

TEE EMM



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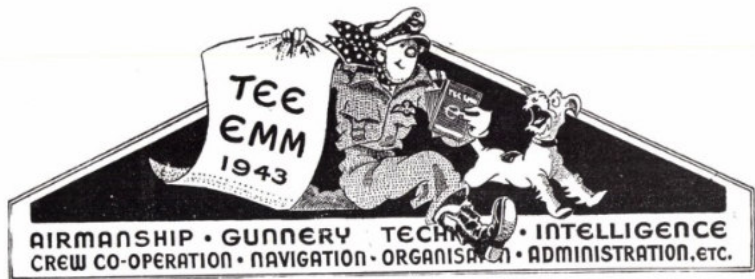
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*Pilot Officer Prune says—
"Take Tee Emm regularly!
Prevents that Thinking
feeling!"*



"I hope that these Training Memoranda will continue to be as widely read and studied as they have been during the past 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

Parrottry

SOMEONE who read our article "Don't be a Parrot" last month has just written in to us with a grand example of "parrottry" in the lecture room.

The Instructor concerned, armed with a mass of lecture notes, was discussing methods of bombing shipping and said that one way of doing it is flying straight at the ship and, "just before hitting it, turning and softing the bomb at the ship."

This was a new word to the class and one lad at last got up and said he'd never heard of softing a bomb: in fact, he'd never seen a bomb softed in his life: how did one softle bombs?

In a condescending manner the lecturer made a most authoritative sketch on the blackboard of a bomb being softed at a ship, leaving the class impressed to the point of silent awe and busily writing "Remember to softle the bomb" in their notebooks.

It was several days before someone happened to read through the notes the lecturer had been using. . . .

It was really the typist's fault of course. She'd missed a space and run two words together. The correct text, which the lecturer was reciting so glibly, was to fly straight at the ship and "just before hitting it, turning and so fling the bomb at the ship."

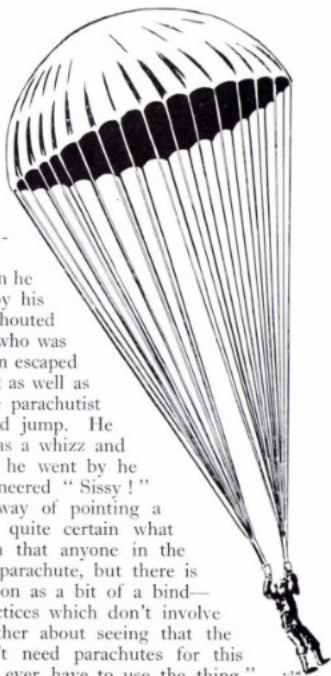
When You Need It, You Need It Badly

SOME years ago there was a man in New York who used to earn his living by climbing up the outside of tall buildings such as the Empire State or Chrysler. He did it as an advertisement for whoever paid him to advertise whatever it was they had to sell; for crowds naturally gathered to watch, and when he at last got to the top and had a really big audience, he jumped off. . . . Something seems funny about the above—oh yes, we forgot to say that of course he wore a parachute.

Well, one day he was half way up when he saw that another man, apparently fired by his example, was climbing up after him. He shouted "Go down, you fool!" But the other, who was *not* wearing a parachute and was in fact an escaped lunatic, merely shouted back "I can do it as well as you," and insisted on following. So the parachutist went on and finally made his accustomed jump. He was floating happily down when there was a whizz and the loony shot downward past him. As he went by he gestured at the other's parachute and sneered "Sissy!"

We resurrect that ancient story by way of pointing a moral or something—though we're not quite certain what it is. There is, of course, no suggestion that anyone in the R.A.F. thinks it sissy to wear or carry a parachute, but there is perhaps a tendency to treat the contraption as a bit of a bind—not to take it on a short hop or on practices which don't involve any operational possibility, or not to bother about seeing that the harness is correctly fitted. "We shan't need parachutes for this flip!" or "It'll fit near enough—if I do ever have to use the thing."

Well, there's this about a parachute. It *is* often a bore and ninety-nine times out of a hundred—maybe even nine hundred and ninety-nine out of a thousand—you don't need it. But that hundredth, or thousandth, time you *do* need it—and when you need a parachute you need it badly!



As regards not taking your parachute on short trips, well, that's a point we won't go into now. There are the regulations; and there is your own conscience; and there is the chance of getting away with it; and there are the mitigating factors by which you can justify not taking it—even if such justification turns out to be merely a Famous Last Word. Pay your money and take your choice!

But as regards seeing that your harness is properly fitted, that's another matter altogether. There is no justification, when you are wearing your harness, for not having it correctly fitted and correctly done up—whether you're on an operational sortie or on a firing practice or cross-country exercise or whatever it is. You probably won't be wearing the pack itself, but remember you *may* only just have time to get that on—without having to fiddle with adjusting harness buckles and straps or fitting tongues into slots at the last moment.

All this isn't talking through our hat. Here are two specific examples. They both occurred during one single week of a recent month.

The first happened during an air-to-sea firing practice on the west coast, *i.e.* it was not on a sortie and it was in an area where it was very unlikely that an E/A might pop up. Operational risks were therefore ruled out. The port engine of the practising aircraft, however, failed; only low power could be got from the starboard; and the aircraft began to lose height. The pilot reached land, but could not find an airfield owing to haze, and so gave the order to abandon the aircraft.

