

TEE EMM



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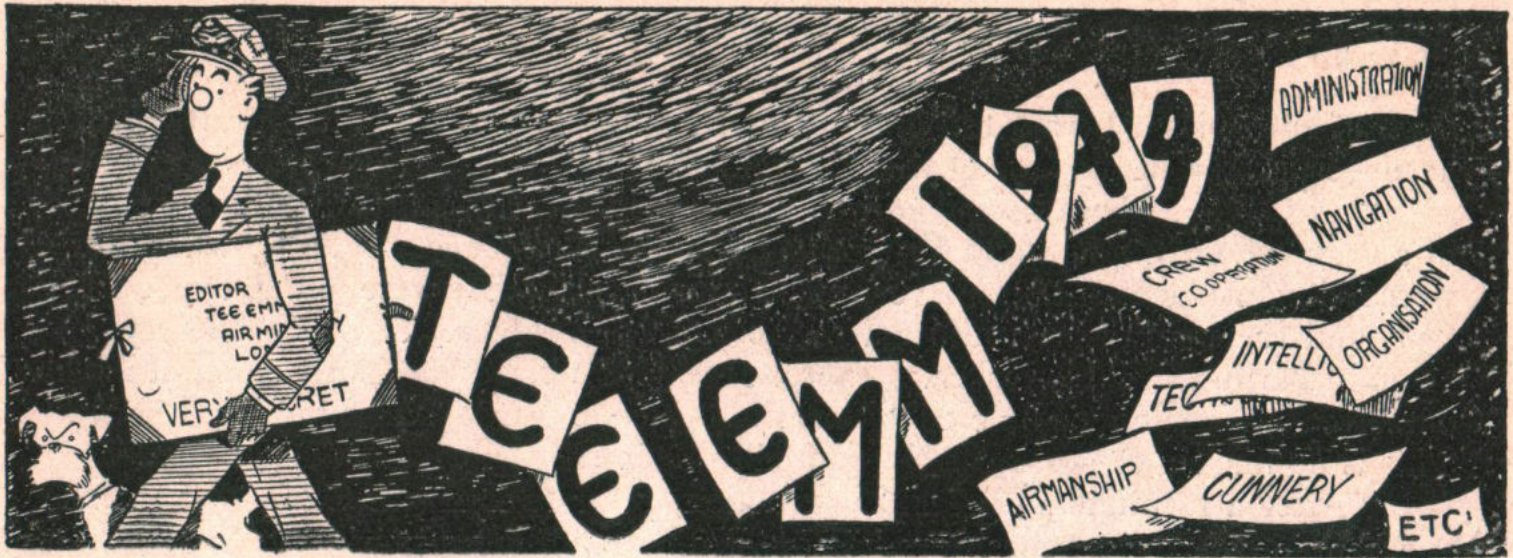
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*Pilot Officer Prune says—
"Take Tee Emm regularly!
Prevents that Thinking
Feeling!"*



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

*Marshal of the Royal Air Force,
Chief of the Air Staff*

DON'T FALL FOR IT!

WE have received a considerable correspondence about our Sabotypes series. Many of the letters point out—what we know only too well—that our articles are not exaggerated and that such types do exist almost exactly as we've portrayed them. Other letters seem a trifle indignant at the pillorying of what, in their view, is a pretty good type after all. We sometimes suspect these latter of actually being one of the Sabotypes concerned.

But here's one of the letters, which we think is of sufficient interest to publish as it does contain a valuable point. The writer refers to our first Sabotype, the "Returned Hero" (June, 1944, TEE EMM). This is the bloke who, as an instructor, considers that his personal war experiences are of more value to his pupils than the correct material and methods of instruction; who subtly teaches them to despise the gaining of a good theoretical background to their learning; and who unconsciously browns them off by constantly reiterating that he's got to teach them the official stuff, but it's not much use really when you're on ops.

The letter goes thus:

" I have just finished reading your first article on " Sabotypes " and in a

flush of enthusiasm I want to point out that it hits the proverbial nail neatly on the head—especially in the case of this Conversion Unit.

“ At O.T.U. where I was ‘ crewed up ’ I was lucky in that I was to be navigator in a crew whose Captain and W/Op. had some experience at A.F.U’s., where they were flying instructors. After a year of such instructing, they were pining to get on to Ops. and their enthusiasm infected the rest of us in the crew. Our battle cry was ‘ Bomb Berlin ! ’ and after each exercise at O.T.U. we jubilantly congratulated ourselves on having completed ‘ One more step towards our bombing Berlin ! ’ This is no line shoot, we earnestly wanted to be in the war and ‘ Bomb Berlin.’

“ After a fortnight of ground instruction, prior to flying at C.U., that intense and genuine enthusiasm has been killed. We have all, in our various sections, been exposed to the influence of 1939-43 starred and decorated ‘ screens,’ and each of us has been told of the lack of ‘ bull ’ on the squadron—the attitude being ‘ We’re ordered to give you this, but when I was on Ops. . . .’

“ Our ambition now is getting to be a nice quiet sinecure job on an A.F.U. in Dumfries—or wherever our home happens to be.

“ My ambition was P.F.F., it changed to the end of P.E. Now, after your article, I feel a little ashamed of my susceptibility.”

The letter is obviously from a Bomber boy, but it may equally well apply to Fighter or Coastal, for Returned Heroes are not restricted to one Command.

But the point of the letter to our mind is in the last words. The writer *realises* he has been susceptible to a bad influence, though he did not recognise it as such till it was too late. The moral is, therefore : Watch out for this particular Sabotype ! Don’t be fooled by him. Don’t fall for it !

And if another moral is wanted, it is for the Sabotype himself : Know yourself and mend your ways.

REVOLVER AMMUNITION WITH BALL

IN our “ Flying in the East ” article of June, 1944, we said, *apropos* of shooting for the pot in the jungle : “ Remember that a revolver doesn’t kill instantly. . . . Try to get revolver ammunition with shot instead of bullets.”

We’re afraid that—contrary to our understanding at the time—this suggestion is not yet a practical one. Shot ammunition for the .380 revolver is still in the experimental stage and so far has not turned out at all satisfactory, with the result that it has not yet been approved for use. In some cases, in India, American .45 shot have been obtained from the U.S.A.A.F. there, but its effectiveness is not yet known either.

So we must contradict ourselves and say it’s no use after all trying to get shot ammunition for revolvers, and, if ball is no good, you’d better fall back on strangling the elephant, pheasant, peasant or what-not with your bare hands.

NINTH TIME LUCKY

NINTH time lucky—thanks to Fido. Even Binder says he always knew Fido had some good in him and, in view of the report we're publishing below, Fido is going round throwing a chest like a bulldog.

Fido—if you read our article "Fido No Fog" on page 35 of the May, 1944, TEE EMM—means Fog Intensive Dispersal Of, and it's one of the back-room boys' new gadgets for enabling aircraft to land safely even in the thickest of fogs. As far as we can make out, they set the whole place alight and it blows the fog away, but we can't go into details here. (We haven't the vaguest idea what the details are, for one thing.)

Well, here's our story. Place: An R.A.F. Station in Suffolk. Time: About 2 a.m.

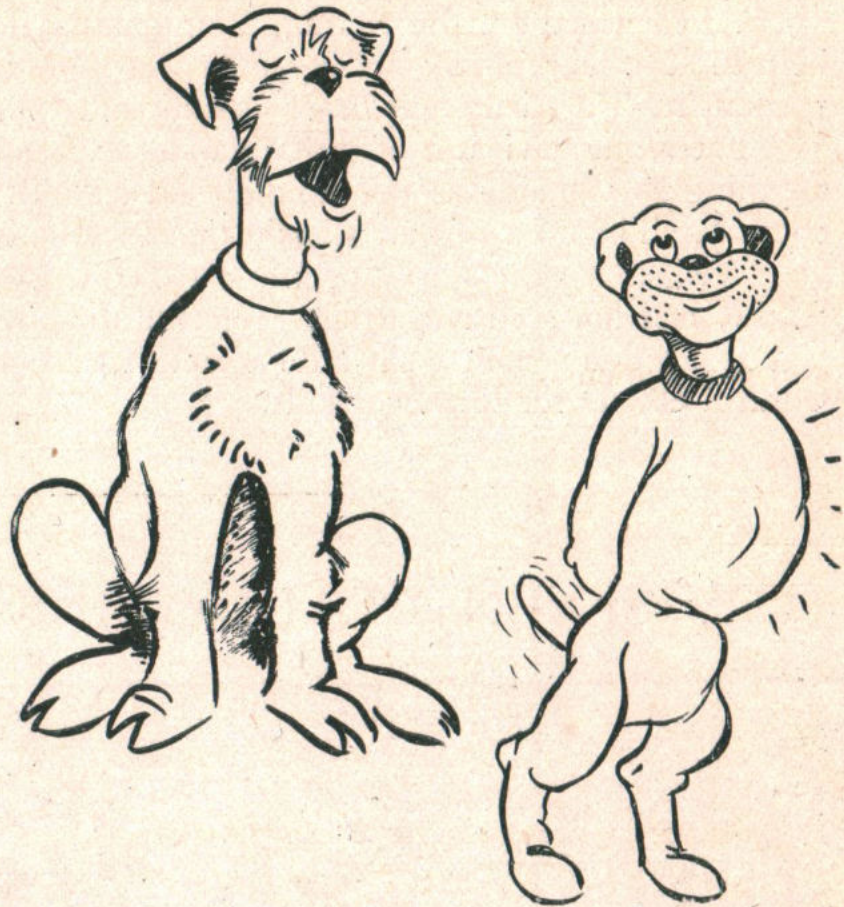
Visibility: Nil—fog so thick that even birds are walking. Fido is started up, because three aircraft which could not be contacted in time for a diversion are expected back and may need an emergency landing.

