Cessna 414 RAM IV EMERGENCY CHECKLIST

From Cessna 414 AFM 16 August 1973 Revision 1-
1 October 1976 Service Supply Number D-6004-13.

Procedures in bold are immediate-action items and shall be committed to memory.

ENGINE FAILURE DURING TAKEOFF
(Speed Below 91 KIAS)

1. Throttles.....CLOSE IMMEDIATELY
2. Brake Or Land And Brake .....AS REQ'D

NOTE: The distance required for the airplane to be accelerated from a standing start to 91 KIAS on the ground, and to decelerate to a stop with heavy braking, is presented in the Accelerate Stop Distance chart of the RAM IV AFMS for various combinations of conditions.

ENGINE FAILURE AFTER TAKEOFF
(Speed Above 91 KIAS)

1. Mixtures .....FULL RICH
2. Propellers .....FULL FORWARD
3. Throttles .....FULL FORWARD 41" Hg
4. Landing Gear .....UP
5. Inoperative Engine:
- **a. Throttle .....CLOSE**
- **b. Mixture .....IDLE CUT-OFF**
- **c. Propeller .....FEATHER**

6. Establish Bank - 5° TOWARD OPERATIVE ENGINE
7. Climb To Obstacle - 91 KIAS
8. Climb at Vyse - 103 KIAS
9. Trim Tabs -ADJUST 5° toward operative engine
10. Cowl Flap - CLOSE (Inoperative engine)
11. Inoperative Engine – SECURE
12. As Soon As Practical - LAND

ENGINE SECURING PROCEDURE

1. Throttle – CLOSE
2. Mixture IDLE CUT OFF
3. Propeller – FEATHER
4. Fuel Selector – OFF
5. Auxiliary Fuel Pump – OFF
6. Magneto Switched – OFF
7. Cowl Flap - CLOSE

d. Alternator Inoperative Engine - OFF
12. As Soon As Practical - LAND.
13. Electrical Load - DECREASE to minimum required.

*Schedule fuel use such that an adequate amount of fuel is available in the operative engine main tank for landing. Crossfeed as required to maintain **lateral balance.** When **crossfeeding**, maintain level flight, maintain **altitude greater than 1000 feet AGL** and position inoperative engine auxiliary fuel pump to LOW.*

ENGINE FAILURE DURING FLIGHT:

1. Inoperative Engine - DETERMINE
2. Operative Engine - ADJUST as required
3. Before Securing Inoperative Engine:
- **a) Fuel Flow - CHECK. If deficient, position auxiliary fuel pump to ON**
- **b) Fuel Selectors - MAIN TANKS (Feel For Detent)**
- **c) Fuel Quantity - CHECK**
- **d) Oil Pressure and Oil Temperature - CHECK**
- **e) Magneto Switches - CHECK ON**
- **f) Mixture - ADJUST. Lean until manifold pressure begins to increase, then enrichen as power increases**

If Engine Does Not Start, Secure as Follows:
a. Inoperative Engine - SECURE
(1) Throttle - CLOSE
(2) Mixture - IDLE CUT-OFF
(3) Propeller - FEATHER
(4) Fuel Selector - OFF (Feel For -Detent)
(5) Auxiliary Fuel Pump - OFF
(6) Magneto Switches - OFF
(7) Propeller Synchronizer - OFF
(8) Alternator - OFF
(9) Cowl Flap - CLOSE
b. Operative Engine - ADJUST
(1) Power - AS REQUIRED
(2) Mixture - ADJUST for power
(3) Fuel Selector - AS REQUIRED (Feel For Detent)

NOTE

• Auxiliary fuel on the side of the failed engine is unusable.
• Position operative engine fuel selector to MAIN TANK and feel for detent if below 1000 feet AGL or if nearest airport is within range of fuel remaining in MAIN TANK. If necessary, range can be extended by using wing locker fuel, opposite main fuel or auxiliary fuel on the side of the operative engine. Crossfeed as required to maintain lateral balance.

