

PREFLIGHT / WALK-AROUND

Cockpit

Book/Hobbs..... CHECK
Times.....RECORD
Documents.....AROW
Ignition/Mags.....OFF
Avionics.....OFF
Circuit Breakers..... CHECK
Gear Handle..... NEUTRAL
Throttles.....OUT
Mixtures..... CUT-OFF
Flaps..... HANDLE UP
Trim Indicators..... NEUTRAL
Fuel Selectors..... INBOARD
Fire Extinguisher..... CHECK
Parking Brake.....OFF
Emergency Exit.....SECURE
Master..... ON
Fuel Gage..... CHECK
Lights..... ON
Beacon..... ON
Lights..... WALK AROUND
Master.....OFF
Lights.....OFF

Right Wing

Fuel Sumps.....DRAIN & CHECK
Flap..... CHECK
Aileron..... CHECK
Static Wicks..... CHECK
Lights..... CHECK
Tie Down..... REMOVE
Cowling..... CHECK
Spinner..... CHECK
Propeller..... CHECK
Oil.....CHECK (9 Qt)
Fuel Level..... CHECK
Fuel Caps..... ON
Main Gear Wheel..... CHECK
Main Gear Brake..... CHECK

Nose

Windscreen..... CHECK
Nose Wheel..... CHECK
Strut..... CHECK
Light..... CHECK
Nose Compartment.....LOCKED

Left Wing

Main Gear Wheel.....CHECK
Main Gear Brake.....CHECK
Oil.....CHECK (9 Qt)
Spinner.....CHECK
Propeller.....CHECK
Fuel Level.....CHECK
Pitot.....CHECK
Stall Warning Vanes.....CHECK
Tie Down..... REMOVE
Wing Tip.....CHECK
Lights.....CHECK
Flap.....CHECK
Aileron.....CHECK
Static Wick.....CHECK

Empennage

Antennas.....CHECK
Static Opening.....CHECK
Elevator.....CHECK
Trim Tabs.....CHECK
Tie Down..... REMOVE
Rudder.....CHECK
Stabilator.....CHECK
Static Opening.....CHECK
Cargo Door.....CLOSED

BEFORE STARTING

Passenger Brief..... COMPLETE
Seats/Belts..... ADJUSTED
Door..... CLOSED / LOCKED
Alternate Air Source..... IN
Circuit Breakers.....CHECK
Beacon Switch..... ON
Avionics..... OFF
Flaps..... UP
Cowl Flaps..... OPEN
Fuel Selectors..... INBOARD TANKS
Crossfeed..... OFF

STARTING

Alternator.....CHECK
Master.....ON
Mags.....ON
Propeller.....MAX RPM
Throttle..... CRACK OPEN
Prime..... AS REQUIRED
Brakes..... HOLD
Starter..... ENGAGE
Mixture..... ADVANCE ON START
Throttle..... 1000 RPM
Engine Gages..... GREEN
Mixture..... LEAN 1"

Start second engine

Cold Engine: Prime with fuel pump on for 10 seconds.

Hot Engine: Do not fully prime before starting

Flooded Engine: Hot start with throttle fully open then immediately retard to 1000RPM

WARM-UP

Throttles..... 1000 RPM
Avionics..... ON/SET
Radios..... SET
Weather ASOS/ATIS.....CHECK
Transponder..... SET
Flight Instruments..... SET
Flight Controls.....FREE

TAXIING

Lights..... AS REQUIRED
Brakes..... CHECK
Attitude..... ERECT
Turn Coord..... BANKS PROPERLY
VSI.....NOTE 0 POSITION

GROUND CHECK / RUN-UP

Fuel Selectors..... INBOARD TANK
Crossfeed..... OFF
Mixture..... RICH
Throttles..... 1500 RPM
Prop..... FEATHER CHECK
Throttles..... 2200 RPM
Magnetos..... 175 max/50 diff
Ammeter..... CHECK
Engine Gauges..... CHECK
Vacuum Gauge..... CHECK
Throttles..... IDLE
Throttles..... 1000 RPM

BEFORE TAKEOFF

Door.....CLOSED/LOCKED
Pitot Heat..... AS REQUIRED
Lights..... AS REQUIRED
Fuel Selectors..... INBOARD TANKS
Cowl Flaps..... OPEN
Props..... FORWARD
Trim.....SET

