



1 CABIN

- 1. Pilot's Operating Handbook AVAILABLE IN COCKPIT
- 2. Control Wheel Lock REMOVE
- 3. Ignition Switch OFF
- 4. Avionics Switch OFF

WARNING:

When turning the **MASTER SWITCH "ON"**, when using an external POWER SOURCE, or TURNING THE PROPELLER BY HAND, **TREAT PROPELLER AS IF IGNITION SWITCH IS "ON"**. Do not stand, or allow anyone to stand within the propeller blade arc, because a loose or broken wire or a component malfunction could cause the propeller to turn.

- 5. Master Switch ON
- 6. Fuel Gauges CHECK QUANTITY & ENSURE THAT "LOW FUEL" Annunciators are not illuminated.
- 7. Annunciator Test Switch TST POSITION (Ensure all Annunciators illuminate)
- RELEASE -- Appropriate Annunciators "ON"

CABIN -- Continuation

NOTE

When MASTER SWITCH is turned "ON", some annunciators will flash for about 10 seconds, then steady. When Panel TST switch is turned UP and held in position, the remaining annunciators will flash for about 10 seconds, then steady.

- 8. Avionics Power Switch ON
- 9. Avionics Cooling Fan CHECK AUDIBALY
- 10. Avionics Power Switch OFF
- 11. Static Pressure Alternate Source Valve OFF
- 12. Flaps DOWN
- 13. Fuel Selector Valve BOTH
- 14. Fuel Shut-Off Valve ON (Push In)
- 15. Pitot Heat (If IFR Flight). ON for 30 Seconds (Check HOT)
- 16. Master Switch OFF

2 FUSELAGE EXTERIOR & EMPENNAGE

- 1. Baggage Door CHECK, LOCK WITH KEY
- 2. Windows CHECK FOR CRACKS & CLEANLINESS
- 3. Fuselage Skins & Antennas CHECK
- 4. Left Stabilizer CHECK FOR DAMAGE
- 5. Left Elevator CHECK DAMAGE, MOVEMENT & SECURITY
- 6. Rudder Gust Lock REMOVE
- 7. Rudder CHECK DAMAGE, MOVEMENT & SECURITY
- 8. Flashing Beacon, Tail Nav Light CHECK
- 9. Right Elevator CHECK DAMAGE, MOVEMENT & SECURITY
- 10. Tail Tie-Down REMOVE
- 11. Right Stabilizer CHECK FOR DAMAGE
- 12. Fuselage Exterior & Windows CHECK FOR DAMAGE

3 RIGHT WING

- 1. Flap CHECK FOR DAMAGE & SECURITY
- 2. Wing Top Skin CHECK
- 3. Aileron CHECK MOVEMENT & SECURITY
- 4. Wing Tip, Nav & Strobe Lights CHECK
- 5. Wing Bottom & Leading Edge Skins CHECK
- 6. Wing Tie-Down REMOVE
- 7. Wing Lift Strut CHECK FOR DAMAGE
- 8. Flap Hinge Tracks & Rollers CHECK
- 9. Main Wheel Fairing, Tire & Brake CHECK
- 10. Fuel Tank Sump Drains (5).... DRAIN & CHECK FUEL SAMPLES
- 11. Fuel Quantity CHECK, MEASURE QUANTITY & SECURE CAP

PREFLIGHT INSPECTION

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4 NOSE

1. Fuel Selector Drain Valve (On Fuselage Bottom) DRAIN
2. Reservoir Drain Valve (On Fuselage Bottom) DRAIN
3. Fuel Strainer Drain (On Cowl Bottom) DRAIN
4. Engine Oil Supply CHECK QUANTITY [Minimum 5 Qts]
SECURE DIP STICK & ACCESS DOOR
5. Cowling CHECK SECURITY
6. Front Cowl Openings.... CHECK for ARTICLES THAT MAY OBSTRUCT
AIR FLOW or CREATE A FIRE HAZARD
7. Propeller & Spinner CHECK for CRACKS, NICKS & SECURITY
8. Nose Gear Strut, Tire & Fairing CHECK
9. Static Pressure Port CHECK
10. Windshield CHECK FOR CLEANLINESS & DAMAGE

