



Propeller hazard



An old hazard that is still around in aviation today are propellers. People new to aviation should always be made aware through training never to enter the arc of a propeller and get into the habit of always avoiding them. Everyone must make sure that they avoid any distractions and distracting others when around propellers.

Always take care and look out for people who will not be familiar with the propeller hazard.



Runaway Trim

Reviewing some recent General Aviation reports highlighted that in some cases pilots need to be ready to recognise and act promptly in the event of a runaway trim. Some aircraft types require a quick response to prevent a loss of control. Therefore, if you are not sure what your aircraft's pilot operation handbook/ flight manual says about this go and refresh your memory. Understand the system, and what to do if it goes wrong.

A UK AAIB report noted:

Pilot knowledge and awareness of trim runaway – safety message

The FAA research, other previous events, and findings from this investigation, indicate that a pilot's familiarity with the autopilot and trim system could reduce the time to recognise and effectively respond to a potentially hazardous trim runaway condition. This could include, for each aircraft type to be flown:

- *System knowledge of the electric trim and autopilot, and the associated normal and abnormal operating procedures*
- *Carrying out the relevant pre-flight checklists for the autopilot and trim systems – being aware that they may be separate to the main pre-flight procedures*
- *Awareness of the indications of a trim runaway – remembering that the indications may not be 'direct'*
- *Appreciation of the significance of the control forces which may be required to control the aircraft in the event of a trim runaway, particularly for a single pilot*
- *Awareness of the corrective actions for a trim runaway – for example, how to locate and open the appropriate circuit breaker, and other possible ways to override or disable the system.*

An [In Focus Special](#) issue on handling a trim runaway can be downloaded from the UK CAA website.



Defuelling



The [Aeronautical Information Publication \(AIP\)](#) is the place to go for information on an aerodrome. Within it you can find out all sorts of information to ensure an aircraft's safe passage through. One important section when trip planning is fuel; it may be the only reason for the aircraft stopping at an aerodrome.

The hours and types of fuel available is usually all there, but what about defuelling? There are times when things just don't go right, and the aircraft is sitting there on the

apron with too much fuel. It is certainly going to cost, but can an aircraft be safely defuelled at an aerodrome with procedures in place?

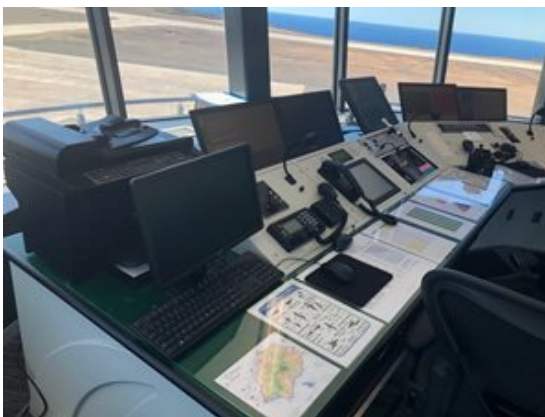


Aerodromes:

- Do you know what can be done at your aerodrome?
 - What storage is available?
 - Are there safe methods of disposal?
 - What are the hours of availability?
- Do you promulgate that defueling is or is not available?

Operators, Fuel Companies and Aerodromes all need to ensure that fuel is disposed of safely and responsibly.

Dealing with failure



ATS systems have multiple layers of protection to ensure that power is always available. Normally systems will operate on mains power, backed-up by a generator with a final back-up of battery power. Transfer from mains to generator or battery power is normally seamless using Uninterrupted Power Supplies (UPS) connected to critical equipment.

However, experience has shown that sometimes both the primary and secondary means of power can both fail leaving the ATS systems just running on battery power.

Battery power can only sustain ATS equipment for approximately 20 – 45 minutes, depending on the load. So, when batteries are being used as the sole source of power a controlled shut-down of air traffic services should commence.

All ATS providers should review their operational procedures to ensure that:

- A risk assessment has been completed that considers the impact of ATS multiple power failures;
- The maximum time on battery power for each piece of equipment is known;
- This information is used to establish the time after a primary and secondary power failure by which the ATS shutdown must have been achieved;



- The process to be followed to in the event of such a failure; and
- The process to be followed once power is restored.

