



ALERT No. EUR/10/01



**Operational Requirements For PT6A and PT6T Engines
In Airspace Containing Low Contamination (Zone 2) of Volcanic Ash**

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Description

This Alert is issued in relation to Pratt & Whitney Canada's Special Instructions No 25-2010 concerning engines flying into volcanic ash Zone 2 as applicable in Europe (ash concentration is between .0002 and .002 g/m³). This alert is issued to compliment P&WC SI No 25-2010 and EASA SIB No 2010-17. It is important that this alert is also read with reference to the applicable engine maintenance manuals.

P&WC SI No 25-2010 has determined that an engine flying into Zone 2 volcanic ash and complying with the instructions defined in this SI continues to comply with its certification basis and is in a serviceable condition for continued operation.

The sensitive systems are known to be, but may not be limited to, engine compressors and turbines, engine oil systems, aircraft pitot and air data systems, aircraft environmental control systems, and those aircraft systems that provide cooling air for computer systems installed on the aircraft.

Reference Documents:

EASA SIB No: 2010-17
Special Instruction P&WC: 25-2010

Summary of Details

This Euravia Alert can be performed at the operator's facility. For operators flying 10 engines or more of a given family, a sampling program is recommended in accordance with P&WC SI No 25-2010 and EASA SIB No: 2010-17 is required for full details.

The following tables provide additional maintenance requirements concerning the above mentioned special conditions:

1. Table 1 describes the maintenance work required to be performed for all engines operating in Zone 2 (when activated).
2. Main Oil Filters and oil samples should be SOAP analyzed in accordance with National Regulations. See also applicable Engine Maintenance Manual. The laboratory should be advised that the testing should include Total Acid Number (TAN), maximum 2 mgKOH/g, and solid contamination
3. Record accomplishment of P&WC SI No 25-2010 in the applicable engine module log book.

Table 1
PT6T-series Maintenance Tasks

Maintenance Task	Daily	50 hrs
Power assurance checks plus margins trend monitoring, to detect step or rapid changes	X	
Inspect P3 filter for unusual buildup of contaminant		X
Acceleration Check, Engine Adjustment/ test	X	
Take & retain oil sample, check TAN and verify oil filter for impending bypass		X

Table 2
PT6T-series Engine Sampling Maintenance Tasks

Maintenance Task	Within 10 hrs	50 hrs
Borescope inspection photos of CT Vane and CT Blades: Inspect Compressor Turbine Vane and Blades for melted ash deposits on surfaces, blockage of holes and blade inter-platform gaps for accumulation of dust / contaminants.	X	X
Remove one fuel nozzle for visual inspection. Inspect for fuel nozzle orifice blockage and glass looking deposits. Ensure that all work is performed in accordance with the applicable Maintenance Manual instructions.	X	X
Remove oil filters and analyze. Replace with clean oil filters.	X	X
SOAP oil sample as per above mentioned instructions.	X	X
Inspect the first stage compressor blades for contaminations and indications of erosion.	X	X

Table 3
PT6A-series Maintenance Tasks

Maintenance Task	Within 50 hrs	Monthly
Performance assurance check <i>Ref. 72-00-00, Engine Adjustment/ test</i>		X
Acceleration Check <i>Ref. 72-00-00, Engine Adjustment/ test</i>		X
Oil Filter Inspection <i>Ref. 79-20-02 00 Oil system / inspection / check</i>	X	
Take oil sample, check TAN <i>Ref. 72-00-00 Oil system / inspection / check</i>	X	
P3 Filter Inspection <i>Ref. 73-10-07</i>	100 hrs	

Table 4
PT6A-series Engine Sampling Maintenance Tasks

Maintenance Task	Within 10 hrs	Weekly
Borescope inspection photos of CT Vane and CT Blades: Inspect Compressor Turbine Vane and Blades for melted ash deposits on surfaces and blade inter-platform gaps for accumulation of dust / contaminants <i>Ref. 72-00-00/ Engine Inspection / Check</i>	X	X
Main Oil Filter Replacement and Analysis <i>Ref. 79-20-02 Oil Distribution</i>	X	X
Oil Sample analysis. <i>Ref. 72-00-00/ External / Oil system/ Removal Installation</i>	X	X
P3 Filter Inspection and record condition <i>Ref. 73-10-07</i>	X	X
Performance assurance check <i>Ref. 71-00-00, Powerplant Adjustment/ test</i>	X	X
Acceleration Check <i>Ref. 71-00-00, Powerplant Adjustment/ test</i>	X	X <small>(See note 1)</small>
ECTM® or WebECTM® <i>Ref. 72-00-00</i>	X	X

Note 1: For engines continuously operated in Zone 2, perform check at 25 hours interval