

**Grumman AA-5,  
G-BBSA**

**Teesside International  
Airport**

**25 September 2021**

**Accident**

## **Investigation Synopsis**

The aircraft suffered a partial loss of engine power very shortly after takeoff from Runway 23 at Teesside International Airport. The pilot, believing the aircraft was outside the airport boundary, attempted a turnback to the airport to land. The aircraft stalled during the turn and struck the ground west of the runway near the Runway 05 threshold. The three occupants all sustained serious injuries.

Three Safety Recommendations are made with respect to pilot training for partial engine power loss events.

## **Safety Recommendation 2022-005**

### **Justification**

A partial power loss event, in particular immediately after takeoff, presents the pilot with challenging, unfamiliar decisions in an environment where aircraft handling is demanding and the timeframe is short. Although addressed during Australian PPL training, the issue is not covered in the UK PPL syllabus, and current CAA Safety information only addresses the issue through reference to other documents. It is therefore not straightforward for pilots to prepare themselves appropriately to deal with such malfunctions. There are opportunities, both during ab initio training and, subsequently, during revalidation flights with an instructor/examiner, to cover this issue. Therefore, to assist pilots in preparing to deal with partial power loss events in an effective manner, the following Safety Recommendations are made:

Therefore, the following safety recommendation was made:

### **Safety Recommendation 2022-005**

It is recommended that the UK Civil Aviation Authority require ab initio pilots to undergo training in the management of partial power loss situations in single-engine fixed-wing aeroplanes.

**Date Safety Recommendation made:** 09 June 2022

## **LATEST RESPONSE**

**Response received:** 30 August 2024

The CAA is addressing these safety recommendations within the context of the ongoing General Aviation Pilot Licensing & Training Simplification project. In Spring 2024, we published a suite of five consultation papers with proposed changes to licenses and ratings across the different GA aircraft categories. The proposals were based on the output of a working group comprising key GA stakeholders, including associations, flying instructors and Private Pilot Licence (PPL) students.

The aeroplane category consultation (CAP 2335) included:

- a proposal to introduce training in the management of partial power loss events for ab-initio pilots, via the PPL(A) syllabus; and

•a revised Acceptable Means of Compliance (AMC) applicable to the biennial “refresher training” for the SEP, TMG and microlight class ratings that would include partial power loss as a recommended exercise.

The consultation ran for a period of 10 weeks earlier this year and received over 600 responses in the aeroplane category. There was clear support for introducing training in the management of partial power loss events for ab-initio pilots of single engine aeroplanes, and for this topic to be covered during the applicable biennial refresher training.

Phase 3 of the Pilot Licensing & Training Simplification project has now commenced and will focus on recommending legislative changes to the Department for Transport.

The flight exercises applicable to ab-initio and refresher training in single engine aeroplanes are contained in AMC material. The CAA will be further developing and consulting on AMC material later in 2024 or early 2025 – finalising the material for partial power scenarios will form part of this work.

The CAA will also be developing and promulgating safety promotion material for managing partial power loss situations.

The CAA considers that actions outlined above will fully address the three safety recommendations included in the accident report for G-BBSA.

The CAA will provide a further update by the end of May 2025.

**Safety Recommendation Status**                      **Open**

**AAIB Assessment**                                      **Adequate**

**Action Status**    **Planned Action Ongoing Update Due 31 May 2025**

#### **Feedback rationale**

The AAIB acknowledges the update from the CAA and awaits a further update by the end of May 2025. (EU Regulation 996/2010 article 18 refers).

#### **RESPONSE HISTORY**

Response received: 15 December 2023

The CAA is considering these safety recommendations within the context of the General Aviation Pilot Licensing & Training Simplification project. Phase 2 of the project is underway and is focussed on amending pilot licences, ratings, and certificates across multiple aircraft categories.

Several working group meetings took place earlier this year involving a range of subject matter experts who developed a series of detailed proposals, including amendments to the relevant pilot training syllabi to incorporate managing partial power loss events. The CAA considers that these proposals will address Safety Recommendation 2022-005 and they will be publicly consulted on in February 2024.

The CAA will provide a further update by the end of August 2024.

AAIB Assessment – Partially Adequate Open

Response received: 12 April 2023

This is an update on the actions being taken by the CAA to address the three safety recommendations listed above.

