READING AERO CLUB
PA 28-181 N168F
QUICK REFERENCE HANDBOOK

QRH checklists are for informational purposes only and should not be used as a substitute for official documents or the pilot's own judgment and training.

Quick Action Index

For PILOT and passenger awareness:

Terrain CAUTIONS, ALERTS and WARNINGS may be observed with any non-normal approach to an airport runway and/or on an approach and landing at an off-airport location. Commands from the TAWS (terrain alerts and warning system) may be counterintuitive to the necessary pilot actions in an emergency.

The ARCHER III, N168F has numerous equipment changes that may affect how a pilot might handle an emergency or abnormal situation. This QRH includes considerations from the aircraft POH, the supplemental Sections, the equipment's pilot guides and The FAA Airplane Flying Handbook.

Emergencies and abnormal procedures goals:

1. To help the pilot with recognizing a problem.
2. Time management, the red pages are emergencies that require immediate pilot actions and may have Boldface memory item actions. Red pages also mean that the probability of an immediate forced landing may exist. (Red = "*No"* Time Emergencies)
3. Other checklists will help the pilot to determine whether a precautionary landing is necessary. (Yellow = *"some"* Time for the pilot to take a course of action)
4. To include the "Newer" equipment functions into the Emergency and Abnormal checklists. The safety measures provided by the features of the "Newer" equipment may have made some procedures of the POH obsolete.
5. The QRH also considers the likely operations by the aero club's pilots. (Such as the use of ATC for assistance)

How to use the QRH

Airplane systems anomalies found before attempting takeoff should be properly corrected. With few exceptions, the QRH is for use AFTER starting the takeoff roll.

The checklists are designed to be read from top down. The Checklist for a condition is complete when you have reached four ■ ■ ■ ■ . (*Not necessarily at the end of the page)*

Text Boxes are condition variables *"if's"*. The pilot chooses which condition applies and that text box will direct the pilot to further actions.

QRH checklists may not include items that should have been completed under the NORMAL checklists. Example: Seatbelts and shoulder harnesses are assumed ON by the normal Before Takeoff Checklist and are not included in the QRH Engine Failure During Takeoff Roll checklist procedure.

Airspeeds for Emergency Operation

Engine Failure After Takeoff/Go-Around:

Flaps UP ..... 76 KTS

Flaps DOWN ..... 66 KTS

Maneuvering Speed ..... 113 KTS

Maximum Glide ..... 76 KTS

Landing Without Engine Power:

Flaps UP ..... 76 KTS

Flaps DOWN ..... 66 KTS

SECTIONS

NOTE: Bold Faced type items are immediate actions which should be committed to memory.

1 AUTOPILOT EMERGENCIES and ABNORMAL PROCEDURES

2 COMMUNICATIONS / RADIOS / NAVIGATION

3 ELECTRICAL

4 ENGINE

5 FLIGHT CONTROLS

6 FLIGHT INSTRUMENTS G5

7 FIRE / SMOKE / FUMES

8 FUEL

9 LANDING GEAR

10 MANEUVERS

11 MISCELLANEOUS

1 AUTOPILOT EMERGENCY & ABNORMAL PROCEEDURES

AUTOPILOT MALFUNCTION / PITCH TRIM RUNWAY

Conditions: Airplane deviates unexpectedly from the planned

WARNING: Do not overpower autopilot. The trim will operate in the direction opposite the overpower force, which will result in large out-of-trim forces.

CAUTION: Be prepared for high elevator control forces.

NOTE: Do not release the AP DISC TRIM INT Button until AFTER pulling the AUTOPILOT Circuit Breaker

1. **Control wheel ..... GRIP FIRMLY**
2. **A/P DISC / TRIM Button ..... PRESS AND HOLD**
3. **Aircraft Attitude ..... MAINTAIN / REGAIN AIRCRAFT CONTROL**
4. Elevator Trim ..... RE-TRIM if necessary, using Elevator Trim Control Wheel
5. AUTOPILOT Circuit Breaker ..... PULL
6. AP DISC / TRIM INT Button ..... RELEASE
7. Elevator Trim ..... USE MANUAL TRIM WHEEL

DO NOT ATTEMPT TO RE- ENGAGE THE AUTOPILOT OR USE ELECTRIC TRIM.

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AP AUTOPILOT FAILURE / ABNORMAL DISCONNECT

Conditions: Red AP in the Autopilot status box, and continuous aural disconnect tone

NOTE: In the event of GMC failure, pressing the GI 275 knob will acknowledge the disconnect tone.

1. AP DISC/TRIM INT Button or GI 275 knob ..... PRESS AND RELEASE
2. Aircraft control ..... MAINTAIN / REGAIN AIRCRAFT CONTROL

Choose one

 Abnormal Disconnected Autopilot ... ATTEMPT RE-ENGAGE	 Autopilot INOP Flight Director AVAILABLE ONLY	 Autopilot & Flight Director INOP

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PTRIM PITCH TRIM FAILURE

Condition: PTRIM autopilot status box. Failure of pitch trim servo.

WARNING: Be prepared for high elevator control forces.

1. Control Wheel ……..…….. GRIP FIRMLY
2. AP DISC / TRIM INT Button ……...…….. PRESS and RELEASE
3. Elevator Trim …….. AS REQUIRED USING TRIM WHEEL

NOTE: Autopilot may be re-engaged, referencing MANUAL PITCH TRIM WITH AUTOPILOT ENGAGED procedures.

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ESP ACTIVATION

1. **Throttle ……... AS REQUIRED**
2. **Aircraft Attitude ……. REGAIN AIRCRAFT CONTROL**

NOTE: If ESP is active for approximately 10 seconds, the autopilot will automatically engage in LVL mode, an aural ‘ENGAGING AUTOPILOT’ will be played, (or a Sonalert tone will sound for installations without a supported audio panel) and the autopilot will roll the wings level and fly at zero-vertical speed. Refer to Section 7, System Description for further information. ESP will be disabled by pressing and holding the AP DISC / TRIM INT button. button will allow

MAXSPD OVERSPEED PROTECTION

NOTE: Overspeed protection mode provides a pitch up command to decelerate the airplane at or below the maximum autopilot operating speed.

1. Throttle ..... REDUCE
2. Aircraft Attitude and Altitude ..... MONITOR

After overspeed is corrected.

3. Autopilot ..... RESELECT VERTICL & LATERAL MODES (if necessary)
4. Throttle ..... ADJUST as necessary

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MINSPD UNDERSPEED PROTECTION

NOTE: Underspeed protection mode provides a pitch down command to maintain 50 KTS.

1. Throttle ..... INCREASE POWER AS REQUIRED . TO CORRECT UNDERSPEED
2. Aircraft Attitude and Altitude ..... MONITOR

After underspeed is corrected

3. Autopilot ..... RESELECT VERTICL & LATERAL MODES (if necessary)
4. Throttle ..... ADJUST as necessary

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AP AUTOPILOT PRE-FLIGHT TEST FAIL

NOTE: ESP and electric elevator trim are inoperative.

1. Indicates the AFCS system failed the automatic Pre-Flight test

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MANUAL AUTOPILOT DISCONNECT

NOTE: If necessary, the autopilot may be manually disconnected using any one of the following methods:

1. AP DISC / TRIM INT Button ……….……………..……… PRESS and RELEASE
2. AP Key ………………...……………………………….………..…………. PRESS
3. Pitch Trim Switch……………………………………..……..…………….ACTIVATE
4. AUTOPILOT Circuit Breaker………….…………………………..…….…..……..PULL

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LOSS OF NAVIGATION INFORMATION

Conditions: Amber GPS, VOR, LOC, or BC flashes for 10 seconds.

NOTE: If a navigation signal is lost while the autopilot is tracking it, the autopilot will roll the aircraft wings level and default to roll mode (ROL).

1. GMC 507 Mode Panel ……….….. SELECT HDG mode & SET desired heading
2. NAV Source ……………………..……………..………. SELECT a valid NAV source
3. NAV key …………………………..…………......………………………... PRESS
   If on an instrument approach at the time the navigation signal is lost.
4. Missed Approach Procedure ………..……………..………. EXCUTE (as applicable)

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LOSS OF AIRSPEED DATA

NOTE: If airspeed data is lost while the autopilot is tracking airspeed, the flight director will default to pitch mode (PIT).

1. AP DISC / TRIM INT Button …………………………..….. PRESS AND RELEASE
2. Aircraft Attitude …………………… MAINTAIN / REGAIN AIRCRAFT CONTROL
3. Manual Elevator Trim …………………………………………… TRIM as required

NOTE: The autopilot cannot be re-engaged. The flight director is available however, IAS mode cannot be selected. Loss of airspeed will be accompanied by a red PTRIM indication on the G5.

LOSS OF ALTITUDE DATA

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NOTE: If altitude data is lost while the autopilot is tracking altitude, the autopilot will default to pitch mode (PIT).

1. Autopilot ……………………………….…….………… SELECT different vertical mode

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LOSS OF GPS INFORMATION

Conditions: GPS position information is lost to the autopilot.

NOTE: If GPS position data is lost while the autopilot is tracking a GPS, VOR, LOC or BC course, the autopilot will default to roll mode (ROL). The autopilot will default to pitch mode (PIT) if GPS information is lost while tracking an ILS. The autopilot uses GPS aiding in VOR, LOC and BC modes.

1. Autopilot …… SELECT different lateral & vertical mode (as necessary)
   If on an instrument approach:
2. AP DISC / TRIM INT button …… PRESS, Continue approach manually OR
3. Missed Approach Procedure ……..…….…. EXCUTE (as applicable

■ ■ ■ ■

HEADING SOURCE FAILURE

NOTE: Track information will be displayed on the G5, or GI 275. Without a heading source to the navigator, GPSS will not be provided to the autopilot for heading legs. Navigator map cannot be oriented heading up.

1. Autopilot …,,……..,…….…… SELECT different lateral mode (as necessary)

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TRIM DOWN

TRIM UP

ELEVATOR MIS-TRIM (AUTOTRIM)

Conditions: Indicates a mis-trim of the elevator while the autopilot engaged

WARNING: Do not attempt to overpower the autopilot in the event of a pitch Mis-Trim. The autopilot servo will oppose pilot input and will cause pitch trim to run opposite the direction of pilot input. This will lead to significant out-of-trim conditions, resulting in large control wheel force when disengaging the autopilot.

