BOMBARDIER AEROSPACE

Business Aircraft

SERVICE BULLETIN

MODEL BD-700-1A10 (BD-700)

ATA 28-20

FUEL

MODIFICATION – DISTRIBUTION – REPLACEMENT OF THE FUEL CONTROL PANEL / ACTIVATION OF THE FUEL RE-CIRCULATION SYSTEM

1. PLANNING INFORMATION

A. Compliance

Recommended before the operation of the fuel re-circulation system.

NOTE: Do the Service Bulletins that follow before this Service Bulletin 700-28-034.

SERVICE BULLETIN	TITLE	EFFECTIVITY
700-28-001	Modification – Distribution – Piping Provision Installation for the Fuel Re-Circulation System	PART A: 9002 to 9108 PART B: 9002 to 9099
700-28-032	Modification – Distribution – Wiring Provision Installation for the Fuel Re-Circulation System	9002 to 9084
700-28-033	Modification – Fuel Management and Quantity Gauging System (FMQGS) – FMQGS Computer Change to Part No. GP546-1501-5	9002 to 9082

SERVICE BULLETIN	TITLE	EFFECTIVITY
700-31-013	Modification – IAC/DAU – Software Upgrade for Full Functionality Certification	9002, 9004 to 9089
700-73-006	Modification – Distribution – Engine Provision Installation for the Fuel Re-Circulation System	9002 to 9075 and 9077

NOTE: When this Service Bulletin is done, the Airplane Flight Manual issue that follows MUST be used:

– CSP700-1, Airplane Flight Manual, Rev. 21 dated Feb 22/2001.

B. Approval

This modification is approved by the Bombardier Aerospace, Design Approval Designee(s) for Transport Canada Aviation (TCA).

This modification is also FAA approved under the TCA/FAA bilateral agreement.

C. Effectivity

PART A: BD-700-1A10 aircraft, Serial No. **9002** to **9084**.

PART B: BD-700-1A10 aircraft, Serial No. **9002** to **9110**.

All other subsequent BD-700-1A10 aircraft are scheduled for the modification in production (Ref.: Modification Summaries, 700T01674 and 700T01624).

NOTE: The instructions in this Service Bulletin are only applicable to the systems and parts installed at the time of delivery of the aircraft or as changed by Bombardier Aerospace Service Bulletin(s).

Before you do this bulletin, examine all STC, STA or equivalent action changes to make sure this bulletin can be completed.

D. Reason

This Service Bulletin gives instructions to replace the fuel control panel in the flight compartment and to do the activation of the fuel re-circulation system. After the installation of the new panel and the activation of the system, it will be possible for the aircraft to do long range flights in very cold ambient temperature conditions. These extreme conditions are found at high altitudes in tropical areas. Thus, this will permit maximum airspeed and range performances.

The test results obtained during long range flights confirm that heat input is necessary to prevent the fuel tank temperature to get to the freezing point during prolonged exposure to cold ambient temperatures. This situation is more likely to occur when the aircraft will fly within or across the tropics at a high altitude.

The complete provision installation includes the installation of a hot fuel return system from the two engines back to the main fuel tanks with the associated control/monitoring and wiring (see Service Bulletin 700-28-032) changes. A re-circulation (Fuel-Return-To-Tank or FRTT) shutoff valve with related hardware will be installed in each engine nacelle (see Service Bulletin 700-73-006). Return lines from the engines will be installed and connected to the existing aft tank transfer line, which will be extended to the wing tanks to provide a distribution manifold (see Service Bulletin 700-28-001). Switches will be installed in the flight compartment (see this Service Bulletin) to control the operation of the FRTT valve. The Integrated Avionics Computers (IAC) and one Data Acquisition Unit (DAU) will be replaced (see Service Bulletin 700-31-013) for the introduction of two Engine Indicating and Crew Alerting System (EICAS) messages to inform the flight crew of a failed-open FRTT valve and/or an inoperative temperature sensor. The new Fuel Management Quantity Gauging Computer (FMQGC) (see Service Bulletin 700-28-033) will monitor the system, trigger the EICAS messages and update the Central Aircraft Information Maintenance System (CAIMS).

Additional wiring is left installed, capped and stowed for future upgrade of the Electrical-Management-System Control-and-Display Units (EMS CDU). When this upgrade will be done, the power source for the fuel re-circulation system will change from the APU Starter-Contactor Assembly (ASCA) to two Secondary Power Distribution Assemblies (SPDA).