(4) Auxiliary Fuel Pump - ON
(5) Cowl Flap - AS REQUIRED
c. Trim Tabs - ADJUST 3° - 5° bank towards operative engine.
d. Electrical Load - DECREASE to minimum required
e. As Soon as Practical - LAND

ENGINE INOPERATIVE LANDING

1. Mixture - FULL RICH
2. Propeller - FULL FORWARD
3. Approach at - 103 KIAS with excessive altitude
4. Landing Gear - DOWN within glide distance of field
5. Wing Flaps - DOWN when landing is assured
6. Decrease Speed Below - 93 KIAS only if landing is assured

ENGINE INOPERATIVE GO-AROUND

SPEED ABOVE 91 KIAS:

1. Throttle - FULL FORWARD (41 in. Hg.)
2. Landing Gear - UP
3. Wing Flaps - UP (if extended)
4. Climb at Best Single Engine Climb Speed - 103 KIAS

AIRSTART (AFTER FEATHERING):

1. Airplane Without Optional Propeller Unfeathering System:

a) Auxiliary Fuel Pump - CHECK OFF. If ON or LOW, purge engine by turning OFF auxiliary fuel pump, mixture to IDLE CUT-OFF, throttle full open, magneto switches OFF and rotating engine 15 revolutions with starter
b) Magneto Switches - ON
c) Fuel Selector - MAIN TANK (Feel For Detent)
d) Throttle - FORWARD approximately one and one-half inches
e) Mixture - FULL RICH then retard approximately two inches
f) Propeller - FORWARD of detent
g) Starter Button - PRESS
h) Primer Switch - ACTIVATE
i) Starter and Primer Switch - RE LEASE when engine fires
j) Auxiliary Fuel Pump - ON
k) Mixture - ADJUST for smooth engine operation
l) Power - INCREASE after cylinder head temperature reaches 200° F with gradual mixture enrichment as power increases
m) Cowl Flap - AS REQUIRED
n) Alternator - ON

FIRE PROCEDURES:

A. FIRE ON THE GROUND (Engine Start, Taxi, and Takeoff with Sufficient Distance Remaining to Stop):

1. Throttles - CLOSE
2. Brakes - AS REQUIRED
3. Mixtures - IDLE CUT OFF
4. Battery - OFF (use gang bar)
5. Magnetos - OFF (use gang bar)
6. Evacuate aircraft as soon as practical

B: IN FLIGHT WING OR ENGINE FIRE:

1. Both Auxiliary Fuel Pumps - OFF
2. Appropriate Engine - SECURE
   a. Mixture - IDLE CUT OFF
   b. Propeller - FEATHER
   c. Fuel Selector - OFF
   d. Alternator - OFF
   e. Magnetos - OFF
3. Cabin Heater - OFF
4. Land and evacuate aircraft as soon as practical

C: IN FLIGHT CABIN FIRE OR SMOKE:

1. Electrical Load - REDUCE to minimum required
2. Attempt to isolate the source of fire or smoke
3. Cabin Air Controls - OPEN (all vents including windshield defrost) If intensity of smoke increases – CLOSE
4. Pressurization Air Contamination Procedure - INITIATE if required

   CAUTION

   Opening the foul weather window or emergency exit will create a draft in the cabin and may intensify a fire.
5. Land and evacuate aircraft as soon as practical

LANDING GEAR EMERGENCY PROCEDURES:

A. LANDING GEAR WILL NOT EXTEND ELECTRICALLY:

1. Landing Gear Motor Circuit Breaker - PULL
2. Landing Gear Switch - NEUTRAL (Center)
3. Pilot' Seat – Tilt full aft
4. Hand Crank - EXTEND AND LOCK
5. Rotate Crank - CLOCKWISE four turns past gear down lights on (approximately 54 turns)
6. Gear Down Lights - ON; Unlocked Light - OFF
7. Gear Warning Horn - CHECK (Reduce MP below 15")
8. Hand Crank - PUSH BUTTON AND STOW

