

RA 4061 - Air Systems Displaying Abnormal Flying Characteristics

Rationale

Air Systems may display abnormal flying characteristics, including Uncommanded Flying Control Movements¹ (UFCM), Control Restrictions² (CR) and Unusual Occurrences³. Occurrences of abnormal flying characteristics pose potentially serious Airworthiness Risk and the underlying Causes may not become apparent without a careful and detailed investigation. ► This RA ◀ requires that ► aviation engineering ◀ orders and ► / or local ◀ procedures⁴ are put in place to ensure the timely and effective investigation into, and resolution of, Occurrences of abnormal flying characteristics.

Contents

4061(1): Investigation of Air Systems Displaying Abnormal Flying Characteristics

4061(2): Rogue Aircraft

Regulation 4061(1)

Investigation of Air Systems Displaying Abnormal Flying Characteristics

4061(1) The Military Continuing Airworthiness Manager (Mil CAM)⁵ **shall** ensure that ► aviation engineering ◀ orders and / or ► local ◀ procedures⁴ are promulgated to ensure the prompt and effective investigation into, and resolution of, Occurrences of abnormal flying characteristics⁶.

Acceptable Means of Compliance 4061(1)

Investigation of Air Systems Displaying Abnormal Flying Characteristics

1. The ► aviation engineering ◀ orders and ► / or local ◀ procedures⁴ **should** specify, as a minimum:
 - a. Initial actions to be taken if an Air System displays abnormal flying characteristics, including:
 - (1) Any changes to immediate post-flight shut down and Maintenance procedures.
 - (2) Requirements for the notification of appropriate personnel and / or organizations, including:
 - (a) The Military Continuing Airworthiness Management Organization (Mil CAMO)⁷.
 - (3) Occurrence reporting⁸ requirements.
 - (4) Other reporting requirements.
 - b. The formal investigation process to be followed, including how the key decisions are to be recorded.
 - c. The requirement to appoint a person with specific responsibility for leading the investigation.

¹ Refer to MAA02: MAA Master Glossary.

² An inability to move the flying control input system to any position within its normal range of travel, or a condition when a greater than normal force is required to move a flying control input, or the failure of a flying control surface or system to respond correctly to a flying control input.

³ Any other abnormal flying condition involving a primary flying control system, which is not classified as a UFCM or CR, and which results in a Defence Aviation Safety Occurrence Report being raised (refer to RA 1410 – Occurrence Reporting and Management).

⁴ ► Refer to RA 4009 – Aviation Engineering Orders and Local Procedures. ◀

⁵ Refer to RA 1011 – Military Continuing Airworthiness Manager Responsibilities.

⁶ ► Not applicable to Air Systems operating under RA 1165 – UK Civil Aviation Authority Oversight of UK Military Registered Air Systems Arrangements. ◀

⁷ Refer to RA 4947 – Continuing Airworthiness Management – MRP Part M Sub Part G.

⁸ Refer to RA 1410 – Occurrence Reporting and Management.

Acceptable Means of Compliance 4061(1)

- d. Any changes to the arrangements for the Certification of Air System Release⁹.
- e. Arrangements for releasing the Air System for flight¹⁰ when this is done as part of the investigation.
- f. Criteria for determining that the investigation is complete.
- g. The Competence¹¹ requirements of those individuals that will be authorized¹² to:
 - (1) Lead the investigation.
 - (2) Release an Air System for flight as part of the investigation.
 - (3) Determine that the investigation is complete.

Guidance Material 4061(1)

Investigation of Air Systems Displaying Abnormal Flying Characteristics

2. **Changes to immediate post-flight procedures.** To aid the investigation, the Air System's operating configuration needs to be retained as closely as possible to the condition in which the abnormal flying characteristic occurred. Some variation to post-flight procedures may be necessary as normal post-flight procedures, such as engine shutdown, could lead to the loss or masking of important Fault indicators. In addition, it is likely that all Maintenance activity, other than that required to make the Air System safe, would be suspended for the early stages of the investigation.
3. **Other reporting requirements.** This includes any reporting requirements mandated by the Type Airworthiness Authority (TAA) in the Air System Document Set.
4. **Investigation process.** This encompasses all elements of the investigation, adding location and organization specific detail to the type-specific investigation ►process◀ in the Air System Support Policy Statement¹³.
5. **Release for flight.** If an Air System is released for flight as part of the investigation, the flight may be either a partial test flight conducted in accordance with the Flight Test Schedule¹⁴ or an Airborne Check¹⁵. It may be appropriate to impose additional constraints on such flights when they form part of an investigation into an Occurrence of abnormal flying characteristics.
6. **Recording of key decisions.** It is essential to capture the decisions that are made during an investigation. This may be done in the Aircraft Technical Log or in a separate report by the investigating officer.

Regulation 4061(2)

Rogue Aircraft

- 4061(2) The Mil CAM shall ensure that ►aviation engineering◀ orders and ►/ or local◀ procedures►⁴◀ are promulgated to ensure the correct management of rogue Aircraft^{16,►⁶◀}.

Acceptable Means of Compliance 4061(2)

Rogue Aircraft

7. The ►aviation engineering◀ orders and ►/ or local◀ procedures►⁴◀ should specify, as a minimum:
 - a. The specific platform type criteria for determining that an Aircraft is rogue.
 - b. Who is authorized⁹ to designate an Aircraft as rogue.

⁹ Refer to RA 4812 – Certification of Air System Release and Component Release (MRP 145.A.50).

¹⁰ Refer to RA 4961 – Aircraft Maintenance Programme – MRP Part M Sub Part C.

¹¹ Refer to RA 1002 – Airworthiness Competent Persons.

¹² Refer to RA 1006 – Delegation of Engineering Authorizations.

¹³ ►Refer to RA 5407 – Support Policy Statement.◀

¹⁴ Refer to RA 2220 – Maintenance Test Flights.

¹⁵ Refer to RA 4051 – Airborne Checks.

¹⁶ A Rogue Aircraft is one that continues to display abnormal flying characteristics, despite a thorough investigation and every reasonable course of action having been taken to rectify the Fault.

**Acceptable
Means of
Compliance
4061(2)**

- c. The reporting requirements if an Aircraft is designated as rogue.
- d. Who is responsible for the management of rogue Aircraft.
- e. Any additional measures to be applied to rogue Aircraft.

**Guidance
Material
4061(2)****Rogue Aircraft**

8. **Additional measures.** The additional measures are likely to include an increased requirement for Design Organization support during any subsequent activity. It may also be appropriate to quarantine or place further restrictions on the release of the Aircraft for flight.

Intentionally Blank for Print Pagination