

Engine failure after take-off

CIRCUIT TRAINING

Objective

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

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 take-off

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

Engine failure after take-off

Aviate

- Lower nose, close throttle

Navigate

- Choose landing site, flap decisions

Communicate

- Tell ATC and traffic

Go-around

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

Take-off safety brief

- Intentions in the event of an EFATO

Airmanship

- Pre-take-off safety brief
- Aviate – Navigate – Communicate
- “Simulating”
- Touch checks
- Advise ATC and traffic
- Trouble checks
- Shutdown checks

Air exercise

Aborted take-off

Aviate

- Close throttle

Navigate

- Keep straight, brake as required

Communicate

- Tell ATC and traffic

Engine failure after take-off

Aviate

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

Navigate

- Choose landing site from anything in the windscreen. Do not turn back.
- 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

Aeroplane management

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

Human factors

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