HELLENIC REPUBLIC
MINISTRY OF INFRASTRUCTURE AND TRANSPORT

AIR ACCIDENT INVESTIGATION
AND AVIATION SAFETY BOARD
(AAIASB)

SERIOUS INCIDENT INVESTIGATION REPORT
AIRBUS AIRCRAFT A320-214
G-EZOC
AT ATHENS INTERNATIONAL AIRPORT
ON 29th SEPTEMBER, 2017

E01 / 2021

SERIOUS INCIDENT INVESTIGATION REPORT
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Airbus 320-214 with registration G-EZOC
at Athens International Airport on 29th September, 2017

This accident investigation was carried out by the Air Accident Investigation and Aviation Safety Board according to:

- **Annex 13 of the Chicago Convention**
- **EU regulation (EU) 996/2010**
- **Law 2912/2001**

"According to Annex 13 of the Chicago Convention of the International Civil Aviation, EU Regulation 996/2010 and Law 2912/2001 Accidents and Incidents Investigation is not intended to attribute blame or liability. The sole purpose of this investigation and the findings is to prevent accidents and incidents.

Therefore, the use of this report for any purpose other than to prevent future accidents and incidents could lead to misinterpretations."

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List of Abbreviations

ACCREP	:	Accredited Representative
AD	:	Airworthiness Directive
AIA	:	Athens International Airport
AMOS	:	Aircraft Maintenance Operation Specifications
ATC	:	Air Traffic Control
ATPL	:	Air Transport Pilot License
CAMO	:	Continuing Airworthiness Management Organisation
CM1	:	Left hand seat Pilot (Captain)
CM2	:	Right hand seat Pilot (First Officer)
CVR	:	Cockpit Voice Recorder
ECAM	:	Electronic Centralized Aircraft Monitor
FCL	:	Flight Crew License
FDR	:	Flight Data Recorder
FIR	:	Flight Information Region
IR	:	Instrument Rating
LT	:	Local Time
LPC	:	License Proficiency Check
LV	:	Low Visibility
MSN	:	Manufacturer Serial Number
MTOM	:	Maximum Take Off Mass
OIT	:	Operators Information Transmission
PED	:	Portable Equipment Device
QRH	:	Quick Reference Handbook
SB	:	Service Bulletin
TFU	:	Technical Follow Up
UTC	:	Universal Time Coordinated
VSB	:	Vendor Service Bulletin

Title

OPERATOR	**:**	EASYJET AIRLINE COMPANY LTD.
OWNER	**:**	EASYJET AIRLINE COMPANY LTD.
MANUFACTURER	**:**	AIRBUS SAS
A/C TYPE	**:**	A320-214
COUNTRY of MANUFACTURE	**:**	FRANCE
NATIONALITY	**:**	UNITED KINGDOM
A/C REGISTRATION	**:**	G-EZOC
LOCATION of INCIDENT	**:**	Athens International Airport (AIA)
DATE and TIME	**:**	Friday 29/09/2017 at 10:59 LT
Note	**:**	All Local Time LT = UTC + 3 h

SYNOPSIS

On Friday 29.09.2017, the aircraft owned and operated by "EASYJET Airline Company Ltd." with registration G-EZOC, during a scheduled flight from Mykonos International Airport to Milan Malpensa International Airport and while in Greek airspace, the pilots noticed the smell of burnt plastic and smoke in the cockpit, obviously originating from underneath the first officer's rudder pedals. A forced landing was decided by the flight crew that took place at Athens International Airport.

The Air Accident Investigation and Aviation Safety Board was informed on the same day and with the AAIASB/3112/02.10.2017 document, an investigation team was appointed. On 03.10.2017 a notification was sent to the International Authorities and ACCREP's were appointed.

FACTUAL INFORMATIONS

1.1 History of Flight

The aircraft was on a schedule flight and departed on 29.09.2017 from Mykonos International Airport (LGMK), with destination Milan-Malpensa International Airport (MXP). There were 186 passengers and 6 crew members on board.

