PILOT CHECKLIST

FOR BONANZAS WITH THE

"WHIRLWIND SYSTEM III™"

Revision 4 – December 2010

PREFLIGHT INSPECTION

1. Cabin

a. Landing Gear Emergency Hand Crank……..…….STOWED AND ACCESSIBLE
b. Exits Safety Wire..……....INTACT
c. Seats and Belts…..……...……..…PROPERLY INSTALLED
d. Baggage…….……CHECK LOADING AND SECURE

2. Cockpit

a. Control Locks…….……..REMOVE AND STOW
b. Parking Brake……..……...SET
c. All Switches……...……...……....……OFF
d. Trim Tabs……..……..SET TO ZERO
e. Oxygen System…...CHECK QUANTITY, FLOW, & MASKS
f. Landing Gear Handle……..……....DOWN
g. Battery Switch…….……...…ON
h. Standby Pressure/Vacuum System……..……...…...…CHECK
i. Fuel Quantity…….……CHECK
j. Lights…..……..……..……CHECK FOR NIGHT FLIGHT
k. Battery Switch..……...……..OFF

3. Fuselage Right Side

a. Static Port…...…….……UNOBSTRUCTED
b. ELT…….…….……..…ARMED

4. Empennage

a. Vertical Stabilizer……..……CHECK FOR DAMAGE
b. Horizontal Stabilizer……..…..…CHECK FOR DAMAGE
c. Static Wicks……..……...……..……CHECK
d. Elevator……CHECK MOVEMENT AND SECURITY
e. Elevator Trim Tabs…….... CHECK ALIGNMENT AND SECURITY
f. Rudder…….CHECK MOVEMENT AND SECURITY
g. Rudder Balance Weight…….……...…….…….CHECK
h. Tail Cone, Tail Light, and Rotating Beacon……...…CHECK
i. Tail Tie Down…….REMOVE

5. Fuselage Left Side

a. Cabin Air Inlet……..…….CLEAR
b. Cabin Exhaust Vent……...……CLEAR
c. Static Port……...……..UNOBSTRUCTED
d. All Antennas and Lower Beacon…….…….....CHECK

6. Left Wing Trailing Edge

a. Flap…...…..……...…CHECK SECURITY AND CONDITION

b. Aileron……....CHECK FREEDOM OF MOVEMENT AND SECURITY
c. Aileron Trim Tab……..….CHECK ALIGNMENT AND SECURITY
d. Static Wicks……...……CHECK

7. Left Wing Leading Edge

a. Wingtip and Lights...……...…… ….…CHECK
b. Stall Warning Vane…….……....CHECK OPERATION
c. Pitot Tube….REMOVE COVER; CHECK UNOBSTRUCTED
d. Pressure Relief/Siphon Break Port…….....UNOBSTRUCTED
e. Wing Tie Down…….……..……REMOVE
f. Fuel……..…..……...…CHECK QUANTITY
g. Fuel Cap...CHECK CONDITION OF O-RING AND SECURE
h. Wing…….……..CHECK FOR DAMAGE
i. Gear Doors, Tire, Brakes, and Shock Strut……...…CHECK
j. Landing Gear Up Lock, Roller, and Spring..…..…….CHECK
k. Fuel Vent and Flush Vent..……..UNOBSTRUCTED
l. Fuel Sump……..…DRAIN AND INSPECT FUEL
m. Fuel Selector Valve Sump…….……...DRAIN AND INSPECT FUEL; SECURE ACCESS DOOR

8. Nose Section

a. Left Cowl Flap……..……..CHECK
b. Engine and Baffling…….CHECK GENERAL CONDITION
c. Engine Oil….……..CHECK QUANTITY; SECURE CAP
d. Brake Fluid Reservoir.…….……CHECK QUANTITY
e. Left Cowling.…….…….……..…SECURE
f. Exhaust Stack Tailpipe…..…..…….…… SECURE

WARNING

Do not fly the aircraft with a loose exhaust stack tailpipe.

