

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) BrakesTEST (SET)
- 7) Fuel flow memory ON
- 8) ELTARMED
- 9) Landing gear switchDOWN
- 10) Magneto switch.....OFF
- 11) Master switch.....OFF
- 12) Radio master switch.....OFF
- 13) Alternate static.....OFF
- 14) Lights and electrical equipment.....OFF
- 15) Boost pumpOFF
- 16) Cowl flaps..... OPEN
- 17) Fuel selectorON (2nd tank)
- 18) Circuit breaker panel CHECK
- 19) PassengersBRIEFED (normal & emergency)

STARTING ENGINE

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

AFTER START

- 1) Radio Master..... ON
- 2) LightsAS REQUIRED
- 3) Electric trim ON
- 4) Parking brake..... RELEASED
- 5) Brake and steering check ON TAXI
- 6) IFR taxi checks ON TAXI

BEFORE TAKEOFF

- 1) IFR taxi check COMPLETE
- 2) Flight controls FREE & CORRECT
- 3) Flight instruments SET
- 4) Radios Comm & Nav SET
- 5) Annunciator panel CHECK
- 6) Gear alert system..... TEST
- 7) Auto pilot..... TEST and OFF
- 8) Rudder trim SET
- 9) Elevator Trim SET for TAKEOFF
- 10) Flaps SET for TAKEOFF
- 11) Cowl flaps..... FULL OPEN
- 12) Fuel selector ON DESIRED TANK
 - a) Throttle.....1900 RPM
 - b) Magnetos CHECK (175 max drop)
 - c) Oil pressure..... NORMAL RANGE
 - d) Ammeter CHARGE
 - e) Low vacuum light OUT
 - f) PropellerCYCLE then FORWARD
 - g) Throttle.....1000 RPM

- 13) Door.....LOCKED
- 14) Mixture..... FULL RICH
- 15) Boost pump ON
- 16) Lights & strobes.....AS REQUIRED
- 17) Transponder ALT
- 18) Time of departure NOTED
- 19) Pilot briefingNORMAL & EMERGENCY

TAKEOFF & CLIMB

- 1) Rotate 63 KIAS
- 2) Gear UP
- 3) Climb 85 KIAS
(66 KIAS max performance)
- 4) Flaps UP
- 5) Throttle25 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.....TRAIL (open if CHT hot)
- 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) SystemsCHECK

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
- 1) Fuel.....ADEQUATE & DESIRED TANK
- 2) AWOS – ATIS – Advisories NOTED
- 3) Altimeter SET
- 4) Approach & missed approach.....BRIEFED
- 5) Radios..... SET
- 6) LightsAS REQUIRED
- 7) Initial approach speed 105 KIAS

BEFORE LANDING

- 1) Boost pump ON
- 2) Landing gear DOWN
(below 130 KIAS)
- 3) Throttle SET
- 4) Propeller..... FORWARD
- 5) Mixture..... RICH
- 6) Cowl flaps..... OPEN
- 7) Flaps SET (below 115 KIAS)
- 8) Approach speed 80 KIAS
- 9) Landing assured
 - a. Autopilot off
 - b. Gear confirmed down
 - c. Final approach speed – 71 KIAS

MISSED APPROACH / GO AROUND

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

AFTER LANDING

- 1) Transponder STANDBY
- 2) Boost pump OFF
- 3) Mixture LEAN
- 4) Strobes OFF (at night)
- 5) Lights AS REQUIRED
- 6) Flaps UP
- 7) Trim TAKEOFF SETTING

ENGINE SHUTDOWN

- 1) Throttle 1000 rpm (stabilize CHT)
- 2) Electric trim OFF
- 3) Radio master OFF
- 4) Electrical equipment OFF
- 5) Mixture CUT OFF
- 6) Throttle CLOSED
- 7) Magnetos OFF (remove key)
- 8) Lights OFF
- 9) Master switch OFF
- 10) Overhead lights OFF
- 11) Parking brake OFF
- 12) 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)	
@ 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