but whatever way you fancy, practise it and make sure that it brings your accuracy to the highest pitch.

Lastly, be expert at snap combat-shooting. Learn to hit large objects at 15 to 20 yards without looking along the sights. If you don't know how to train for this, seek out the senior Royal Marine officer or the local soldiery and get them to demonstrate over a glass of gin. You will come away a chastened but a wiser man.

Parachutes Save Lives



Prune forget he was practising his parachute drill on the ground.

Parachutes save lives, but they don't do it automatically. Parachutes will open of their own accord, but that's as far as they go. They won't fit themselves, or get you quickly out of the aircraft. That's up to you. That is to say, you must know the parachute drill for your particular aircraft. *And* you must practise it.

Everything which you don't have to do regularly requires more practice than things you do frequently—if you want to do them successfully, should the

emergency arise. Sometimes failure doesn't matter so much, but, believe us, not in a parachute escape. You're very unlikely to be in a position to say "Never mind, I'll brush up the drill before next time." You rarely get a next time. The practice should come first.

Parachute drill can be practised on the ground with the help of a trestle under the front hatch and the crew actually leaving the aircraft. The total time can be checked and the pilot, going last, should be clear of the aircraft in thirty seconds. Practice can also be carried out in the air on N.F.T.'s without the crew leaving the aircraft. All this should be regularly done under Squadron arrangements and *not* left to individual initiative.

Every member of a crew should have the maximum chance of escape. General slowness all round reduces the chances of all. Loss of time by even only one man who doesn't know, or is uncertain about, the drill not only endangers his own life *but the lives of those waiting to follow*, who may not know their drill perfectly. Remember here that delay can easily be caused by not having your packs in the correct parachute stowage provided. It is no use going through the motions of grabbing at the pack stowage when the pack is away down by the Elsan where you probably dumped it when you got into the aircraft.

Parachute escape is of course an emergency, but it's a dangerous one in which speed is nearly always essential. Only practice will obviate inaccuracies and ensure correct and safe escape.



Fires and Unfeathering

WE told you last month of an idea we pinched from a certain Bomber Group and shoved into TEE EMM in case it might be of value to other Groups. Well, here's another Group idea which may also be useful. This time it's about unfeathering propellers after an engine fire in the air.

The Group concerned had become impressed with the fact that very often the unfeathering of propellers led to fires, which had already gone out, being started up again. Two particular incidents were these :

In the first, an engine caught fire and was feathered immediately. The fire extinguisher was not used, but the fire went out. Later an attempt was made to unfeather the same engine, which resulted in the propeller windmilling at over 4,000 r.p.m. and a further outbreak of fire. The propeller could not be feathered again and the fire extinguisher had no effect. The result could have been fatal, but luckily the fire again went out. In the second case, a Pilot ordered an engine to be feathered which was showing minus 2 lbs. boost at full throttle. The propeller was subsequently unfeathered and gave the same state of boost, and eventually a decrease in oil pressure and fire in the engine. The propeller could not be feathered and the fire spread. The aircraft crashed with fatal results.

The Group in question, therefore, issued an order stating that as neither the true cause of an engine failure, nor the reaction of restarting an engine could be estimated in the air, in future an engine which had been feathered for any other reason than training crews in feathering drill, was NOT to be UNFEATHERED under any circumstances.

And, we might add, that that Group seems to be a fairly live wire because we now hear that the order has been made official by the Air Ministry.

Crew Captaincy

THE month before last we published an article on the above subject called "Who's In Charge Here?" It emphasised how very necessary it is for a captain of a Bomber or Coastal aircraft to realise that he is definitely in charge of his crew, and that captaincy is a job in fact as well as in theory.

So important is this subject to the whole Air Force that a booklet is shortly to be issued by the Air Ministry for the use of aircraft captains, present and future, and for those who have to instruct the budding leaders of crews.