g. Nose Gear Doors, Tire, Shimmy Damper, and Shock Strut ..……....CHECK
h. Tow Pins and Scissors Linkage……..CHECK
i. Taxi and Landing Lights…….……..……..CHECK
j. Induction Air Intake…….……..CLEAR
k. Propeller and Spinner...…..CHECK FOR NICKS, SECURITY, OIL LEAKS, AND CONDITION OF DEICE BOOTS
l. Engine and Baffling (Right Side)……...CHECK GENERAL CONDITION
m. Right Cowling…….…..……....SECURE

n. Right Cowl Flap……...…...CHECK

9. Right Wing Leading Edge

a. Fuel Sump...…….…DRAIN AND INSPECT FUEL
b. Fuel Vent and Flush Vent……....UNOBSTRUCTED
c. Gear Doors, Tire, Brakes, and Shock Strut……CHECK
d. Landing Gear Up Lock, Roller, and Spring..…….CHECK
e. Fuel……...…….……..…CHECK QUANTITY
f. Fuel Cap...CHECK CONDITION OF O-RING AND SECURE
g. Pressure Relief/Siphon Break Port……...UNOBSTRUCTED
h. Wing Tie Down…….…….……REMOVE
i. Wing…….…….……..CHECK FOR DAMAGE
j. Wingtip and Lights……...……...…….…CHECK

10. Right Wing Trailing Edge

a. Static Wicks……...…….……...…CHECK
b. Aileron……...……....CHECK FREEDOM OF MOVEMENT AND SECURITY
c. Flap…..……..…CHECK SECURITY AND CONDITION
d. Utility Doors……..……..…SECURE

BEFORE START

1. Passenger Safety Briefing…….……COMPLETE
2. Seats and Seat Backs…….…….....POSITION FOR TAKEOFF
3. Rudder Pedals……..……...……...…...ADJUST
4. Seat Belts and Shoulder Harnesses……..…FASTEN/ADJUST
5. Brakes……..…….……..HOLD ON
6. Emergency Gear Handle……...STOW
7. Circuit Breakers…….……..IN
8. Flaps……UP
9. Avionics…...OFF(Avionics Master Switch – OFF if equipped)
10. Throttle…...……....CLOSE
11. Propeller……...HIGH RPM
12. Mixture……FULL RICH
13. Cowl Flaps…….……OPEN
14. Auto Pilot…….……OFF (if installed)
15. Electric Elevator Trim Switch…….…OFF (if installed)
16. Landing Gear Handle…….……..…DOWN
17. All Sub-panel Switches…...……..……OFF
18. Alternate Static Air Source…….NORMAL

19. Fuel Selector Valve……CHECK OPERATION; THEN select fuller main tank (feel for detent and visually check)

WARNING

Do not take off if gauges indicate in yellow arc or with less than 13 gallons in each main tank.

20. Battery and Alternator Switches……..……...ON
21. Fuel Quantity Indicators……CHECK FUEL QUANTITY
22. Auxiliary Fuel Pump……..….LO momentarily; listen to confirm operation; then OFF
23. Rotating Beacon…….ON

STARTING

CAUTION

Do not engage starter for more than 30 seconds in any 4 minute time period.

Cold Start

1. Mixture……....FULL RICH
2. Propeller……...……HIGH RPM
3. Throttle……...……FULL OPEN
4. Auxiliary Fuel Pump…….....HI UNTIL FUEL FLOW PEAKS THEN OFF
5. Throttle...CLOSE, THEN OPEN APPROXIMATELY ½ INCH
6. Magneto/Start Switch……..…..…….START, then BOTH as engine starts
7. Throttle……..ADVANCE while cranking until engine starts, then promptly retard the throttle to idle (1000-1200 RPM)
8. Auxiliary Fuel Pump…….HI may be used momentarily after starting to assist in obtaining normal fuel flow; then OFF

Flooded Engine Start

1. Mixture……..……IDLE CUT-OFF
2. Propeller……...….HIGH RPM
3. Throttle……1/2 OPEN
4. Magneto/Start Switch……...…….START, then BOTH as engine starts
5. Throttle……..RETARD to IDLE as engine starts and advance Mixture to FULL RICH

Hot Start

1. Mixture……..……...……IDLE CUT-OFF
2. Propeller…...……...….HIGH RPM
3. Throttle……...…..…...CLOSE
4. Auxiliary Fuel Pump…….HIGH, for 60-90 seconds, then OFF
5. Conduct a normal Cold Start, see Cold Start above.