The CAA will consider these safety recommendations within the General Aviation Pilot Licensing & Training Simplification project, which will involve subject matter experts from licencing, instructors, examiners, as well as external GA stakeholders.

Phase 1 of the project recently concluded and established the overall strategic direction of the endeavour. Phase 2 is scheduled to begin this month and will explore amending the relevant pilot training syllabi to include managing partial power loss events. This has the potential to affect multiple ICAO and sub-ICAO initial pilot training courses including the National Private Pilot Licence (NPPL), Light Aircraft Pilot Licence (LAPL)/Private Pilot Licence (PPL) as well as the Commercial Pilot Licence (CPL), Multi-Pilot Licence (MPL) and Airline Transport Pilot Licence (ATPL) integrated courses.

For the revalidation of single-engine fixed-wing aeroplane class ratings there is a requirement to complete at least one hour of dual flight training. The purpose of the flight is to refresh the pilot's understanding of threat and error management with special emphasis on decision-making as well as basic handling skills for normal and abnormal operations. CAA TrainingCom Autumn 2019 contained a suggested profile for refresher flights and included partial power loss exercises. The CAA will consider incorporating this in a new AMC applicable to the revalidation requirements.

Upon determining the appropriate changes to the relevant ab pilot training courses and rating revalidation training, the CAA will devise and promulgate guidance and safety promotion material for managing partial power loss situations.

The CAA will provide a further update by the end of Q4 2023.

AAIB Assessment – Partially Adequate Open

Response received: 11 August 2022

The CAA accepts this Safety Recommendation.

The CAA will launch a project to understand the root causes of partial power loss mishandling in single-engine, fixed-wing aeroplanes. The CAA will be guided by the project findings to develop and implement proportionate solutions for ab initio pilot training in the management of partial power loss situations.

The CAA will provide an update on the action taken to address the three safety recommendations by the end of Q1 2023.

AAIB Assessment – Partially Adequate Open

## **Safety Recommendation 2022-006**

### **Justification**

A partial power loss event, in particular immediately after takeoff, presents the pilot with challenging, unfamiliar decisions in an environment where aircraft handling is demanding and the timeframe is short. Although addressed during Australian PPL training, the issue is not covered in the UK PPL syllabus, and current CAA Safety information only addresses the issue through reference to other documents. It is therefore not straightforward for pilots to prepare themselves appropriately to deal with such malfunctions. There are opportunities, both during ab initio training and, subsequently, during revalidation flights with an instructor/examiner, to cover this issue. Therefore, to assist pilots in preparing to deal with partial power loss events in an effective manner, the following Safety Recommendations are made:

Therefore, the following safety recommendation was made:

### **Safety Recommendation 2022-006**

It is recommended that the UK Civil Aviation Authority provide detailed guidance on techniques for managing partial power loss situations and to promote their use by instructors and examiners when conducting training for a rating revalidation in single-engine fixed-wing aeroplanes.

**Date Safety Recommendation made:** 09 June 2022

### **LATEST RESPONSE**

**Response received:** 30 August 2024

The CAA is addressing these safety recommendations within the context of the ongoing General Aviation Pilot Licensing & Training Simplification project. In Spring 2024, we published a suite of five consultation papers with proposed changes to licenses and ratings across the different GA aircraft categories. The proposals were based on the output of a working group comprising key GA stakeholders, including associations, flying instructors and Private Pilot Licence (PPL) students.

The aeroplane category consultation (CAP 2335) included:

- a proposal to introduce training in the management of partial power loss events for ab-initio pilots, via the PPL(A) syllabus; and
- a revised Acceptable Means of Compliance (AMC) applicable to the biennial “refresher training” for the SEP, TMG and microlight class ratings that would include partial power loss as a recommended exercise.

The consultation ran for a period of 10 weeks earlier this year and received over 600 responses in the aeroplane category. There was clear support for introducing training in the management of partial power loss events for ab-initio pilots of single engine aeroplanes, and for this topic to be covered during the applicable biennial refresher training.

Phase 3 of the Pilot Licensing & Training Simplification project has now commenced and will focus on recommending legislative changes to the Department for Transport.

The flight exercises applicable to ab-initio and refresher training in single engine aeroplanes are contained in AMC material. The CAA will be further developing and consulting on AMC material later in 2024 or early 2025 – finalising the material for partial power scenarios will form part of this work.

