

EMERGENCY PROCEDURES

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EMERGENCY PROCEDURES

INTRODUCTION

This section contains procedures that are recommended if an emergency condition should occur during ground operation, takeoff, or in flight. These procedures are suggested as the best course of action for coping with the particular condition described, but are not a substitute for sound judgment and common sense. Since emergencies rarely happen in modern aircraft, their occurrence is usually unexpected, and the best corrective action may not always be obvious. Pilots should familiarize themselves with the procedures given in this section and be prepared to take appropriate action should an emergency arise.

Most basic emergency procedures, such as power off landings, are a normal part of pilot training. Although these emergencies are discussed here, this information is not intended to replace such training, but only to provide a source of reference and review, and to provide information on procedures which are not the same for all aircraft. It is suggested that the pilot review standard emergency procedures periodically to remain proficient in them.

ENGINE POWER LOSS DURING TAKEOFF

The proper action to be taken if loss of power occurs during takeoff will depend on circumstances.

1. If sufficient runway remains for a normal landing, land straight ahead.
2. If insufficient runway remains, maintain a safe airspeed and make only a shallow turn if necessary to avoid obstructions. Use of flaps depends on circumstances. Normally, flaps should be fully extended for touchdown.
3. If you have gained sufficient altitude to attempt a restart, proceed as follows:
 - a. MAINTAIN SAFE AIRSPEED
 - b. FUEL SELECTOR - SWITCH TO ANOTHER TANK CONTAINING FUEL
 - c. ELECTRIC FUEL PUMP - CHECK ON
 - d. MIXTURE - CHECK RICH
 - e. ALTERNATE AIR - ON

NOTE

If engine failure was caused by fuel exhaustion, power will not be regained after tanks are switched until empty fuel lines are filled, which may require up to ten seconds.

If power is not regained, proceed with the **POWER OFF LANDING** procedure.

ENGINE POWER LOSS IN FLIGHT

Complete engine power loss is usually caused by fuel flow interruption, and power will be restored shortly after fuel flow is restored. If power loss occurs at low altitude, the first step is to prepare for an emergency landing (See POWER OFF LANDING). Maintain an airspeed of at least 100 MPH IAS, and if altitude permits, proceed as follows:

1. Fuel Selector - Switch to another tank containing fuel.
2. Electric Fuel Pump - On
3. Mixture - Rich
4. Alternate Air - On
5. Engine Gauges - Check for an indication of the cause of power loss.
6. If no fuel pressure is indicated, check tank selector position to be sure it is on a tank containing fuel.

When power is restored:

8. Alternate Air - Off
9. Electric Fuel Pump - Off

If the above steps do not restore power, prepare for an emergency landing.

If time permits:

1. Ignition Switch - "L" then "R" then back to "BOTH."
2. Throttle and Mixture - Different settings. (This may restore power if the problem is too rich or too lean a mixture, or if there is partial fuel system restriction.)
3. Try other fuel tanks. (Water in the fuel could take some time to be used up, and allowing the engine to windmill may restore power. If power loss is due to water, fuel pressure indications will be normal.)

NOTE

If engine failure was caused by fuel exhaustion, power will not be regained after tanks are switched until empty fuel lines are filled, which may require up to ten seconds.

If power is not restored, proceed with POWER OFF LANDING procedure.

POWER OFF LANDING

If loss of power occurs at altitude, trim the aircraft for best gliding angle (100 MPH IAS, Air Cond. - OFF), and look for a suitable field. If measures taken to restore power are not effective, and if time permits, check your charts for airports in the immediate vicinity; it may be possible to land at one if you have sufficient altitude. At best gliding angle, with the engine windmilling and the propeller control in full "DECREASE RPM," the airplane will travel approximately one and one half miles for each one thousand feet of altitude. If possible, notify the FAA by radio of your difficulty and intentions. If another pilot or passenger is aboard, let them help.

When you have located a suitable field, establish a spiral pattern around this field. Try to be at 1000 feet above the field at the downwind position to make a normal approach. When the field can easily be reached, slow up to 90 MPH IAS for the shortest landing. Excess altitude may be lost by widening your pattern, using flaps or slipping, or a combination of these.

Touchdown should normally be made at the lowest possible airspeed, with full flaps.

When committed to landing:

1. Ignition - Off
2. Master Switch - Off
3. Fuel Selector - Off
4. Mixture - Idle Cut-Off
5. Seat Belt (and harness if available) - Tight

PROPELLER OVERSPEED

Propeller overspeed is caused by a malfunction in the propeller governor, or low oil pressure, which allows the propeller blades to rotate to full low pitch. If this should occur, proceed as follows:

1. THROTTLE - RETARD
2. OIL PRESSURE - CHECK
3. PROPELLER CONTROL - FULL DECREASE RPM, THEN SET IF ANY CONTROL IS AVAILABLE.
4. REDUCE AIRSPEED
5. THROTTLE - AS REQUIRED TO REMAIN BELOW 2700 RPM.

