MAINTENANCE TRAINING IS EVERY THING - HUNKY DORY ?

Article **Technical-8**

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Introduction

1. Little knowledge is a dangerous thing. This age-old saying is vers correct. However, in the present day context, it cannot be treated as absolute truth either. Because, if little knowledge is dangerous, where is the man who has so much as to be totally out of danger ?

2. This century, in particular the last four decades, has seen an explosion on the knowledge front. As per published reports, knowledge base is doubling every ten years since 1930s. Then, how much can an individual know today ? Let us, for a moment go back by twenty years. What was taught then in eleventh class is nowadays being taught in sixth or seventh standard. What was then taught in final years of engineering is now-a-days taught in perhaps its second year. And in the later years of education at every level (school or college), detailed aspects of various subjects or entirely new subjects are being taught.

3. The situation is no different in our context. A technician in Air Force cannot be taught everything during the ab-initio training, whether he is an officer or an airman. After leaving alma-mater, an individual undergoes an on-the-type training. Thereafter also there is provision for follow-up and continuity training. The basic aim of all this is not only to refresh his knowledge but also to bridge, to a limited extent of course, the technology gap. There is however, a proverbial gap between the lip and the cup. This article makes an attempt to look into this aspect.

A Common Scenario

4. Nothing is impossible. At times, seemingly impossible things have happened. On many occassions, one wonders, if murphy's law is proved right by us in IAF only ? Since the taste of pudding lies in its eating, let us go through few cases that have happened at various units in the past.

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5. A front-line fighter trainer aircraft is prepared for a sortie. Alongwith the CO, A VIP straps up. As the engine is started, its turbostarter catches fire. Fire-extingiusher at hand fails to operate. The fire in turbostarter was a chance case; first in the last two years of aircraft operation. The failure of fire-extingiusher, however, was nothing new. As a matter of fact. it was stamped as serviceable only two days before the incident.

6. A base in northern sector. In the month of may, first takeoff was at 0600 hrs. The specialist vehicle 'APPAs' with their DI's signed, arrived in DSS at around 0510 hrs. The vehicles remained there for the dusk flying. During third start by a particular Appa in the eyening, it caught fire. Investigations revealed there was no water in it. Whether it was almost dry early in the morning, or water leaked out or it evaporated during its parking in the hot sun for so many hours, could not be established. One thing, however, was certain. DI was definitely not done by the evening shift operator. Whether he was duty bound to carry it out, is altogether a different question.

7. An inspection team was visiting a unit. When the team arrived at the ground equipment bay, it was greeted by a neatly arranged, freshly painted and shining ground equipment. Servicing records duly maintained were also available in beautifully covered registers and properly tacked cards. While appreciating all this, the inspecting officer, pointing to a hydraulic trolly, asked its filter to be removed and shown to him. The efforts of next ten minutes proved futile. Cap of the filter could not be unscrewed. The officer left, stating that he would be back after an hour. On his return, he was presented with the cap and the filter. Cap was rusted and filter element was full of muck. Records, obviously had shown periodic filter cleaning.

Why It Happens

8. Above listed are only few of the common occurences. Similar incidents do happen from time to time at almost every unit. But, why do they happen? "Carelessness and negligence of the individual concerned" is the often heard answer. Permit me to disagree please. Answer is not and obviously cannot be so simple. The answer lies somewhere in the intricate web of casualness, attitude, motivation and knowlegde. Many other factors can be added to this short list of four, but they have been omitted, because they would not contribute to the point I am arriving at.

9. Let us establish the corelation of these factors with respect to the above quoted incidents Each case, above all, brings out clearly the casual approach of individuals, which unfortunately, can be seen observed today in most of the personnel wearing the khaki uniform. Terms like 'CHALTA HAI', 'KUCHH KARO' and 'KUCHH NAHI HOGA' have found a permanent place in our vocabulary. Attitudes, too, are not what they should be, both of the workers and supervisors. Juniors have formed an opinion that Seniors are more concerned about reports, records and written documentation than the actual work. This belief, unfortunately, is not ill founded. Rather than exceptions proving the rule, it is the other way round Next, most of the personnel are not motivated. Not that they are worse off than their counterparts in the civil. But then, till they are told and convinced, they just will remain disgruntled and de-motivated. They perform a duty and do the assigned task but without their soul and mind behind it. And then there is the fourth factor; knowledge, or the lack of it! Less said about it, the better.

