Raytheon Aircraft Company

Beechcraft

Super King Air® B200/B200C

(Serials BB-1439, BB-1444 thru BB-1842, except BB-1463 and BB-1834; BL-139 thru BL-147; BW-1 thru BW-29)

Pilot's Operating Handbook and FAA Approved Airplane Flight Manual

FAA Approved in the Normal Category based on 14 CFR Part 23. This document must be carried in the airplane at all times, and be kept within reach of the pilot during all flight operations. This handbook includes the material required to be furnished to the pilot by 14 CFR Part 23.

Airplane Serial Number: _____

Airplane Registration Number: _____

FAA Approved by: _____

for John Tigue
Raytheon Aircraft Company
DOA-230339-CE

P/N 101-590010-307C
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P/N 101-590010-307C6
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6. Auto Ignition ..... OFF
7. Autofeather (if installed) ..... OFF
8. Prop Sync ..... OFF
9. Brake Deice (if installed) ..... OFF
10. Electrical Load ..... MONITOR

ENGINE FIRE ON GROUND [L ENG FIRE] OR [R ENG FIRE]

Affected Engine:

1. **Condition Lever ..... FUEL CUTOFF**
2. **Firewall Shutoff Valve ..... CLOSE**
3. **Ignition and Engine Start ..... STARTER ONLY**

If Fire Warning Persists:

4. **Fire Extinguisher (if installed) ..... ACTUATE**

EMERGENCY ENGINE SHUTDOWN ON THE GROUND

1. **Condition Levers ..... FUEL CUTOFF**
2. **Prop Levers ..... FEATHER**
3. **Firewall Shutoff Valves ..... CLOSE**
4. **Master Switch (gang bar) ..... OFF**

ENGINE FAILURE DURING TAKEOFF (AT OR BELOW V_1) - TAKEOFF ABORTED

1. **Power Levers ..... GROUND FINE**
2. **Brakes ..... AS REQUIRED TO ACHIEVE STOPPING DISTANCE**
3. **Operative Engine ..... MAXIMUM REVERSE**

WARNING

Extreme care must be exercised when using single-engine reversing on surfaces with reduced traction.

ENGINE FAILURE DURING TAKEOFF (AT OR ABOVE V_1) - TAKEOFF CONTINUED

1. **Power ..... MAXIMUM ALLOWABLE**
2. **Airspeed ..... MAINTAIN (take-off speed or above)**
3. **Landing Gear ..... UP**

NOTE

If the autofeather system (if installed) is being used, do not retard the failed engine power lever until the autofeather system has completely stopped propeller rotation. To do so will deactivate the autofeather circuit and prevent automatic feathering.

4. Prop Lever (inoperative engine)..... FEATHER
(or verify prop FEATHERED if autofeather is installed)
5. Airspeed (after obstacle clearance altitude is reached) .....V_{YSE}
6. Flaps ..... UP
7. Clean-up inoperative engine:
   a. Condition Lever ..... FUEL CUTOFF
   b. Prop Lever ..... FEATHER
   c. Firewall Shutoff Valve .....CLOSE
   d. Auto Ignition ..... OFF
   e. Autofeather (if installed) ..... OFF
   f. Generator ..... OFF
8. Electrical Load ..... MONITOR

ENGINE FAILURE IN FLIGHT BELOW AIR MINIMUM CONTROL SPEED (V_{MCA})

1. Power ..... REDUCE AS REQUIRED TO MAINTAIN CONTROL
2. Nose ..... LOWER TO ACCELERATE ABOVE V_{MCA}
3. Power ..... AS REQUIRED
4. Failed Engine ..... SECURE
(See EMERGENCY ENGINE SHUTDOWN)

ENGINE FLAMEOUT (2nd Engine)

1. Power Lever .....IDLE
2. Prop Lever .....DO NOT FEATHER
3. Condition Lever ..... FUEL CUTOFF
4. Conduct Air Start Procedure in SECTION IIIA, ABNORMAL PROCEDURES.

NOTE

The propeller will not unfeather without engine operating.

by moving each of the four switch elements individually. No one switch element should activate the system; moving the two switch elements on either the pilot's or copilot's control wheel in opposite directions should not activate the system - only the simultaneous movement of a pair of switch elements in the same direction should activate the electric elevator-trim system.

A bi-level, push-button, momentary-on, trim-disconnect switch is located inboard of the dual-element thumb switch on the outboard grip of each control wheel. The electric elevator-trim system can be disconnected by depressing either of these switches. If an autopilot is installed, depressing either trim-disconnect switch to the first of the two levels disconnects the autopilot and the yaw damp system; depressing the switch to the second level disconnects the autopilot, the yaw damp system, and the electric elevator-trim system. If an autopilot is not installed, depressing the switch to the first level does not do anything, since the yaw damp system is controlled by a separate YAW DAMP switch on the pedestal; depressing the switch to the second level disconnects the electric elevator-trim system. A green annunciator on the caution/advisory annunciator panel, placarded ELEC TRIM OFF, alerts the pilot whenever the system has been disabled with a trim-disconnect switch and the ELEV TRIM switch is ON. The system can be reset by cycling the ELEV TRIM switch on the pedestal from ON to OFF, then back to ON again. The manual-trim control wheel can be used to change the trim anytime, whether or not the electric trim system is in the operative mode.