After receiving takeoff clearance:

Mixtures..... RICH
Fuel Pumps..... ON

V SPEEDS

Vso..... 55 kts
Vs..... 61 kts
Vmc (red line)..... 64 kts
Vr..... 74 kts
Vx..... 89 kts
Vxse..... 83 kts
Vy..... 103 kts
Vyse (blue line)..... 88 kts
Vsse..... 80 kts
Cruise Climb..... 110 kts
Va..... 131 kts
Vno..... 175 kts
Vne..... 221 kts
Vle/lo..... 132 kts
Vfe (full flaps)..... 108 kts

NORMAL TAKE OFF

Brakes HOLD
 Throttles..... 1500-2000 RPM
 Engine Gages..... GREEN
 Throttles..... FULL
 Manifold Pressure..... ~28"
 Brakes RELEASE
 Rotate..... 74 kts
 Landing Gear RETRACT
 Climb..... 110 kts

300ft AGL FLAPS UP
 1000ft AGL POWER 24"/2400rpm

CRUISE

Lights..... AS REQUIRED
 Power..... SET MP ↓ then RPM ↓
 Mixture SET
 Fuel Tanks SWITCH
 Fuel Pumps OFF
 Cowl Flaps..... CLOSED

DESCENT

ASOS/ATIS..... CHECK
 Radios SET
 Approach Brief..... COMPLETE
 Heater OFF
 Lights SET

APPROACH and LANDING

Lights ON
 Fuel Pumps ON
 Fuel INBOARD
 Mixture RICH
 Gear DOWN – 3 GREEN
 Prop..... MAX RPM

Final Approach Speed 88 kts

GUMPS

AFTER LANDING

Flaps UP
 Cowl Flaps OPEN
 Mixture..... LEAN
 Fuel Pumps OFF

SHUTDOWN

Avionics OFF
 Mixture..... CUTOFF
 Magnetos..... OFF
 Master OFF

PITCH / POWER

Phase	MP	RPM	IAS
Cruise	22	2200	145
Approach Gear/Flaps Down	18	2400	110
Best Climb	29.5	2700	100
Cruise Climb	25	2500	110
Cruise Decent	20	2400	155
500 fpm	18	2400	110
700 fpm	15	2400	120

ENGINE FAILURE

During Takeoff
 Throttles IDLE
 Maintain Directional Control

After Liftoff if Gear Up
 Ball ½ ball
 Bank 3-5deg
 BlueLine 88 kts
 Mixtures RICH
 Props..... FORWARD
 Throttles FULL
 Gear UP
 Flaps UP
 Identify DEAD LEG
 Verify CLOSE THROTTLE
 Prop FEATHER or RESTART

AIR START PROCEDURES

Fuel..... ON
 Fuel Pump ON
 Mixture..... RICH
 Prop FULL
 Throttle..... 2 STROKES OPEN ¼
 Mags ON
 Starter ENGAGE
 Maneuver TURN & DESCEND
 AS NECESSARY TO WINDMILL

EMERGENCY GEAR EXTENSION

Gear Selector..... DOWN
 Circuit Breaker..... IN
 Bulbs SWITCH & CHECK
 Speed..... BELOW 130 kts
 Pump Handle... EXTEND & PUMP
 UNTIL 3 GREEN & HANDLE
 NEUTRAL

If no indication gear down
 Open CO2 Cover..... PULL RING

FIRE DURING START

Cranking CONTINUE

If Engine Starts
 Throttle..... 1800 RPM
 Engine..... SHUTDOWN

If Engine Fails to Start
 Cranking CONTINUE
 Fuel..... OFF
 Pump..... OFF
 Throttle..... FULL
 Mixture IDLE CUTOFF
 Ignition/Mags OFF
 Master..... OFF
 Fire Extinguisher..... USE

ENGINE ROUGHNESS

Mixture RICH
 Alternate Air..... OPEN
 Fuel Pump ON
 Fuel Tanks SWITCH
 Engine Gages..... CHECK
 Magneto Switch..... CYCLE

DOOR OPEN IN FLIGHT

Altitude..... CLIMB
 Throttle REDUCE
 Airspeed REDUCE
 LAND AS SOON AS POSSIBLE

