

N**CABIN**

1. Canopy & Rear Door – UNLOCK & CHECK
(Latching Mechanism Function)
2. Seat Belts – CHECK
3. Documents - (AROW) & VOR
4. Fire Extinguisher – CHECK
5. Switches & Inst. Lights – OFF
6. Circuit Breakers – CHECK IN
7. Throttle – CLOSED
8. Prop – FULL FORWARD
9. Mixture – CUTOFF
10. Flight Control Lock - REMOVE
11. Flight Controls – CHECK
12. Trim – SET T/O
13. Master (BATT) – ON
14. Hobbs & Tach – CHECK
15. Fuel Qty & Total – CK & UPDATE
16. Flaps – CYCLE & CK LTS.
17. Lights & Strobes - CHECK
18. Instrument Lights (night) – CK
19. Master (BATT) - OFF

CAUTION

Keep battery operation to a minimum.
Extended battery use can cause significant reduction in battery life & adversely affect other systems.

LEFT WING & FUSELAGE

1. Gear – CHECK (36 psi)
2. Fuel – SUMP & CHECK
3. Stall Warning – CHECK
4. Pitot Vane – CHECK
5. Landing/Taxi Lights - CHECK
6. Wing, Tip & Lights – CHECK
7. Aileron, Flap & Static Wicks – CK
8. Aft Door – UNLOCK
9. Hinges & Latching Pins – CHECK

10. Door – SECURE. ENSURE LATCHING HANDLE IS FLUSH!

11. Antennas – CHECK
12. Fuselage - CHECK

EMPENNAGE & RIGHT WING

1. Tail Skid - CHECK
2. Elevator & Servo Tab – CHECK
3. Rudder – CHECK
4. Static Wicks – CHECK
5. Fuselage - CHECK
6. Flap, Aileron & Static Wicks – CK
7. Wing, Tip & Lights – CHECK
8. Fuel – SUMP & CK QUANTITY
9. Gear– CHECK (36 psi)

NOSE

1. Gascolator - DRAIN & CHECK
2. Forward Cabin Inlets - CHECK
3. Oil – CK (4 Qts. VFR; 6 Qts. IFR)
4. Exhaust - CHECK
5. Air Intakes – CHECK
6. Prop & Spinner – CHECK
7. Nose Gear – CHECK (29 psi)

BEFORE ENG. START

1. Preflight - COMPLETED
2. Rear Door – CHECK SECURED
3. Rudder Pedals – ADJUST
4. Seats Belts – FASTENED
5. Canopy – POSITION 1 or 2
6. Alternate Static - CLOSED
7. Essential Bus Sw. – OFF
8. Avionics Master – OFF
9. Trim – SET for T/O
10. Fuel – FULLEST TANK
11. Alternate Air - CLOSED
12. Throttle – IDLE
13. Prop – FULL FORWARD
14. Mixture – IDLE CUTOFF

AIRCRAFT SERVICING

Total Fuel Gal. 40 or 50 Gal
Oil (Max/Min) 8 qts/4 qts.
Tire Press. (Nose/Mains) 29/36 psi

Airspeeds

V_A - 108
V_{NE} - 178 V_S/V_{SO} - 52/49
V_{NO} - 129 XWind - 20 kts.
V_{FE} T.O./Ldg. - 108/91

15. Lights – ON
(Strobes – DAY; Nav – NIGHT)
16. Master Switch BATT – ON
Allow PFD & MFD to Boot Up

COLD ENGINE START

1. Electric Fuel Pump - ON
2. Throttle – 1 Inch OPEN
3. Mixture – RICH (3-5 secs) *then IDLE CUTOFF*
4. Throttle – ½ inch OPEN
5. Prop Area – CLEAR!
6. Ignition – START
7. Mixture – RICH as Engine Fires
8. Throttle – REDUCE to 1000 RPM
9. Oil pressure – GREEN w/i 15 secs
10. Electric Fuel Pump – OFF

WARM START

1. Electric Fuel Pump - ON
2. Throttle – 1 Inch OPEN
3. Mixture – RICH (1-3 secs)
4. Throttle – ½ inch OPEN
5. Prop Area – CLEAR!
6. Ignition – START
7. Mixture – RICH as Engine Fires
8. Throttle – 1000 RPM
9. Oil pressure – GREEN w/i 15 secs
10. Electric Fuel Pump - OFF