SPINS

Intentional spins are prohibited in this aircraft. If a spin is inadvertently entered, immediately use the following recovery procedures:

1. THROTTLE - IDLE
2. RUDDER - FULL OPPOSITE TO DIRECTION OF ROTATION
3. CONTROL WHEEL - FULL FORWARD
4. RUDDER - NEUTRAL (WHEN ROTATION STOPS)
5. CONTROL WHEEL - AS REQUIRED TO SMOOTHLY REGAIN LEVEL FLIGHT ATTITUDE

OPEN DOOR

The cabin door on the Cherokee is double latched, so the chances of its springing open in flight at both the top and bottom are remote. However, should you forget the upper latch, or not fully engage the lower latch, the door may spring partially open. This will usually happen at takeoff or soon afterward. A partially open door will not affect normal flight characteristics, and a normal landing can be made with the door open.

If both upper and lower latches are open, the door will trail slightly open, and airspeed will be reduced slightly.

To close the door in flight, proceed as follows:

1. Slow aircraft to 100 MPH IAS.
2. Cabin Vents - Close
3. Storm Window - Open
4. If upper latch is open - latch. If lower latch is open - open top latch, push door further open, and then close rapidly. Latch top latch.

A slip in the direction of the open door will assist in latching procedure.

FIRE

The presence of fire is noted through smoke, smell, and heat in the cabin. It is essential that the source of the fire be promptly identified through instrument readings, character of the smoke, or other indications, since the action to be taken differs somewhat in each case.

SOURCE OF FIRE - CHECK

1. Electrical Fire (Smoke in Cabin):
 - a. Master Switch - Off
 - b. Vents - Open
 - c. Cabin Heat - Off
 - d. Land as soon as possible.

2. Engine Fire (In Flight):
 - a. Fuel Selector - Off
 - b. Throttle - Closed
 - c. Mixture - Idle Cut-Off
 - d. Heater - Off (In all cases of fire)
 - e. Defroster - Off (In all cases of fire)
 - f. If terrain permits, land immediately.

NOTE

The possibility of an engine fire in flight is extremely remote. The procedure given above is general and pilot judgment should be the deciding factor for action in such an emergency.

3. Engine Fire (During Start):

Engine fires during start are usually the result of overpriming. The following procedure is designed to draw the excess fuel back into the induction system.

 - a. If engine has not started:
 - (1) Mixture - Idle Cut-Off
 - (2) Throttle - Open
 - (3) Turn engine with starter (This is an attempt to pull the fire into the engine.)
 - b. If engine has already started and is running, continue operating to try pulling the fire into the engine.
 - c. In either case stated in (a) and (b), if the fire continues longer than a few seconds, the fire should be extinguished by the best available external means.
 - d. If external fire extinguishing is to be applied:
 - (1) Fuel Selector Valves - Off
 - (2) Mixture - Idle Cut-Off

LOSS OF OIL PRESSURE

Loss of oil pressure may be either partial or complete. A partial loss of oil pressure usually indicates a malfunction in the oil pressure regulating system, and a landing should be made as soon as possible to investigate the cause and prevent engine damage.

A complete loss of oil pressure indication may signify oil exhaustion or may be the result of a faulty gauge. In either case, proceed toward the nearest airport, and be prepared for a forced landing. If the problem is not a pressure gauge malfunction, the engine may stop suddenly. Maintain altitude until such time as a dead stick landing can be accomplished. Don't change power settings unnecessarily, as this may hasten complete power loss.

Depending on the circumstances, it may be advisable to make an off airport landing while power is still available, particularly if other indications of actual oil pressure loss, such as sudden increases in temperatures, or oil smoke, are apparent, and an airport is not close.

If engine stoppage occurs, proceed to POWER OFF LANDING.

LOSS OF FUEL PRESSURE

1. Electric Boost Pump - On
2. Fuel Selector - Check on full tank

If problem is not an empty fuel tank, land as soon as practical and have engine-driven fuel pump checked.

HIGH OIL TEMPERATURE

An abnormally high oil temperature indication may be caused by a low oil level, an obstruction in the oil cooler, damaged or improper baffle seals, a defective gauge, or other causes. Land as soon as practical at an appropriate airport and have the cause investigated.

A steady, rapid rise in oil temperature is a sign of trouble. Land at the nearest airport and let a mechanic investigate the problem. Watch the oil pressure gauge for an accompanying loss of pressure.

ALTERNATOR FAILURE

Loss of alternator output is detected through zero reading on the ammeter. Before executing the following procedure, insure that the reading is zero and not merely low by actuating an electrically powered device, such as the landing light. If no increase in the ammeter reading is noted, alternator failure can be assumed.

