

<b><u>SPEEDS (MPH)</u></b>	
Vso.....	64
Vs1.....	71
Vr.....	60-70
Vx (gear up).....	96
Vx (gear down).....	85
Vy (gear up).....	100
Vy (gear down).....	95
Vfe.....	125
Vno.....	170
Vne.....	214
Va (max gross).....	131
Vlo (gear up).....	125
Vlo (gear down).....	150
Vle.....	150
Best Glide.....	105
Max. Demon. X-Wind.....	20
Approach (Flaps DN).....	90
Short Field Approach.....	85
Enroute Climb.....	110
<b><u>PREFLIGHT</u></b>	
Weather.....	CHECK
Weight & Balance.....	COMPLETE
Documents (AROW).....	CHECK
Inspection/AD status.....	CHECK
Fire Extinguisher.....	CHARGED
Hobbs/Tach.....	CHECK
Electrical/Radios.....	OFF
Gear Selector.....	DOWN
Ignition.....	OFF
Master.....	ON
Fuel Quantity.....	CHECK
Turn Coordinator.....	AUDIBLE
Flaps.....	EXTEND
Lights.....	ON/INSPECT
Master.....	OFF

<b><u>EXTERIOR INSPECTION</u></b>	
<b><u>Right Wing</u></b>	
Flaps & Aileron.....	CHECK
Leading Edge.....	CHECK
Tie Down.....	REMOVE
Fuel Quantity.....	CHECK
Fuel Tank Vent.....	CHECK
Fuel Sump.....	CHECK
Strut/Tire/Brake.....	CHECK
<b><u>Nose</u></b>	
Windshield/Cowling.....	CHECK
Oil Quantity (6-8 qts).....	CHECK
Prop/Spinner.....	CHECK
Air Inlet.....	CHECK
Alternator Belt.....	CHECK
Nose Strut/Tire.....	CHECK
Cowling.....	CHECK
Fuel Sump.....	CHECK
Gear Extension Ports.....	CHECK
<b><u>Left Wing</u></b>	
Strut/Tire/Brake.....	CHECK
Fuel Sump.....	CHECK
Fuel Quantity.....	CHECK
Tie Down.....	REMOVE
Pitot Tube.....	CHECK
Static Source.....	CHECK
Fuel Tank Vent.....	CHECK
Stall Warning Vane.....	CHECK
Flap & Aileron.....	CHECK
<b><u>Aft Fuselage &amp; Empennage</u></b>	
Fuselage.....	CHECK
Antennas.....	CHECK
Horizontal Stabilizer.....	CHECK
Vertical Stabilizer.....	CHECK
Tie Down.....	REMOVE
Baggage Door.....	SECURE

<b><u>PRE-ENGINE START</u></b>	
Preflight Inspection..	COMPLETE
Passenger Briefing..	COMPLETE
Seats and Belts.....	SECURE
<b><u>ENGINE START</u></b>	
Parking Brake.....	SET
Circuit Breakers.....	CHECK IN
Electrical Equipment.....	OFF
Avionics Master.....	OFF
Fuel Selector....	FULLEST TANK
Gear Selector.....	DOWN
Throttle.....	OPEN 1/2 INCH
Propeller.....	FULL FWD
Mixture.....	IDLE CUTOFF
Master.....	ON
Beacon.....	ON
Fuel Pump.....	ON
Mixture.....	RICH then IDLE
Propeller Area.....	CLEAR
Ignition.....	ENGAGE
Mixture.....	RICH
Throttle.....	1000 RPM
Oil Pressure.....	CHECK
Mixture.....	LEAN for taxi
Fuel Pump.....	OFF
Ammeter.....	CHECK
<b><u>TAXI</u></b>	
Avionics Master.....	ON
Radios/Avionics.....	ON
Transponder.....	STBY
Flaps.....	RETRACT
Parking Brake.....	RELEASE
Brakes.....	TEST
Instruments.....	CHECK

<b><u>RUNUP</u></b>	
Parking Brake.....	SET
Seats/Belts.....	SECURE
Doors/Windows.....	CLOSED AND LOCKED
Controls.....	FREE & CORRECT
Trim.....	SET
Fuel Quantity.....	CHECK
Mixture.....	RICH
Fuel Selector....	FULLEST TANK
Throttle.....	2000 RPM
Oil Pressure/Temp.....	CHECK
Mixture.....	SET for Altitude
Propeller.....	CYCLE (MAP, RPM, Oil Pressure)
Magnetos.....	CHECK
Max drop 175 RPM	
Max differential 50 RPM	
Alternate Air.....	CHECK
Fuel Pump.....	CHECK ON
Suction.....	5" hg +/- 1" hg
Ammeter.....	CHECK
Annunciator Panel.....	TEST
Instruments.....	CHECK and SET
Throttle.....	IDLE
Radios and Avionics.....	SET
Brakes.....	RELEASE
<b><u>PRE-TAKEOFF</u></b>	
Fuel Pump.....	ON
Fuel Selector....	FULLEST TANK
Alternate Air.....	CLOSED
Flaps (as required).....	SET
Transponder.....	ALT
Lights.....	AS REQUIRED
Gear Override....	AS REQUIRED
Emerg. Procedures.....	REVIEW

