

Aircraft Maintenance Engineers – Personal Responsibility When Medically Unfit or Under the Influence of Drink or Drugs

Ref Overseas Territories Aviation Circular OTAC 66-1 - 145-9

The International Civil Aviation Organisation (ICAO) has introduced an amendment to Annex 1 to the convention on international civil aviation which will have the effect of extending certain standards and recommended practices to all licence holders.

The changes resulting from the amendment are concerned with medical fitness and the use or abuse of intoxicating liquor, narcotics or drugs.

To implement these changes the Air Navigation (Overseas Territories) Order 2007 [AN(OT)O] contains two Articles.

Article 13(7) which prohibits the exercise of the privileges of an aircraft maintenance engineer's licence when the holder knows or suspects that their physical or mental condition renders them unfit to exercise such privileges, and Article 13(8) which prohibits the exercise of licence privileges when the holder is under the influence of drink and/or drugs to such an extent as to impair their capacity to exercise such privileges.

2. Guidance

2.1 Fitness: In most professions there is a duty of care by the individual to assess their own fitness to carry out professional duties. This has been a legal requirement for some time for doctors, flight crew members and air traffic controllers. Licensed aircraft maintenance engineers are also now required by law to take a similar professional attitude.

Cases of subtle physical or mental illness may not always be apparent to the individual but as engineers often work as a member of a team any substandard performance or unusual behaviour should be quickly noticed by colleagues or supervisors who should notify management so that appropriate support and counselling action can be taken.

In particular, a decrease in mental fitness in many cases may be related to stress from within the working environment or to the personal circumstances of the individual. Instances of aggressive behaviour, vagueness and slippage of personal standards (cleanliness, appearance etc.) may indicate more serious mental issues.

Such issues may bring into question the ability of the individual to be trusted or to maintain the necessary levels of concentration to take appropriate decisions on airworthiness matters.

2.2 Fatigue: Tiredness and fatigue can adversely affect performance. Excessive hours of duty and shift working, particularly with multiple shift periods or additional overtime, can lead to problems. Individuals should be fully aware of the dangers of impaired performance due to these factors and of their personal responsibilities.

2.3 Stress: Everyone is subject to various stresses in their life and work. Stress can often be stimulating and beneficial but prolonged exposure to chronic stress (high levels or differing stress factors) can produce strain and cause performance to suffer allowing mistakes to occur. Stress factors can be varied, physical – e.g. heat, cold, humidity, noise,

vibration; they can be due to ill-health or worries about possible ill-health; from problems outside the workplace – e.g. bereavements, domestic upsets, financial or legal difficulties. A stress problem can manifest itself by signs of irritability, forgetfulness, sickness absence, mistakes, or alcohol or drug abuse.

Management has a duty to identify individuals who may be suffering from stress and to minimise workplace stresses. Individual cases can be helped by sympathetic and skilful counselling which allows a return to effective work and licensed duties.

2.4 Eyesight: A reasonable standard of eyesight is needed for any aircraft engineer to perform their duties to an acceptable degree. Many maintenance tasks require a combination of both distance and near vision.

In particular, such consideration must be made where there is a need for the close visual inspection of structures or work related to small or miniature components. The use of glasses or contact lenses to correct any vision problems is perfectly acceptable and indeed they must be worn as prescribed. Frequent checks should be made to ensure the continued adequacy of any glasses or contact lenses. In addition, colour discrimination may be necessary for an individual to drive in areas where aircraft manoeuvre or where colour coding is used, e.g. in aircraft wiring.

Organisations should identify any specific eyesight requirement and put in place suitable procedures to address these issues.

2.5 Hearing: The ability to hear an average conversational voice in a quiet room at a distance of 2 metres (6 feet) from the examiner is recommended as a routine test.

Failure of this test would require an audiogram to be carried out to provide an objective assessment. If necessary, a hearing aid may be worn but consideration should be given to the practicalities of wearing the aid during routine tasks demanded of the individual.

2.6 Drug and Alcohol Abuse: Drinking problems or the use of illicit or nonprescribed drugs are unacceptable where aircraft maintenance safety is concerned and once identified will lead to suspension of the licence or company authorisation and possibly further licensing action being considered. As an example, legislation in the United Kingdom sets a blood alcohol limit of 80 mg/100 ml for personnel involved in aircraft maintenance.