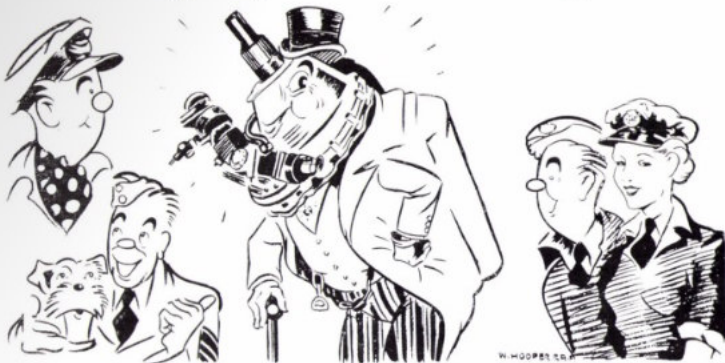
An eye-witness on the ground who saw three of the crew bale out said that all the parachutes opened, but one instantly became detached from its owner and drifted out to sea, while the body "fell like a stone." The Court of Inquiry subsequently expressed the opinion that the leg straps were incorrectly fitted.

In the other case an aircraft had crossed the British coast on returning from an operation, when engine trouble developed, probably from earlier flak, and the bale-out order was given. Once again a member of the crew was killed by falling at an early stage out of his parachute, for when it was found it had fully opened but the body was nowhere near. Examination showed that the metal tongue by which the quick release box is fitted *via* the single-section cotton strap to the crutch loop was fractured. Neither tongue nor strap are designed to take the full weight of a jump and it was obvious that the wearer had baled out without having fastened his two leg straps through the loop to the quick release box.

When you *do* need your parachute you need it badly—so be sure you are ready.



Long Life To Your Engine



"To what do you attribute your excellent health at such an advanced age, sir?"
 "To being well looked after by you, my dears."

EVERY aircraft engine has a life—a certain number of hours, which it is expected to run between each complete overhaul. This "hours life," of course, depends on the correct handling by the pilot and the thoroughness of inspection and adjustment by the maintenance staff: otherwise the engine's life is shortened and more work is thrown on the repair people.

Now engine repairing is to-day all run on a carefully thought-out plan. This plan allows for a certain number of crashes and accidents, but it does *not* allow for extra work due to reduced life, due in turn to bad handling or maintenance. Why after all should it? Accidents must happen to a certain extent but inefficiency need not. And so if engines don't live as long as they should, the repair plan is upset and

thrown behindhand and you get aircraft which should be in the air hanging about on the ground waiting for engines. And the blame for this hampering of the war-effort lies at the door of the pilot or mechanic whose inefficiency has shortened the engine's life.

Now the pilot, of course, is dependent upon his maintenance crew, much as a conductor is upon the skill of his orchestra. On the other hand, the orchestra must have the co-operation of its conductor. How then can pilot and maintenance crew best work together to prolong the life of their engines—or rather to ensure that they live out the allotted span on which the repair programme is based?

Well, take first "ground running." We know that these hours are not recorded and are disregarded in assessing

the engine life. But they do produce deterioration, the result being that when an engine comes in for overhaul it may in actual fact have run considerably more hours than its record shows; what is more important, it will not be in such good condition as it ought to be. Consequently the repair work takes longer. For it to fit properly into the repair plan it should have done no ground running at all. In other words, if it runs 300 hours in the air plus 50 on the ground, why shouldn't it have done 350 in the air! Its condition may then warrant its official "life" being increased to 350 hours.

Unfortunately, however, ground running can't be cut out altogether. But it certainly *can* be reduced. Consider! Is it, for instance, necessary for the fitter to run the engines after the "daily," followed by the Flight Engineer, and then again by the pilot—particularly if no defects have been reported since the last trip? We don't think so. The wear, too, on the engine during starting up and initial running—particularly in cold weather—is much greater than when warmed up, so that every separate short run on the ground is more detrimental to the engine than the same period added on to an air flight. If, therefore, all unnecessary ground running is watched for by pilot and crew and cut down as far as possible, you'll have more hours in hand to use in the air. This means that you can reasonably get another sortie or two out of your engines' life. Far better than droning the time away on the tarmac. So don't ground-run more than necessary—or longer than necessary.

Careless engine handling can also

lead very easily to engine trouble. There are many ways in which you can cut out carelessness. For instance, watch your temperatures and avoid using unnecessary power—such as giving sudden bursts and then checking by your brakes. If you are taxiing a four-engined job with two engines only for power, remember that the idling pair can very easily get their plugs fouled by the slow running, and are liable to overheat. They will require more clearing than the others when you are ready for take-off.

Don't forget your *Pilot's Notes*! They'll help too. They give the operational limitations for your engines and these are the maximum permitted. So if your load and other factors don't warrant the maximum conditions don't use them.

Which brings us to this: do you, as a captain, know the weight of your aircraft when not fully loaded? If not, ask the C.T.O.—both tare weight and in operational trim. You can then use your engines to give what you want for the job in hand. Lay off full power whenever you can, *i.e.*, don't climb straight up on maximum climbing power if you can do it gradually and on less. Use the engine conditions best suited for the particular conditions of your flight.

Keep within the maximum permissible engine temperatures and avoid drag. Cylinder gills create drag, and drag requires power to overcome it. So adjust your cooling gills to maintain temperatures within limits. It is not necessary to have a gill setting to keep cylinder temperatures well below normal. Reduce drag by closing them and keep the temperatures as near as possible to the optimum. The same applies to all

controllable shutters and items likely to produce drag. Keep them in the "less drag" position as long as temperatures are kept slightly below the maximum permitted.

The cruising conditions should also be watched. Run your engines at a power consistent with the job you have to do; conserve petrol by keeping your boost up and r.p.m. down, and use weak mixture when your flight conditions permit it. The correct use of engine controls and particular attention to engine running to give the best fuel consumption, and to the conservation of engine power, may make the difference between ending your flight in the ditch or making your destination.

When you have landed and are taxiing in, you may be lightly loaded. So, if you have four engines, why not switch off two of them? With these, and at any time when you stop engines, allow them to cool down before operating your cut-out or switches. If oil dilution is fitted, use it to the best advantage. It will definitely help the next start. A.P. 1464, Vol. I., will tell you how to use the system correctly.