The CAA will also be developing and promulgating safety promotion material for managing partial power loss situations.

The CAA considers that actions outlined above will fully address the three safety recommendations included in the accident report for G-BBSA.

The CAA will provide a further update by the end of May 2025.

**Safety Recommendation Status**

**Open**

**AAIB Assessment**

**Adequate**

**Action Status**

**Planned Action Ongoing Update Due 31 May 2025**

**Feedback rationale**

The AAIB acknowledges the update from the CAA and awaits a further update by the end of May 2025. (EU Regulation 996/2010 article 18 refers).

**RESPONSE HISTORY**

Response received: 15 December 2023

The CAA is considering these safety recommendations within the context of the General Aviation Pilot Licensing & Training Simplification project. Phase 2 of the project is underway and is focussed on amending pilot licences, ratings, and certificates across multiple aircraft categories.

The GA Pilot Licensing & Training Simplification project will also address Safety Recommendation 2022-006. The aforementioned public consultation will propose some amendments to the revalidation and renewal requirements for aeroplane licence holders in order to include partial power loss exercises.

The CAA will provide a further update by the end of August 2024.

AAIB Assessment – Partially Adequate Open

Response received: 12 April 2023

This is an update on the actions being taken by the CAA to address the three safety recommendations listed above.

The CAA will consider these safety recommendations within the General Aviation Pilot Licensing & Training Simplification project, which will involve subject matter experts from licencing, instructors, examiners, as well as external GA stakeholders.

Phase 1 of the project recently concluded and established the overall strategic direction of the endeavour. Phase 2 is scheduled to begin this month and will explore amending the relevant pilot training syllabi to include managing partial power loss events. This has the potential to affect multiple ICAO and sub-ICAO initial pilot training courses including the National Private Pilot Licence (NPPL), Light Aircraft Pilot Licence (LAPL)/Private Pilot Licence (PPL) as well as the Commercial Pilot Licence (CPL), Multi-Pilot Licence (MPL) and Airline Transport Pilot Licence (ATPL) integrated courses.

For the revalidation of single-engine fixed-wing aeroplane class ratings there is a requirement to complete at least one hour of dual flight training. The purpose of the flight is to refresh the pilot's understanding of threat and error management with special emphasis on decision-making as well as basic handling skills for normal and abnormal operations.

CAA TrainingCom Autumn 2019 contained a suggested profile for refresher flights and included partial power loss exercises. The CAA will consider incorporating this in a new AMC applicable to the revalidation requirements.

Upon determining the appropriate changes to the relevant ab pilot training courses and rating revalidation training, the CAA will devise and promulgate guidance and safety promotion material for managing partial power loss situations.

The CAA will provide a further update by the end of Q4 2023.

AAIB Assessment – Partially Adequate Open

Response received: 11 August 2022

The CAA accepts this Safety Recommendation.

The CAA will develop detailed guidance and techniques for managing partial power loss situations in single-engine fixed-wing aeroplanes based on the solutions developed by the CAA project team. The CAA will promote their use by instructors and examiners when conducting training for a rating revalidation.

The CAA will provide an update on the action taken to address the three safety recommendations by the end of Q1 2023.

AAIB Assessment – Partially Adequate Open

## **Safety Recommendation 2022-007**

### **Justification**

A partial power loss event, in particular immediately after takeoff, presents the pilot with challenging, unfamiliar decisions in an environment where aircraft handling is demanding and the timeframe is short. Although addressed during Australian PPL training, the issue is not covered in the UK PPL syllabus, and current CAA Safety information only addresses the issue through reference to other documents. It is therefore not straightforward for pilots to prepare themselves appropriately to deal with such malfunctions. There are opportunities, both during ab initio training and, subsequently, during revalidation flights with an instructor/examiner, to cover this issue. Therefore, to assist pilots in preparing to deal with partial power loss events in an effective manner, the following Safety Recommendations are made:

Therefore, the following safety recommendation was made:

### **Safety Recommendation 2022-007**

It is recommended that the UK Civil Aviation Authority updates its General Aviation safety promotions to include information for pilots regarding techniques for managing partial power loss situations in single-engine fixed-wing aeroplanes.

