

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) Boost pump OFF
- 13) Alternate static OFF
- 14) Lights and electrical equipment OFF
- 15) Ram Air CLOSED
- 16) Cowl flaps OPEN
- 17) Fuel selector ON (2nd tank)
- 18) AM/I'M Radio OFF
- 19) Circuit breaker panel CHECK
- 20) Passengers BRIEFED (normal & emergency)

STARTING ENGINE

- 1) Mixture CUT OFF
- 2) Propeller FORWARD
- 3) Throttle OPEN 1/4 inch (1/2 for hot)
- 4) Master switch ON
- 5) Strokes and/or Navigation lights ON
- 6) Fuel totalizer RESET 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 pump OFF
- 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) Lights AS 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 checks COMPLETE
- 2) Flight controls FREE & CORRECT
- 3) Flight instruments SET
- 4) Radios Comm & Nav SET
- 5) Annunciator panel CHECK
- 6) Auto pilot OFF
- 7) Elevator Trim SET for TAKEOFF
- 8) Flaps SET for TAKEOFF
- 9) Cowl flaps FULL OPEN
- 10) Fuel selector ON DESIRED TANK
 - a) Throttle " 1900 RPM
 - b) Magnetos CHECK (175 max drop)
 - c) Oil pressure NORMAL RANGE
 - d) Ammeter CHARGE
 - e) Vacuum gauge & annunciator CHECK
 - f) Propeller CYCLE then FORWARD
 - g) Throttle " 1000 RPM
- 11) Door LOCKED
- 12) Mixture " FULL RICH

- 13) Boost pump ON
- 14) Lights & strobes AS REQUIRED
- 15) Transponder ALT
- 16) Time of departure NOTED
- 17) Pilot briefing NORMAL & EMERGENCY

TAKEOFF & CLIMB

- 1) Rotate 63 KIAS
- 2) Gear UP
- 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 TRAIL (open if CHT hot)
- 11) Cylinder temperatures MONITOR
- 12) Ram Air OPEN (above 5,000 feet, no icing)

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) Ram Air CLOSED
- 4) Mixture LEAN (unless rough)

IN RANGE

- 1) Seats & belts SECURE & LOCKED
- 2) Fuel ADEQUATE & DESIRED TANK
- 2) ATIS - AWOS - Advisories NOTED
- 3) Altimeter SET
- 4) Approach & missed approach BRIEFED
- 5) Radios SET
- 6) AM/FM Radio OFF
- 7) Lights AS REQUIRED
- 8) 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 U5 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) ThrottleFORWARD
- 2) PropellerFORWARD
- 3) Speed 65 to 80 KIAS
- 4) Flaps TAKEOFF SETTING 15° (3 seconds)
- 5) GearRETRACT after positive rate
- 6) FlapsRETRACT 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 (key removed)
- 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
4,000	5,000	4,000
6,000	6,000	5,000