

schreiner aviation group bv

FIFTH EUROPEAN ROTORCRAFT AND POWERED LIFT AIRCRAFT FORUM
SEPTEMBER 4 - 7TH 1979 - AMSTERDAM THE NETHERLANDS

No.53: H U M A N F A C T O R S I N R E L A T I O N
T O S A F E F L Y I N G
(THE PSYCHIATRIC CONTRIBUTION TO SAFE FLYING)

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SUMMARY



Human factors in relation to safe flying.
(The psychiatric contribution to safe flying).

It is known that the human factor has been responsible for definitely more than half of all accidents in aviation, for this reason during the evolution of aviation, methods have been sought for selection of better aircrews.

In the beginning selection was made, on physical requirements only later on, psychotechnical (aptitude) tests were added. Both these methods however give no judgement about the mental stability of the pilot to be employed.

It is for this reason that we have completed our selection procedure with a psychodiagnostical test.

In our lecture we will try to explain the methods of selection as used by us and to explain why we think these methods are particularly useful for helicopter operations.

Helicopter pilots mostly have a differing attitude and background when compared to fixed wing pilots. This is necessary for the different type of job they have to perform.

A lot of their work has to be done as a small independent unit sometimes in remote areas and under arduous conditions. Their ability and quality in group identification and loyalty is indispensable. From the background of a large quantity of tests the structure of a typically capable and stable pilot has been drawn.

Anybody who is working in or interested in the helicopter business and is attending this lecture whether he is a pilot or not, will recognize himself or perhaps some parts of himself this portrait following.

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THE PSYCHIATRIC CONTRIBUTION TO SAFE FLYING
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During the last few decades aviation has developed tremendously; not only with respect to the numbers of planes but also with respect to the development of types. The latter seems to have happened with the device: faster, farther, higher, a kind of Olympic thought.

The number of airplanes and airpassengers have increased enormously, as a result of which in the neighbourhood of the major airports one already can speak of an overcrowded atmosphere.

We owe the development of aviation to an enormous technological effort. A great deal of research has been done with respect to the development of new airplanes, with which much attention was devoted to safe flying. As soon as airplanes have become operational there are strict rules and regulations to secure airworthiness.

It could be said that technical maintenance of airplanes has grown together with the development of aviation during the past half century.

And how are the people, selected to fly the planes? The very first pioneers of aviation were so possessed by the urge to realize the ancient Icarus-ideal that they may have given highest priority to flying. They were not selected by anyone but offered themselves, driven by a need to participate in a technological development that was rising in that time. Their fellowmen may have considered them dare-devils, risking their necks without comment just to be able to fly. Risking their necks will often have resulted in breaking those necks.

After that the period came that flying was no longer that exclusive. The idea remained that a flyer should be a kind of wild guy after all, and kind of a superman as well. Both ideas have been carefully kept alive not in the least by pilots themselves in the framework of "image building". Being a flyer has gradually become more of a normal profession. One would be inclined to say that the stock of supermen either has become too small and needs addition of the group of "ordinary"



people or that it is not true at all and never has been true that it is necessary or desirable to be a superman in order to be able to become a pilot.

And yet it is not definitely true that anyone could take a pilot-training and become a successful pilot after that. A number of basic conditions has to be met.

For a long time past physical requirements the junior pilot has to meet have been taken into account, while later periodic tests are meant to check the physical condition again and again, all this to promote safe flying.

Besides psychotechnical research has been done for quite a while, among other things the determination of the I.Q. and a number of capabilities that aim at making the chance of obtaining the license as large as possible. A great deal is certainly brought about in this field and often there will have been a feed-back and a comparison between the outcome of tests and whether or not failing during the training. Proportionally less is brought about with respect to the comparison between outcome of tests and being successful of a pilot's career and eventually this is the only thing that really matters. The most elementary mistake made in many countries is the wrong assumption that a psychotechnical investigation implies the guarantee of mental stability. This has been a great mental error, for a psychotechnical test does not aim at revealing psychiatric aberrations and in most countries a psychologist will not have been primarily trained to recognize psychopathology.