After Start/Before Taxi

1. Throttle…….……1,000 – 1,200 RPM
2. Oil Pressure……..……..……10 PSI within 30 seconds
3. Mixture……..……...LEAN TO MAX RPM, leave the mixture in this position until just before takeoff.
4. Start Annunciator (if installed)…….....CHECK; should be illuminated during start and extinguished after start. If annunciator remains illuminated, Battery and Alternator Switches – OFF, Mixture – IDLE CUTOFF
5. Low Bus Annunciator……..….CHECK; should illuminate during start and extinguished after start
6. Alternator Load……..…….……CHECK; Load should decrease below 25 amps (at 1000-1200 RPM) after 2 minutes with no additional electrical equipment turned on.
7. Bus Voltmeter……...……CHECK FOR 28 or 14 VOLTS
8. All Engine Instruments……...CHECK

CAUTION

Engine oil temperature should be 75°F (24°C) or above and oil pressure in the green arc prior to engine run-up above 1200 RPM.

9. Lights…….....…….……AS REQUIRED
10. Avionics Equipment……..……ON, AS REQUIRED
11. Brakes…….RELEASE AND CHECK

CAUTION

Never taxi on a flat shock strut.

BEFORE TAKEOFF

1. Brakes……..……...……....HOLD
2. Seat Belts and Shoulder Harnesses……...……CHECK
3. Avionics……CHECK AND SET
4. Engine Instruments……CHECK (within operating range)
5. Flight Instruments……...……..CHECK AND SET

NOTE

To ensure proper gyro operation maintain engine RPM sufficient to maintain a value of 4.3 in. Hg on the instrument air gauge.

6. Annunciator Test……....PUSH AND CHECK LIGHTS
7. Mixture……...AS REQUIRED
8. Throttle……..…1,700 RPM
9. Propeller……EXERCISE to obtain 300-400 RPM drop, then high RPM
10. Magnetos…….……CHECK at 1700 RPM
    on each magneto (variances between individual magnetos should not exceed 50 RPM; maximum drop should not exceed 150 RPM, if drop excessive enrich mixture slightly and repeat.)
11. Instrument Air Gauge…….……CHECK
12. Standby Generator (if installed)...…….……CHECK
13. Throttle…….…….……..IDLE
14. Autopilot and Electric Trim (if installed).……..……CHECK
15. Trim…….……..SET
    a. Aileron - NEUTRAL
    b. Elevator - 3° NOSE UP (for Models 36 and A36, 6° nose up if only front seats are occupied)
16. Flaps……...CHECK operation; then SET for takeoff
17. Speed Brakes……RETRACTED
18. Doors and Windows……..SECURE (on later model aircraft check cabin door lock indicator – CLOSED)
19. Flight Controls…….……..FREE AND CORRECT
20. Mixture…….…. AS REQUIRED
21. Auxiliary Fuel Pump……....OFF
22. Instruments……...CHECK (Make final check of manifold pressure, fuel flow, oil pressure, and rpm at the start of the takeoff run.)
23. Parking Brake……..……VERIFY RELEASE

BEFORE TAKEOFF FINAL ITEMS

1. Strobe Lights……AS REQUIRED
2. Transponder……...SQUAWK ALTITUDE
3. Pitot Heat……..AS REQUIRED
4. Air Conditioning……..OFF
5. AC Door Extended Annunciator…..……....OFF
6. Takeoff Time……..…….RECORD

TAKEOFF

1. Brakes……...……..…HOLD
2. Throttle……..…..25 in Hg or more
3. Mixture……FULL RICH
4. Propeller……...……HIGH RPM
5. Throttle…….FULL OPEN (29.6 in. Hg.)

