

Engine Failure After Takeoff

CIRCUIT TRAINING

Objective

To adopt the recommended procedure in the event of an engine failure at low level (below 1000 ft agl).

1. Considerations

Cause	Prevention
Carb ice	<ul style="list-style-type: none">• Be aware of temp and humidity• Carb heat HOT• Preflight run-up
Air blockage	<ul style="list-style-type: none">• Carb heat HOT – alternate air• Preflight inspection
Fuel contamination	<ul style="list-style-type: none">• Water or solid particles in the fuel• Preflight fuel check and sample
Fuel starvation	<ul style="list-style-type: none">• Wrong tank selection (or OFF) or fuel pump problems• Preflight run-up
Fuel exhaustion	<ul style="list-style-type: none">• Run out of fuel• Preflight planning and inspection
Spark	<ul style="list-style-type: none">• Preflight inspection and run-up

Aborted Takeoff

- Early in the takeoff roll, with runway available, close throttle, braking as required, keep straight

Go Around

- Full power, keep straight with rudder, raise the nose attitude to the horizon, climb straight ahead, retracting any flap, continuing climb out

Engine Failure After Takeoff

Aviate

- Lower nose, close throttle

Navigate

- Choose landing site, flap decisions

Communicate

- Tell ATC / traffic

Takeoff Safety Brief

- Intentions in the event of an EFATO

2. Airmanship

- Pre-takeoff safety brief
- Advise ATC/traffic
- Aviate – Navigate – Communicate
- Trouble checks
- “Simulating”
- Shutdown checks
- Touch checks

3. Aeroplane Management

- Systems management
- Loose objects in cabin
- Smooth throttle movements
- Listen for ‘normal’ sounds

5. Air Exercise

Aborted Takeoff

Aviate

- Close throttle

Navigate

- Keep straight, brake as required

Communicate

- Tell ATC / traffic

Engine Failure After Takeoff

Aviate

- Fly the aeroplane – lower nose, close throttle
- Carb heat HOT

Navigate

- Choose landing site from anything in the windscreen
- Flap as required to make it

Communicate

- MAYDAY
- Land into wind and keep cabin intact

Trouble Checks

F Fuel Selector ON, fuel pump ON, change tanks (touch)

M Mixture RICH, carb heat HOT, primer LOCKED

I Ignition BOTH

Shutdown Checks

F Fuel OFF

M Mixture OFF

I Ignition OFF

M Master OFF

4. Human Factors

- Learn checklists and use mnemonics
- Plenty of practice available
- Avoid mindsets – practise, currency and pre-planning