And yet the latter is of great importance. It is known that the human factor is responsible for definitely more than half of all accidents in aviation. In private aviation percentages are mentioned of 80 to 90, in the airforce of 65 - 75 and in civil aviation of 50 to 60.

It may be determined that part of these human failures may have to do with the existence of psychical aberrations with pilots, which can be not only structural but can also adopt the form of a temporarily existing psychiatric syndrome.



That's why it seems strongly to be recommended to extend or rather complete the medical test before training and the tests during the flyer's career by calling in the help of a psychiatrist who can try to exclude psychopathology by way of a psycho-diagnostic test.

It is, as a matter of fact, very astonishing that in many places one actually is and was satisfied with half a medical test. This may have had to do with the fact that military authorities and pilots are originally not so fond of psychiatrists for all kinds of complicated reasons. In this respect honesty commands to say that many psychiatrists have rather acted to deserve this by being or reacting strange or by expressing themselves in an incomprehensible way with a professional jargon, that implicated that they became absolute strangers to the rest of the medical discipline.

There is, in addition, considerable difference in exercising psychotherapy and carrying out psychodiagnostical tests.

In carrying out a psychodiagnostical test three items should be distinguished.

Firstly there is the question for which psychiatrical aberrations, illnesses and dispositions to illnesses has to be searched. Secondly it should be studied which methods are suitable for this purpose.

In the third place it may be determined whether there are certain characteristics or features of personality making someone capable of becoming a pilot in the sense that they enlarge the chance to have a successful career as a pilot.

Chapter I (what are we searching for)

From demographic research it was determined that early or later, over a ten percent of the population will temporarily or permanently suffer from a psychiatric affection.

When we, in this case, exclude the dementia and the intelligence-defects, there will still remain a great deal to be found!



Inevitably junior-pilots and pilots may face psychoses or have faced them in the past respectively. This must be a reason for rejection without comment. Depressions, especially with attempts or inclinations to commit suicide turn being a pilot into a risky business.

A psychopath may be an excellent pilot but as his conscience is not his strongest side, he is not a reliable man who will stick to rules and regulations. A neurotically reacting pilot is neither to be called the ideal man in the cockpit. It is true that the pilot with a compulsion neurosis will hopefully not be able to start, as he keeps on being busy with his checklist, however, the pilot with a neurasthenic reaction pattern can, but he will make more mistakes due to his fatigue and the pre-occupation with his body, while the pilot with a hysterical reaction pattern will neither be able to use his full potential.

Should a depressive reaction-pattern arise, combined with said neuroses, or a depression as such, the pilot may be determined to have become accident-prone by way of the inclination to selfdestruction and by way of feelings of guilt.

Besides addictions are neither welcome. We would endlessly go on with examples of psychopathology making a pilot temporarily or permanently unfit for his job. We may mention fear of flying as a very special and difficult to be treated syndrome. Furthermore the characteristic of not being able to decide (this man cannot land!), the man with a strong sense of inferiority, the infantile character at a certain moment no longer being able to control his "toy", the man with insufficient fear-control, the man with too little resilience, the man with an incurable protest against authority, etc., etc.

It is therefore almost sure that a psychodiagnostic test not very seldom, but on the contrary often will reveal factors, which will be an obstacle for a pilot to be trained or to carry on flying.

Chapter II (How, that is to say, with which methods, do we search for psychopathology)

The most simple method is to have the pilot or junior-pilot



complete a questionnaire in which forms of psychopathology are described in general in a style that is easily understood. It is very well possible that the testee gives an honest answer to the question whether ever having been depressive or having had a break-down, having used drugs or having ever been in contact with the police. However, more obvious is that he does not complete the questionnaire honestly for the reason that he much rather likes to pass the test than to be rejected. And psychiatric syndromes generally leave no visible scars like after an operation.

Besides it takes not only honesty but also a great deal of self-knowledge to be able to judge whether or not one is psychologically aberrated.

I have learned from experience that it is inevitable to devote more effort to the exploration of psychical aberrations and a thorough biographical anamnesis is obligate to this effect.

A great deal can be concluded from the course of his life, the family of origin, the ways he proceeded at school and in possible jobs. Denying is more difficult now as the dates have to line up with the facts, there should be a plausible explanation for failure at school, placing at a boarding-school etc., etc.