2.7 Medication: Any form of medication, whether prescribed by a doctor or purchased over the counter and particularly if being taken for the first time, may have serious consequences in the aviation maintenance environment unless three basic questions can be answered satisfactorily:

- a) Must I take medicines at all?
- b) Have I given this particular medication a personal trial for at least 24 hours before going on duty, to ensure that it will not have adverse effects on my ability to work and make sound decisions?
- c) Do I really feel fit for work?

Confirming the absence of adverse effects may need expert advice and General Practitioners, Company Medical Officers and the Medical Examiners authorised by the local

OT Aviation Authority are all available to assist in this matter. Common types of medication in use and their effects are further described in Appendix 1.

2.8 Alcohol: Alcohol has similar effects to tranquillisers and sleeping tablets and may remain circulating in the blood for a considerable time, especially if taken with food. It should be borne in mind that a person may not be fit to go on duty even eight hours after drinking large amounts of alcohol.

Individuals should therefore anticipate such effects upon their next duty period. Special note should be taken of the fact that combinations of alcohol and sleeping tablets, or anti-histamines, can form a highly dangerous or even lethal combination.

Appendix 1

The following are some of the types of medicine in common use which may impair work performance. This list is not exhaustive and care should be taken in ensuring the likely effects of any prescribed drug are adequately known before taking it.

a) Sleeping Tablets – These dull the senses, cause mental confusion and slow reaction times. The duration of effect is variable from person to person and may be unduly prolonged. Individuals should have expert medical advice before using them;

b) Anti-depressants – These can depress the alerting system and have been a contributory cause of mistakes leading to fatal accidents. A person should stop work when starting anti-depressants and only return when it is clear that there are no untoward side-effects. It is recommended that individuals seek medical advice from their General Practitioner or appropriate medical specialist before returning to work;

c) Antibiotics – Antibiotics (penicillin and the various mycins and cyclines) and sulpha drugs may have short term or delayed effects which affect work performance. Their use indicates that a fairly severe infection may well be present and apart from the effects of these substances themselves, the side-effects of the infection will almost always render a person unfit for work;

d) Anti-histamine – Such drugs are widely used in cold cures and in the treatment of hay fever, asthma and allergic skin conditions. Many easily obtainable nasal spray and drop preparations contain anti-histamines. Most of this group of medicines tend to make the taker feel drowsy. Their effect, combined with that of the condition, will often prevent the basic three questions (paragraph 2.7 of this OTAC) from being answered satisfactorily.

Admittedly very mild states of hay fever etc., may be adequately controlled by small doses of anti-allergic drugs, but a trial period to establish the absence of side effects is essential before going on duty. When individuals are affected by allergic conditions which require more than the absolute minimum of treatment and in all cases of asthma, one of the above mentioned sources of advice should be consulted;

e) 'Pep' pills (e.g. containing Caffeine, Dexedrine, Bensedrine) used to maintain wakefulness are often habit forming. Susceptibility to each drug varies from one individual to another, but all of them can create dangerous over-confidence. Overdosage may cause headaches,

dizziness and mental disturbances. The use of 'pep' pills whilst working cannot be permitted. If coffee is insufficient, you are not fit for work;

f) Drugs for the relief of high blood pressure are proving to be very effective in controlling this condition. However, antihypertensive agents all have some side effects and should not be administered before adequate assessment of the need for treatment. The prescribing practitioner should be able to advise on any side effects to be considered;

g) Drugs when prescribed for Anti-malaria in normally recommended doses do not usually have any adverse effects. However, the drug should be taken in good time so that the question in paragraph 2.7 (b) of this OTAC can be answered;

h) Oral contraceptive tablets in the standard dose do not usually have adverse effects, although regular supervision is required;

i) 'SUDAFED' is the trade name of a preparation containing pseudoephedrine hydrochloride. This may be prescribed by GPs for relief of nasal congestion. Side effects reported however are anxiety, tremor, rapid pulse and headache. The preparation does not contain anti-histamines which could sedate and cause drowsiness but the effects can nevertheless affect skilled performance. Sudafed, therefore, is not a preparation to be taken when making engineering decisions or performing licensed duties.

NOTE: Although the above are common groups of drugs, which may have adverse effects on performance, it should be pointed out that many forms of medication, which although not usually expected to affect efficiency may do so if the person concerned is unduly sensitive to a particular drug. Therefore no drugs, medicines, or combinations, should be taken before or during duty unless the taker is completely familiar with the effects on him or her of the medication and the drugs or medicines have specifically been prescribed for the individual alone. Again the sources of advice mentioned earlier in this notice should be consulted if in doubt.