AIRSPEEDS

Vr .....60 – 65 KIAS
Vx.....73 KIAS
Vy.....85 KIAS
Vfe.....102 KIAS
Climbout .....100 KIAS
Final Approach.....72 KIAS
Va
at 3000 lbs.....124 KIAS
at 1761 lbs.....96 KIAS
Vso .....56 KIAS
Vs .....65 KIAS
Vno.....73 KIAS
Vne .....173 KIAS
Glide Flaps Up .....85 KIAS
Flaps Down .....72 KIAS
Max Crosswind .....17 KIAS

WEIGHT

Max Ramp ..... 3011 lbs
Max Gross..... 3000 lbs
Basic Empty Weight (4/28/2005) ..... 1795 lbs
Max Load (Zero Fuel)..... 1205 lbs
Full Fuel..... 773 lbs
Max Baggage ..... 200 lbs

FUEL/OIL

Useable Fuel ..... 72 gallons -- 432 lbs
Oil (Phillips XC 20W-50W) .....min / max –– 9 / 12 quarts

TRANSPONDER CODES

Hi-Jack 7500
Radio Out.....7600
Emergency 7700

PREPARATION

Airplane Status ..... Airworthy
Airplane Dispatched..... Squawks, Tach & Hobbs Times Noted
Airplane Flight Plan ..... Filed
FSS Standard Briefing ..... Accomplished via Telephone
Weight and CG ..... Within Limits
Navigation ..... Planned
Current Charts ..... On Board
Performance and Range ..... Computed and Safe

PREFLIGHT CHECK -- COCKPIT

Hobbs/Tachometer Time ..... Check
Control Wheel ..... Release Belts
Avionics ..... OFF
Electric Switches ..... OFF
Magneto Switch ..... OFF
Mixture ..... Idle Cut-Off
Master Switch ..... ON
Fuel Quantity Gauges ..... Check
Pitot Heat / Lights ..... Check
Stall Warning Horn ..... Check
Pitot Heat / Lights ..... OFF
Annunciator Panel ..... Press to Test
Master Switch ..... OFF
Flight Controls ..... Check
Flaps ..... Check, Leave Down
Trim ..... Check, Set Neutral
Pitot and Static Systems ..... Drain
Baggage ..... Secure
Baggage Door ..... Close, Secure

PREFLIGHT CHECK -- RIGHT WING

Flap & Aileron ..... Check
Leading Edge ..... Check
Wing Tie Down ..... Remove
Right Wing Fuel Vent ..... Check
Right Wing Fuel Drain ..... Check Sample
Right Wing Fuel Quantity ..... Visually Check
Strut, Tire & Brakes ..... Check

PREFLIGHT CHECK -- NOSE SECTION

Cowling ..... Check Fasteners
Oil ..... Check Quantity
Dipstick ..... Properly Seated
Nose Gear Strut ..... Check
Nose Wheel Tire ..... Check
Prop and Spinner ..... Check for Damage (nicks, cracks, etc)
Air Inlets ..... Clear
Alternator Belt ..... Check Tension
Landing Light ..... Check Secure
Fuel Strainer ..... Drain, Check

PREFLIGHT CHECK -- LEFT WING

Leading Edge ..... Check
Strut, Tire & Brakes ..... Check
Wing Tie Down ..... Remove
Left Wing Fuel Vent ..... Check
Left Wing Fuel Drain ..... Check Sample
Left Wing Fuel Quantity ..... Visually Check
Pitot Mast ..... Check
Flap & Aileron ..... Check

PREFLIGHT CHECK -- FUSELAGE

Antennas ..... Check
Left Static Port ..... Check
Empennage ..... Check
Stabilator and Trim Tab ..... Check
Tie Down ..... Remove
Right Static Port ..... Check
Baggage Door ..... Check

LAST CHECK

Walk around aircraft giving it a last visual check; for general appearance, tie downs, chocks removed, oil or fuel leaks/spills, cowl plugs removed, icing, etc.