B. IF LANDING GEAR WILL NOT RETRACT ELECTRICALLY:

1. DO NOT TRY TO RETRACT MANUALLY
2. As Soon As Practical – LAND

FLIGHT INSTRUMENTS EMERGENCY PROCEDURES:

A. VACUUM SYSTEM (Attitude and Directional Gyros):

1. Red Indicator on Gage will Show Failure
2. Automatic Valve will Select Operative Source

FLIGHT INSTRUMENTS EMERGENCY PROCEDURES (Continued)

B: OBSTRUCTION OR ICING OF STATIC SOURCE:

1. Alternate Static Source - OPEN
2. Excess Altitude and Airspeed - MAINTAIN to compensate for change in calibration. Correct airspeed and altimeter indications per the following tables. Be sure the alternate static source is CLOSED for all normal operations.
3. Airspeed and Altitude Correction in the Following Table - Correction to be added to altimeter reading.

ALTERNATE STATIC SOURCE
PILOT'S STORM WINDOW OPEN OR CLOSED - HEATER VENTS ON OR OFF

AIRSPEED CALIBRATION				ALTIMETER CORRECTION		
Gear	Up	Down	Down	Up	Down	Down
Flaps	0°	15°	45°	0°	15°	45°
KCAS	KIAS	KIAS	KIAS	Ft.	Ft.	Ft.
80	73.6	78.8	78.8	+40	+7	0
100	96.9	100.7	100.7	+20	-7	-27
120	119.1	119.1	124.0	+7	-40	-74
140	140.5	140.5	150.2	-7	-127	-154
160	161.7	161.7	180.6	-20	-308	
180	183.2	183.2		-47		
200	203.7	203.7		-67		
220	224.3	224.3		-83		

FUEL SYSTEM EMERGENCY PROCEDURES:

ENGINE DRIVEN FUEL PUMP FAILURE:

1. Fuel Selector - MAIN TANK (Feel for Detent)
2. Auxiliary Fuel Pump - ON
3. Cowl Flap - OPEN
4. Mixture - FULL RICH (Adjust Fuel Flow to Coincide with Power Setting)
5. As Soon As Practical - LAND
6. Fuel in Auxiliary and Opposite Main Tank is Unusable

ELECTRICAL SYSTEM EMERGENCY PROCEDURES:

A. ALTERNATOR FAILURE (Single):

(indicated by illumination of failure light)

1. Electrical Load - REDUCE
2. If Circuit Breaker is Tripped
   a. Shut off affected alternator
   b. Reset affected alternator circuit breaker
   c. Turn on affected alternator switch
   d. If circuit breaker reopens, turn off alternator

(Continued)

3. If Circuit Breaker does not Trip
   a. Select affected alternator on ammeter and monitor output
   b. If output is normal and failure light remains on, disregard fail indication and have indicator checked after landing
   c. If output is insufficient turn off alternator and reduce electrical load to one alternator capacity
   d. If complete loss of alternator output occurs check field fuse and replace if necessary
   e. If an intermittent light indication accompanied by ammeter fluctuation is observed, shut off affected alternator and reduce load to one alternator capacity

B: ALTERNATOR FAILURE (Dual):

(indicated by illumination of failure lights)

1. Electrical Load - REDUCE
2. If Circuit Breakers are Tripped
   a. Shut off alternators
   b. Reset circuit breakers
   c. Turn on left alternator and monitor output on ammeter
   d. If alternator is charging, leave it on (disregard failure light if still illuminated)
   e. If still inoperative, shut off left alternator
   f. Repeat steps c thru e for right alternator
   g. If circuit breakers reopen prepare to terminate flight
3. If Circuit Breakers have not Tripped
   a. Shut off alternators
   b. Check field fuses and replace as required
   c. Turn on left alternator and monitor output on ammeter
   d. If alternator is charging, leave it on (disregard failure light if still illuminated)
   e. If still inoperative, shut off left alternator
   f. Repeat steps c thru e for right alternator
   g. If both still inoperative, shut off alternators and turn on emergency power switch
   h. Repeat steps c thru e for each alternator
   i. If still inoperative shut off alternators and prepare to terminate flight