Enter a lone Marauder concluding some night exercises. He sees what must look like the mouth of hell and comes down to have a look. His W/T being u/s and his R/T about to pack up, nobody can tell him anything about it, but QDM and QFE are passed. He flies across the top of the cleared patch to size up the situation. Then he flies across again for another look. Then he makes a dummy approach with wheels up as a final test. Then he makes a perfect landing.

Subsequently the pilot said he had already made four attempts to land at each of two other airfields. They had lighted rockets, incendiaries, flares and what-have-you, but it was not enough for him to make out the pattern of either airfield.

Here are his actual comments: "I saw the glare of the fire in the sky and flew over to you. I saw the fire through the patch in clouds, and flew round to have another look. I received your QDM and QFE.

"I made a second run to weigh the thing up. I'd never heard of F.I.D.O. before, or even seen it, but the thing made sense to me. I realised that it was a



Fido is now going around throwing a chest like a bull-dog.

pattern, and that it was a runway indication. I decided to make an approach, with undercarriage up, to make quite sure. That's the best landing aid I ever saw."

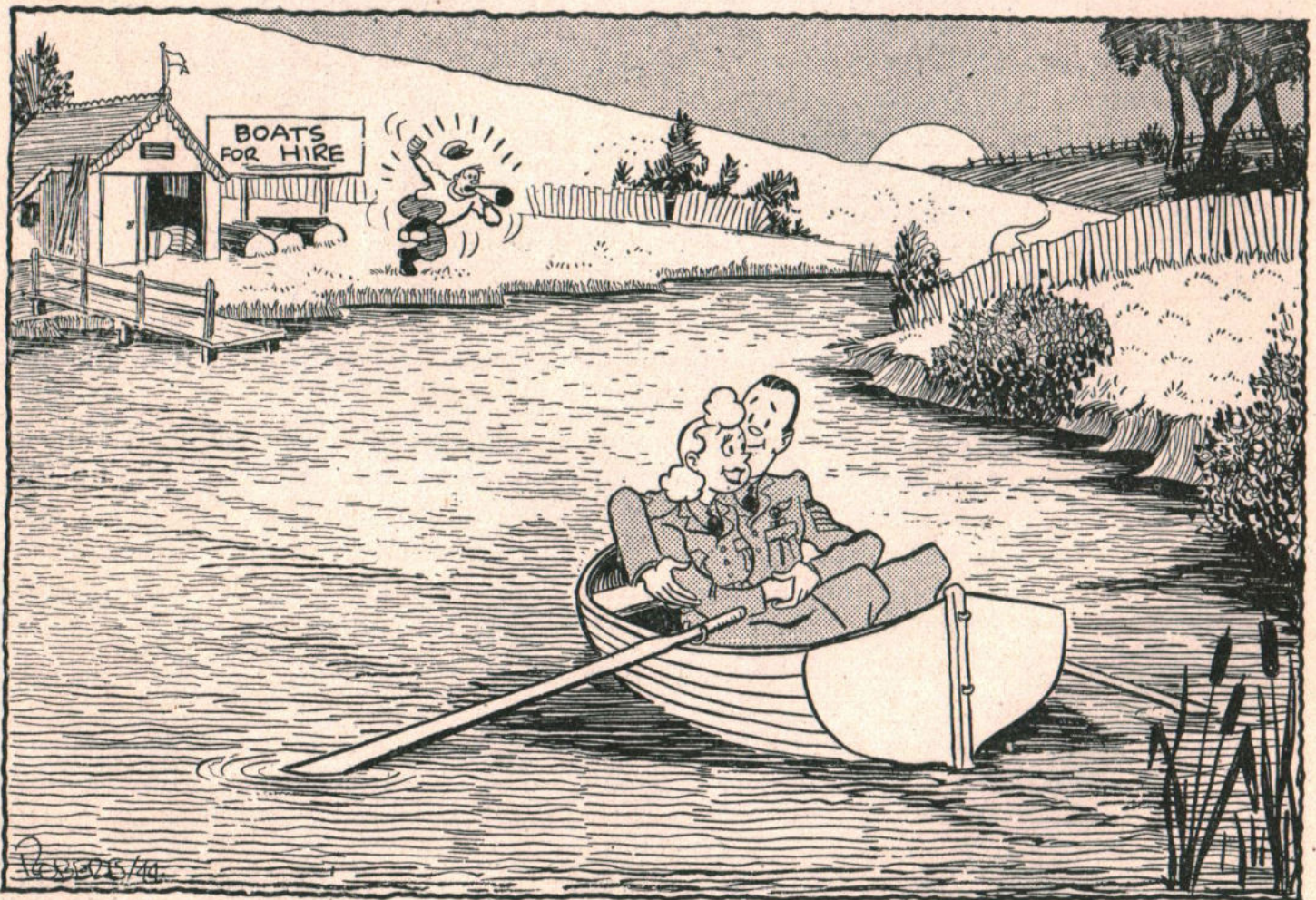
When asked by the Station Commander if he thought F.I.D.O. had been a help to him, he replied: "No, sir, it was more than a help—I *couldn't* have landed without it—I'd tried eight times already and I *know*."

Later, the navigator of the Marauder expressed himself as being astonished that anything so valuable as this landing aid should be unknown to any airfield in the country. The crew of four all said that they had never heard of F.I.D.O.

Well, that's the story of some Satisfied Customers. We're only sorry that those fellows had not seen our article—referred to above—which tells you about Fido.

If *you* don't know what Fido is, get that article and read it—and ask your Flying Control Officer for further details.

THE SEVEN DEADLY SINS OF W/OPS. No. 7.



Failure to acknowledge Recall Signal

SABOTYPES

ARE you one of those types who, quite unconsciously and probably with the best motives in the world, yet manage to put in plenty of "sabotage hours?" Sabotypes definitely impede the war effort; their activities slow it down. While not deliberately throwing spanners in the works, they are increasingly putting grit in parts that should run smoothly.

Examine your conscience, and then ask yourself if you are one of them.

No. 5. BUMPH HATER

THIS Sabotype is generally a new-made Flight Commander, though he may even be a Squadron Commander. He is the very opposite of the Sabotype described last month—the Paper Slave. For the Bumph Hater is no weak servant of paper: he detests every scrap of it. So far from letting it dominate his whole life he won't even admit its existence, and certainly not that it can ever be necessary.

The Bumph Hater's attitude towards paper arises largely from the fact that he is a keen flying type. As a pilot his simple job has been, and in most cases still is, to fly and fight or bomb, or work at improving his skill in his sphere of practical activity, or take an interest in his aircraft and servicing crew. As he grew up in the Service, he looked down—from a mental altitude which was almost at oxygen level—on the groundlings, who sat in offices and sent round things for him to read or forms for him to fill in.

And then suddenly he finds he is commanding a Flight and has an office of his own. At once he is faced with a very real problem: he has a flying job and an office job and combining the two is not going to be easy.

Your good type, however, faces up to it. He realises that running a Flight efficiently means efficient administration, as well as personal flying efficiency; that administration in turn means office-work; and that office-work demands a certain amount of paper. He realises that it is no good focussing his attention solely on flying and neglecting the paper work, just because missions may fail and lives and aircraft be lost from lack of interest in flying, whereas neglected paper does not cause immediate disaster. He realises that missions *have* also failed and lives *have* also been lost because of neglected paper. He realises, too, that combining an active with a sedentary life is extremely difficult, that it's hard to turn himself all at once into a high-pressure Flight organiser immediately after a bout of high-pressure flying, during which the importance of office work dwindles to a pinpoint. And, above all, he realises that these are difficulties to be faced and overcome. In

short, he learns to be tough with himself.

Not so our Bumph Hater. He takes the easy way. He says to himself: "Paperwork is not my job. What's the use of forms anyway?" He tells himself that he's been trained to fly a Spit. or a Halifax, not to sit at a desk writing letters about airmen's promotions, discipline and other "ground" work. He decides that he'll show 'em that a Flight can be run on a practical basis by a practical flying man.

And so his only interest is in seviceability, flying hours, tonnage dropped accurately, or E/A brought down, and at any and every spare moment he is up in the blue himself. He wants to get on with the job of winning the war and not sit on his fanny in an office mucking around with bumph.

