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SERVICE INFORMATION LETTER

ATA SYSTEM: 36

**TITLE: BOMBARDIER MODEL BD-700-1A10, BD-700-1A11
PRESSURE REGULATING SHUT-OFF VALVE (PRSOV)
PNR GG436-1055-1 AND PNR GG436-1003-9**

**PROCEDURE TO CLOSE THE PRSOV PNR GG436-1055-1 AND
PNR GG436-1003-9**

1. PURPOSE

To provide maintenance personnel with guidance on how to close the Pressure Regulating Shut-Off Valve (PRSOV) that follows an APU BLEED DISABLE Crew Alerting System (EICAS) message.

2. DISCUSSION

Higher than expected occurrences of APU BLEED DISABLE advisory EICAS message have been reported on the Global Express fleet, indicating that one or both PRSOV may be stuck open. This has mainly been observed during APU starting phases. The monitoring of the PRSOV close switch performed by the APU FADEC and the Bleed Management Controller (BMC) drives the message. This message is posted when APU bleed is demanded and the LHS PRSOV is open and/or the CBV and RHS PRSOV are open.

The PRSOV is susceptible to being stuck open on ground during APU shutdown with engines already OFF. When the APU is shut down, bleed pressure downstream of the PRSOV is rapidly dissipated due to the draw of bleed air through the ECS packs. Meanwhile, the APU-supplied electrical power to the PRSOV solenoid is also shut down.

With no power to the solenoid, the PRSOV is unable to vent the actuator-opening chamber to force closure of the butterfly. At the same time, trapped bleed pressure upstream of the PRSOV is sufficient to open the valve.

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3. IMPACT ON SYSTEM PERFORMANCE

The failure detection happens intermittently on ground after an APU shut down with engines already OFF and is generally discovered at the next cold start. From a performance standpoint, the impact of such a failure does not affect the Bleed System during operation once the message has extinguished. Therefore, the passenger comfort and the aircraft operation during flight will not be affected by having the APU Bleed disable Advisory EICAS message.

4. PROCEDURE

There are two separate procedures to close the PRSOV when it is stuck open, as follows:

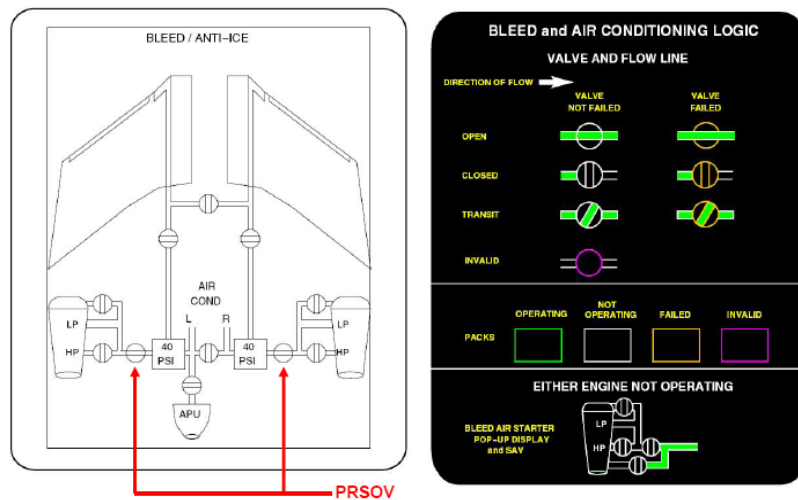


Figure 1
BLEED/ANTI-ICE Synoptic Page

NOTE: AC power and bleed air is required to close the PRSOV.

NOTE: Ensure the L(R) ENG BLEED switch(s) are in AUTO.

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A. PROCEDURE 1

- (1) In the flight compartment, do as follows: Set the BATT MASTER switch to ON.
- (2) Use high-pressure ground cart to apply high-pressure air to the bleed air manifold per AMM Task 21-00-00-480-801 to close the valve.
- (3) Perform an operational test (AMM Task 36-11-09-710-801) on the PRSOV.