5 LEFT WING

1. Fuel Quantity CHECK, MEASURE QUANTITY & SECURE CAP
2. Pitot Tube REMOVE COVER & CHECK FOR STOPPAGE
3. Stall Warning Opening CHECK for STOPPAGE
4. Wing Tie-Down REMOVE
5. Wing Lift Strut CHECK for DAMAGE
6. Fuel Over-Flow & Vent Tube CHECK
7. Landing & Taxi Lights & Lense CHECK
8. Wing Skins Leading Edge & Bottom CHECK
9. Wing Tip, Strobe & Nav Lights CHECK
10. Aileron CHECK FREEDOM of MOVEMENT & SECURITY
1. Wing Top Skin CHECK
2. Flap CHECK for DAMAGE & SECURITY
3. Flap Hinge Tracks & Rollers CHECK
4. Main Wheel Fairing, Tire & Brake Unit CHECK
5. Fuel Tank Sump Drains (5 ea) DRAIN & CHECK SAMPLES

IF THIS IS A NIGHT or IFR FLIGHT —

Exterior Lights & Pitot Heat CHECK FUNCTIONS

NORMAL OPERATION

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BEFORE STARTING ENGINE

1. Preflight Inspection COMPLETE
2. Passenger Briefing COMPLETE
3. Seats & Seat Belts ADJUST & LOCK
(ASSURE INERTIAL REEL LOCKING)
4. Brakes TEST & SET
5. Circuit Breakers CHECK ENGAGED (IN)
6. Electrical Equipment OFF

[WARNING]

Avionics Power **must** be 'OFF' during Engine Start to prevent damage to Avionics.

7. Avionics Power Switch OFF
8. Fuel Selector Valve BOTH
9. Fuel Shut-Off Valve ON (PUSH FULL IN)

STARTING ENGINE -- Normal With Battery

1. Throttle OPEN 1/4 INCH
2. Mixture IDLE CUT-OFF
3. Propeller & Blast Areas CLEAR VISUAL & (VERBAL WARNING)
4. External Power (If Used) CONNECT
5. Master Switch ON
6. Flashing Beacon ON

[NOTE]

IF ENGINE IS WARM, OMIT PRIMING PROCEDURE of Step 7 & 8

7. Aux. Fuel Pump Switch ON
8. Mixture ADVANCE TO OBTAIN 3 to 5 GHP FUEL FLOW,
QUICKLY RETURN TO IDLE CUT-OFF POSITION
9. Aux. Fuel Pump OFF
10. Ignition Switch START (RELEASE WHEN ENGINE STARTS)
11. Mixture ADVANCE SMOOTHLY to RICH WHEN ENGINE FIRES
12. Throttle 1100 to 1200 RPM
13. Oil Pressure CHECK (Must Start UP within 30 Seconds)
14. Ammeter CHECK

Ammeter should indicate some charge immediately after engine starts.

NORMAL OPERATION

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STARTING ENGINE -- If Engine Floods

- 1. Aux. Fuel Pump OFF
- 2. Mixture IDLE CUT-OFF
- 3. Throttle ONE-HALF to FULL OPEN
- 4. Ignition Switch START
- 5. Mixture (When Engine Fires) SMOOTHLY MOVE TO RICH
- 6. Throttle RETARD PROMPTLY to 1100 to 1200 RPM
- 7. Oil Pressure MUST START "UP" WITHIN 30 SECONDS
- 8. Ammeter CHECK
- 9. External Power (If Used) DISCONNECT

BEFORE TAXI

- 1. Flashing Beacon ON
- 2. Nav Lights (If Dark or Near Sunset) ON
- 3. Avionics Power Switch ON
- 4. Radios ON, SET FREQUENCIES, ADJUST VOLUME
- 5. Transponder STANDBY
- 6. Wing Flaps UP

TAXIING

- 1. Brakes TEST Before Taxiing More Than The Length of The Fuselage.
- 2. Throttle USE MINIMUM POWER, Adjust As Needed. Use Brakes Only to **SUPPLEMENT** Power Adjustments.