**Date Safety Recommendation made:** 09 June 2022

### **LATEST RESPONSE**

**Response received:** 30 August 2024

The CAA is addressing these safety recommendations within the context of the ongoing General Aviation Pilot Licensing & Training Simplification project. In Spring 2024, we published a suite of five consultation papers with proposed changes to licenses and ratings across the different GA aircraft categories. The proposals were based on the output of a working group comprising key GA stakeholders, including associations, flying instructors and Private Pilot Licence (PPL) students.

The aeroplane category consultation (CAP 2335) included:

- a proposal to introduce training in the management of partial power loss events for ab-initio pilots, via the PPL(A) syllabus; and
- a revised Acceptable Means of Compliance (AMC) applicable to the biennial “refresher training” for the SEP, TMG and microlight class ratings that would include partial power loss as a recommended exercise.

The consultation ran for a period of 10 weeks earlier this year and received over 600 responses in the aeroplane category. There was clear support for introducing training in the management of partial power loss events for ab-initio pilots of single engine aeroplanes, and for this topic to be covered during the applicable biennial refresher training.

Phase 3 of the Pilot Licensing & Training Simplification project has now commenced and will focus on recommending legislative changes to the Department for Transport.

The flight exercises applicable to ab-initio and refresher training in single engine aeroplanes are contained in AMC material. The CAA will be further developing and consulting on AMC material later in 2024 or early 2025 – finalising the material for partial power scenarios will form part of this work.

The CAA will also be developing and promulgating safety promotion material for managing partial power loss situations.

The CAA considers that actions outlined above will fully address the three safety recommendations included in the accident report for G-BBSA.

The CAA will provide a further update by the end of May 2025.

**Safety Recommendation Status**

**Open**

**AAIB Assessment**

**Adequate**

**Action Status**

**Planned Action Ongoing Update Due 31 May 2025**

**Feedback rationale**

The AAIB acknowledges the update from the CAA and awaits a further update by the end of May 2025. (EU Regulation 996/2010 article 18 refers).

**RESPONSE HISTORY**

Response received: 15 December 2023

The CAA is considering these safety recommendations within the context of the General Aviation Pilot Licensing & Training Simplification project. Phase 2 of the project is underway and is focussed on amending pilot licences, ratings, and certificates across multiple aircraft categories.

To address Safety Recommendation 2022-007, the CAA will develop and promulgate the necessary safety promotion material for managing partial power loss situations once the changes to the ab pilot training courses and rating revalidation training have been determined.

The CAA will provide a further update by the end of August 2024.

AAIB Assessment – Partially Adequate Open

Response received: 12 April 2023

This is an update on the actions being taken by the CAA to address the three safety recommendations listed above.

The CAA will consider these safety recommendations within the General Aviation Pilot Licensing & Training Simplification project, which will involve subject matter experts from licencing, instructors, examiners, as well as external GA stakeholders.

Phase 1 of the project recently concluded and established the overall strategic direction of the endeavour. Phase 2 is scheduled to begin this month and will explore amending the relevant pilot training syllabi to include managing partial power loss events. This has the potential to affect multiple ICAO and sub-ICAO initial pilot training courses including the National Private Pilot Licence (NPPL), Light Aircraft Pilot Licence (LAPL)/Private Pilot Licence (PPL) as well as the Commercial Pilot Licence (CPL), Multi-Pilot Licence (MPL) and Airline Transport Pilot Licence (ATPL) integrated courses.

For the revalidation of single-engine fixed-wing aeroplane class ratings there is a requirement to complete at least one hour of dual flight training.



The purpose of the flight is to refresh the pilot's understanding of threat and error management with special emphasis on decision-making as well as basic handling skills for normal and abnormal operations. CAA TrainingCom Autumn 2019 contained a suggested profile for refresher flights and included partial power loss exercises. The CAA will consider incorporating this in a new AMC applicable to the revalidation requirements.

Upon determining the appropriate changes to the relevant ab pilot training courses and rating revalidation training, the CAA will devise and promulgate guidance and safety promotion material for managing partial power loss situations.

The CAA will provide a further update by the end of Q4 2023.

AAIB Assessment – Partially Adequate Open

Response received: 11 August 2022

The CAA accepts this Safety Recommendation.

The CAA will devise and promulgate safety promotion material for managing partial power loss situations, which will be informed by the findings of the aforementioned CAA project.

The CAA will provide an update on the action taken to address the three safety recommendations by the end of Q1 2023.

AAIB Assessment – Partially Adequate Open