On page 209 we are publishing the text of this booklet in advance, for the particular and immediate use of any who may have to lecture on the subject. It takes up exactly the four centre pages, so it can easily be removed and put in a separate folder if you wish.

Beware of Hoar Frost

ONE very cold morning some while ago five instructors and their pupils, clad in innumerable layers of flying clothing, and still feeling pretty chilly at that, walked out to their "Maggies" for a spot of instructional flying. Warming and running-up took some time and during this a take-off in formation was decided upon.

Eventually all was ready for a nice take-off into wind, Vic formation, and at this point one instructor remarked to a pupil: "Look how cold it is! There's even frost on the wings!" It turned out to be a very significant remark.

The leader signalled; they all opened up; and away they went across the airfield. The four members of the formation merely thought the leader was taking a devil of a long run, but the leader who was looking at his A.S.I. knew something was definitely wrong, because he just could not unstick . . .

He did so eventually—up to twenty feet altitude only: then stalled on a house. Two other aircraft went straight through a fence without ever getting airborne. One lowered his flaps and gained some height that way but couldn't keep it. One unfortunately hit a tent and killed some Service Police.

And these deaths plus the general damage to a number of aircraft were all the result of just hoar frost on the wings.

Again, earlier in the War, three Oxfords once gathered a light coating of hoar frost on their wings which didn't look much and even looked rather pretty, so no one bothered to remove it. But when these three aircraft took off, all took an abnormally long run, then just staggered into the air and finally crashed a little beyond the airfield boundary. One of them, as a matter of precise fact, hit a signal box and carried it away, leaving the signalman standing at his telephone. His conversation continued thus: "And by the way ye ken the signal-box here? . . . Weel, it's no here the noo!"

We tell you this because the "season of mists and mellow fruitfulness" is over and the season of frost and chattering toothfulness is on us, and we want you to remember that whether in Oxfords or Maggies or other similar aircraft hoar frost can form to a dangerous degree even in a few hours. It must be brushed off the wings—if preventive compounds or wing-covers have not been used. This should always be done before flying—even if only to prevent unpopularity with neighbouring signalmen.



"Weel, the signal box is no' here the noo!"

The Aircraft Captain

The Aircraft Captain is the leader of his crew. In him, as in any other leader, should be found and expressed the quality of leadership. The existence of this quality has been recognized, consciously or subconsciously, by the human race ever since our forefathers first bowed to the will of the Strong Man of the tribe.

Is Leadership Necessary ?

Not only is leadership inevitable to man's history, it is necessary to the making of it. Without it no enterprise of any importance has ever been carried through with success. And the success has depended more upon the leadership than upon anything else. Seemingly hopeless causes have yet been won through the example, personal influence and determination of some great leader.

In particular, every operation of war, whether major or minor, needs single-minded direction of purpose if it is to be successful. Failure is inevitable if everybody does as he pleases, or if action depends upon committees and discussions in the face of the enemy. War invariably produces emergencies, and these call for quick decisions made by one mind, given by one voice and obeyed by all without dispute. Every organisation *must* have a head.

Is an Aircraft Captain Necessary ?

Even so small a unit as an aircrew is an organisation ; and so it, too, must have a head—the captain of the aircraft. Some aircrew members, however, have been heard to say : " Why do we need a captain ? If we all know our jobs a captain is unnecessary. A good crew will surely do their best without one ; therefore it is only a bad crew who don't know their jobs that needs a captain." Such men appear to consider that the sole function of captaincy is to *compel*

subordinates to do their jobs ; obviously they are thinking of a captain as a driver rather than as a leader.

The answer is that, whether he has a good crew or a bad one, at times a captain may have to drive ; at other times he may have to persuade ; but at *all* times he has to lead. At all times there must be one person in supreme charge, who, however well his crew are doing their jobs, is the one to take supreme charge in sudden emergency.

