

## **NORMAL TAKEOFF**

Prop - fwd - high RPM max 2700  
Throttle - MAX PWR  
Rotate - 59 KIAS (over rotation ~ tail strike)  
Best rate: 66 KIAS  
Flaps - (max 91kts) retract above safe altitude  
Fuel Pump - Off at safe altitude  
Cruise Climb - 75-80 KIAS 2400 RPM/Max MP

## **GO AROUND**

Prop & Throttle - MAX POWER  
Flaps - T/O  
Vy 66 KTS  
Flaps (max 91kts) - up at safe altitude  
RPM 2400  
Fuel Pump Off

## **LIMITATIONS/USE:**

**Starter Motor.** Don't crank more than 10 seconds.

After cranking...20 seconds cooling.

After 6 attempts, cool for half an hour.

### **Autopilot**

\*Do not use with flaps - LDG

\*Speed Restriction: 70 KIAS - 165 KIAS

\*Altitude limitations 200' (APR mode) or 800'

\*Do not use on Alternate Static Air

*Required preflight test:*

1. When power is applied to A/P, self-initiates with "PFT" (preflight test) & display test then disconnect tone. [temporary "P" for pitch may show] WARNING: If the TRIM FAIL warning light stays on, the autotrim did not pass. Pull the A/P cb and do not use electric trim.
2. ELECTRIC TRIM - TEST: Press AP DISC switch down and hold while commanding trim. (req. 2 hands) Electric Trim should not operate.
3. A/P - ENGAGE: Press AP button.
4. FLIGHT CONTROLS - MOVE - verify A/P clutches can be overpowered.
5. A/P - disconnect. Verify disconnect/tone.

*continued...*

6. TRIM - SET to take-off position manually.

7. A/P - verify disconnect.

8. Altitude Alert/Preselector

a. BARO setting - the baro display will flash until set manually. [must set manually. No further (flashing) reminders]

b. ALTITUDE SELECT knob - Select desired altitude.

### **A/P or Electric Trim malfunction IN FLT:**

Stick - grasp firmly

A/P disc switch - press and hold for procedure

Re-trim manually

A/P CB - pull

**Electronic Eng Instruments [VM1000]** -sweep mode or pointer mode (button 3)

\*button 1 - lean mode (graphic egt/cht)

\*button 2 - egt/cht digital mode

\*button 3. - (in flt) autotrack mode shows *changes* in eng values

\*button 4 - fuel computer (4 modes)

REM, HRS, BURN, ADD (REM & HRS need ADD to know correct starting fuel)

(may be used in flt but w/caution)

-button 5. - eng data recorder. First push = lows, Second push = highs. Third = normal mode. In flt or immediately post flt only. **PRESS to display tach time.**

**Alternate Air** Induction [intake]: (not alternate static air) In icing conditions and/or with suspected air intake blockage.

\*Pull lever to actuate alternate intake air

### **Alternate Static Air:**

CLOSED [OFF] - Lever points aft (6 o'clock)

OPEN [ON] - Lever points left (9 o'clock)

### **Power Settings Recommendations**

*Caution:* move prop/throttle controls slowly.

Normal range 1800 - 2400 RPM

3,000' and below: 25" MP / 2400 rpm

Above 3,000': 24" MP/ 2400 rpm

Economy Cruise: 24" MP/ 2200 rpm (< 5,000)

Downwind in the pattern- ~15" MP Clean

## **Leaning Techniques:**

*Econ:* Lean till rough & slight enriching to smooth.

*Best power:* Lean till rough and enrich EGT 100 deg.

Properly leaned Cylinder Head Temps:  
Cruise must stay below 435 (Norm: 390-410)

## **Annunciator Panel**

When Batt is turned on, enters self test. Lights flash and alert is muted. Press acknowledge button and lights extinguish, aural alert sounds. To initiate another test: Press&Hold ACK button.

Notes:

***Warning alert*** = flashing "master" warning, flashing associated warning light, steady aural alert and green ACK button. Pressing ack button resets master, silences alert and changes flash to steady.