NOTE: Momentary display of TRIM UP or TRIM DOWN message during configuration changes or large airspeed changes is normal.

1. Control Wheel ……..……..……..……. GRIP FIRMLY

WARNING: Be prepared for significant sustained control wheel forces in the directions of the Mis-Trim annunciation. For example: TRIM DOWN indicates nose down control wheel force will be required upon autopilot disconnect.

2. AP DISC / TRIM INT Button ……..……..… PRESS AND RELEASE
3. Manual Elevator Trim ……..……..……RE-TRIM as required

Electric pitch trim should be considered inoperative until the cause of the Mis-trim has been investigated and corrected.

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2 COMMUNICATIONS / RADIOS / NAVIGATION

Crew Alerting System (CAS)

NOTE: Terrain warnings and cautions pilot should initiate proper recovery maneuver. “Terrain Escape Maneuver” on SEC 10, pg. 3

INTERMITTENT or SCRATCHY RADIOS

Condition: Radio communication difficulties transmitting and receiving.

NOTE Scratchy radios may be an indication of losing Electrical power. If ALT or LOW BUSS VOLTAGE are annunciated and/or continuous zero reading on the ammeter (ensure the reading is zero and not merely low by actuating and electrically powered device, such as the landing light), see LOW BUSS VOLTAGE Alternator Fail SEC 3, pg.3.

1. IFD 440 COMM FREQ ……..…….…… CONFIRM (TX & RX)
2. Try ……..……..…… COMM 2
3. Ask ATC for different Frequency or try 121.5
4. Consider using Transponder IDENT to acknowledge ATC transmissions.
5. Try using Co-Pilot's Headset plugs and yoke MIC switch
6. Try using another headset or speaker on audio panel
7. Try using handheld radio (if available)

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LOST COMMUNICATIONS

Condition: Unable to reach ATC (assigned frequency or on 121.5) or failure of both Radios.

CAUTION: Maintain vigilance for other aircraft and make predictable maneuvers.

NOTE: Stay clear of Class B, C, or D airspace while assessing the situation. Assume ATC tower will use light gun signals.

1. If Transponder powered ..... SQUAWK 7600
2. Cellphone/ handheld radio (if available) ..... CALL ATC TOWER

VFR Flights Landing at Airports with an ATC Tower. >>> Go to Step 3	IFR Flight, Comply with IFR LOST COMM Procedures. ■ ■ ■ ■

3. Traffic Pattern and Runway ..... DETERMINE
   Observe windsock or traffic pattern to find the direction and flow of traffic.
4. Enter and Fly ..... STANDARD PATTERN & ALTITUDE
5. Scan the Tower ..... LOOK FOR LIGHT GUN SIGNALS
   Stay in pattern and altitude, follow and comply with ATC light gun signals.
6. WHEN STEADY GREEN Signal ..... LAND WITH CAUTION
7. After landing ..... CLEAR RUNWAY AND STOP
8. Follow Tower Instructions ..... COMPLY TO LIGHT GUN SIGNALS

AIR TRAFFIC CONTROL: LIGHT GUN SIGNALS FOR PILOTS

Aircraft on the Ground		Aircraft in Flight
Cleared for takeoff	Steady green	Cleared for landing
Cleared for taxi	Flashing green	Return for landing - to be followed by steady green at the proper time
STOP	Steady red	Give way to other aircraft and continue circling
Taxi clear of the runway in use	Flashing red	Airport unsafe, do NOT land
Return to starting point on airpot	Flashing white	Not applicable
Exercise extreme caution	Alternating green/red	Exercise extreme caution

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COM Stuck TX

STUCK MICHROPHONE

Condition: Stuck MIC indicated by continuous (TX) Transmitting for over 35 seconds in the COMM Frequency window and unable to hear ATC's or other Aircraft's transmissions.

NOTE: COM 2 (GNC 255) If the microphone is keyed for longer than 35 seconds, the GNC 255 will revert to receive mode.

1. MIC switches ..... CYCLE (to unstick)
2. RADIO 2 (GNC 255) ..... TUNE DESIRED FREQ (or 121.5)
3. Intercom Panel ..... SELECT COM2 MIC
4. Communications ..... USE COM 2

If message appears on Com 2 (GNC 255), "COM PUSH-TO-TALK KEY IS STUCK"

5. Com 2 (GNC 255) ..... PRESS ENT
6. PULL Headset Jacks ..... PLUG INTO CO-PILOT's SIDE
7. For Radio Transmissions ..... USE CO-PILOT YOKE MIC KEY

If communication problems persist,
- Headset's Microphone Jacks PULL
- Hand Microphone ..... TRY
- Handheld Radio ..... TRY

If problems persist, >>> Go To step 8

If normal communications, continue using CO-PILOT's yoke MIC key

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8. Attempt to Advise ATC or Observe Control tower ..... USE LIGHT GUN SIGNALS
9. See LOST COMMUNICATION in this section for additional info.

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IDF 440 CAUTION MESSAGES

ADS-B Traffic Sensor Fault

No communication with traffic sensor

* The IFD is not receiving messages from the ADS-B traffic sensor. Contact a local dealer for service. This message is local if independent traffic sensors are installed.

ADS-B Traffic Sensor Fault

Traffic sensor has failed

* The ADS-B traffic sensor is reporting a failure or the IFD is receiving invalid messages from the sensor. Contact a local dealer for service. This message is local if independent traffic sensors are installed.

Caution Obstacle

Caution Obstacle

* The FLTA algorithm is predicting a likely obstacle collision with approximately 60 seconds – initiate a proper recovery maneuver.

Caution Terrain

Caution Terrain

* The FLTA algorithm is predicting a likely ground collision within approximately 60 seconds – initiate a proper recovery maneuver.

Check Altitude Too Low

Aircraft is below the glide slope altitude at FAF

Correct aircraft altitude as required to safely conduct the approach or initiate a climb to a published safe altitude and abort the approach.

IDF 440 CAUTION MESSAGES cont'd

COM Stuck TX

Stuck mic timeout, transmitter disabled

Requires 35 seconds of continuous transmission. Verify the PTT is stuck and contact a dealer for service as required. Not applicable to the IFD410.

COM TX Fault

Transmitter Fault, no TX ability

† Transition to a backup VHF com radio (if available) or initiate lost communication procedures. Contact the Avidyne Service Center or a dealer for service. Not applicable to the IFD410

Configuration Error

Configuration Error – IFD Requires Service

The IFD has encountered an internal error while determining the system configuration. Contact the Avidyne Service Center or a local dealer for service.

Don't Sink

Negative climb rate or altitude loss

TAWS NCR algorithm has determined corrective action should be taken immediately.

GPS Fault

GPS Fault

The GPS has stopped providing a navigation solution. If GPS is the only navigation solution source available, then expect degraded IFD operation (e.g. no map, no FMS guidance, etc.)

IDF 440 CAUTION MESSAGES cont'd

GPS Integrity Lost	**GPS Integrity Lost Crosscheck Nav** This alert indicates imminent exceedance of horizontal fault detection limits or protection levels. Crosscheck the nav solution and determine the best course of action. If on an approach, a Missed Approach is recommended.
Low Volts	**Reduced backlight maximum** Main supply voltage has fallen to approximately 11VDC. Check the aircraft alternators/generators are on and functional. Consider load shedding the bus that is powering the IFD.
LP Unavailable	**GPS integrity is insufficient for LP Approach** No other minima available, abort the approach.
LP Unavailable Use LNAV MDA	**GPS integrity is insufficient for LP Approach** Transition to a non-LP approach and the appropriate minima.
LPV Unavailable	**GPS integrity is insufficient for LPV Approach** No other minima available, abort the approach.
LPV Unavailable Use L/VNAV DA	**GPS integrity is insufficient for LPV Approach** Transition to a non-LPV approach and the appropriate minima.

IDF 440 CAUTION MESSAGES cont'd

LPV Unavailable Use LNAV MDA	**GPS integrity is insufficient for LPV Approach** Transition to a non-LPV approach and the appropriate minima.
L/VNAV Unavailable	**GPS integrity is insufficient for LNAV/VNAV Approach** No other minima available, abort the approach.
L/VNAV Unavail. Use LNAV MDA	**GPS integrity is insufficient for L/VNAV Approach** Transition to a non-L/VNAV approach and the appropriate minima.
Manual Sequence Req'd	**Altitude invalid - leg will not auto sequence** If the IFD does not have baro altitude input, this message will appear when the FMS active leg terminates at an altitude. In this case, the FMS flight plan will need to be manually sequenced to the next leg. Failure to do so will cause the FMS to fly the course/heading indefinitely.
No ADS-B Position	**AXP322 Lost GPS Position Data** ADS-B position data had previously been valid and then transitioned to invalid. Check the ADS-B position source.
No Comm with VHF	**No communication with the VHF radio** Transition to a backup VHF com radio (if available) or initiate lost communication procedures. Contact the Avidyne Service Center or a dealer for service. Not applicable to the IFD410.

IDF 440 CAUTION MESSAGES cont'd

No Comm with Xpdr

No Communication with Remote Transponder

No data has been received from the remote transponder for greater than 2 seconds. Contact the Avidyne Service Center if this persists across power cycles.

No Position

No position available

The IFD cannot compute a navigation solution. IFD operation will be degraded (e.g. no map, no FMS guidance, etc.) Transition to alternative navigation sources.

Sink Rate

Excessive Descent Rate

TAWS has detected a potential for CFIT due to excessive descent rate. Arrest the descent rate and recover the aircraft.

TAWS Fail

Invalid GPS Position/Velocity

The GPS solution is lost or the GPS velocity quality parameters dropped below required accuracy limits. A chime is played if this condition occurs. Contact the Avidyne Service Center if this persists across power cycles.

TAWS System Failure

TAWS Failed Self-Test <reason>

TAWS failed self-test for the <reason> provided and TAWS will be degraded or not available for the duration of this power cycle. Contact the Avidyne Service Center if this persists across power cycles.

IDF 440 CAUTION MESSAGES cont'd

TIS Removed

TIS Traffic Removed

TIS traffic communications have ceased for more than 12 seconds.

TIS Unavailable

TIS Traffic Unavailable

No TIS ground station is available or communications have ceased for more than 60 seconds.

Too Low, Terrain

Premature Descent, below glide path

TAWS has determined the aircraft is below glide path.

Traffic Sensor Fault

No communication with traffic sensor

* The IFD is not receiving messages from the traffic sensor. Contact a local dealer for service. This message is local if independent traffic sensors are installed.

