



<u><b>NORMAL TAKEOFF</b></u>	<u><b>CRUISE</b></u>
Throttle.....Full OPEN	Throttle.....SET
Engine Instruments.....CHECK	Mixture.....SET
Rotate.....60-65 MPH	Fuel Selector...DESIRED TANK
Climb.....85 MPH	Fuel Pump.....OFF
	Fuel Pressure.....VERIFY
	Engine Gauges.....CHECK
	Landing Light.....OFF
	Trim.....SET
	Heading Indicator.....SET
<u><b>SHORT-FIELD TAKEOFF</b></u>	<u><b>DESCENT</b></u>
Flaps.....25°	Power.....AS DESIRED
Carburetor Heat.....OFF	Carburetor Heat.....AS REQD.
Brakes.....APPLY	Mixture.....ADJUST
Throttle.....Full OPEN	Altimeter.....SET
Engine Instruments.....CHECK	Fuel Selector...FULLEST TANK
Brakes.....RELEASE	
Rotate.....55-60 MPH	
Climb.....74 MPH	
until clear of obstacle	
Climb.....85 MPH	
Flaps.....RETRACT	
<u><b>SOFT FIELD TAKEOFF (OBSTACLE CLEARANCE)</b></u>	<u><b>BEFORE LANDING</b></u>
Flaps.....25°	Seat Backs.....UPRIGHT
Carburetor Heat.....OFF	Seats/Belts.....SECURE
Elevator.....Full AFT	Fuel Selector...FULLEST TANK
Throttle.....Slowly Full OPEN	Fuel Pump.....ON
Liftoff.....Slowest Possible Airspeed	Fuel Pressure.....VERIFY
Accelerate while in ground effect	Mixture.....SET
Climb.....74 MPH	Landing Light.....AS REQD.
Until clear of obstacle	
Climb.....85 MPH	
Flaps.....RETRACT	
	<u><b>NORMAL LANDING?</b></u>
	Flaps.....AS DESIRED
	Airspeed.....74 MPH (Flaps DN)

<u><b>SOFT FIELD LANDING</b></u>	<u><b>SHUTDOWN</b></u>
Fuel Pump.....ON	Throttle.....IDLE
Airspeed.....85 MPH FINAL	Electrical Equipment.....OFF
Flaps.....Down (40°)	Avionics Master.....OFF
Touchdown.....MAINS first	Mixture.....IDLE cutoff
Add power to keep nosewheel off	Ignition.....OFF
the ground, hold elevator full aft	Master.....OFF
Flaps.....RETRACT	Beacon.....OFF
Brakes.....MINIMAL	Hobbs/Flight Ticket....RECORD
	Trash.....REMOVE
	Doors/Windows.....LOCKED
	Tie-Downs.....SECURE
	Flight Plan.....CLOSE
<u><b>SHORT FIELD LANDING?</b></u>	<u><b>HOT START</b></u>
Fuel Pump.....ON	Throttle.....OPEN ½ INCH
Airspeed.....76 MPH FINAL	Master.....ON
Flaps.....Down (40°)	Fuel Pump.....OFF
Power.....IDLE	Mixture.....IDLE CUT OFF
Touchdown.....MAINS first	Ignition.....ENGAGE
Brakes.....APPLY	*When engine fires, advance
Flaps.....RETRACT	mixture and retard throttle*
Elevator.....FULL AFT	
<u><b>AFTER LANDING</b></u>	<u><b>FLOODED START</b></u>
Flaps.....RETRACT	Throttle.....FULL OPEN
Transponder.....STBY	Master.....ON
Landing Light.....OFF	Fuel Pump.....OFF
Strobes.....OFF	Mixture.....IDLE CUTOFF
Mixture.....LEAN for taxi	Starter.....ENGAGE
Fuel Pump.....OFF	*When engine fires, advance
Fuel Pressure.....VERIFY	mixture and retard throttle*
<u><b>GO-AROUND</b></u>	
Throttle.....FULL OPEN	
Climb.....85 MPH	
Flaps.....RETRACT to 25°	

**EMERGENCY PROCEDURES  
ENGINE FAILURE DURING  
TAKEOFF ROLL**

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

**ENGINE FAILURE AFTER  
TAKEOFF (RESTART)**

Airspeed.....80 MPH  
 Fuel Selector.....OPPOSITE TANK  
 Mixture.....FULL RICH  
 Carburetor Heat.....ON

**ENGINE FAILURE DURING  
FLIGHT (RESTART)**

Airspeed.....80 MPH  
 Landing Site.....LOCATE  
 Fuel Selector.....FULLEST TANK  
 Fuel Pump.....ON  
 Carburetor Heat.....ON  
 Mixture.....FULL RICH  
 Ignition.....L,R, BOTH  
 Primer.....IN and LOCKED  
 Engine Gauges.....CHECK  
 Throttle/Mixture... VARIOUS settings

**\*IF POWER IS RESTORED\***

Carburetor Heat.....OFF  
 Fuel Pump.....OFF

**\*IF POWER IS NOT  
RESTORED PREPARE FOR  
FORCED LANDING\*****EMERGENCY PROCEDURES  
EMERGENCY LANDING  
WITHOUT POWER**

Seat Backs.....UPRIGHT  
 Seats/Belts.....SECURE  
 Airspeed.....80 MPH  
 Mixture.....IDLE CUTOFF  
 Ignition.....OFF  
 Fuel Selector.....OFF  
 Master.....OFF  
 Flaps.....AS REQUIRED  
 Doors.....UNLATCH  
 Touchdown.....TAIL LOW

**SPIN RECOVERY**

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

**ENGINE FIRE IN FLIGHT**

Fuel Selector.....OFF  
 Throttle.....CLOSED  
 Mixture.....IDLE CUTOFF  
 Ignition.....OFF  
 Fuel Pump.....OFF  
 Heater/Defroster/Air.....OFF  
 Airspeed.....INCREASE  
 Power OFF landing....EXECUTE

**EMERGENCY PROCEDURES  
FIRE DURING ENGINE START**

Cranking.....CONTINUE

**\*IF ENGINE STARTS\***

Throttle.....1800 RPM  
 Mixture.....IDLE CUTOFF  
 Fuel Pump.....OFF  
 Fuel Selector.....OFF  
 Master.....OFF  
 Ignition.....OFF

**SHUTDOWN AND INSPECT****\*IF ENGINE FAILS TO START\***

Cranking.....CONTINUE  
 Fire Extinguisher.....OBTAIN  
 Master.....OFF  
 Ignition.....OFF

**ABANDON IF FIRE CONTINUES****ELECTRICAL FIRE**

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

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

Radios.....OFF  
 Radios.....ON, one at a time

**EMERGENCY PROCEDURES  
EXCESSIVE LOAD ON  
ALTERNATOR GAUGE**

Alternator.....ON  
 Battery Switch.....OFF  
 Non-Essential Equip.....OFF

**\*IF LOADS ARE NOT  
REDUCED\***

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

**ALTERNATOR FAILURE**

Electrical Equipment.....OFF  
 Alternator Switch.....OFF  
 Circuit Breakers.....  
 CHECK/RESET  
 Alternator Switch.....ON  
 Alternator Gauge.....CHECK  
 Electrical Equipment.....ON

**\*IF AMMETER RETURNS TO  
ZERO\***

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