Normal Checklist – Piper Seminole PA-44-180

INITIAL

Weather & Den. Alt.
Weight & Balance
Performance Req.
Flight Plan – File
Papers – A.R.O.W
Mags – Off
Mixtures – Full Lean
Pitot/Static – Drain
Gear Lever – Down
Master – On
Gear Lights – 3 Green
Flaps – Extend
Pitot Heat – Test
Stall Vanes – Test
Lights – Int. / Ext.
Fuel Gauges – True
Master – Off

EXTERIOR SUMMARY
After Geographical Check

Fuel Quantity
Fuel Quality
Caps / Drains / Vents
Engines / Oil / Belt
Fuel Overflow Line
Props / Air Intakes
Exhaust Systems
Cowl Flaps
Surfaces & Controls
Pitot & Static Ports
Gear / Tires / Brakes
Antennas
Baggage Doors
Ties / Chocks
Final Walk Around

INTERIOR

Passenger Brief
Hobbs / Tach Time
Emergcy Exit – Secure
Circuit Breakers
Oxygen
ELT – Armed

START

Seat Track/Back–Lock
Avionics – Off
Autopilot – Off
Prop Sync – Off
Carb Heat – Off
Cowl Flaps – Open
Fuel Selector – On
Beacon – On
Brakes – Set
--- 1st Engine Start ---
Mixture–Rich
Prop – High RPM
Throttle – ¼"
Prop – Clear
ALT – On
Master – On
Fuel Pump – On
Mags – On
Prime – As Req
Starter – Engage
Oil Pressure
#2 Engine – Start

Lights – As Req.
Mixture – As Req.

PRE-TAXI / TAXI

Seat Belts / Harness
Flaps – Up
Heat / Vent / Defrost
Avionics – On / Set
Transpond – STBY
ATIS / AWOS
Altimeter – Set
Radio – Test
Taxi Light – As Req
Brakes–Release/Test
XFeed-Test / Fuel-On
Attitude Indic.–Test
Turn Coord. – Test
H.I. / Compass – Test

RUN-UP

Brakes – Set
Elec. Trim/Autopilot
Trim–Takeoff
Flight Controls
Instruments
Mixture - Best Power
1500 RPM
Feather – Test

2000 RPM
Props – Cycle / Gov.
Mags (L&R) – Test
Carb Heat – Test/Off
Vacuum
Amps / Volts
ALTs
Oil Pressure
Oil Temperature
Annunciator Lights
Idle – Check Closed
Friction Lock

PRE-TAKEOFF

Flaps – 0°- 25°
Props – High RPM
Mixture - Best Power
Fuel Pumps – On
H.I. To Compass
Doors / Windows
Pitot Heat – As Req.
Transp – Alt + Sqwk
Landing Light – On
Strobes–On
Time – Note
Brakes – Release

Abort Plan - Ready!

TAKEOFF

Full Throttle
2700 RPM *(Max)*
Manifold Pressure
Oil Pressure
Rotate * 75 *(86)*
Vy – 88 *(101)*
Gear – Up
Flaps – Up

CLIMB

105> *(121)*
Throttles – 25" MP
Props – 2500 RPM
Mixture – As Req.
Fuel Pumps – As Req.
Cowl Flaps – As Req
Instruments
Taxi / Land Light – Off
Flight Plan – Open

CRUISE

Throttles
Props
Mixture
Fuel Pumps – Off
Cowl Flaps
Instruments
H.I. To Compass
Oxygen
Fuel – Proper Tanks

DESCENT

Power – As Req.
Mixture – Richen
Fuel – On
Carb Heat – As Req.
Cowl Flaps – Close
ATIS / AWOS
Altimeter – Set
Defroster
Instruments
H.I. To Compass

PRE-LANDING

Landing Light – On
Autopilot – Off
Prop Sync – Off
Gas....On / Pumps-On
Undercarriage....Down
Mixture....Best Power
Props.....High RPM
Flaps.....As Req.
Seatbelts...& Harness