Traffic Sensor Fault

Traffic sensor has failed

* The traffic sensor is reporting a failure or the IFD is receiving invalid messages from the sensor. Contact a local dealer for service. This message is local if independent traffic sensors are installed.

IDF 440 WARNING MESSAGES

Low Volts Off In <x> sec	**Low Volts, IFD powers down in <x> sec** Main supply voltage has fallen below 9 VDC and the IFD will power down in <x> seconds (counting down from 60). Contact a local dealer for service.
Pull Up	**Excessive Descent Rate** * The TAWS Excessive Descent Rate algorithm has detected a CFIT potential – initiate an immediate recovery maneuver.
Terrain Pull Up	**Terrain Pull-Up** * The FLTA algorithm has detected an imminent ground collision - Initiate an immediate recovery maneuver
Unit Overtemp	**IFD operation unreliable: <internal component name>** The listed internal components have exceeded the maximum design temperature and reliability cannot be ensured until the unit is tested by the Avidyne Service Center. Contact the Avidyne Service Center or a local dealer for service.
Unit Overtemp	**Return IFD for service. Operation unreliable: <n>** One or more of the internal components has exceeded its maximum design temperature <n> times and reliability cannot be ensured until the unit is tested by the Avidyne Service Center. This message will be present on every subsequent power cycle until reset by the Avidyne Service Center. Contact the Avidyne Service Center or a local dealer for service.
Warning Obstacle	**Warning, Obstacle** * The FLTA algorithm has detected an imminent obstacle collision - Initiate an immediate recovery maneuver.

3 C172 ELECTRICAL

CAUTION: STALL WARNING HORN UNAVAILABLE whenever the Battery Master is OFF, or loss of Electrical power. Pilot must fly appropriate Attitude and Airspeed to AVOID STALLING the airplane.

CABIN & ELECTRICAL FIRE / SMOKE / FUMES

Condition: Presence of FIRE, SMOKE, FUMES (electrical smoke - distinct odor of burning insulation, or Faulty circuit)

1. Battery Master Switch ..... OFF
2. ALTR Switch ..... OFF
3. Vents ..... OFF
4. Cabin Heat & Defroster ..... OFF
5. Fire Extinguisher ..... ACTIVATE

At ANY TIME if situation becomes UNMANAGEABLE
(FIRE/SMOKE PERSIST)
IMMEDIATE LAND ASAP/CONSIDER Emergency Descent

WARNING: AFTER DISCHARGING FIRE EXTINGUISHER AND ASCERTAINING THAT FIRE HAS BEEN EXTINGUISHED, VENTILATE THE CABIN
>>> Go to Step 6

6. Vents ..... OPEN

If Electrical Fire/Smoke/Fumes (Odor of burning insulation)	If Non Electrical Fire / Smoke / Fumes
>>> Go To Step 10	>>> Go to Step 7

7. Batt. Master Switch ..... ON
8. ALTR Switch ..... ON
9. Land At Nearest Suitable Airport (to inspect damage)

■ ■ ■ ■

10. Avionics Master Switch ..... OFF
11. All Other Switches (except ignition switch) ..... OFF
12 Batt. Master Switch ..... ON (wait)
13. ALTR ..... ON (wait)
14. Circuit Breakers Tripped ..... DO NOT reset
15. Radio Switches ..... OFF
16 Avionics Master Switch ..... ON
17. Radio/Electrical Switches (one at a time with delay after each) ..... ON
14. Land At Nearest Suitable Airport (to inspect damage).

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CIRCUIT BREAKER RESET

1. Allow open circuit breaker to cool ..... 2 to 5 minutes
2. Open Circuit Breaker ..... LIMITED TO A SINGLE RESET

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(IMAGE) ELECTRICAL OVERLOAD

Condition: Alternator over 20 amps above known electrical load. (normal night
It may be caused by a low battery, a battery fault, or other abnormal electrical load

NOTE: If the cause is low battery the indication should begin to decrease toward normal within 5 minutes.

1. Electrical Loads ..... REDUCE (non-essential equipment)
2. BAT Switch ..... OFF (the ammeter should decrease)
3. BAT Switch ..... ON

Alternator output decreases to normal within 5 minutes. ■ ■ ■ ■	If alternator output does not decreases within 5 minutes >>> Go To Step 4

4. BAT Switch ..... OFF

CAUTION: Due to higher voltage and radio frequency noise, operation with ALT switch ON and BAT switch OFF should be made only when required by an electrical failure.

5. Seek VFR and Land at Nearest Suitable Airport
   If the LOW BUS Voltage Annunciator is illuminated,
6. Advise ATC/CTAF .....DECLARE EMERGENCY
7. Go to LOW BUS VOLTAGE (Alternator Failure) ..... SEC 3 Pg. 3

G5 INTERNAL BATTERY BACKUP ENDURANCE (hours & minutes)

41%-100%

21%-40%

0%-20%

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LOW BUS VOLTAGE

LOW BUS VOLTAGE Alternator Failure

Condition: Anytime the BUS voltage is below 25 Vdc, Ammeter indicates zero AMPS, or ALTERNATOR FIELD circuit breaker is tripped, or intermittent or scratchy radios.

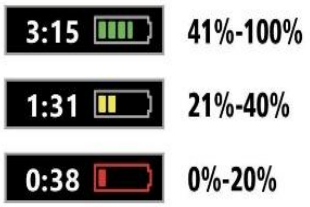
CAUTION: ATC communication, primary flight plan and navigation are lost if Master Battery Switch or Avionic Master – OFF

NOTE: Aircraft's battery may be limited to as little as 15 minutes of use.

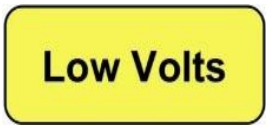
NOTE: LOW BUS VOLTAGE light may be illuminated during low RPM (such as during taxi). Procedure is not required if light extinguishes with normal RPM on the ground.

1. ALT Switch ..... OFF
2. Electrical Loads ..... REDUCE
3. Alternator Field Circuit Breaker ..... CHECK IN / RESET (as required)
4. ALT Switch ..... ON

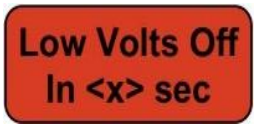
   If power not restored, LOW BUS VOLTAGE illuminates again:
5. ALT Switch ..... OFF
6. Flight Instruments ..... VERIFY (G5 battery endurance)
7. Nonessential Radios & Equipment ..... OFF
8. Seek VFR conditions and nearest suitable airport ..... LAND
9. Advise ATC/CTAF ..... DECLARE EMERGENCY



G5 Battery Endurance



IFD 440 Main supply voltage <11 VDC



IFD 440, 9 VDC (shutdown)

NOTE: If LOW VOLTS OFF displayed on IFD 440, the IFD powers down in < countdown from >60 seconds.

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4 ENGINE

NOTE: Discontinue RESTART Procedure and go to FORCED LANDING WITHOUT ENGINE POWER checklist, when Engine is considered DAMAGED, if any of the following:

- Oil or Fuel is visibility leaking
- No Oil pressure, with Engine windmilling
- Max High Oil Temperature exceedance
- Engine Vibrations severely
- Engine will NOT CRANK or is seized
- Selected Fuel Tank contains Fuel and, No FUEL Pressure with AUX. Electric Fuel Pump On?
- Engine fire/smoke

CAUTION: STALL WARNING HORN UNAVAILABLE whenever the Battery Master is OFF, or loss of Electrical power. Pilot must fly appropriate Attitude and Airspeed to AVOID STALLING the airplane.

ENGINE FAILURE DURING TAKEOFF ROLL

Engine failed before being airborne

1. **Throttle ..... IDLE**
2. **Brakes ..... APPLY HEAVILY**
3. Wing Flaps ..... RETRACT
4. Mixture ..... IDLE CUT OFF
5. Magneto Switches ..... OFF

If stopping beyond runway surfaces is expected, Transmitted **"MAYDAY, MAYDAY, MAYDAY"**
>>> GO TO STEP 6

If stopping successful on Runway, Advise Traffic"
"ABORTED TAKEOFF ON RUNWAY"
>>> GO TO STEP 6

6. BAT Master & ALTR Switches ..... OFF

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ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF OR GO AROUND

Condition: Loss of thrust at low altitude after takeoff or during a go around

FLY THE AIRPLANE ..... LOWER NOSES 76 KTS, W/FLAPS 66 KTS
Electric FUEL PUMP ..... ON
Carburetor Heat ..... ON ..... IF POWER RETURNS, LAND ASAP
EMERGENCY LAND ..... PLAN STRAIGHT AHEAD
'IF TIME", (radio transmit) ..... MAYDAY, MAYDAY, MAYDAY

1. Mixture & Throttle ..... IDLE CUT OFF
2. Fuel Selector ..... OFF
3. Magneto Switches ..... OFF
4. Flaps ..... AS REQUIRED
5. BAT Master & ALTR Switches ..... OFF (except at night)
6. Door ..... UNLATCHED

All Day Landing surfaces other than water, snow, or treetops >>> Go to Step 7

If Landing in water, >>>Go to Step 9
In Treetops Deep Snow, or at night
>>>Go to Step 10

7. Touch Down ..... SLIGHTLY TAIL LOW
8. Brakes ..... APPLY HEAVILY

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9. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS / WAVES
10. Touch down ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
11. BAT Master & ALTR Switches ..... OFF
12. EVACUATE ..... through cabin door
    If necessary, open window vent and flood cabin

■ ■ ■ ■

ENGINE FAILURE DURING FLIGHT

Restart Procedure without engine damage

1. **Airspeed (while choosing a landing site) .... 76 KTS**
2. **Fuel Selector Valve .... SWITCH TO TANK WITH FUEL**
3. **Electric Fuel Pump .... ON**
4. **Mixture .... RICH**
5. **Carburetor Heat .... ON**
6. Magnetos Switches L&R (if time permits, one at a time) .... OFF then ON
7. Throttle & Mixture (if time permits, try different settings to restore power)

ENGINES RESTARTS >>> GO TO STEP 7	ENGINE FAIL / DAMAGED, GO TO FORCED LANDING WITHOUT ENGINE POWER (below)

8. Carburetor Heat .... OFF
9. Electric Fuel Pump .... OFF
   If fuel flow indicator immediately drops to zero engine-driven pump failed
10. Electric Fuel Pump .... ON
11. Nearest Suitable Airport.. LAND