And what is the result? Administrative chaos. The Flight Sergeant's hair goes prematurely grey, trying to nail his officer down to something, or extract that information without which Flight Sergeants can't get on with their job, trying to persuade him to take an interest in the ground life of those under him, or even to find him at all, when wanted, at somewhere less than five thousand feet up.

For our Sabotype just won't be bothered with bumph and office detail. At best he'll try to conduct his office work—on the rare occasions when he's there—by 'phone calls or by informal chats, of which he keeps no written record, and yet often forgets to tell those concerned what he's done. Because of all this the whole organisation of his Flight begins slowly to disintegrate. This, in turn, slowly affects the Flight's morale, and ultimately its flying efficiency—the one thing which the Bumph Hater considers worthy of his real attention as a practical flying man.

Yet he has done it all himself. Although he may do a first-class job in the air, he is still hindering the war effort. He is a Sabotype.

HELP FOR CLOUD BORERS

ARE you a Cloud Borer? Are you, we mean, one of those guys who, when lost above cloud, invariably bore down through it to have a look—even though the first thing they see is likely to be a grim-looking mountain-side a few yards ahead? Well, if you are, frankly you've only yourself to blame.

All the same, not all the high-ground prangs are the result of cloud-boring curiosity. Many are genuine unavoidable accidents; but adding the two classes together there is a pretty unsatisfactory state of affairs. In 1943 alone some hundreds of aircraft crashed on mountains and a large proportion of the crews were killed.

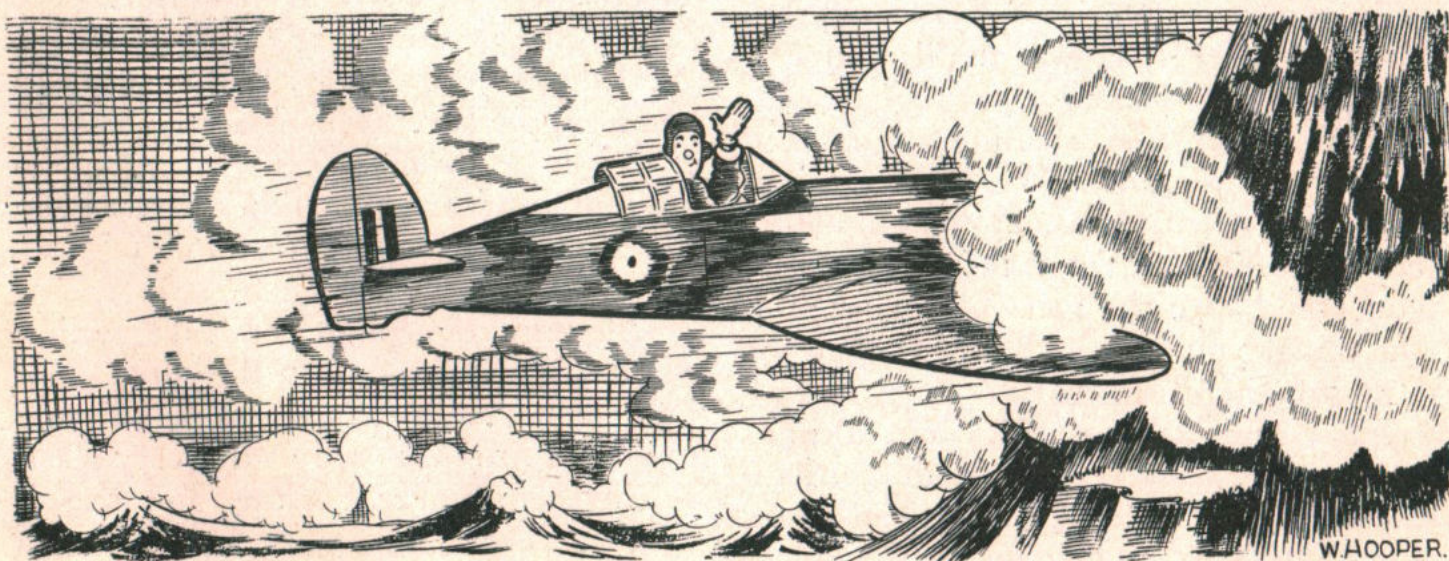
Now everything possible is being done to remedy this. The first line of attack is, of course, training, training and more training. If only one could be sure that this training was 100 per cent. successful, then no one would ever fly into high ground—except as a result of some defect in aircraft equipment. Or, of course, should the pilot be Prune, upon whom apparently training never yet has, and never will have, the slightest effect whatsoever.

The next line of attack is the various means of warning those aircraft which happen to be flying into high ground unwittingly. Many of these warnings are in existence—R.O.C. posts, “Granite” flares and searchlights. Experiments are also being made with radio transmitters designed to emit a warning note, on hilltops and at R.O.C. posts. All this should save many more aircraft—though once again there’ll always be P.O. Prune to mistake the warning note for some sort of Beam Approach signal on which he is supposed to home.

But, in spite of everything, there will unfortunately still be *some* crashing; and at this we fall back on our last line of attack. That is: accept the crash, but locate it as quickly as possible and save any survivors. When a man is injured and helpless on a lonely mountain-side, quick medical attention and shelter means to many the difference between life and death.

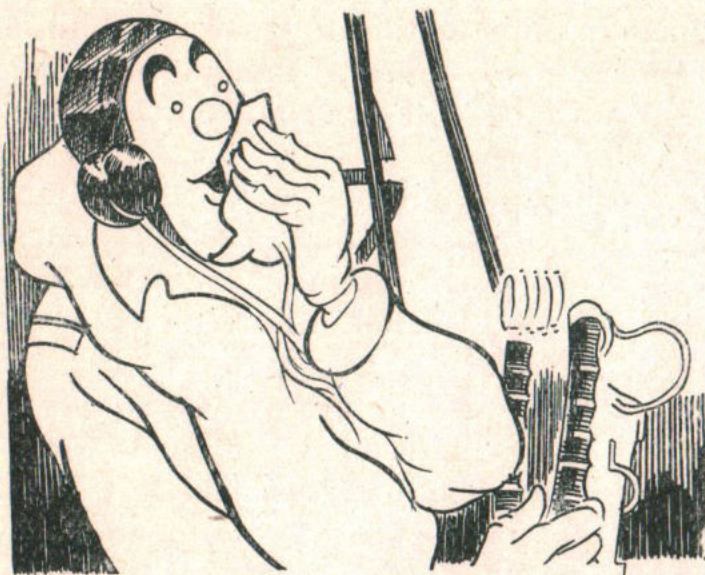
In the most notorious high-ground pranging areas in the U.K., therefore, a “Mountain Rescue Service” has been established. This consists of small parties of airmen at suitable nearby Stations, trained and equipped specially to search mountain areas thoroughly and quickly, locate the crash, give first-aid on the spot, and get the casualty speedily to hospital. They are, of course, provided with special equipment, clothing, vehicles and other rescue apparatus, and naturally many of them are experienced mountaineers. But all of them are deeply concerned in “bringing ‘em back alive;” they’ve never heard of the term “No Quarter.” But if you want any further gen on what they actually do and how they work, ask your Flying Control Officer.

All this, of course, doesn’t mean you can go on being a Cloud-Borer quite happily. Cloud-Boring should, and must, stop. But if you *are* fool enough to come down and have a look; and if you *are* fool enough to ignore all warning signals; and if you *are* fool enough to charge a mountain; then you can be assured that the M.R.S.—even though they know you *are* a fool—will still do their best to save you.



Prune says it's quite all right, he knows he'll be rescued.

SOME TECHNICAL TIPS FOR COASTAL COOKS



"Have you got the Primus alight yet?"

A COASTAL Command type came into the office the other day, and suggested to us that we should do a piece on cooking in the air. He described himself as one who had both junketed royally and suffered miserably at the hands of amateur airborne cooks, and felt that a more even standard throughout was desirable. After all, there was no O.T.U. for Coastal Cooks; in fact, the only thing anyone was ever taught to cook in the R.A.F. was flying hours in a log book!

Well, we've been rustling around and here are a few points. We'll tell you right at the start that we're not contemplating any Mrs. Beeton stuff: we're mostly concerned with the gen on looking after the things you cook with, rather than the stuff you cook.

First and foremost are your Primus stoves. It is very important to have these in good order. (If you can win a spare one, so as to give one of the others a rest now and then, it's a good idea.)

Always keep a primus pricker handy; also a few spare pieces of wire, and not that type of wire which will easily break off in the nipple.

When lighting up, if you have no meths—and unless you buy it yourself you won't have*—put a little paraffin into the cup and light. It sounds simple, but it's surprising the number of types who will insist on the idea of "screwing down" and then forcing the paraffin through the nipple until the cup is full. This doesn't do the pump-washer any good, and if you have a dud pump-washer you have a dud stove.

Never let the stove starve for fuel. In other words, keep it well filled at all times. If it is kept on the go for hours on end the paraffin will get so low that the heat will eventually melt the joint where the top piece fits into the bottom half (technical terms unknown). And once again you'll be without a stove. Besides, Workshops have quite enough to do without repairing stoves which just haven't been properly looked after.

