

**Alpi (Cavaciuti) Pioneer
400, G-CGVO**

**Near Popham Airfield,
Hampshire**

3 January 2015

Accident

Safety Recommendation 2016-027

It is recommended that Alpi Aviation modify the design of the Pioneer 400 to ensure that the manifold pressure exceedence red warning light remains functional, by allowing isolation of electrical power to the turbo wastegate servo control motor without removing power from the Turbo Control Unit.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

13 July 2016

Based on their last email concerning the implementation of Safety Recommendations, Alpi Aviation would like to note that, after a deep analysis of Rotax 914 Installation and Operation Manuals, they realised that implementing the Safety Recommendations 2016-027 and -029 will not solve the major issue of alerting the Pilot in case of Rotax 914 TCU power-off (or short as in case of G-CGVO accident). After analysis of Rotax 914 wiring plant they found the way to also solve this issue but this must be implemented by Rotax GmbH in order to prevent any misalignment between the Rotax Installation Manual and OEM installation practices or Rotax must authorise OEM to do the above implementation with a specific SB.

Based on the fact that Rotax GmbH has not introduced any of the Safety Recommendations suggested by AAIB, Alpi Aviation are going to write to Italian Rotax reseller in order to suggest the above mentioned modification in order to understand if this can be implemented within the implementation of AAIB Safety Recommendations 2016-028 and -030 (G-CGVO).

AAIB will be in CC to Alpi Aviation's request to Rotax GmbH Italian reseller.

AAIB Assessment – Partially Adequate - Open

RESPONSE HISTORY

Response received:

24 May 2016

Alpi Aviation started action to modify the Pioneer 400 & Pioneer 300 (Turbo only versions) wiring plant and the Pilot Operating Handbooks (POH) in order to introduce the recommendations from AAIB.

Action will be completed by the end of June 2016 and will be promulgated to all the Pioneer 400 and Pioneer 300 Turbo customers by producing a Company Service Information with enclosed technical information and updated POH

AAIB Assessment – Adequate - Closed

**Alpi (Cavaciuti) Pioneer
400, G-CGVO**

**Near Popham Airfield,
Hampshire**

3 January 2015

Accident

Safety Recommendation 2016-028

It is recommended that BRP-Powertrain GmbH & Co. KG amends the Rotax 914 engine Operator's Manual, to clarify the actions required by the pilot following activation of the orange Turbo Control Unit warning light, particularly with regard to isolation of the turbo wastegate servo control motor.

Date Safety Recommendation made:

14 March 2016

LATEST RESPONSE

Response received:

29 April 2016

From BRP's point of view on an engine level the measures are defined in an appropriate way (see Operators Manual section 4.4.3 I page 45). This engine based actions have to be translated from the manufacturer of the aircraft into a pilot related operating procedure which is also contributed by the type of aircraft (Note: ROTAX engines are installed in hundreds of different airframes).

Nevertheless BRP will adapt its Operators Manual by the next regular document revision in order to make this requirements more transparent for the airframer to translate this into an operating procedure for the pilot.

AAIB Assessment – Partially Adequate - Open

RESPONSE HISTORY

N/A

**Alpi (Cavaciuti) Pioneer
400, G-CGVO**

**Near Popham Airfield,
Hampshire**

3 January 2015

Accident

Safety Recommendation 2016-029

It is recommended that Alpi Aviation incorporate in the Pioneer 400 aircraft operating manual, the manifold air pressure limits and warnings, and pilot actions described in the Rotax 914 engine Operator's Manual, for red and/or orange Turbo Control Unit warning light activation.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

13 July 2016

Based on their last email concerning the implementation of Safety Recommendations, Alpi Aviation would like to note that, after a deep analysis of Rotax 914 Installation and Operation Manuals, they realised that implementing the Safety Recommendations 2016-027 and -029 will not solve the major issue of alerting the Pilot in case of Rotax 914 TCU power-off (or short as in case of G-CGVO accident). After analysis of Rotax 914 wiring plant they found the way to also solve this issue but this must be implemented by Rotax GmbH in order to prevent any misalignment between the Rotax Installation Manual and OEM installation practices or Rotax must authorise OEM to do the above implementation with a specific SB.

Based on the fact that Rotax GmbH has not introduced any of the Safety Recommendations suggested by AAIB, Alpi Aviation are going to write to Italian Rotax reseller in order to suggest the above mentioned modification in order to understand if this can be implemented within the implementation of AAIB Safety Recommendations 2016-028 and -030 (G-CGVO).

AAIB will be in CC to Alpi Aviation's request to Rotax GmbH Italian reseller.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

Response received:

24 May 2016

Alpi Aviation started action to modify the Pioneer 400 & Pioneer 300 (Turbo only versions) wiring plant and the Pilot Operating Handbooks (POH) in order to introduce the recommendations from AAIB.

Action will be completed by the end of June 2016 and will be promulgated to all the Pioneer 400 and Pioneer 300 Turbo customers by producing a Company Service Information with enclosed technical information and updated POH.

AAIB Assessment – Adequate - Closed

**Alpi (Cavaciuti) Pioneer
400, G-CGVO**

**Near Popham Airfield,
Hampshire**

3 January 2015

Accident

Safety Recommendation 2016-030

It is recommended that BRP-Powertrain GmbH & Co. KG reviews the wiring installation design and guidance for the Rotax 914 engine to optimise the routing and protection for wiring looms to minimise the likelihood of damage from chafing.

Date Safety Recommendation made:

14 March 2016

LATEST RESPONSE

Response received:

29 April 2016

BRP is shipping the engine with a loose wiring harness in this area and cannot prescribe the exact wiring installation design due to the existence of many different types of aircraft where ROTAX 914 engines are installed. There are general requirements given within the ROTAX Installation Manual that advises the installer how to route the wiring harness in that area. It is in the responsibility of the airframer to define the exact routing of the external wiring accordingly.

Nevertheless BRP will add a note by the next regular revision of the Installation Manual that an appropriate standard shall to be used as a base for the installation of the wiring harness (eg ASTM F2639 "Design, Alteration and Certification of Airplane Electrical Wiring Systems").

Further is required according to ROTAX Maintenance Manual that in terms of the prescribed maintenance activities the wiring harness has to be checked for chafe marks or other failures periodically (refer to chapter 05-20-00, Page 14 or 12-20-00, page 68).

AAIB Assessment – Not Adequate - Closed

RESPONSE HISTORY

N/A