ENGINE INLET AIR SYSTEM ICING EMERGENCY PROCEDURES:

A. AIR INLET OR FILTER ICING:

1. Alternate Air Control(s) - PULL OUT to first detent (cold alternate air position)
2. Propeller (s) - INCREASE (2550 RPM for normal cruise)
3. Mixture(s) - LEAN as required

B. COLD ALTERNATE AIR INLET ICING:

1. Alternate Air Control(s) - PULL FULL OUT (hot alternate air position) .
2. Propeller(s) - INCREASE (2550 RPM for normal cruise)
3. Mixture(s) - LEAN as required
4. Pressurization Air - DUMP (LH and/or RH as necessary)
   a. Above 10, 000 Ft. with both pressurization air sources dumped
   (1) If Supplementary Oxygen is Not Available: EMERGENCY DESCENT to 10, 000 Ft.
   (2) If Supplementary Oxygen is Available:
   (a) Oxygen Knob - PULL on
   (b) Assure each occupant is using oxygen
   (c) Descend as soon as practical to 10, 000 Ft.

PRESSURIZATION SYSTEM EMERGENCY PROCEDURES:

A. IF AN IMPENDING PANEL OR WINDOW FAILURE IS OBSERVED:

1. Cabin Pressurization Switch - DEPRESSURIZE
2. Cabin Vent Control - PULL (DUMP RAM)
3. If Above 10, 000 Ft. and Supplementary Oxygen is Not Available - EMERGENCY DESCENT TO 10, 000 FT.
4. If Above 10, 000 Ft. and Supplementary Oxygen is Available -
   a. Oxygen Knob - PULL ON
   b. Assure each occupant is using oxygen
   c. Descend as soon as practical to 10, 000 Ft.

B. CABIN OVERPRESSURIZATION (Over 4. 5 PSI):

1. Pressurization Air Controls - PULL TO DUMP
2. If Above 10, 000 Ft. and Supplementary Oxygen is Not Available - EMERGENCY DESCENT TO 10, 000 FT.
3. If Above 10, 000 Ft. and Supplementary Oxygen is Available -

a. Oxygen Knob - PULL ON
b. Assure each occupant is using oxygen
c. Descent as soon as practical to 10, 000 Ft.

C. LOSS OF PRESSURIZATION ABOVE 10, 000 FT:

1. Without Supplementary Oxygen - EMERGENCY DESCENT TO 10, 000 FT.
2. With Supplementary Oxygen -

a. Oxygen Knob - PULL ON
b. Assure each occupant is using oxygen
c. Descend as soon as practical to 10, 000 Ft.

D. PRESSURIZATION AIR CONTAMINATION:

1. Pressurization Air - DUMP LH and/or RH as necessary)
2. Above 10,000 Ft. with Both Air Sources Dumped -
   a. If Supplementary Oxygen is Not Available - EMERGENCY DESCENT TO 10, 000 FT.
   b. If Supplementary Oxygen is Available -
      (1) Oxygen Knob - PULL ON
      (2) Assure each occupant is using oxygen
      (3) Descend as soon as practical to 10, 000 Ft.

EMERGENCY DESCENT PROCEDURES:

A. PREFERRED PROCEDURE:

1. Throttles - IDLE
2. Propellers - FULL FORWARD
3. Mixtures - ADJUST for smooth engine operation
4. Wing Flaps - UP
5. Airspeed - 225 KCAS

B. IN TURBULENT ATMOSPHERIC CONDITIONS:

1. Throttles - IDLE
2. Propellers - FULL FORWARD
3. Mixtures - ADJUST for smooth engine operation
4. Wing Flaps - DOWN 45°
5. Landing Gear - DOWN
6. Airspeed - 140 KCAS

ELECTRIC ELEVATOR TRIM EMERGENCY PROCEDURES:

A. ELECTRIC ELEVATOR TRIM SYSTEM FAILURE:

1. Elevator Trim Disengage Switch - DISENGAGE
2. Manual Trim - AS REQUIRED