The Aircraft Captain as Leader

While it is the duty of a Captain to tell his crew what to do and when to do it, this does not mean that he will not consult them. A good captain should make the fullest use of the special knowledge possessed by other members of the crew. A pilot may easily risk his aircraft by ignoring the advice of his navigator, wireless operator, or engineer, or even by failing to consult them.

The responsibilities of leadership are not confined to making decisions and giving orders. The famous leaders of the past owed much of their success to the example which they set and to the influence which they exercised over their followers.

This influence can be exercised just as effectively by the captain of an aircraft to-day as it was by any great leader of the past, and the example he sets will strengthen their courage, calm their fears and at all times animate their resolve. Example is the key to con-

fidence; and to secure confidence is the essence of leadership.

The great leaders of the past, embodying all the virtues—strength of character, resolution, courage, energy and a high standard of behaviour in emergency—no doubt found it easy to ensure the confidence of their subordinates. We cannot all be so talented, but we *can* all set as good an example as lies in our power and thus command at least as much confidence from our crews as is necessary to enable us to become successful captains of aircraft.

The Crew Captain

The Captain of an aircraft is an independent commander. Like the captain of a ship, he is in sole charge of his aircraft and those in it. What he says, goes: what he does, counts.

In no other branch of the service does so much responsibility devolve on young officers and N.C.O.'s than that of being an aircraft captain. With that responsibility goes opportunity—opportunity even to affect the course of the war by success or by failure. Whether the job is spectacular, as in dam busting, or a saturation raid on an important target, or monotonous as in methodical searching of empty seascape, it is *always* a job worth doing well. Success or failure depends ultimately upon the captain of the aircraft. If he is a good captain success will almost certainly follow.

A good captain, therefore, is invaluable both to his crew, his unit, the service and his country. It is up to all of you who are privileged to fill that important post to *make* yourselves into good captains. It is no use drifting along under the impression that it is a job only in name.

You must fit yourself to hold it, and you and you alone can do this.

How best can you become a real captain and not just a passenger in the boat, dignified by that title?

Authority

First and foremost you must have Authority. If you cannot take charge, you're no good. *You* are the leader, the one to give orders. You must always remember that—and see that the others know it. Control once lost can never be regained.

In the air insist on discipline from the start; never carry a soviet in full blast. On the ground quietly maintain your authority at all times. It is often difficult to exercise authority over friends of equal rank with whom you are on intimate terms in the Mess, but it must be done. From the day that you become a captain you are a person just a little apart.

Knowledge

Next you must have knowledge. Knowledge of your aircraft inside and out, in the air and on the ground. Not only must you know what it can do: you must know what it cannot do.

You must also have knowledge of your crew. Again you must know what each one of them can do—and cannot do. You must also know how far each can be relied upon. Then when you give orders or pass or receive information, you will be able to estimate correctly each man's capabilities and limitations and order your action accordingly.

You are expected, of course, to have full knowledge of your job as a pilot; you must also have knowledge of the jobs of your crew. Such knowledge will enable you to answer any question with

confidence, and this will give them confidence in you. They will realise that you *know*. Lack of knowledge saps their trust in you and so undermines your authority.

The acquiring of such knowledge is not easy. It means hard study and much practice. You can and must do it.

Personal Influence

Authority and knowledge go hand in hand with Personal Influence. You must have personal influence, for only thus can you be at all times sure that you are really leading your crew. Personal influence is easier to exercise on the ground than in the air; so remember the importance of the inter-com. An unrestrained babel of individual expression nullifies authority and makes control difficult. Even the excitement of one single member of the crew circulating through the inter-com, may quickly affect the others.

A good captain, therefore, will limit the use of inter-com to essential information, the passing of orders, and his own messages of encouragement. He will, in short, use it to exert his personal influence and control his crew. Many a tail gunner has been steadied in emergency by the cheerful voice of his captain; many an over-anxious wireless operator or navigator has been calmed by a few quiet words of encouragement. A crew can always be inspired to further efforts at a time when, if left to themselves, they would give up.

