

<u>V SPEEDS (KIAS)</u>	<u>EXTERIOR INSPECTION</u>	<u>EXTERIOR INSPECTION (CONT.)</u>	<u>TAXI</u>
Vso.....35	<u>Aft Fuselage</u>	Tie Down.....REMOVE	Radios/Avionics.....ON
Vs.....40	Baggage Door.....LOCKED	Leading Edge.....CHECK	Transponder.....STBY
Vr.....50	Fuselage.....CHECK	Left Aileron.....CHECK	Flaps.....RETRACT
Vx.....55	<u>Empennage</u>	Left Flap.....CHECK	Parking Brake.....RELEASE
Vy (sea level).....67	Horiz. Stabilizer.....CHECK		Brakes.....TEST
Vy (10,000 ft.).....61	Elevator.....CHECK		Instruments.....CHECK
Vfe.....85	Tail Tie-Down.....REMOVE		
Vno.....111	Trim Tab.....CHECK	<u>PRE-ENGINE START</u>	<u>RUNUP</u>
Vne.....149	Rudder.....CHECK	Preflight Inspection..COMPLETE	Parking Brake.....SET
Va (1670 lbs).....104	Antennas.....CHECK	Passenger Briefing..COMPLETE	Seats/Belts.....SECURE
Va (1500 lbs).....98	Horiz. Stabilizer.....CHECK	Seats and Belts.....SECURE	Doors/Windows.....CLOSED
Va (1350 lbs).....93	<u>Right Wing</u>	Parking Brake.....SET	AND LOCKED
Best Glide (flaps UP).....65	Flap.....CHECK	Circuit Breakers.....CHECK IN	Controls.....FREE & CORRECT
Best Glide (flaps DN).....60	Aileron.....CHECK	Electrical Equipment.....OFF	Flight Instruments.....SET
Max. Demon. X-Wind.....12	Tie Down.....REMOVE	Fuel Shutoff Valve.....ON	Fuel Shutoff Valve.....ON
Approach (Flaps UP).....60-70	Leading Edge.....CHECK		Fuel Quantity.....CHECK
Approach (Flaps DN).....55-65	Fuel Sump.....CHECK	<u>ENGINE START</u>	Mixture.....RICH
Enroute Climb.....70-80	Main Wheel.....CHECK	Throttle.....OPEN 1/2 INCH	Throttle.....1700 RPM
	Fuel Quantity.....CHECK	Mixture.....RICH	Mixture.....SET
	Fuel Filler Cap.....SECURE	Carburetor Heat.....COLD	Magnetos.....CHECK
	<u>Nose</u>	Prime.....AS NECESSARY	Max drop 125 RPM
	Fuel Strainer.....CHECK	Master.....ON	Max differential 50 RPM
	Oil Quantity (4-6 qts).....CHECK	Beacon.....ON	Carburetor Heat.....CHECK
	Cooling Inlets.....CHECK	Propeller Area.....CLEAR	Vacuum Gauge.....CHECK
	Prop. & Spinner.....CHECK	Ignition.....START	Engine Instruments.....CHECK
	Carburetor Air Filter.....CHECK	Throttle.....1000 RPM	Ammeter.....CHECK
	Alternator Belt.....SECURE	Oil Pressure.....CHECK	Throttle.....IDLE then 1000 RPM
	Nose Wheel Strut/Tire.....CHECK	Mixture.....LEAN for TAXI	Throttle Friction Lock.....ADJUST
	Static Source.....CHECK	Lights (as required).....ON	Radios and Avionics.....SET
	<u>Left Wing</u>		Trim.....SET for TAKEOFF
	Fuel Quantity.....CHECK		Brakes.....RELEASE
	Fuel Filler Cap.....SECURE		
	Fuel Sump.....CHECK		
	Main Wheel.....CHECK		
	Pitot Tube.....CHECK		
	Fuel Tank Vent.....CHECK		
	Stall Warning.....CLEAR		
<u>PREFLIGHT</u>			
Weather.....CHECK			
Weight & Balance....COMPLETE			
Documents (AROW).....CHECK			
Inspection/AD status.....CHECK			
Fire Extinguisher.....CHARGED			
Hobbs/Tach.....CHECK			
Control Lock.....REMOVE			
Ignition.....OFF			
Master.....ON			
Fuel Quantity.....CHECK			
Turn Coordinator.....AUDIBLE			
Flaps.....EXTEND			
Lights.....ON/INSPECT			
Fuel Shutoff Valve.....ON			
Master.....OFF			

**PRE-TAKEOFF**

Flaps (as required).....SET  
 Transponder.....ALT  
 Lights.....AS REQUIRED  
 Carburetor Heat.....COLD  
 Emergency Procedures.....  
 REVIEW

**NORMAL TAKEOFF**

Throttle.....Full OPEN  
 Engine Instruments.....CHECK  
 Rotate.....50 KIAS  
 Climb.....Vy  
 67 KIAS @ sea level  
 61 KIAS @ 10,000 ft.