NOTE: To minimize a stuck open PRV scenario, select the APU BLEED to OFF and let the bleed pressure stabilize to 0 psi prior to APU shut down

- (4) **If the APU BLEED DISABLE advisory message persists, perform Procedure 2.**

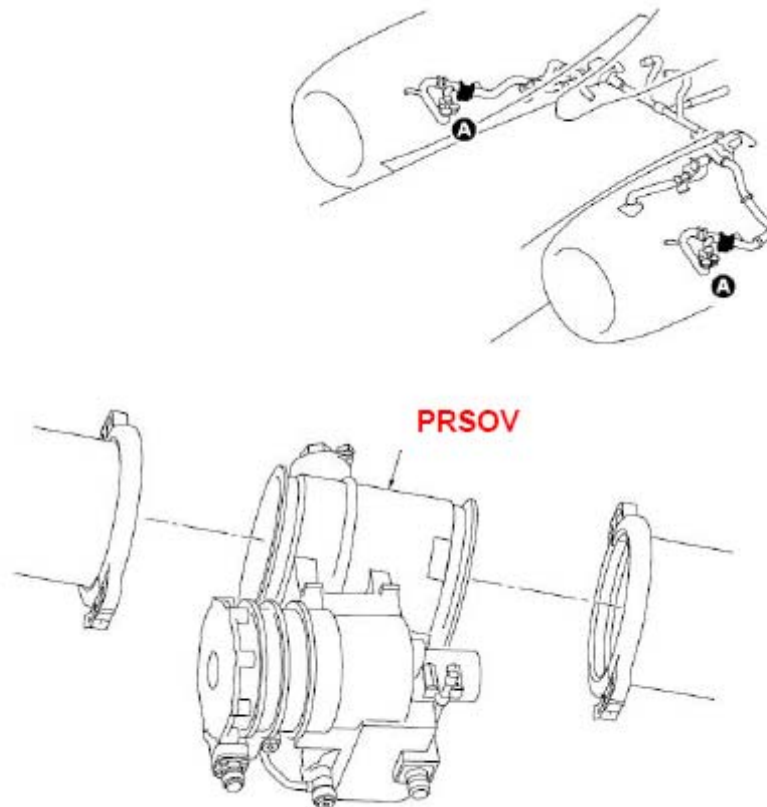


Figure 2:
Bleed-Pressure Regulating-and-Shut-Off Valve

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B. PROCEDURE 2

- (1) Open the engine cowl (AMM Task: 71-10-00-010-801) to access the PRSOV (shown in Figure 2).
- (2) Locate the valve manual-operating lever on the PRSOV, as shown in Figure 3.
- (3) Use a wrench on the valve manual operating lever nut to turn the valve butterfly to the fully open, and then fully closed position. Cycle the valve manually from the fully open to closed position 3 times.
- (4) Perform an operational test (AMM Task: 36-11-09-710-801) on the PRSOVs. If the APU BLEED DISABLE advisory message persists, then replace the valve.

NOTE: To minimize a stuck open PRV scenario, select the APU BLEED to OFF and let the bleed pressure stabilize to 0 psi prior to APU shut down.

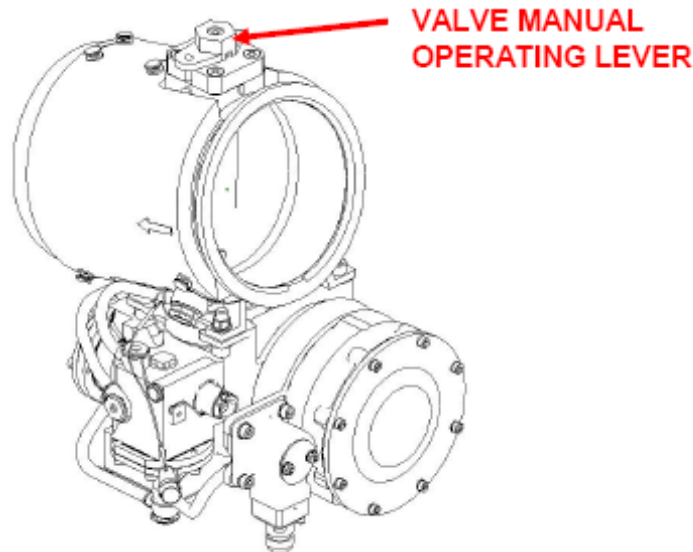


Figure 3:
PRSOV Manual Operating Lever

NOTE: All enquires affecting this document should be made to:

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