Important though the inter-com is, it is not the only means of communication between leader and led. So little a thing as the sight of the captain's back and his steady unflurried attitude at the controls

has served to diffuse his personal influence and restore and maintain confidence.

The personal influence of a good captain will always result in his crew giving him the best that lies in their power.

Training

The good captain realises at all times the importance of Training. Training never stops, not even in an operational squadron. Every sortie is training for the next one. Every reconnaissance, however monotonous, is training in the monotony of reconnaissance, a monotony that may yet be violently broken at any moment—for which moment you must always be ready.

Nor is this enough. Training must go on outside operations as well. Each member of the crew must keep on the top line in his job, and, most important, there must be joint training *as a team*.

For this last you, the captain, are particularly responsible. *You* are the head of the team; it centres round and exists in *you*. *You* must see that not only is each member of your crew always at the highest possible pitch of individual efficiency, but that this individual efficiency is welded together into collective efficiency. Again it means practice and hard work which you must initiate, supervise, and maintain.

Planning

The good captain never leaves to chance anything for which he can make preparation. Chance will inevitably take a hand in the game somewhere, and you will have to cope suddenly. Don't, therefore, find yourself coping unexpectedly with a situation you might well have foreseen. This means Planning. Contrary to general belief most of the

work in connection with flying is done on the ground. If your ground-work, in both senses of the word, is good, a good flight normally follows.

Plan for everything you can think of that you know will happen. Plan for everything you can think of that *may* happen, such as changes in weather, diversions, or ditching. Have even a plan of action should you be forced down over enemy territory; and see that your crew know how to keep one jump ahead of the enemy should be you captured.

For if any of these things happen and you are planless, you cannot truthfully say that you are completely taken by surprise, and that they have never happened before. You don't *expect* them to happen, *but* they have done so before and will do again.

Remember in planning that your orders from above on such matters as height or route must be strictly complied with. They have been designed to defeat the enemy by those who know better than you.

You must always direct the planning with your whole crew present. You should be careful to see that every member is kept in the picture and made to feel that he is a live and working part of the corporate team.

Fitness

Badly looked after machinery will not give service. A crew whose bodily machinery is not cared for will let you down. You must keep a strict eye on the Fitness of your crew. Late nights, even without a lot of beer, cut into necessary sleep and re-act on efficiency. Late nights, *with* a lot of beer, cut into efficiency in two ways. Watch your

crew on these points. No one, of course, is against the occasional party, but see that your crew don't take part, if any possible after-effects are likely to affect their efficiency on actual operations.

Once again it is hard to exercise this authority in the Mess, when you may be told you are only a captain in the air. But it is better to risk a row with one man than risk the lives of half a dozen.

Tactics

Always remember that you fight the aircraft, and so you must be a master of tactics. The lives of your crew depend on you. You must know all your tactics for dropping the bomb on the target or the depth charge on the U-boat. You must also know your tactics for defending yourself against flak, against fighters and against other heavy aircraft.

* * * *

These are the main outlines of your job, not as a pilot, but as Captain of an aircraft. Study them well and make certain you know them.

You must fight your aircraft; you must plan for your sorties; and you must look after the fitness of your crew, much as you look after the efficiency of your equipment. You must never let up on training; you and your crew must be on the top level all the time. You must have knowledge of your men and their jobs as well as your own. You must exercise your personal influence.

And above all you *must* have Authority. It may be hard to maintain, but there is only one captain to a crew in the air and on the ground, and you are he. As such you have the whole weight of the Air Force behind you.

Good luck!

It's Never Too Early to Start Dinghy Drill



TAKE a tip from P.O. Prune's young god-daughter (above) who has just ditched her pram on the tennis court. A beautiful three-pointer was made (by the pram of course, not by the god-daughter), and here she is safe in her dinghy within mighty few seconds, waiting for a high speed A.S.R.S. parent to come to the rescue.

Start dinghy drill young, like her! Then you'll be sure of knowing it when you need it.

