

SECTION 3

EMERGENCY PROCEDURES

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NOTE

In the ALTERNATE ON position, static pressure at the normal static buttons is averaged with the static pressure in the cabin.

INSTRUMENT AIR PRESSURE SYSTEM FAILURE

An optional Standby Instrument Air Pressure System is available. Refer to supplement 36-590006-23 in the SUPPLEMENTS section for information on operation and procedures.

EMERGENCY EXITS

The openable windows on the left and right side of the cabin may be used for emergency egress in addition to the cabin door and utility doors. An emergency exit instructions placard is located on each emergency exit latch cover.

FOR ACCESS PAST THE 3RD AND/OR 4TH SEATS:

1. Rotate red handle located on lower inboard side of seat back.
2. Fold seat back over.

TO OPEN THE OPENABLE WINDOW EMERGENCY EXIT:

1. Remove cover as indicated by placard in center of emergency exit latch cover.
2. Rotate exposed red latch handle up (as indicated by placard), breaking safety wire, and push window out.

NOTE

Anytime the window has been opened by breaking the safety wire on the red emergency latch handle, the window must be reattached and wired by a qualified mechanic using a single strand of QQ-W-343, Type S, .020 diameter copper wire prior to further airplane operation.

UNLATCHED DOOR IN FLIGHT

If the cabin door is not properly closed, it may open in flight. The door may trail open approximately 3 inches, but the flight characteristics of the airplane will not be affected, except that rate of climb will be reduced.

1. Maintain control of the airplane.
2. Do not attempt to close the door until after landing.
3. All OccupantsFASTEN SEATBELTS
4. Land as soon as practical using Normal Procedures.

If occupant can assist from right seat:

5. Hold door during and after landing to prevent it from swinging open.

SECTION 7

SYSTEMS DESCRIPTION

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NOTE

The seat belt is independent of the shoulder harness, but the outboard seat belt and the shoulder harness must be connected for stowage when the seat is not occupied.

DOORS, WINDOWS AND EXITS

FORWARD CABIN DOOR

The airplane has a conventional cabin door on the forward right side of the fuselage. The spring-loaded outside handle will fit into the door recess creating a flat, aerodynamically-clean surface. The door may be locked with a key.

To open the door from the outside, lift the handle from its recess and pull until the door opens.

To close the cabin door from the inside, observe that the door handle is in the open position. In this position, the latch handle is free to move approximately one inch in either direction before engagement of the locking mechanism. Grasp the door and firmly pull the door closed. Rotate the door handle fully counter-clockwise into the locked position. Observe that the door handle indicator is in the CLOSED position (serials EA-488 and after). When the door is properly locked, the door latch handle is free to move approximately one inch in either direction.

NOTE

When checking the door latch handle, do not move it far enough to engage the door latch release mechanism.

Press firmly outward at the top rear corner of the door. If any movement of the door is detected, completely open the door and close again following the above instructions.

To open the door from the inside, depress the lock button and rotate the handle clockwise.

UTILITY DOORS

The utility doors, located on the aft right side of the cabin, provide for loading and unloading of passengers and baggage. The aft door must be closed first. A latch on the forward edge of the aft door moves downward to a locked position to secure the hooks at the top and bottom of the door to the door frame. The forward door cannot be fully closed until the latch of the aft door is latched and flush with the edge of the door. After the forward door is closed, it can be latched from the outside by rotating the half-moon shaped handle to the CLOSED position. A conventional handle on the inside of this door provides for opening or closing from the inside. the AFT DOOR annunciator, located on the annunciator panel, remains illuminated until the doors are properly latched.

OPENABLE CABIN WINDOWS

A plastic-covered multi-purpose latch on each openable window is used to provide partial opening of the window for ventilation during ground operations. It also provides quick unlatching for emergency egress.

To Open Window For Ventilation (Only on Ground):

NOTE

Red handle for emergency exit only.

1. Lock HandleROTATE TO UNLOCKED POSITION
2. Thumb CatchLIFT (window will release)
3. LatchPUSH UP AND OUT
TO OVER-CENTER POSITION

To Close Window:

1. Latch PULL INWARD AND PUSH DOWN
UNTIL LOCKED (listen for detent)
2. Lock Handle ROTATE TO LOCKED POSITION

To Operate the Window Emergency Exit:

1. Remove Emergency Exit Latch Cover.
2. Rotate exposed red handle up, breaking safety wire, and push window out.

NOTE

Anytime the window has been opened by breaking the safety wire on the red emergency latch, the window must be reattached and wired by a qualified mechanic using a single strand of QQ-W-343, Type S, .020 diameter copper wire prior to further airplane operation.