10. All these factors can be, to a great extent, handled for better results by a common denominator - the training. I am sure that you all will agree with me that most of the avoidable accidents and incidents can be prevented if the personnel involved were better trained. But are they adequately trained? Well, I do not expect an emphatic 'NO' but even a muted and mumbled 'no' serves the purpose. Let me briefly analyse our technical training at various stages.

Ab-Initio and Conversion Training

11. I do not think it meets the requirements of today. Syllabi are outdated. Where is the need to teach say piston engines and valves (The requirements of few units operating such equipment can be met from existing trained manpower). New and essential topics e. g. computers, lasers, composites require inclusion in the syllabus. Adequacy of staff, both in quantity and quality is badly required. The point is to be understood and taken note of that teaching properly for three hours a day is no less ardous and tarturous than working six-to-seven hours a day in the DSS or R & SS. Posting of instructors, more often than not, is on grounds other than competence and aptitude.

12. The purpose of conversion training is lost when Group II technician, after abinitio training are directly detailed for Group I training without any aircraft experience. If the circumstantial compulsions demand it, how about integrating the two trainings? The resulting optimisation of resources could permit improvements in training.

MCF Training

13. It constitutes the most important part of training and its purpose is to convert generalists into specialists. After this training, an airman should be confident and competent to work independently on the aircraft. But almost everyone from the maintenance and flying branch is convinced that presently it is not so. That MCF training is not upto the mark has been highlighted in various high level meetings and conferences. The reason for this, however, is not the incompetency and unwillingness of MCF instructors to put in their best. There are various factors beyond the control of Oi/c MCF, which are briefly discussed in subsequent paragraphs.

14. **Course Strength.** Barring one odd trade, number of airmen detailed for each trade is really large. Ask any educationalist, class strength for specialist training should be around ten, and definitely not beyond fifteen. Air HQ guidelines say that maximum strength should be 25. AFRO, however, details upto 30 and many times the class strength does exceeds 25. Now, in such a large class, instructor cannot look after everyone and he cannot make sure that everyone understands everything : a "MUST" for aircraft servicing. The result is obvious; many inadequately trained personnel get stamped as qualified. The incidence of large course/ is always there when a new aircraft is inducted and a new MCF is started. Then the need is to train as many personnel as quickly as possible. This is where the things start going wrong. Ironically, these inadequately trained personnel form the back-bone of the squadrons and have to train subsequent technicians posted to the unit. What happens when this cycle repeats 2–3 ti nes is quite simple to understand and easy to visualise ! Thus, the requirement is smaller strength courses; more so at the start of a new induction. The emphasis must reverse, from quantity to quality.

15. **Instructors' Strength.** In any MCF, out of seven working hours a day classes are being conducted for about six hours. No one can teach for more than three hours a day. Apart from physical tiredness and mental exhaustion, the instructor has to prepare for next day's class as well. This demands two sets of instructors for each trade. Now, this does not cater for his leave, station and to secondary duties Thus, to account for all this and to run a course efficiently a set of three instructors per trade is a must. This I am sure is being considered a luxury by the decision making personnel But a serious look into this aspect would reveal that this investment would pay dividends, many times over, within a short

span of time. Now a word about Oi/c MCF. in the beginning there are officers posted to MCF. But once few courses are run, barring one officer, others are pulled out. As time passes, MCF is considered a secondary duty and an officer officiates as O i/c MCF. This trend must be reversed. No training establishment can deliver the goods without a full time head. The bunch of 120-150 airmen in the MCF provide the foundation on which squadrons stand and reach up to the sky. How can we afford to leave them rudderless ? Officers in MCF, are not required to sign mail and letters alone, they are there to provide direction to and improve training. MCF can not be run effectively by any officer detailed to do so. At all times, it must have dedicated officers with aptitude and interest in teaching. Importance of MCF should not be lost sight of at any time.

16. **Diversions.** In any training, there should be minimum interruptions and diversions from studies. However, under certain compelling and unavoidable circumstances, like sickness, a trainee has to miss classes. Beyond it, there should be no ocassion when training is disturbed. With this important fact in mind AFO 31/82 on Maintenance Conversion Flight Training states, 'AOC/Stn Cdr is to ensure that instructors and trainees are not detailed for guard duties and other station duties which will jeopardise the training programme.' Now this may put a little extra burden on the remaining station personnel, but then it has to be accepted as such. Training should not be hampered Weekly parade is another thing. It may be for just two hours a week but then in a 16 week course, it amounts to 30 hours which can be utilised much more effectively for training Obviously, we have to set out priorities right.