Of course dinghy drill is a bind—particularly when you've done it once or twice and think you know it. You say, "Well, I don't suppose it will ever happen—and anyway we've been trained."

Yes, you have been trained, but don't forget there's a difference between being trained and practising to get yourself perfect—and then practising some more so that you *keep* perfect.

That dinghy drill does save lives is shown clearly by the U.S. VIIIth Army Air Force. When they first started operating over here they did not realise the necessity

for dinghy drill and in the first few months the percentage of savings to ditchings was nil. Then they got wise and took the dinghy drill business up in a big way—and the percentage rose to 68 per cent. This shows what (a) realisation of its value and (b) determination to get that value out of it, can do.

Determination is important. It *needs* determination to force yourself—say on a day when the weather has closed down and there's an impromptu party in the Mess—to go out into a cold hangar and practise dinghy drill. But it can be done.

It's never too early to start dinghy drill. But it's often too late.



Binding up Tee Emm

TEE EMM doesn't bind itself up into Volumes. This is done by the printers. And they can't, and won't, do it *unless* you follow the instructions given on page 54 of No. 2, Vol. III (May, 1943). We made these instructions as simple as we could. Thus:

Send your TEE EMM's to Whitefriars Press, Tonbridge, enclosing your name and address and 10s. for the two volumes (which will be bound separately)—or, of course 5s. for one volume.

What could be easier than that? The money covers cost of binding and return postage; and we even repeated, to make it quite clear to the clueless types at the bottom of the class, be sure and send the money in advance, instead of expecting a bill afterwards.

Yet what happens! People send their copies in with letters like this: "I understand from our famous little TEE EMM (thank you, kind Sir!) that you are prepared to bind them up into book form. I enclose two volumes and should be glad if you would go ahead and in the interim let me have account for same and I will send cheque by return."

In other cases, there is nothing but the name and address on the packing and the printers have to write and ask for the money, which then has to be sent—all of which means time, trouble and postage.

The arrangement with the printers was made for your benefit, but they are instructed not to put the work in hand till they receive the money. So please try and conform, if you want your TEE EMM's bound—otherwise you run the risk not only of not getting them bound at all, but of losing them altogether.

And by the way, if the Prune who sent two sets postmarked "Stranraer" on Oct. 24th wants to know what's happened to them, we can tell him. They're still at the printers, for not only was no money enclosed but there was no letter, address, or even name. Our printers are pretty good printers but as thought-readers they're lousy.



Binder takes a poor view of it.

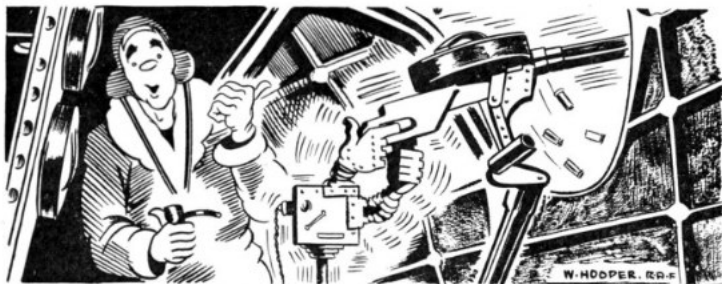
Re-organising the Red Light District

SOME time ago it became obvious that the number of beacons to be seen nightly flashing through the nameless horrors of the gloom, had grown to alarming proportions. In fact, it had got so that at any given moment there seemed to be more beacons than gloom; the countryside was taking on the air of Piccadilly Circus on a pre-war night. Far from showing Prune the way to go home, the beacons were only confusing him, or teaching him not to bother to rely on himself. Beacon crawling, in short, became Prune's rule, and their proper function was forgotten.

Well, loth as the Powers That Be are to stop anyone's fun and games, they have at last decided to change the rules a bit; and from November 1st the number of red lights have been fewer and farther between.

