TORNADO ALLEY TURBO, INC.

PILOT CHECKLIST

FOR G36 BONANZAS WITH THE

"WHIRLWIND SYSTEM III™"

Revision 3 – September 2013

PREFLIGHT INSPECTION

1. Cabin

a. Emergency Exits.....CHECK
   1) Safety Wire (Beneath Cover).....INTACT
   2) Windows.....CLOSED & LOCKED
b. Seats and Belts.....PROPERLY INSTALLED
c. Baggage.....CHECK LOADING AND SECURE

2. Cockpit

a. Landing Gear Emergency Hand Crank.....STOWED AND ACCESSIBLE
b. Parking Brake.....SET
c. Control Locks.....REMOVE
d. All Switches.....OFF
e. Landing Gear Handle.....DOWN
f. Trim Tabs.....SET TO ZERO
g. Oxygen System.....CHECK QUANTITY, FLOW, & MASKS
h. Battery System.....CHECK
   1) Battery 1.....ON
   2) PFD.....VERIFY REVERSIONARY MODE
   3) Soft Keys.....SELECT ENGINE & SYSTEM
   4) Bus 1 & Bus 2 Voltages.....CHECK
      a) Bus 1 = 23 Volts minimum
      b) Bus 2 = Approx 2 volts less than Bus 1
   5) Battery 2.....ON
   6) Battery 1.....OFF
   7) Bus 1 & Bus 2 Voltages.....CHECK
      a) Bus 1 = 0 Volts
      b) Bus 2 = 20 Volts minimum
   8) Battery 1.....ON
i. Landing Gear Position Lights.....CHECK 3 GREEN
j. Annuciator Test Button.....PRESS
   - Gear In-Transit Light and Flap Lights ..... ILLUMINATED
k. Exterior/Interior Lights.....CHECK, AS REQUIRED
l. Standby Attitude Indicator.....FLAG PULLED
m. Battery 1 & Battery 2.....OFF
n. Standby Attitude Indicator.....YELLOW LED BLINKING

3. Right Fuselage

a. Static Port.....CLEAR

4. Empennage

a. Vertical & Horizontal Stabilizer.....CHECK
b. Rudder & Elevator.....CHECK MOVEMENT & SECURITY
c. Elevator Trim Tabs..... CHECK SECURITY, ALIGNMENT WITH ELEVATOR
d. Static Wicks.....CHECK
e. Nav Light and Rotating Beacon.....CHECK
f. Tie Down.....REMOVE
g. Cabin Air Intake.....CLEAR

5. Left Fuselage

a. Cabin Air Exhaust.....CLEAR
b. Static Port.....CLEAR
c. All Antennas .....CHECK
d. Lower Rotating Beacon.....CHECK

6. Left Wing Trailing Edge

a. Flap.....CHECK
b. Aileron Trim Tab.....CHECK SECURITY, ALIGNMENT WITH AILERON
c. Aileron.....CHECK MOVEMENT & SECURITY
d. Static Wicks.....CHECK
e. Wing Tip.....CHECK

7. Left Wing Leading Edge

a. Navigation and Strobe Lights.....CHECK
b. Stall Warning Vane.....CHECK MOVEMENT
c. Pitot Tube.....CLEAR
d. Siphon Break Port.....CLEAR
e. Tie Down.....REMOVE
f. ADC OAT Probe.....CHECK
g. Fuel Tank.....CHECK QTY, O-RING, CAP SECURE
h. Cabin Air Intake.....CLEAR
i. OAT Probe.....CLEAR

8. Left Landing Gear Area

a. Left Main Gear.....CHECK
   1) Gear Doors.....SECURE & FLUSH
   2) Landing Gear Uplock Roller .....CHECK FOR FREEDOM TO ROTATE
   3) W.O.W. Switch Linkage.....SECURE
   4) Scissors Linkage.....SECURE
   5) Shock Strut.....PROPER INFLATION
   6) Tire.....CONDITION

