

BEFORE ENGINE START

- 1) Hobbs Time NOTED
- 2) Preflight COMPLETE
- 3) Fuel quantity ADEQUATE
- 4) Documentation (including IFR) CHECK
- 5) Seats & Seat Belts ADJUSTED & LATCHED
- 6) Brakes TEST (SET)
- 7) ELT ARMED
- 8) Landing gear switch DOWN
- 9) Magneto switch OFF
- 10) Master switch OFF
- 11) Radio master switch OFF
- 12) Alternate static OFF
- 13) Lights and electrical equipment OFF
- 14) Boost pump OFF
- 15) Cowl flaps OPEN
- 16) Fuel Selector Tank to be 2nd
- 17) Circuit breaker panel CHECK
- 18) Passengers BRIEFED (normal & emergency)

STARTING ENGINE

- 1) Mixture CUT OFF
- 2) Propeller FULL ADVANCE
- 3) Throttle OPEN ¼ inch (½ for hot)
- 4) Master switch ON
- 5) Strobes and/or Navigation lights ON
- 6) Propeller area CLEAR
 - For hot start delete steps 7-9*
 - 7) Boost pump ON
 - 8) Mixture RICH for 3-8 seconds then cut off
 - 9) Boost pump OFF
- 10) Magnetos Turn & push to START (10 sec max)
- 11) Mixture RICH
- 12) Oil pressure NORMAL (within 30 seconds)
- 13) Mixture LEAN for smooth idle

AFTER START

- 1) Radio Master ON
- 2) CGR-30 Fuel Quantity SET
- 3) Lights AS REQUIRED
- 4) Parking brake RELEASED
- 5) Brake and steering check ON TAXI
- 6) IFR taxi checks ON TAXI

GROUND CHECK

- 1) IFR taxi check COMPLETE
- 2) Flight controls FREE & CORRECT
- 3) Radios Comm & Nav SET
- 4) Altimeter SET
- 5) Annunciator Panel CHECK
- 6) Avionics Settings VERIFIED
- 7) Auto pilot TEST and DISENGAGED
- 8) Heading and Altitude Bugs SET
- 9) Fuel selector ON DESIRED TANK
- 10) Emergency Gear extension handle LATCHED
- 11) Engine Run Up
 - a. Throttle 1900 RPM
 - b. Magnetos CHECK (175 max drop)
 - c. Oil pressure NORMAL RANGE
 - d. Ammeter CHARGE
 - e. Propeller CYCLE then FORWARD
 - f. Throttle 1000 RPM
- 12) Mixture Lean for Taxi

BEFORE TAKEOFF

- 1) Door LOCKED
- 2) Elevator Trim SET for TAKEOFF
- 3) Flaps SET for TAKEOFF (15°)
- 4) Cowl flaps FULL OPEN
- 5) Mixture FULL RICH
- 6) Boost pump ON
- 7) Lights & strobes AS REQUIRED
- 8) Transponder ALT
- 9) Time of departure NOTED
- 10) Pilot briefing NORMAL & EMERGENCY

TAKEOFF & CLIMB

- 1) Rotate 63 KIAS
- 2) Gear UP
(WHEN NO RUNWAY REMAINS)
- 3) Climb 85 KIAS
(66 KIAS max performance)
- 4) Flaps UP
- 5) Throttle 25 inches (at 500 AGL)
- 6) Propeller 2500 rpm
- 7) Climb 100 KIAS
(85 for best rate)
- 8) Boost pump OFF
(confirm fuel pressure)
- 9) Mixture LEAN
(50 rich of peak or 14 gph)
- 10) Cowl flaps FULL OPEN or as required
- 11) Cylinder temperatures MONITOR

CRUISE

- 1) Level at altitude ACCELERATE
- 2) Throttle SET DESIRED POWER
- 3) Propeller SET (2200 or 2400 rpm)
- 4) Trim for LEVEL FLIGHT
- 5) Cowl flaps CLOSE (if CHT allows)
- 6) Mixture LEAN (lean of peak at < 60%)
- 7) Engine temperatures MONITOR
- 8) Systems CHECK

DESCENT

- 1) Throttle (not less than 16" MP)
- 2) Cowl flaps (remain) CLOSED
- 3) Mixture LEAN (unless rough)

IN RANGE

- 1) Seats & belts SECURE & LOCKED
- 2) Fuel ADEQUATE & DESIRED TANK
- 3) AWOS – ATIS – Advisories NOTED
- 4) Altimeter SET
- 5) Approach & missed approach BRIEFED
- 6) Baro Minimums SET
- 7) Radios SET
- 8) Lights AS REQUIRED
- 9) Initial approach speed 105 KIAS

BEFORE LANDING

FLOW AT FINAL APPROACH FIX

- 1) Landing gear.....DOWN (below 132 KIAS)
- 2) Boost pump ON
- 3) Throttle.....SET
- 4) PropellerFORWARD
- 5) MixtureRICH
- 6) Cowl Flaps OPEN
- 7) Flaps SET (Full down below 115 KIAS)

- 8) Approach speed 80 KIAS
- 9) Landing assured
 - a. Autopilot DISENGAGE
 - b. Gear CONFIRMED DOWN
 - c. Final approach speed..... 71 KIAS

MISSED APPROACH / GO AROUND

- 1) Throttle.....FORWARD
- 2) PropellerFORWARD
- 3) Speed 65 to 80 KIAS
- 4) FlapsTAKEOFF SETTING 15° (3 seconds)
- 5) GearRETRACT after positive rate
- 6) Flaps RETRACT at 85 KIAS
- 7) Cowl flaps OPEN
- 8) Boost Pump OFF

AFTER LANDING

- 1) FlapsUP (clearing runway)
- 2) Boost pump OFF
- 3) Mixture LEAN
- 4) Strobes OFF (at night)
- 5) LightsAS REQUIRED
- 6) Trim..... TAKEOFF SETTING

ENGINE SHUTDOWN

- 1) Throttle..... 1000 rpm (stabilize CHT)
- 2) Radio master OFF
- 3) Mixture CUT OFF
- 4) Throttle.....CLOSED
- 5) Magnetos OFF (remove key)
- 6) Lights (External & Panel) OFF
- 7) Master switch..... OFF
- 8) Overhead lights OFF
- 9) Parking brake..... OFF
- 10) Aircraft interior & exterior SECURE

POWER SETTINGS

CONDITION	MP	RPM	MIX	PWR	GPH
Takeoff	Full	2700	Rich	95%	18
Initial climb	25"	2500	Rich	75%	14
Cruise climb	24"	2500	Lean	71%	10
Cruise	24"	2400	Lean	67%	9.6
“ “	22"	2400	Lean	63%	9.0
“ “	*20"	2400	Lean	58%	8.2
“ “	*22"	2200	Lean	55%	7.8
“ “	20"	2200	Lean	50%	7.3
“ “	18"	2200	Lean	45%	6.8
Descent	16"	22-24	Lean	-	6.1

* Recommended for WCFC operations and fuel consumption

WCFC recommended SPEEDS TO FLY

Va 120 KIAS
 Vx..... 66 KIAS
 Vy..... 85 KIAS

Best glide speed (clean)
 @ max gross weight 90 KIAS
 @ 2300 pounds 85 KIAS

WCFC required FIELD LENGTH

Elevation	Normal	Maximum performance
Sea level	3,000 feet	2,500 feet
500 feet	3,200	2,600
1,000	3,500	2,800
2,000	4,000	3,000
4,000	5,000	4,000
6,000	6,000	5,000