ENGINE START

Master Switch ..... ON
Gear Light ..... GREEN
Fuel Quantity ..... CHECK
Cowl Flaps ..... OPENED
Trim Tabs ..... SET
Throttles ..... OPEN ½ IN.
Propellers controls ..... FORWARD
Mixture ..... RICH
Fuel Pump ..... ON/PRIME (+/- 5s)
Mixtures ..... IDLE
Magneto Switches ..... ON
Propellers ..... CLEAR
Starters* ..... ENGAGE (10s max)

***Cranking periods should be limited to 30 SECONDS with a 2 MINUTE INTERVAL.**

Mixtures ..... ADVANCE
Oil/Fuel Pressure ..... CHECK (30s)

FLOODED START

Magneto Switches ..... ON
Throttles ..... OPEN
Mixture ..... IDLE
Fuel Pump ..... OFF
Starter* ..... ENGAGE

When engine fires, retard throttle and advance mixture.

TAXIING

Parking Brake ..... RELEASE
Brakes ..... TEST
Instruments ..... CHECK
Taxi lights ..... ON

WARM UP & GROUND CHECK

Warm Up at 1000 RPM... AT LEAST 100F

AVOID PROLONGED IDLING AT LOW RM
Parking Brake ..... ON
Flight Controls ..... CHECK
Mixture ..... FORWARD
Propeller ..... FORWARD
Throttle ..... 1500 RPM
Propeller (Not More Than 500) . EXERCISE
Throttle ..... 2000 RPM
Magnetos ..... L&R (175/50)
Engine Gauges ..... CHECK
Ammeter ..... CHECK
Throttle ..... REDUCE
Lights/Pitot Heat ..... AS REQUIRED
Instruments ..... CHECK/SET
Alternators ..... ON
Fuel Selectors ON MAIN FUEL CELLS
Door/Windows ..... LOCK
COM/NAV/Lights/Transponder . SET
Flaps/Trim ..... SET
Clearance ..... OBTAIN
Take Off Briefing ..... COMPLETED

LINING UP

Parking Brake ..... OFF
Fuel Pumps ..... ON
Transponder ..... ON/ALT
Strobe Lights ..... ON
Landing Lights ..... AS REQUIRED

ROLLING

Power (Take OFF) ..... SET
Man. Press./RPM/Fuel Flow ..... CHECK
Speed ..... RISING
Accelerate to Vmc Prior Climb .. 90 MPH

AFTER TAKEOFF

Gear (Vlo 150MPH) ..... POS. CLIMB/UP
Vy ..... 112 MPH
Power (Climb) ..... SET (25/2500)
Flaps (Vfe 125 MPH) ..... RETRACT
Landing Lights ..... OFF
Fuel Pumps ..... OFF

SHORT & SOFT FIELD TAKEOFF

Flaps ..... SET FOR T/O
Brakes ..... SET
Power ..... MAXIMUM
Instruments ..... CHECK

If airborne before Vmc fly low level to reach Vmc 90MPH.
Before Vmc be ready to reduce power promptly.

Vx ..... 90 MPH
Landing Gear ..... RETRACT
Vy (clear of obstacle) ..... 112 MPH
Flaps ..... RETRACT

CLIMB

Throttles/Props ..... SET CLIMB (25/2500)
Enroute Climb ..... 130 MPH

CRUISE

Throttles-Props ..... SET/TABLE

Mixture ..... ADJUST
Tanks ..... AS NEEDED
Instruments ..... AS NEEDED

Under ONE Engine Flight Conditions Maintain IAS ABOVE 97 MPH

STALL SPEED TABLE (CAS)		
Angle of Bank	**Gear & Flaps Up**	**Gear & Flaps Down**
0°	**76**	**98**
20°	**79**	**79**
40°	**87**	**71**
60°	**108**	**69**

V SPEEDS (MPH)	**Vmc**	**90**	**Vx**	**90**	**Vfe**	**125**	**Vne**	**205**
	Vyse	**105**	**Vy**	**112**	**Vlo**	**150**	**Crosswind**	**20**

APPROACH/LANDING
ATIS/AWOS/ASOS..... OBTAIN
Brief/Seat Belts..... CHECK
Mixture..... RICH
Props..... 2400 RPM
Fuel Pumps..... ON
Fuel Selectors **ON MAIN FUEL CELLS**
Landing Lights..... AS REQUIRED
Gear (Vlo 150MPH) ..... GREEN
Flaps (Vfe 125 MPH)..... SET
Final Approach ..... 100 MPH

