SECTION III

EMERGENCY PROCEDURES

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All airspeeds quoted in this section are indicated airspeeds (IAS).

EMERGENCY AIRSPEEDS

Emergency Descent . . . . . 152 kts/175 mph
Glide . . . . . .78 kts/90 mph
Emergency Landing Approach . . . . . .68 kts/78 mph

Stall warning horn is inoperative when the battery and alternator switches are turned off.

NOTE

On serials M-2225 and after, or on airplanes which have complied with BEECHCRAFT S.I. No. 1095, a fuel selector stop has been added to the selector valve guard. The fuel selector stop minimizes the possibility of inadvertently turning the fuel selector valve to the OFF detent position. The stop is a spring which must be depressed before the selector valve handle can be rotated to the OFF position.

The following information is presented to enable the pilot to form, in advance, a definite plan of action for coping with the most probable emergency situations which could occur in the operation of the airplane. Where practicable, the emergencies requiring immediate corrective action are treated in check list form for easy reference and familiarization. Other situations, in which more time is usually permitted to decide on and execute a plan of action, are discussed at some length.

ENGINE FAILURE

DURING TAKE-OFF GROUND ROLL

1. Throttle - CLOSE
2. Braking - MAXIMUM

NOTE

Conduct the following procedures immediately if it appears certain that the airplane will run off the runway. (Otherwise conduct these procedures at the pilot's discretion.)

3. Fuel Selector Valve - OFF
4. Battery Switch, Alternator Switch, and Fuel Boost Switch - OFF
5. Magneto/Start Switch - OFF

AFTER LIFTOFF AND IN FLIGHT

Landing straight ahead is usually advisable. If sufficient altitude is available for maneuvering, accomplish the following:

1. Mixture - FULL RICH, then LEAN as required.
2. Fuel Boost Pump - ON
3. Fuel Selector Valve - SELECT OTHER TANK (feel for detent and check visually).
4. Magnetos - CHECK LEFT and RIGHT, then BOTH

NOTE

The most probable cause of engine failure would be loss of fuel flow or improper functioning of the ignition system.

IF NO RESTART

1. Establish maximum glide configuration. ▮
2. Throttle - CLOSE
3. Fuel Selector Valve - OFF
4. Mixture - IDLE CUT-OFF
5. Magneto/Start Switch - OFF
6. BATTERY & ALT, ALT, and FUEL BOOST switches - OFF (With electric flaps installed, it will be necessary to set desired flaps before securing battery.)
7. Upper Cabin Door Latch (if installed) - OPEN ▮

When certain of reaching the selected landing site:

8. Airspeed - 68 kts/78 mph
9. Flaps - AS REQUIRED

ENGINE DISCREPANCY CHECKS

CONDITION: ROUGH RUNNING ENGINE

1. Carburetor Heat - FULL HOT ▮
2. Mixture - FULL RICH, then LEAN as required.
3. Magneto/Start Switch - CHECK LEFT and RIGHT, then BOTH

CONDITION: LOSS OF ENGINE POWER

1. Carburetor Heat - FULL HOT ▮
2. Fuel Pressure Gage - CHECK

If fuel flow is abnormally low:

a. Mixture - FULL RICH
b. Fuel Boost Pump - ON (Lean as required.)
c. Fuel Boost Pump - OFF if performance does not improve in a few moments.

2. Fuel Quantity Indicator - CHECK for fuel supply in tank being used.

If tank being used is empty:

a. Fuel Tank Selector Valve - SELECT OTHER FUEL TANK (feel for detent and check visually).
b. Fuel Boost Pump - ON

AIR START PROCEDURE

1. Fuel Selector Valve - SELECT TANK MORE NEARLY FULL (feel for detent and check visually).
2. Throttle - FULL FORWARD
3. Mixture - FULL RICH
4. Fuel Boost Pump - ON until power is regained, then OFF. (Leave on if engine driven fuel pump is inoperative.)
5. Throttle - ADJUST to desired power.
6. Mixture - LEAN as required.

ENGINE FIRE

IN FLIGHT

The red ventilation controls must be closed to shut off all heating system outlets so that smoke and fumes will not enter the cabin. The control labeled CABIN AIR must be pulled out to close. The control labeled DEFROST must be pushed in to close. In the event of an engine fire, shut down the engine as follows and make a landing:

1. Fuel Selector Valve - OFF
2. Mixture - IDLE CUT-OFF
3. Throttle - CLOSE
4. Cabin Air Control (Red Knob) - pull OFF
5. Defrost Valve (Red Knob) - push OFF
6. Battery Switch - OFF
7. Alternator Switch - OFF
8. Magneto/Start Switch - OFF
9. Do not attempt to restart engine.

ON THE GROUND

1. Fuel Selector Valve - OFF
2. Throttle - CLOSE
3. Mixture - IDLE CUT-OFF
4. BATTERY & ALT and Magneto/Start Switches - OFF
5. Extinguish with Fire Extinguisher.

EMERGENCY DESCENT

1. Carburetor Heat - FULL HOT or FULL COLD, AS REQUIRED
2. Throttle - IDLE
3. Airspeed - ESTABLISH 152 kts/175 mph

MAXIMUM GLIDE CONFIGURATION

1. Flaps - UP
2. Airspeed - 78 kts/90 mph

Glide distance (Zero Wind Condition) is approximately 1.7 nautical miles (2 statute miles) per 1000 feet of altitude above the terrain.