While the aircraft was in Greek airspace (FL360, near XANIS point), the pilots smelled burnt plastic and at the same time noticed black smoke coming from the electronic compartment

and entered the cockpit under the CM2 rudder pedals. The vent extract fault warning light appeared on the ECAM. Emergency procedures were followed according to QRH and the presence of black smoke was reduced, but not the smell of burnt plastic that was still present in the cockpit.

The aircraft changed course to Athens International Airport, where the pilots after contacting the ATC, declared an emergency and landed safely at AIA. Quick donning oxygen masks were used by the flight crew, until landing. After landing, the Airport Fire Department carried out an external inspection of the aircraft and no traces of smoke or fire were found coming from the interior of the aircraft. Then, an inspection was carried out by a certified engineer and it was found that smoke originated by a fault in the Static Inverter, with Part Number (P/N) 1-002 -0102-1830 and Serial Number (S/N) AA11136967 (Photo 1), located on the right side of the Avionics Compartment of the aircraft. Following inspection, the defective unit was replaced, as well as the extract fan which also malfunctioned. For precautionary reasons the blower fan and the air filter were also replaced.

The aircraft remained at Athens International Airport (LGAV) for further inspection, while the passengers and crew boarded another aircraft of the company in order to continue to their destination.

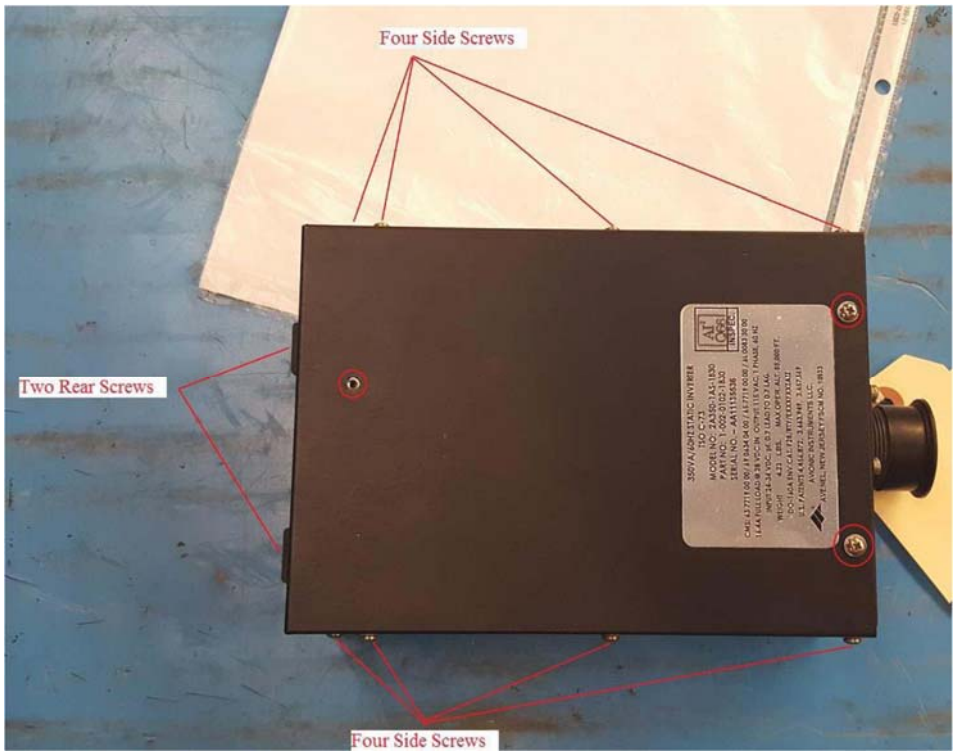

Photo 1: Static Inverter with P/N 1-002-0102-1830

1.2 Injuries to persons

Injuries	Crew	Passengers	Total in the aircraft	Others
Fatal	0	0	0	None
Serious	0	0	0	None
Minor	0	0	0	None
None	6	186	192	None
TOTAL	6	186	192	None

1.3 Damage to aircraft

No damages to the aircraft apart from the overheated capacitor inside the static inverter.

