

Report No.	IAR-2021/009
Area / Scope	GAM/145 – Concorde Lead Acid Battery
Date of audit	05 March 2021

<b>A AUDIT DETAILS</b>	
1.	Copy to Engineering Manager
2.	Purpose The objective of the audit is to carry out audit on GAM Avionics Workshop as per CAA Malaysia requirement Notice 6501 for the purpose to include additional part number into GAM Workshop Capability List.
3.	Reference
	1. CAAM Notice 6501
	2. GAM/CAAM/MOE Issue 2 Revision 03
	3. Workshop Procedure Manual Issue 1 Revision 01
4.	Auditor Nur Amirah Izani Binti Kamarzaman
<b>B AUDIT SUMMARY</b>	
1.	<p>Audit of Avionics Workshop carried out to evaluate the compliance and adequacy of procedure (readiness) of the workshop operations for the additional part number requested into the capability list. The additional part no. was requested to cater the current maintenance contract and other interested customer/client. MOC No.: GAM/MOC/21/0011 dated 01 March 2021 raised.</p> <p><b><u>Description, Scope And Model of Component Under Workshop Capability</u></b></p> <p><b>Description</b></p> <p>a. This section details the capability to perform maintenance checks to specified Concorde Aircraft Battery Lead-Acid Series.</p> <p><b>Scope of Capability</b></p> <p>a. Maintenance for workshop capability to be carried out by GAM for Concorde Aircraft Battery Lead-Acid Series are as per follows:</p> <ul style="list-style-type: none"> <li>i. Charging and Inspection</li> <li>ii. Capacity Testing</li> <li>iii. Repair and Disposal</li> </ul> <p><b>Model of Component under Workshop Capability</b></p>

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MODEL / TYPE

General Aviation Batteries - Concorde RG Series Main Aircraft Battery

Concorde Number	Part	Rated Capacity C1 (Ah)	Concorde Number	Part	Rated Capacity C1 (Ah)
RG-12LSA		11	RG24-11M		11
RG-25		22	RG24-12		11
RG-35A		29	RG24-15M		13.6
RG-35AXC		33	RG24-16		13.6
RG24-9		8.5	RG24-17		16
RG24-10		8.5			
RG24-11		11			

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MODEL / TYPE					
Turbine Starting Batteries - Concorde RG Series Main Aircraft Battery					
Concorde Number	Part	Rated Capacity C1 (Ah)	Concorde Number	Part	Rated Capacity C1 (Ah)
RG-145-1		17	RG-223		17
RG-206		17	RG-224		24
RG-209		22	RG-235		44
RG-213		13	RG-292-102		17
RG-222		17	RG-292-103A		24
RG-330		30	RG-390E		28
RG-380E/40B		38	RG-390E/25		25
RG-380E/40D		38	RG-390E/25L		25
RG-380E/40K		38	RG-390E/25LS		25
RG-380E/40KS		38	RG-390E/25S		25
RG-380E/40L		38	RG-390E/30		30
RG-380E/40LS		38	RG-390E/30L		30
RG-380E/44		42	RG-390E/30LS		30
RG-380E/44KS		42	RG-390E/30S		30
RG-380E/44L		42	RG-390E/L		28
RG-380E/44LS		42	RG-390E/LS		28
RG-380E/46		46	RG-390ES		28
RG-380E/46K		46	RG-400E/13		13
RG-380E/46KS		46	RG-41/53		53
RG-380E/46L		46	RG-418-1		28
RG-380E/46LS		46	RG-42		17
RG-380E/53K		53	RG-427		34
RG-380E/53KS		53	RG-442		44
RG-380E/53L		53	RG-445E		18
RG-380E/53LS		53	RG-47		17
RG-380E/60B		48	RG-49		17
RG-380E/60K		48	RG-500		17
RG-380E/60KS		48	RG-600-1		17

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RG-380E/60LS	48	RG-600-2	17
		RG-624	24
		RG-641	17
		RG-76	44
		RG-91	22

The audit was carried out with the reference made to the CAAM Notice 6501, and latest revision of GAM/CAAM/MOE, Workshop Procedure Manual and Workshop Capability Procedure. Audit methodology used are sampling of document, interview with personnel and observation of the work area.

The scope of this pre-audit covers;

- Facility requirement;
- Personnel requirement;
- Tool / Equipment / Material requirement;
- Maintenance Data / Documents;
- Demonstration of First Article Inspection (FAI) i.a.w the technical reference up to capacity testing capability

Demonstration of FAI of the article was unable to be performed due to the unavailability of the article. Audit however been carried out on the workshop to assess the availability of the tools / equipment / material, personnel competence, maintenance data and facilities to perform the maintenance.

The requirements to perform maintenance to the requested part number found to be similar to the Concorde lead acid battery part numbers approved in the GAM Workshop Capability List.