If you get round the right side of Workshops, by the way, they may make you a nipple key. This is always useful, especially if some keen type, in an attempt to clear the "tubes," has been prodding about with a chunk of wire about four times too big.

One important point. When "Action Stations" is given put the stoves out immediately. The Hun himself is aiming to start a fire on board at the very least, so why help him? For the same reason

* We are told that issue rum is as good as meths, though personally we can think of other and more satisfying things to do with rum.

never leave the galley unattended when the stoves are alight.

Besides your Primus stove you will have a Clyde Cooker. When using this try to keep all the grease, etc., where the grease, etc., should be kept and not all over and round the said cooker, etc. Space is partly restricted and the grease will pretty soon be everywhere.

Owing to the restricted space, in Catalinas in particular, orderly arrangement of your galley is very necessary; so here's a useful tip.

Construct a table over the pyrotechnic stowage on port side in the fitter's compartment, cut a shallow ditch on the top to hold your Clyde Cooker, and then you have room to serve direct from fire to plate and are out of the way of passing people. (A piece of 3-ply wood on one of the bunks serves just as well.)

Again, keep a swill tin handy. A 4-gallon petrol tin with top removed and wire handle added fits nicely alongside the catwalk in bilges in the midship's compartment. (At night, of course, the navigator is sure to step in the thing, but that's his worry.)

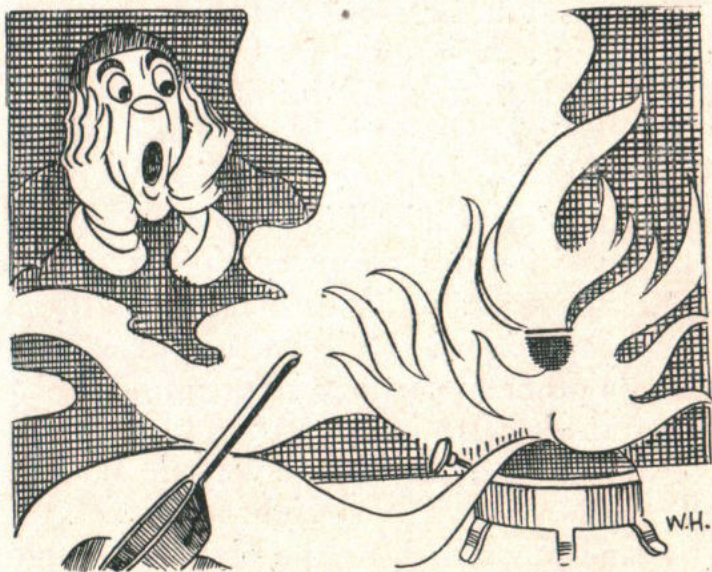
The hot-plate on Catalinas can be used to advantage if a saucepan of water is placed on it the moment it is switched on. Then by the time the hot-plate is hot enough for cooking, you have hot water nearly ready for the cup of tea. Don't forget the hot-plate, being an electrical gadget, comes under the W.O.M.'s jurisdiction. Always consult him about any difficulties, such as when to use it and when not to use it. Used at the wrong times, it can cause him some headaches.

Where no cookers are available and food and drink are liable to freeze stone

hard—Liberators, for instance, go way up, practically into the stratosphere—construct yourself a "Hay Box," which is simply a tin inserted in a box packed with hay. This keeps sandwiches quite fresh and makes tea drinking more of a pleasure. But make sure the hay is *dry* and keep the boxes in the mess cookhouse when not in use, for if the hay gets damp it will freeze up and all your efforts will have been in vain. Similarly, when high flying, never wrap sandwiches in damp cloth, or you've had it. You'll need a hack-saw to get at them, not a knife.

Talking of knives, you know how your hands stick to those issue knives when they are really cold? Try whipping the handles round with string; this makes them easier to use in all cases.

A couple of final tips on cooking. Dehydrated veg. always tastes better if a few drops of vinegar are added before cooking. (The same thing will keep lettuce and tomatoes fresh.) And never let your cookery book, we mean your tin-opener, go out of your sight.



"I think so . . ."

THE TALE OF A CLUELESS CLOT

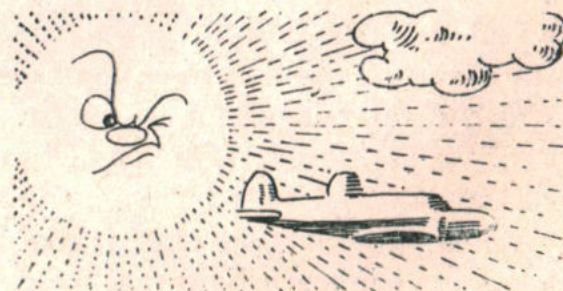
ON a recent navigational exercise the second leg was from Great Malvern to Swaffham. But on completing the first leg and reaching Great Malvern the pilot flew the reciprocal of the required track for one hour, over cloud. Noticing eventually that gyro and compass were not reading the same, he descended and broke cloud—luckily over the sea. He eventually landed at a Welsh airfield.

To commemorate this feat the following verses were prepared by TEE EMM'S tame poet. They should have been inscribed on the tomb, but as the crew unexpectedly survived, they are instead published in TEE EMM.

This is the tale of a clueless clot
Who thought D.R. was a lot of rot.
I've forgotten his name—it's not important—
I know he did things he didn't oughtn't.
Let's call him Prune—it's a well known name.
(It might have been Smith ; it's all the same.)



One day when flying in the heaven
His course to fly was 067.
Without a thought red went on black,
And off they went on reciprocal track.
Now a drift you'd think would soon disclose
That all the crew were a lot of Joe's.
The Bombardier was a bit of a nark,
But his drift was logged with a question mark.
Some cumulus cloud obscured the ground
Before a pin-point could be found.
The Navigator forgot to find
The speed and direction of the wind.
He sat at ease in ignorant bliss ;
He didn't do that, he didn't do this.
He asked for beacons, he got bearings off 'em.
He worked out the E.T.A. for SWAFFHAM.
The bearing received in the log he jotted,
The position line he never plotted.
The Sun was shining as bright could be.
A sextant sight ? No fear, not he.
Why bother to cart a sextant round.
He did his astro on the ground.
A sight in the air was the very devil :
The pilots *won't* fly straight and level.
No one was struck by the obvious thought :
Where should the Sun be—starboard or port ?



A simple move could have stopped the rumpus ;
 A check of the course by astro-compass.
 Another move for the pilot would seem
 To have tuned his set to an SBA beam.
 Perhaps he *was* a bit of a tyro,
 He certainly never checked his gyro.
 Now of all the aids they might have had
 An M/F Fix is none too bad.
 They could have used Priority " O,"
 But how could they be 'expected to know ?

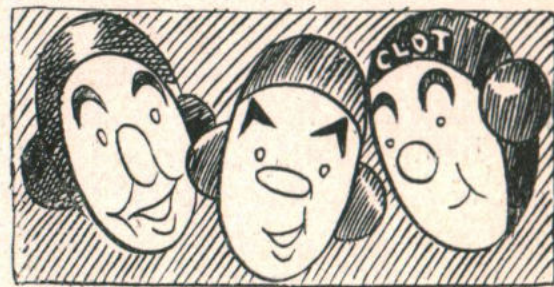
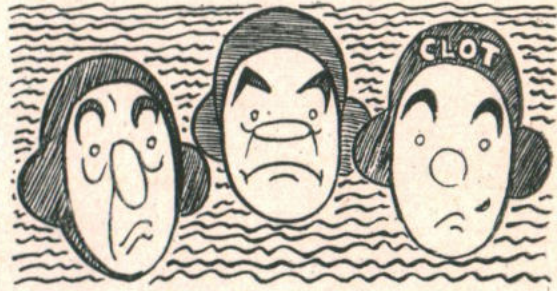
The crew were now in dark despair.
 The pilot vainly cried out " Where ?
 Through this cloud I'm going to bring 'er,
 Now everyone extract their finger.
 And when we come to clearer skies
 Scan the ground with hawk-like eyes."
 Of course he should have climbed his kite
 To reach the ordered safety height.
 But through the swirling cloud went he,
 Hoping like hell to find the sea.
 He saw the waves and cried " Oh Gosh ;
 We've overshot and there's the Wash !"
 (You know it was the Bristol Channel,
 And all this work was so much flannel.)

So now to cut the story short—
 They landed where they didn't ought.
 While flying home they thought up tales
 To justify this trip to *Wales*.
 They thought how they'd be complimented :
 The Anson wasn't even dented.
 The pilot's heart was full of joy :
 He'd be the C.I.'s blue-eyed boy.
 The thought had never crossed his head
 That all of them might now be dead.

* * * *

The moral to this tale is this :
 Don't stooze around in happy bliss.
 If you will pardon our suggestion,
 Those aids are there for your protection.

AND IF YOU'D END UP SAFE AND SOUND . . . DON'T FLY
 THROUGH CLOUD TO FIND THE GROUND



THE GYRO GUNSIGHT

HERE are a few brief notes for Air Gunners on the G.G.S. Mk. II Gunsight—otherwise the new Gyro Gunsight.

