

## NORMAL PROCEDURES

### PREFLIGHT

Gust Lock ..... REMOVE  
 If Empty Rear Seat ..... FASTEN BELT  
 Fuel Gauges ..... CHECK  
 ELT and Lights for Night ..... CHECK  
 Tie Downs & Chocks ..... REMOVED  
 Right Wing & Strut ..... CHECK  
 Right Wheel & Brake (24 PSI) ..... CHECK  
 Right Fuel Qty ..... CHECK & SECURE  
 Gascolator (1<sup>st</sup> Flight) ..... DRAIN  
 Oil Level ..... 6-8 QTS  
 Windshield ..... CLEAN  
 Prop/Spinner/Filter/Light ..... CHECK  
 Left Wing-same as right ..... CHECK  
 Pitot Tube/Stall Warning ..... CHECK  
 Static Port/Antennas ..... CHECK  
 Aft Belly Sump (1<sup>st</sup> Flight) ..... SAMPLE  
 Rudder & Elevator ..... CHECK  
 Tail Wheel (40 PSI) ..... CHECK  
 Tach. Time ..... RECORD

### ENGINE START

Passenger Brief ..... COMPLETE  
 Seats, Harness, Door ..... SECURE  
 Fuel Shut-Off Valve ..... ON  
 Brakes ..... TEST & SET  
 Electrics/Avionics ..... OFF  
 Beacon (Always On) ..... ON  
 Alternate Air ..... COLD  
 Throttle ..... 1/2" OPEN  
 Prop ..... FULL FORWARD  
 Mixture ..... IDLE CUT-OFF  
 Master ..... ON  
 Prime (\*details below) ..... AS REQ  
 Prop Area ..... CLEAR  
 Control Stick ..... FULL AFT  
 Mags ..... BOTH ON  
 Starter (15 sec limit) ..... ENGAGE  
 Mixture (as engine starts) ..... FULL RICH  
 Throttle ..... 1000 RPM  
 Oil pressure ..... CHECK  
 Mixture (for taxi) ..... LEAN  
 Avionics ..... ON & SET  
 Brakes ..... RELEASE

\* Cold Start Prime: Turn on fuel pump and push mixture to full rich. Hold for 3 seconds then return mixture to idle cut-off and turn off fuel pump.

\* Hot Start Prime: Not usually required.

\* Flooded Start: With throttle full open and mixture idle cut-off turn prop 10 revs then do half prime and try start again.

### RUN-UP

Flight Controls ..... FREE & CORRECT  
 Elevator Trim Position ..... TAKEOFF  
 Flight Instruments ..... SET  
 Fuel Shut-Off Valve ..... ON  
 Mixture (<3000') ..... RICH  
 Throttle ..... 1800 RPM  
 - Mags L/R (175/50) ..... CHECK  
 - Prop ..... CYCLE TWICE  
 - Alternate Air ..... CYCLE  
 - Engine Gauges ..... GREEN  
 - Throttle ..... 1000 RPM

### TAKE-OFF

Doors/Windows/Belts ..... SECURE  
 Transponder/Strobes/Lights ..... ON  
 Fuel Pump (optional) ..... ON  
 Throttle/Prop/Mixture ... FULL FORWARD  
 Rotate ..... 56 RPM  
 Climb Speed ..... 80-90 MPH  
 Fuel Pump (at 1000') ..... OFF  
 Landing Light ..... OFF

### CRUISE

Power ..... 23"/2400 OR AS REQ  
 Mixture ..... LEAN BELOW 75% PWR

### AEROBATICS

Altitude ..... FINISH ABOVE 3000' AGL  
 Clear Area ..... COMPLETE  
 Engine ..... 24" /2500 & GREEN  
 Mixture ..... RICH  
 Entry Speed .....  
 - Acrobatic V<sub>A</sub> ..... 130 MPH  
 - Aileron or Barrel Roll ..... 120 MPH  
 - Loop ..... 140 MPH  
 - Immelmann ..... 145 MPH  
 - Hammerhead ..... 145 MPH  
 - Snap Roll ..... 90 MPH

### LANDING

Brakes ..... CHECK FIRM  
 Parking Brake ..... OFF  
 Fuel Pump (optional) ..... ON  
 GUMPS Check ..... COMPLETE  
 Final Approach ..... 70-80 MPH