1.4 Other damage

None.

1.5 Personnel information

1.5.1 CM1 Captain

Was a Man 38 years old.

Pilot Licence Type	:	ATPL GBR.FCL. 426190J.A
Issuing Authority	:	United Kingdom
Valid until - Issued	:	13/09/2044 - 28.09.2011
Rating - Valid until	:	A320/IR/LV - 31.01.2018
Last LPC/ Valid until	:	21/01/2044 until 31/01/2018
Medical/Validity	:	Class 1 until 17/03/2018 and Class 2 until 17.03.2011
Total Hours on type	:	Over 5.000 hrs until 29.09.2017

1.5.2 CM2 First Officer

Was a man 42 years old.

Pilot Licence Type	:	ATPL GBR.FCL. AT448482B_A
Issuing Authority	:	United Kingdom
Valid until - Issued	:	01/03/2041 - 30.04.2014.
Rating - Valid until	:	A320/IR/LV - 31.12.2017
Last LPC / Valid until	:	23/12/2016 until 31/12/2017

Medical/ Valid until	:	Class 1 until 03/12/2017 and Class 2 until 03.12.20118
Total Hours on type	:	Over 4000 hrs until 29.09.2017

1.6 Aircraft Information

1.6.1 Certificates

- Registration: G-EZOC date of issue 18.02.2015.
- Airworthiness: 067285/001 date of issue 18.02.2015.
- Airworthiness Review: 067285/001/001, date of issue 25.01.2017 expire date 17.02.2018.
- Radio Licence: 39048, issue date 22.12.2014.
- Noise: 025328, issue date 26.05.2016.

The aircraft was insured as well as for losses to third parties, from 01.05.2017 until 30.04.2018 in the insurance company JLT Specialty Ltd, according to the contract number C17 / EASY / G001.

1.6.2 Aircraft

Manufacturer	:	AIRBUS SAS
Aircraft Type	:	A320-214
MSN	:	6485
Year of manufacture	:	11.02.2015
MTOM	:	73.500 Kg
Total Hours	:	9.555h51'
Landings	:	4.761

1.6.3 Engines

Manufacturer	:	CFM
Type	:	56-5B4/3
MSN	:	(LH) 569663, (RH)569664
Total Hours	:	9.555h51'
Cycles	:	4.761

1.7 Meteorological information

According to the METAR received for the specific day and around 10:50 LT, the weather conditions that prevailed in the area, were:

METAR LGAV 290750Z 02019G30KT 9999 FEW016 SCT030 19/10 Q1018 NOSIG=

Wind North, North Easterly 19 kts gusting 30 kts, visibility more than 10 Km, few clouds at 1600 ft and scattered clouds at 3000 ft, temperature 19^0C due point 10^0C, QNH 1018 hPa (30,06 in Hg).

1.8 Aids to navigation

Not Applicable.

1.9 Communications

With no problems.

1.10 Aerodrome information

According to ICAO categorization AIA airport is category B.

1.11 Flight recorders

FDR and CVR not downloaded.

1.12 Wreckage and impact information

Not applicable.

1.13 Medical and pathological information

None of the passengers and crew members were injured or in need of medical treatment, while the pilots were examined by the doctor of the airport emergency station and were found to be in good health.

1.14 Fire

After departure of the aircraft from Mykonos airport (LGMK) with destination Milano-Malpensa airport (MXP) and being in the Athens FIR, the pilots smelled burning plastic in the cockpit and saw black smoke coming from the electronic compartment into the cockpit under the First Officer rudder pedals. The flight crew followed the emergency procedure according to the QRH and succeeded in minimizing smoke but the smell of burning plastic persisted in the cockpit after landing at AIA airport.

1.15 Survival aspects

The flight crew declared emergency (MAYDAY-MAYDAY) to the ATC and safely landed the Aircraft at AIA. The passengers were disembarked in an orderly manner followed by the cabin and flight crew with no further events.