BEFORE TAKE OFF

- 1. Parking Brake SET
- 2. Throttle 1100 to 1200 RPM
- 3. Seat Backs UPRIGHT POSITION
- 4. Seats & Seat Belts CHECK SECURE
- 5. Cabin Doors CLOSED & LOCKED
- 6. Flight Controls MOVE FREE IN **PROPER DIRECTION**
- 7. Flight Instruments CHECK & SET
- 8. Fuel Quantity CHECK
- 9. Mixture RICH
- 10. Fuel Selector Valve BOTH
- 11. Elevator Trim SET FOR TAKEOFF

NORMAL OPERATION

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BEFORE TAKEOFF -- Continuation

- 12. Throttle 1,800 RPM
 - a. Magnetos CHECK
[RPM Drop should not exceed 150 RPM on a single magneto, or 50 RPM difference between the magnetos.]
 - b. Vacuum Gauge CHECK
 - c. Engine Instruments & Ammeter CHECK
 - d. Throttle 1100 to 1200 RPM

- 13. Throttle Friction Lock ADJUST
- 14. Taxi Light ON
- 15. Strobe Light ON
- 16. Radios & Avionics SET FREQUENCIES & VOLUME
- 17. **Transponder** **SET ALTITUDE & CORRECT CODE**
- 18. Auto-Pilot OFF
- 19. Wing Flaps SET FOR TAKEOFF
- 20. Brakes RELEASE

THE SCHOOL RECOMMENDS using a TAXI LIGHT or LANDING LIGHT when operating in or within one mile of the Airport Traffic Pattern to aid others in seeing you.

TAKEOFF -- Normal

- 1. Flaps 0° to 10°
- 2. Throttle FULL OPEN
- 3. Mixture RICH (Above 3,000 MSL, LEAN to MAXIMUM RPM)
- 4. Elevator Control **LIFT NOSE (ROTATE) at 55 Kts**
- 5. Climb Airspeed 70 to 80 Kts (**Recommend VY 74 Kts**)

TAKEOFF -- Short Field

- 1. Flaps 10°
- 2. Brakes APPLY
- 3. Throttle FULL OPEN (Smoothly)
- 4. Mixture RICH (Above 3,000 MSL, LEAN to MAXIMUM RPM)
- 5. Brakes RELEASE
- 6. Elevator Control SLIGHTLY NOSE HIGH
- 7. Climb Airspeed 56 Kts UNTIL ALL OBSTACLES CLEARED
- 8. Flaps **UP** After Reaching 60 Kts.

NORMAL OPERATION

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ENROUTE CLIMB

1. Landing & Taxi Lights OFF
2. Throttle FULL OPEN
3. Mixture RICH (Above 3,000 MSL, LEAN to MAX. RPM)

If maximum performance climb is necessary, consult Pilots Operating Handbook, Section 5, RATE-OF-CLIMB Chart.

4. Airspeed 70 to 85 Kts (Recommend V_y 74 Kts)

CRUISE

1. Power 65% (Usually obtained by 2,300 to 2,400 RPM)
2. Elevator Trim ADJUST
3. Mixture LEAN to BEST POWER SETTING (**Excessive Leaning May Damage Engine Severely.**)

DESCENT

1. Fuel Selector Valve BOTH
2. Power AS DESIRED

[WARNING]

Reducing power below 1500 RPM without reducing airspeed may cause excessive engine cooling.

