

include additional procedures that a pilot would not reasonably be expected to refer to in resolving a given emergency. Discussion of emergency situations, the resolution of which are not amenable to check list format, may also be included.

3.9 Emergencies

3.9(a) Engine Failure

Procedures shall be provided for all airplanes for all cases of engine failure, including partial failure (partial power), during takeoff and in flight.

3.9(b) Air Start

Procedures shall be provided for starting the engine in flight and, in the event the engine does not start, for subsequent action(s).

3.9(c) Smoke and Fire

Procedures shall be provided for coping with cases of smoke and/or fire in the cabin or from an engine in the following flight phases:

- (1) On the Ground
- (2) During Takeoff
- (3) In-Flight

3.9(d) Emergency Descent

Procedures shall be provided for making an emergency descent.

3.9(e) Glide

Procedures and information shall be provided for a gliding descent, including:

- (1) The Recommended Airspeed
- (2) The Associated Configuration
- (3) The distance(s) from (a) specified height(s) above ground level that an airplane will glide, or the glide ratio in nautical miles per thousand feet.

3.9(f) Landing Emergencies

Procedures shall be provided for the various landing emergencies, including:

- (1) For all airplanes, forced landings under the following conditions:
 - (A) Precautionary Landings
 - (B) With a Flat Tire
 - (C) With a Defective Landing Gear
 - (D) With Power, Landing Gear Retracted
 - (E) Without Power, Landing Gear Retracted

(F) Ditching, for aircraft with extended overwater flight capability

(G) Approach and landings with flaps retracted, if flapless landings require any special technique or if information is required by the certificating authority.

(2) For Multi-Engine Airplanes Only:

(A) One Engine Inoperative Landing

(B) One Engine Inoperative Go-Around

(If this maneuver cannot be performed safely, a warning against attempting it shall be provided.)

3.9(g) System Emergencies

Procedures shall be provided for coping with emergencies involving the following systems, as applicable:

- (1) Engine
- (2) Supercharger/turbocharger or other augmentation
- (3) Propeller
- (4) Fuel
- (5) Electrical
- (6) Hydraulic
- (7) Pneumatic
- (8) Flight Controls
- (9) Landing Gear
- (10) Nose Wheel Steering
- (11) Environmental
- (12) Oxygen
- (13) Ice Protection
- (14) Emergency Exits
- (15) Other

3.9(h) Spins

Handbooks for all single engine airplanes, other than for those airplanes which have been shown to be "characteristically incapable of spinning" shall contain procedures for recovery from spins. These procedures shall be in the Emergency Procedures Section for all airplanes except those in the acrobatic category. Spin recovery procedures for acrobatic airplanes may be included under Normal Procedures.

If the airplane has not been tested for spin characteristics and recovery methods, a discussion of prevention of spins and probable best recovery techniques will be included with the qualification that no tests were made and the recovery techniques are based on the best judgment of the manufacturer.

Spin recovery procedures for multi-engine airplanes may be included at the option of the manufacturer. It should be noted that multi-engine airplanes have not been spun by the manufacturer, if such is the case.

3.9(i) Other

Emergency Procedures and other pertinent information necessary for safe operations shall be provided for emergencies peculiar to a particular airplane design, operating or handling characteristics