■ ■ ■ ■

FORCED LANDING WITHOUT ENGINE POWER

>>> FLY THE AIRPLANE ......,,. 76 KTS while choosing a landing site

1. Announce on ATC (or on 121.5 **................ "MAYDAY, MAYDAY, MAYDAY"**
2. ELT .... ACTIVATE
3. Passenger Seat Backs .... MOST UPRIGHT POSITION
4. Seats and Seat Belts .... SECURE
5. Airspeed .... **76** KTS (flaps UP), **66** KIAS (flaps DOWN)
6. Mixture & Throttle .... IDLE CUT OFF
7. Fuel Selector .... OFF
8. Magneto Switchs .... OFF
9. Wing Flaps .... AS REQUIRED (30° recommended)
10. BAT & Master Switches (when landing assured) .... OFF (except at night)
11. Door .... UNLATCH PRIOR TO TOUCHDOWN

All Day Landing surfaces other than water, snow, or treetops >>> Go to Step 12	If Landing in water, >>>Go to Step 14 In Treetops Deep Snow, or at night >>>Go to Step 15

12. Touchdown .... SLIGHTLY TAIL LOW
13. Brakes .... APPLY HEAVILY

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14. Water .... LAND INTO WIND, OR PARRALLEL TO SWELLS/ WAVES
15 Touch down .... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
16. Master Switch .... OFF
17. EVACUATE .... through cabin doors
    If necessary, open window and flood cabin so doors can be opened

■ ■ ■ ■

ROUGH ENGINE OPERATION
PARTIAL LOSS OF POWER & CARBURETOR ICING

Conditions: Sudden engine roughness or misfiring; slight engine roughness; or rough engine with drop in RPM, slight loss of airspeed or altitude.

NOTE: Climb "IF Possible". More ALTITUDE provides more time and glide distance should sufficient engine power be lost.

CAUTION: Partial carburetor heat may be worse than no heat at all, since it may melt part of the ice, which will refreeze in the intake system. When using carburetor heat, therefore, always use full heat, and when ice is removed return the control to the full cold position.

NOTE: Under certain moist atmospheric conditions at temperatures of -5° C to +20°C, it is possible for ice to form in the induction system, even in summer weather. This is due to the high air velocity through the carburetor venturi and the absorption of heat from this air by vaporization of the fuel. To avoid this, carburetor preheat is provided to replace the heat lost by vaporization. Carburetor heat should be full on when carburetor ice is encountered.

1. If engine Indications **NOT** normal go to appropriate checklist
2. Carburetor Heat ..... ON
3. Wait for if a decrease in engine roughness ..... 1-2 minutes

Engine running smooth Carb Heat …OFF Set proper mixture ■ ■ ■ ■	Engine roughness. Plug fouling/weak MAG >>> Go to step 4	Sudden engine roughness or misfire: MAG Malfunction >>> Go to step 8

4. Carburetor Heat ..... OFF
5. Mixture .....;.... adjust for MAXIMUM SMOOTHNESS
6. Electric Fuel Pump ..... ON
7. Fuel Selector .....SWITCH TANK (containing fuel)

Engine running rough >>> Go to step 8	Engine running smoother: Fuel may be contaminated >>>Go to step 12

8. Left MAG switch ..... OFF then ON
9. Right MAG switch ..... OFF then ON
10. If operations on either MAG is satisfactory ..... USE GOOD MAG
11. Power ..... REDUCE
12. Mixture ..... RICH
13. Land at the nearest suitable airport

■ ■ ■ ■

OIL PRESS OIL PRESSURE LOW, HIGH OIL TEMP

Conditions: Low oil pressure indication

NOTE: Climb (if possible). More ALTITUDE provides more time and glide distance should sufficient engine power be lost.

If oil temperature is HIGH Suspect Imminent ENGINE FAILURE >>> Go To Step 1	If oil temperature NORMAL Land at Nearest Suitable Airport ■ ■ ■ ■

1. Engine Power ..... REDUCE IMMEDIATELY
2. Suitable Forced Landing Field ..... SELECT
3. LAND ..... ASAP
4. Engine Power ..... USE MINIMUM TO REACH DESIRED TOUCHDOWN SPOT
5. Announce on ATC (or on 121.5) ..... **"MAYDAY, MAYDAY, MAYDAY"**
6. ELT ..... ACTIVATE
7. Passenger Seat Backs ..... MOST UPRIGHT POSITION
8. Seats and Seat Belts ..... SECURE

ON FINAL APPROACH

9. Airspeed ..... 76 KIAS (flaps UP), 66 KIAS (flaps DOWN)
10. Mixture & Throttle ..... IDLE CUT OFF
11. Fuel Selector ..... OFF
12. Magnetos (L & R) Switches ..... OFF
13. Wing Flaps ..... AS REQUIRED (30° recommended)

All Day Landing surfaces other than water, snow, or treetops >>>Go to Step 16	If Landing in water,>>>Go to Step 18. In Treetops Deep Snow, or at night >>>Go to Step 19

14. Batt. Master Switch ..... OFF (when landing is assured)
15. Doors ..... UNLATCH PRIOR TO TOUCHDOWN
16. Touchdown ..... SLIGHTLY TAIL LOW
17. Brakes ..... APPLY HEAVILY

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18. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS / WAVES
19. Touch down ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
20. Master Switch ..... OFF
21. EVACUATE ..... through cabin doors
    If necessary, open window and flood cabin

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TACHOMETER FAILURE

Conditions: In flight, Tachometer RPM readings Inconsistent, irregular, or failed

CAUTION: If the static RPM at FULL Throttle is not between 2300 - 2400 RPM, Takeoff is PROHIBITED.

1. For Cruise and Descents ..... USE CHART

AVOID FULL THROTTLE settings that exceed engine RPM RED LINE

2. LAND AT THE NEAREST SUITABLE AIRPORT

TO MAINTAINING, APPROX. RPM	LVL FLIGHT	DESCENTS
100 KIAS, FLAPS 0	2300 RPM	1700 RPM
90 KIAS, FLAPS 0	2200 RPM	1800 RPM
70 KIAS, FLAPS 10		1700 RPM

■ ■ ■ ■

5. FLIGHT CONTROLS

FLAPS INOPERATIVE OR STUCK

1. Flap Lever ……..…….. RETURN TO LAST POSITION
2. LAND ……..……. at Nearest Suitable Airport
3. Airplane Climb performance may be impacted significantly.

■ ■ ■ ■

6 FLIGHT INSTRUMENTS G5

ATTITUDE FAILURE

Attitude failure is indicated by removal of the sky/ground presentation, a red X, and a yellow “ATTITUDE FAIL” on the display

Rate-of-turn and slip information will not be available.

1. Use standby instruments.
2. Seek VFR conditions or land as soon as practical. If autopilot is engaged:

■ ■ ■ ■

HEADING FAILURE, LOSS OF MAGNETOMETER DATA, or MAGNETIC FIELD ERROR

A heading failure, loss of magnetometer data, or magnetic field error is indicated by removal of the digital heading readout, a red X, and a yellow “HDG” on the display.

1. Use the standby magnetic compass

NOTE: If the G5 DG/HSI has a valid GPS signal the G5 DG/HSI instrument will display the GPS track information in magenta.

■ ■ ■ ■

GPS FALURE G5

If GPS navigation receivers and/or navigation information are not available or invalid, the G5 will display Dead Reckoning mode (DR) or Loss of Integrity mode (LOI) on the HSI in the lower left corner.

If Alternate Navigation Sources (ILS, LOC, VOR) Are Available:

1. Use alternate navigation source.

If No Alternate Navigation Sources Are Available:

If DR is Displayed on HSI	If LOI is Displayed on HSI
>>> Go to Step 2	>>> Go to Step 2

2. Use the amber CDI for course information.
3. Fly toward known visual conditions.

■ ■ ■ ■

ATTITUDE ALIGNING G5

During system initialization, the G5 displays the message ‘ALIGNING’ over the attitude indicator. The G5 will typically display valid attitude within the first minute of power-up. The G5 can also align itself while taxiing and during level flight.

If the “ALIGNING” indication occurs during flight and attitude remains displayed, the attitude display is acceptable for use for flight in instrument conditions. The message will clear when the attitude solution is within the systems internal accuracy tolerances. It is recommended to maintain wings level to reduce the time for the system to align.

■ ■ ■ ■

ATTITUDE ALIGNING / KEEP WINGS LEVEL G5

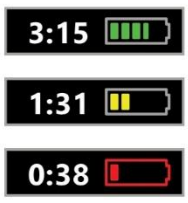
If the “ALIGNING KEEP WINGS LEVEL” indication occurs during flight, the G5 has detected an invalid attitude solution and will not display any attitude information.

1. Use standby instruments to maintain wings level flight. The system will display attitude when interna accuracy tolerances have been met.
2. If attitude does not return, seek VFR conditions or land as soon as practical.

■ ■ ■ ■

LOSS OF ELECTRICAL POWER TO THE G5

In the event of a loss of aircraft electrical power to the G5 attitude display, the indicator will continue to function on its internal battery. If an internal battery is installed on the optional G5 HSI, the indicator will continue to function on the internal battery if aircraft power is lost. Internal battery endurance is indicated on the G5 display in hours and minutes. The charging symbol will be removed, and the internal battery will not be charged.



In the event the G5 attitude display powers down, the optional G5 HSI will automatically revert to displaying attitude information. It will not revert to the DG/HSI format if the G5 attitude unit regains power. The DG/HSI presentation may be selected from the G5 menu on the G5 DG/HSI unit after reversion to the attitude display.

■ ■ ■ ■

7 FIRE / SMOKE / FUMES

CAUTION: STALL WARNING HORN UNAVAILABLE whenever the Battery Master is OFF, or loss of Electrical power. Pilot must fly appropriate Attitude and Airspeed to AVOID STALLING the airplane.