**NORMAL TAKEOFF**

Throttle.....Full OPEN  
 Engine Instruments.....CHECK  
 Rotate.....60-70 MPH  
 Climb.....95 MPH  
 Gear.....UP  
 Climb.....100 MPH

**SHORT-FIELD TAKEOFF**

Gear Override.....ENGAGE  
 Flaps.....25°  
 Brakes.....APPLY  
 Alternate Air.....OFF  
 Throttle.....Full OPEN  
 Engine Instruments.....CHECK  
 Brakes.....RELEASE  
 Rotate.....60-70 MPH  
 Climb.....85 MPH  
 until clear of obstacle  
 Gear.....UP  
 Climb.....100 MPH  
 Flaps.....RETRACT

**SOFT FIELD TAKEOFF  
 (OBSTACLE CLEARANCE)**

Gear Override.....ENGAGE  
 Flaps.....25°  
 Alternate Air.....OFF  
 Elevator.....Full AFT  
 Throttle.....Full OPEN  
 Liftoff.....Slowest Poss. Airspeed  
 Accelerate while in ground effect  
 Climb.....85 MPH  
 Gear.....UP  
 Climb.....100 MPH  
 Flaps.....RETRACT

**CRUISE**

Throttle.....SET  
 Propeller.....SET  
 Mixture.....SET  
 Fuel Pump.....OFF  
 Fuel Pressure.....VERIFY  
 Engine Gauges.....CHECK  
 Landing Light.....OFF  
 Trim.....SET  
 Heading Indicator.....SET  
 Auto Gear Extender.....SET

**DESCENT**

Power.....AS DESIRED  
 Mixture.....ADJUST  
 Altimeter.....SET  
 Fuel Selector....FULLEST TANK

**BEFORE LANDING**

Seat Backs.....UPRIGHT  
 Seats/Belts.....SECURE  
 Fuel Selector....FULLEST TANK  
 Fuel Pump.....ON  
 Fuel Pressure.....VERIFY  
 Gear.....DOWN (150 MPH)  
 Mixture.....SET  
 Propeller.....FULL FWD  
 Landing Light.....AS REQUIRED  
 Gear Override.....SET

**NORMAL LANDING**

Gear.....VERIFY DOWN  
 Flaps.....AS DESIRED  
 Airspeed.....85-90 (Flaps DN)

**SOFT FIELD LANDING**

Fuel Pump.....ON  
 Gear.....VERIFY DOWN  
 Airspeed.....85-90 MPH FINAL  
 Flaps.....Down (40°)  
 Touchdown.....MAINS first  
 Add power to keep nosewheel  
 off the ground, hold elevator aft  
 Flaps.....RETRACT  
 Brakes.....MINIMAL

**SHORT FIELD LANDING**

Fuel Pump.....ON  
 Gear.....VERIFY DOWN  
 Airspeed.....80-85 MPH FINAL  
 Flaps.....Down (40°)  
 Power.....IDLE  
 Touchdown.....MAINS first  
 Brakes.....APPLY  
 Flaps.....RETRACT  
 Elevator.....FULL AFT

**AFTER LANDING**

Flaps.....RETRACT  
 Transponder.....STBY  
 Landing Light.....OFF  
 Mixture.....LEAN for taxi  
 Fuel Pump.....OFF

**GO-AROUND**

Throttle.....FULL OPEN  
 Climb.....85 MPH  
 Flaps.....RETRACT to 25°  
 Gear.....UP  
 Flaps.....RETRACT

**SHUTDOWN**

Throttle.....IDLE  
 Electrical Equipment.....OFF  
 Avionics Master.....OFF  
 Propeller.....FULL FWD  
 Mixture.....IDLE cutoff  
 Ignition.....OFF  
 Master.....OFF  
 Beacon.....OFF  
 Hobbs/Flight Ticket.....RECORD  
 Trash.....REMOVE  
 Doors/Windows.....LOCKED  
 Tie-Downs.....SECURE  
 Flight Plan.....CLOSE

**HOT START**

Throttle.....OPEN ½ INCH  
 Master.....ON  
 Fuel Pump.....OFF  
 Mixture.....IDLE CUT OFF  
 Ignition.....ENGAGE  
 \*When engine fires, advance  
 mixture and retard throttle\*