E. Description

PART A of this Service Bulletin gives instructions to:

- Replace the FUEL control panel, and
- Do the operational test of the FUEL control panel.

PART B of this Service Bulletin gives instructions to:

- Remove the floor and access panels necessary for access,
- Remove the junction boxes JB5 and JB6, the FMQGC and the DAU 2,
- Connect and reroute wires,
- Install the junction boxes JB5 and JB6, the FMQGC and the DAU 2,
- Do the operational tests for the applicable systems and components,
- Do the tests necessary for the activation of the fuel re-circulation system, and
- Install the panels removed for access.

F. Manpower

NOTE: The man-hours given are estimates to help you schedule the task(s). Refer to Service Bulletin 700-00-002 for more detailed data.

10 man-hours are necessary to do PART A of this modification.

50 man-hours are necessary to do PART B of this modification.

For aircraft in the new aircraft warranty, labor is at no cost if the work is done at Business Aviation Services or Authorized Service Facilities. For Bombardier Aerospace to pay for the labor, the Service Bulletin must also be scheduled in less than 12 months from the Service Bulletin release date.

G. Material - Cost and Availability

Kit 700K28-034 is necessary to do PART A of this modification. For aircraft in the new aircraft warranty, this kit is available at no cost if a no-charge purchase order is sent to Bombardier Aerospace in less than 12 months from the Service Bulletin release date.

In addition to the kits shown above, the parts given in paragraph 3.B. are also necessary to do this Service Bulletin.

During or after the above free period, Smart Parts Plus does not pay for the kit.

H. Tooling - Price and Availability

No equipment or special tools are necessary.

I. Weight and Balance

WEIGHT	MOMENT
+0.1 pounds (0.045 kg)	+29 pound-inches (0.334 kgm)

J. Electrical Load Data

This modification increases the continuous load intermittently on pilot's request as follows:

BUS	AMPS	KW	KVAR
APU BATT DIR BUS	0.900	-	-
DC BUS 1	0.096	-	-
BATT BUS	0.096	-	-

K. References

- Bombardier Aerospace, Modification Summary, 700T701621, Rev. A
- Bombardier Aerospace, Modification Summary, 700T01674, Rev A
- Bombardier Aerospace, Modification Summary, R700-400101, Rev. A
- BD-700 Aircraft Maintenance Manual, Chapters 12, 20, 21, 23, 24, 27, 28, 29, 31, 32, 33, 34, 45, 52, 53, 71 and 78
- BD-700 Aircraft Illustrated Parts Catalog (IPC), Chapter 28.

L. Other Publications Affected

- CSP700 Airplane Flight Manual, Revision 21 dated Feb 22/2001
- CSP700-6 Flight Crew Operating Manual, Revision 21 dated Feb 23/2001
- BD-700 Wiring Manual, Chapters 24, 28 and 31
- BD-700 Aircraft Illustrated Parts Catalog (IPC), Chapter 28.

NOTE: It is recommended that you record the new part(s) added by this Service Bulletin in Chapter 28-20-01, Figure 1 of your IPC. The IPC will include these changes in a future revision.

M. Equivalent Service Bulletin

None

2. ACCOMPLISHMENT INSTRUCTIONS

NOTES: 1. All TASKs referenced in the procedures that follow are from the BD-700 Aircraft Maintenance Manual, unless otherwise specified.

2. All references made to zones, access panels and/or doors, are from the BD-700 Aircraft Maintenance Manual, Chapter 6.

A. Aircraft Setup – For PART A (Applicable to Aircraft, Serial No. 9002 to 9084)

(1) Obey all electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.

(2) On the electrical control panel, installed on the overhead panel, set the BATTMASTER switch to ON.

WARNING: MAKE SURE YOU DO NOT SET THE EMS CDU CIRCUIT BREAKERS TO 'LOCK'. IF YOU DO THIS AND YOU APPLY ELECTRICAL POWER, THE CIRCUIT BREAKERS WILL AUTOMATICALLY BE SET TO THEIR ORIGINAL POSITION. THIS WILL PUT THE AIRCRAFT IN A DANGEROUS CONDITION FOR MAINTENANCE.