You may have had a long flight and may not be feeling particularly bright. But, before you pack up and call it a day, try to recollect any engine snags or that "not quite right" feeling you have had during the flight. If you have carried a Flight Engineer, get him on to it too, and then record the snags on the 700 and tell the fitter people. You can probably explain better by talking to



"Well, what's wrong with you? Had Prune for a pilot?"

them. If not attended to, the little snag you experienced may develop into something big during the next trip. In these days of Planned Flying and Maintenance, you may not take the same aircraft on its next flight, and the other crew may have to inherit the snags which had developed through your neglect. It's up to you to save them from this unpleasant legacy.

A.M.O. A.172/43 gives very useful tips about running, testing and handling aero-engines on the ground. Get hold of it. It is worth reading.

(The above is abridged from an excellent article "Your Engine" in *Coastal Command Review* for August, 1943. We have been asked to give it this wider circulation as it is of great value to all Pilots and Flight Engineers.)

* * * * *

Since the above was sent to press we hear that the whole question of ground running referred to in the fourth and fifth paragraphs is under review. A scheme is on foot to calculate flying times on a net hour basis resulting in excluding of taxiing time. An A.M.O. is shortly to be issued about this and we will go into it more thoroughly next month.

Fit Your Pedals, Sir?

HERE'S an idea that we've pinched from a certain Bomber Group and are passing it out in case it's of value to any other Groups.

When heavy four-engined aircraft are taking off there is frequently a tendency to swing over to one side owing to the torque effect of the four propellers. The pilot starts at once to correct this, and either fails or else very commonly over-corrects and fails to right that over-correction, *because* he suddenly discovers that his rudder pedals are not properly adjusted.

Since before you are airborne you have to use your rudder pedals much more coarsely than in the air, this is quite definitely the wrong time to discover that they don't fit you properly—particularly if, as has often been done, the pedals have been definitely fixed in one position and made non-adjustable.

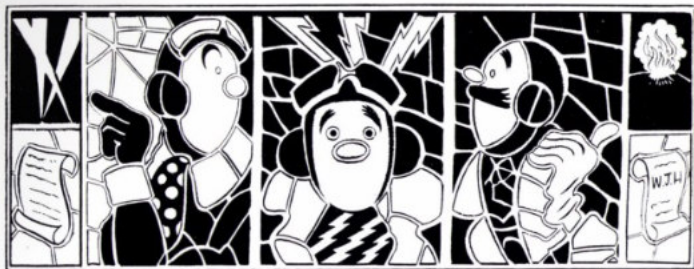
The Group we are talking about has, therefore, issued an order prohibiting fixed pedals, all pedals to be capable of ordinary adjustment. In addition, and by way of helping further to eliminate wrong adjustment of pedals as one of the causes of swinging accidents, it has been laid down in the Group that on the "daily" and between flight inspections rudder pedals are invariably to be moved to *maximum adjustment towards the pilot*. Special certificates that this has been done have to be inserted in the 700, the inspection being classed as a special supernumerary, and the pilot has to add the following to his cockpit drill prior to take off: "Adjust rudder pedals to suit length of leg and ensure they are adjusted evenly: also see that full rudder to port and starboard can be applied from normal sitting position."

The idea behind this—and we think it's quite a nice piece of psychology or something—is that before the pilot gets in, the pedals are deliberately adjusted *wrongly* for any but the shortest-legged types. As a result even the dim-brained P.O. Prune (who is inclined to be lanky), must realise that there is something wrong when he finds himself with his knees behind his ears, and so takes steps to have his pedals put right *before* he starts. The order thus prevents the pilot suddenly discovering that his pedals don't fit him just at the very time he wants them in a hurry. And it has certainly reduced the number of accidents due to swing on take-off in one Group at least.

Worth trying?



The Parable of Proon and the Bonfires



NOW it came to pass in the days when the People of Raf did constantly journey to and fro in the upper air between their land and the Land of the Huns (cursed be their name and may they and their seed perish forever from the face of the earth !) that a certain officer of the pilot sort named Proon did find himself returning from such a journey. And there were with him in the flying machine divers others known as his Crew. Nor was it yet the break of day.

And after that they had for some good space passed from the Land of the Huns (cursed be their name and may they and their seed perish forever from the face of the earth !) they were constrained to think that they were at last well over the Isles of Britain where dwelt the People of Raf. But the darkness and the clouds forbade that they should discover in what exact part they might be, for after the manner of Proon's Crew they had been navigating largely by instinct, and that a rotten one.

Then did Proon call up one Fixe, a Navigator, and say, Are we then lost ? To which Fixe made answer, Yea, lord, it seemeth we are. Whereat silence brooded over the flying-machine for the space of ten minutes.

Suddenly there rang out a mighty cry. And it came from Fixe. Verily, cried he, the whole land ahead is full of ruddy red bonfires !

Then did Proon observe closely these bonfires and say first, Perchance it is the feast of Guy Fawkes ? Then did he bethink him that it was well past that day and say again, Perchance then peace hath been declared since the hour that we were airborne ?

But one Backtune, a worker in wireless, answered and said, Nay, lord, for my set hath been going these many hours and should I not have heard it on the midnight news ?

And after they had all much argued, Fixe said, Lord, during this natter we are now one hundred and eighty degrees off the course we were steering, so that the fires seem now to be behind us. And Proon rose in his wrath and said, Fool and idiot ! Knowest thou not how to keep a course nearer than that ? More too would he have said, but that Fixe cried loudly, Lo, ahead now are waving searchlights, yea, and rockets too, all very wizard to look upon.

Then was the heart of Proon made suddenly glad, for having read by some chance his TEE EMM of two months ago, he wist well what all these searchlights and rockets did portend. Verily they signified safety, and good ground upon which to land and a hospitable mess and many other delights unto which his heart yearned.

So he made for the searchlights swift as a cat that hath been just singed by a burning fiery furnace and landed in safety. And later did he say to the Officer of the Control, What meant all yonder bonfires ? My birthday is not yet !