NOTE

MAP may increase to 30-32 in Hg. on the first flight of the day due to colder oil temperature. This is acceptable under these conditions but normal full throttle should be 29.6 in Hg.

6. Auxiliary Fuel Pump…….……...…OFF below 5,000 ft. density altitude, LO above 5,000 ft. density altitude.
7. Fuel Flow ……....……35 GPH FOR TNIO-550 or 32 GPH FOR TNIO-520 at 29.6 in. Hg. Manually lean as necessary.

WARNING

Use of the auxiliary fuel pump in the HI position may cause an excessively rich mixture and severely reduce available engine power or even cause the engine to cease combustion completely. The HI position should not be used during takeoff unless there is a failure of the engine driven fuel pump

8. Oil Pressure……..within operating range
9. Brakes……...…..……RELEASE to begin takeoff roll
10. Airspeed…….……..Accelerate to and maintain takeoff speeds
11. Landing Gear……..…RETRACT (after positive rate of climb is established)
12. Flaps (If Extended for Takeoff)…….…….....……UP
13. Airspeed……..ESTABLISH 115-120 KIAS CLIMB SPEED (when clear of obstacles)

14. Propellor……...……..Reduce to 2650 for noise abatement as soon as climb airspeed and terrain clearance allow.
15. Engine Instruments……....CHECK

CRUISE CLIMB

1. Throttle……..……...…FULL THROTTLE
2. Propeller…….……2,700 RPM
3. Mixture……FULL RICH
4. Cowl Flaps…….OPEN
5. Airspeed……..……...115-120 KIAS
6. Auxiliary Fuel Pump…….……..…….LO in the event of any fuel flow fluctuations and for extended climbs above 5,000 ft. density altitude. Use HI above 10,000 ft. density altitude.

   WARNING

   Use of the auxiliary fuel pump in the HI position may cause an excessively rich mixture and severely reduce available engine power or even cause the engine to cease combustion completely. Manually lean mixture to 35 GPH for the TNIO-550 or 32 GPH for the TNIO-520 at 29.6 in. Hg.

7. TIT……...A normal climb TIT should be 682-715°C (1260-1310°F). TIT should not exceed 715°C (1310°F). If TIT exceeds this value, and to avoid an excessive rise in CHTs, Auxiliary Fuel Pump set to LO or set to HI if above 10,000 D.A. If problem persists, and CHTs increase from normal climb values, lower the nose and increase indicated airspeed as required.
8. Engine Temperatures……...….Monitor CHT's. If any CHT exceeds 193°C (380°F) verify full rich fuel flow, using the boost pump as described in 6 above. If fuel flow is inadequate to keep all CHT's below 193°C (380°F), use HI Auxiliary Fuel Pump and lean mixture (if required) to 35.0 GPH for TNIO-550 and 32.0 GPH for TNIO-520 for the duration of the climb. Verify cowl flaps are full open. Lower the nose and increase airspeed as required to maintain the hottest CHT at or below 193°C (380°F).
9. Oxygen……ON as required. CHECK masks for proper flow. (above 12,500 MSL daytime, above 5000 MSL night time recommended)

MAXIMUM PERFORMANCE CLIMB

Same as Normal Climb except use Vy, monitor cylinder head temperatures closely – return to Normal Climb as soon as practical.