The sight consists of a fixed graticule and a moving graticule, which (like the civilian cheese ration) also expands and contracts. This moving graticule absorbs and digests all the data which the gunner—who, of course, knows his G.2 Notes backwards—has hitherto had to apply to himself.

In order to work the gadget, all the A.G. has to do is to go through the following motions :

1. Set the airspeed dial.
2. Set the altitude dial.
3. Identify the type of aircraft he's about to shoot at. (If it's a Spitfire he needn't go on with the rest of this.)
4. Set the wing-span on the appropriate instrument.
5. Keep the target neatly enclosed in the moving graticule, which he adjusts to the wing-tips by means of the range pedals. In case he thinks he's got just about enough to do with his hands already, he'll be relieved to hear he does this part with his feet.
6. Shoot the b—— down.

All the settings must, of course, be made with great precision. Otherwise the gun will fire extremely accurately, but unfortunately in the wrong direction. (There's a dimmer switch, by the way, which enables it to be used at night.)

The Gyro Gunsight has been thoroughly tested and the results show a great improvement over the old fixed ring sight. Already it's been installed in all sorts of synthetic trainers, so there's no reason why Sergeant Winde and his friends shouldn't get plenty of practice.

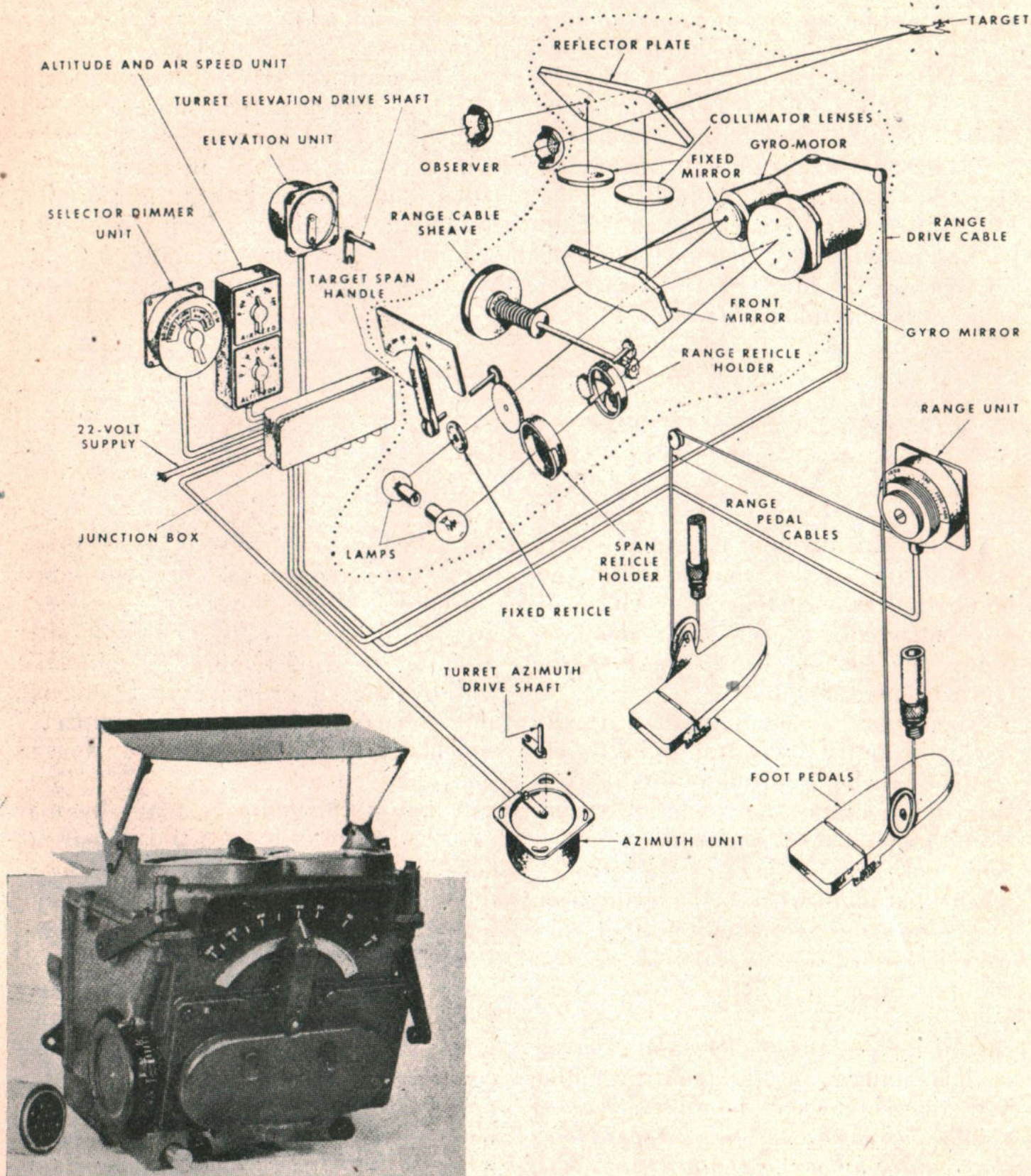
Now to dash Winde's hopes—for already we can sense him thinking thus : “ Good show ! No more of the old-fashioned methods of sighting and turret drills. I can forget all that stuff (we wonder how much of it he ever really knew !) now I've got something that'll do it all for me.”

Unfortunately for Winde, “ all that stuff ” will be as necessary as ever. Turret control always was, and still is, most important. Monotonous though it is, Winde must still practise the art—but if he wants to break the monotony he can always use the turret-manipulation assessor to find out if he's improving at all.

And most certainly will it still be necessary for Winde to know the basic sighting principles in order to understand how the new toy works ; and in any case if the moving graticule goes wrong he'll have to fall back on the fixed graticule. Besides, the sight can be fitted at present only to turrets and not to hand-held guns. And again it will be some time before it's in general use throughout the service. Bad luck, Winde !

There's a diagram of the thing opposite—if it's any help. Personally we can't understand a line of it.

LAY-OUT OF GYRO GUNSIGHT



ALL IS NEVER LOST

SOME while ago five members of an aircrew were forced to bale out at night over the extremely mountainous regions of Southern Turkey. They had four parachutes between them (quite why there was one short the story doesn't say) and they all landed safely. The member of the crew without a parachute strapped himself on to the back of one who had a parachute.

The pilot of the aircraft, moreover, had inadvertently opened his parachute in the pilot's cabin. He grabbed the folds together, and, wrapping them in a bundle, hurled them out of his escape hatch into the night, and was dragged out after. The wireless aerials tore a hole in the top of the parachute, but, notwithstanding this, he made a safe landing in a Turkish river. Which only goes to show that you can achieve the improbable if you try.

 WHICH COUNTRY ARE YOU BOMBING,
BOYS?

“WHAT a damfool question!” says Prune. “Do you mean are we bombing Italy or Holland or Germany or Japan or what? Why, we're bombing the whole lot of them—wherever the Germans are, of course!”

No, Prune, we don't mean that. By “which country” we mean quite simply “ours or theirs.” Prune retorts that it's still a damfool question; who but a clot would bomb his . . . A sudden reminiscent look comes over his face, as he recalls that night when he had to jettison his bombs and somehow or other they were jettisoned “live,” nor was he over the proper area. “Oh! Ah! Yes! I get you!” says Prune.

And in case any readers don't get us, we'll hammer home the point by telling you that in recent months a *greater tonnage of bombs has been dropped over this country by our and Allied Air Forces than by the Luftwaffe*. Most of it, too,

has fallen on civilian property. Some of it, of course, has been dropped “dead”; some, however, has been dropped “live,” ready to go off after delay or on being removed or tampered with by innocent or by ignorant persons; and some has detonated on impact—which naturally is no fun for anyone in the vicinity.

A lot of this tonnage naturally may have had to be dropped, and it may not have been possible to drop it in any of the scheduled areas. On the other hand, many bombs are jettisoned any old where at any old time just because some clot hasn't got his finger out.

However, never mind the reason—whether enemy action, finger trouble or what-have-you; the point we wish to plug in this article is that these bombs have to be recovered and disposed of. This is done by the R.A.F. Bomb Disposal organisation, *but* their work is

made extremely difficult if the jettisoning is not reported on landing by the aircraft captain concerned.

The procedure for doing so is laid down in A.M.O. A.805 of 1943 and it's perfectly simple. It involves stating the types of bombs, position, etc., of the aircraft, time, fusing details, and so on, but even if you don't know offhand what to do, report on return that you have lost your bombs, and the Flying Control Officer will put you wise.

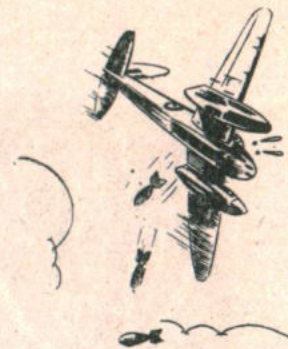
You must see for yourself how important it is that you should report the proper details in the proper manner. For if you don't, a L.D. bomb of unknown delay—because no one knows where it came from—may, apart from innumerable telephone calls on already overloaded lines, hold up vital rail traffic, make traffic diversions necessary, and cause civilians over a wide area to be evacuated from their homes—and all this for a period sufficient to cover the longest possible "delay." And this only when it is noticed and reported by the civilians among whom it fell. If its fall has not been noticed, deaths may easily be caused—deaths directly due to keeping the whole thing under your hat.