FLOODED START

1. Electric Fuel Pump - OFF
2. Mixture – IDLE CUTOFF
3. Throttle – MID RANGE
4. Prop Area – CLEAR!
5. Ignition – START
6. Throttle – TO 1000 RPM
7. Mixture – RICH as Engine Fires
8. Oil pressure – within 15 secs

BEFORE TAXIING

1. Master Sw. ALT – ON
2. Ammeter – CHECK
3. Fuel Pressure – 14 to 35 psi
4. Annunciator Panel PFD - CHECK
5. Avionics Master – ON
6. Flaps – UP
7. Mixture – LEAN (for taxi)
8. Com, Nav & G1000 – SET
9. Instruments – CHECK

10. Fuel – SWITCH TANKS
11. Pitot Heat – CHECK
(ON then OFF)
12. Idle RPM – CHECK (600-800)
13. Parking Brake – OFF
14. Exterior Lights – AS REQ

CAUTION

When taxiing close to other aircraft at night, or during night flight in clouds, fog or haze, strobe lights should be switched off. Position lights must always be switched ON at night.

TAXI CHECK

1. Brakes – CHECK (Pilot & CFI Rolling out of Chocks)
2. Instruments - CHECK

BEFORE TAKEOFF

1. Brakes – Hold
2. Seat Belts & Harnesses – FASTENED & SECURE
3. Rear Door – SECURE, HANDLE FLUSH, C-HOOK ENGAGED
4. Canopy – CHECK SECURE
5. Trim - SET for Takeoff
6. Flight Controls – FREE & CORRECT
7. Engine Instruments – CHECK
8. Circuit Breakers – CHECK IN
9. Mixture – RICH (BELOW 5000 ft.)

NOTE

At 5000 ft. Density altitude or high ambient temps, full rich mixture can cause rough running engine or loss of performance. Mixture should be set for smooth running of the engine.

10. Throttle – 2000 RPM
11. Mags – CHECK (Drop/Diff 175, 50)
12. Prop Lever – CYCLE (Max 500 Drop)
13. Engine Instruments - CHECK
14. Throttle – IDLE THEN 1000 RPM
15. Alternate Air – CHECK CLOSED
16. Circuit Breakers – CHECK IN
17. E. P.s – REVIEW
 - a. Ground Run/Abort Point
 - b. Eng. Failure Before Rotation
 - c. Eng. Failure After Rotation
 - d. Eng. Failure After T.O. – Low
 - e. Exchange of Flight Controls
18. Departure - BRIEF

19. Transponder – SET
20. Mixture – RICH
21. Prop – FULL FORWARD
22. Ignition – BOTH

HOLD SHORT

1. Canopy – CLOSED (*Warning Light – OUT!*)
2. Strobes & Landing Light – ON
3. Fuel – FULLEST TANK
4. Electric Fuel Pump – ON
5. Flaps – T.O.
6. Approach – CLEAR
7. Pitot Heat – ON (As Required)

CAUTION

Pitot heat has thermal safety cut off. Pitot heat should not be activated until taking the runway for takeoff.

NORMAL TAKEOFF

1. Throttle – FULL
2. Rotate at 59 KIAS
3. ACCEL - 73 V_Y
Above a safe Altitude
4. Flaps – UP
5. Prop – 2400 RPM
6. Fuel Pump – OFF
7. Fuel Pressure - CHECK

SHORT FIELD T.O.

1. Brakes – HOLD
2. Throttle – FULL
3. Brakes - RELEASE
4. Rotate at 59 KIAS
5. Climb to clear 50 ft. Obstacle - 60 KIAS (V_X T.O. Flaps)
6. Clear of Obs. – Accel to 68 KIAS

SOFT FIELD T. O.