***Caution alert*** = flashing master caution, flashing associated caution light, momentary alert, and green ACK button. Pressing ACK button changes flash to steady.

*Msgs:*

**ALTERNATOR** (failure) red

**FUEL PRESS** (<14psi) red

**OIL PRESS** (<25psi) red

**DOORS** (unlocked) red

**TRIM FAIL** (trim or a/p failed) red

**START** (starter engaged) red [no master warning, no alert]

**LOW VOLTS** (<24) amber

**LOW FUEL** (<3gal [+or-1]) amber

**PITOT** (off, inop, overheat) amber. [no master or alert - expect to see this normally w/switch-OFF]



*continued...*

**PREFLIGHT**

**CABIN**

*Note:* Use only clean Microfiber towels on glass

A - Airworthiness Certificate

R - Registration

R - Radio License (req'd for int'l ops)

O - Operating Limitations (POH)

W - Weight & Balance

Gust Lock - remove

Ignition Key - out

Canopy/Door - unlocked, clean

Avionics Switch & Master Switch - OFF

Circuit Breakers - check

Throttle - IDLE

Mixture - IDLE CUTOFF

Prop - High RPM/Full Forward

Master (Bat) Switch - ON

Record Tach Time (from Electronic Eng.

Instruments panel)

Annunciator Panel Lights - TEST

Fuel Quantity - check

(Gauge only reads 17gal. or less; tank can hold 20gal usable - by measurement tool)

Position Lights & Strobes - check

Master Switch - OFF

Flight Controls - free & correct

Baggage - stowed & secured

Flashlight/Charts/Plates/Tablet. - as req'd

**EXTERIOR**

Landing gear strut/fairings - inspect

Tire inflation and tread - inspect

Brake line connection - check for leaks

Wing surface/openings/intakes - inspect

Step and slip marks - inspect

Stall Warning - check (suck on opening)

Fuel cap – inspect (verify qty with device)

Tank Drain - 3 DRAINS - [each wing & gascolator under cowling]

Fuel Tank Vents – check

**EXTERIOR**

Stall strips [2 on each wing] – inspect

Pitot & Static – inspect

Landing/Taxi Lights - inspect

Wing tip/nav/strobe lights- inspect

Aileron/Flap Hinges/Linkage - inspect

Rear Canopy Door - CLOSED/LOCKED

Antennas - check

Stabilizer/Rudder/Elevator/trim tabs/hinges/linkages - inspect

Tail skid and lower fin - inspect for tail strike [right side same as left]

*Front Fuselage:*

Oil level - min.VFR=4, IFR=6 [only add if < 6]

Cowling - inspect

Engine Cooling Inlets (3) - check clear

Prop - check Wood/composite

Spinner & attachment screws - inspect

Nose gear/tire/strut/fairings - inspect

Exhaust - inspect

Chocks/towbar - removed

Tie Downs/pitot cover/cowl plugs - removed

**Vapor Lock Remediation** *(after long grnd. ops)*

1. 1800-2000 RPM for 1-2 mins [monitor oil and CHT temps]
2. Throttle - idle [confirm smooth]
3. Throttle - 1200 RPM, then adjust mixture for max RPM
4. Just prior to T/O, set mixture and apply full throttle for 10 seconds

Textron Lycoming IO360 180hp 4cyl.

Wingspan 39'2"

Length 26'3"

Height 6'6"

Fuel 2 x 20 gal= 40 usable(17gal max on gauge)

Max allowable difference 10gal

Oil 4-8qts 15W50

No aerobatics, spins, or >60degrees (Normal category)

Max operating alt: 16,400' (>14,000' O2 req'd)

**WEIGHTS**

Empty weight 1698

Max T/O 2535

Max LDG 2407

Max total bag wt 66

(Max in tube...11)

(Baggage net *required* for compartment use)

**SPEEDS**

Va. 108-94kts (2535-2284lbs)

Vfe T/O=108 LDG=91

Vno 129

Vne 178

Vy 66

Best glide flaps up 68-73

Best glide flaps T/O 66-72

Max demonstrated X-wind 20kts

**PRE-HEAT TEMP:** 32°F (2 hrs prior)