Then did the Officer of the Control laugh like a closet and say, Thou fool ! That was but an Arrangement to save thee from a sticky fate—though it seemeth that the real cause was the lousy navigation of Fixe, who turned thy flying-machine around at that point, rather than thy knowledge. For they were not bonfires, but flares marking a high range of hills. Into these indeed wert thou heading to thy death—which I for one do think long overdue.

And Proon did answer, Cor.

And the Officer of the Control did continue, Ponder well the words of the psalmist who said, *Flares upon the ground, turn her round, boys, turn her round !*

And Proon went out and pondered these things and kept them in his heart. And it came to him that it were indeed wise that all men should go constantly to their own Officer of Control that he might discourse with them on all such portents in the skies, and other matters devised for their especial safety.

For, thought Proon, it is indeed foolish to die over one's own land, after having escaped those perils which beset one over the Land of the Huns (cursed be their name and may they and their seed perish forever from the face of the earth !)



Horizon Hangover

THERE are quite a few pilots in the R.A.F. who don't seem to realise that the Gyro-Horizon suffers from a slight disability known as "Turn Error." This is rather like the ordinary hangover of recreational life, in that it becomes apparent after a bout of drinking or, in this case, of turning. Not being aware of this fact, however, some pilots have been reporting their instruments as unserviceable, whereas the trouble is really just one of those small limitations which nearly every apparatus possesses—unless it is, as happens rarely, completely perfect. And the Gyro-Horizon with all its many advantages, is not perfect: its limitations have to be taken into consideration, particularly when they are likely to affect safe flying.

Horizon Turn Error is simply this: After a turn you get a small and temporary misindication on your Gyro-Horizon. It is nothing more than a slight displacement from normal of the bar, or artificial horizon, a few degrees (up to 6° maximum) in both bank and pitch. The amount depends on the rate and amount of turn.

Now this is nothing to panic about. Even in the most extreme condition the error seldom amounts to more than the width of the horizon bar. Below are some simple drawings of a very diagrammatic aircraft suffering from enlarged Gyro-Horizon. The first two show how the Gyro-Horizon registers before and during an ordinary turn. (We've drawn these pictures ourselves and we're rather proud of the ship. She is the S.S. *Alcoholic* and there's quite a cute little number with red hair in a deck-chair on . . . but our mind wanders.)

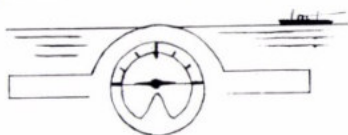


Fig. 1. Level Flight.



Fig. 2. Normal Left Turn.

Next comes Fig. 3. It shows the Gyro-Horizon immediately after a turn, when you get the hangover effect. Now the great thing to remember about the Turn Error shown in this figure is that it is only *temporary*. The Horizon will come back to normal as in Fig. 1 within two minutes if you go on flying level, and this you can do visually by the actual Horizon or by other instruments.

If, however, you don't know about Turn Error and start at once following the indication of the Gyro-Horizon, you will

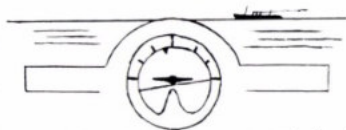


Fig. 3. Left Turn Completed. Though the aircraft is level the Horizon indicates nose up and left wing high. In other words it is indicating wrongly.

find yourself like this:—

Here, in Fig. 4, you see that you are really flying nose down and left wing low, though your Horizon is normal, and if you go on doing this you'll be losing height for anything up to two minutes, in fact till the Gyro-Horizon gets over its hangover.

The lesson to be learnt, therefore, from the above is that since Turn Error is relatively small, it's quite unimportant at 1,000 feet or over, *but*, below that height, and particularly when low flying at 500 feet or less, it is dangerous to follow the Gyro-Horizon Indicator immediately after a turn to the exclusion of other instruments. You should invariably check with Rate of Climb, Altimeter and Directional Gyro.

Remember, too, that this hint applies also to the automatic pilot. Being made on the same basic principle it also suffers from Horizon Hangover and the same precautions must be observed.

One last point. It may have crossed the minds of some of you more experienced pilots that this Turn Error seems to have become more noticeable during the war. Well, this is not due, as you might think, to a different standard of production in wartime, it is due entirely to the fact that Turn Error is greater at greater speeds, and aircraft speeds have increased considerably during the war. Further, the Big Mathematical Brains have discovered that by modification in the instrument Turn Error can be eliminated for any given rate of turn. This they have done for a Rate 1 turn with the latest model the Mark IB (British) or AN (American). If only recreational hangovers could be eliminated as easily for Rate 1 turns of the head. . . .

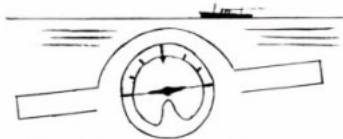


Fig. 4. Horizon has been brought back to normal by correcting the error, but the aircraft is actually not level itself.

Vapour Trails

Vapour trails by bombers on a clear moonlight night attract enemy night fighters and aid interception. When a pilot realises that a condensation trail is being made by his aircraft, he should look for a drier stratum of the atmosphere, which is usually found above the top of a layer cloud. If the pilot has recently descended and was not making trails previously, he should naturally re-ascend, but if he is not certain that there *is* a drier layer above, he should throttle back and descend, making due allowance for enemy ground activity. Pilots should avoid flying at levels at which wisps of clouds are visible, as these show that humidity is high at this level. If you want to know more about it, get hold of T.C. Paper No. 5 "Condensation Trails Formed by Aircraft," issued by D.A.T. Air Ministry.

Can You Hear Me, Mother?