It is also worth checking up on:

- When was your generator last checked?
- When did it last take the full load of your ATS systems and prove itself?

Safety Awareness – Independent Inspections

Independent inspections are an important part of airworthiness and are a requirement, see [OTAR Part 43.111](#).

Common errors that lead to these being ineffective are:

1. A complex maintenance task that has numerous independent inspection requirements that are grouped together under one independent inspection task.

Grouping under one maintenance task line entry will result in a high probability of a maintenance error. **HIGH RISK**. Components or maintenance tasks that meet the requirements for 'Independent Inspections' should be treated as individual items to be completed and inspected.

For example, replacement of an engine. Consideration should be given to engine controls – connection points, mounting points, rigging checks, borescope blanks, security & locking of engine cowlings or 'C' ducts, software configuration, FADEC components replacement etc.... These should have their own individual independent inspection.



2. Terminology – Independent Inspection, or is it a Duplicate Inspection? Which term should be used

Terminology has changed, and organisations should be using the term 'Independent Inspection'. Duplicate Inspection is old terminology where it required two persons who held an authorisation to issue certificate release to service (CRS) for that particular inspection. This is no longer required.

The first signature of the independent inspection is completed by the person authorised to issue a certificate release to service for the particular aircraft type or component. The second signature attests to the satisfactory completion of the work recorded and that no deficiencies have been found. Both signatories should also consider the whole maintenance accomplished.

3. Using incorrect maintenance actions

Using incorrect terminology to describe the actual maintenance task and describe the purpose of the independent inspection.

Example; '#1 Engine Replacement - Independent Inspection as required'.

This does not describe what the second person is attesting to the satisfactory completion of or to what standard. Using 'as required' is too vague.



Reminder – terminology that should be used and may be a combination of:

- Function – *eg Leading-edge spoilers retract on selection of flap lever to position.....*
- Sense – *eg under carriage free fall drops at.....*
- Operation – *eg iaw a specific maintenance task.....*
- Locking – *eg engine control lever correctly wire locked.....*
- Assembly – *eg flap assemble installed iaw specific maintenance.....*

4. Document recording actions

A common error is forgetting to add the following, which is a requirement, beside the statement:

- Signature; and
- OTAR Part 66 licence or validation number and/or authorisation number; and
- Date and time of entry.

Ensure that your independent inspections are clear, completed and recorded correctly.

Prevention of Runway Incursions During Emergency Response



Preventing runway incursions is a core element of runway safety programmes. The aim of the safety programme is to reduce hazards and manage risk. Managing risk requires a systematic approach involving all stakeholders. For the programme to be effective it requires appropriate input and promotion from senior management which reinforces their commitment to runway safety.

An effective and developed runway safety programme will ensure that procedures are embedded into both normal and abnormal operations.

In the event of an accident or incident, runway safety may not be the first thing that comes to mind. However, aerodromes work closely with the rescue and fire-fighting service and air traffic control to devise a procedure that allows for a prompt response to an incident or accident on or near the aerodrome whilst minimising the risk of runway incursion. The procedure should ensure that the fire vehicles can deploy without delay and still receive the appropriate information. Throughout the incident all vehicles and personnel must be in receipt of an appropriate clearance from the relevant authority (ATC, Incident Commander) before entering the manoeuvring area. A record of all vehicles and personnel at the incident should be maintained.



If a vehicle driver is unfamiliar with the aerodrome, or has not received the appropriate training, or the vehicle is not properly equipped to operate on the aerodrome, the aerodrome operator is responsible for managing that vehicle and personnel via the Rendezvous Point (RVP) or Staging Area to ensure that aerodrome safety is maintained.



Learning lessons

If a runway incursion does occur, it is important to review and learn from the occurrence. This is the role of the Runway Safety Team. The aim is to create a proactive approach that continuously checks the current procedures and mitigations are working properly. Remember, that a change to a procedure or the environment will introduce new hazards and potential for runway incursions. Risk assessments along with regular recorded runway safety committees are paramount in achieving the goal of lowering the overall risk to As Low As Reasonably Practicable (ALARP).

References:

ICAO Doc 9870

ICAO Doc 9137 Part 1

ICAO Doc 4444

[OTAR 139](#) and [OTAC 139-11](#)

[OTAR 172](#) and [OTAC 172-6](#)



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