7) Chocks.....REMOVE

b. Fuel Vent Tube.....CLEAR

c. Flush Fuel Vent.....CLEAR

d. Fuel Sump.....DRAIN & CHECK FUEL

e. Fuel Selector Valve Sump
(located under access door).....CHECK

1) Drain and Check Fuel

2) Close and Secure Door

9. Nose Section

a. Left Cowl Flap.....SECURE

b. Engine Compartment, Left Side.....CHECK

1) Brake Fluid Reservoir.....CHECK QUANTITY

2) Engine Oil.....10 QTS MINIMUM

3) Engine Oil Cap.....SECURE

4) Engine Baffles.....SECURE

5) Left Engine Cowl Door.....CLOSED & SECURE

c. Left Cooling Louver.....SECURE & CLEAR

d. Propeller / Spinner.....CHECK
(Nicks, Leaks, Deice Boots)

e. Cooling Air Inlet.....CLEAR & BAFFLES INTACT

f. Landing and Taxi Lights.....CHECK

g. Induction Air Inlet.....CLEAR

h. Nose Gear.....CHECK

1) Gear Doors.....SECURE

2) Shock Strut.....PROPER INFLATION

3) Shimmy Damper.....SECURE

4) Scissor Linkage & Tow Pins.....CHECK

5) Tire.....CONDITION

6) Chocks.....REMOVE

i. Engine Compartment, Right Side.....CHECK

1) Fuses.....CHECK

2) A/C Belt Tension (if installed).....CHECK

3) Engine Baffles.....SECURE

4) Right Engine Cowl Door.....SECURE

j. Right Cooling Louver.....SECURE & CLEAR

k. External Power Door.....SECURE

l. Right Cowl Flap.....SECURE

m. Air Conditioner Condenser (if installed).....CHECK

n. Exhaust Stack Tailpipe..... SECURE

WARNING

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

10. Right Landing Gear Area

a. Fuel Sump.....DRAIN & CHECK FUEL
b. Fuel Vent Tube.....CLEAR
c. Flush Fuel Vent.....CLEAR
d. Right Main Gear.....CHECK
   1) Gear Doors.....SECURE & FLUSH
   2) Landing Gear Uplock Roller .....CHECK FOR FREEDOM TO ROTATE
   3) W.O.W. Switch Linkage.....SECURE
   4) Scissors Linkage.....SECURE
   5) Shock Strut.....PROPER INFLATION
   6) Tire.....CONDITION
   7) Chocks.....REMOVE

11. Right Wing Leading Edge

a. Cabin Air Intake.....CLEAR
b. Fuel Tank.....CHECK QTY, O-RING, CAP SECURE
c. Siphon Break Port.....CLEAR
d. Tie Down.....REMOVE
e. Navigation and Strobe Lights.....CHECK

12. Right Wing Trailing Edge

a. Wingtip .....CHECK
b. Static Wicks.....CHECK
c. Aileron.....CHECK MOVEMENT & SECURITY
d. Flap.....CHECK
e. Utility Doors.....CLOSED AND LOCKED

BEFORE ENGINE STARTING

1. Seats.....POSITION FOR TAKEOFF
2. Rudder Pedals.....ADJUST
3. Seat Belts and Shoulder Harness.....FASTEN/ADJUST
4. Parking Brake.....CONFIRM SET
5. Left Side Circuit Breakers.....IN
6. Alternate Static Air Source.....NORMAL
7. Subpanel Switches.....OFF, BEACON ON
8. Landing Gear Handle.....DN

9. Throttle.....CLOSED
10. Propeller.....HIGH RPM
11. Mixture.....FULL RICH
12. Cowl Flaps.....OPEN
13. Flaps.....UP
14. Avionics Circuit Breakers.....IN
15. ELT Switch.....ARM
16. Battery System Check.....CONFIRM COMPLETE
17. Battery 1 & 2, Alternator 1 & 2.....ON
18. PFD.....VERIFY REVERSIONARY MODE
19. Alerts.....CHECK & CONSIDERED
20. Fuel Remaining.....SET
    a. Select ENGINE and SYSTEM Soft Keys
    b. With Full Fuel.....Press RST FUEL
       (reset to full fuel to 74 gallons)
    c. With Partial Fuel (if required).....Press DEC FUEL
       or INC FUEL
       (to adjust GAL REM)
21. Fuel Selector Valve.....CHECK OPERATION
    THEN SELECT FULLER TANK
    (feel for detent/confirm visually)

WARNING

Do not take off if fuel quantity indication is in the Yellow band or with less than 13 gallons in each tank.