CABIN & ELECTRICAL FIRE/SMOKE/FUMES

Conditions: Presence of FIRE, SMOKE, FUMES (electrical smoke - distinct odor of burning insulation, or Faulty circuit)

1. **Battery Master Switch ..... OFF**
2. **Vents, Cabin Air, Heat ..... CLOSED**
3. **Fire Extinguisher ..... ACTIVATE**

At ANY TIME If the situation becomes UNMANAGEABLE:
(FIRE/SMOKE PERSIST) LAND IMMEDIATELY
(consider emergency descent)

WARNING: AFTER DISCHARGING FIRE EXTINGUISHER AND ASCERTAINING THAT FIRE HAS BEEN EXTINGUISHED, VENTILATE THE CABIN

4. Vents/Cabin Air/Heat ..... OPEN or
IF FIRE/SMOKE PERSISTS … CLOSED

If Electrical Fire/Smoke/Fumes (Odor of burning insulation) >>> Go To Step 7	Non-Electrical Fire/Smoke/Fumes >>> Go to Step 5

5. Master Switch ..... ON
6. Land At Nearest Suitable Airport (to inspect damage)

■ ■ ■ ■

7. Avionics Master Switch ..... OFF
8. All Other Switches (except ignition switch) ..... OFF
9. Master Switch ..... ON
10. Circuit Breakers Tripped ..... DO NOT reset
11. Radio Switches ..... OFF
12. Avionics Master Switch ..... ON
13. Radio/Electrical Switches one at a time ..... ON
(one at a time with delay after each unit switch)
14. Land At Nearest Suitable Airport (to inspect damage).

■ ■ ■ ■

ENGINE FIRE DURING START ON GROUND

Conditions: Fire or Smoke from engine area

1. **Start Switch ……..…… PRESS & HOLD**
   Continue Cranking to get a start, which will suck the flames and accumulated fuel into the engine.

If Engine Starts	If Engine Fails to Start
>>> Go To Step 2	>>> Go to Step 4

2. Power …….…….. 1800 RPM for a few minutes
3. Engine ……..…… SHUTDOWN and inspect for damage

■ ■ ■ ■

4. Throttle ……..…… FULL OPEN
5. Mixture ……..... IDLE CUT OFF
6. Cranking……..…… CONTINUE
7. Fuel Shutoff Valve ……..……..…… OFF (Pull Full Out)
8. Auxiliary Fuel Pump Switch …….…… OFF
9. Fire Extinguisher ……..…… ACTIVATE
10. Engine ……..…… SECURE
11. Batt. Master Switch ……..…… OFF
12. Magnetos (L & R) Switches ……..……..…… OFF
13. Parking Brake ……..…… RELEASE
14. Airplane ……..…… .EVACUATE
15. Fire ……..……..…… EXTINGUISH
    Use fire extinguisher, wool blanket, or dirt, and call for ARFF
16. Fire Damage inspected and repaired by a qualified mechanic.

■ ■ ■ ■

ENGINE FIRE IN FLIGHT

1. **Mixture ..... IDLE CUT OFF**
2. **Fuel Selector ..... OFF**
3. **Auxiliary Fuel Pump Switch ..... OFF**
4. Announce on ATC (or 121.5) ..... **"MAYDAY,MAYDAY,MAYDAY"**
5. **BAT. MASTER & ALTR Switches ..... OFF**
6. Cabin Heat and Defroster ..... OFF
7. Airspeed ..... 100 KTS

If fire is not extinguished, increase glide speed to find an airspeed (within airspeed limitations)-that provides an incombustible mixture. Consider using a Forward Slip or Emergency Descent Maneuver

8. LAND ..... ASAP
9. ELT ..... ACTIVATE
10. Passenger Seat Backs ..... MOST UPRIGHT POSITION
11. Seats and Seat Belts ..... SECURE
12. Airspeed ..... 76 KTS (flaps UP)
    66 KTS (flaps DOWN)
13. Magnetos (L & R) Switches ..... OFF

All Day Landing surfaces other than water, snow, or treetops >>> Go to Step 15	If Landing in water, >>>Go to Step 17 In Treetops Deep Snow, or at night >>>Go to Step 18

14. Doors ..... UNLATCH PRIOR TO TOUCHDOWN
15. Touchdown ..... SLIGHTLY TAIL LOW
16 Brakes ..... .APPLY HEAVILY

■ ■ ■ ■

17. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS / WAVES
18. Touch down ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
19. BAT. MASTER & ALTR Switchs ..... OFF
20. EVACUATE ..... through cabin doors
    If necessary, open window and flood cabin

■ ■ ■ ■

WING FIRE IN FLIGHT

1. **Landing/Taxi Light Switches ..... OFF**
2. **Navigation Light Switch ..... OFF**
3. **Strobe Light Switch ..... OFF**
4. **Pitot Heat Switch .... OFF**

IF fire is Extinguished >>> Go To Step 5	IF fire persists >>> Go To Step 7

5. Land at nearest suitable airport
6. Flaps ..... Only use if required for final approach and touchdown

■ ■ ■ ■

7. Perform a sideslip to keep the flames away from the fuel tank and cabin
8. LAND ..... ASAP
9. Announce on ATC (or on 121.5) ..... "MAYDAY, MAYDAY, MAYDAY"
10. ELT ..... ACTIVATE
11. Passenger Seat Backs ..... MOST UPRIGHT POSITION
12. Seats and Seat Belts ..... SECURE
13. Wing Flaps on Final ..... FLAPS 40°
14. Airspeed ..... 76 KTS
15. BAT. MASTER & ALTR Switches ..... OFF
16. Doors ..... UNLATCH PRIOR TO TOUCHDOWN

All Day Landing surfaces other than water, snow, or treetops >>> Go to Step 17	If Landing in water >>>Go to Step 21 In Treetops Deep Snow, or at night >>>Go to Step 22

17. Touchdown ..... SLIGHTLY TAIL LOW
18. Mixture & Throttle ..... IDLE CUT OFF
19. Magnetos (L & R) Switches ..... OFF
20. Brakes ..... APPLY HEAVILY

■ ■ ■ ■

21. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS / WAVES
22. Touch down ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
23. BAT. MASTER & ALTR Switchs ..... OFF
24. EVACUATE ..... through cabin doors
    If necessary, open window and flood cabin

■ ■ ■ ■

8 FUEL

L LOW FUEL R

LOW FUEL / FUEL LEAK / IMBALANCE

Conditions: Total fuel quantities indicating less than 10 gallons, and/or one fuel tank indicates <5 gals, or fuel is visible leaking or fuel cap missing

WARNING: FIRE RISKS are associated with possible fuel leaks

CAUTION: Engine failure may occur if due to low fuel/fuel leak

CAUTION: Do not run tanks completely ON dry in flight

NOTE: ADVISEMENT, If fuel-on-board at any time is 5 gallons less than flight plan predicted fuel, fuel exhaustion considerations should be made to determine if reaching destination and alternate airports is possible

NOTE: Maximum fuel imbalance for the autopilot use is 10 gallons

NOTE: If a fuel tank indicator reads below zero, and fuel exhaustion is not suspected, the fuel associated transmitter may have failed, short circuited, or the fuel indicator may be inoperative

Total Indicated Fuel Quantity on board <10 gal.
Suspected Fuel leak

- Unknown "unexplainable lower Fuel indications
- Visible Fuel Leaks
- Missing Fuel Caps

>>>Go to Step 1

One Fuel Tank Quantity Indicating <5 gal
Total Fuel On Board >10 gals

>>>Go to Step 4

1. Electric Fuel Pump ..... ON
2. Fullest Fuel Tank ..... SELECT
3. Nearest Suitable Airport ..... LAND

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4. Electric Fuel Pump ..... ON
5. Fullest Fuel Tank ..... SELECT
6. Electric Fuel Pump ..... (after a few min.) OFF

Consider the fuel planning requirements to fly to:

- destination Airport
- Alternate Airport, if required
- Reserve Fuel for Flight Rules (30/45 minutes)

Adequate Fuel On Board,
Continue At Pilot's discretion.

■ ■ ■ ■

Inadequate Fuel On Board

>>>Go to Step 7

7. Change to Suitable Flight Plan for a NEW Destination Airport, Alternate Airports, and Reserve Fuel requirements, OR
8. Land at nearest suitable Airport
9. Advise ATC ..... if necessary, Declare Fuel Emergency

■ ■ ■ ■

9 LANDING GEAR

BRAKE FAILURE

Conditions During taxi or landing roll, braking action decreases (the brakes become spongy or pedal travel increases)

NOTE: For Minimum stopping distance, Proper braking technique is essential. The brakes are applied firmly until reaching a point just short of a skid.

NOTE: Some of the symptoms of impending brake failure are: gradual decrease in braking action after brake application, noisy or dragging brakes, soft or spongy pedals, and excessive travel and weak braking action. If any of these symptoms appear, the brake system needs immediate attention.

1. Brake pedals ……..…….…. RELEASE, THEN REAPPLY (HEAVILY)
2. Brake pedals……..……. PUMP, in attempt to build braking pressure

If ONE BRAKE becomes weak or fails,

3. Use the Other Brake ……..……..…….. SPARINGLY
4. Use opposite rudder ……..……..…… AS REQUIRED TO OFFSET THE GOOD BRAKE

■ ■ ■ ■

HYDROPLANING

Conditions: Ineffective braking due to Hydroplaning with runway contaminants such as Water / Snow / Ice

NOTE: For Minimum stopping distance, Proper braking technique is essential. The brakes are applied firmly until reaching a point just short of a skid.

1. Choose a Grooved Runway ……..…… (if available)
2. Touchdown Speed ……..…… AS SLOW AS SAFELY POSSIBLE
3. Brake pedals …….. RELEASE,UNTIL WHEEL SPIN UP, THEN REAPPLY
4. Raise the nose and use aerodynamic drag to decelerate to a point where the brakes become effective
5. Directional Control ……..…… USE RUDDER (as required)
6. Brake pedals …….. RELEASE, UNTIL WHEEL SPIN UP THEN REAPPLY

■ ■ ■ ■

LANDING WITH FLAT TIRE

FLY A NORMAL APPROACH, BUT LINE UP ON SIDE OF RUNWAY OPPOSITE FLAT TIRE

MAIN TIRE	NOSE TIRE
>>> Go to Step 1	>>> Go to Step 5

1. Wing Flaps ..... USE 40 DEGREES
2. Touchdown ..... GOOD MAIN TIRE FIRST
   Hold off flat tire as long as possible with aileron control
3. Directional Control ..... MAINTAIN Using brake on good wheel as required
4. Advise Traffic ..... IF UNABLE TO CLEAR RUNWAY

■ ■ ■ ■

5. Wing Flaps ..... AS REQUIRED
6. Touchdown ..... ON MAINS
   Hold the nose wheel off the ground as long as possible.
7. When Nose Wheel Touches Down ..... USE FULL UP ELEVATOR
   .Until the airplane slows to a stop
8. Advise Traffic ..... IF UNABLE TO CLEAR RUNWAY

5. Wing Flaps ..... AS REQUIRED
6. Touchdown ..... ON MAINS
   Hold the nose wheel off the ground as long as possible.
7. When Nose Wheel Touches Down ..... USE FULL UP ELEVATOR
   Until the airplane slows to a stop.
8. Advise Traffic ..... IF UNABLE TO CLEAR RUNWAY

■ ■ ■ ■

TIRE SKIDDING

Conditions: Ineffective braking due to Tire Skidding

NOTE: For Minimum stopping distance, Proper braking technique is essential. The brakes are applied firmly until reaching a point just short of a skid.