LEVEL OFF AND ROP CRUISE

Maximum Recommended Cruise Power..25.0 inHg at 2500 RPM
Economy Cruise Power…….23.0 inHg at 2200 RPM

1. Power……..……...……SET AS DESIRED
2. Auxiliary Fuel Pump……...……....OFF, (If fuel flow fluctuates, select LO.)
3. Mixture……TIT or EGT a least 52°C (125°F)

LEVEL OFF AND LOP CRUISE

1. Airspeed……..…….ACCELERATE TO CRUISE SPEED
2. Throttle…….……..FULL OPEN
3. Cowl Flaps……...…….……...CLOSE
4. Propeller……..…Reduce to 2,200-2,500 RPM
5. Auxiliary Fuel Pump.……..……..OFF, if fuel flow is stable or LO if fuel flow is unstable
6. Mixture…… ..…Rich then smoothly LEAN in a period of 4-6 seconds to a fuel flow approximately:

TNIO-550	TNIO-520
15.0– 16.5 GPH at 2300 RPM	13.0-14.5 GPH at 2300 RPM
16.0 – 17.5 GPH at 2500 RPM	14.5-16.0 GPH at 2500 RPM

NOTE

When this reduction in fuel flow is performed as described, the pilot will notice a slight deceleration of the aircraft as the mixture passes from rich of peak TIT (EGT) to lean of peak TIT (EGT). This fuel flow is at 29.6 in Hg. There can be a variation of 5% in the fuel flow because of variations in individual engines.

7. Cylinder Head Temperature……...CHECK, if any CHT exceeds 193°C (380°F), LEAN mixture further in 0.25 GPH increments. If all CHT's are under 193°C (380°F), mixture may be increased in 0.1 to 0.2 GPH increments.
8. Auxiliary Fuel Pump……..after ½ hour cruise OFF, return to LO until stable fuel flow achieved.

NOTE

If unable to achieve stable fuel flow with the boost pump off, flight may continue with boost pump on LO.

9. Lights……..…AS REQUIRED
10. Oxygen……CHECK FLOW (see POH)
11. Fuel…..……....SWITCH TANKS (As required)

CAUTION

Retarding the throttle to idle may cause engine combustion to cease, depending on the mixture setting, auxiliary fuel pump operation, and altitude. At altitudes below 18,000 feet MSL, merely advancing the throttle should cause resumption of normal engine operation. Above, 18,000 feet MSL, if engine does no restart, follow the procedures entitled, "RETARDING THROTTLE TO IDLE" in the EMERGENCY PROCEDURES section.

DESCENT

1. Altimeter……..……SET
2. Cowl Flaps……..……...…VERIFY CLOSED
3. Throttle……...23-25in Hg
4. Propeller……..……2300 RPM
5. Mixture……..……LEAVE AT CRUISE SETTING
6. Throttle……..…..MAINTAIN 23-25 in Hg during descent
7. Flaps……..……..AS APPROPRIATE
8. Windshield Defroster……....AS REQUIRED; ON before descent into warm, moist air.

RAPID DESCENT

1. Altimeter……...SET
2. Cowl Flaps……....VERIFY CLOSED
3. Throttle……..…17-20 in Hg
4. Propeller……1800-2100 RPM
5. Mixture……...…LEAVE AT CRUISE SETTING
6. Airspeed…….AS APPROPRIATE within green arc. Use V_a in rough air.
7. Throttle……..…..MAINTAIN 17-20 in Hg during descent
8. Windshield Defroster……....AS REQUIRED; ON before descent into warm, moist air.
9. Flaps and Landing Gear……..……..AS REQUIRED

APPROACH

1. Seat Belts and Shoulder Harnesses……..FASTEN
2. Seat Backs……..……..POSITION FOR LANDING
3. Recognition Lights……...……..ON
4. Fuel Selector Valve..……SELECT fuller main tank (feel for detent and visually check)
5. Auxiliary Fuel Pump……..……...OFF
6. Cowl Flaps……AS REQUIRED
7. Mixture……AS REQUIRED for altitude and throttle setting
8. Throttle……...…….21in Hg
9. Propeller……2300-2500 RPM
10. Airspeed……...…110-120 KIAS
11. Trim…….……...…SET
12. Flaps…….…...…APPROACH, set 15° MAX
13. Avionics……..CONFIRM set for approach
14. Oxygen System…….……OFF