GO AROUND
Power ..... FULL
Gear (Positive Climb)..... UP
Flaps ..... RETRACT SLOW
Vy..... 112 MPH

MANUAL GEAR EXTENSION
Master/Gear Circuit Breakers ..... IN
Master ..... ON
Navigation Lights..... OFF Day
Emergency Disengage Control ..... REMOVE COVER
Airspeed ..... 100 MPH
Landing Gear Switch..... OFF
Disengage Motor..... FULL FORWARD
Gear Extension Handle R Socket .... FULL FORWARD
Gear Extension Handle L Socket..... FULL FORWARD
Gear Lights..... GREEN
DON'T RETRACT WITH HANDLE IN SOCKET
DON'T RE-ENGAGE MOTOR IN FLIGHT

AFTER LANDING
Flaps ..... RETRACT
Cowl Flaps..... OPEN
Fuel Pumps..... OFF
Props..... FORWARD
Transponder..... STBY
Strobe/Landing Lights ..... OFF

COMPLETE STOP
Radio/Elec. Equip. ..... OFF
Heater..... OFF
Mixture/Ignition/MASTER..... OFF
Parking Brake..... ON
Chocks/Chains/Papers..... COMPLETE

CLOSE FLIGHT PLAN

LOST COM
Check: Freq., Volume, Squelch, Phones
Transponder..... 7600
Pattern..... Enter/Lights

ENGINE FAILURES
DURING TAKE OFF OR AFTER LIFT OFF
During Run..... STOP
After Lift Off With Adequate Landing Distance ..... LAND

DURING CLIMB AFTER TAKE OFF
Vyse ..... 105 MPH
Mixture/Props/Throttles ..... FORWARD
Flaps..... UP
Gear ..... DECIDE
IDENTIFY DEAD ENGINE
Propeller (Dead Engine)..... FEATHER
Rudder Trim..... USE
RETURN TO AIRPORT FOR LANDING

DURING CRUISE FLIGHT
Mixture/Props/Throttles ..... ADVANCE
IDENTIFY DEAD ENGINE
Rudder Trim..... USE
Cause Of Engine Failure..... DETERMIN
Propeller (Dead Engine)..... FEATHER
Mixture (Dead Engine) ..... IDE/CUT OFF
Ignition (Dead Engine) ..... OFF
Operating Engine..... SET POWER
Electrical Load..... REDUCE

SINGLE ENGINE APPROACH
Power..... REDUCE
Rudder Trim..... USE
Reaching Airport..... ASSURED
Gear ..... DOWN
Additional Altitude/Speed..... MAINTAIN
Final Approach Speed..... 105 MPH
Flaps..... AVOID
Go Around...FLAPS/GEAR ..... UP

FEATHERING POSSIBLE OVER 1000 RPM

UNFEATHERING
Ignition..... ON
Mixture ..... RICH
Throttle..... OPEN ½ IN.
Prop ..... CRUISE
Starter..... ENGAGE
Power 1000-1500 rpm Until Oil Temp Rise

DON'T FEATHER A PROP FOR PRACTICE:
- if you think engine may be difficult to start
- at a low altitude AGL
- with a low charged battery
- unless you are within reasonable distance of an airport
- in conditions that may prevent single engine flight at altitude well above the ground

Power Setting Table	Pressure Altitude	88HP—55%				104HP—65%				120HP—75%		
		2100	2200	2300	2400	2100	2200	2300	2400	2200	2300	2400
GPH	SL	22.4	21.7	21.0	20.4	25.0	24.2	23.3	22.7	26.5	25.6	24.9
65%—15.2	2000	21.8	21.2	20.5	19.9	24.4	23.6	22.8	22.2	25.9	25.0	24.3
75%—17.2	4000	21.3	20.6	19.9	19.4	23.8	23.0	22.2	21.6	25.3	24.3	23.7
	6000	20.8	20.1	19.4	18.9	23.2	22.4	21.6	21.1	FT	FT	23.1
	8000	20.2	19.5	18.9	18.4	FT	21.8	21.0	20.5	——	——	FT
	10,000	19.7	19.0	18.3	17.9	——	FT	FT	20.0			
	12,000	FT	18.4	17.7	17.4	——	——	——	FT			
	14,000	——	FT		16.9	——	——	——	——			