(3) On the Electrical Management System (EMS), Control Display Unit (CDU), installed on the pilot's and copilot's side panel, set the circuit breakers that follow to OUT:

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
FUEL	L AFT PRI PUMP	AC 1
FUEL	L CTR XFER PUMP	AC 1
FUEL	L FWD PRI PUMP	AC 2
FUEL	AFT TANK L PUMP	AC 2
FUEL	R FWD PRI PUMP	AC 3
FUEL	AFT TANK R PUMP	AC 3
FUEL	R AFT PRI PUMP	AC 4
FUEL	R CTR XFER PUMP	AC 4
FUEL	XFEED SOV C	BATT
FUEL	XFEED SOV O	BATT
FUEL	AFT TANK L SOV C	DC 1
FUEL	AFT TANK L SOV O	DC 1

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
FUEL	L AUX PUMP	DC ESS
FUEL	->XFER SOV O	DC ESS
FUEL	->XFER SOV C	DC ESS
FUEL	R AUX PUMP	BATT
FUEL	<-XFEED SOV O	BATT
FUEL	<-XFER SOV C	BATT
FUEL	AFT TANK R SOV C	DC 2
FUEL	AFT TANK R SOV O	DC 2

(4) On the electrical control panel, set the BATT MASTER switch to OFF.

B. Aircraft Setup – For PART B (Applicable to Aircraft, Serial No. 9002 to 9110)

(1) Obey all electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.

(2) Obey all the electrostatic discharge safety precautions. Refer to TASK 24-00-00-910-802.

(3) Install a warning placard on the ELECTRICAL control panel in the flight compartment to make sure that power is not applied to the aircraft.

(4) Install a warning placard on the aft service control panel to make sure that power is not applied to the aircraft.

(5) Remove the external avionics compartment access-panel 140BB. Refer to TASK 52-45-11-000-801.

(6) Remove the floor panels necessary to do the modification in the forward fuselage. Refer to TASK 53-21-01-000-801.

(7) Remove the Fuel Management and Quantity Gauging Computer (FMQGC). Refer to TASK 28-41-01-000-801.

(8) Remove the Data Acquisition Unit (DAU) 2. Refer to the instructions applicable to the DAU 2 in TASK 31-42-01-000-801.

(9) Remove the junction box JB5. Refer to TASK 24-00-09-000-801.

(10) Remove the junction box JB6. Refer to TASK 24-00-13-000-801.

C. PART A – Modification – Replacement of the Fuel Control Panel (Applicable to Aircraft, Serial No. 9002 to 9084)

(1) Remove and discard the FUEL control panel, Part No. GC549-0020-9. Refer to TASK 28-20-01-000-801.

(2) Install the new FUEL control panel, Part No. GC549-0037-1. Refer to TASK 28-20-01-400-801.

(3) If this PART A is done separately from PART B of this Service Bulletin:

(a) Install the two INOP labels, Part No. GC549-0037-953 on the new FUEL control panel, one over the “L RECIRC” wording and the other over the “R RECIRC” wording. Refer to TASK 20-80-01-400-801.

(b) Re-identify the FUEL control panel as GC549-0037-951. Use best shop practices for ink markings.

D. PART B – Modification – Activation of the Fuel Re-Circulation System (Applicable to Aircraft, Serial No. 9002 to 9110)

(1) Connect only the wires given in the table that follows, which were installed capped and stowed by the Service Bulletin 700-28-032, Modification – Distribution – Wiring Provision Installation for the Fuel Re-Circulation System and in production. Refer to Figure 1 of Service Bulletin 700-28-032 if necessary. The other wires installed capped and stowed by that Service Bulletin must be kept in that condition until the future upgrade of the EMS CDU.

Wire	**From** (CONNECTOR-PIN)	**Connect To** (CONNECTOR-PIN)	**Location (Unit, FS)**
FAE6204-22 (See NOTE 1.)	P201k	JB5AP1-11A	JB5, FS477L
FAE6205-22	P201-m	JB5AP1-13D	JB5, FS477L
FAE6206-22 (See NOTE 2.)	J625-a	JB5AP1-11B	JB5, FS477L
FAE6207-22 (See NOTE 1.)	P324-T	JB5AP1-13E	JB5, FS477L
FBF6189-22	P218-S	JB6EP1-54	JB6, FS485R
FBF6190-22 (See NOTE 1.)	P218-T	JB6AP1-11A	JB6, FS485R
FBF6192-22 (See NOTE 2.)	J600-D	JB6AP1-11B	JB6, FS485R
FBH6196-22	P212-17	A47AP1-K11	FMQGC, FS445R