That's only to attract your attention. What we mean to say is "Can You Hear Us, Readers?" If so, for God's sake, *listen!*

From time to time in TEE EMM we point out what the drill is for getting odd copies, or altering your monthly requirement. It all boils down to the one thing: *Don't write to A.P.F.S.; write to Us*—Editor, TEE EMM, Air Ministry. The function of A.P.F.S., as far as TEE EMM is concerned, is merely to distribute the monthly issue on the scale supplied to them each month by us. They have no authority to alter this

scale or to send out further copies. If, therefore, you write to them direct, they only send your letter along to us and, as they have more important things to do than forward wrongly routed letters, it may be considerably delayed, besides wasting their time and that of the postal officials.

We haven't exactly been keeping this little point secret. The gist of it was published in A.M.O. N.1445/41, and also in TEE EMM of November, 1941, April, 1942 (in two places), April, 1943 and August, 1943. We now feel that any unit or person writing to A.P.F.S. for TEE EMM's after this becomes in our opinion eligible for the M.H.D.O.I.F.

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 Being Markedly Superior to Standard Beam Approach.

This officer took his Squadron on a practice flight in poor visibility. On his return he, personally, made sixteen attempts to land before achieving his aim, during which time the remaining aircraft of his Squadron all landed successfully. The pilots, on subsequently being asked by their Commander to what they attributed their unusual skill, all without exception replied in surprised tones: "But, sir, we used the Beam!"

Service Terms Illustrated

by

Well-known Newspaper Cartoonists

No. 10. NEB of *The Daily Mail*.



SHOT DOWN BY A BLONDE JOB.

An Unfortunate Accident

HERE is an example of one of those most unfortunate accidents in which no one person was to blame but which yet cost a valuable life. We repeat the story in TEE EMM so that others engaged on the same job can see clearly how it happened and perhaps avoid a similar one in future.

Two Flight Sergeants went up in a Martinet on a drogue-towing exercise, one as pilot and one as drogue-operator. On arrival at the exercise area a 4-foot drogue was successfully streamed, but before the attacking aircraft could make its first attack the drogue broke away. The pilot thereupon told the operator to wind in the cable.

Apparently the winch then jammed, and the pilot, learning this, asked if the cable could be wound in by hand as he did not want to risk its fouling as he landed. He then lowered his undercarriage to reduce speed. Even so the operator reported that the drag on the cable was too great for him to get it in so the pilot next decided to go in and land, and told his operator of this decision. As he was coming in, however, he felt a quick jerk and immediately opened his throttle and made an overshoot so as to avoid the cable damaging his elevators.

Having done this, he called up the operator but could get no reply; and so landed quickly, only to find that his companion was dead.

Later it was discovered that the jerk the pilot had noticed was due to the trailing cable having fouled the revolving propeller of a standing Spitfire, but unfortunately when this happened the operator had got the cable over his left leg, which he was using as an anchorage while still trying to haul it in. The result was that his leg had been cut right off and he had died before the aircraft could be landed.

No one was to blame for the unhappy incident, and it can only be imagined that the operator misunderstood the pilot when told they were going to land, or he would never have left the cable over his leg knowing that even the slightest obstruction on landing would seriously injure the limb.

The object of printing this unfortunate story, therefore, is to emphasise once again to all who have to operate drogues, the great danger of having loose cable in the cockpit, and the even greater danger of trying to haul in the cable by hand instead of cutting it away with the wire cutters provided for that purpose. And as a side-line it also emphasises the necessity for perfectly understood signals or other communication between pilot and operator.

PRUNE IN THE EAST

P.O. Prune got involved in a dog-fight with a Jap Army 01 the other day. He hadn't met that type before, but he had heard they were to be treated with respect.

He emerged unscathed; on the other hand he had not fired. His explanation was: "I had him in my sights several times, but I didn't press the tit because I wanted to see how well he could dog-fight!"

So You're Posted Overseas!

"*It's so hot out here that at midday the monkeys fall out of the trees, and when you hear a hen cackle you rush to feed it chipped ice so that the egg won't be laid hard-boiled.*"—Extract from one of P.O. Prune's letters home—after the Censor had cut out several pages about where he was, what he was doing and the exact route the convoy had taken!

The heat is, of course, the first thing that strikes one on getting out East or to North Africa—very often literally, if you're such a clot as to think you're tough enough to take it. Indeed, that's the first lesson to learn in keeping fit in hot climates: don't start off with bags of grand sun-bathing and exposing a large acreage of body. Take it with respect, and slowly at first—not more than five minutes a day; then in a month you'll find you're more or less inured and definitely one of those "handsome men" who are all "slightly bronzed."

But the heat, however spectacular it may appear to the newcomer from the U.K.—and it is for them principally that we are writing this—is not the real enemy that puts you on your back for a long count. It is sickness. And a large amount of this sickness occurs in air crews soon after arrival, and is directly due to lack of knowledge—or rather to failure to use the knowledge handed out before departure. Result: interference with important operational work and loss of efficiency both in the individual and in the squadron.

This sickness can largely be avoided.

The two leading villains of the piece are *Malaria* and *Dysentery*. They're

quite easy to get, so it's all the more essential for you to guard against them.

Here are a few hints and tips—free of charge, unless you care to signify your appreciation to the Editor (but no rubber cheques please).

Malaria is carried by certain mosquitoes, and the obvious preventative is the avoidance of mosquito bites. Luckily most of them only bite at night, so the wearing of long-sleeved shirts, slacks and mosquito boots from sunset to sunrise and sleeping under mosquito nets will generally fox them.

Have this clothing always to hand and



No mosquito stands a chance with Prune.

think ahead, *i.e.*, if there is uncertainty about changing facilities at dusk arrivals, be on the safe side and wear your long-limbed rig-out. As regards mosquito nets, remember they should be tucked in a good hour before sunset, and before getting into bed have a look round for holes and for any odd customers who may have cunningly sneaked in somehow and be lying in wait sharpening up the old proboscis.

If you're lucky enough to be in quarters with wire-gauzed doors and windows keep these closed as much as possible. If you aren't so lucky, give the mosquitoes as little chance to get at you as possible, *i.e.*, don't sit about half-stripped, or dawdle over shaving and washing.