17. **OJT**. Of late, OJT forms a part of MCF. But does MCF have an aircraft? How can this, most important phase of on-type training, be imparted effectively without one? Aircraft are either in DSs or in R & SS. Can any of this aircraft be spared exclusively for MCF trainees? For the moment assuming that it is so, how can 120-140 technicians of major trades be imparted first line servicing training on a single aircraft during four weeks? These vital questions deserve an immediate answer. One possible solution can be picked up from the Army training. There, the training establishment gets the first piece of imported equipment. In our context, percentages are not that favourable, but even then it would amount to just one percent or so; e. g. one aircraft costing about 20 crores out of a total deal of about 2000 crores or so. This or any other solution, for OJT, MCF should have atleast one aircraft to itself right from the first day of the course.

Continuity Training

18. There are many orders and instructions existing on the subject. Out of these, if anything is followed meticulously, it is maintaining records. In each section or every station, continuity training registers have duly required entries. Investigations, however, are likely to prove that, more often than not, entries have been made without conducting the training (Even if entries are made on a single day, prior to inspection, care is taken to use different pens with different shades of ink!) But, why all this? Answer is simple enough : where is the time to conduct continuity training?

19. Continuity training demands dedicated time and effort. It cannot be conducted any time, nor can it be extempore It has to be well planned and meticulously executed, perhaps at the cost of something else, including flying. One day in a week should be earmarked and properly utilised for this.

20. **Dissemination of Information**. Continuity training provides the right platform for disseminating information which may not be contained in any documents and publications. Personal experiences, occurences un-noticed by others and unreported incidents can be told to others on this ocassion. This can prevent many future accidents/incidents because anything that has happened once, can repeat itself. To highlight this let me quote two cases.

(a) An AN-12 aircraft is to be refuelled at an outstaion base. AS the bowzer is being positioned, it hits the propeller blade, damaging it extensively. A similar incident had happened at the same base about a month back. But at that time there was no damage to the aircraft, no one on the station, except the few concerned knew about it.

(b) During night flying in the dark phase, aircraft cockpit is not adequately lit. With pilot strapped, an airman is pulling out the safety pins of seat using both hands, with torch held between his teeth. After the aircraft lands back, while replacing the pins, it is observed that one pin was left behind, because the frayed cable had given way. The grave incident went unreported. This time everyone was lucky, nothing happend but next time, if repeated, the results could be disastrous.

Training Day

21. Present day aircraft and equipment are high technology items and are of complex and complicated nature. The aircraft have to be handled and

serviced not only with care but with full knowledge of various intricate systems. Needless to say, this knowledge can only be obtained through adequate and effective training at every stage.

22. One of the effective ways to ensure proper training is the concept of a training day. Each operational unit should have one day per week completely devoted to training. On this day, every section, be it under C Eng O, C Ad O or COO, should engage itself in training alone.

23. There would be dissents on this idea, as I have experienced during my talks and discussions with my colleagues. Their main argument is that we have already lost a day in a week by adopting a five-day week and we can ill afford to lose yet another day. There are two answers to this. Firstly, our preparedness has not gone down on switching over to five days a week. On the same count, it will not be affected if fly /work on four days Afterall, the management principle that "Work expands to fill up the time available" is very valid. Also, if the Soviets are doing it, why cannot we ? Secondly, there is a difference between having a day off and sparing a day for training. On the day spared for training, we are learning about the things we would be doing over the remaining days of the week. Alternatively, revert back to six-day week, but do have a training day. But in that case, it should be a working day for the whole unit/station and not a training day for maintenance staff alone. For, otherwise it will de-motive the technical personnel and the training will not be effective!

Conclusion

24. The problem with our training today is that we are taking superficial measures in an attempt to improve it. AFOs, Air Headquarters and Command instructions are issued on the subject. Even when these are complete in all respects, these do not produce the requisite results, because their implementation more often then not is only in letter, and not in spirit. To improve things, training has to be given its proper place : AT THE TOP. Training Institutions /MCFs have to have, adequate number of instructors duly screened qualitatively for the task. proper equipment and training aids need to be made available before the commencement of the course. Quality of the technical training has to imporve.