**SHORT-FIELD TAKEOFF**

Flaps.....10°  
 Carburetor Heat.....COLD  
 Brakes.....APPLY  
 Throttle.....Full OPEN  
 Engine Instruments.....CHECK  
 Brakes.....RELEASE  
 Rotate.....50 KIAS  
 Climb.....54 KIAS  
 (until clear of obstacle)  
 Climb.....Vy  
 67 KIAS @ sea level  
 61 KIAS @ 10,000 ft.  
 Flaps.....RETRACT

**SOFT-FIELD TAKEOFF**

Flaps.....10°  
 Carburetor Heat.....COLD  
 Elevator.....Full AFT  
 Rotate.....50 KIAS  
 Accelerate.....54 KIAS  
 Climb.....Vy  
 Flaps.....RETRACT

**CRUISE**

Power.....1900-2550 RPM  
 Mixture.....ADJUST  
 Landing Light.....OFF

**BEFORE LANDING**

Seats/Belts.....SECURE  
 Mixture.....ENRICH  
 Landing Light.....AS REQUIRED

**NORMAL LANDING**

Carburetor Heat.....ON  
 Flaps.....AS DESIRED  
 Airspeed.....55-65 (Flaps DN)

**SHORT FIELD LANDING**

Carburetor Heat.....ON  
 Airspeed.....65 (Flaps UP)  
 Flaps.....30°  
 Airspeed.....54 KIAS  
 Power.....IDLE  
 Touchdown.....MAINS first  
 Brakes.....APPLY  
 Flaps.....RETRACT

**GO-AROUND**

Throttle.....FULL OPEN  
 Carburetor Heat.....COLD  
 Flaps.....RETRACT to 20°  
 Climb.....55 KIAS  
 Flaps.....RETRACT

**AFTER LANDING**

Flaps.....RETRACT  
 Carburetor Heat.....COLD  
 Transponder.....STBY  
 Landing Light.....OFF  
 Mixture.....LEAN for taxi

**SHUTDOWN**

Radios/Avionics.....OFF  
 Mixture.....IDLE cutoff  
 Ignition.....OFF  
 Master.....OFF  
 Beacon.....OFF  
 Control Lock.....INSTALL  
 Hobbs/Flight Ticket.....RECORD  
 Trash.....REMOVE  
 Doors/Windows.....LOCKED  
 Tie-Downs.....SECURE  
 Flight Plan.....CLOSE

**FLOODED START**

Master.....ON  
 Throttle.....FULL OPEN  
 Mixture.....IDLE CUT OFF  
 Ignition.....ENGAGE

\*When engine fires advance  
 mixture, retard throttle\*

**EMERGENCY PROCEDURES****ENGINE FAILURE DURING TAKEOFF**

Throttle.....IDLE  
 Brakes.....APPLY  
 Flaps.....RETRACT  
 Mixture.....IDLE CUTOFF  
 Ignition.....OFF  
 Master.....OFF

**ENGINE FAILURE AFTER TAKEOFF**

Airspeed.....60 KIAS  
 Mixture.....IDLE CUTOFF  
 Fuel Shutoff Valve.....OFF  
 Ignition.....OFF  
 Flaps.....AS REQUIRED  
 Master.....OFF  
 Cabin Door.....UNLATCH  
 Land.....STRAIGHT AHEAD

**ENGINE FAILURE DURING FLIGHT**

Airspeed.....60 KIAS  
 Carburetor Heat.....ON  
 Fuel Shutoff Valve.....ON  
 Mixture.....RICH  
 Ignition.....BOTH or START  
 if propeller has stopped  
 Primer.....IN and LOCKED

