

PA34 -220T Piper Seneca III

PREFLIGHT

Weight and Balance	Complete
Documents	Check
-Airworthiness Certificate	
-Registration	
-Airplane Flight Manual	
-Weight & Balance	
Hobbs/Time	Record
Landing Gear	Down
Avionics and Fan(s)	Off
Cowl Flaps	Open
Master Switch	On
Fuel Quantity	Check
Flaps / Lights	Check
Pitot Static System	Drain
Cross Feed	Drain
Empty Seats and Bags	Secure

EXTERNAL

Right Wing:

Flaps / Ailerons	Check
Lights / wing tips	Check
Fuel Quantity / Caps	Check
Fuel Drains (3)	Drain
Prop / Spinner / Cowl Flaps	Inspect
Oil (6-8 qts)	Check
Tires / Brakes / Gear	Check

Nose:

Windshield	Clean
Nose Gear / Landing Light	Check
Brake Reservoir	Check level
Doors / Fwd Baggage	Closed / Locked

Left Wing:

Tires / Brakes / Gear	Check
Squat Switch	Inspect
Oil (6-8 Qts)	Check
Prop / Spinner / Cowl Flaps	Inspect
Stall Warning Vanes	Inspect / Check
Pitot Mast	Inspect
Fuel Drains (3)	Drain
Fuel Quantity / Caps	Check
Lights / Wing tips	Check
Flaps / Ailerons	Check

Empennage:

Baggage Door	Secured
Static Ports (L&R)	Clear
Dorsal Air Scoop	Clear
Empennage / Stabilator	Inspect
Antennas	Secure

Perform final walk around, All doors closed, Chocks & chains removed

PAX SAFETY BRIEFING

Rear / Front Door Latch	Discuss Operation
Rear Door Emergency Ops	Discuss
Seat Belts	Discuss
Oxygen Masks (Not required ops below FL150)	Discuss and Demo
Radio Intercom Etiquette	Discuss
First Aid Kit and Sic Sac	Show Locations

ENGINE START

Seat / Belts	Adjusted
Keys	Check
Fans	Off
Fuel Selector	ON
Trim	Set
Flaps	Up
Cowl Flaps	Open
Alternate Air	Off
Prop Sync	Off
Mixtures	Full Rich
Prop Levers	Full Fwd
Throttles	Full Fwd
Avionics Switch	Off
Circuit Breakers	Check In
De-Ice Equipment	Off
Gear	Down
Magnetos	On
Alternators	On
Anti-Collision Light	On
Brakes	On
Battery Master	On

Primer (5 sec)	Press
Throttle	Open ¼ “
Starter	Hold to 500 RPM
Primer	Bump (as needed)
Throttle	Adjust 1000 RPM
Oil Pressure	Check
Alternator	Check
Suction	Check
Mixture	Lean as required

(Repeat items in Blue for Opposite engine)**TAXI**

Radios	On
Brakes	Check
Instruments	Set as Required
Fuel Selectors	X-Feed

RUN-UP

Mixture	Set
Quadrant Friction	Adjust
Throttles	1000 RPM
Manifold Lines (Below 25”)	Drain
Prop Feather (200-300 RPM drop)	Check / Fwd
Throttle	1900 RPM
Prop Governor	Cycle / Fwd
Alternate Air	Check / Off
Magneto Switches (EGT Rise / RPM Drop)	Check
Alternator Output	Check
Gyro Pressure (4.5 – 5.2)	Check
Throttles	800-1000 RPM
Fuel Pumps	OFF
Flight Controls	Free & Correct
Electric Trim	Check
Auto Pilot	Disconnected
Flight Instruments (HI, Altimeter, AI)	Set
Engine Instruments	In Green
Fuel Selectors	ON
Flaps	Set for T/O
Doors / Windows	Closed / Locked
Rear Door	Check Latched
Transponder / Lights	Alt / as Req
Door Seals	On

AIRSPEDS – SAFE OPERATION

VMC		66 Kts Red Line
VXSE		78 Kts
VYSE		92 Kts Blue Line
VX		76 Kts
VY		92 Kts Blue Line
VA		140 Kts @ 4750 lbs. 114 Kts @3204 lbs.
VFE	10 deg	140 Kts
	25 deg	122 Kts
	40 deg	115 Kts
VLO	Retract	108 Kts
	Extended	130 Kts
	Extension	130 Kts
VSO		64 Kts
VNE		205 Kts Red Line

POWER SETTING TABLE - T.C.M. TSIO-360K SERIES PA-34-220T

Press. Alt. Feet	Std. Alt. Temp. °C	45% Power		55% Power		65% Power		75% Power										
		Approx. Fuel 16 G.P.H. RPM AND MAN. PRESS.	Approx. Fuel 18.7 G.P.H. RPM AND MAN. PRESS.	Approx. Fuel 23.3 G.P.H. RPM AND MAN. PRESS.	Approx. Fuel 29.0 G.P.H. RPM AND MAN. PRESS.	Approx. Fuel 29.0 G.P.H. RPM AND MAN. PRESS.												
S.L.	15	27.1	26.4	25.5	24.3	23.3	22.5	31.2	30.3	29.4	28.2	27.2	26.3	33.8	32.0	31.0	34.0	33.0
2000	11	26.4	25.8	24.6	23.7	22.8	22.1	30.5	29.7	28.8	27.8	26.8	26.0	33.2	31.7	30.7	33.8	32.7
4000	7	25.8	25.0	24.0	23.2	22.3	21.8	30.0	29.2	28.3	27.4	26.4	25.6	32.8	31.5	30.5	33.6	32.4
6000	3	25.3	24.5	23.5	22.8	21.9	21.5	29.7	28.8	28.0	27.0	26.2	25.3	32.5	31.2	30.3	33.4	32.2
8000	-1	24.8	24.0	23.0	22.4	21.6	21.2	29.4	28.4	27.7	26.8	25.7	25.0	32.3	31.0	30.1	33.1	32.0
10000	-5	24.4	23.7	22.8	22.0	21.4	21.0	28.3	27.5	26.5	25.5	24.7	32.0	30.9	30.0	33.0	31.9	
12000	-9	24.0	23.3	22.5	21.7	21.2	20.9	28.3	27.2	26.3	25.3	24.6	31.8	30.7	29.8	32.5	31.8	
14000	-13	23.0	22.3	21.4	21.1	20.8		27.1	26.1	25.2	24.4		30.5	29.7		32.5	31.7	
16000	-17		22.0	21.3	21.0	20.6		25.9	25.0	24.3			30.4			31.6		
18000	-21		21.2	20.9	20.5			25.0	24.2				29.4			31.6		
20000	-25		21.2	20.8	20.4			24.2	24.1				29.3			31.6		
22000	-28				20.4													
24000	-33				20.4													
25000	-34				20.4													