1. Brake pedals ..... RELEASE, UNTIL WHEEL SPIN UP, THEN REAPPLY
2. Directional Control ..... USE RUDDER (as required)

■ ■ ■ ■

10 MANEUVERS

EMERGENCY DESCENT

1. Alert other traffic
2. Throttle ..... IDLE
3. Bank angle ..... 30-45 DEGREES
4. Maintain load factor ..... POSITIVE G's
5. Do not exceed ..... Vne (or safe speed if structural damage)

■ ■ ■ ■

DITCHING

1. Radio ..... MAYDAY, MAYDAY, MAYDAY on 121.5, giving location and intentions and SQUAWK 7700
2. Heavy Objects (in baggage area) ..... SECURE OR JETTISON (if possible)
3. Passenger Seat Backs ..... MOST UPRIGHT POSITION
4. Seats and Seat Belts ..... SECURE
5. Wing Flaps ..... 20° to 30°
6. Power ..... ESTABLISH 300 FT/MIN DESCENT AT 66 KTS

NOTE: If no power is available, approach at 76 KIAS with flaps up or 66 KIAS with 10° flaps

7. Approach ..... High Winds, Heavy Seas ..... INTO THE WIND
   Light Winds, Heavy Swells ... PARALLEL TO SWELLS
8. Cabin Doors ..... UNLATCH
9. Touchdown ..... LEVEL ATTITUDE AT .ESTABLISHED RATE OF DESCENT
11. Face ..... CUSHION at touchdown with folded coat
12. ELT ..... ACTIVATE
13. Airplane ..... EVACUATE through cabin doors
    If necessary, open window and flood cabin to equalize pressure so doors can be opened.
14. Life Vests and Raft ..... INFLATE WHEN CLEAR OF AIRPLANE

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SEVERE TURBULENCE

NOTE: Try to maintain steady pitch and wings level attitude, AVOID excessive control forces to maintain Altitude (ride it out)

1. Adjust Throttle ..... MAINTAIN Va SPEED
2. Nose and Wings ..... KEEP A LEVEL ATTITUDE
3. Try engaging Autopilot ..... PRESS BLUE LVL KEY

■ ■ ■ ■

SPINS RECOVERY

Conditions: Inadvertent spin occurred

Indications: stall horn, for rotation direction reference turn coordinator

1. **P**ower (throttle) ..... IDLE
2. **A**ilerons (control yoke) ..... NEUTRAL
3. **R**udder (pedal) ..... HOLD FULL OPPOSITE
4. **E**levator (control yoke) ..... APPLY FULL FORWARD ENOUGH TO BREAK STALL

As rotation stops, Neutralize Rudder and make a smooth recovery from the resulting dive.

■ ■ ■ ■ **P.A.R.E**

SPIRAL DIVE RECOVERY

Conditions: A spiral dive, a nose-low upset, is a descending turn during which airspeed and G-load can increase rapidly and often results from a botched turn.

NOTE: Pilots typically get into a spiral dive during when inadvertently entering IMC

1. Throttle ..... IDLE
2. Apply Some ..... FORWARD ELEVATOR
3. Roll Wings ..... LEVEL
4. Gently Raise the Nose to ..... LEVEL FLIGHT
5. Increase Power to ..... CLIMB POWER

ALTERNATE RECOVERY METHOD USING THE AUTOPILOT

1. Throttle ..... IDLE
2. Apply Some ..... FORWARD ELEVATOR
3. Autopilot ..... PRESS blue LVL key

Once Autopilot establishes Nose and Wings LEVEL

4. Increase power smoothly ..... 2000 - 2300 RPM

Pilot can expect approximately 80-90 KIAS in Level Flight.

■ ■ ■ ■

TERRAIN ESCAPE MANEUVER

Conditions: Terrain aural and terrain annunciation warnings.

NOTE: Escape maneuver is required, unless in DAY VFR with Terrain in sight AND taking corrective actions (i.e. turning away from terrain)

IMMEDIATELY

1. Autopilot ..... DISCONNECT
2. Pitch Up to Vx ..... 64 KTS
3. MAX Power ..... FULL THROTTLE
4. Wings ..... LEVEL

If VMC, a turn while climbing may be also permitted

■ ■ ■ ■

TURBULENT AIR APPROACH & LANDING

Conditions: Gusty winds and crosswinds

NOTE: Operation in direct crosswind of 17 knots has been demonstrated. Consider max reported gust to determine crosswind factor.

Calculate new approach speed by:
Normal approach speed KIAS + ½ gust factor (limited to 10 KTS)
Gust Factor is difference between Steady State and Gust.
½ Gust KTS - Steady State KTS = Gust Factor (limited to nor more than +10 KTS)
e.g. if wind is 10 KTS gusting to 20 KTS, adjusted flaps up approach speed = 76 KTS plus (½ of gust factor of 10 knots) = 86 KTS.

CAUTION: If flap settings greater than 20° are used in sideslips with full rudder deflection, some elevator oscillation may be felt at normal approach speeds

1. Use Minimum flaps ..... REQUIRED FOR FIELD LENGTH
2. Approach Speed ..... INCREASE, BY ADDING (½ of the gust factor)
3. Pitch Attitude at Touchdown ..... APPROXIMATELY LEVEL
   Just enough to land on the main tires first
4. AVOID TENDENCY TO APPLY FORWARD PRESSURE ON YOKE
   This may result in wheelbarrowing and loss of control.
5. Avoid heavy braking until wings are devoid of lift and weight is on wheels.

■ ■ ■ ■

UPSET RECOVERY

Conditions: Loss of control inflight. Including Stall events, and unusual attitudes that exceed any of 4 parameters

1. Pitch attitude greater than 25°, nose up
2. Pitch attitude greater than 10°, nose down
3. Bank angle greater than 45°
4. Within the above parameters, but flying at airspeeds inappropriate for the conditions

NOTE: Aircraft is aerodynamically UNLOADED when the pilot experiences a " slight light-in-the-seat' feeling. Unloading may require anything from just releasing backpressure to applying heavy forward pressure.

UPRT - UPSET PREVENTION and RECOVERY TRAINING (template)

1. **Autopilot …… DISCONNECT**
2. **Apply Forward Yoke to Unload Airplane …….... PUSH**
3. **Aggressively Roll the Wings to Nearest Horizon ……. ROLL**
4. **Adjust Power as Necessary by Monitoring Airspeed ……. POWER**
5. **Return to Level Flight ……..…. STABILIZE**

REPEAT: If stall or above parameters are exceeded apply UPRT steps in order

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11 MISCELLANEOUS

DOOR OPEN IN FLIGHT

Conditions: Should you forget the upper latch, or not fully engage the side latch, the door may spring partially open. This will usually happen at takeoff or soon afterward. If both upper and side latches are open, the door will trail slightly open, and airspeed will be reduced slightly.

FLY THE AIRPLANE
DO NOT HURRY - DO NOT PANIC

NOTE: Accidental opening of a cabin door in flight due to improper closing does not constitute a need to land the airplane, however increased noise may make communication difficult.

NOTE: The cabin door is double latched, so the chances of its springing open in flight at both top and side are remote

1. Advise Co-Pilot and PAX ……..……..…… LEAVE THE DOOR ALONE
2. DO NOT release Seatbelts or Shoulder Harness
3. DO NOT SLIP airplane in attempts to close the door
4. Climb to ……..…… SAFE (pattern) ALTITUDE

To attempt to close the door, >>>Go to Step 5	If an attempt to close the door is not warranted, >>>Go to Step 10

5. Stabilize Airplane ……..……..…… TRIMMED for approx. 87 KTS
6. Cabin Vents ……..…….. CLOSED
7. Storm Window ……..……..…….. OPEN

If SIDE latch or BOTH latches are OPEN, >>>Go to Step 8	If TOP Latch OPEN >>>Go to Step 9