22. Aux Fuel Pump.....VERIFY OPERATION
    a. Aux Fuel Pump.....SELECT LO,
       LISTEN FOR OPERATION
    b. Aux Fuel Pump.....SELECT OFF

ENGINE STARTING (BATTERY)

CAUTION

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

Cold Starts

1. Throttle.....FULL OPEN
2. Propeller.....HIGH RPM
3. Mixture.....FULL RICH

4. Aux Fuel Pump.....HI UNTIL FUEL FLOW PEAKS THEN OFF
5. Throttle.....CLOSE, THEN OPEN APPROXIMATELY ½ INCH
6. Magneto/Start Switch.....START
(Release to BOTH when engine starts)
   - The [STARTER ENGD] Caution Alert will illuminate during the Start and should extinguish when starter is released.
7. Throttle.....1000 to 1200 RPM AFTER START

Flooded Engine

1. Mixture.....CUT OFF
2. Propeller.....HIGH RPM
3. Throttle.....1/2 OPEN
4. Magneto/Start Switch.....START
(Release to BOTH when engine starts)
5. As Engine Starts:
   a. Throttle.....IDLE
   b. Mixture.....FULL RICH

Hot Starts

1. Mixture.....CUT OFF
2. Propeller.....HIGH RPM
3. Aux Fuel Pump.....HI FOR 30-60 SECONDS, THEN OFF
4. Mixture.....FULL RICH
5. Throttle.....FULL OPEN
6. Aux Fuel Pump .....HI UNTIL FLOW PEAKS THEN OFF
7. Throttle.....CLOSE; THEN OPEN APPROXIMATELY ½ OPEN
8. Magneto/Start Switch.....START
(Release to BOTH when engine starts)
9. Aux Fuel Pump (if required).....HI
(Momentarily after starting to purge the system)
10. Aux Fuel Pump.....OFF

BEFORE TAXI

1. Throttle.....1000 to 1200 RPM
2. Oil Temperature/Pressure.....CHECK

CAUTION

Engine oil temperature and oil pressure must be in green band prior to engine run-up above 1200 RPM.

3. Avionics Master.....ON
4. Mixture.....LEAN TO MAX RPM, leave the mixture in this position until just before takeoff.
5. Air Conditioner (if installed).....AS REQUIRED
6. Autopilot Preflight test.....COMPLETE
   a. Red AFCS Message.....ILLUMINATED WHILE AHRS ALIGNS
   b. Red AFCS Message.....EXTINGUISHED
   c. White PFT Message.....ILLUMINATED (~5 Seconds)
   d. White PFT Message.....EXTINGUISHED
   e. Autopilot Disconnect Tone.....SOUNDS
7. MFD.....AVIATION DATA BASE ACKNOWLEDGED (press ENT to continue)
8. PFD and MFD .....DISPLAYED IN NORMAL MODE
9. AHRS.....ALIGN
10. ALT 1 and ALT 2.....CHECK
    a. ALT 1.....POSITIVE LOAD
    b. ALT 2.....ZERO LOAD
11. Bus 1 and Bus 2 Voltages.....CHECK
    a. MFD.....SELECT ENGINE AND SYSTEM
    b. Bus 1.....27.5–29.0 Volts
    c. Bus 2.....25.5-27.0 Volts
12. Alerts/Messages.....CHECK
    [BUSES TIED] – ILLUMINATED
    [AC DOOR EXTD] – ILLUMINATED IF AC ON
13. Lights.....AS REQUIRED
14. Avionics.....CHECK & SET
    a. Radio – Comm and Nav
    b. Altimeter
    c. CDI Nav Source
    d. Transponder
    e. Altitude Preselect
    f. Flight Plan
15. Standby Altimeter.....SET
16. Standby Attitude Indicator.....PULL KNOB TO ERECT (release knob slowly)

CAUTION

The indicator may be damaged if the PULL-TO-CAGE knob is released with a snap.

17. Brakes.....RELEASE AND CHECK

CAUTION

Never taxi on a flat shock strut.

BEFORE TAKEOFF (RUNUP)

1. Parking Brake.....HOLD
2. Seat Belts and Shoulder Harnesses.....CONFIRM BUCKLED
3. Engine Instruments.....CHECK WITHIN OPER. LIMITS
4. Flight Instruments.....CHECK
5. Throttle.....1700 RPM
6. Propeller.....EXERCISE
   (to obtain 200 to 300 RPM drop)
7. Magnetos.....CHECK INDIVIDUALLY
   a. Variance between individual magnetos should not exceed 50 RPM.
   b. Maximum drop should not exceed 150 RPM, if drop excessive enrich mixture slightly and repeat.
8. Alternator 2 and Bus Tie.....CHECK
   a. Throttle..... ≥ 2000 RPM
      [BUSES TIED] – Extinguished
      Voltmeter 2:27.5-29.0 VOLTS
      Loadmeter 2: POSITIVE LOAD
   b. Throttle.....1000-1200 RPM
      [BUSES TIED] – Illuminated
9. TAS (if installed).....TEST
   a. Large FMS Knob (if reqd.).....SELECT MAP GROUP
   b. Small FMS Knob.....SELECT TRAFFIC MAP
   c. Test Softkey.....PRESS
      1) Test Pattern.....VERIFY ON MFD
      2) [TRAFFIC].....VERIFY ON MFD
   d. Verify Voice Message....."Traffic Advisory Test Passed"
   e. ALT MODE.....SET AS DESIRED
   f. Small FMS Knob.....SELECT DESIRED MAP PAGE
10. Standby Attitude Indicator.....ERECT
    a. Standby Battery.....CHECK IF DESIRED
       (See OTHER NORMAL PROCEDURES)
    b. STBY PWR LED.....EXTINGUISHED
    c. Flag.....PULLED
11. Electric Elevator Trim.....CHECK