Wire	From (CONNECTOR-PIN)	Connect To (CONNECTOR-PIN)	Location (Unit, FS)
FBH6197-22	P212-18	A18AP1-K14	DAU 2, FS375R
FBH6198-22	J626-w	A47AP1-K10	FMQGC, FS445R
FBH6201-22	J320-109	A47AP1-J10	FMQGC, FS445R
FBH6210-22	J300-K	A18AP1-K12	DAU 2, FS375R
FBH6211-22	J300L	A47AP1-J11	FMQGC, FS445R
FBF6224-22	J324-T	JB6EP1-53	JB6, FS485R

NOTES:
1. On aircraft, Serial No. 9085 and subs, these three wires are connected in production.
2. Keep these wires coiled full length. The total length of these two wires will be necessary for rerouting to another destination during the future upgrade of the EMS CDU.
3. Use the table that follows to determine the contacts to be installed on the corresponding connector-pin:

USE CONTACT	FOR CONNECTOR-PIN
030-2259-000	A18AP1-pin K14, A18AP1-pin K12, JB5AP1-pin 11A, JB5AP1-pin 13D, JB5AP1-pin 11B, JB5AP1-pin 13E, JB6AP1-pin 11A, JB6AP1-pin 11B
031-1302-000	JB6EP1-pin 53, JB6EP1-pin 54

4. Refer to the BD-700 Wiring Manual, Chapter 20, ARINC 600 CONNECTORS – Removal/Installation.
5. There are two suppliers (JERRIK and ITT) for the FMQGC connector. Use the chart that follows to determine which contact to use for the FMQGC connector found on your aircraft:

USE CONTACT	FOR CONNECTOR-PIN
Pin contact, Part No. 620-200 for JERRIK connector, Part No. 620-800-070	A47AP1-pin K11, A47AP1-pin J11, A47AP1-pin K10, A47AP1-pin J10
Pin contact, Part No. 030-2259-000 for ITT connector, Part No. BKAD3-67404-144	A47AP1-pin K11, A47AP1-pin J11, A47AP1-pin K10, A47AP1-pin J10

(2) Reroute two wires as given in the table that follows to do the pin parity configuration of the fuel re-circulation system:

Wire	**From** (CONNECTOR-PIN)	**To** (CONNECTOR-PIN)	**Location (Unit, FS)**
FBHJ014-22	A47AP1-A15	A47AP1-A12	FMQGC, FS445R
FBHJ017-22	A47DP1-K15	A47DP1-K12	FMQGC, FS445R

(3) Check for electrical continuity all wiring disturbed by this modification.

(4) Install the junction box JB5. Refer to TASK 24-00-09-400-801.

(5) Install the junction box JB6. Refer to TASK 24-00-13-400-801.

(6) Install the Fuel Management and Quantity Gauging Computer (FMQGC). Refer to TASK 28-41-01-400-801.

(7) Install the DAU 2. Refer to the instructions applicable to the DAU 2 in TASK 31-42-01-400-801.

(8) Remove the two INOP labels, if applicable, from the FUEL control panel. Refer to TASK 20-80-01-000-801.

(9) Re-identify the FUEL control panel as GC549-0037-955. Use best shop practices for ink markings.

(10) Remove the warning placard from the ELECTRICAL control panel in the flight compartment.

(11) Remove the warning placard from the aft service control panel.

E. Testing – Operational (Applicable to Aircraft, Serial No. 9002 to 9084)

(1) On the EMS CDU, set the circuit breakers that follow to IN:

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
FUEL	L AFT PRI PUMP	AC 1
FUEL	L CTR XFER PUMP	AC 1
FUEL	L FWD PRI PUMP	AC 2
FUEL	AFT TANK L PUMP	AC 2
FUEL	R FWD PRI PUMP	AC 3
FUEL	AFT TANK R PUMP	AC 3
FUEL	R AFT PRI PUMP	AC 4
FUEL	R CTR XFER PUMP	AC 4
FUEL	XFEED SOV C	BATT
FUEL	XFEED SOV O	BATT
FUEL	AFT TANK L SOV C	DC 1
FUEL	AFT TANK L SOV O	DC 1
FUEL	L AUX PUMP	DC ESS
FUEL	->XFER SOV O	DC ESS
FUEL	->XFER SOV C	DC ESS
FUEL	R AUX PUMP	BATT
FUEL	<-XFEED SOV O	BATT
FUEL	<-XFER SOV C	BATT
FUEL	AFT TANK R SOV C	DC 2
FUEL	AFT TANK R SOV O	DC 2

(2) Do the operational test of the FUEL control panel. Refer to TASK 28-20-01-710-801.