In general, don't stand about out of doors after dusk, or go for any of those leisurely strolls by swamps and rivers or through interesting native villages. If you have to be outside at mosquito time, walk briskly.

Use the ointments or lotions given you. You may hate the smell, but so does the mosquito. And if you don't use the stuff, both you and the mosquito may have a more enjoyable time—but it's *you* who gets the malaria.

Finally there's that one tablet of quinine daily, from the day of arrival in malaria country till a month after departure. Quinine should be on the tables in all messes—if not, ask for it!—and make the dose a fixed evening ritual, so that you don't forget.

Now for *Dysentery*. You get this, and also typhoid and other tummy-troubles from food or drink which has been in contact with the excreta of people suffering from these diseases.



Prune can hardly wait for the sun to go down.

Of course, you don't do this wittingly, but flies are dead to all shame, not caring whether their food has, or has not, been eaten; and thus they provide a very good transport system. This is why continual war must be waged against the fly. He *must* be kept out of kitchens and away from all food; and constant washing of hands by all employed in the handling of food should be insisted on. The fly can also be largely foiled at his base of operations by the use of sand or sawdust and disinfectants in latrines, and always remembering to close the lid.

Other methods of countering dysentery and similar troubles are these. Avoid all food and drink (and this includes iced drinks) not prepared under Service supervision, and all water not boiled or chlorinated. Milk should also be boiled. Hot foods are safer than cold; while salads and fruits, especially thin-skinned fruits, are very likely to be contaminated, unless well washed and peeled, or coming from sources known to be safe. The really safe rule is to feed only in messes or authorised restaurants and

keep away from all other food purveyors, particularly bazaars, cheap cafés, and hawkers.

And a last good tip for keeping the tummy ticking over nicely is to cover it up when resting or sleeping and thus avoid all chance of chills.

Though not so dangerous as disease, heat very definitely has ill-effects unless guarded against. The great things to remember here are: keeping the head covered during the day; wearing suitable clothing; drinking plenty to avoid thirst, but—and it's the old rule and a good one—*not* drinking alcohol before sundown; taking extra salt if you are sweating a lot—even up to a level tablespoon a day, for you lose a lot of body salt when you sweat; and taking the necessary steps to obviate constipation. Make sure, too, you don't miss your inoculations whenever they are due and carry the certificates with you.

A final word of serious advice: look out for that old enemy V.D. Important

as the subject may be at home, it is even more important abroad. You have all been told of the risks and have been given advice about its prevention. Act on this knowledge! And don't forget that alcohol in excess very often leads to V.D.—with but the one necessary little step in between.

If you bear all this in mind and act on it there's no earthly reason for you to get the idea (which is frequently current) that you'll probably come back from abroad a chronic invalid, fit only for a single-seater bath-chair. It's entirely in your hands to come back as fit as you left. Remember, your M.O. is out to help you in every way and, if you ask him, will always give you the gen on local conditions as soon as you arrive.

As we said above, this is primarily written for newcomers to hot climates or those about to go—but we feel sure it won't hurt our readers already out there to have it over again—if by any chance they've read as far as this!

Prop-aganda

WHEN you give a prop. a swing,
Don't do gymnastics on the thing!
Even if the switch *is* off,
The engine still may give a cough.
"Dead" motors have been known to kick
And slice an arm off mighty quick.
Your head entangled in the works
Will make the engine go in jerks;
And aeroplanes do *not* fly better
With "swinger" in the carburettor!





To Ditch or Not To Ditch

FROM time to time in the pages of TEE EMM, A.S.R.S. has gone to town on the subject of ditching. We've covered fairly widely what to do before, during and after the operation and we've discussed (very hopefully) the prospects of being picked up and how to ensure it as far as possible. (*A brief note of these articles appears at the end.*)

But in spite of the vastly increased chances of a crew being rescued by A.S.R.S. the problem of whether it is possible for said crew to get a badly damaged, but still valuable, aircraft home under its own steam must often arise. Many aircraft that seemed at the time to be hopeless cases—with doctor, nurse and priest in attendance—have yet been brought back to base to live and fight another day. On the other hand it must be admitted that many others which might easily have reached the home shore are now at the bottom of the sea.

Take the case of an aircraft which is damaged when at a very great height, say by the complete loss of an engine. Obviously it'll be impossible to maintain this height. There will, however, pro-

bably be a height which *can* be kept. The first thing to remember is not to rush down to that height. Get to it as slowly as possible, in the longest, gentlest decline. And when you're there do everything to keep at it. Every aircraft has a certain maximum altitude, varying according to type, at which it will remain airborne with reduced power.

Once this altitude is reached you can, provided your juice is O.K., stagger along at the optimum speed for an almost indefinite period. As you will only be flying one aircraft at a time and the optimum speeds are given in Pilot's Notes (good old Pilot's Notes! We keep advertising them every month on the back cover and sales are going up!) you will naturally know what that speed is for your own particular kite and the load it is carrying. ("Anyone seen my Pilot's notes?" Prune here asks, "I had 'em only two months ago, I'm certain?")

If you have much more petrol aboard than you need to get you home, get rid of what you don't want after allowing a margin for safety. The removal of the surplus load will, of course, make it

easier to stay up. To know how much you don't want you will have to know also the consumption of your engine at different r.p.m. and boost, but do remember that one engine on rich mixture takes a lot more than two engines on weak to get you along at a given speed.

If you have a tank holed, use as much of the fuel in it as you can before it all runs to waste. And again because, as indicated above, two engines on rich mixture take more fuel than three engines on weak at given airspeed, don't

let a holed tank put an engine out of use, but remember your cross-feed pipes.

Finally, it is important to know what r.p.m. and boost to have on the clock, and to see that these and the mixture control are correctly adjusted to what a self-respecting engine can stand. Only when desperate use full boost and r.p.m. ; but don't be afraid to get desperate if necessary. For after all it *is* better to get a dicky engine home than to leave it, and three perfectly good ones, in the North Sea.