BEFORE STARTING ENGINE

Flaps ..... Retracted
Passengers ..... Boarded and Briefed
Cabin Door ..... Closed and Latched
Overhead Latch ..... Secured
Seat Belts and Harnesses ..... Secure
Inertial Reel ..... Check
Seats ..... Adjusted and Secured
Circuit Breakers ..... Check
Parking Brake ..... Set ON
Carburetor Heat ..... OFF
Fuel Selector ..... Proper Tank
Avionics & Electrical Switches ..... Off
Propeller ..... Full RPM

STARTING ENGINE

Throttle..... Open (¼" cold, ½" hot)
Mixture.....Full Rich
Master & Alternator Switches.....ON
Fuel Pump .....ON
Prime Manually.....9 to 12 Strokes
Beacon Light (and Nav Lights if Night) .....ON
Prop Area .....CLEAR
Ignition..... START
Throttle..... 800 – 1200 RPM
Oil Pressure.....Check
Mixture..... Lean for Ground Operation
Electric Fuel Pump.....OFF
Mixture.....Full Rich

(*If engine does not start within 10 seconds prime and repeat starting procedures).*

PRE-TAXI

Radios ..... Set & Check
ATIS/AWOS/ASOS ..... Obtain/Copy
Transponder .....Set & On Standby
Nav / GPS WAAS..... Set & Database Current Flight
Alternate Static Source..... Check, then OFF
Elevator Trim .....Set to Neutral

TAXI

Brakes ..... Release & Test
Magnetic Compass.....Correct
Heading Indicator.....Check and Set
Attitude Indicator .....Check and Set
Oil Pressure & Suction.....Check

ENGINE RUNUP

Brakes ..... Set
Seats & Belts ..... Check
Doors ..... Closed & Latched
Flight Instruments
- Attitude Indicator ..... Set
- Altimeter ..... Set, Compare Indicated Alt to Field Elev
- VSI ..... Check
- Heading ..... Set

Flight Controls ..... Free & Correct
Mixture ..... Full Rich
Throttle ..... 2000 RPM
- Magnetos ..... < 175 RPM Drop, <50 RPM Difference
- Suction Gauge ..... 4.9” – 5.1”
- Ammeter ..... Check w/Load
- Propeller ..... Exercise

Throttle ..... Idle
- Carb Heat ..... OFF w/RPM RISE

Throttle ..... 1000 RPM
Emergency Procedures ..... Reviewed
Departure Plans ..... Reviewed

TAKEOFF (BEFORE TAKEOFF)

Recognition Lights / Anti-Collision Lights..... ON
Landing Light (HID)..... ON as Required
Transponder ..... Set to "ALT"
Fuel Pump ..... ON
Time ..... Note

TAKEOFF (NORMAL)

Flaps.....Up (Zero Degrees)
Mixture.....Full Rich
Carb Heat .....OFF
Throttle.....Full Open
Engine Instruments .....Check
Airspeeds
Vr .....60 – 65 KIAS
Vx.....73 KIAS
Vy.....85 KIAS

TAKEOFF (SHORT FIELD, OBSTACLE CLEARANCE)

Flaps.....25 Degrees
Mixture.....Full Rich
Carb Heat .....OFF
Brakes .....HOLD until Full Power
Throttle.....Full Open
Engine Instruments .....Check
Rotate .....50 – 60 KIAS
Climb Speed (before Clearing Obstacle) ..... Vx (73 KIAS)
Climb Speed (after Clearing Obstacle) ..... Vy (85 KIAS)
Flaps..... Slowly Retract

ENROUTE CLIMB

Airspeed.....100 KIAS
Throttle..... < 25" MP
Propeller..... < 2400 RPM
Fuel Pump ..... OFF above 1000 ft AGL
Landing Light..... OFF above 3000 ft AGL
Mixture..... LEAN above 5000 ft AGL or Cruise

CRUISE

Power .....75% or Less
Trim..... Adjust
Propeller..... Adjust
Mixture.....LEAN as Necessary

PRE-LANDING (~12 nm)

ATIS & Altimeter Setting ..... Obtain
Landing Light / Recognition Lights ..... ON
Seat Belts & Seats ..... Verify Fastened & Secure
Fuel Selector ..... On Fullest Tank
Approach Procedures ..... Review & Brief

LANDING

Fuel Pump ..... ON
Mixture ..... Rich
Propeller ..... Full RPM
PATTERN:
- Downwind ..... 90 KIAS (Flaps 10)
- Base ..... 85 KIAS (Flaps 25)
- Final ..... 80 KIAS (Flaps 40)
- Over Landing Threshold ..... 72 KIAS (Flaps 40)