1. Reduce Electrical Load.
2. Alternator Circuit Breakers - Check
3. "Alt" Switch - Off (for 1 second), then On

If the ammeter continues to indicate no output, or alternator will not stay reset, turn off "Alt" switch, maintain minimum electrical load and land as soon as practical. All electrical load is being supplied by the battery.

ENGINE ROUGHNESS

Engine roughness may be caused by dirt in the injector nozzles, induction system icing, or ignition problems. To eliminate roughness, proceed as follows:

1. Mixture - Adjust for maximum smoothness. Engine will run rough if too rich or too lean.
2. Alternate Air - On
3. Electric Fuel Pump - On
4. Fuel Selector - Change tanks to see if fuel contamination is the problem.
5. Engine Gauges - Check for abnormal readings. If any gauge readings are abnormal, proceed accordingly.
6. Magneto Switch - "L" then "R," then back to "BOTH." If operation is satisfactory on either magneto, proceed on that magneto at reduced power, with mixture full rich, to a landing at the first available airport.

If roughness persists, prepare for a precautionary landing at pilot's discretion.

Weight / Balance & Equipment List Revision

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GARDNER AVIATION SPECIALIST, INC. - G3SR222J

500 AVIATION WAY B-5 PEACHTREE CITY GA 30269

770-486-6061

A/C Tail # : N7039C
Register Name : WILLIAM E. CASH
Name 2 :
Address 1 : 3441 HAMILTON RD
Address 2 :
City, State, PC : COLUMBUS, GA 31904-7702

A/C Make : PIPER
A/C Model : PA-32-300
A/C Serial # : 32-7640041
WO Ref # : 20533
WB Date : Jul-01-2005
WB ID # : 370

Previous data taken from document dated Jun-03-1998

Model / Part #	Description	(LB / IN)	Weight	CG/Arm	Moment
		Previous data ->	1994.00	80.40	
*REMOVED					
SL40	COM		-2.00	64.00	-128.00
KNS80	NAV SYSTEM		-6.00	64.00	-384.00
REMOVED	2 Items @		-8.00	64.00	-512.00
*INSTALLED					
GNS430	NAV/COM/GPS		6.50	64.00	416.00
GA56	GPS ANTENNA		0.20	96.00	19.20
INSTALLED	2 Items @		6.70	64.96	435.20
NEW DATA >>			1992.70	-0.04	-76.80


Authorized Individual: GRSR222J ADAM S. WIDENER

WEIGHT AND BALANCE DATA

MODEL PA-32-300 CHEROKEE

Airplane Serial Number 32-7640041

Registration Number N7039C

Date Dec. 6, 1989

AIRPLANE BASIC WEIGHT

*Superseded 6/3/98
Copy Date AD 527487574*

Item	Weight (Lbs)	X	C. G. Arm (Inches Aft of Datum)	=	Moment (In-Lbs)
*Empty Weight <small>Actual Computed</small>	1826.2		78.6		143588
Unusable Fuel (3.2 pints)	2.3		103.0		237
Standard Empty Weight	1828.5		78.7		143825
Optional Equipment	163.7		99.7		16320
Licensed Empty Weight	1992.2		80.4		160145
Oil (12 quarts)	22.5		16.6		374
Basic Weight	2014.7		79.7		160519

*Empty weight is defined as dry empty weight (including paint and hydraulic fluid) plus 2.4 lbs undrainable engine oil.

AIRPLANE USEFUL LOAD - NORMAL CATEGORY OPERATION

(Gross Weight) - (Licensed Empty Weight) = Useful Load

(3400 lbs) - 1992.2 lbs = 1407.8

THIS LICENSED EMPTY WEIGHT, C. G. AND USEFUL LOAD ARE FOR THE AIRPLANE AS OF Dec.6, 1989. REFER TO APPROPRIATE AIRCRAFT RECORD WHEN ALTERATIONS HAVE BEEN MADE.

WEIGHT AND BALANCE

FOR

CHEROKEE SIX 300

WARNING

EXTREME CARE MUST BE EXERCISED TO LIMIT THE USE OF THIS REPORT TO APPLICABLE AIRCRAFT. THIS REPORT REVISED AS INDICATED BELOW OR SUBSEQUENTLY REVISED IS VALID FOR USE WITH THE AIRPLANE IDENTIFIED BELOW WHEN APPROVED BY PIPER AIRCRAFT CORPORATION. SUBSEQUENT REVISIONS SUPPLIED BY PIPER AIRCRAFT CORPORATION MUST BE PROPERLY INSERTED.

MODEL PA-32-300

AIRCRAFT SERIAL NO. 32-7640041 REGISTRATION NO. N7039C

WEIGHT AND BALANCE REPORT NUMBER VB-551 REVISION 6

PIPER AIRCRAFT CORPORATION

APPROVAL SIGNATURE AND STAMP M. Keller



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