RUDDER BOOST

A rudder boost system is provided to aid the pilot in maintaining directional control in the event of an engine failure or a large variation of power between the engines. Incorporated into the rudder cable system are two pneumatic rudder-boosting servos that actuate the cables to provide rudder pressure to help compensate for asymmetrical thrust.

During operation, a differential pressure valve accepts bleed air pressure from each engine. When the pressure varies between the bleed air systems, the shuttle in the differential pressure valve moves toward the low pressure side. As the pressure difference reaches a preset tolerance, a switch on the low pressure side closes, activating the rudder boost system. The system is designed only to help compensate for asymmetrical thrust. Appropriate trimming is to be accomplished by the pilot. Moving either or both of the bleed air valve switches on the copilot's subpanel to the INSTR & ENVIR OFF position will disengage the rudder boost system.

The system is controlled by a toggle switch, placarded RUDDER BOOST - OFF, located on the pedestal below the rudder trim wheel. The switch is to be turned ON before flight. A preflight check of the system can be performed during the run-up by retarding the power on one engine to idle and advancing power on the opposite engine until the power difference between the engines is great enough to close the switch that activates the rudder boost system. Movement of the appropriate rudder pedal (left engine idling, right rudder pedal moves forward) will be noted when the switch closes, indicating the system is functioning properly for low engine power on that side. Repeat the check with opposite power settings to check for movement of the opposite rudder pedal.

PROPELLER DIAMETER

HARTZELL PROPELLER

Maximum Diameter: 93.0 inches

Minimum Diameter: 92.0 inches

McCAULEY PROPELLER

Maximum Diameter: 94.0 inches

Minimum Diameter: 93.5 inches

PROPELLER BLADE ANGLES AT 30-INCH STATION

HARTZELL PROPELLER

Feathered + 87.9°, Reverse -11.2°

McCAULEY PROPELLER

Feathered + 87.5°, Reverse -10°

PROPELLER ROTATIONAL SPEED LIMITS

Transients not exceeding 5 seconds	2200 rpm
Reverse	1900 rpm
All other conditions	2000 rpm
Minimum Idle Speed	
Hartzell Propellers	1180 rpm
McCauley Propellers	1100 rpm

PROPELLER ROTATIONAL OVERSPEED LIMITS

The maximum propeller overspeed limit is 2200 rpm and is time-limited to five seconds. Sustained propeller overspeeds faster than 2000 rpm indicate failure of the primary governor. Flight may be continued at propeller overspeeds up to 2120 rpm, provided torque is limited to 1800 foot-pounds. Sustained propeller overspeeds faster than 2120 rpm indicate failure of both the primary governor and the secondary governor, and such overspeeds are unapproved.

PROPELLER AUTOFEATHER

For airplanes equipped with Hartzell propellers, the propeller autofeather system must be operable for all flights and must be armed for takeoff, climb, approach and landing.

AUTOFEATHER SYSTEM (If Installed)

The automatic feathering system provides a means of immediately dumping oil from the propeller servo to enable the feathering spring and counterweights to rapidly feather the propeller in the event of an engine failure. The system is armed using a switch on the pilot's subpanel placarded AUTOFEATHER - ARM - OFF - TEST. With the switch in the ARM position and both power levers above approximately 90% N_1, the green L and R AUTOFEATHER annunciators located on the Caution/Advisory panel will illuminate indicating the system is armed. If either power lever is not above approximately 90% N_1, the system will be disarmed and neither annunciator will be illuminated. When the system is armed and the torque on a failing engine drops below approximately 410 ft-lbs, the autofeather system of the operative engine is disarmed causing its annunciator to extinguish. When the torque on the failing engine drops below approximately 260 ft-lbs, the oil is dumped from the servo, the feathering spring and counterweights feather the propeller, and the annunciator for the failed engine extinguishes.

The system may be tested on the ground using the spring-loaded TEST position of the switch. With the switch in the TEST position, the 90% N_1 switches are disabled and the system will arm with the power levers set at approximately 500 ft-lbs of torque. Retarding a single power lever will then simulate an engine failure and the resulting action of the autofeather system can be checked as described in Section IV, NORMAL PROCEDURES. Since an engine is not actually shut down during a test, the AUTOFEATHER annunciator for the engine being tested will cycle on and off as the torque oscillates above and below the 260 ft-lb setting.

FUEL SYSTEM

The fuel system consists of two separate systems connected by a valve-controlled crossfeed line. The fuel system for each engine is further divided into a main and auxiliary fuel system. The main system consists of a nacelle tank, two wing leading edge tanks, two box section bladder tanks, and an integral (wet cell) tank, all interconnected to flow into the nacelle tank by gravity. This system of tanks is filled from the filler located near the wing tip.

The auxiliary fuel system consists of a center section tank with its own filler opening, and an automatic fuel transfer system to transfer the fuel into the main fuel system.

When the auxiliary tanks are filled, they will be used first. During transfer of auxiliary fuel, which is automatically controlled, the nacelle tanks are maintained full. A swing check valve in the gravity feed line from the outboard wing prevents reverse fuel flow. Upon exhaustion of the auxiliary fuel, normal gravity transfer of the main wing fuel into the nacelle tanks will begin.

An anti-siphon valve is installed in each filler port which prevents loss of fuel or collapse of a fuel cell bladder in the event of improper securing or loss of the filler cap.