Far too many of these cases occur. Only a month or two ago as many as

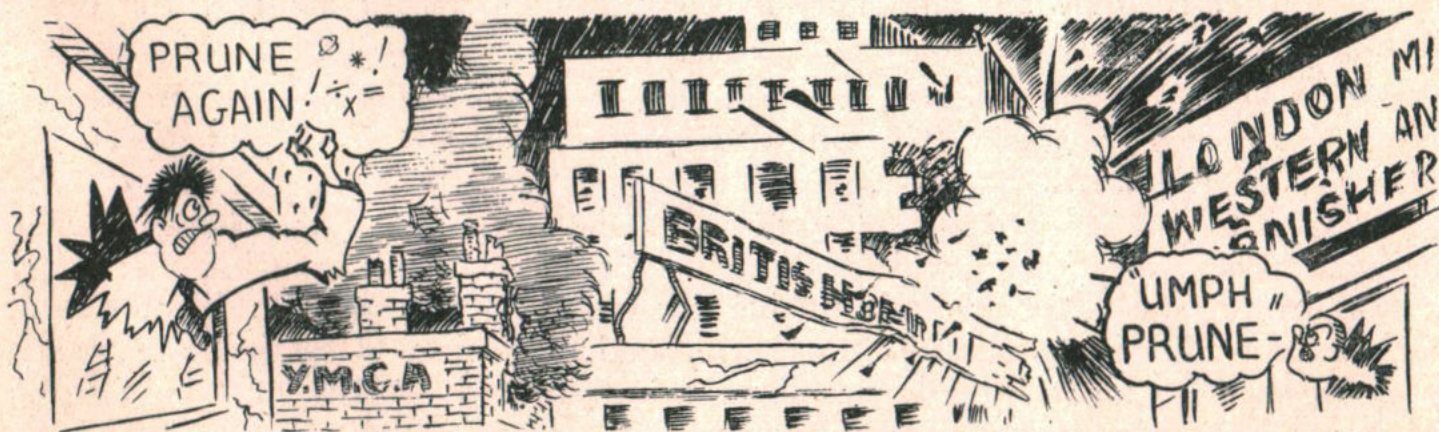
fourteen 500-lb. bombs were dropped simultaneously and nothing whatever could be found out about their origin. On another occasion two heavy L.D. bombs were unloaded on the embankment either side of an important railway line, and because no one came clean about it, all services had to be suspended for the maximum time of any possible fusing. But why go on? The instances are legion.

Yet most of this can be avoided if only A.M.O. 805 is complied with on all occasions of intentional or unintentional jettisoning. We realise that in the latter case it takes a bit of courage to say you've boomed, when you can probably get away with it by keeping your mouth shut and pretending it was two other fellows—but is it fair on the Bomb Disposal chaps?

Come to that, is it fair on the civilians of this country, who over five years have already had a goodly share of German bombs without having to sample British and Allied ones as well?



Prune says—



— no one will ever guess it's him.

THIS MONTH'S PRUNERY



THE MOST HIGHLY DEROGATORY ORDER OF THE IRREMOVABLE FINGER (Patron: Pilot Officer Prune) has this month been awarded to Wing Commander — for High Speed Landing.

Having borrowed a Seafire from a neighbouring Fleet Air Arm airfield he flew it back to his own Station. On landing he was surprised to find that his landing run had taken up the whole length (2,000 yards) of the runway, and promptly tore a strip off the Flying Control Officer for having landed him downwind.

The Flying Control Officer tactfully showed him the Seafire's A.S.I., murmuring something that sounded like "Knots to you!"

The M.H.D.O.I.F. has also been awarded to Squadron Leader — a Chief Technical Officer, for Failing to Recognise an Initial Error.

After reading a letter for some while with a puzzled frown he asked one of his subordinate officers, "What are these new aircraft engines POPISOSI? It sounds like 'popsies' in Italian."

The other told him that the engines referred to were Port Outer, Port Inner, Starboard Outer, Starboard Inner.

A Joint to the Order is awarded the same officer for Believing Too Much in the American Influence on our Air Force.

Going round the workshop he asked an airman at work on a bench what he was doing. When he replied, "I'm mending a prop-boss," the C.T.O. said angrily, "Call me *sir*, not boss!"

The M.H.D.O.I.F. has also been awarded to Flying Officer — for Throwing a New Light on Mercator's Projection.

Asked during an examination in navigation why Mercator's Projection was so popular for Air Navigation he replied: "Mercator's is useful for Air Navigation because it doesn't show any land and so you can do plots on it; and with this projection all straight lines are curves."

The M.H.D.O.I.F. has also been awarded to Flying Officer —, a Screened Pilot in a Heavy Conversion Unit, for Believing That the Quickness of the Hand Deceives the Eye.

This pilot was observed by the authorities to be taxiing much too fast, narrowly missing, in fact, a stationary vehicle, and again narrowly missing a moving one.

When the reason for this unjustifiable risk was being investigated, the pilot put forward the following explanation for having taxied too fast. He said "the brake pressure was very low and the brakes not working efficiently, so I was taxiing fast to get to the hangar before an accident occurred."



YET FURTHER COMBAT

IN case anybody happened to read the article on the School of Air Combat (locally known as the SOAC'S) in the March number of TEE EMM, we feel that we should like to point out that bombers are occasionally called upon to indulge in a spot of Air Combat themselves. Again, the experts who train the T.B.R. crews at the School started their career at the C.G.S. Sutton Bridge, but while the Fighter Combat Course is similar in nearly all respects to its parent course in the R.A.F., the Bomber Course has had to be modified slightly in order to apply closely to the tactics used by the more manoeuvrable T.B.R. aircraft with their smaller crew.

The first radical difference between the R.A.F. Gunnery Leaders' Course and the T.B.R. Course is that after much heart searching and not a little heated argument, we decided to train crews consisting of one pilot and one observer. The pilots are given a short but comprehensive front gun course on Masters, partially because they will eventually need to use front guns and also to teach them the fighter pilot problems, and thereafter go round esteeming themselves

as fighter pilots and telling the Fighter Combat pupils how to shoot.

The real reason for this decision is that few pilots really believe (a) that a stooge sitting in the back seat can tell them what to do and (b) that even if they do what he tells them it really will fool an attacking fighter. By the end of the course, however, both have learned to work as a team and realise, usually to their amazement, that well-timed evasion is an art that needs much thought and practice; but given that practice they can cause even the smartest of fighter pilots to go away with empty guns, cursing at having failed to knock any holes in their bomber. So when they rejoin their wing or squadron they sell their goods to every section of the community in both front and back seats and the full value of the training becomes obvious to all.

The object of the T.B.R. wing is to produce Air Combat Instructors (P) and (O). The pilots will have learned how to make the best use of the front guns they are given and appreciate to the full the value of correctly timed evasive tactics.



*"All very difficult,"
says S/Lt. Swingit.*

The observers will have learned two things. Firstly to control the evasive action of their aircraft (and later to teach others to do so); and secondly to become a first-class free gunnery instructor so that they can ensure that the fullest and most

efficient use is made of their defensive armament.

This explains why our observers are not called Gunnery Leaders. The defensive armament of a T.B.R. aircraft is small but its manoeuvrability is great. Well-trained gunners will damage and seriously upset the attacking fighters. Well-planned evasive action will not only enormously reduce possible casualties from fighter attack but also allow a concerted formation attack to be launched, which after all is the first duty of the bombers.

The first reaction of most T.B.R. crews to the course is how on earth can it take four and a half weeks to learn Gunnery Theory, which they have been taught before, and Evasive Action which is, they think, only throwing the aircraft about as a fighter comes into range. The answer to this is firstly that a normal air crew have thought so little about guns since they joined a first line Squadron that they have become as ignorant as babes unborn and find it a real effort to re-acquire that thorough knowledge of the subject that is necessary for any instructor.

Secondly, the preliminary exercises

bring to light a strange divergence of opinion between the camera and themselves as to when a fighter is within range or even if he has his guns bearing on them at all. Again only practice makes perfect. Because the Affiliation exercises are carried out with the fighter combat pilots, who are picked men and have been let into the secret of what you are going to do when attacked, only split-second evasion will be successful. Both sides are on their mettle and determined to get good pictures, and here we must point out that the fact that the fighter pilot does succeed in getting in two or three good bursts in his film does not of necessity mean that the evasion has been a failure.

The true picture is something like this.