1.16 Additional information

1.16.1 Static inverter

The cockpit additional electrical supply static inverter Part Number P/N 1-002-0102-1830 converts 28VDC input power to 115VAC/60Hz output power. This is provided to three outlets in the cockpit to enable the charging of electronic devices, such as Electronic Flight Bags. The static inverter is installed in the avionics bay, below the cockpit floor near the co-pilot's foot well. By design, the cockpit floor is not sealed and so smoke or fumes generated in the avionics bay may enter the cockpit. The static inverter has been standard equipment on Airbus A320 family aircraft since the end of 1999.

The static inverter with (P/N) 1-002-0102-1830 and (S/N) AA11136967 was removed from the a/c and sent to the manufacturer for inspection, the results of which showed that the reason for the smoke was due to overheating of the capacitor C306 inside the static inverter (Photo 2). According to the VSB 1830-25-37 Rev. 0 issued on 13 October 2016, the manufacturer of the static inverter with (P/N) 1-002-0102-1830, Avionic Instruments LLC, recommends modification of those manufactured from 10 September 2012 to 25 November 2014, in which a C306 capacitor from the manufacturer Electrocube Inc. was installed. The modification is to replace capacitor C306 with a similar one from another manufacturer so that there is no operational impact due to possible failure.

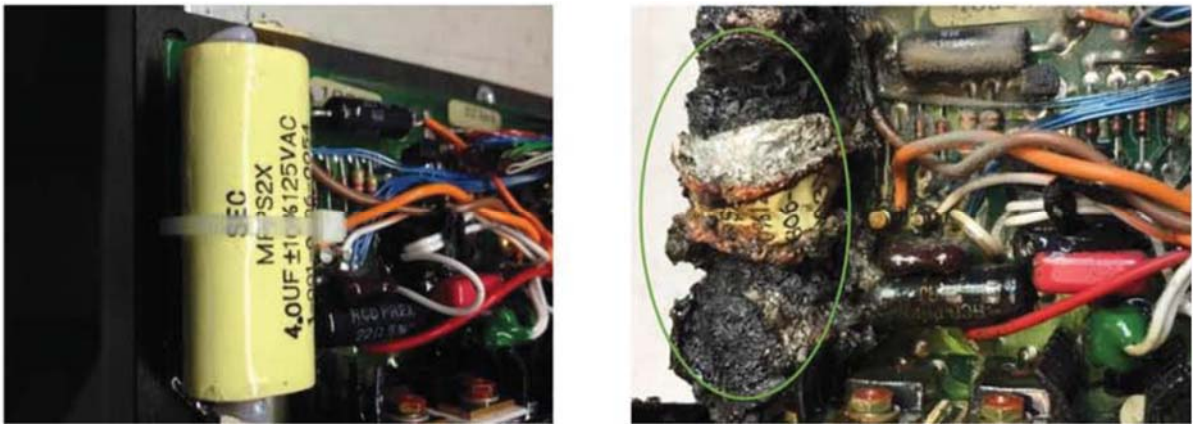

Photo 2: The capacitor C306 before and after overheating.

From 10 September 2012 to 25 November 2014, the manufacturer Avionic Instruments LLC of the above units, supplied the C306 capacitors from the manufacturer Electrocube Inc. and these capacitors were installed in the static inverters with (P/N) 1-002- 0102-1830 and (S/N) from AA11135265 to (S/N) AA11137323. The above capacitor manufacturer had not

subjected these capacitors to burn in test as required. During this test, followed by all capacitor manufacturers, an alternating voltage of 125VAC/400 Hz is applied for at least 24 hours, during which a temperature of 85˚C is developed in the capacitor. The above static inverter with (S/N) AA11136967 that was damaged, was built in July 2014 and according to VSB 1830-25-37 Rev. 0 issued on 13 October 2016, it belonged to the group of those that needed to be modified.