LANDING

Gear – Down
Flaps – 40° *Or As Req.*
Speed * 80 *(92)*

GO AROUND
Power – Full
Carb Heat – Off
Positive Rate Climb
Flaps – Approach
Gear – Up
Flaps – Retract
Cowl Flaps – Open

AFTER LANDING

Flaps – Up
Carb Heat – Off
Cowl Flaps – Open
Fuel Pump – Off
Strobes – Off
Landing Light – Off
Taxi Light – As Req.
Pitot Heat – Off
Mixture – As Req.
Trim – Takeoff
Transpond – STBY

SECURING

ELT – Verify Silent
Avionics – Off
Mixture – Full Lean
Mags – Off
Master / ALTs – Off
Lights – Off
Cowl Flaps – Closed
Hobbs / Tach Time
Secure Yoke
Chocks
Tie Downs
Pitot Cover
Baggage Doors
Cabin Doors

Close Flight Plan

* *Adjust Speed As Needed For Conditions*

Vr • Rotation Speed –	75 (86)	**Vs_0** • Stall with flaps –	55 (63)	**Va** • Max Abrupt *(2700 lbs)* –	114 (131)	**Vfe** • Full Flaps –	111 (128)
Vx • Best Angle Climb –	82 (94)	**Vs** • Stall w/o flaps –	57 (66)	**Va** • Max Abrupt *(Full Gross)* –	135 (155)	**Vlo** • Max Gear Operate –	140 (161)
Vxse • Best Angle 1 Eng.–	82 (94)	**Vmca** • Min. Ctrl. 1 Eng. –	56 (64)	**Vno** • Max Structural Cruise –	169 (194)	**Vle** • Max Gear Extended –	140 (161)
Vy • Best Rate Climb –	88 (101)	**Vsse** • 1 Eng. Intentional –	82 (94)	**Vne** • Never Exceed –	202 (232)	**Vlr** • Max Gear Retract–	109 (125)
Vyse • Best Rate 1Eng.–	88 (101)					**X Wind** • Max Demo'd –	17 (20)

	KNOTS *(MPH)*	FLAPS °	– NOTES –
DEPARTURE			*Start Procedure Refers To Normal Start / Cold Engine*
Rotation *	75 (86)	0	
Best Angle Climb	82 (94)	0	Short Field: 0° Rotate 70 *(81)*, Initial Climb 80 *(92)*
Best Rate Climb	88 (101)	0	Short Field: 25° *(Reduced Safety Margins)*
CRUISE *(TAS -5,000')*			
Economy	136 (156)	0	20.3" Hg – 2200 RPM – 18.6 GPH – 55%
Normal	147 (169)	0	22.0" Hg –2300 RPM – 20.5 GPH – 65%
Maximum	158 (182)	0	23.8" Hg –2400 RPM – 22.4 GPH – 75%
ARRIVAL			
Approach	100 (115)	10 -25	17" MP – *(Initially)*
Short Final *	80 (92)	40	Props – High RPM

Emergency Checklist – Piper Seminole PA-44-180

POWER LOSS DURING TAKEOFF

THROTTLES – CLOSE BOTH IMMEDIATELY
BRAKES – AS REQUIRED / STOP STRAIGHT AHEAD
* *IF INSUFFICIENT RUNWAY REMAINS FOR STOPPING*
  * FUEL SELECTORS – OFF
  * MASTER & MAGS – OFF

ONE ENGINE IMMEDIATELY AFTER TAKEOFF
>75 KIAS (Also One Engine Go-Around–Avoid If Possible)

MIXTURE/PROPS/THROTTLES - FORWARD *(Ball To Good Engine)*
GEAR / FLAPS – UP
DIRECTIONAL CONTROL – MAINTAIN
IDENTIFY *(Idle Foot / Idle Engine)*
VERIFY – CLOSE THROTTLE ***(Inop. Engine)***
PROP – FEATHER ***(Inop. Engine)*** *(Above 950 RPM)*
ACCELERATE TO 88 KIAS *(101 MPH)* *(2°-3° Bank & ½ Ball) to Good Engine*