POWER SETTING TABLE
Figure 5-25

To maintain constant power add approximately 1% for each 6° C above standard. Subtract approximately 1% for each 6° C below standard. Do not exceed 34" MAP in cruise.

NORMAL TAKEOFF

Crew Brief	Complete
Flaps	Up
Cowl Flaps	Open
Brakes	Hold
Mixture	Full Forward
Engine instruments	Green
Throttles (Release brakes through 25")	Don't Exceed 40"
Vr	80 Kts
Vy	92 Kts Blue line
Gear Up	Pos Rate climb

SHORT FIELD

Flaps	25 deg
Cowl Flaps	Open
Brakes	Hold to 40"
Vr	66 Kts
Gear up	Pos rate climb
Vx (Through 50 ft)	76 Kts
Vy	92 Kts Blue line

CRUISE CLIMB

Power Set	33-35 MP
Props	2600 RPM
Mixture	Rich
Cyl Head Temp	Below 420
Cruise Climb	102 Kts

CRUISE

Power / Props	Set Cruise
Mixture	Set
Cowl Flaps	As Req/ Closed
Cyl Head Temp	Below 410

DESCENT

Mixture	As Required
Throttle / Props	As Required

GEAR DOWN BEFORE LANDING

Landing Gear (Below 130 kts)	Down / Verify
Heater	Off
Fuel Selectors	On
Flaps (Below Vfe)	10 deg
Cowl Flaps	Open/ Go around
Alternate Air	Off / As needed
Prop Sync	Off
Mixture	Set / Best Power
Props	2600 / 2800 RPM
Landing Gear	Verify Down
Normal Approach	92 Kts Blue Line
Final with Runway Made	85 Kts
Short Field w/40 Flaps	80 Kts

GO AROUND

Auto Pilot	Off / GA
Throttle	Take Off Power
Vy	92 Kts
Gear Up	Pos Rate Climb
Flaps	10 deg

AFTER LANDING

Flaps	Up
Alternate Air	Off
Mixture	Lean For Taxi
Landing Lights	Off
Heater Fan	As Required
3 Min timer (Below 1200 RPM)	Start
Door seals	Off

SECURE

Avionics	Off
Mixture (after 3 Min cool down)	Idle Cutoff
Magnetos	Off
Alternators	Off
Master Switch	Off
Hobbs/Time	Record

ENGINE FAILURE IN FLIGHT

Maintain Directional Control

Mixture	Forward
Props	Forward
Throttles	Set Below 40"
Vyse	92 Kts Blue line
Flaps	Check – Up
Gear	Check – Up
Identify	Dead Foot
Verify	Retard Throttle

TROUBLESHOOT – (Altitude Permitting)

Mixture	As Required
Fuel Selector	X- Feed Dead Eng
Magnetos	Select L or R
Alternate Air	On
Aux Fuel Pump	HI, Low, Off

* If Engine Does Not Start Proceed with Feather*

FEATHER AND SECURE

Re-verify Dead Engine with Throttles

Prop (above 800 RPM)	Feather
Mixture	Idle Cut-Off
Fuel Pump	Off
Fuel Selector	Off
Cowl Flaps:	
-Operating Engine	Open
-Dead engine	Closed
Magneto (Dead Engine)	Off
Alternator (Dead Engine)	Off
Rudder Trim	Adjust

SINGLE ENGINE LANDING

Do Not Extend Gear/Flaps until Landing is assured

Approach	92 Kts Blue Line
Flaps	25 deg Max

EMERGENCY DESCENT

Throttles	Closed
Props	Full Forward
Gear (Below 130 Kts)	Down
Pitch	130Kts/As needed
Bank	45 deg/As needed

ENGINE FIRE DURING FLIGHT

Fuel Selector	Off
Throttle	Closed
Prop	Feather
Mixture	Idle Cut-off

If Terrain Permits, Land Immediately If Fire continues

MANUAL GEAR EXTENSION

Check Following Before Extending Gear

Circuit Breakers	Check In
Master Switch	On
Alternators	Check
Navigation Lights	Off (Day)

To Extend, Un-Clip Emergency Gear Knob and Follow

Airspeed	85 Kts
Gear Selector	Down Position
Emergency Gear Extend Knob	Pull Out
Indicator Lights	3 Green

Leave Knob Out Position Thru Landing

UN-FEATHERING PROP

Fuel Selector	On
Aux Fuel Pump	Low
Throttle	Open 1/3
Prop	Forward
Mixture	Rich
Magnetos	On
Starter	(Engage Until Prop Windmills)
Aux Fuel Pump	Off
Power	(Until Engine Warms) 20"
Alternator	On