

Detecting A Dead Engine

- Loss of thrust
- Aircraft will yaw in the direction of the inoperative engine

Feathering Procedure

1. Maintain direction and adequate airspeed
2. Mixtures – forward
3. Props - forward
4. Throttles – forward
5. Gear – retract
6. Flaps – retract
7. Emergency fuel pumps – on
8. ECS system - off
9. Identify inoperative engine
10. Throttle on inoperative engine - retard to verify
11. Prop on inoperative engine – feather
12. Mixture on inoperative engine - idle cut off
13. Emergency fuel pump on inoperative engine – off
14. Magnetos on inoperative engine – off
15. Cowl flaps - close on inoperative engine, as required on good engine
16. Alternator switch for inoperative engine – off
17. Electrical load - reduce, to prevent battery depletion
18. Trim - as required – re-trim for landing
19. Fuel management - fuel off on inoperative engine, consider crossfeed
20. Land at first opportunity
21. Circuit breaker for inoperative engine fuel boost pump - off

Unfeathering Procedure (Inoperative Engine) Fuel valve on

1. Fuel boost pump circuit breaker ON
2. Throttle open 1/2 inch
3. Propeller forward to match other control
4. Magneto switches on
5. Alternator circuit breaker switch on
6. Prime if necessary; then turn emergency fuel pump off and mixture to idle cutoff.
7. Starter engage
8. Mixture slowly forward as engine begins to fire

As RPM passes 1000 coming out of feather, retard propeller control to maintain 1800-2000 RPM for warm-up. Adjust manifold pressure to 15" and maintain this low power until oil temperature begins to rise and oil pressure can be maintained within limits.

9. Fuel pressure check



Emergency Procedures

High Altitude Restart – Unfeathered Prop

1. Retard manifold pressure by 5.0 inches.
2. Reduce propeller RPM to 2500 if higher.
3. Pull mixture control to idle cut off.
4. Slowly advance mixture control until a rise in EGT indicating the engine is firing.
5. Adjust the mixture to desired EGT above 1350° minimum.

Engine Failure During Normal Takeoff

If sufficient runway remains for a safe stop:

1. Throttles -immediately close
2. Brakes -as required
3. Stop -straight ahead

If insufficient runway remains for a safe stop:

1. Throttles immediately close
2. Mixtures -idle cut-off
3. Master switch -off
4. Fuel selector -off
5. Magneto switches -off

NOTE

Maintain directional control and maneuver to avoid obstacles.

ABOVE 88 KIAS

1. Directional control -maintain
2. Power (operating engine) -max. continuous
3. Propeller control (inoperative engine) -feather
4. Landing gear (in level or climbing flight) -retract
5. Bank -5°, into operating engine
6. Airspeed -113 MPH (98 Kts) to 50 ft. then accelerate to 122 MPH (106 Kts).
7. Cowl flaps (inoperative engine) -close
8. Airspeed -125 MPH (109 K(s) after all obstacles have been cleared
9. Engine securing procedures -complete

NOTE

Land as soon as practical at the nearest suitable airport.

93 KIAS OR BELOW

If sufficient runway remains for a safe stop:

1. Throttles -immediately close
2. Land (if airborne) -on remaining runway
3. Brakes -as required

If insufficient runway remains for a safe stop:

1. Throttles -immediately. Close
2. Mixtures -IDLE CUT-OFF
3. Master switch -OFF
4. Fuel selectors -OFF
5. Magneto switches -OFF
6. Land (if airborne) avoiding obstacles

ABOVE 93 KIAS BUT BELOW 100 KIAS

If sufficient runway remains for a safe stop:

1. Throttles -immediately close
2. Land -on remaining runway
3. Brakes -as required

If insufficient runway remains and the decision is made to abort the takeoff:

1. Throttles -immediately close
2. Landing gear -extend

NOTE

Depending on terrain, it may be advisable to land with the gear retracted.

3. Flaps -extend
4. Airspeed -102 MPH (89 Kts) mm.
5. Mixtures -IDLE CUT-OFF
6. Master switch -OFF
7. Fuel selectors -OFF
8. Magneto switches -OFF
9. Land avoiding obstacles

If insufficient runway remains, the terrain ahead is unsuitable for a safe landing and the decision is made to continue the takeoff:

1. Directional control -maintain
2. Power (operating engine) -max. continuous
3. Propeller control (inoperative engine) -FEATHER
4. Landing gear (in level or climbing flight) -retract
5. Bank - 5° into operating engine
6. Flaps -retract in increments

7. Airspeed .accelerate to 122 MPH (106 Kts) until all obstacles have been cleared, then accelerate to 125 MPH (109 Kts)
8. Engine Securing Procedures .accomplish

WARNING

Negative climb performance may result from an engine failure occurring after lift-off and before the gear and flaps have been retracted, the failed engine propeller has been feathered, the cowl flap on the failed engine is closed and a speed of 109 KIAS has been attained.

Above 106 KIAS

1. Directional control .maintain
2. Power (operating engine) .max. continuous
3. Propeller control (inoperative engine) -FEATHER
4. Bank - 5°into operating engine
5. Airspeed .maintain 122 MPH (106 Kts) until clear of obstacles, then accelerate to 125 MPH (109 Kts)

If, sufficient runway remains for a safe stop:

6. Throttles .immediately close
7. Land .on remaining runway
8. Brakes .as required

If insufficient runway remains and the decision is made to abort the takeoff:

1. Throttles .immediately close
2. Landing gear .extend

NOTE

Depending on terrain, it may be advisable to land with the gear retracted.

Flaps .extend

3. Airspeed .102 MPH (89 K(s) mm.
4. Mixtures .IDLE CUT-OFF
5. Master switch .OFF
6. Fuel selectors .OFF
7. Magneto switches .OFF
8. Land avoiding obstacles

WARNING

Certain combinations of aircraft weight, configuration, ambient conditions and airspeeds will result in negative climb performance.

Engine Failure During Climb

1. Follow feathering procedure.
2. Hold single engine best rate-of-climb speed of 125 mph (109 Kts): climb at 130 mph (113 Kts) for high ambient temperature.
3. Watch cylinder head temperature adjust cowl flaps to maintain temperature at or below maximum allowable.