1.16.2 Notification of static inverter failures to operators

The aircraft manufacturer had received 8 reports with static inverter failures between August 2014 and March 2016 (including two of Operator of G-EZOC, that of G-EZWM on 28 August 2014 and G-EZWK on 27 January 2015). The reports submitted to the aircraft manufacturer indicated that the failures had all occurred in flight.

On 9 March 2016, following the first eight failures, the aircraft manufacturer issued Technical Follow-Up, TFU 24.00.00.114 (First issue), *"Premature failure of the Cockpit Additional Supply Static Inverter"*. This noted that some operators of the A320 family aircraft experienced premature failure of this static inverter which led to smoke/burn smell in the cockpit, and that the fault had been isolated to capacitor C306.

This capacitor had been identified as not having received an individual quality screening prior to fitment, with a batch of 2.058 static inverters affected (P/N 1-002-0102-1830, S/N from AA11135265 to AA11137323, manufactured between 10 September 2012 and 25 November 2014).

The vendor had yet to develop a solution and no remedial action was provided in the TFU at that time.

On 13 October 2016, VSB 1830-25-37 Rev. 0, *"Equipment – Cockpit Additional Electrical Supply – Static Inverter – Capacitor C306 replacement"*, was published on the vendor's website, which recommended the static inverter to be removed for modification.

On 19 October 2016, TFU 24.00.00.114 (Last publication) was updated by the aircraft manufacturer to reflect that VSB 1830-25-37 Rev. 0 was available and noted that operators could modify their affected static inverters free of charge.

On 15 December 2016, OIT 999.0096/16 Rev. 0 *"Failure of the Cockpit Additional Electrical Supply System"* was issued to all operators. This OIT highlighted that the reason for the failure of the static inverter had been identified and VSB 1830-25-37 Rev. 0 had been published to address this.

On 6 October 2017, OIT 999.0096/16 Rev. 01 *"Failure of the Cockpit Additional Electrical Supply System"* was issued to all operators, which eventually gave operator which suspect static inverters are fitted to which aircraft by a MSN list.

1.16.3 Technical Follow-Up notices and Operator Information Transmissions

TFUs form part of the aircraft manufacturer's technical documentation that is provided to operators. In July 2014, the aircraft manufacturer rationalised its documentation processes, including TFUs, following recommendations from operators. It communicated these changes to TFUs in Operator Information Transmission (OIT) 999.0017/14 which stated that it would ensure that there is a clear segregation between:

● "Instructions", which were defined as "documents which enable operators to perform an action on their aircraft." and

● "Information", defined as "documents that help customers to support and improve the operation of their aircraft.".

The TFU was defined by the aircraft manufacturer as a type of document providing "Information", not "Instructions".

The aircraft manufacturer further advised that:

● "TFU gives operators follow-up information, from the time an issue is identified to the time that the solution has proven its efficiency in the field.

However, TFU may make recommendations to apply instructions that are included in other relevant publications such as Service Bulletins (SBs) or AMM (Aircraft Maintenance Manual)/TSM (Trouble Shooting Manual) tasks" and that:

● "an OIT is issued to communicate quickly to operators information on in-service events or findings reported to Airbus, that have substantial implications on the Airbus fleet operations, and to provide relevant advices or recommendations in order to address or mitigate them.".

1.16.4 Decision to issue TFU by the aircraft manufacturer

The operator of G-EZOC, on 2 December 2016, four days after the incident to G-EZWX (a/c of the same operator) asked the aircraft manufacturer why the cause of the static inverter failures was communicated in a TFU, rather than an Alert Operator Transmission (AOT), an OIT or an SB, which it considered more appropriate in relation to the severity of the outcome, noting that:

"Failure of the capacitor due to overheating resulting in a smoke smell event should be classified as a safety issue and hence should have been clearly communicated to the operators."

The aircraft manufacturer advised that its initial analysis, following the first eight (8) failures, had determined that a TFU was the most appropriate means of communicating the information related to the overheating of the Static Inverter capacitor 306, and, from October 2016, related to the availability of the VSB 1830-25-37 Rev. 0. The analysis had taken into account aspects such as failure mode, availability of crew procedures and impact on airworthiness and safety.