All the latest gen, and a complete guide, can be found in Amendment List No. 8 to the appropriate document, and your Flying Control Officer can show it to you.

The Sperry George



Sergeant Winde says, "Why not a 'George' for me?"

THERE are several sorts of "George" in use in the Service and we're going here to talk—helpfully, we hope—about the Sperry branch of the clan. (We had, if you remember, a general article about "George" in our last February issue (Vol. II, No. 11). The Sperry is usually found on American heavy and medium types, and many of

you out East, *i.e.*, India and elsewhere, may find a few notes about it useful.

The Sperry "George" is very simple in principle. Briefly it has two gyros mounted in gimbals, plus a few pneumatic relay valves, and some oil-operated servo pistons to work the controls. If the aircraft deviates either fore and aft, laterally or directionally, the

pneumatic relays are operated from inside the gyro boxes, and they in turn open valves in the oil system; this allows oil to push the servo piston along. The piston is connected to the main aircraft controls and so the aircraft deviation is corrected. There are also wire cables called "follow-up cables" which literally "follow up" the servo piston, and in doing so cause the oil valves to shut again, and so limit the amount of control as required. The device can thus deal effectively with either small bumps or concerted Gremlin efforts to up-end the whole outfit.

The big advantage of "George" is felt mainly during Blind Flying when he exhibits an un-Prune-like tenacity of purpose in flying a steady course; and he is quite unaffected by weather, fatigue, and boredom, Prune, of course, being easily affected by all three.

But "George," like all mechanical contrivances, will go wrong if treated wrong, either by pilots or maintenance people, so here are a few things to remember, when you want to use him in the air:

- (1) Trim the aircraft to fly hands off.
- (2) See speed valves are open to at least "1."
- (3) Check that rudder, aileron and elevator cocks (if fitted) are "On."
- (4) Line up the follow-up cards and pointers (very important this).
- (5) Engage "George."

If "George" seems a bit dreamy and allows his aircraft to wallow about, open speed valves a bit. In fact you adjust the speed valves until "George" is handling the aircraft as you would yourself under the same air conditions. The Automatic Pilot is then functioning perfectly!

Of course the Instrument Section must do their allotted portion on the ground in attending to "George's" simple needs. He requires only vacuum ($4\frac{1}{2}$ inch mercury) and oil pressure (100 lbs. per square inch or so), and common sense maintenance on pipe lines, cables, filters, etc.

If trouble is traced to the gyro boxes, take them out (four quarter bolts involved only) and send them back to the Instrument Shop to be replaced. The boxes are designed for quick replacement in this way, so that an aircraft need not be grounded through a last-minute failure.

For a long time P/O Prune regarded his Sperry "George" with undisguised suspicion. However, one day he took his courage in both hands and his Hudson up to 10,000 feet, and taking a deep breath he whammed the "George" lever into the "ON" position. Straightway the Hudson performed an aerobatic which would have earned it undying fame at Hendon. Prune, it seems, didn't know about lining up the follow-up cards and pointers (which is really selecting level flight) and had in effect selected full rudder, aileron and elevator. When he had crawled up from the tail and regained his seat, he managed to get things on an even keel (by turning the rudder, aileron and elevator knobs on the panel) and his wandering gaze was then caught by the speed valve knobs. These he twiddled in an enquiring fashion, but they appeared to him to have no effect at all. (As a matter of fact the aircraft happened to be flying in dead calm air and "George" wasn't making any corrections at the time.) So in an excess of prudence he decided to screw them

all shut. Unfortunately he had not been listening when an Instructor had told him that shutting the speed valves *locked the controls*. In the panic which seized him when he discovered this interesting point he was unable to locate "George's" "On-off" lever, and since his height was now about 500 feet things were getting pretty tense. At the last moment, however, an instinct for self-preservation made him heave on the controls and, finding he could overpower "George," he once more got away with it.