8. Pull on the armrest while moving the SIDE latch handle to the latched position.
9. Top Latch …… CLOSE LATCH

■ ■ ■ ■

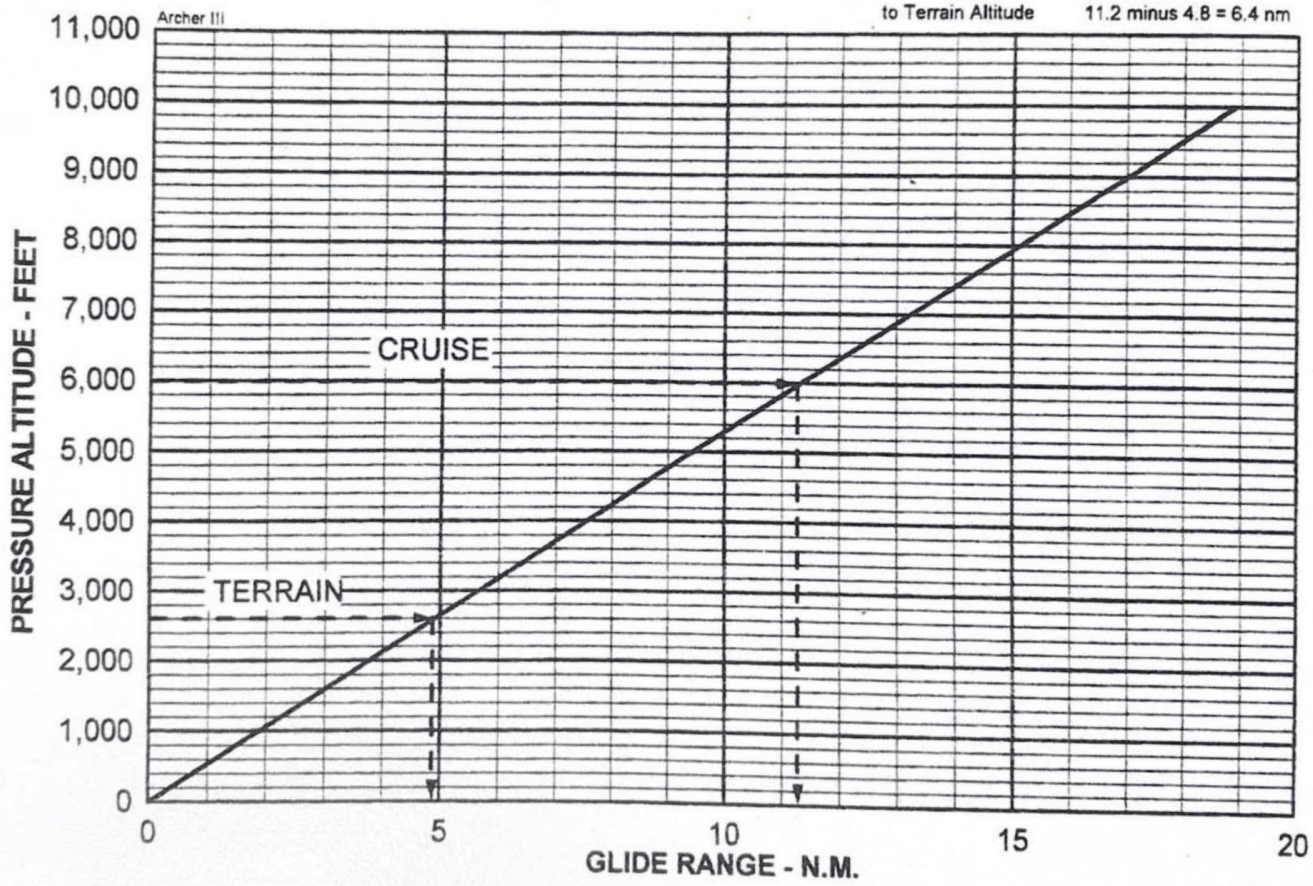
10. LAND AT NEAREST SUITABLE AIRPORT
11. Advise Traffic or ATC Tower ……RETURING TO AIRPORT
12. “DO NOT HURRY” ……..…… FLY NORMAL TRAFFIC PATTERN
13. Landing Checklist ……... COMPLETE
14. Make Normal Approach and Landing

■ ■ ■ ■

GLIDE RANGE

POWER OFF, FLAP UP, 76 KIAS
2,250 LB GROSS WT., NO WIND

EXAMPLE:
Glide Distance from 6,000 ft Cruise Alt. 11.2 nm
Glide Distance from 2,600 ft Terrain above sea level 4.8 nm
Glide Distance from Cruise Altitude to Terrain Altitude 11.2 minus 4.8 = 6.4 nm



INADVERTENT FLIGHT INTO ICING CONDITIONS

1. **Pitot Heat Switch …….. ON**
2. **Turn back or change altitude** to obtain an outside air temperature that is less conducive to icing.
3. **Pull cabin heat control full out and open defroster outlets** to obtain maximum windshield defroster airflow. Adjust cabin air control to get maximum defroster heat and airflow.
4. Watch for signs of engine-related icing conditions. Unexplained loss in engine speed could be caused by ice blocking the air intake filter, or, in extremely rare instances, ice completely blocking the fuel injection air reference tubes. Change the throttle position to obtain maximum RPM. This may require either advancing or retarding the throttle, dependent on where ice has accumulated in the system. Adjust mixture, as required, for maximum RPM.
5. Plan a landing at the nearest airport. With extremely rapid ice buildup, select a suitable "off airport" landing site.
6. With an ice accumulation of 1/4 inch or more on the wing leading edges, be prepared for significantly higher stall speed and a longer landing roll.
7. Leave wing flaps retracted. With severe ice buildup on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness.
8. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach.
9. Perform a landing approach using a forward slip, if necessary, for improved visibility.
10. Approach at 65 to 75 KIAS depending upon the amount of the accumulation.
11. Perform a landing in level attitude.

■ ■ ■ ■

INADVERTENT FLIGHT INTO IMC

Conditions: Anytime a VFR pilot is unable to maintain airplane attitude control by reference to the natural horizon

FLY THE AIRPLANE
DO NOT HURRY - DO NOT PANIC

1. Immediate Remedial action ..... MAINTAIN AIRCRAFT CONTROL
2. Compass Heading ..... NOTED
3. Throttle ..... MAINTAIN CURRENT RPM (approx. 2300)

Autopilot Available Use to execute 180° turn >>> Go To Step 4	Manually execute 180° turn >>> Go To Step 10

4. Autopilot Panel ..... PRESS LVL (blue key)
5. Autopilot Panel HDG/TRK Knob ..... (press) PUSH SYNC knob
6. HSI heading BUG ..... NOTED
7. Autopilot Panel HDG/TRK Knob ..... TURN (L or R 180°)

ON new heading, after a few minutes

If in visual conditions ■ ■ ■ ■	If still in IMC >>> Go To Step 8

8. Execute Descent ..... Reduce RPM RPM (500 RPM = -500 FPM)
9. Broadcast on ATC Freq. (or 121.5) ..... ,,."PAN, PAN, PAN" or "MAYDAY, MAYDAY, MAYDAY"

Ask for Assistance in finding Visual Flight Conditions

■ ■ ■ ■

10. Shallow bank turn (5-10°bank) ..... TURN (L or R 180 degrees)

ON new heading, Fly wings level, after a few minutes

If in visual conditions ■ ■ ■ ■	If still in IMC >>> Go To Step 11

11. Execute Descent Reduce ..... RPM (-500 RPM = -500 FPM VSI
12. Broadcast on ATC Freq. (or 121.5) ....."PAN, PAN, PAN" or . "MAYDAY, MAYDAY, MAYDAY"

Ask for Assistance in finding Visual Flight Conditions

■ ■ ■ ■

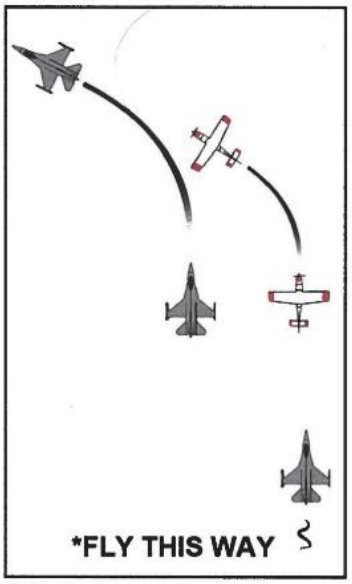
INTERCEPT BY MILITARY AIRCRAFT

#1 REASON GA AIRCRAFT ARE INTERCEPTED:
Entering restricted airspace and not talking to ATC

NORAD / FAA INTERCEPT PROCEDURES

Intercept Procedures

- Typically two fighters approach from the stern -- you may only see one
- Fighter rocks wings to signal intercept
- Fighter responsible for safe separation



Your Actions

- Remain predictable – Altitude, heading, airspeed, don't descend
- Acknowledge fighter with wing rock
- Talk to ATC
- Talk to fighter on 121.5

Post Intercept

- Comply with instructions
- Land where directed

DAY INTERCEPT SIGNALS

Interceptor Signals	Meaning
Fighter slow turn to desired heading	*FLY THIS WAY
Fighter abrupt turn across nose to desired heading and may dispense flares	WARNING: TURN NOW (DIRECTION OF FIGHTER)
Fighter circles airport, lowers landing gear, overflies runway in direction of landing	LAND HERE

NIGHT INTERCEPT SIGNALS

Interceptor Signals	Meaning
Flash navigation lights	You have been intercepted
Turn on landing lights	Land here

Your Signal	Meaning
Flash navigation lights	I will comply
Turn on landing light	I will land
Flash landing light	Airport inadequate
Flash all lights regular	Can not comply
Flash all lights irregular	Distress

For more intercept information, reference the Aeronautical Information Manual 5-6-13 Interception Procedures: http://www.faa.gov/air_traffic/publications/media/aim.pdf

MEDICAL EMERGENCY

1. Advise ATC (or 121.5) ……..... NATURE OF MEDICAL EMERGENCY
2. Request Heading and Descent to Nearest Suitable Airport for type of emergency
3. If necessary, perform ……..... EMERGENCY DESCENT

■ ■ ■ ■

NIGHT EMERGENCY

Additional considerations for OFF airport Forced Landing at Night.

NOTE: The RISK of flight inadvertently into IMC or loss of visual horizon are greatly increased.

1. Turn Towards an Unlighted Area Close to Public Access.
2. Maintain orientation with the wind to avoid a downwind landing.
3. Turn LANDING LIGHT -- ON (except if visibility is better OFF)
4. If NO outside visual references are available, MAINTAIN LEVEL ATTITUDE until the ground is contacted.
5. Master Switch OFF and EVACUATE the Airplane

■ ■ ■ ■

PRECAUTIONARY LANDING WITH ENGINE POWER

1. Passenger Seat Backs ..... MOST UPRIGHT POSITION
2. Seats and Seat Belts ..... SECURE
3. Airspeed ..... 76 KTS
4. Wing Flaps ..... 40°
5. Selected Field ..... FLY OVER, noting terrain and obstructions, then retract flaps upon reaching a safe altitude and airspeed.
6. Avionics Master Switch and Electrical Switches OFF (except at night)
7. Wing Flaps ..... 40° (on final approach)
8. Airspeed ..... 66 KTS
9. BAT. MASTER & ALTR Switch ..... OFF(except at night)
10. If at night, Land Lights ..... ON
11. Door ..... UNLATCH PRIOR TO TOUCHDOWN

All Day Landing surfaces other than water, snow, or treetops >>> Go to Step 12	If Landing in water, >>>Go to Step 16 In Treetops Deep Snow, or at night >>>Go to Step 17

12. Touchdown ..... SLIGHTLY TAIL LOW
13. Mixture ..... IDLE CUT OFF
14. Magneto L&R Switches ..... OFF
15. Brakes ..... APPLY HEAVILY

■ ■ ■ ■

16. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS/ WAVES
17. Touchdown ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
18. BAT. MASTER & ALTR Switch ..... OFF
19. EVACUATE ..... through cabin doors. If necessary, open window and … flood cabin to equalize pressure so doors can be opened

■ ■ ■ ■

Tips for Temporary Flight Restrictions (TFR) and Special Use Airspace

3 KEYS TO SUCCESS

- PLAN: Check TFRs at http://TFR.FAA.GOV, call FSS
- TALK: to Air Traffic Control and monitor Guard (VHF 121.5)
- SQUAWK: assigned discrete transponder code