3. Mixture ADJUST for SMOOTH OPERATION
For Idle Power FULL RICH

BEFORE LANDING (Mid Part of Down-Wind Leg) or Before)

1. Taxi Light ON
2. Seat Belts & Shoulder Harness SECURE
3. Seat Backs MOST UPRIGHT POSITION
4. Fuel Selector Valve BOTH
5. Mixture RICH
6. Auto-Pilot OFF
7. Radios (Frequencies, Volume) SET

NORMAL OPERATION

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LANDING -- Normal

1. Airspeed 65 to 70 Kts
2. Flaps AS DESIRED [0° to 10° below 110 Kts]
[10°+ below 85 Kts]
3. Airspeed Minimum 62 Kts with Flaps 30°
4. Touchdown MAIN WHEELS FIRST
5. Landing Roll ALLOW NOSE WHEEL to LOWER GENTLY
6. Brakes MINIMUM REQUIRED [Aerodynamic Braking recommended to supplement wheel brakes]

LANDING -- Short Field

1. Airspeed 65 Kts (With Flaps 0°)
2. Flaps EXTEND AS NEEDED UNTIL 30°
3. Airspeed On Final Approach 61 Kts [Until Flare-Out]
4. Power REDUCE TO IDLE When Obstacles Cleared
5. Touchdown MAIN WHEELS FIRST
6. Brakes [When Firmly On Ground] APPLY HEAVILY
***** DO NOT SKID TIRES *****
7. Flaps RETRACT if having difficulty with traction

BALKED LANDING GO-AROUND

1. Power FULL THROTTLE
2. Flaps RETRACT to 20° or 10° [Prefer 10°]
3. Airspeed 60 Kts UNTIL OBSTACLES CLEARED
4. Flaps 0° AFTER REACHING 60 Kts
5. Climb Airspeed 74 Kts V_y

AFTER LANDING ----- [Before Leaving Vicinity of Runway]

1. Taxi & Landing Lights OFF
2. Trim RE-SET to TAKEOFF POSITION
3. Flaps RETRACT to 0°
4. Transponder [On Airports With Radar] STANDBY

NORMAL OPERATION

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SECURING AIRPLANE

- 1. Parking Brake SET
- 2. Power 1100 to 1200 RPM
- 3. Radios OFF
- 4. Auto-Pilot OFF
- 5. Avionics Power Switch OFF
- 6. Lights & Other Electrical Equipment OFF
- 7. Mixture IDLE CUT-OFF
- 8. Ignition Switch OFF
- 9. Master Switch OFF
- 10. Fuel Selector Valve LEFT or RIGHT TANK to prevent
cross feeding
- 11. Control Lock INSTALL
- 12. Parking Brake RELEASE
- 13. RECORD HOBBS & TACH READINGS
- 14. External Security TIE-DOW AIRPLANE or CHOCK WHEELS
- 15. Cabin Doors & Windows CLOSE & LOCK

*** *** ***

This CHECKLIST is NOT a substitute for a thorough
knowledge of the PILOTS OPERATING HANDBOOK.

SPEEDS FOR NORMAL OPERATION

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TAKEOFF:

- Rotate 55 Kts
- Short Field Takeoff, Flaps 10°, Speed at 50 Ft ... 56 Kts

CLIMBS:

- Obstruction Clearance 56 Kts
- Best Angle of Climb Vx, Sea Level 62 Kts
- Best Rate of Climb VY, Sea Level 74 Kts

LANDING APPROACH:

- Normal Approach, Flaps 30° 65 to 70 Kts
- Flaps 0° 70 Kts
- Short Field Approach, Flaps 30° 61 Kts

BALKED LANDING GO-AROUND:

- Power Maximum, Flaps 20° 60 Kts

MAXIMUM TURBULENT AIR PENETRATION:

- Weight 2550 lbs 105 Kts
- Weight 2200 lbs 98 Kts

MAXIMUM DEMONSTRATED CROSSWIND VELOCITY:

- Takeoff or Landing 15 kts

FOR MAXIMUM GLIDE DISTANCE:

- Weight 2550 lbs 68 Kts

PRECAUTIONARY LANDING WITHOUT ENGINE POWER:

- Flaps 0° 70 Kts
- Flaps 30° 65 Kts

THE ABOVE OPERATING SPEEDS ARE BASED ON THE AIRPLANE WEIGHT OF
2550 LBS. THESE SPEEDS MAY BE APPLIED TO ANY LOWER WEIGHTS.