1. Stick – FULL AFT
2. Aircraft on C_L Throttle – FULL
3. Airborne In Ground Effect
4. Accel – V_X (60) or V_Y (68)

CRUISE CLIMB

1. Prop – 2400 RPM
2. Flaps – UP (\sim 400 ft)
3. Throttle – Full
4. Fuel Pump – OFF
5. Airspeed - 80 – 85 KIAS
6. Landing Light – OFF

CAUTION

Operation at "high altitudes" in climb or cruise (Above 5000 ft.) with fuel pump OFF may create vapor bubbles, resulting in intermittent low fuel pressure indications, sometimes followed by high fuel flow indications. Should this occur, activate electric fuel pump.

CRUISE

1. Trim – SET
2. Cruise Power – SET
3. Mixture – ADJUST 100° Rich of Peak
4. Engine Instruments– CHECK
5. Fuel Quantity – CHECK
Fuel Pump ON – Switching Tanks

CAUTION

- Max CHT – 500°F
- Slowly Enrichen Mixture before Climbing

DESCENT

1. Power – 2400 & 15 to 18 in. MP
2. Seat Belts – SECURE
3. Mixture – ENRICHEN
4. Landing Light – ON
5. Parking Brake – OFF

BEFORE LANDING

G.U.M.P.F.

1. Fuel Pump – ON
2. Fuel – FULLEST TANK
3. Throttle – 15 inches MP
4. Mixture – RICH
5. Prop – FULL FORWARD
6. Downwind – FLAPS T.O. (85 KIAS)
7. Throttle – 10 In. MP \pm 2 In
8. Base – FLAPS LDG (75 KIAS)

AIRSPEEDS CONT.

V_X Flaps T.O./Up - 60/66
 V_Y Flaps T.O./Up - 68/73

NORMAL LANDING

1. Flaps – LDG (FINAL 65 KIAS)
2. Airspeed – 60 SHORT FINAL
3. Touchdown – MAIN GEAR FIRST
4. Nose – LWR GENTLY

SHORT FIELD

1. Approach - NORMAL
2. Flaps – LANDING
3. Airspeed – 55 SHORT FINAL
4. Land – MAINS FIRST
5. Flaps – UP
6. Brakes – APPLY

CAUTION

DO NOT LOCK BRAKES OR SKID TIRES!

SOFT FIELD LDG

1. Approach - NORMAL
2. Flaps - LANDING
3. Airspeed – 55 SHORT FINAL
4. Touchdown – SOFTLY
5. Nose – LOWER GENTLY

GO AROUND/BALKED LANDING

1. Throttle – FULL
2. Airspeed – 66 KIAS
3. Flaps – T.O.
4. Prop – 2400 RPM
5. Airspeed – 73 KIAS
6. Flaps – UP

TOUCH & GO

1. Flaps – T.O.
2. Throttle – FULL
3. Rotate – V_R (59 KIAS)
4. Climb Speed – 73 KIAS
5. Prop Lever – 2400 RPM
6. Flaps - UP

LAND & TAXI BACK

1. Fuel Pump – OFF
2. Flaps – UP
3. Trim – SET
4. Mixture – LEAN FOR TAXI
5. Landing, Taxi & Strobes – A/R

Before Takeoff

6. Landing & Strobe Lights – ON
7. Fuel – FULLEST TANK
8. Mixture – FULL RICH
9. Prop – FULL FORWARD
10. Fuel Pump - ON
11. Flaps – T.O.
12. Warning Lights – OUT
13. Final Approach – CLEAR

AFTER LANDING

1. Throttle – IDLE
2. Brakes – AS REQUIRED
3. Fuel Pump – OFF
4. Pitot Heat - OFF
5. Landing/Taxi Light – AS REQ'D
6. Mixture – LEAN FOR TAXI
7. Flaps – UP

SHUTDOWN

1. Engine Instruments - CHECK
2. Avionics Master – OFF
3. Throttle - 1000 RPM
4. Mixture – IDLE CUT OFF
5. Ignition - OFF
6. External Lights – OFF
7. Hobbs & Tach Times - RECORD
8. Master Switch – OFF
9. Overhead Lights - OFF

POSTFLIGHT

1. Ignition – OFF, KEY REMOVED
2. Cinch & Tiedowns – INSTALL
3. Gust Lock, Pitot Cover, Stall warning cover & sunscreen – INSTALL
4. Aircraft – POSTFLIGHT WALK AROUND