LANDING EMERGENCIES

LANDING WITHOUT POWER

When assured of reaching the landing site selected, and on final approach:

1. Airspeed - 68 kts/78 mph
2. Fuel Selector Valve - OFF
3. Mixture - IDLE CUT-OFF
4. Magneto/Start Switch - OFF
5. Flaps - AS REQURIED
6. Battery Switch, Alternator Switch, and Fuel Boost Switch - OFF
7. Upper Cabin Door Latch - OPEN (if installed)

SYSTEMS EMERGENCIES

STARTER ENGAGED WARNING LIGHT ILLUMINATED (IF INSTALLED)

The STARTER ENGAGED warning light illuminates whenever the starter is engaged. If this light remains illuminated after Magneto/Start Switch is released from the START position, the starter relay is still energized. Consequently, electrical power is still being supplied to the starter, and it remains engaged. Continuing to supply power to the starter will eventually result in the complete loss of electrical system power, substantial starter damage, and possible damage to other electrical system components.

If light remains illuminated on the ground:

1. Battery Switch and Alternator Switch - OFF
2. Do Not Take Off.

If light remains illuminated in flight after air start:

1. Battery Switch and Alternator Switch - OFF
2. Land As Soon As Practical.

ALTERNATOR-OUT PROCEDURE

An inoperative alternator will place the entire electrical operation of the airplane on the battery. Alternator malfunction will be indicated by a fluctuation of the ammeter needle, or by a discharge indication. If this condition develops:

1. Alternator Switch - OFF MOMENTARILY, THEN ON (this resets overvoltage relay)

If alternator-out condition persists:

2. Alternator Switch - OFF
3. Nonessential Electrical Equipment - OFF to conserve battery power.

WARNING

Deactivation of the battery switch, alternator switch, or alternator circuit breaker during flight is prohibited, except as required by an actual emergency.

UNSCHEDULED ELECTRIC STABILATOR TRIM

1. Airplane Attitude - MAINTAIN using stabilator control.
2. Stabilator Trim Thumb Switch (On Control Wheel) - MOVE IN DIRECTION OPPOSITE UNSCHEDULED PITCH TRIM to open circuit breaker.
3. Stabilator Trim ON-OFF Switch (On Instrument Panel) - OFF

4. Manual Stabilator Trim Control Wheel - RETRIM AS DESIRED.

EMERGENCY STATIC AIR SOURCE SYSTEM

THE EMERGENCY STATIC AIR SOURCE SHOULD BE USED FOR CONDITIONS WHERE THE NORMAL STATIC SOURCE HAS BEEN OBSTRUCTED. When the airplane has been exposed to moisture and/or icing conditions (especially on the ground), the possibility of obstructed static ports should be considered. Partial obstructions will result in the rate of climb indication being sluggish during a climb or descent. Verification of suspected obstruction is possible by switching to the emergency system and noting a sudden sustained change in rate of climb. This may be accompanied by abnormal indicated airspeed and altitude changes beyond normal calibration differences.

Whenever any obstruction exists in the Normal Static Air System or the Emergency Static Air System is desired for use:

1. Pilot's Emergency Static Air Source - Switch to ON EMERGENCY.
2. For Airspeed Calibration and Altimeter Correction, refer to PERFORMANCE section.

CAUTION

Be certain the emergency static air valve is in the NORMAL position when system is not needed.

UNLATCHED DOOR IN FLIGHT

If the cabin door is not locked it may come unlatched in flight. This may occur during or just after take-off. The door will trail in a position approximately 3 inches open.

A buffet may be encountered with the door open in flight. Return to the field in a normal manner. If practicable, during the landing flare-out, have a passenger hold the door to prevent it from swinging open.

SPINS

WARNING

Intentional spins are prohibited when operating in the Normal Category. Intentional spins are also prohibited in the Utility Category unless the airplane is approved for spins and equipped with a spin kit, or if the airplane is approved for operation in the Acrobatic Category. Refer to Service Instructions No. 0619-090.

The airplane will not spin if orthodox entry is used, but will enter a spiral dive. Speed builds rapidly in a spiral dive, requiring high pullout loads. Therefore, if a spiral is inadvertently entered, recovery from the spiral is to be initiated within two turns.

ENTRY

Stall the airplane with the control column hard back, throttle in idle position, flaps up, carburetor heat as required and with the nose about 15° above the horizon. At the stall, apply full rudder in the direction required to spin. A slight rudder application immediately before the stall will assure the direction of spin. The airplane nose will drop and rotate towards the applied rudder. When the wings are 90° to the horizon, apply full aileron against the

intended direction of spin. The airplane will go slightly inverted and enter a normal spin.

If aileron against the direction of spin is not applied or applied too late, the airplane will enter a rapid spiral dive, and recovery must be initiated by the second turn.

If the full back stick is not applied and held, the airplane may spiral. Again, recovery must be initiated not later than the second turn.

If aileron is applied too early, the airplane will not rotate and merely remain in a straight stalled condition.

RECOVERY

If a spin is entered inadvertently:

Immediately move the control column full forward and simultaneously apply full rudder opposite to the direction of the spin; continue to hold this control position until rotation stops and then neutralize all controls and execute a smooth pullout. Ailerons should be neutral and throttle in idle position at all times during recovery.