The principal A.S.R.S. articles on Ditching which have appeared in TEE EMM from time to time are as under :—

Rescue Blitz	July, 1941
Experiences	Dec., 1941
Notes About Wellington Ditchings	June, 1942
Hints on Ditching	July, 1942
Know Your Stuff	Aug., 1942
It Won't Be All Right Unless—	Oct., 1942
Lifeboats from the Skies	July, 1943



For Signals People Only

We'd just like here to clear up a possible misunderstanding.

We published an article last month with the above title. It came under the "Fleet Air Arm" heading. But don't get the idea that because of that it doesn't apply to the R.A.F. signals types as well. As a matter of fact, if you read the article you'll see that it is a joint affair and an A.M.O. as well as a Fleet Order is just out, telling you about it all. So if you saw "F.A.A." at the top of the page and flipped it over saying, "Not for me: I'm in the R.A.F." you'd better turn it up again and read it. Then get hold of the A.M.O. referred to which, as we said, is now out. It is A.869/43 ; and the Fleet Order is A.F.O.4904/43.



Sgt. Bactune is in on this, too.



Batsman, Spare That Kite . . .

A WHILE ago we uttered a few well-chosen words on the subject of Deck Landing, from the pilot's angle (which, of course, has to be pretty dead accurate). . . . Now we're going to take our lives in our hands and spend a few moments dicing with death on the Deck Landing Control Officer's platform—that odd contraption of wires, struts, nets and canvas which appears to have been designed by Barnum and/or Bailey for their favourite trapeze act. . . .

We have already hinted that the D.L.C.O. is a Great Man. He has got to be good, since he spends so much of his life juggling in mid-air with, say, a dozen or so valuable, highly-trained and very sensitive crews, and perhaps £120,000-worth of equipment. . . . That's why there is for D.L.C.O.'s a long, concentrated and serious gestatory period of operational flying in a carrier.

Experience tells, of course, and the good batsman should regard himself in a sense as the skipper of his team; he should get to know his pilots and their idiosyncrasies, so that a good show can be put up by all on the stickiest wicket.

He must be able to tell in a moment (or considerably less) whether an aircraft is coming into land at the right speed by its rate of sink, and to correct any error before it (a) stalls and gets wet, or (b) ends up ignominiously and untidily in the barrier. He must be quick to correct, too, any odd ideas the pilot may have regarding the attitude of his aircraft; *e.g.*, he must be ready to indicate and correct any tendency to drift which would cause the aircraft to swing after picking up the wire.

Again, he must supervise the approach of the aircraft to the deck—assisting the pilot to keep it on the straight and narrow, dead central, fore-and-aft line, checking any tendency to middle-and-leg.

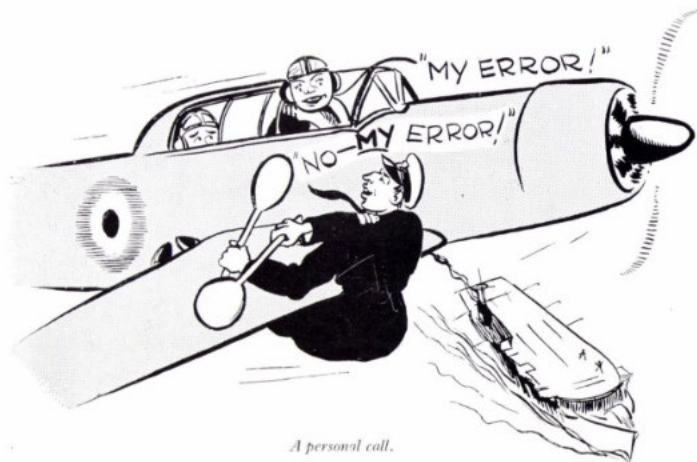
In short, he has to conduct the aircraft in with all the creative grace and artistic feeling of Sir Henry Wood conducting an orchestra.

Keeping one eye on speed, the other on attitude and both on approach—and perhaps trying to correct simultaneous error in all three—is enough, you would think, to engender in the most worthy D.L.C.O. acute astigmatism and a nostalgia

for dry land and wide open spaces. But with experience he should be able to cope with all these three things at once, compute (in rough weather) the degree of pitch at the stern, "bat" the aircraft towards the centre of the deck, where the pitch is easier on the undercart and the crew's ganglions, and at the same time decide exactly what he is going to say to the pilot when it is all over. . . .

He must, in short, be a man of lightning decision, equipped with a fine sense of timing and an all-powerful will, which he can impose by mere bat-wagging on the least receptive pilot. All these faculties count, for instance, when he has to order an aircraft to go round again: he must give the signal in good time for the pilot to step up his flying speed enough to clear the barrier. Or, if it is too late to tip the pilot off to play Dick Whittington, he must rapidly make the best of what may be a bad job and order an earlier cut than normal, on the principle that it is better to finish up fairly gently against the barrier with throttle closed than to charge it in full flight, or to attempt to hoist the whole carrier bodily from the water with a hook that has become firmly engaged with the barrier.

Finally, the most elusive gangster must have nothing on the D.L.C.O. when it comes to making a quick getaway—into his safety net or down a hatch—should some sea-going Prune (and there *are* a few, even in the F.A.A.) take it into his clueless head to pay the batsman a personal call.



A personal call.

Your Gaspirator Has Limitations

(And don't you forget it!)



The Service respirator, which is an impenetrable barrier to all kinds of war gas, affords no protection—repeat, no protection—at all against town or coal gas. This has been plugged by all and sundry for more than twenty years, but there are still people who think they know better. “Why,” they say, “a respirator is proof against gas, isn't it? And the stuff that comes into our house through the meter is gas, isn't it? Well then!”