F. Testing – Operational (Applicable to Aircraft, Serial No. 9002 to 9110)

(1) Connect and energize the external ac power. Refer to TASK 24-41-00-861-801.

(2) Do the operational test of the Junction Boxes JB5 and JB6. Refer to TASK 24-00-09-710-801 and TASK 24-00-13-710-801.

NOTE: Do only the checks to make sure you do not get the Engine Indication and Crew Alerting System (EICAS) messages indicated. All the operational tests listed in the above two TASKS are given together in the step that follows.

(3) Do the operational tests given in the table below:

DESIGNATION	TASK
Operational Test of the Close Command of the Outflow Valves	21-31-00-710-805
Operational Test of the Pack Inlet Flow Sensors	21-51-13-710-801
Operational Test of the Manual Shutoff of the Air Conditioning Units	21-52-00-710-803
Operational Test of the Emergency Pressurization Function	21-60-00-710-802
Operational Test of the Ventilated Temperature Sensors	21-60-25-710-801
Operational Test of the Yaw Damper System	22-13-00-710-801
Operational Test of the Service Interphone Unit	23-40-01-710-801
Operational Test of the Elevator Control System	27-31-00-710-801
Operational Test of the REFUEL/DEFUEL Control Panel	28-23-01-710-801
Operational Test of the Position Indication System	32-61-00-710-801
Operational Test of the Strobe Lighting	33-43-00-710-801
Operational Test of the Radio Altimeter System	34-44-00-710-801
Initialization of the Inertial Reference System (IRS)	34-45-00-840-801
Shutdown of the Inertial Reference System (IRS)	34-45-00-840-802
Operational Test of the Inertial Reference System (IRS)	34-45-00-710-801

(4) Do the operational test of the data acquisition system. Refer to TASK 31-42-01-710-801.

(5) Start the CAIMS Portable Maintenance Access Terminal (PMAT). Refer to TASK 45-45-00-970-801.

(6) Do the self-test of the FMQGC. Refer to TASK 28-41-01-740-801.

NOTE: Do not stop the PMAT at this time.

G. Testing – Configuration Check (Applicable to Aircraft, Serial No. 9002 to 9110)

NOTES: 1. Make sure to start the CAIMS Portable Maintenance Access Terminal (PMAT) and open the main menu page before you do this test. Refer to TASK 45-45-00-970-801.

2. A keyboard must be connected to the PMAT to do this test.

(1) On the PMAT START menu, make the AIRCRAFT DIAGNOSTICS selection, then the BUS READER selection to get the CAIMS BUS READER window.

(2) On the CAIMS BUS READER window, make the ADD SIGNAL selection to get the ADD SIGNAL window.

(3) On the ADD SIGNAL window, push on the USER DEFINED tab and define the eight different ARINC signals listed in the table below:

(a) In the SIGNAL TYPE field, make the ARINC 429 selection.

(b) In the FORMAT field, make the HEXADECIMAL selection.

(c) In the SIGNAL NAME field, write the signal name as given in the table in step 4.

(d) In the DEFINITION section, in the EQUIP ID (HEX) field, scroll to or write “46”.

(e) In the DEFINITION section, in the SDI field, scroll to or write the applicable SDI as given in the table in step 4.

(f) In the DEFINITION section, in the LABEL (OCTAL) field, scroll to or write “370”.

(g) In the RESOLUTION section, enter the MSB and LSB as given in the table in step 4.

(h) Push the ADD button. The parameter will show on the CAIMS BUS READER window.

(4) On the CAIMS BUS READER window, make sure the VALUE field is as given in the table below.

NOTE: Make sure the data is shown in black above the USER DEFINED window.