PILOTS EMERGENCY CHECKLIST

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Items requiring **IMMEDIATE ACTION** are shown in boxes and
SHOULD BE MEMORIZED.

ENGINE FAILURE -- During Takeoff Roll

- 1. Throttle IDLE
- 2. Brakes APPLY
- 3. Flaps RETRACT
- 4. Mixture IDLE CUT-OFF
- 5. Ignition Switch OFF
- 6. Master Switch OFF

ENGINE FAILURE -- Immediately After Takeoff

- 1. Airspeed 70 Kts WITH FLAPS 0°
65 Kts WITH FLAPS 30°

- 2. Mixture IDLE CUT-OFF
- 3. Fuel Shut-Off Valve OFF (Pull Full-Out)
- 4. Ignition Switch OFF
- 5. Flaps AS REQUIRED

**(Full Flaps before touchdown, if possible,
without causing you to land short of safe
point.)**

- 6. Transponder SET CODE 7700
- 7. Master Switch OFF
- 8. Elevator Trim ADJUST TO "HANDS-OFF" CONDITION
- 9. Cabin Door UNLATCH
- 10. Land NOSE HIGH

ENGINE FAILURE -- During Flight -- RESTART

- 1. Airspeed (Before Losing Altitude) 70 Kts
- 2. Throttle SET to START POSITION
- 3. Fuel Shut-Off Valve ON
- 4. Fuel Selector Valve BOTH
- 5. Mixture RICH
- 6. Aux. Fuel Pump Switch ON
- 7. Ignition Switch (If Propeller is Turning) BOTH
(If Propeller is Stopped) START

GH 0308

[E-1]

PILOTS EMERGENCY CHECKLIST

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EMERGENCY LANDING -- Without Power

- 1. Airspeed FLAPS 0° ... 68 Kts
- 2. Landing Area SELECT
- 3. All Seat Backs UPRIGHT
- 4. Seats & Seat Belts SECURE
- 5. Mixture IDLE CUT-OFF
- 6. Ignition Switch OFF
- 7. Fuel Shut-Off Valve OFF
- 8. Transponder CODE 7700
- 9. E.L.T. Switch ON
- 10. Flaps AS REQUIRED

**(Full Flaps before touchdown, if possible,
without causing you to land short of safe
point.)**

- 11. Airspeed (With Flaps 30°) 65 Kts
- 12. Master Switch OFF
- 13. Cabin Doors UNLATCH BEFORE TOUCHDOWN
- 14. Touchdown SLIGHTLY NOSE HIGH
- 15. Brakes APPLY HEAVILY

PRECAUTIONARY LANDING -- With Engine Power

- 1. Airspeed 65 Kts
- 2. Seat Backs UPRIGHT
- 3. Seats & Seat Belts SECURE
- 4. Flaps 20°
- 5. Selected Field FLY OVER, CHECK TERRAIN and
OBSTRUCTIONS: FLAPS 0°
AFTER REACHING SAFE ALTITUDE
and AIRSPEED.
- 6. Elevator Trim ADJUST to "HANDS-OFF" CONDITION
- 7. Approach Traffic Pattern ESTABLISH
- 8. Flaps 30° On FINAL APPROACH
- 9. Airspeed 65 Kts
- 10. Ignition Switch OFF
- 11. Master Switch OFF
- 12. Fuel Shut-Off Valve OFF
- 13. Cabin Doors UNLATCH
- 14. Touchdown NOSE HIGH
- 15. Brakes APPLY HEAVILY

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[E-2]

PILOTS EMERGENCY CHECKLIST

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DITCHING

- 1. COM Radio SET 121.5 MHz, TRANSMIT "MAYDAY",
GIVE LOCATION and INTENTIONS.
- 2. Transponder CODE 7700
- 3. ELT ACTIVATE
- 4. Heavy Objects (In Baggage) SECURE or JETTISON
- 5. Approach (In High Winds, Heavy Seas) INTO the WIND
(In Light Winds, Heavy Swells) PARALLEL
TO SWELLS
- 6. Flaps 20° to 30°
- 7. Power ESTABLISH 300 Ft/Minute DESCENT at 55 Kts

