

## REFERENCE INSTRUCTION LETTER

|  |   |                                     |                        |
|--|---|-------------------------------------|------------------------|
| <b>TO:</b><br>Global Express Operators   | <b>FROM:</b><br>Bombardier Technical Services                                     | <b>CONTROL NO:</b><br>RIL # GX-0198 | <b>REVISION:</b><br>NC |
| <b>ATTN:</b><br>Maintenance  | <b>ORIGINATOR:</b><br>Bruce Peever  | <b>PAGE:</b> 1 of 2                 |                        |
| <b>PHONE NO:</b>   | <b>PHONE NO:</b><br>+1 514 855-8663   | <b>A/C MODEL:</b><br>Global Express | <b>A/C S/N:</b><br>ALL |
| <b>FAX NO:</b>   | <b>FAX NO:</b><br>+1 514-855-8189   | <b>ATA NO:</b><br>24-21             |                        |
| <b>DATE OF REQUEST:</b><br>June 15, 2018   | <b>PUBLICATION AFFECTED:</b><br>Aircraft Maintenance Manual                       |                                     |                        |
| <b>TITLE:</b>  | <b>Return to service following VFG bearing failure and/or VFG housing rupture</b> |                                     |                        |
| <b>REFERENCE:</b>  | Aircraft Maintenance Manual<br>Engine Maintenance Manual                          |                                     |                        |
| <b>ISSUE:</b>  | <b>Procedure required to RTS aircraft following VFG bearing failure</b>           |                                     |                        |
| <b>RESOLUTION:</b>   |   |                                     |                        |
| <b>Part 1: (Troubleshooting)</b>   |   |                                     |                        |
| <p><b>Note:</b> This is the preliminary inspection required following a VFG Bearing failure and/or VFG housing rupture, additional inspection may be required depending of the finding.</p> <p><b>Note:</b> If the engine breather vent mast exhibits greater than normal amounts of oil residue, and the OMS/CAIMS code <b>242(X)200LPS GEN 1(2)(3)(4) DRIVE SHAFT FAIL/INVALID % N2</b> is present on Active faults or Stored faults (last leg), carry out an engine run (Leak check) before continuing with RIL to verify Breather de-oiler integrity if possible.</p>  |   |                                     |                        |
| <ol style="list-style-type: none"> <li>1. Remove the failed VFG (AMM Task 24-21-01-000-801)</li> <li>2. Replace the VFG clamp after a rupture (return the clamp with the failed VFG for the investigation).</li> <li>3. Visually inspect the area around the failed generator (fan case shrink fit cover, intermediate case AGB housing etc. look for any evidence of impact damage, caused by the VFG debris)</li> <li>4. Do the detailed inspection of the main oil pressure filter element (TASK 79-21-02-220-801).</li> <li>5. Do a detailed inspection of the AGB scavenge strainer (TASK 79-21-03-220-801)</li> <li>6. Do a detailed inspection of the AGB MCD (79-21-04-220-803)</li> <li>7. Do the detailed inspection of front and rear bearing chamber MCD (TASK 79-21-04-220-801 and 79-21-04-220-802)</li> <li>8. Visually inspect the VFG drive shaft cavity</li> <li>9. Look for evidence of an oil leak or evidence of an obvious drive shaft failure (debris, chips, etc.)</li> <li>10. Flush/ clean the oil supply lines in between the cooler and the VFG</li> </ol> |   |                                     |                        |

11. The replacement of the VFG cooler is recommended to exclude any contamination with debris from the failed VFG.
  12. Manually turn the engine/AGB check for any unusual noise coming from the AGB.
  13. If NFF, dry crank the engine, check for unusual noise.
  14. If NFF, a replacement VFG can be fitted. Follow the installation instruction in the respective manual section (AMM Task 24-21-01-400-801).
  15. After VFG replacement, check N2 spool down time using the following procedure:
    - a) Start the engine, run at idle for 3 minutes.
    - b) Shut down and monitor run down time. This should be more than 90 seconds.
- Note** - if the run-down time is recorded from the cockpit only, you will be missing the run-down from 5% to 0% N2. Please do the run-down time recording, and stop the clock, when the starter clutch sound stops (it should be like a clack, clack). Actual minimum N2 run-down time is 90 seconds i.a.w. EMM TASK 71-00-00-866-807.
16. Inspect for leakage at VFG, engine drain mast and engine breather vent mast.

**Part 2: (investigation information)**

Please provide details of other parts that may have been damaged in the vicinity of the VFG.

As part as the VFG investigation, please also provide the information requested below:

- Measure and record the amount that the VFG clamp nut turns to achieve 89 in/lbs torque prior to VFG removal.
- Provide pictures of failed VFG (including thermal dump valve and gearbox mating plate, VFG vicinity, gearbox VFG mating plate and any damage found during the inspection.
- Current hours and landings:
- Engine S/N:
- VFG Part Number:
- VFG Serial No:
- VFG Hours and Cycles:
- GCU NVM
- Provide detailed pilot report:
- Flight profile including, altitude, speed, weather conditions, flight duration, flight phase when the failure occurred.
- Provide a list of P/N and S/N of the replaced parts.
- FDR or QAR download at the earliest opportunity.

|                     |               |                     |               |                    |
|---------------------|---------------|---------------------|---------------|--------------------|
| <b>PREPARED BY:</b> |               | <b>APPROVAL:</b>    |               |                    |
| <b>Print name:</b>  | Bruce Peever  | <b>Print name:</b>  | Benoit Dionne | <b>Issue date:</b> |
| <b>Signature:</b>   |               | <b>Signature of</b> |               | June 15, 2018      |
| <b>Date:</b>        | June 15, 2018 | <b>Mgr / Lead</b>   |               |                    |

**This document can be used as Instructions for Continued Airworthiness until such time as a Temporary Revision or Manual Revision is issued by Technical Publications. The current status of open Reference Instruction Letters is published in each issue of the Customer Forum and Newsletter, and on the CIC web Site (<http://www.cic.bombardier.com/>).**