If you talk to Prune about "George" at any time, he'll tell you he doesn't think much of him. "Not as good a pilot as I am," he says. "He does the ropiest things. I reckon 'George' ought to pull his finger out."

The moral of it all is: Find out about "George" in A.P.2095 and A.P.2287A; treat him well and use him right; and when you need him, he'll fly any course

you give him for hour after hour with great accuracy, and a minimum of attention on your part, except for occasionally checking him against the compass.



Luckily Prune found he could overpower "George."



This Month's Prunery

THE MOST HIGHLY DEROGATORY ORDER OF THE IRREMOVABLE FINGER (Patron: Pilot Officer Prune) has this month been awarded to Sergeant Pilot — for Knowing How to Do a Turn Wrongly—and Doing It.

Subsequent to an accident he submitted this report: "I put the plane into a steep turn, but over-controlled on the rudder, and tried to correct by a backward movement on the control column. After the crash I realised this was wrong."

Are You a Good Bomber Pilot ?

TO the average chap the word bomber pilot merely signifies a pilot in Bomber Command, *i.e.*, one who flies a bomber aircraft. A good bomber pilot therefore is one who flies that aircraft well.

But consider ! Is there not a little more to it than that ? What is the object of having a bomber aircraft at all ? Simply and solely to transport a load of high explosive over enemy territory and explode it as close as possible to the aiming point. That, stripped of all inessentials, is the One Big Idea. That is the one main fact.

We can now see that it is not only the flying that finally counts, but the bombing. The flying is only an aid to bombing ; the pilot, as a driver, is a servant of the air bomber.

It is thus apparent that a GOOD bomber pilot, as opposed to just a good bomber pilot, is a pilot who not only flies his aircraft well, but gets its bombs dropped well and truly. And in this main object the air bomber becomes the servant of the pilot. In other words, bombing is 75 per cent. pilot ability.

Now ask yourself, are you a GOOD bomber pilot, pulling that 75 per cent. weight ? Here are a few subsidiary questions which will help you answer the main one.

Do you, pilot, know all about the flying requirements of the new bomb sights ? Do you know Pathfinder technique and what *your* part in it is ? Do you really know something about the trajectory of a bomb and what is meant by accurate flying for bombing and wind-finding ?

You know, of course, that poor old Sergeant Straddle, the air bomber, has his problems, but have you some idea of what they are ? Do you interest yourself at all in bombing practices, and the analysis of errors, or the general significance of operational photos ? Or do you say " Oh, all that's the air bomber's pigeon," and let it go at that ?

Well ? . . .

Time's up. We haven't heard your answers, but we've got a sort of feeling (the famous TEE EMM second-sight, inherited from Old Mother T. Emmie who was burnt for witchcraft in 1642) that there are a few of you who are not GOOD bomber pilots. Not you, of course, who



WHOOPEA! R.B.F.

Prune decides to take an interest in Sergeant Straddle's bombing.

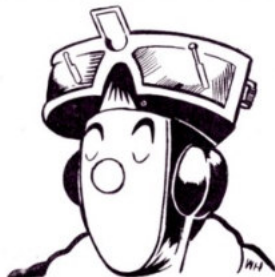
are reading this at the moment, but the other chap, the clueless type, who hasn't read TEE EMM since 1941.

As a matter of fact it is certain that there are several bomber pilots who do not fully appreciate their bombing, as opposed to their flying, responsibilities. They should take the matter up. We know an enormous amount of shop is talked in R.A.F. Messes—and very rightly so, too—but how many pilots talk bombing shop with air bombers at noggin-time? Try it!

Remember what we said above: Bombing is 75 per cent. pilot ability. Then act on it and you should soon work up out of the good bomber pilot class into the ranks of GOOD bomber pilots.

P.O. Prune has just breezed in and says he, of course, is there already, but will be pleased to welcome any newcomers . . .

Don't be Content with Second Best!



Prune has his own special goggles.

all the trouble and expense of getting these goggles made is incurred—and then half the time they don't use them.