The aircraft manufacturer further advised that it had continued to reassess the situation and had decided in September 2016 that it would issue an OIT to "broaden awareness amongst operators". The OIT 999.0096/16 Rev. 0 *"Failure of the Cockpit Additional Electrical Supply System"* was submitted for internal review on 20 October 2016 and issued to all operators on 15 December 2016. This OIT highlighted that the reason for the failure of the static inverter had been identified and VSB 1830-25-37 Rev. 0 had been published to address this.

1.16.5 Operator's TFU and VSB review process

TFU's may be accessed by operators using an online electronic database which can be configured to provide automatic notifications when a new TFU is issued or track the status of an existing one. The operator of G-EZOC used a maintenance management software system called AMOS that is a proprietary software system that is in use at over 140 other operators, which formed part of its airworthiness control. Technical documents, such as Airworthiness Directives (AD's), Service Bulletins (SB's) from the aircraft manufacturer, and OIT's were imported into AMOS by the operator. This information was then reviewed by its engineering department, which would implement the necessary action.

However, TFU's were not imported into AMOS, nor routinely reviewed by the operator. The operator of G-EZOC did not receive notification from the static inverter manufacturer that VSB 1830-25-37 Rev. 0 had been issued in October 2016, as it had not registered with this vendor to receive updates. The operator advised that it relied predominantly upon communications from the aircraft manufacturer to identify VSB's that required follow-up action.

The operator, on 1 December 2016, three days after the incident to G-EZWX (a/c of the same operator) with static inverter P/N 1-002-0102-1830 failure, resulting in a smoke smell event and following discussions with the aircraft manufacturer's on-site representatives, the operator became aware of TFU 24.00.00.114 (Last publication) issued 19 October 2016 and VSB 1830-25-37 Rev. 0 issued 13 October 2016.

The AAIB (Air Accidents Investigation Branch) contacted another UK operator that operated a large (10 ea) fleet of the Airbus A320 family aircraft. It had a similar understanding of

TFU's, had similar internal processes to deal with them and TFU's did not form part of its routine technical document review process. This operator had several of its aircraft fitted with static inverters from the affected batch and only became aware of the issue following receipt of OIT 999.0096/16. Rev. 0 of 15 December 2016.

1.16.6 Fleet rectification

As soon as the operator became aware of TFU 24.00.00.114 (Last publication) issued 19 October 2016 and VSB 1830-25-37 Rev. 0 issued on 13 October 2016, an Engineering Order issued to inspect the Static Inverter P/N 1-002-0102-1830. If an aircraft had a S/N within the range of VSB 1830-25-37 Rev. 0 it should be replaced and sent for repair. Twenty one (21) possible aircraft were identified that might have Static Inverters installed, as they were manufactured between 10 September 2012 and 25 November 2014. The inspection accomplished was based upon the manufacturing date of the aircraft. Also, all stock units with Serial Numbers within AA11135265 to AA11137323 range, have been removed from stock and placed in quarantine. These will be returned for modification.

It was believed at that time, that all affected components had been removed from the company fleet and from stock. This inspection and removal of all affected components was completed by 09 December 2016.

Following this serious incident (29 September 2017), it became clear that the rectification completed as stated above was not successful as the Serial Number of static inverter, fell within the affected range which had been determined as removed or in quarantine.

On 6 October 2017, seven days after the incident, aircraft manufacturer issued the OIT 999.0096/16 Rev. 01 which eventually gave operator which suspect static inverters are fitted to which aircraft by an MSN list. When OIT 999.0096/16 Rev. 01 was issued, an Engineering Order was issued to inspect the Static Inverter P/N 1-002-0102-1830, updating the effectivity and adding the MSN's per OIT. In addition, and in order to eliminate any further risks, all static inverters with the (P/N) 1-002-0102-1830 added, even if they do not fall within the Serial Number range AA11135265 to AA11137323. The Engineering Order was accomplished on 29 October 2017 and seven (7) units were identified and removed.