**Personnel Contacted (Auditee)**

Mr. Mior Mohd Adib	Avionics Workshop Supervisor (Certifying staff)
Mr. Fakhqursy	Avionics Workshop Technician

**Facility**

- a) Avionics (Nickel Cadmium Workshop) is in the same building with GAM HQ Office Building. It is a room which consist of the area to study maintenance data, complete the maintenance record, storage of tools, material, and place to perform the intended maintenance.
- b) The Nickle Cadmium maintenance area is a 9.8 x 10 square feet room equipped with an air conditioning unit, working bench, racks, electrical power source, ventilation fan, sink and heavy-duty lifting equipment.
- c) Personal computer and printer for accessing manual, paperwork purposes process found available during the audit (GAM/IT\_ASSET/H138).
- d) The room was found secured and can only be accessed by the authorised personnel only.
- e) The maintenance area space was found sufficient for the intended production activities. Working area also found convenient and suitable to carry out maintenance.
- f) Lighting found bright enough for inspection and maintenance purposes.
- g) Temperature and humidity are controlled by using the air-conditioning unit installed in the work area. The temperature is to be controlled between 15 to 35 degree Celsius as per the OEM procedure and properly recorded in the Temperature and Humidity Record form. Record reviewed and found satisfactory.
- h) Incoming, holding, and outgoing racks found adequately available and suitably labelled.

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- i) Safety evacuation plan and equipment i.e. serviceable fire extinguisher, eyewash, and first aid kit found available at the work area.

**Maintenance Data / Document**

- a) The Publication Master List Issue GAM/WS/P-01-2021 dated 15 January 2021 found available for viewing.
- b) Technical references used to carried out maintenance check and found updated and from the approved source. The manual was accessed in the Google Drive (Workshop – Maintenance Data Folder) controlled by the Technical Publication Personnel.
- c) Latest revision of Concorde Aircraft Battery CMM, IPL and Service Bulletins / Letters can be obtained from the website ([http://www.concordebattery.com/main\\_air\\_tech.php](http://www.concordebattery.com/main_air_tech.php)).
- a) The workshop worksheet reviewed and found to be satisfactory. The worksheet used to record the maintenance activities was the same worksheet template used for the other approved Concorde Aircraft battery part numbers.
- b) The applicable reference manuals are as follow;

Model / Series	Manual
General Aviation Batteries and Turbine Starting Batteries	Concorde RG Series Main Aircraft Battery Component Maintenance Manual 24-30-71 Document Number 5-0171 Latest Revision.

**Tools / Equipment / Material**

- a) Tools / equipment / material checked for availability and serviceability in accordance with the relevant maintenance data for the intended scope of maintenance.
- b) List of Tools / equipment found for tool control. The tools' location and calibration due are also identified in the list for ease of monitoring.
- c) The finding on tools for the intended maintenance is as follows;

Designation	Characteristic	Usage		QA Remarks
		Charging	Capacity Testing	
Battery Charger and Discharger Constant Current	Charging Range 0 – 25 ADC Constant Current Load Bank Range 0 – 50 ADC	X	X	Available CTE/72
Digital Multimeter (Capable to measure Voltage and Current)	Commercially available	X	X	Available CTE/27
Standard Mechanic's Tools	Commercially available	X	X	Available
Lint-Free Cloth	Commercially available	X	X	Available

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**Personnel**

- a) Total of 02 Avionics workshop personnel found available for the Operation, 01 Supervisor and 01 technician.
- b) The nominated certifier (Mr. Mior Mohd Adib) is GAM approved certifier for Nickle-Cadmium battery, Lead Acid battery and ELT (GAM AH No.: GAM C001).
- c) Personnel protective equipment i.e., protective apron, safety shoe, protective goggles, and safety gloves also found available for the workshop personnel use.

2. Findings / observation

**Observation**

Nil

**Minor Finding**

Nil

**Major Finding**

Nil

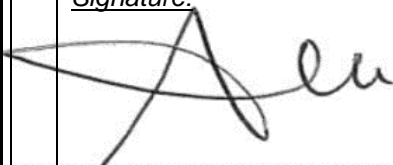
3. Conclusion

Nil findings found during the audit. Avionics – Concorde Lead Acid battery operation found to be satisfactory and recommended for the additional part number.

4. Prepared by

Signature:

Date: 05 March 2021

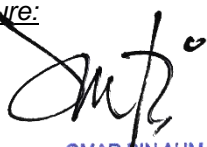


NUR AMIRAH IZANI KAMARZAMAN  
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5. Approved by

Signature:

Date: 15 March 2021



OMAR BIN AHMAD  
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6. Distribution

- Managing Director | Date: .....
- Others | Date: .....