During an exercise the fighter makes something like twenty attacks on the bomber. Half the time he does not fire at all as his sights won't bear. Of the remaining attacks about half are unsuccessful, usually because his line is out, but in the remainder he has managed to catch the bomber starting his evasion at the wrong time or on the top or bottom of the corkscrew and got in a worth while burst. What must not be forgotten however is that you are dealing with fighter pilots who are being lushed up to evasion from the breast, so to speak. In actual combat, during the time they are attacking you they are open to attacks by the fighter escort, covering fire from the rest of the bomber formation, and return fire from the bombers they are attacking. Incidentally, it is possible for a fighter to be a little too clever when countering evasion. On two occasions on our last course S/Lt. Swingit, who this time was quietly dozing in the back

of the bomber, failed to notice the attack coming in. The fighter pilot, who knew all the answers, had adjusted his curve of pursuit in advance and when to his rage the bomber sailed tranquilly straight on it was too late to get his sights on. (N.B. This is not, of course, one of our recommended methods for evading attack.)

What we hope to achieve in the school is a clear demonstration of the effectiveness of evasive action when carefully carried out and practised. The camera guns carried on all exercises soon reveal this.

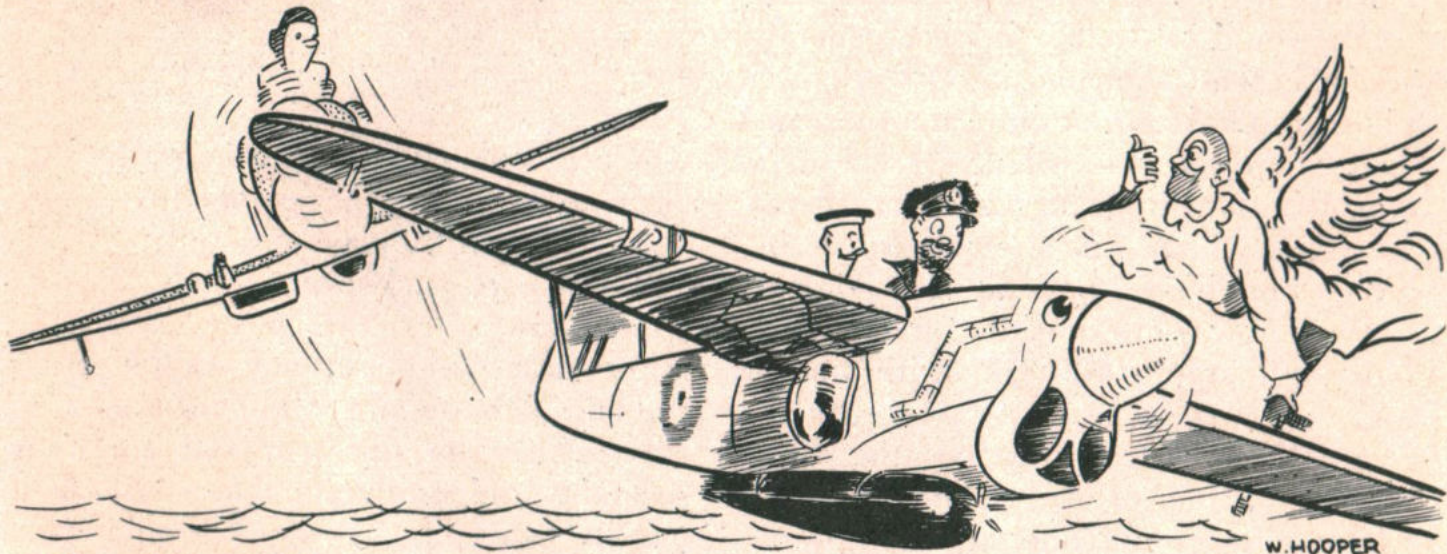
In conclusion, there have been few occasions in this war when T.B.R. squadrons have been sent in against fighter opposition to deliver a formation attack. If all goes according to plan, how-

ever, this will not be the case in future.

S/Lt. Swingit and many more like him divide the responsibility for their safety with touching faith between the fighter escort (if provided) and their guardian angels (if any), with a slight bias in favour of the latter. We prefer people to be able to look after themselves and, believe us, it can be done.

Applications for the course should be forwarded to Admiralty through your Administrative Authority by letter or signal. Dates of courses can be worked out from gen supplied in March issue of TEE EMM. (N.B.—All courses are now a week late, due to circumstances “beyond our control.” Anyway, the next opening date is 28th October.)

Incidentally we prefer pilots and observers to come as “crews.”



S/Lt. Swingit divides the responsibility for his safety between the fighter escort and his guardian angel —with a bias in the latter's favour.

EVEN THE JAPS HAVE A WORD FOR IT—

飛行中、不注意をすれば死者多し。

—which, being interpreted, means “Careless Flying Costs Lives.”



PHOTOS AT NIGHT CAN SHOW IF YOU'RE RIGHT



AT times you'd be tempted to think that Bomber Command's sole mission was to take photographs rather than drop bombs, so great is the emphasis paid on the plotting of the photograph each crew takes with the bombing. Quite often this plotting leads to a certain amount of recrimination between all concerned; for the photograph is the first indication of where the bombs have fallen and should the photo be plotted half a mile away the crew sometimes accuse their bomb aimer of missing the target, while he, poor lad, having *seen* his stick burst across the target, says hard things about night photography.

All would be well if it were generally realised that the plotting of a night photograph does not indicate the *exact* spot where the bombs fell. It is a *useful indication* and upon it can be based calculations which will show fairly accurately where bombs have actually gone.

We'll now try to consider for a moment how photographs are taken with bombing.

As the aircraft approaches the target the bomb aimer presses the bomb release which releases not only the bombs but also a photo flash with a delay; in addition it sets in motion the camera mechanism. This mechanism winds a fresh unexposed piece of film into place behind the open lens; and two seconds before the flash is due to explode another fresh piece of film is wound on and remains there in all for four seconds before the camera is again cleared, the



A certain amount of recrimination between all concerned.

whole business being timed for the aircraft to be over the point due to be bombed when the flash goes off.

There are, however, many factors which can alter the position of the photograph without in any way affecting the fall of the bombs. For instance, the camera has its film exposed for four seconds, and, although the flash will usually go off halfway through the period of exposure, the photograph *may* in actual practice be taken any time during those four seconds. In four seconds an aircraft can travel a fair way, and at three hundred miles an hour it could cover six hundred yards.

Another disturbing factor is the angle of the camera, which need not necessarily be vertical; in fact, it would be

rather surprising it it *was* absolutely straight when the flash exploded. At twenty thousand feet the photograph shows over four thousand yards of ground; so with a camera angle of 35 degrees it is clear that a very slight tilt will make a considerable difference. At that height the centre point of the photograph would be moved about six hundred yards if the aircraft dived, climbed or banked as little as 5 degrees.

Again, when bombs are released they travel forward in the direction the aircraft is heading for some time before striking the ground, and the amount of this forward travel varies according to the speed, the height of release, and the type of bomb. The difference in forward travel between two different types of bombs may be as much as a thousand yards, but the same photo flash delay is used for all kinds of bombs. Nevertheless, it is an easy matter to find just how much this factor changes things, for the forward travel of all our bombs is known.

The delay on the photo flash varies according to the height of the aircraft, but is usually about twenty to thirty seconds. In that time an aircraft can travel some distance and can alter course considerably. The photograph, therefore, is an accurate check on bombing *only* if the aircraft continues on the same course between release of bombs and the taking of the picture. Quite often the plotted photograph shows the aircraft to be on a different heading from that given as the bombing heading and this divergence shows how much

the plotting is out as a measure of bombing accuracy.

Another interesting point arises when aircraft bomb across wind, as in that case the aircraft moves in one direction whilst heading in another. The bombs will cross the target in the same direction as the aircraft travels but the photograph will be pointing the way the aircraft is heading.