NOTE

If Power Not Available, Flaps 0° Airspeed 70 Kts
 Flaps 30° Airspeed 65 Kts

- 8. Cabin Doors UNLATCH & JAM OPEN WITH CLOTHING
or CARPET
- 9. Face & Head (Before Touchdown) CUSHION WITH CLOTHING
- 10. Touchdown LEVEL ATTITUDE at STEADY DESCENT RATE
- 11. Evacuate Through Cabin Doors. If Necessary, OPEN WINDOWS
To FLOOD CABIN SO DOORS CAN BE OPENED.
- 12. Life Vests & Raft INFLATE when you are clear
of airplane.

LANDING WITH MAIN TIRE FLAT

- 1. Landing Approach NORMAL
- 2. Flaps 30°
- 3. Touchdown GOOD TIRE FIRST, HOLD AIRPLANE OFF
FLAT TIRE AS LONG AS POSSIBLE.

LANDING WITH NOSE TIRE FLAT

- 1. Landing Approach NORMAL
- 2. Flaps 30°
- 3. Touchdown ON MAIN WHEELS [HOLD NOSE WHEEL OFF THE
GROUND AS LONG AS POSSIBLE]
- 4. WHEN NOSE WHEEL TOUCHES-DOWN MAINTAIN FULL "UP" ELEVATOR
AS AIRPLANE SLOWS TO STOP.

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[E-3]

PILOTS EMERGENCY CHECKLIST

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LANDING WITHOUT ELEVATOR CONTROL

- 1. Throttle 2,000 RPM
- 2. Elevator Trim ADJUST PROMPTLY to MAINTAIN
LEVEL FLIGHT.
- 3. Flaps 20°
[Move Flap Switch slow enough to prevent
Nose From Pitching Up Abruptly.]
- 4. Airspeed (By adjusting Trim & Throttle) 65 Kts
- 5. Do Not Change Trim Control Setting.
- 6. Glide Angle CONTROL BY ADJUSTING THROTTLE ONLY
- 7. Flareout
 - a. Elevator Trim... ADJUST TOWARD FULL NOSE-UP SO THE
AIRPLANE WILL BE LEVEL ATTITUDE
OR HIGHER TO AVOID NOSE WHEEL
TOUCHING DOWN FIRST.
 - b. Throttle ADJUST
 - c. Throttle CLOSE IMMEDIATELY AFTER TOUCHDOWN

FIRE -- During Engine Start

- 1. Cranking CONTINUE to GET A START TO SUCK
FLAMES & FUEL INTO THE CYLINDERS

If Engine Starts:

- 2. Throttle 1700 RPM for 4 or 5 MINUTES
- 3. Engine SHUT-DOWN for MECHANIC INSPECTION

If Engine Fails to Start:

- 4. Throttle FULL OPEN
- 5. Mixture IDLE CUT-OFF
- 6. Cranking CONTINUE
- 7. Fuel Shut-Off Valve OFF (Pull Full-Out)
- 8. Aux. Fuel Pump OFF

- 9. Fire EXTINGUISH, Using Fire Extinguisher,
WOOL BLANKET or DIRT.
- 10. Fire Damage INSPECT. Do Not Attempt to Start
Engine until after a Mechanic's
Inspection & Approval For Return
To Service.

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[E-4]

PILOTS EMERGENCY CHECKLIST

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ENGINE FIRE -- In Flight

- 1. Mixture IDLE CUT-OFF
- 2. Aux. Fuel Pump OFF
- 3. Ignition Switch OFF
- 4. Master Switch OFF
- 5. Aux. Fuel Pump OFF
- 6. Fuel Shut-Off Valve OFF

- 5. Cabin Heat & Cabin Air (Except Uverhead Vents) OFF
- 6. Airspeed 100 Kts
[If Fire is NOT EXTINGUISHED, Increase
Glide Speed to Find An Airspeed That
Will Cool The Burning Material Enough
That They Will Not Burn.]