1.16.7 Future Rectifications of Faulty Components

As the rectification in 1.16.6 was unsuccessful, a question was raised to engineering to determine if future (for an unknown component type) issues could experience similar rectification problems (the problem that components suspected to have been removed, were still fitted to operating aircraft).

The following information was provided, which explains the steps in place to cover the same issues experienced resolving this defect:

- As the original document was only for information purposes under a TFU, the operator has highlighted this topic and therefore the TFU document was made from a/c manufacturer to an OIT (Operators Information Telex). Engineering have been always tracking OIT's but as this topic was mentioned on a TFU it was not captured. A system was put in place, which monitors these communications (TFU's) in order to capture safety information.
- In addition, Engineering sub departments have been notified to communicate to vendors or manufacturer when a quality escape on components is involved and further get clarification when MSN's are not listed in these documents. If component Serial Number fitment against MSN's cannot be identified by vendors or Manufacturer, then Operator Engineering will accomplish a fleet inspection.

1.17 Useful or effective investigation techniques

Not required.

2. ANALYSIS

In July 2014, the aircraft manufacturer, in a revision of the "documents" issued to support the safe operation of the aircraft, introduced the Technical Follow-Up (TFU). Through Operator Information Transmission (OIT) 999.0017/14, he informed the operators that the TFU would be the "document" through which the operators would be informed of problems that would reach them and the operators during the operation of the aircraft, as well as at what stage is the study for their treatment, until the issuance of a final solution. That is, it would be purely informative, but it could also make recommendations for the implementation of instructions that existed in other "documents" such as SB, maintenance manuals, etc.

The manufacturer of the A320 aircraft, after eight (8) fault events in Static Inverters with (P/N) 1-002-0102-1830, between August 2014 and March 2016, on 09 March 2006, issued the TFU 24.00.00.114 (First issue), informing the operators that the specific fault was due to overheating of capacitor C306. He also stated that the problem concerned a group of 2.058 Static Inverters with (P/N) 1-002-0102-1830 with (S/N) from AA11135265 to AA11137323 manufactured between 10 September 2012 and 25 November 2014, in which a capacitor from a specific manufacturer had been installed. The above TFU was purely informative in nature as it did not give instructions for solving the problem.

The operator did not realize the existence of the above TFU as it did not have a monitoring process, although the manufacturer of the aircraft informed through Operator Information Transmission (OIT) 999.0017/14 about their issuance and that in addition to the purely informative nature, the manufacturer could also, make recommendations for the implementation of instructions contained in other “documents” such as 'Service Bulletins' (SB’s), Maintenance Manuals, etc.

Indeed, in TFU 24.00.00.114 (Last edition) issued on 19 October 2016, reference is made to VSB 1830-25-37 Rev. 0, issued on 13 October 2016 by the manufacturer of Static Inverters with (P/N) 1-002-0102-1830 and in which instructions are proposed for the modification of a specific group of the above unit.

The operator, through its own aircraft maintenance control system, monitored the Operator Information Transmissions (OIT’s) issued by the manufacturer, as through them the operators are quickly informed about events during the operation of the aircraft, about their impact on aviation, but also on recommendations for actions to mitigate the effects. That is, the operator waited for the issuance of an OIT to address the above problem and not a TFU, which was considered as a form for pure information, without taking into account that a TFU, according to the manufacturer, could refer to a SB that would provide instructions for dealing with a problem, as was the case here.

The operator after an incident that took place on 28 November 2016, with smoke in the cockpit due to a fault of the Static Inverter with (P/N) 1-002-0102-1830, after a question to the manufacturer of the aircraft, was informed about the TFU 24.00.00.114 (Last edition) issued on 19 October 2016 and which refers to the VSB 1830-25-37 Rev. 0 issued on 12 October 2016.