TABLE

LRU NAME	SDI	MSB	LSB	SIGNAL NAME	VALUE
COMPUTER (FMQGC CH A)	01	16	16	CHANNEL A CONFIG PARITY ERROR	0
COMPUTER (FMQGC CH A)	01	18	18	CHANNEL A & B MISMATCH – LB/KG	0
COMPUTER (FMQGC CH A)	01	21	21	SCAVENGE SYSTEM IS INSTALLED	0
COMPUTER (FMQGC CH A)	01	22	22	FUEL RETURN TO TANK (FRTT) IS INSTALLED	1
COMPUTER (FMQGC CH A)	10	16	16	CHANNEL B CONFIG PARITY ERROR	0
COMPUTER (FMQGC CH A)	10	18	18	CHANNEL A & B MISMATCH – LB/KG	0
COMPUTER (FMQGC CH A)	10	21	21	SCAVENGE SYSTEM IS INSTALLED	0
COMPUTER (FMQGC CH A)	10	22	22	FUEL RETURN TO TANK (FRTT) IS INSTALLED	1

(5) Make the FILE – EXIT selection or push the EXIT button to close the bus reader.

(6) Stop the PMAT. Refer to TASK 45-45-00-970-801.

H. Testing – Fuel Re-Circulation System Activation (Applicable to Aircraft, Serial No. 9002 to 9110)

NOTE: Do not do this operational test during the day when the outside air temperature is higher than 20°C (68°F).

(1) Make sure the SLAT/FLAP lever is at the IN/0º position.

(2) Remove the external ac power. Refer to TASK 24-41-00-861-802.

(3) Position the aircraft outside the hangar, the nose in the wind ± 20 degrees.

(4) Do the pressure refueling of the aircraft to get the fuel quantities that follow (refer to TASK 12-11-01-650-801):

TANK	FUEL QUANTITY NECESSARY
Left Wing Tank	1000 ± 100 pounds (453.6 ± 45.4 kg)
Right Wing Tank	1000 ± 100 pounds (453.6 ± 45.4 kg)
Center Tank	0 pound (0 kg)
Aft Tank	0 pound (0 kg)

(5) Make sure all engine covers and blanking plugs are removed and all engine inlets and outlets are free of foreign objects.

(6) Connect and energize the external ac power. Refer to TASK 24-41-00-861-801.

(7) Make sure no EICAS messages on the fire extinguishing system are shown.

(8) On the EMS CDU, make sure all the fuel-system circuit breakers are set to IN.

(9) On the FUEL control panel at the overhead panel, make sure the pushbutton-annunciators (PBA) and the selectors are set as follows:

CONTROL	TYPE	POSITION
L WING FEED INHIBIT AUX PUMP	PBA	Out
R WING FEED INHIBIT AUX PUMP	PBA	Out
L WING FEED INHIBIT PRI PUMP	PBA	Out
R WING FEED INHIBIT PRI PUMP	PBA	Out
XFEED SOV	PBA	Out
WING XFER	Selector	OFF
AFT XFER	Selector	AUTO
L RECIRC	PBA	Out
R RECIRC	PBA	Out

(10) Remove the external ac power. Refer to TASK 24-41-00-861-802.

(11) Do the aircraft walk-around (for maintenance). Refer to TASK 12-00-00-867-802.

(12) Obey all the electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.

(13) Obey all the fuel-system safety precautions. Refer to TASK 28-00-00-910-801.

(14) Obey all the hydraulic safety precautions. Refer to TASK 29-00-00-910-801.

(15) Obey all the thrust-reverser safety precautions. Refer to TASK 78-30-00-910-801.

(16) Prepare for engine operation. Refer to TASK 71-00-00-866-801.

(17) Read and obey all the engine safety precautions. Refer to TASK 71-00-00-910-801.

(18) Read and obey the emergency procedures. Refer to TASK 71-00-00-866-802.

(19) Read and obey the operation limits of the engine. Refer to TASK 71-00-00-866-807.

(20) Do the left engine pre-start checks. Refer to TASK 71-00-00-866-803.

CAUTION: DO NOT START OR WET MOTOR THE ENGINE IF THE OIL TEMP INDICATION ON THE EICAS SHOWS IN RED. WHEN THE INDICATION IS IN RED, THE OIL TEMPERATURE IS COLDER THAN THE SPECIFIED LIMIT. IF YOU DO THIS, YOU CAN CAUSE DAMAGE TO THE ENGINE BEARINGS.

(21) Start the left engine and let it run at IDLE. Refer to TASK 71-00-00-866-806.

