

<u>SPEEDS (MPH)</u>	<u>EXTERIOR INSPECTION</u>
Vso.....64	<u>Right Wing</u>
Vs1.....71	Flaps & Aileron.....CHECK
Vr.....60-70	Leading Edge.....CHECK
Vx (gear up).....96	Tie Down.....REMOVE
Vx (gear down).....85	Fuel Quantity.....CHECK
Vy (gear up).....100	Fuel Tank Vent.....CHECK
Vy (gear down).....95	Fuel Sump.....CHECK
Vfe.....125	Strut/Tire/Brake.....CHECK
Vno.....170	<u>Nose</u>
Vne.....214	Windshield/Cowling.....CHECK
Va (max gross).....131	Oil Quantity (6-8 qts).....CHECK
Vlo (gear up).....125	Prop/Spinner.....CHECK
Vlo (gear down).....150	Air Inlet.....CHECK
Vle.....150	Alternator Belt.....CHECK
Best Glide.....105	Nose Strut/Tire.....CHECK
Max. Demon. X-Wind.....20	Cowling.....CHECK
Approach (Flaps DN).....90	Fuel Sump.....CHECK
Short Field Approach.....85	Gear Extension Ports.....CHECK
Enroute Climb.....110	<u>Left Wing</u>
	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
	<u>Aft Fuselage &amp; Empennage</u>
	Fuselage.....CHECK
	Antennas.....CHECK
	Horizontal Stabilizer.....CHECK
	Vertical Stabilizer.....CHECK
	Tie Down.....REMOVE
	Baggage Door.....SECURE

**PREFLIGHT**

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

<u>PRE-ENGINE START</u>	<u>RUNUP</u>
Preflight Inspection..COMPLETE	Parking Brake.....SET
Passenger Briefing..COMPLETE	Seats/Belts.....SECURE
Seats and 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

**ENGINE START**

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

**TAXI**

Avionics Master.....ON  
 Radios/Avionics.....ON  
 Transponder.....STBY  
 Flaps.....RETRACT  
 Parking Brake.....RELEASE  
 Brakes.....TEST  
 Instruments.....CHECK

<p><b><u>NORMAL TAKEOFF</u></b></p> <p>Throttle.....Full OPEN                  Engine Instruments.....CHECK                  Rotate.....60-70 MPH                  Climb.....95 MPH                  Gear.....UP                  Climb.....100 MPH</p> <p><b><u>SHORT-FIELD TAKEOFF</u></b></p> <p>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</p> <p><b><u>SOFT FIELD TAKEOFF (OBSTACLE CLEARANCE)</u></b></p> <p>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</p>	<p><b><u>CRUISE</u></b></p> <p>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</p> <p><b><u>DESCENT</u></b></p> <p>Power.....AS DESIRED                  Mixture.....ADJUST                  Altimeter.....SET                  Fuel Selector....FULLEST TANK</p> <p><b><u>BEFORE LANDING</u></b></p> <p>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</p> <p><b><u>NORMAL LANDING</u></b></p> <p>Gear.....VERIFY DOWN                  Flaps.....AS DESIRED                  Airspeed.....85-90 (Flaps DN)</p>
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<p><b><u>SOFT FIELD LANDING</u></b></p> <p>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</p> <p><b><u>SHORT FIELD LANDING</u></b></p> <p>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</p> <p><b><u>AFTER LANDING</u></b></p> <p>Flaps.....RETRACT                  Transponder.....STBY                  Landing Light.....OFF                  Mixture.....LEAN for taxi                  Fuel Pump.....OFF</p> <p><b><u>GO-AROUND</u></b></p> <p>Throttle.....FULL OPEN                  Climb.....85 MPH                  Flaps.....RETRACT to 25°                  Gear.....UP                  Flaps.....RETRACT</p>	<p><b><u>SHUTDOWN</u></b></p> <p>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</p> <p><b><u>HOT START</u></b></p> <p>Throttle.....OPEN ½ INCH                  Master.....ON                  Fuel Pump.....OFF                  Mixture.....IDLE CUT OFF                  Ignition.....ENGAGE                  *When engine fires, advance                  mixture and retard throttle*</p> <p><b><u>FLOODED START</u></b></p> <p>Throttle.....FULL OPEN                  Master.....ON                  Fuel Pump.....OFF                  Mixture.....IDLE                  Starter.....ENGAGE                  *When engine fires, advance                  mixture and retard throttle*</p>
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*This checklist was based on the POH/AFM, however no guarantee is made for its accuracy!*

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**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