Operational Notice Number: 003/20

Contaminated Pitot/Static Systems on Aircraft Returned to Service after a Period of Storage

Applicable to:	**All Operators**
Effective Date:	**21 August 2020**
Expiry Date:	**31 December 2022**
Authorized by:	**Senior Vice President, Operations, Safety and Security (OSS)**
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Summary

Maintenance organisations have been alerted by EASA (SIB 2020-14) to the hazard of contaminated aircraft pitot/static systems during COVID-19.

Contaminated pitot/static systems may result in inaccurate airspeed and/or altitude indications leading to an aircraft unreliable airspeed condition. Alerting the industry to this safety risk, as a precursor to specific high-risk outcomes, is key to supporting flight safety.

The IATA Accident Database (ADX) highlights the risk of Loss of Control Inflight (LOC-I) as a high-risk outcome where unreliable airspeed has been identified as a causal factor in aviation accidents.

This Operations Notice highlights the issue of potential pitot/static system contamination, on aircraft returned to service after storage, to maintenance organisations, operators and flight crew. It emphasises the importance of closely following maintenance procedures; and reminds aircrew of actions required following the identification of an unreliable airspeed condition.

Description

Aviation has been heavily impacted by the COVID-19 pandemic and an unprecedented number of aircraft have been grounded. Gradually, as travel restrictions are lifted and operators are preparing to resume passenger flights, aircraft placed in storage for extended periods are required to return to service.

A significant increase in the number of reports of unreliable speed and altitude indications during the first flight(s) following the aircraft leaving storage, have been reported by EASA, caused by contaminated air data systems. This has led to a number of Rejected Take-Off (RTO) and In-Flight Turn Back (IFTB) events.

Most reported events concern the accumulation of foreign objects, such as insect nests, in pitot/static systems. This contamination caused obstruction of pitot probes and static ports, in some cases on multiple systems, even when protective covers were installed. The risk of such contamination was increased, if the aircraft storage/de-storage procedures were not correctly applied at the beginning, during or at the end of the storage period.

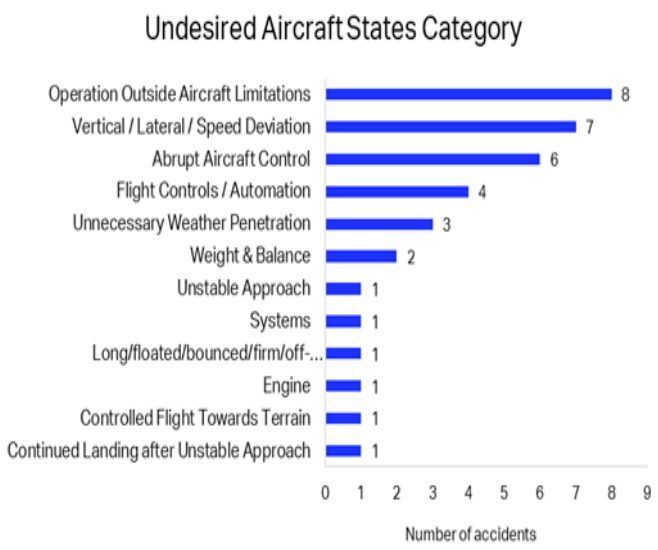
Events related to contaminated pitot/static systems occurs at a time when many flight crew have been furloughed or have experienced reduced flying. It is critical that, in a period of reduced recency, flight crew are fully aware of potential hazards and are well versed in mitigating actions.

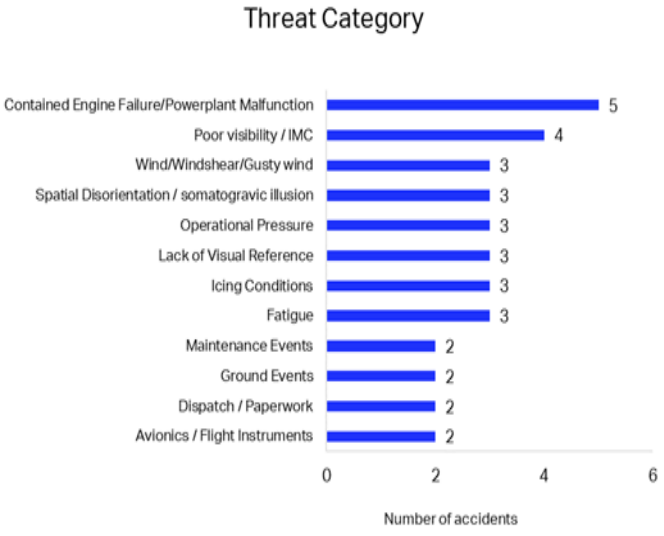
IATA urges operators to highlight this issue, via technical bulletin or special briefing material, to all concerned operational personnel. In particular, maintenance personnel should be reminded to strictly follow maintenance protocols and flight crew to apply standard operating procedures (SOP).

Unreliable Airspeed as a Factor Contributing to Loss of Control in Flight (LOC-I) Accidents

A review of the IATA Accident Database (ADX) identifies LOC-I accidents as the primary fatality risk category in the last 5 years (2015-2019). It is responsible for an average of 4 accidents and 156 fatalities annually.

The top common contributing factors in the Undesired Aircraft States and Threat categories are:





Unreliable airspeed and altitude indications are key contributing factors leading to LOC-I and CFIT accidents in the past.

Recommendations and Mitigating Actions

- Maintenance Organizations:

  EASA has released a Safety Information Bulletin on 'Pitot-Static Issues After Storage due to the COVID-19 Pandemic' highlighting the issue of contaminated pitot/static systems.

  It recommends that maintenance organizations "carefully follow the maintenance instructions for cleaning and inspecting the pitot static system during the return back to service of aircraft, including new and recently updated guidance/recommendations from the TC holders and/or design approval holders."

  If contamination of the air data system/pitot static probes is suspected, maintenance organizations should assess if the maintenance instructions are adequate to the situation, contacting the type certificate holders and/or design approval holders for further instructions, as necessary.

- Flight Crew:

  - Conduct through pre-flight checks on pitot/static systems before flight especially if the aircraft has just, or recently, returned to service.

  - Ensure, pre-flight, that thorough Threat and Error Management (TEM) briefings include the identification of an unreliable airspeed condition and the appropriate response. This should include but not be limited to:

    - Cross-check of airspeed during take-off roll, as per SOP, and what actions to take if a discrepancy is identified;
    - Rejected Take Off (RTO) procedure;
    - Unreliable Airspeed/Altitude indications including memory items.

  - Reinforce, where necessary, identified training objectives relating to unreliable airspeed/altitude indications.

- Operators:

  - Consult your internal Flight Operations Quality Assurance/Flight Data Monitoring (FOQA/FDM) systems

- Consult your internal Safety Reporting Program to identify if unreliable speed and altitude indications have been identified by flight crews, or if maintenance crews have reported contaminated pitot tubes after aircraft long term storage. Perform Safety Risk Assessments, associated with any identified risks, as required.

- Consult the following IATA guidance material:

  - "IATA Guidance for Managing Aircraft Airworthiness for Operations During and Post Pandemic"

  - "IATA Guidance for Flight Operations During and Post Pandemic"