INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

MAINTENANCE MANUAL SUPPLEMENT

CONCORDE RG-380E/44, RG-380E/60L and RG-300

VALVE REGULATED LEAD-ACID BATTERIES INSTALLED IN

Viking Air Limited DHC-6-1, -100, -200 and -300 Aircrafts

NOTE: Modification of an aircraft by this Supplemental Type Certificate obligates the aircraft operator to include the maintenance information provided by this document in the Operator’s Aircraft Maintenance Manual and the Operator’s Aircraft Scheduled Maintenance Program. Any maintenance significant items that have periodic scheduled servicing, maintenance, or inspections are listed in section 5 of this document.
1. **Scope:** This ICA, Maintenance Manual Supplement provides the additional data required to insure satisfactory operation, maintenance, and repair of the Concorde RG-380E/44, RG-380E/60L and RG-300 valve regulated lead-acid batteries installed in Viking Air Limited DHC-6 Series aircrafts.

2. **Alteration Description:** Installation of a Concorde Battery System replacing original equipment nickel cadmium or lead acid batteries with Concorde valve regulated sealed lead acid batteries.

Main battery replacement requires aircraft to be configured for the Heavy Duty Nickel-Cadmium (40AH) or AN-3150 Lead Acid Battery and to have battery temperature monitoring systems disabled. Over temperature alarms are not required for Lead Acid Batteries, refer to CFAR 25.1353. Replacement of AN-3150 Lead Acid Battery requires replacement of existing connector with Concorde MS25182-2 connector. No further modifications to the aircraft are required. Concorde’s main battery replacement utilizes the aircrafts original mounting tray, hardware and wiring.

Auxiliary battery replacement requires removal of existing connector and installation of Anderson Power Products (APP) 10 gauge quick disconnect connectors. No further modifications to the aircraft are required. Concorde’s auxiliary battery replacement utilizes the existing mounting tray and hardware.

The Concorde Battery System consists of the following major components:

a. One battery RG-380E/44 manufactured by Concorde Battery Corporation (TSO-C173 authorized).

   --OR--

   One battery RG-380E/60L manufactured by Concorde Battery Corporation (TSO-C173 authorized).

b. One battery RG-300 manufactured by Concorde Battery Corporation.

c. One Quick Disconnect MS25182-2 Connector, Concorde DWG 4000.

d. One set (Positive and Negative) Anderson Power Products quick disconnect contacts and housings.
3. **Safety Precautions:**

   a. **WARNING: LOW CAPACITY HAZARD.** Aircraft batteries are certified to have a certain minimum capacity for emergency operations in the event of a electrical generator system failure. Never use a battery that has less than 80% of rated capacity.

   b. **WARNING: ELECTRIC BURN HAZARD.** Lead-acid batteries are capable of delivering high currents if the terminals are shorted. The resulting heat can cause severe burns and is a potential fire hazard. Take the following precautions:
      - Do not place tools or metal objects across battery terminals.
      - Do not wear conductive rings, belt buckles, watches or other jewelry when servicing batteries.
      - Wear insulated gloves and use insulated tools when servicing batteries.
      - Install battery terminal protectors whenever the battery is not connected in the aircraft or to the test equipment.

   c. **WARNING: DANGER OF EXPLODING BATTERIES.** Lead-acid batteries can produce explosive mixtures of hydrogen and oxygen while on charge or discharge, which can explode if ignited. Take the following precautions:
      - Do not smoke, use an open flame, or cause sparking near a battery.
      - Wear proper eye and face protection when servicing batteries.
      - Make sure work area is well ventilated.
      - Do not constant current charge a battery when installed in an aircraft.
      - Connect cables securely to the battery terminals to avoid arcing.

   d. **WARNING: DANGER OF CHEMICAL BURNS.** Lead-acid batteries contain sulfuric acid which can cause severe burns to body tissue. Take the following precautions:
      - Never remove or damage vent valves.
      - Avoid contact of the electrolyte with skin, eyes or clothing.
      - Do not touch eyes after touching battery.
      - In the event of acid in the eyes, flush thoroughly with clean cool water for several minutes and get professional medical attention immediately.
      - Refer to battery MSDS for additional information.

   e. **CAUTION: DANGER OF EQUIPMENT DAMAGE.** To prevent damage to the connector, arc burns, or explosion, batteries should never be connected or disconnected while being charged or discharged. Batteries must be connected or disconnected only when the circuit is open. Ensure the aircraft battery switch, external power source, or the charger/analyzer is in the “OFF” position before connecting or disconnecting the battery. Battery terminal protectors should be installed whenever the battery is not connected in the aircraft or to the test equipment.

4. **Maintenance Manual Information:** Refer to the Viking Air Limited DHC-6 Aircraft Maintenance Manual concurrently with Concorde Battery Corporation Installation Instructions drawing number 5-0399 for the applicable maintenance information with regard to removal and installation procedures.
5. **Line Replaceable Unit (LRU) Part Numbers:**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concorde Battery Corporation</td>
<td>RG-380E/44</td>
<td>Lead Acid Battery</td>
</tr>
<tr>
<td>Concorde Battery Corporation</td>
<td>RG-380E/60L</td>
<td>Lead Acid Battery</td>
</tr>
<tr>
<td>Concorde Battery Corporation</td>
<td>RG-300</td>
<td>Lead Acid Battery</td>
</tr>
<tr>
<td>Concorde Battery Corporation</td>
<td>4000</td>
<td>Connector, Quick Disconnect, MS25182-2</td>
</tr>
<tr>
<td>Anderson Power Products</td>
<td>1327FP</td>
<td>Positive Lead Housing</td>
</tr>
<tr>
<td>Anderson Power Products</td>
<td>1327G6FP</td>
<td>Negative Lead Housing</td>
</tr>
<tr>
<td>Anderson Power Products</td>
<td>261G2-LBPK</td>
<td>10 Gauge Contacts</td>
</tr>
</tbody>
</table>

6. **Wiring Diagram Information:** The wiring changes associated with this alteration are given to the customer to be contained in the aircraft’s Wiring Diagram Manual. There are no required wiring changes other than the deactivation of the temperature sensors required for the Nickel-Cadmium batteries, the replacement of the connector on aircraft equipped with an AN-3150 Lead Acid Battery and the replacement of the connector on aircraft equipped with an Auxiliary Battery. (Reference: Concorde Battery Drawing 5-0399, Installation Instructions, Viking Air Limited DHC-6, Battery Replacement.)

7. **Recommended Periodic Scheduled Maintenance:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG-380E/44</td>
<td>Refer to Concorde Battery Corp. Drawing 5-0171, Component Maintenance Manual</td>
</tr>
<tr>
<td>RG-380E/60L</td>
<td>Refer to Concorde Battery Corp. Drawing 5-0171, Component Maintenance Manual</td>
</tr>
<tr>
<td>RG-300</td>
<td>Refer to Concorde Battery Corp. Drawing 5-0167, Component Maintenance Manual</td>
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<td>4000</td>
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<td>1327FP</td>
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<td>No Task</td>
</tr>
</tbody>
</table>

8. **Recommended Periodic Structural Inspections:** None Required

9. **Airworthiness Limitations:** There are no airworthiness limitations required by the modification.

“The Airworthiness Limitations section is FAA approved and specifies maintenance required under section 43.16 and 91.403 of the Federal Aviation Regulations, unless an alternative program has been FAA approved.”

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