Only the other day there was a case of one of these People Who Know. He was an airman and he tried the experiment of turning on the town gas at his home and seeing whether it could affect him while wearing his respirator. Now town gas contains strongly smelling vapours which are deliberately put into it to warn you of danger, but the respirator absorbs these to a considerable extent. Thus the airman would be misled in believing that very little, if any, gas was getting past his respirator, when in reality the entire content of the deadly carbon monoxide was passing it unhindered, and only the smell was being held back, the very thing which normally tells you it's dangerous.

Almost certainly the airman never realised that his experiment was going wrong; at any rate, after a certain point he would have been powerless to stop it. And a few seconds later he would have quietly sunk into unconsciousness. . . .

The coroner returned a verdict of Death By Misadventure.

Further to “Bumph Speaking”

FURTHER to our recent “Bumph Speaking” articles for those who have office work, note the following:

“Oh, by the way, old man,” says Prune as the Flight Commander came back into his office, “someone rang you up while you were out. I happened to be in here waiting for you and so I answered it . . . What was it? . . . Oh, nothing important—at least it didn't sound like it. Someone from Group—Watson, I think his name was!—nattering on about meeting you at No. 2 Hangar at one-six-oh-oh hours this afternoon. O.K.? . . . Right! Now about this business of my having a spot of leave . . .”

Thus Prune! As a matter of fact the man's name was Wilson and the meeting place was No. 3 Hangar and the meeting was for 1500 hours not 1600—and the Flight Commander got a strip torn off which he duly passed on to Prune.

Only our P.O. Prune, of course, could manage to ball up a message so thoroughly, but at risk of adding even more paper to that already existing in the R.A.F. do bear in mind that, whenever you take a telephone message for anybody, it is

important to jot down who it's from and to, and *always* put the time and date, as well as a brief note of the message—even though you think you'll be seeing the fellow in a minute.

He may not turn up for some while—long enough at any rate for you to forget, as you may have to go away before he comes back. In either case there's the record for him on his desk of what the phone message was, who it was from, and the time when it was sent—which last may often be valuable information.

It may mean another scrap of paper in the world, but it's worth it.



W.J.H.

For Those Web-footed Types

BY the time that the members of an aircrew have survived I.T.W., struggled through E.F.T.S., been weaned from F.T.S. to A.F.U. and finally emerged full-fledged from an O.T.U. they feel that the long ordeal of training is over. At last they are operational. They are of man's estate and have put away childish things. And training, for instance, is obviously a childish thing.

But there is a shock coming to them. For when they arrive at a Squadron, drumming on their chests and all fighting fit to go on ops., they find themselves merely involved in more training. And a different sort of training, for now it is up to them. The leading rein of the O.T.U. is cast off, and they must stand on their own feet. It is up to *them* to carry out their practices—prodded gently by their Squadron Commanders—instead of having their noses forcibly rubbed in it by a tough instructor type.

Well, they've got to do it. Wherever the crew may be, in Bomber or Coastal Command, training is always essential to bombing efficiency. But whereas on every sortie in Bomber Command a bombing attack is made, this is not so in Coastal; for one of their principal functions is simple plain reconnaissance, and the enemy may never be seen.

The crew in an Anti-Submarine Squadron may go weeks or even months without seeing a U-boat. They start, of course, all keyed up to see them in droves: then they find they never see anything, and after a while begin to think why should they bother, they probably never will.

Then, of course, comes the day when the crew of aircraft P. for Panic actually see a U-boat just a mile or two ahead. Great excitement in the aircraft. The crew haven't practised for months—or rather that's what it feels like to them—and in

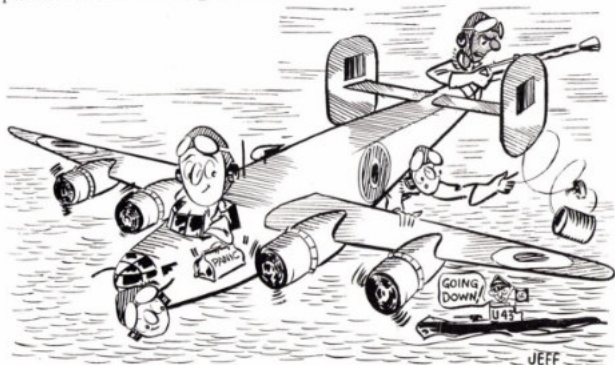
some cases it may be true. Everybody gets in the way of everybody else. Down they go to attack. Everybody rushes everywhere—except to the front gun which is somehow overlooked. The Navigator presses the tit but nothing happens. What's gone wrong? Oh, he merely forgot to open the bomb-doors.

The U-boat continues its crash-dive unmolested and proceeds on its way to prey on shipping. The aircraft has not even shot at the U-boat's gunners; indeed, it has probably itself been shot at and holed. The U-boat has escaped all damage and has even gained increased confidence in the inefficiency of R.A.F. crews.

So much for the crew of P. for Panic. Now contrast the good crew who have practised and practised for this very day. Their crew drill is perfect. Their captain, a good type, has not let them get browned off. Again comes the day when a U-boat—probably the same one—is sighted. Everybody knows his job—haven't they practised it so many times? The pilot puts himself in just the right position, brings his aircraft down to the correct height. The front gunner opens fire at long range and thus prevents the U-boat gunner replying. The depth charges are dropped at just the right spot. In a few moments there's nothing but a pool of oil and some heads bobbing about in it. The U-boat has had it. By their practice and training that aircrew have probably saved thousands of tons of shipping.

If crews do not practise, or if their practices are carried out in a perfunctory manner, they might as well stay at home. It is better to have five crews operating really efficiently than ten crews who will probably miss any U-boat they see.

Practice makes perfect—if we may coin a phrase. But do remember that Coastal crews don't get so much practice on their ops. as Bomber crews; and that the less often you have a chance to bomb in reality, the more practice you need to keep on the top line for the Real Thing at the Great Moment.





He said it was a million to one he'd have to
use a parachute.

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.