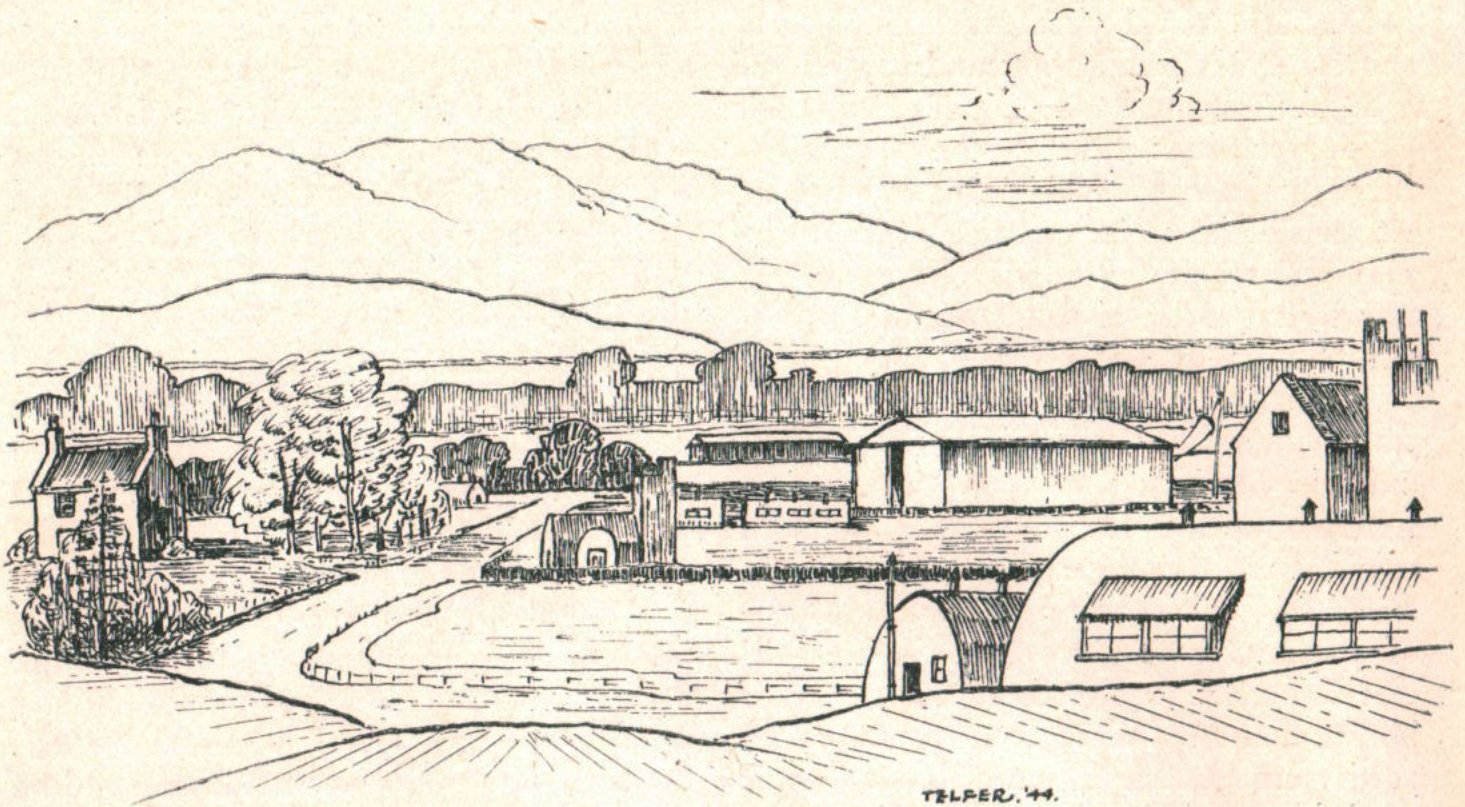
Finally the stick of bombs does not fall in one spot but stretches across the target for anything from two hundred to five hundred yards according to the bomb setting, as it is, of course, immaterial which part of the stick hits the target.

With all these disturbing factors playing a part it is plumb foolish to think that a photograph plotted off the aiming point proves that the bomb aimer has boomed. On the other hand, it would be equally foolish to think that night photography cannot be a very useful yardstick to measure successful bombing. Although there are many disturbing factors they all tend to cancel one another out and a photograph within five hundred yards of the aiming point is far more likely to accompany good bombing than one plotted over a mile away.

Furthermore, working from the known fact of where the photograph is plotted a good deal can be deduced about the probable position of the bombs, since it is possible to calculate how far the aircraft travelled per second, what the forward travel of the bombs was, and how much might be allowed for the tilt of the camera.



BRACKLA BOYS ARE BONNIE!



DEAR little TEE EMM's Auntie Annie * used to sing the above to us when we were suffering from agoraphobia—or fear of open spaces. It cured us at once, by making us want to get right out into the open spaces—any open space, in fact, where her voice couldn't carry. But little did we know how prophetic her words were going to be. For at Brackla now there are as bonnie a set of air crew boys as ever. . . .

But enough! They're not paying us for this. The point is how did they get there? What are they doing there? And how does it affect you other air crew types who are not there—yet?

We can answer all these questions by telling you briefly just what Brackla means.

It had for some while been realised

* Her surname was of course Laurie.

that the system of postings in the R.A.F. was vaguely unsatisfactory. Sergeant Winde, for instance, finishes his tour of air crew duties and gets shot off somewhere as an Instructor, merely because gunnery instructors are urgently needed at that time, and regardless of the fact that few people could make worse instructors than Winde. Flying Officer Fixe, on the other hand, who is of the born instructor type, finishes his tour a month later and gets posted to the Air Ministry, when they happen urgently to want a navigational type in an office. And so on. Many a round peg thus gets shoved into a square hole.

In order to obviate this sort of thing, the Air Crew Allocation Centre at Brackla has been brought into being. It is nothing more nor less than the practical realisation of A Good Idea. This

Good Idea is that, instead of distributing people into jobs willy-nilly, helter-skelter, and at random, there shall be a central pool where the personal abilities and qualifications of officers and N.C.O.'s of post-operational air crew* can be discovered and recorded with a view to avoiding unsuitable postings. In other words, at Brackla the bundles of round and square pegs are sorted out so that they can be fitted into the appropriate holes without the aid of a sledge-hammer.

How does it work out in practice? Bear with us, and we'll tell you. Sergeant Straddle, we'll say, comes back from three hard years in Africa and Italy, or a basinful of Happy Valley work, and after a spot of leave gets a telegram telling him to report to A.C.A.C for disposal. Much speculation as to what the hell. His family thinks the initials mean Air Crew Ambulance Corps and that trainee doctors are going to use Straddle for their first tour of ops. He himself feels it may be Allied Command Army Co-operation, or something else equally binding.

Anyway off he goes, with considerable misgiving, on a long train journey to Scotland, and when he gets there he is agreeably surprised. The place doesn't seem to be so bad. He meets a lot of old friends dating right back to I.T.W. days, he hears the latest news of many more, and there is, in fact, none of that new Station "lonely feeling." Over a can of wallop in the Mess he learns that the Station—though on the face of it a somewhat dour Caledonian one—is really very pleasant. There are sports of every kind from football to fishing, and

* Except pilots, for whom such a centre has not yet been established.

from clay-pigeon shooting to darts; the food is good and so is the local beer; there are discussion groups, lectures on all sorts of subjects by all sorts of experts; and *above all* NO BULL.

Straddle is pleasantly intrigued by all this and asks what is the real object of the exercise. He is told he will be given the form at an "intake talk" in a couple of days' time, and sure enough he is then told how and why Brackla came into being.

About a week after the intake talk Straddle gets his first interview. He finds that the interviewer is an officer of the same air crew category and with considerable operational experience. Moreover, it is hardly a formal interview; rather is it a friendly and advisory chat about that most fascinating of subjects—Straddle himself. During it his service and pre-service history, qualifications, experience, general interests and future aspiration are all noted down. He is advised on possibilities of courses and careers and is referred for further information to the Central Trade Test Board and Education Officers. This is taking, perhaps, a long-term view but then people only visit A.C.A.C. once, and all future postings of their service career are based on the recommendation there made.

About seven days later comes the climax of Straddle's visit. He appears in front of a Board consisting of a Wing Commander, as President, and two others—one of whom is his original interviewer. His case is discussed and one or two further aspects, which Straddle hadn't thought of, are probably pointed out to him. An important point about all this is that the Board do *not* post; they only

make recommendations which are kept at the Air Ministry. The Air Ministry then make postings in accordance with (a) service requirements and (b) suitability. The posting comes through a short while later; indeed, no one stays at Brackla longer than about a month.

So off Straddle goes, and we hope he's a satisfied customer.

A few further points. You must remember that service requirements come first. This means that your immediate posting *may* not be the job you most desire, or even the job for which you are *most* suited. But, thanks to A.C.A.C., it will *not* be a job for which you are definitely not suitable.

Let's take Sergeant Straddle's case again for a moment. He has special qualifications, we'll say, for a particular job and wants to do that job—and it is not a bombing instructor's job. But the Board, who are experts, consider he will make an excellent instructor and therefore, while they recommend him first for the special job, the second, third or even fourth recommendation will be for bombing instructor. And if then at the Air Ministry there is at the time a heavy demand for bombing instructors and but a slight one for the special or other jobs, Straddle will in all probability click for the instructorship. *But* a record of his special qualifications and personal aspiration, and of the Board's recommendations will be kept and will infinitely increase his chances in future of being posted to work more closely in keeping with them.

To sum up, reiterate, and, in fact, blooming-well repeat ourselves. Brackla

ensures that (i) you won't get a job for which you aren't considered suitable; (ii) your chances of a suitable job immediately or eventually are greatly increased; (iii) you have the opportunity of consulting specialist officers concerning your future in, or out of, the service, and also of getting a better idea of what jobs are available; (iv) you are interviewed by people who are no fools and are genuinely interested in *you*, and out to help; and (v) you won't have at all a bad time while you're there.

As a matter of fact, the new office staff of TEE EMM is a "Brackla Boy," and he bears this out. He's just another Satisfied Customer.



The old way: Unwanted bundles culled from operational commands.





He showed his best girl how well he could fly.

THE EMM, the Royal Air Force's Training Memorandum, is a "Restricted" publication. 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.

PILOTS' NOTES



Keep You

**HEALTHY
EFFICIENT
& WISE**

Read Them Regularly at Bedtime