When enemy aircraft are about, you need to keep your eyes skinned all the time from when you start out until you land home again. For just as on land "he is twice armed who gets his blow in first," so in the air he is twice armed who sees the E/A first. Seeing the enemy first gives you the chance to manoeuvre and get him where you want him; it gives you the opportunity for just that little extra readiness that may be of vital importance. Your life, and very often the lives of others, may depend on your sight being at its best; so use those corrective goggles.

Put at its simplest the whole idea of providing these goggles for those with any slight defect is to make your sight better. You may be able to see very well without them, but you can see *better* with them. Why therefore be content with second best . . . ?

Wartime flying requires the best possible sight. If you have it, well and good: if you haven't, there are corrective goggles. Any member of an aircrew with any defect in sight is provided with two pairs of corrective goggles (one for non-glare and one for glare conditions) prescribed and made specially for him by experts. (If you want to know how to get them through your C.O., A.M.O. A.254/43 will tell you.)

But, like so many things provided for the greater convenience, comfort and safety of people who fly, corrective goggles are no use at all if they are not worn at all proper times.

There are at present quite a few pilots for whom

Flying Time

WE told you last month that in our article "Long Life to Your Engine," the paragraphs about ground running would have to be modified because the whole question was under review. The matter has now been buttoned up, and here's the gen.

The idea is that hitherto "flying time," on which the life of an engine is calculated, included every minute from the time the aircraft started to move until the time it finally came to rest. This naturally included taxiing, which obviously doesn't give quite a fair picture of the hours spent in the air—particularly for modern airfield lay-out when a good deal of taxiing has of necessity to be done.

As from the 1st of last month, therefore, flying times for all purposes are to be reckoned as from the moment of becoming airborne to the moment of touch-down, whether on land or on sea—or, in the case of P.O. Prune, on woods, mountains, telegraph poles, houses, etc. The only exception to this will be that when doing circuits and bumps the flying time will be reckoned from *initial take-off to final landing*. Otherwise, this new reckoning of flying time is in future to be the only time used in calculating when periodic aircraft inspection and engine overhauls are due.

You'll find it all in A.M.O. A.1087/43.



"Anything in it for me?" says Sgt. Backtune.

From Wop to Wom

Sergeant W.Op./A.G.'s who have completed an operational tour have a chance of bettering themselves if they feel like it. By "bettering themselves" we mean remustering to a more specialised air crew category, attaining a Group I basic trade, and—wait for it!—more pay.

The trade we refer to is that of Wireless Operator Mechanic Air Gunner, and this trade has for some while tapped a most valuable source of supply in those W.Op./A.G.'s who are operationally experienced, mechanically minded and feel they'd like to transfer. Latterly, however, the supply has been falling off slightly—possibly because it is a fairly long time since the original A.M.O. was issued and there may be quite a few W.Op./A.G.'s who don't know about it. So if this information comes fresh to you and you feel you'd like to do something about it, A.M.O. A.983/41, shortly being reprinted as a new A.M.O., will tell you all. The course of training required to get you from W.Op. to W.O.M. is at present about twenty-five weeks.



He came down in cloud to see where he was.

THE EMM, the Royal Air Force's Training Memorandum, is a "Restricted" publication in the U.S.A. and for Official Use Only in the U.K. and the Empire. This means that those not entitled to see it are *not* to see it. It is primarily a Training Memorandum for air-crews, instructors and all those in the Air Force connected with these jobs. It is, in short, a Service Training Memorandum written *for* the Service, issued *by* the Service, and restricted *to* the Service.

Learn to fly well by the proper method



They laughed when I sat
down at the controls. . . .
But they soon changed
their tune when they saw
how well I could fly. For
I had spent my evenings
reading

PILOTS' NOTES

Take a course of Pilots' Notes—the little blue books will help you. No more putting up blacks in front of the Station-Master. Learn to fly in twelve easy lessons.