SHORT FIELD (AFTER TOUCHDOWN):
- Brakes ..... Max as Needed
- Flaps ..... Retract
- Control Yoke ..... Full Aft

AFTER LANDING

Carb Heat ..... OFF
Flaps ..... RETRACT
Fuel Pump ..... OFF
Landing Light / Recognition Lights ..... OFF
Transponder ..... STDBY
Elevator Trim ..... Set to Neutral
Mixture ..... Lean for Ground Operation

SHUTDOWN

Brakes ..... Set
Throttle ..... Idle
Avionics Master / Electrical Switches ..... OFF
Mixture ..... Idle Cutoff
Beacon ..... OFF
Ignition Switch ..... OFF
Master & Alternator Switches ..... OFF
Flight Plan ..... Close

POWER SETTING TABLE

Press. Alt. Feet	Std. Alt. Temp. °C	129 HP – 55% Rated RPM & MAN. PRESS. 2100	2200	2300	2400	153 HP – 65% Rated RPM & MAN. PRESS. 2100	2200	2300	2400	175 HP – 75% Rated RPM & MAN. PRESS 2200	2300	2400	200 HP – 85% Rated RPM & MAN. PRESS 2200	2300	2400
SL	15	20.8	**20.0**	19.4	18.7	23.2	**22.4**	**21.7**	21.0	24.6	**23.9**	23.1	27.2	26.4	25.5
1000	13	20.5	**19.8**	19.2	18.5	22.9	**22.2**	**21.5**	20.8	24.3	**23.6**	22.9	26.9	26.1	25.3
2000	11	20.3	**19.5**	19.0	18.3	22.7	**21.9**	**21.2**	20.6	24.1	**23.4**	22.6	F.T.	25.8	25.0
3000	9	20.0	**19.3**	18.8	18.1	22.4	**21.7**	**21.0**	20.4	23.8	**23.1**	22.4	--	F.T.	24.7
4000	7	19.8	**19.1**	18.5	17.9	22.1	**21.4**	**20.8**	20.2	23.5	**22.8**	22.1	--	--	F.T.
5000	5	19.5	**18.9**	18.3	17.7	21.9	**21.2**	**20.5**	20.0	23.2	**22.6**	21.9			
6000	3	19.3	**18.6**	18.1	17.5	21.6	**21.0**	**20.3**	19.7	F.T.	**22.3**	21.7			
7000	1	19.1	**18.4**	17.9	17.3	21.3	**20.7**	**20.1**	19.5	--	**F.T.**	21.5			
8000	-1	18.8	**18.2**	17.7	17.2	21.2	**20.5**	**19.9**	19.3	--	**--**	F.T.			
9000	-3	18.6	**18.0**	17.5	17.0	F.T.	**20.2**	**19.7**	19.1						
10,000	-5	18.3	**17.7**	17.2	16.8	--	**F.T.**	**19.4**	18.9						
11,000	-7	18.1	**17.5**	17.0	16.6	--	--	**F.T.**	F.T.						
12,000	-9	17.8	**17.3**	16.8	16.4										
13,000	-11	F.T.	**17.0**	16.6	16.2										
14,000	-13	--	**F.T.**	16.4	16.0										
15,000	-15	--	--	F.T.	15.8										
16,000	-17	--	--	--	F.T.										

NOTE: To maintain constant power, add approximately 1% for each 6°C above standard, subtract approximately 1% for each 6°C below standard.

Suggested Cruise Power Settings (at 50 deg rich of leanest cylinder)				
Alt	MP	RPM	GPH	Pwr
SL	23.9	2300	13.6	75%
2000	23.4	2300	13.6	75%
4000	22.8	2300	13.6	75%
6000	22.3	2400	13.6	75%
8000	FT	2400	13.6	75%
10000	19.4	2300	11.8	65%
12000	16.8	2300	10.1	55%

Key Frequencies & Phone #s (Never Squawk 1200 in SFRA)
FME CTAF -- 123.05 MHz
FME AWOS -- 123.925 MHz
SFRA Chesapeake Sect -- (866) 429-5882
SFRA PALEO GATE ATC -- 132.775 MHz
POTOMAC ATC (Chesapeake Sect) -- 119.7 MHz
BWI ATIS -- 127.8 MHz or 115.1 MHz
BWI Twr -- 119.4 MHz