BEFORE LANDING

1. Landing Gear…….……DOWN; verify green light(s)
2. Yaw Damp……...……..…OFF
3. Landing Lights……..….AS REQUIRED
4. Flaps……...……DOWN (30°)
5. Airspeed…….…….…NORMAL APPROACH SPEED
6. Propeller…….…..….HIGH RPM

BALKED LANDING

1. Power
   a. Mixture…….……FULL RICH
   b. Propeller……HIGH RPM
   c. Throttle……FULL OPEN
2. Airspeed……..…..V_x until clear of obstacles; then trim to normal climb speed
3. Flaps…..……..…..UP (0°) after positive climb rate established
4. Landing Gear……RETRACT, after positive rate of climb established
5. Trim…….…….RESET; as required
6. Cowl Flaps…….……OPEN

AFTER LANDING AND CLEAR OF RUNWAY

1. Clear the active runway and hold short line
2. Brakes……..……..……STOP the aircraft
3. Cowl Flaps…….……OPEN
4. Flaps……..……..……..……...UP (0°)
5. Strobe lights……..……OFF
6. Landing and Taxi Lights……....AS REQUIRED
7. Transponder……..……..…STANDBY; squawk 1200
8. Ice Protection……..……...OFF
9. Trim.…..…….……RESET for normal takeoff
10. Mixture……....……RESET to obtain maximum RPM

SHUTDOWN

1. Parking Brake…....……AS APPROPRIATE
2. Avionics…….……...OFF
3. Electrical Equipment (Except Rotating Beacon)….……OFF
4. Throttle…...……1000 RPM
5. Mixture…….……IDLE CUT-OFF
6. Magneto/Start Switch…….…OFF after engine stops
7. Rotating Beacon……OFF
8. Battery and Alternator Switches…..…….....OFF
9. Control Locks……..…….……INSTALL AS REQUIRED
10. Wheel Chocks or Wing Tie Downs……...……..INSTALL
11. Parking Brake…….…RELEASE

EXTERNAL POWER START

1. Line Personnel……...……..BRIEFED
2. Battery Switch……....……..OFF
3. Alternator Switch…….……OFF
4. All Electrical Switches and Avionics……...OFF
5. Auxiliary Power Unit……...CONNECT
   (CHECK VOLTAGE SET 27.0–28.5 (13.5-14.25) VOLTS)
6. Battery Switch……....ON
7. Auxiliary Power Unit……ON
8. Engine…….START using normal procedures
9. Auxiliary Power Unit……...……OFF AND DISCONNECT
10. Alternator…….……...…ON

EMERGENCY PROCEDURES

NOTE: Memory items are printed in blue.

ENGINE FAILURE DURING TAKEOFF ROLL

1. Throttle……..……..CLOSED
2. Control Wheel……....FULL AFT
3. Braking……..…MAXIMUM
4. Wing Flaps ……..……RETRACT
5. Mixture……...IDLE CUT-OFF
6. Magneto/Start Switch……OFF
7. Master Switch……OFF
8. Fuel Selector Valve……..……..OFF

If aircraft cannot be stopped on remaining runway:

9. Ground loop if required.
10. Evacuate as soon as possible.

ENGINE FAILURE IN FLIGHT

1. Maintain control of the aircraft.
2. Pitch……ESTABLISH FOR 85-110 KIAS
3. Select most favorable landing site.

If sufficient altitude remains to attempt restart:

4. Fuel Selector Valve……....SELECT OTHER TANK
5. Auxiliary Fuel Pump……..…HI (TURN BACK OFF IF NO RESTART)
6. Mixture…….RICH OR LEAN AS REQUIRED
7. Magneto/Start Switch……...CHECK LEFT, RIGHT, THEN BOTH

If insufficient altitude remains to attempt restart, or restart fails:

8. Declare emergency.
9. Perform Maximum Glide Configuration or Landing Without Power Checklist, as applicable.

ROUGH RUNNING ENGINE

1. Engine Power……..……REDUCE
2. Fuel Selector Valve……....SWITCH TANKS
3. Auxiliary Fuel Pump……..LOW
4. Mixture……FULL RICH, THEN LEAN AS REQUIRED
5. Magneto/Start Switch……...CHECK LEFT, RIGHT, THEN BOTH

ENGINE FIRE IN FLIGHT

1. Firewall Air Control Knob……PULL
2. Fuel Selector Valve……..OFF
3. Mixture…..……..IDLE CUTOFF
4. Battery, Alternator, and Magneto Switches…….…OFF
5. Do not attempt restart.
6. Declare emergency.
7. Perform Emergency Descent, Maximum Glide Configuration, or Landing Without Power Checklist, as applicable.

ENGINE FIRE DURING START/GROUND OPERATIONS

1. If fire occurs during engine start, continue cranking and mixture…...……IDLE CUTOFF
2. If fire does not extinguish continue on with step 3
3. Fuel Selector Valve……..OFF
4. Battery, Alternator, and Magneto/Start Switches…...OFF
5. Evacuate Cabin.
6. Extinguish with fire extinguisher if practical.

EMERGENCY DESCENT

1. Throttle……..……IDLE
2. Propeller……...…HIGH RPM
3. Landing Gear……..……DOWN
4. Flaps……...APPROACH
5. Airspeed……ESTABLISH 154 KIAS

MAXIMUM GLIDE CONFIGURATION

1. Landing Gear……..……UP
2. Flaps……..……UP
3. Propeller Control……..….LOW RPM
4. Cowl Flaps…….……..CLOSED
5. Airspeed……..…110 KIAS
6. Air Conditioning……..OFF
7. Declare emergency.
8. Glide distance is approximately 1.7 NM per 1000 ft. of altitude.

LANDING WITHOUT POWER

1. Fuel Selector Valve……..OFF
2. Mixture…….……..IDLE CUTOFF
3. Magneto/Start Switch……...OFF
4. Brief passengers.
5. Tighten seat belts, secure loose articles, and unlatch front door.
6. Flaps……....DOWN
7. Landing Gear……...OPTIONAL
8. Airspeed……85 KIAS MINIMUM
9. Battery and Alternator Switches……..OFF
10. Declare emergency.

PROPELLER OVERSPEED

1. Throttle……RETARD
2. Airspeed……REDUCE UNTIL RPM IS BELOW REDLINE
3. Oil Pressure……CHECK
4. Land as soon as practical.
5. If engine seizes, perform Maximum Glide Configuration or Landing Without Power checklist, as applicable.

UNLATCHED DOOR IN FLIGHT

1. Maintain control of the aircraft.
2. Make normal approach and landing.

STARTER ENERGIZED ENUNCIATOR ILLUMINATED

On the ground:

1. Battery and Alternator Switches……..……OFF
2. Mixture……...IDLE CUTOFF
3. Do not take off.

In flight:

1. Battery and Alternator Switches……OFF
2. Standby Generator……..RESET, THEN ON
3. Land as soon as practical.

ELECTRIC PITCH TRIM RUNAWAY

1. Autopilot Disconnect/
   Pitch Trim Interrupt Button....PUSH AND HOLD DOWN
2. Maintain control of the aircraft.
3. Manual Elevator Trim Wheel……...RETRIM
4. Pitch Trim Circuit Breaker……....PULL
5. Pitch Trim Interrupt Button……...RELEASE

LOW BUS VOLTS ENUNCIATOR ILLUMINATED

1. Load Meter……CHECK

If abnormal, continue:

2. Alternator Switch……..……OFF MOMENTARILY, THEN ON
3. Low Bus Volts Enunciator…….CHECK

If off, continue flight.

If re-illuminated continue checklist:

4. Nonessential Electrical Equipment……..…OFF
5. If equipped with standby generator, turn alternator and battery switches off; turn standby generator switch to reset, then on.
6. Plan to extend landing gear manually.
7. Land as soon as practical.