(22) At the Display Unit (DU) 2 (right side pilot panel), show the FUEL synoptic display.

(23) On the FUEL synoptic display, read and record as $TL_{INITIAL}$ (in ° C) the fuel temperature in the left wing tank.

(24) Push forward the left engine throttle until you get a minimum of 77% N2 and a minimum of 43% N1.

(25) On the FUEL control panel at the overhead panel, set the L RECIRC PBA to OPEN and keep it in that position for 10 minutes.

NOTE: The amber WING FUEL HI TEMP message will appear on the EICAS and the fuel temperature indication for the left wing tank on the FUEL synoptic display will become amber.

(26) Make sure the L FUEL RECIRC ON status message is shown on the EICAS.

(27) During the engine run, monitor the fuel temperature increase in the left fuel tank on the FUEL synoptic display.

(28) After 10 minutes, read and record as TL FINAL (in ° C) the fuel temperature in the left wing tank.

NOTE: It is possible that the fuel temperature starts to increase only after five minutes.

(29) On the FUEL control panel at the overhead panel, release the L RECIRC PBA and make sure it comes out.

NOTE: The amber WING FUEL HI TEMP message will go out of view on the EICAS

(30) Make sure the L FUEL RECIRC FAIL caution message is not shown on the EICAS and the fuel temperature indication for the left wing tank on the FUEL synoptic display becomes green.

(31) Do the calculation that follows and make sure the fuel temperature has increased by a minimum of 5 ° C.

$$TL_{FINAL} - TL_{INITIAL} = 5\ ^\circ C \text{ minimum}$$

(32) Do the left engine shutdown (usual). Refer to TASK 71-00-00-866-809.

(33) Do the left engine post-operation checks. Refer to TASK 71-00-00-866-810.

(34) Do the right engine pre-start checks. Refer to TASK 71-00-00-866-803.

CAUTION: DO NOT START OR WET MOTOR THE ENGINE IF THE OIL TEMP INDICATION ON THE EICAS SHOWS IN RED. WHEN THE INDICATION IS IN RED, THE OIL TEMPERATURE IS COLDER THAN THE SPECIFIED LIMIT. IF YOU DO THIS, YOU CAN CAUSE DAMAGE TO THE ENGINE BEARINGS.

(35) Start the right engine and let it run at idle. Refer to TASK 71-00-00-866-806.

(36) At the Display Unit (DU) 2 (right side pilot panel), show the FUEL synoptic display.

(37) On the FUEL synoptic display, read and record as TR INITIAL (in ° C) the fuel temperature in the right wing tank.

(38) Push forward the right engine throttle until you get a minimum of 77% N2 and a minimum of 43% N1.

(39) On the FUEL control panel at the overhead panel, set the R RECIRC PBA to OPEN and keep it in that position for 10 minutes.

NOTE: The amber WING FUEL HI TEMP message will appear on the EICAS and the fuel temperature indication for the right wing tank on the FUEL synoptic display will become amber.

(40) Make sure the R FUEL RECIRC ON status message is shown on the EICAS.

(41) During the engine run, monitor the fuel temperature increase in the right fuel tank on the FUEL synoptic display.

(42) After 10 minutes, read and record as TR FINAL (in ° C) the fuel temperature in the right wing tank.

NOTE: It is possible that the fuel temperature starts to increase only after five minutes.

(43) On the FUEL control panel at the overhead panel, release the R RECIRC PBA and make sure it comes out.

NOTE: The amber WING FUEL HI TEMP message will go out of view on the EICAS.

(44) Make sure the R FUEL RECIRC FAIL caution message is not shown on the EICAS and the fuel temperature indication for the left wing tank on the FUEL synoptic display becomes green.

(45) Do the calculation that follows and make sure the fuel temperature has increased by a minimum of 5 ° C.

$$TR_{FINAL} - TR_{INITIAL} = 5\ ^\circ C \text{ minimum}$$

(46) Do the right engine shutdown (usual). Refer to TASK 71-00-00-866-809.

(47) Do the right engine post-operation checks. Refer to TASK 71-00-00-866-810.

I. Close-out

(1) Remove all tools, equipment and unwanted materials from the aircraft.

(2) Install the floor panels removed to do the modification in the forward fuselage. Refer to TASK 53-21-01-000-801.

(3) Install the external avionics compartment access-panel 140BB. Refer to TASK 52-45-11-400-801.