Moreover there automatically is about an hour time to observe the testee's behaviour and in this period considerable information can be revealed. Next to the above-mentioned obligate biographical anamnesis, in my conviction, there are required at least three projection-tests, which can catch as a spotlight and from a different angle of incidence the information we are searching for.

It is left to the tester's preference which methods he likes to use. He will prefer a method that suits him and with which he has experience. I personally chose for Rorschach, HTP and graphology, in which case I interpret the first two tests myself, have the third one worked out by a very experienced clinical female graphologist. In total it supplies you with a broad view of the personality structure, the psychodynamic,



the character, the level of maturity and the like.

Different projection-tests may very well supply you with the same information. My experience, though, is that questionnaires are often not interpretable especially in the case when something is wrong with the man in question.

Chapter III (What characterizes the "capable pilot")

Chapter I and II provide the possibility to get to a "screen-out" decision. Chapter III deals with a "select-in" decision.

Although the "screen-out" is by far the most simple and most plausible method, in my opinion one always used to start with the much more difficult "select-in" procedure.

In many countries the select-in procedure has been restricted to a prediction about passing the training, with the emphasis on the theoretical subjects and a linktrainer or an hour test-flying is supposed to lead to a prediction on the flying-capability.

A prediction about whether or not to become a successful pilot in future is much more difficult, however, also much more important.

And yet I am of opinion that something can be said about the structure of the "capable pilot", at least that this group has a kind of greatest common divisor. In general capable pilots are built athletically or pyknic, they are good sportsmen, take pleasure in being actively engaged, move smoothly. They are extravert and in general they react primarily. They are as a rule of an optimistic disposition and their state of mind is either normal or somewhat getting to a pole of buoyancy flushed with joy. There is often a notable incomplete use of intelligence. When still at school, they are not very ambitious, often pass their final examinations owing to their natural aptitude for the exact subjects. In their group at school they showed remarkably little leadership; not by lack of vitality but due to their individualistic attitude. Their self-confidence is always average to above average, with a slight indication of vanity. Remarkably often they are the eldest or the eldest boy in the family.



In many cases their feeling of masculinity is not all too strongly developed with an often profound stable compensation of it in a somewhat sturdy sportsmanlike masculinity. An oral fixation is often available, smooth conversation, smoking and drinking a lot is almost a "must".

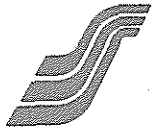
A deep-lying passivity often makes them to a kind of buoyant enjoyers of life, they get further in the art of living than in science, their attitude is little philosophical, however, more practical.

They have often remained rather adolescent, boyish without being infantile in their personal development. It is more playfulness than naïvety, rather taking pleasure in functioning than that they get to a laborious building up of a far away ideal. Flying should be experienced almost as a hobby and being a pilot should be sacred in the sense that being a successful pilot implies protection against private problems in the sense that it has a high or higher priority.

On account of their structure a great deal of private problems are indeed to be expected, the more so in proportion the compensation has been replaced by an over-compensation (excessive drinking, women chasing).

To this rough and incomplete sketch it could be added - this with respect to the helicopter pilot - that he should have the toughness to live under primitive conditions, he should be able to face dangerous situations without getting consciously afraid. Lack of subtle phantasy is as a matter of fact rather useful (not going in too far in all that might happen) preferably with the preconscious attitude of "it cannot happen to me". Being somewhat kind-heartedly primitive, with a certain special liking for nature (hunting, fishing, camping) would come in handy as well as being able to amuse oneself (reading, making music and the like).

With a somewhat individualistic attitude, they must be able to bear loneliness and hardship, looking upon it as a kind of challenge (a touch of Spartan, boy-scoutish mentality) they



must be fighters and able to defend themselves.

Some pioneer blood is almost a must for a helicopter pilot.

The ability to group identification and loyalty is indispensable.

The problem approach should not be dominating (psychosomatic)

but rather pushing aside, denying or acting-out, preferably

not aimed at members of the group but either against technics

or against the surrounding or against the higher echalon in

the hierarchy.

In essence there should be a reasonable inner harmony,

which should be buffered well in any case.

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