ELECTRICAL FIRE OR SMOKE

1. Battery and Alternator Switches……..…OFF
2. Firewall Air Control Knob……PULL
3. Ensure fire is out (use extinguisher if necessary).
4. Ventilate cabin.
5. Oxygen……..AS REQUIRED
6. Declare emergency.
7. All Electrical and Avionics Switches……..……OFF
8. Battery and Alternator Switches……..……..ON
9. Essential Electrical Equipment and Avionics……..…..ON
   Turn on one at a time. Isolate defective equipment.
10. Land as soon as practical.

LANDING GEAR MANUAL EXTENSION

1. Climb to a safe altitude.
2. Airspeed…….……120 KIAS RECOMMENDED
3. Auto Pilot…...……ON IF AVAILABLE

CAUTION

If auto pilot and altitude mode are engaged, airspeed must be closely monitored during gear extension procedure and power adjusted as needed to maintain a safe airspeed.

4. Landing Gear Motor Circuit Breaker……PULL
5. Landing Gear Switch Handle……..……DOWN
6. Seat……...…ADJUST
7. Hand Crank…..…ENGAGE AND TURN COUNTER-CLOCKWISE AS FAR AS POSSIBLE (APPROXIMATELY 50 TURNS)
8. Landing Gear Position Lights……CHECK

LANDING GEAR RETRACTION AFTER PRACTICE MANUAL EXTENSION

1. Hand Crank……..……CHECK STOWED
2. Landing Gear Motor Circuit Breaker……..IN
3. Landing Gear Switch Handle……..…UP

RECOVERY FROM INADVERTENT SPINS

1. Control Column……FULL FORWARD
2. Rudder…….FULL OPPOSITE TO SPIN DIRECTION
3. Throttle……..……IDLE

When rotation stops:

4. Controls……..NEUTRALIZE
5. Execute smooth pullout.

EMERGENCY SPEED REDUCTION

1. Wings……..LEVEL
2. Throttle……...…IDLE
3. Landing Gear……...……EXTEND

ENGINE FUEL STARVATION RESTART

CAUTION

Do not move engine controls when engine stops from fuel starvation. Just switch to a full tank.

1. Fuel Selector Valve……....FULLEST TANK
2. Auxiliary Fuel Pump…….……...……HIGH; THEN OFF WHEN ENGINE RESTARTS

NOTE

If auto pilot altitude hold engaged, turn it off so aircraft will not stall.

ALTERNATE STATIC AIR SYSTEM

1. Emergency Static Air Source…...……..SWITCH TO EMERGENCY
2. Airspeed and Altitude Corrections……...APPLY AS NECESSARY

UNEXPECTED LOSS OF MANIFOLD PRESSURE

1. Reduce power to the minimum power setting required for continued flight to suitable landing.
2. Mixture…….....……as required
3. Cabin Firewall Shutoff…….CLOSED
4. Cowl Flaps……OPEN
5. Watch for signs of engine fire. If engine fire occurs run ENGINE FIRE INFLIGHT checklist.
6. Descend to minimum safe altitude from which a safe landing can be accomplished.
7. Declare emergency when time and workload permit.
8. Land as soon as practical.

LOSS OF COMBUSTION AFTER RETARDING THROTTLE TO IDLE

1. Auxiliary Fuel Pump……OFF
2. Throttle……...…….1/2 OPEN
3. Propeller……..…….HIGH RPM
4. Mixture Control……..……LEAN until engine starts, then slowly advance to FULL RICH
5. Throttle, Mixture, and Auxiliary Fuel Pump……...RESET for desired operation

INTENTIONAL LANDING WITH GEAR RETRACTED

1. Throttle…….……CLOSED
2. Mixture…...……IDLE CUTOFF
3. Flaps……...….DOWN
4. Battery, Alternator, and Magneto/Start Switches……OFF
5. Fuel Selector Valve……..OFF
6. Keep wings level during touchdown.
7. Evacuate aircraft as soon as it stops.