### SHUTDOWN

S Avionics/Electrics ..... OFF  
 L Mixture ..... IDLE-CUTOFF  
 I Mags ..... OFF  
 M Master ..... OFF  
 Tach Time ..... RECORD  
 Gust Lock (Seat Belt) ..... SECURE  
 Flight Plan ..... CLOSED

## EMERGENCY PROCEDURES

### ENGINE FAILURE AT TAKEOFF

Throttle ..... CLOSED  
 Land ..... ASAP

### EMERGENCY LANDING

Best Glide Speed ..... 75 MPH  
 Landing field ..... SELECTED  
 Seats & Belts ..... READY  
 Door ..... AJAR  
 Time permitting:  
 - Engine (details below) ..... AIR START  
 - Radio (121.5) ..... MAYDAY  
 - Transponder ..... 7700  
 - ELT ..... ON  
 If No Luck Restarting Engine ..... THEN  
 - Mixture ..... IDLE CUTOFF  
 - Fuel Shut-Off Valve ..... OFF  
 - Master & Mags ..... OFF  
 Final Approach ..... 75 MPH  
 Before Touchdown ..... DO NOT STALL

### DITCHING OVER WATER

Cabin Side Door ..... JETTISON  
 If High Swells ..... LAND PARALLEL  
 Else ..... LAND INTO WIND  
 Before Touchdown ..... DO NOT STALL

### EMERGENCY EXIT/BAIL OUT

Throttle ..... CLOSED  
 Door ..... JETTISON  
 Dive ..... OUT & SLIGHTLY AFT  
 Parachute ..... OPEN WHEN CLEAR

### ENGINE AIR START

Airspeed ..... 80+ MPH  
 Mags ..... BOTH ON  
 Throttle ..... 3/4 FORWARD  
 Mixture (<5000) ..... FULL FORWARD  
 Prop ..... FULL FORWARD  
 Fuel Shut-Off Valve ..... CHECK ON  
 Alternate Air ..... FULL HOT  
 Fuel Pump ..... ON  
 If No Restart ..... THEN  
 - Mixture ..... IDLE THEN RICH  
 If Prop Stops Windmilling ..... THEN  
 - Starter ..... ENGAGE

### V-SPEEDS (MPH @ Max Wt)

V <sub>S</sub>	53	V <sub>R</sub>	56	V <sub>A</sub>	121
V <sub>FINAL</sub>	75	V <sub>X</sub>	64	V <sub>NO</sub>	160'
V <sub>GLIDE</sub>	75	V <sub>Y</sub>	76	V <sub>NE</sub>	180

### ENGINE FIRE – GROUND

Starter ..... CONTINUE CRANKING  
 Mixture ..... IDLE CUTOFF  
 Throttle ..... FULL OPEN  
 If Fire Persist ..... THEN  
 - Fuel Shut-Off Valve ..... OFF  
 - Mags & Electrics ..... OFF  
 Exit Plane ..... ASAP  
 Fire Extinguisher ..... AS REQ

### ENGINE FIRE – IN FLIGHT

Mixture ..... IDLE CUTOFF  
 Fuel Shut-off Valve ..... OFF  
 Mags & Electrics ..... OFF  
 Cabin Heat ..... OFF  
 Fire Extinguisher ..... AS REQ  
 Land ..... ASAP

### ELECTRICAL FIRE

Mags ..... REMAIN ON  
 Master & All Other Electrics ..... OFF  
 Cabin Vents/Window ..... OPEN IF REQ  
 Fire Extinguisher ..... AS REQ  
 Master (if power required) ..... ON  
 - Electric Switches ..... 1 AT TIME  
 Land ..... ASAP

### ALTERNATOR/ELECTIC FAILURE

Master ..... OFF, then ON  
 If Discharge Continues ..... THEN  
 - All Non-Essential Electric ..... OFF  
 - Fuses ..... CHECK  
 Land ..... ASAP

### ABNORMAL OIL PRESS/TEMP

Throttle ..... REDUCE POWER  
 Land ..... ASAP

### ICING CONDITIONS

Pitot Heat ..... ON  
 Cabin Heat ..... OFF  
 Direction and/or Altitude ..... CHANGE

### WEIGHT & BALANCE (LBS)

Empty Weight ..... 1326  
 Normal Max Gross Weight ..... 1950  
 - Half Fuel Payload (19.5 gals) ..... 504  
 - Full Fuel Payload (39 gals) ..... 384  
 Acrobatic Max Gross Weight ..... 1800  
 - Half Fuel Payload (19.5 gals) ..... 354  
 - Full Fuel Payload (39 gals) ..... 234