FUEL SYSTEM

- The engine is designed to operate on aviation gasoline grade 100LL (blue) or grade 100 (green). However, the use of grade 100LL (blue) is preferred.

FUEL CELLS

The 108-gallon fuel system consists of two interconnected bladder-type fuel cells located in each wing leading edge. Each wing contains a total of 54 gallons with a usable supply of 51 gallons. Each wing has a flush-type fuel filler cap covering an anti-siphon valve. To fill the tank, the filler cap must be removed and the fuel nozzle inserted into the anti-siphon valve. The tank is full when the fuel level reaches the spring-loaded door of the anti-siphon valve. In addition, each wing has a fuel quantity sight gage. The gage is for partial filling or off-loading of fuel and is to be used only when it reads within the calibrated area of 25 to 35 gallons. Each wing fuel tank system is vented to the atmosphere by an external main vent. If the main vent becomes blocked, pressure and vacuum relief valves operate to relieve pressure or vacuum through the flush alternate vent.

The fuel tank system is a closed system. The vent line shutoff valve, located in a small container outside the main tank, closes to prevent fuel from draining overboard as it expands due to heating. If fuel tank pressure exceeds a preset value, the pressure relief valve opens, allowing fuel to drain overboard through the flush alternate vent until the tank pressure drops below the relief valve preset level.

FUEL QUANTITY INDICATION SYSTEM

Fuel quantity is measured by float-operated fuel level sensors located in each wing tank system. These transmit electrical signals to the individual indicators, which indicate usable fuel remaining in the tank.

FUEL DRAINS

The fuel system is drained at 3 locations: one under each wing just outboard of the fuselage, and a system low spot drain in the bottom of the fuel filter (accessible through a small door on the underside of the fuselage near the left wing root). These fuel drains are flush-type valves and are actuated by using the fuel drain tool provided with the loose tools and accessories. Flush-type fuel drains are actuated by pushing up on the valve and then releasing when the desired amount of fuel has been drained. The drain valves cannot be locked open. For draining the complete fuel system, use drain valves located under wing cover panel and drain adapter found in loose tools and accessories.

AUXILIARY FUEL PUMP

The auxiliary fuel pump is a single-speed, dual-pressure, electrically-driven, vane-type pump. The pump, located below the pilot's seat, is controlled by a single three-position switch. The switch is located on the pilot's subpanel to the left of the landing gear handle. The pump is used to perform the following functions:

1. Purge fuel vapors and prime the engine prior to start.
2. Provide a low boost to the fuel flow for all flight conditions.
3. Provide an alternate source of fuel pressure to the engine in the event the engine-driven fuel pump fails.

AUXILIARY FUEL PUMP SWITCH

The auxiliary fuel pump switch is placarded OFF-LO-HI. The LO position is used for priming the engine during hot starts and to supply a low boost to the fuel flow during all flight conditions. The HI position is used for priming the engine during cold starts and also to provide an alternate source of fuel pressure in the event the engine-driven fuel pump fails.

During normal or hot day conditions, the requirement for low boost during flight will be evidenced by a slight fluctuation and/or reduction in fuel flow as altitude is increased. The altitude at which low boost will be required depends primarily on fuel temperature and is quite variable.

HI boost must not be used during flight unless the engine-driven fuel pump has failed. The increased pressure of the HI boost will overdrive the fuel control unit producing abnormally high fuel flows which, in turn, will cause engine roughness. In some cases, engine combustion may cease. These characteristics are less pronounced as altitude is increased.

If the HI boost is used in conjunction with a failed engine-driven fuel pump, two characteristics will be noted:

1. Fuel flow will not be sufficient for maximum continuous power.
2. The pilot must manually reduce the fuel flow by use of the mixture control as power is reduced.

FUEL TANK SELECTION

The fuel selector valve handle is located forward and to the left of the pilot's seat. Takeoffs and landings must be made using the tank that is nearest full.

The design and operation of the fuel selector valve in the B36TC is different from the selector valves in previous Bonanzas. This fuel selector valve has been designed in accordance with recommendations made by the Federal Aviation Administration concerning cockpit standardization.