a. Left and Right Segments.....ACTUATE INDIVIDUALLY
(verify there is no trim movement. Red PTRM illuminated on PFD if actuated for > 4 sec.)
b. Left and Right Segments.....ACTUATE TOGETHER
(verify proper trim movement)
c. AP DISC Switch.....ACTUATE WITH TRIM IN MOTION
(verify trim motion stops)

12. Trim.....SET
    a. Aileron.....NEUTRAL
    b. Elevator.....3° NOSE UP
    (6° nose up if only front seats are occupied)
13. Flaps.....CHECK OPERATION, SET FOR TAKEOFF
14. Flight Controls.....CHECK FREEDOM OF MOVEMENT AND PROPER DIRECTION OF TRAVEL
15. Doors and Windows.....SECURE
    • Cabin Door Lock Indicator.....CHECK CLOSED
16. Fuel Selector Valve.....CHECK TANK SELECTED
    (feel for detent; confirm visually)
17. Aux Fuel Pump.....OFF
18. Alerts/Messages.....EXTINGUISHED OR CONSIDERED
19. TAS (if installed).....CONSIDERED
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.....RELEASE

BEFORE TAKEOFF (FINAL ITEMS)

1. Pitot Heat.....AS REQUIRED
2. Lights.....AS REQUIRED
3. Air Conditioning (if installed).....OFF

WARNING

The [AC DOOR EXTD] Caution Alert must be extinguished before Takeoff.

4. Flaps.....CONFIRM SET
5. Transponder Code.....CONFIRM SET
6. Rotation Speed.....CONFIRM

(for 3650 lbs., Flaps UP = 73 KTS, Flaps Approach = 67 KTS)
(for 4000 lbs., Flaps UP = 77 KTS, Flaps Approach = 71 KTS)

TAKEOFF

1. Brakes.....HOLD
2. Throttle.....25 in Hg or more
3. Propeller.....HIGH RPM
4. Mixture.....FULL RICH
5. [BUSES TIED].....EXTINGUISHED
6. Instruments.....CHECK
   (MAP, RPM, Fuel Flow, Oil Temp/Press)
7. 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.

8. Auxiliary Fuel Pump.....OFF below 5,000 ft. density altitude, LO above 5,000 ft. density altitude.
9. 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

10. Brakes.....RELEASE
11. Rotation Speed.....ROTATE
12. Landing Gear (when positive R/C established).....RETRACT
13. Flaps (if used for takeoff).....RETRACT
14. Airspeed.....ESTABLISH 115-125 KIAS CLIMB SPEED
    (when 1000 ft AGL)
15. Propellor.....Reduce to 2650 for noise abatement as soon as climb airspeed and terrain clearance allow.
16. Engine Instruments.....CHECK

CRUISE CLIMB

1. Power.....SET
   a. Throttle.....FULL FORWARD
   b. Propeller.....MCP Climb - 2700 RPM
   c. Mixture.....FULL RICH

   NOTE

   Disregard cyan fuel flow marker and the high fuel flow warning from Garmin display.

2. Cowl Flaps.....AS REQUIRED
3. Airspeed.....115-120 KIAS
4. 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.

5. 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.
6. 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 5 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).
7. Oxygen.....ON as required. CHECK masks for proper flow. (above 12,500 MSL daytime, above 5000 MSL night time recommended)
8. Air Conditioner (if installed).....AS REQUIRED
9. Aux Fuel Pump.....AS REQUIRED

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 2300 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 2,300-2,500 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 (PFD and Standby).....SET
2. Cowl Flaps.....CONFIRM 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 (PFD and Standby).....SET
2. Cowl Flaps.....CONFIRM 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