J. Recording

When this Service Bulletin is completed, make an entry in the aircraft log and send the attached Incorporation Notice to Bombardier Aerospace, Business Aircraft Division.

3. MATERIAL INFORMATION

A. Kit

Kit 700K28-034 is necessary to do this Service Bulletin and contains the parts that follow:

NEW PART NO.	QTY	KEY WORD	USED PART NO.	INSTRUCTIONS - DISPOSITION
GC549-0037-3/00	1	Control Panel, Fuel	GC549-0020-9	Discard
GC549-0037-953	2	Label INOP	-	-

B. Parts

The parts that follow are necessary to do this Service Bulletin and can be purchased from Bombardier, Service Parts Center, Montreal:

ITEM	PART NUMBER	QUANTITY
Pin, Contact	620-200 or 030-2259-000	4
Pin, Contact	030-2259-000	8
Socket, Contact	031-1302-000	2

NOTE: The part number for the items listed above are subject to change without revision to this Service Bulletin. In case of discrepancy between this list and any other list, the Illustrated Parts Catalog prevails and shall be used to determine the latest part number.

BOMBARDIER AEROSPACE

Business Aircraft

SERVICE BULLETIN EVALUATION FORM

(YOUR IDEAS WILL HELP US PROVIDE BETTER BULLETINS)

SERVICE BULLETIN: 700-28-034	**ISSUE:** Basic	**DATED:** Mar 30/2001

TITLE: Modification – Distribution – Replacement of the Fuel Control Panel / Activation of the Fuel Re-Circulation System

	POOR	FAIR	GOOD	VERY GOOD	EXCELLENT
• **How easy is the bulletin to understand?** Comments:	❑	❑	❑	❑	❑
• **Does the bulletin tell you all you need to know about the job?** Comments:	❑	❑	❑	❑	❑
• **Do you think the bulletin conveys the best way to do the job?** Comments:	❑	❑	❑	❑	❑
• **How realistic are the man-hour estimates?** Comments:	❑	❑	❑	❑	❑
• **What is your appreciation of the illustration(s), figure(s), and/or kit drawing(s)?** Comments:	❑	❑	❑	❑	❑

FORWARD ALL INQUIRIES TO:		**PLEASE SUPPLY US WITH THE FOLLOWING DATA:**	
NAME:	Angèle Tremblay	**OPERATOR:**	
TELEPHONE:	(514) 855-5000, ext.: 56582	**AIRCRAFT SERIAL NO.:**	
FACSIMILE:	(514) 855-7894	**TELEPHONE:**	
		FACSIMILE:	
		NAME (Please print)	

UPON COMPLETION OF THIS EVALUATION FORM, PLEASE FOLD, AND RETURN

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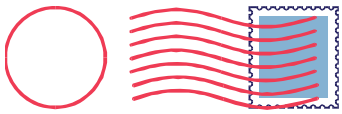

Bombardier Aerospace
Business Aircraft
P.O. Box 6087, Station Centre-ville
Montréal, Québec, Canada H3C 3G9

Attn: Supervisor, Service Bulletin Group
Department 631

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BOMBARDIER AEROSPACE

Business Aircraft

SERVICE BULLETIN INCORPORATION SHEET

Upon completion of Service Bulletin(s), please fill-in, fold and return/or fax to
514-855-7634
Attention: Dept. 729

Service Bulletin Number	Rev.	* Parts Completed	Further Action Required YES	NO
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐

* NOTES:
1. Where the Service Bulletin is divided into a number of parts (e.g., Parts A, B, C, D, etc.) which can be carried out separately, indicate only those parts completed at this time.
2. For repetitive checks (usually PART A) only the initial check should be reported unless otherwise stated in the Service Bulletin.
3. When more than one part is carried out at the same time, each part should be reported.

Is the aircraft enrolled on the CIMMS computerized maintenance program?	**Yes**	**No**
	☐	☐

Aircraft Serial No. _____ Aircraft Reg. No. _____

Airframe Landings _____ Airframe Hours _____

Date of Incorporation _____ Service Order No. _____

Facility & Location Incorporation Bulletin _____

SIGNED: _____ DATE: _____

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Bombardier Aerospace
Business Aircraft
P.O. Box 6087, Station Centre-ville
Montréal, Québec, Canada H3C 3G9

Attn: Maintenance Data Analysis
Department 729-CA

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