- 7. Forced Landing EXECUTE
[See "EMERGENCY LANDING WITHOUT
ENGINE POWER" Checklist]

WING FIRE

- 1. Landing & Taxi Lights OFF
- 2. Nav Lights OFF
- 3. Strobe Lights OFF
- 4. Pitot Heat OFF

Execute side slip to keep flames away from Fuel Tank & Cabin.
LAND AS SOON AS POSSIBLE, using FLAPS only as required for
FINAL APPROACH and TOUCHDOWN. When Flaps Are Set For Land-
ing --- MASTER SWITCH OFF

CABIN FIRE

- 1. Master Switch OFF
- 2. Cabin Heat, Cabin Vents CLOSED to avoid Drafts
- 3. Fire Extinguisher ACTIVATE

[WARNING]

After discharging an Extinguisher within a closed cabin
VENTILATE THE CABIN

- 4. LAND AS SOON AS PRACTICAL to Inspect for Damage.

PILOTS EMERGENCY CHECKLIST

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ELECTRICAL FIRE -- In Flight

- 1. Master Switch OFF
- 2. Cabin Heat, Cabin Vents CLOSED (OFF)
- 3. Fire Extinguisher ACTIVATE
- 4. Avionics Power Switch OFF
- 5. All Other Switches (Except Ignition) OFF

[WARNING]

After Discharging an Extinguisher In A Closed Cabin and det-
ermining that ALL FIRE is EXTINGUISHED, Ventilate Cabin.

If fire is extinguished and electrical power is necessary for
continuing flight to Nearest Suitable Airport:

- 6. Master Switch ON
- 7. Circuit Breakers CHECK FOR FAULTY CIRCUIT,
DO NOT RESET TRIPPED
BREAKER.
- 8. Radio Switches OFF
- 9. Avionics Power Switch ON
- 10. Radio or Electrical Switches TURN "ON" ONE-AT-A-TIME
with 1-minute delay
after each until SHORT
CIRCUIT is LOCALIZED.
- 11. Vents, Cabin Heat, Cabin Air ON
When it is certain that the
fire is completely out.

VACUUM SYSTEM FAILURE

[(L VAC R) Illuminates]

- 1. Vac Gauge.... CHECK to ensure VACUUM WITHIC NORMAL LIMITS

If Vacuum Pressure is not within NORMAL LIMITS, a vacuum system
failure has occurred and PARTIAL PANEL PROCEDURES may be re-
quired for continued INSTRUMENT FLIGHT.

PILOTS EMERGENCY CHECKLIST

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STATIC PRESSURE SOURCE BLOCKED

- 1. Static Pressure Alternate Source Valve ON

[NOTE]

In an emergency in airplanes not equipped with an ALTERNATE STATIC PRESSURE SOURCE, cabin pressure can be supplied to the STATIC PRESSURE INSTRUMENTS by breaking the glass in the VERTICAL SPEED INDICATOR. The Airspeed and Altimeter instruments may be sluggish, but the VERTICAL SPEED INDICATOR **will read in reverse.**

- 2. Airspeed CHECK CALIBRATION TABLES IN SECTION 5

INADVERTENT ICING ENCOUNTER

- 1. Pitot Heat ON
- 2. Flight EXECUTE 180° TURN or CHANGE ALTITUDE to OBTAIN WARMER OUTSIDE TEMPERATURE that is less conducive to ice.
- 3. Cabin Heat FULL "ON"
- 4. Defroster Vents OPEN FOR MAX. WINDSHIELD DEFROSTER AIR FLOW. ADJUST CABIN AIR CONTROL TO GET MAXIMUM DEFROSTER HEAT & AIRFLOW.
- 5. Throttle OPEN to INCREASE PROPELLER RPM & MINIMIZE ICE BUILDUP ON THE PROP BLADES.
- 6. ENGINE RPM WATCH FOR LOSS or ROUGHNESS DUE TO ICE BLOCKING THE FUEL INJECTION AIR REFERENCE TUBES. ADJUST THROTTLE TO OBTAIN MAXIMUM RPM. THIS MAY REQUIRE AN INCREASE or DECREASE OF THROTTLE SETTING.
- 7. Mixture ADJUST FOR MAX. RPM
- 8. Flight PLAN LANDING AT NEAREST AIRPORT. IF ICE IS BUILDING EXTRA RAPIDLY, SELECT A SUITABLE "OFF" AIRPORT LANDING SITE.