The operator, immediately after being informed about the TFU 24.00.00.114 (Latest version) and taking into account the construction period (10 September 2012 to 25 November 2014) of the problematic Static Inverters with (P/N) 1-002- 0102-1830, issued an order to inspect the aircraft manufactured in the same time period to locate any units with Serial Numbers from AA11135265 to AA11137323, as well as those in stock. From this inspection which ended on 09 December 2016, twenty one (21) units were identified and sent for modification. On 15 December 2016, OIT 999.0096/16 Rev. 0 was also issued, referring to VSB 1830-25-37 Rev. 0.

After the serious incident on 29 September 2017, with smoke in the cockpit of the G-EZOC (aircraft construction date: 11 February 2015), due to a fault of the Static Inverter with (P/N)

1-002-0102-1830 and (S/N) AA11136967, from overheating of capacitor C306, it was found that the inspection performed to identify the faulty units was not fully effective.

We see that G-EZOC was manufactured approximately two and a half months after the date of manufacture of the last Static Inverter with (P/N) 1-002-0102-1830 which was delivered to the aircraft manufacturer and had a problematic capacitor C306. From the above dates, it appears that in the order issued to locate the Static Inverters that had to be removed for modification, the aircraft manufactured up to 25 November 2014 were inspected. This inspection did not take into account that any of the above Static Inverter may have remained in stock and had been installed in aircraft with a construction date of a few months after November 25th, 2014 such as G-EZOC (aircraft construction date: 11 February 2015). In other words, we have a study by the Operator's CAMO that not all factors were considered for a more effective inspection.

On 06 October 2017, OIT 999.0096/16 Rev. 1 was issued, which lists the Serial Numbers of the aircraft that should be checked for the detection and removal of Static Inverters with (S/N) from AA11135265 up to AA11137323. An inspection carried out and completed on 29 October 2017, identified seven (7) units that needed to be removed and sent for modification. Following the above, the operator has revised its procedures to control the TFU's issued by the aircraft manufacturer, as they may refer to an SB which provides instructions for dealing with a problem. He also reviewed the way in which the inspection will be done to identify units that are installed in any aircraft and should be removed due to a problem and it is not known in which specific aircraft they are installed.

3. CONCLUSIONS

3.1 Findings

→ The aircraft was airworthy and all its legal documents were valid.

→ The Pilots covered the Legislative requirements for their Licenses and had valid Medical Certificates.

→ Following the detection of smoke in the cockpit, the prescribed procedures were followed by the Flight Crew and the Cabin Crew for the safe landing of the aircraft.

→ Failure of Static Inverter with (P/N) 1-002-0102-1830 and (S/N) AA11136967, due to overheating of capacitor C306.

→ The Static Inverter with (S/N) AA11136967 that was damaged, belonged to the group that according to VSB 1830-25-37 Rev. 0 that had to be removed and modified.

→ CAMO of the Operator had not provided for the control of the Technical Follow-Ups of the aircraft manufacturer.

→ The aircraft manufacturer provided sufficient information to the Operators to identify the problematic static inverters that were installed in the aircraft, which needed to be removed and modified.

→ The first inspection performed to identify the problematic Static Inverters was insufficient, as the study performed by the manufacturer to identify them, did not adequately evaluate the information available.

→ All the problematic Static Inverters were removed from the Operator's aircraft and stock.

→ CAMO of Operator revised its procedures to check the Technical Follow-Ups of the aircraft manufacturer.

→ CAMO revised its procedures to perform more efficient inspection to identify problematic units in case they are no longer known on which aircraft they are installed.

3.2 Cause(s)

Static Inverter capacitor failure due to overheating.

3.3 Contributing factors

- Insufficient evaluation of the information available to the CAMO Engineering Department to identify the static inverters that needed to be removed and modified.

4. SAFETY RECOMMENDATIONS

Following all above information, analysis and as the Operator took all necessary measures and actions to effectively solve the problem with the static inverters,

No Safety recommendations are issued.

Nea Philadelphia, 21 January 2021

THE CHAIRMAN

Ioannis Kondylis

Exact Copy
The Secretary

K. Katsoulakis

THE MEMBERS

Akrivos Tsolakis

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