BEFORE LANDING

1. Seat Belts and Shoulder Harnesses.....FASTENED
2. Seat Backs.....POSITION FOR LANDING
3. Fuel Selector Valve.....SELECT fuller main tank
   (feel for detent and visually check)
4. Auxiliary Fuel Pump.....OFF
5. Cowl Flaps.....AS REQUIRED
6. Mixture.....AS REQUIRED FOR ALTITUDE
   AND THROTTLE SETTING
7. Landing Gear (154 kts or below).....DOWN
8. Landing Lights.....AS REQUIRED
9. Propeller.....HIGH RPM

NORMAL LANDING

1. Flaps (124 kts or below).....DOWN
2. Airspeed.....ESTABLISH NORMAL APPROACH SPEED
3. Yaw Damp.....OFF

BALKED LANDING

1. Power
   a. Mixture.....FULL RICH
   b. Propeller.....HIGH RPM
   c. Throttle.....FULL OPEN
2. Airspeed.....80 KTS
   (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

1. Clear the active runway and hold short line
2. Cowl Flaps.....OPEN
3. Flaps.....UP (0°)
4. Strobe lights.....OFF

5. Landing and Taxi Lights.....AS REQUIRED
6. Ice Protection.....OFF
7. Trim.....RESET AS REQUIRED
8. Mixture.....RESET to obtain maximum RPM
9. [BUSES TIED].....ILLUMINATED

SHUTDOWN

1. Parking Brake.....AS APPROPRIATE
2. Avionics.....OFF
   a. MFD.....EXTINGUISHED
   b. PFD.....VERIFY REVERSIONARY MODE
3. Electrical Equipment.....OFF
4. Air Conditioner (if installed).....OFF
5. Throttle.....1000 RPM
6. Mixture..... CUT-OFF
7. Magnetos.....OFF (after engine stops)
8. Battery 1 & 2, Alternator 1 & 2.....OFF
9. Standby Attitude Indicator
   (if desired).....CHECK EMERGENCY MODE
   (see OTHER NORMAL PROCEDURES)
10. Control Locks.....INSTALL
11. Wheel Chocks.....INSTALL
12. Parking Brake.....RELEASE

EXTERNAL POWER START

1. Battery 1 & 2, Alternator 1 & 2.....OFF
2. Avionics Master Switch.....OFF
3. Electrical Equipment.....OFF
4. External Power Source.....SET OUTPUT, THEN OFF
   (27.0–28.5 volts)
5. External Power Source.....CONNECT
6. Battery System.....CHECK, IF REQD
   a. Battery 1.....ON
   b. PFD.....VERIFY REVERSIONARY MODE
   c. Soft Keys.....SELECT ENGINE & SYSTEM
   d. Bus 1 & Bus 2 Voltages.....CHECK
      1) Bus 1 = 23 Volts Minimum
      2) Bus 2 = Approx 2 volts less than Bus 1
   e. Battery 2.....ON
   f. Battery 1.....OFF

g. Bus 1 & Bus 2 Voltages……..……..CHECK
   1) Bus 1 = 0 Volts
   2) Bus 2 = 20 Volts Minimum
h. Battery 1……..……..ON

7. Alerts……..……..…..CHECK & CONSIDERED
8. External Power Source……..……...ON
9. Engine……..……...START USING NORMAL PROCEDURES
10. External Power Source……..……..OFF
11. External Power Source……..……....DISCONNECT

EMERGENCY PROCEDURES

NOTE: Memory items are printed in blue.

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

ENGINE FAILURE IN FLIGHT

WARNING

If engine failure occurs immediately after Takeoff, landing straight ahead is usually advisable.

1. Airspeed
   - Immediately After Takeoff.....85 KTS (minimum)
   - With Sufficient Altitude.....110 KTS

If sufficient time is available accomplish the following:

2. Turn toward the Most Favorable Landing Site
3. Air Conditioner (if installed).....OFF
4. Fuel Selector Valve.....SELECT OTHER TANK (feel for detent & visually check)
5. Magnetos.....CHECK BOTH SELECTED
6. Aux Fuel Pump.....HI
7. Mixture.....FULL RICH THEN LEAN AS REQUIRED

WARNING

If power is restored when the Auxiliary Fuel Pump is selected to HI, then manual adjustment of the mixture control will be required for all power changes to prevent engine roughness. Do not retard throttle to idle until landing is assured.

If engine does not start:

8. Aux Fuel Pump.....OFF
9. Mixture.....FULL RICH
10. Magnetos.....CHECK LEFT, RIGHT, THEN BOTH

If engine stll does not start:

11. See MAXIMUM GLIDE CONFIGURATION procedure.

see Aircraft POH for all other Emergency and Abnormal Procedures