(Continued)

GH 0308

[E-7]

PILOTS EMERGENCY CHECKLIST

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ICING ENCOUNTER -- [Continuation]

- 9. Stall Speed WHEN ICE IS 1/4" OR MORE ON WINGS BE PREPARED FOR MUCH HIGHER STALL SPEEDS.
- 10. Flaps **USE NO FLAPS TO AVOID LOSS OF ELEVATOR CONTROL.**
- 11. Left Window OPEN &, If Practical, **SCRAPE ICE** FROM PART OF THE WINDSHIELD FOR VISIBILITY DURING LANDING APPROACH.
- 12. LANDING APPROACH AIRSPEED 65 to 75 Kts. DEPENDING ON THE AMOUNT OF ICE ACCUMULATION.
- 13. LANDING APPROACH VISIBILITY..... USE FORWARD SLIP TO THE LEFT, IF NECESSARY, FOR IMPROVED VISIBILITY.
- 14. Touchdown LAND IN LEVEL ATTITUDE

******* ELECTRICAL MALFUNCTIONS *******

Electrical problems in flight usually fall into one of two conditions:

EXCESS CHARGE RATE or INSUFFICIENT (LOW) CHARGE RATE

If the Alternator continues to charge more than approximately 2-needle widths on the AMMETER for a period of 30 minutes or more, it should be considered EXCESSIVE CHARGE RATE. This may cause **Battery Overheat** and possible failure.

If the ALTERNATOR CONTROL UNIT (VOLTAGE REGULATOR) permits the VOLTS to reach approximately 31.5 VOLTS, an OVER-VOLTAGE UNIT within the VOLTAGE REGULATOR should break the Alternator Field Circuit and render the ALTERNATOR INOPERABLE.

SEE "AMMETER SHOWS EXCESSIVE CHARGE" Checklist

or

ANNUNCIATOR [VOLTS] ILLUMINATES Checklist

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[E-8]

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AMMETER SHOWS EXCESSIVE CHARGE
FULL SCALE DEFLECTION

1. Alternator Half of Master Switch OFF
2. Non-Essential Electrical Equipment OFF
3. Flight TERMINATE AS SOON AS PRACTICAL

LOW VOLTAGE ANNUNCIATOR [VOLTS] Illuminates

[NOTE]

Illumination of "VOLTS" on the Annunciator Panel may occur during low RPM Taxiing or low RPM on Landing Approach with heavy electrical load. Under these conditions the "VOLTS" ANNUNCIATOR should go "OFF" at higher RPM. The MASTER need not be recycled because an "Over-Voltage" condition has not occurred to de-activate the Alternator.

1. Avionics Switch OFF
2. Alternator Circuit Breaker CHECK ENGAGED (IN)
3. Master Switch (Both Halves) OFF
4. Master Switch (To Re-Cycle Over-Voltage Relay)..... ON
5. "VOLTS" Annunciator CHECK OFF
6. Avionics Power Switch ON

IF VOLTS ANNUNCIATOR ILLUMINATES AGAIN

7. Alternator Switch OFF
8. Non-Essential Radios & Electrical Equipment OFF
9. Flight TERMINATE AS SOON AS PRACTICAL

Save the battery energy for later use.

AIRSPEEDS FOR EMERGENCY OPERATION

Engine Failure After Takeoff:

- | | |
|---|---------------|
| Flaps 0° | 70 Kts |
| Flaps 30° | 65 Kts |
| Maximum Glide Distance | 68 Kts |
| Precautionary Landing With Power | 65 Kts |
| Without Power | 65 Kts |