**FLOODED START**

Throttle.....FULL OPEN  
 Master.....ON  
 Fuel Pump.....OFF  
 Mixture.....IDLE  
 Starter.....ENGAGE  
 \*When engine fires, advance  
 mixture and 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.....105 MPH  
Mixture.....IDLE CUTOFF  
Ignition.....OFF  
Gear.....AS REQUIRED  
Master.....OFF  
Cabin Door.....UNLATCH  
Land.....STRAIGHT AHEAD

**ENGINE FAILURE DURING  
FLIGHT (RESTART)**

Airspeed.....105 MPH  
Landing Site.....LOCATE  
Gear Override.....ENGAGE  
Fuel Selector....FULLEST TANK  
Fuel Pump.....ON  
Mixture.....RICH  
Alternate Air.....ON  
Ignition.....L,R, BOTH  
Engine Gauges.....CHECK  
**\*IF POWER IS RESTORED\***  
Alternate Air.....OFF  
Fuel Pump.....OFF  
**\*IF POWER IS NOT  
RESTORED PREPARE FOR  
FORCED LANDING\***

**EMERGENCY PROCEDURES  
EMERGENCY LANDING  
WITHOUT POWER**

Gear Override.....ENGAGE  
Seat Backs.....UPRIGHT  
Seats/Belts.....SECURE  
Airspeed.....105 MPH  
Propeller.....FULL FWD  
Mixture.....IDLE CUTOFF  
Ignition.....OFF  
Fuel Selector.....OFF  
Master.....OFF  
Flaps.....AS REQUIRED  
Doors.....UNLATCH  
Touchdown.....TAIL LOW

**PROPELLER OVERSPEED**

Throttle.....RETARD  
Oil Pressure.....CHECK  
Propeller.....FULL AFT  
Set if any control available  
Airspeed.....REDUCE  
Throttle.....AS REQUIRED  
TO REMAIN BELOW 2700 RPM  
Flaps.....AS REQUIRED  
*\*\*loss of oil pressure will increase RPM\*\**

**EMERGENCY LANDING  
GEAR EXTENSION**

Master Switch.....ON  
Circuit Breakers.....CHECK  
Panel Lights (Day).....OFF  
Indicator Bulbs.....CHECK

**\*IF GEAR IS NOT DOWN AND  
LOCKED\***

**EMERGENCY PROCEDURES  
EMERGENCY LANDING  
GEAR EXTENSION (CONT.)**

Airspeed.....below 105 MPH  
Gear Selector.....DOWN  
Gear Override.....ENGAGE  
Emergency Ext.....ENGAGE  
Yaw.....AS NECESSARY

**EXCESSIVE LOAD ON  
ALTERNATOR GAUGE**

Alternator.....ON  
Battery Switch.....OFF  
Non-Essential Equipment....OFF  
**\*IF LOADS ARE NOT  
REDUCED\***

Alternator.....OFF  
Battery Switch....AS REQUIRED  
Terminate flight as soon as  
practical

**FIRE DURING ENGINE  
START**

Cranking.....CONTINUE  
Mixture.....IDLE CUTOFF  
Throttle.....FULL OPEN  
Fuel Pump.....OFF  
Fuel Selector.....OFF  
**\*IF ENGINE FAILS TO START\***  
Cranking.....CONTINUE  
Fire Extinguisher.....OBTAIN  
Master.....OFF  
Ignition.....OFF

**ABANDON IF FIRE  
CONTINUES**

**EMERGENCY PROCEDURES  
ENGINE FIRE IN FLIGHT**

Fuel Selector.....OFF  
Throttle.....CLOSED  
Mixture.....IDLE CUTOFF  
Fuel Pump.....OFF  
Heater/Defroster.....OFF  
Gear.....AS NECESSARY  
Airspeed.....BEST GLIDE  
Power OFF landing....EXECUTE

**ELECTRICAL FIRE**

Master.....OFF  
Vents.....OPEN  
Heat.....OFF  
Fire Extinguisher.....ACTIVATE  
*If fire is out and electrical is  
necessary for flight*

Master.....ON  
Circuit Breakers.....CHECK  
*do not reset!*

Radios.....OFF  
Avionics Master.....ON  
Radios/Electrical....ON, one at a  
time

**ALTERNATOR FAILURE**

Electrical Equipment.....OFF  
Alt. Switch.....OFF for 30 secs.  
Circuit Breaker...CHECK/RESET  
Alternator Switch.....ON  
Alternator Gauge.....CHECK  
Electrical Equipment.....ON  
**\*IF AMMETER RETURNS TO  
ZERO\***

Alternator.....OFF  
Non-Essential Equipment....OFF  
Flight.....TERMINATE