**EMERGENCY PROCEDURES****EMERGENCY LANDING  
WITHOUT POWER**

Seats/Belts.....SECURE  
 Airspeed.....65 KIAS (Flaps UP)  
                   60 KIAS (Flaps DN)  
 Mixture.....IDLE CUTOFF  
 Fuel Shutoff Valve.....OFF  
 Ignition.....OFF  
 Flaps.....AS REQUIRED  
 Master.....OFF  
 Doors.....UNLATCH  
 Touchdown.....TAIL LOW  
 Brakes.....APPLY HEAVILY

**DITCHING**

Radio.....MAYDAY 121.5  
 Transponder.....7700  
 Heavy Objects.....  
                   SECURE or JETTISON  
 Seats/Belts.....SECURE  
 Flaps.....30°  
 Power...300 ft/min DESCENT at  
                   55 KIAS  
 Cabin Doors.....UNLATCH  
 Approach.....  
   High Winds/Seas...INTO WIND  
   Light Winds/Seas...PARALLEL  
 Touchdown...LEVEL ATTITUDE  
 Face.....CUSHION  
 ELT.....ACTIVATE  
 Airplane.....EVACUATE

**EMERGENCY PROCEDURES****CARBURETOR ICING**

Throttle.....FULL OPEN  
 Carburetor Heat.....ON  
 Mixture.....ADJUST

**SPIN RECOVERY**

Throttle.....IDLE  
 Ailerons.....NEUTRALIZE  
 Rudder.....FULL OPPOSITE  
                   DIRECTION OF SPIN  
 Yoke.....BRISK FORWARD  
 Controls.....HOLD  
                   UNTIL ROTATION STOPS  
 Recover.....  
                   AS ROTATION STOPS

**LANDING WITH FLAT MAIN**

Flaps.....AS DESIRED  
 Approach.....NORMAL  
 Touchdown...GOOD TIRE FIRST  
 hold airplane off flat tire as long as  
 possible with aileron control

**ENGINE FIRE IN FLIGHT**

Mixture.....IDLE CUTOFF  
 Fuel Shutoff Valve.....OFF  
 Master.....OFF  
 Cabin Heat & Air.....OFF  
 Airspeed.....85 KIAS  
 Forced Landing.....EXECUTE

**EMERGENCY PROCEDURES****FIRE DURING ENGINE  
START**

Cranking.....CONTINUE  
 If Engine Starts:  
   Power.....1700 RPM  
   Engine.....SHUTDOWN  
   Inspect for Damage  
 If Engine Fails to Start:  
   Throttle.....FULL OPEN  
   Mixture.....IDLE CUTOFF  
   Cranking.....CONTINUE  
   Fuel Shutoff Valve.....OFF  
   Fire Extinguisher.....OBTAIN  
 Securing Engine:  
   Master.....OFF  
   Ignition.....OFF  
   Parking Brake.....RELEASE  
   Airplane.....EVACUATE  
   Fire.....EXTINGUISH  
   Inspect for Damage

**CABIN FIRE**

Master.....OFF  
 Vents/Air/Heat.....CLOSED  
 Fire Extinguisher.....ACTIVATE  
 Cabin.....VENTILATE  
 Land.....ASAP

**WING FIRE**

Navigation Light Switch.....OFF  
 Strobe Light Switch.....OFF  
 Pitot Heat Switch.....OFF  
 \*perform side slip to keep flames  
 away from the fuel tank and  
 cabin\*  
 Land.....ASAP w/ NO FLAPS

**EMERGENCY PROCEDURES****ELECTRICAL FIRE**

Master.....OFF  
 All Other Switches.....OFF  
 Vents/Air/Heat.....CLOSED  
 Fire Extinguisher.....ACTIVATE  
 Vents...OPEN when FIRE OUT

*If fire is out and electrical is  
 necessary for flight*

Master.....ON  
 Circuit Breakers.....CHECK  
                   *Do not reset!*  
 Radios.....OFF  
 Radios/Electrical.....ON, one at a  
                   time  
 Vents/Air/Heat.....OPEN

**OVER-VOLTAGE LIGHT**

Master.....OFF  
 Master.....ON  
   *If over-voltage light illuminates  
 again*  
 Flight.....TERMINATE  
                   As soon as practical

**AMMETER DISCHARGE**

Alternator.....OFF  
 Non-Essential Electrical.....OFF  
 Flight.....TERMINATE  
                   As soon as practical