Is adequate attention being paid to flight safety?

DefenceLine: The IAF lost seven aircraft this month. *City Speaks* gathers views of some defence experts on how to enhance flight safety and reduce the risk of flying accidents.



Emphasise on quality of men and machines

AIR MARSHAL M. M.SINGH (RETD)

THE recent spate of flying accidents has once again brought flight safety to the attention of the public. Before any meaningful analysis of this important subject can be made, it must be understood that it is not possible to equate flight safety in military and civil aviation. The combat aircraft are designed for the highest performance and though safety is kept in view it may be compromised to improve their operational capabilities. Also the military operating procedure and combat training exercises in peacetime do at time entail calculated risks. On the other hand in civil flying it is safety first and safety last. Notwithstanding the built-in hazards of military flying even in peacetime, it is reported that the accident rate in the Indian Air Force (IAF) is 2-3 times higher than the Air Forces of advanced countries. There is therefore a valid case for reducing our accident rate.

The two major causes of flying accidents in the IAF are human failure (aircrew or technical personnel) and technical failures. It is possible to reduce human error accidents by improving the quality of personnel and their training. There is no doubt that the Armed Forces are not able to attract the best human material in sufficient numbers. Training of our pilots has suffered due to non-availability of an Advanced Jet Trainer (AJT) for the last 10 years. An AJT is required to bridge the gap between the basic Jet Trainer and supersonic fighters. Presently the IAF is using highly complex Mig-21 fighters for advanced training. This is compromising on flight safety and standard of training. Down-steam effect is felt in the combat squadrons in the form of lower pilot proficiency which in turn results in higher accident rate. Incidentally 90 per cent of our accidents involve Combat Aircraft. It is surprising that the top brass in the IAF have not forcefully put the Government wise to the seriousness of the arising situation because of non-induction of an advanced trainer. There has been an improvement in the training of technical personnel after the implementation of the La Fotane Report. However, there seems to be no let up in the accidents caused by technical failures which can be attributed to poor quality control at Hindustan Aeronautics Ltd (HAL). These aircraft are involved in a large number of technical failure accidents. There is no overnight fix to bring down the accident rate. However if we can attract better quality of human material, improve their training and insist on international quality of manufacturing standards from the HAL, the accident rate should come down drastically over a period. Perhaps setting up of a professional "Accident Investigation Board" will also help. Future accidents can be prevented only if their exact cause is known.

(The writer, a fighter pilot, retired as AOC-in-C, Western Air Command.)



Need for an independent investigation board

WG CDR D.P.SABHARWAL (RETD)

NOBODY likes an accident, least of all the Air Force. The reason is simple. Loss of an aircraft not only costs the nation 40-50 crore in foreign exchange, but also a pilot who requires 7-8 years to be trained at an estimated cost of a couple of crore of rupees. All efforts are, therefore, made to prevent accidents. IAF is no exception to this rule.

Early this year, the Chief of Air Staff, Air Chief Marshal S K Sareen proudly announced that accident rate during '97 had been brought down to the lowest figure since independence (only 10 aircraft crashed). As per him all the three major areas contributing to accidents namely bird-hit, technical error and human (pilot) error had been looked into and effective steps taken to control accidents. Since the biggest factor for aircraft accidents in any Air Force remains 'pilot error', the Air Chief mentioned that pilot training had been extended by six months, additional stage II training introduced for MiG pilots and number of sorties before a pilot flies solo were increased from 20 to 25. All these steps apparently have not produced the desired results and it appears that minimum losses last year was perhaps a fluke. Aircraft accidents this year have been unusually high. Infact six aircraft have been lost during the last 15 days. In such a scenario it is logical to suspect the efficacy of the measures introduced and one wonders as to what is the real cause behind 'pilot error accidents'.

The answer is simple, ironically and, infact known to all involved in aviation and accident investigations.

It is: From every accident draw correct lessons and learn from these lessons. But sadly it is hardly ever done. If it was so, then how can one explain the following? Repeated mid-air collisions in the sky not only of highly maneuverable fighters but also of huge transport aircraft. Aircraft losses during practice firing at range year after year. Aircraft flying into a hill, land feature marked prominently on the map. Senior officers involved in fatal accidents at regular intervals. Pilots lucky to survive in first accident getting killed next time. One thing emerges loud and clear. For whatever reasons, the truth behind the accident is not brought out, individual's mistakes are not highlighted and right lessons not drawn. The result is yet another accident - a repeat performance.

There is a need to bring out true causes behind each accident and not hide mistakes. It can happen faithfully where operators and investigators are from the same set-up. The need of the hour is to have an independent Aircraft Accident Investigation Board. It will definitely help in reducing accidents.

(The writer, a technical officer, has undergone a long course on flight-safety and aircraft accident investigations.)



Constant vigilance and precision required

WG CDR SATISH BHATIA (RETD)

BETWEEN 1991-97, 147 aircraft and 63 pilots were lost in 187 accidents. The losses amounted to Rs 7.04 billion. Although the overall accident rate per 10,000 flying hours had reportedly declined during 1996-97, the number of accidents involving fighter aircraft was as high as 75 per cent. About 62 per cent of fighter accidents involved MiG-21 variants.

There are many causes of accidents and very few accidents happen due to a single cause. Of the 147 aircraft lost, 41 per cent were due to pilot error and 44 per cent due to technical defects, the rest were due to birdhits. In the 77 accidents caused by pilot error, reports found that 21 were due to inexperience, 10 due to error of judgment and eight because procedures were ignored. Pilots' lack of situational awareness also caused accidents.

Foresight, skill and experience have been used to guard against specific failures like, system malfunction or a fire. Appropriate safeguard measures are activated automatically or manually by the pilot. The all pervasive factors include the entire unit structure — administrative personnel, technical hands, logistics and support elements. It is in this perspective that administrative safety comes into light, alongside flight safety. Though the aircraft of any air force are its main assets, the air crew and other personnel are none the less primary. Here comes the concept of flight safety which should become a household word for the entire organisation. IAF pilots undergo a three phase training. No transitional trainer (AJT) exists to fill the intervening gap before the pilots move on to operational fighter air craft. This is affecting the advanced phase of flying training.

Military aviation demands constant vigilance and precision. The fulfillment of a mission depends upon experience, training and robot-like precision and yet has the ever constant need for sensitivity of human judgment.

Accidents due to sudden lapse in judgment or the unexplainable deterioration in performance by an experienced or even exemplary pilot are known to occur. Considering various negative aspects like danger, fatigue and uncertainty in operational flying it is remarkable that the rates of psychotic casualties are quite low. Thunder storm - an uninvited guest; is very dangerous for air operations, especially in mountains and directly effect flight safety. Inspite of best efforts every aircraft may run into thunder storm area, if not a thunder storm, at one time or other. Much depends on the forecasts by the Met Branch according to which sorties and safety measures can be devised. Finally, I want to emphasise that in the 21st century despite technological superiority, the quality and standard of human resources will define the cutting edge of the country's defence.

(The writer, a transport pilot, is an alumnus of the IAF's Institute of Flight Safety, New Delhi)