FLIGHT PLANNING

- ☐ Review TFRs: http://tfr.faa.gov
  (Nat'l Security TFRs on Twitter: @VIP_TFR)
- ☐ Review NOTAMS:
  https://pilotweb.nas.faa.gov/PilotWeb/
  … or get both TFRs and NOTAMs plus route weather and route brief by calling 1-800-WX-BRIEF
- ☐ Review Special Use Airspace along route:
  http://www.seeandavoid.org
- ☐ File a flight plan—IFR, VFR, DVFR, SVFR
- ☐ Update GPS / iPad / Electronic Apps

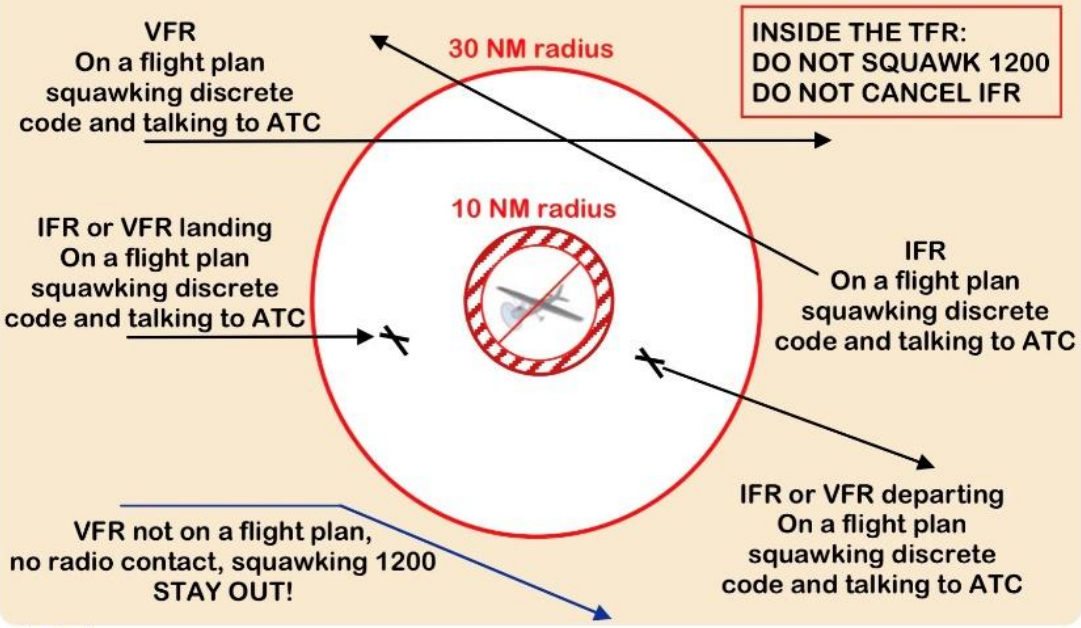
DURING FLIGHT

- ☐ Activate flight plan (prior to entering TFR)
- ☐ IFR or flight following w/discrete squawk
- ☐ Monitor 121.5 on back-up radio (if able)
- ☐ Get TFR updates from FSS

PLANNING REFERENCES

- Review Air Defense Identification Zone (ADIZ) procedures if flying into U.S. from abroad:
  http://www.faa.gov/air_traffic/publications/us_restrictions/airspace/#adiz
- Review Washington D.C. Special Flight Rules Area (SFRA) procedures if flying within 60 nm of KDCA: (Course ALC-405)
  https://faasafety.gov

These procedures describe a typical Security TFR.
Check published TFR for any unique procedures.



North American Aerospace Defense Command (NORAD)
Get this checklist and more at: www.NORAD.mil/GeneralAviation

WINDSHIELD DAMAGE

Conditions: Bird strike or other incident damaging the windshield in flight to the point of creating an opening.

WARNING: Significant LOSS in performance may be expected. (depending on the amount of damage, altitude, etc.)

1. Storm Windows ..... OPEN
2. Announce on ATC (or on 121.5) ..... "MAYDAY, MAYDAY, MAYDAY"

Airplane performance and handling normal, LAND at the nearest suitable airport ■ ■ ■ ■	If airplane performance or other adverse conditions preclude landing at the Nearest Suitable Airport, prepare for an "OFF AIRPORT" landing with engine power. LAND ASAP >>> Go To Step 3

3. Passenger Seat Backs ..... MOST UPRIGHT POSITION
4. Seats and Seat Belts ..... SECURE
5. Select ..... LANDING SITE
6. Wing Flaps ..... 40° (on final approach)
7. Airspeed ..... 66 KTS
8. BAT. MASTER & ALTR Switches ..... OFF (except at night)
9. Door ..... UNLATCH PRIOR TO TOUCHDOWN

All Day Landing surfaces other than water, snow, or treetops >>> Go to Step 10	If Landing in water, >>>Go to Step 14 In Treetops Deep Snow, or at night >>>Go to Step 15

10. Touchdown ..... SLIGHTLY TAIL LOW
11. Mixture ..... IDLE CUT OFF
12. Magnetos (L & R) Switches ..... OFF
13. Brakes ..... APPLY HEAVILY

■ ■ ■ ■

14. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS/ WAVES
15. Touchdown ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
16. BAT. MASTER & ALTR Switch ..... OFF
17. EVACUATE ..... through cabin doors. If necessary, open window and flood cabin to equalize pressure so doors can be opened

■ ■ ■ ■

PA28 SLIPS

ENGINE FAILURE DURING FLIGHT

Restart Procedure without engine damage

1. Airspeed (while choosing a landing site) ……………………………..…….. 76 KTS
2. Fuel Selector Valve ………………………….…. SWITCH TO TANK WITH FUEL
3. Electric Fuel Pump ……………………..………………………….……………. ON
4. Mixture ……………………..………………………..………………………… RICH
5. Carburetor Heat ……….…………………………...……………………….…. ON
6. Magnetos Switches L&R (if time permits, one at a time) ………… OFF then ON

ENGINES RESTARTS

>>> GO TO STEP 7

ENGINE FAIL / DAMAGED, GO TO FORCED LANDING WITHOUT ENGINE POWER (below)

7. Throttle & Mixture (if time permits, try different settings to restore power)
8. Carburetor Heat …………………………………………………………………… OFF
9. Electric Fuel Pump ……………………..…………………………..…………… OFF
If fuel flow indicator immediately drops to zero engine-driven pump failed
10. Electric Fuel Pump ……………………………………………………………….. ON
11. Nearest Suitable Airport…………………………………………………….……. LAND

■ ■ ■ ■

FORCED LANDING WITHOUT ENGINE POWER

>>> FLY THE AIRPLANE ………………….,,. 76 KTS while choosing a landing site
1. Announce on ATC (or on 121.5 **…………….. "MAYDAY, MAYDAY, MAYDAY"**
2. ELT ……………………………………………………………………….. ACTIVATE
3. Passenger Seat Backs ………………………………. MOST UPRIGHT POSITION
4. Seats and Seat Belts ………………………………………………………… SECURE
5. Airspeed …..….…..…………..……..…. <u>76</u> KTS (flaps UP), <u>66</u> KIAS (flaps DOWN)
6. Mixture & Throttle ………………………….…………………….. IDLE CUT OFF
7. Fuel Selector ……………………….……………………………………….. OFF
8. Magneto Switchs…………………………………………………………………. OFF
9. Wing Flaps ……..……..……………………. AS REQUIRED (40° recommended)
10. BAT. MASTER & ALTR Switchs (when landing assured) OFF (except at night)
11. Door ………………………………….……. UNLATCH PRIOR TO TOUCHDOWN

All Day Landing surfaces other than water, snow, or treetops
>>> Go to Step 12

If Landing in water, >>>Go to Step 14
In Treetops Deep Snow, or at night
>>>Go to Step 15

12. Touchdown …………………….………………………. SLIGHTLY TAIL LOW
13. Brakes ………………………………………..………………….. APPLY HEAVILY

■ ■ ■ ■

14. Water ……..……. LAND INTO WIND, OR PARRALLEL TO SWELLS/ WAVES
15 Touch down …….. LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
16. BAT. MASTER & ALTR Switch …………..…………………………….... OFF
17. EVACUATE ……………………………………………….... through cabin doors
If necessary, open window and flood cabin so doors can be opened

■ ■ ■ ■

ENGINE FAILURE DURING TAKEOFF ROLL

Engine failed before being airborne

1. **Throttle ..... IDLE**
2. **Brakes ..... APPLY HEAVILY**
3. Wing Flaps ..... RETRACT
4. Mixture ..... IDLE CUT OFF
5. Magneto Switches ..... OFF

If stopping beyond runway surfaces is expected, Transmit
"MAYDAY, MAYDAY, MAYDAY"

>>> GO TO STEP 6

If stopping successful on Runway, Advise Traffic
"ABORTED TAKEOFF ON RUNWAY"

>>> GO TO STEP 6

6. BAT. MASTER & ALTR Switch ..... OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF OR GO AROUND

Condition: Loss of thrust at low altitude after takeoff or during a go around

FLY THE AIRPLANE ..... LOWER NOSES 76 KTS, W/FLAPS 66 KTS
Electric FUEL PUMP ..... ON
Carburetor Heat ..... ON ...,... IF POWER RETURNS, LAND ASAP
EMERGENCY LAND ..... PLAN STRAIGHT AHEAD
'IF TIME", (radio transmit) ..... MAYDAY, MAYDAY, MAYDAY

1. Mixture & Throttle ..... IDLE CUT OFF
2. Fuel Selector ..... OFF
3. Magneto Switches ..... OFF
4. Flaps ..... AS REQUIRED
5. BAT Master & ALTR Switches ..... OFF (except at night)
6. Door ..... UNLATCHED

All Day Landing surfaces other than water, snow, or treetops
>>> Go to Step 7

If Landing in water, >>>Go to Step 9
In Treetops Deep Snow, or at night
>>>Go to Step 10

7. Touch Down ..... SLIGHTLY TAIL LOW
8. Brakes ..... APPLY HEAVILY

9. Water ..... LAND INTO WIND, OR PARRALLEL TO SWELLS / WAVES
10. Touch down ..... LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
11. BAT. MASTER & ALTR Switch ..... OFF
12. EVACUATE ..... through cabin door
If necessary, open window vent and flood cabin