The pilot is cautioned to observe that the long, pointed end of the handle aligns with the fuel tank position being selected. The tank positions are now located on the forward side of the valve rather than on the aft side as on previous Bonanzas. An OFF position lock-out feature has been added to prevent inadvertent selection of the OFF position. To select OFF, depress the lock-out spring and rotate the handle to the full counterclockwise po-

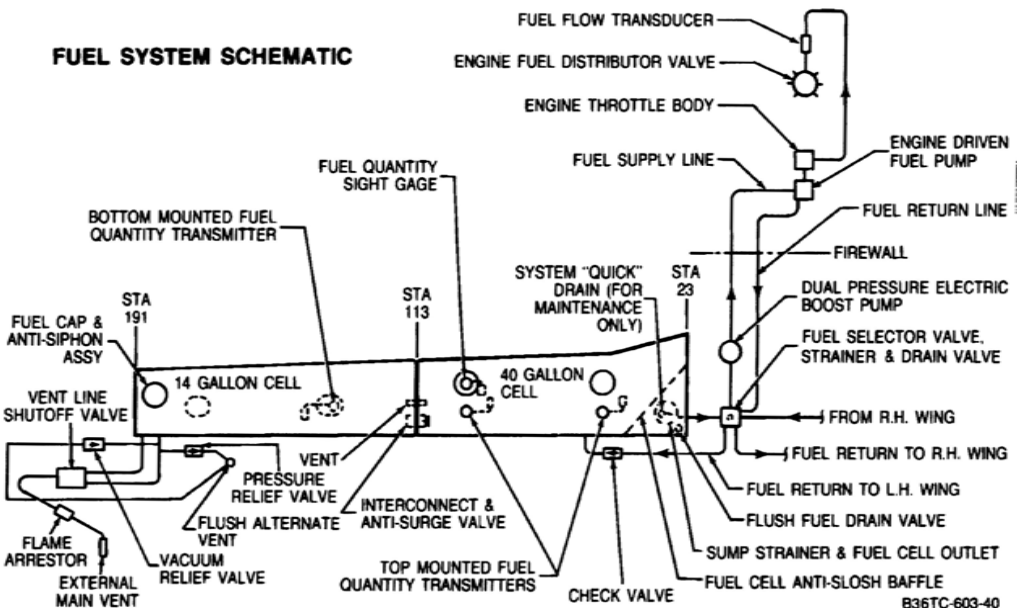
sition. Depression of the lock-out spring is not required when moving the handle clockwise from OFF to LEFT MAIN or RIGHT MAIN. When selecting the LEFT MAIN or RIGHT MAIN fuel tanks, position handle by sight and feel for the detent. ■

WARNING

Position selector valve handle in detents only.
There is no fuel flow to the engine between detents (indicated by red arc).

If the engine stops because of insufficient fuel, refer to Section 3, EMERGENCY PROCEDURES for the ENGINE FAILURE IN FLIGHT procedures. ■

FUEL SYSTEM SCHEMATIC



FUEL REQUIRED FOR FLIGHT

It is the pilot's responsibility to ascertain that the fuel quantity indicators are functioning and maintaining a reasonable degree of accuracy and to be certain of ample fuel for a flight. Takeoff is prohibited if the fuel quantity indicators do not indicate above the yellow arc. An inaccurate indicator could give an erroneous indication of fuel quantity. A minimum of 13 gallons of usable fuel is required in each tank before takeoff. The caps should be removed and fuel quantity checked to give the pilot an indication of fuel on board. The airplane must be approximately level for visual inspection of the tank. If it is not certain that at least 13 gallons are in each tank, fuel shall be added so that the amount of fuel will not be less than 13 gallons per tank at take-off. Plan for an ample margin of fuel for any flight.

ELECTRICAL SYSTEM

The system circuitry is the single-wire, ground-return type, with the airplane structure used as the ground return. The battery ON-OFF switch, the alternator ON-OFF switch and the magneto/start switch are located on the left subpanel.

CIRCUIT BREAKERS

The electrical system circuit breaker panel is located to the left of the pilot's seat. A panel located below the right subpanel contains avionic circuit breakers. The following switches are circuit-breaker type switches: alternator, pitot heat, prop deice, strobe lights, rotating beacon, navigation lights, flood lights, panel lights, taxi light, landing light and vent blower.

These circuit-breaker type switches have a built-in circuit breaker and will trip to the off position if the circuit is shorted or becomes overloaded.