ONE ENGINE IN FLIGHT

CONTROL AIRPLANE – MAINTAIN SAFE AIRSPEED >88 KIAS ***(101 mph)***
INOPERATIVE ENGINE – IDENTIFY
OPERATIVE ENGINE – ADJUST
THROTTLE – AS NEEDED TO MAINTAIN CONTROL

TROUBLE-SHOOT *(Carb Heat-On / Fuel-On/Crossfeed, Fuel Pump-On, Mixture, Prop, Throttle, Master / Alt., Mags)*
IF NO RESTART– SECURE DEAD ENGINE *(Above 950 RPM)*
(Retard Throttle, Feather Prop, Mixture-Idle Cutoff, Fuel Pump Off, Fuel Off, Mag/Alt Off, Close Cowl Flap)

COWL FLAP *(OPERATIVE ENGINE)* – AS REQUIRED
FUEL PUMP *(OPERATIVE ENGINE)* – AS REQUIRED *(Consider Xfeed)*

ONE ENGINE LANDING

SECURE INOP. ENGINE – MAINTAIN SAFE AIRSPEED
LOWER GEAR – WHEN FIELD ASSURED
FLAPS – 25°
FINAL APPROACH – 91 KIAS *(105 MPH)*
FULL FLAPS – WHEN COMMITTED TO LAND

BOTH ENGINES OUT / LANDING

MAINTAIN SAFE AIRSPEED *(Best Glide Not Given By Manufacturer)*
PROPS – FEATHER
MIXTURE – FULL LEAN / IDLE CUTOFF
FUEL SELECTORS – OFF
SQUAWK 7700
DECLARE EMERGENCY *(TWR, APP, Unicom, 121.5)*
SEATBELTS / HARNESS
FLAPS – AS NEEDED *(Full Flaps When Field Assured)*
GEAR – DOWN *(Up If Very Rough or Soft Terrain)*
MASTER & MAGS – OFF
UNLATCH DOOR & PROTECT BODY

ELECTRICAL FIRE IN FLIGHT

ALL ELECTRICAL DEVICES + MASTER / ALT – OFF *(Mags On)*
CABIN HEAT & AIR – OFF *(Vents – Closed)*
IF FIRE OUT TRY MASTER ON ONLY *(Vents – Open)*
THEN ONE ESSENTIAL ELECTRICAL DEVICE AT A TIME
RESET CIRCUIT BREAKER(S) ONLY IF CRITICAL

ENGINE FIRE IN FLIGHT

FUEL SELECTOR – OFF TO AFFECTED ENGINE
CLOSE THROTTLE / FEATHER PROP
MIXTURE – FULL LEAN / IDLE CUTOFF
COWL FLAP – OPEN / HEATER / DEFROSTER – OFF
INCREASE AIRSPEED TO EXTINGUISH – LAND ASAP

ENGINE FIRE DURING START

MIXTURE – IDLE CUTOFF / CRANK ENGINE w/THROTTLE OPEN
FUEL SELECTOR / FUEL PUMPS / MASTER – OFF
SHUTDOWN OTHER ENGINE / EVACUATE / FIRE EXTINGUISHER

ICING

PITOT HEAT – ON
ALTERNATE INDUCTION AIR / STATIC SOURCE – AS NEEDED
CABIN HEAT & DEFROST – MAXIMUM
STRONGLY CONSIDER 180° TURN
ATTAIN HIGHER OR LOWER ALTITUDE
INCREASE ENGINE & PROP SPEED
FULL FLAPS NOT RECOMMENDED FOR LANDING
LAND FASTER AS NEEDED

MANUAL GEAR EXTENSION

REDUCE AIRSPEED BELOW 100 KIAS *(115 MPH)*
LOWER LANDING GEAR LEVER
PULL EMERGENCY GEAR EXTENSION KNOB
IF ELECTRICAL SYSTEM OK – VERIFY GEAR LIGHTS
LEAVE EMERGENCY GEAR EXTENSION KNOB OUT

OTHER

SINGLE ALTERNATOR FAILURE: Reduce Electrical Load, Inop Alt. Switch Off, Check C.B. Reset If Req., Alt. Switch On, If Remains Inop Turn Off, Elec. Load Not To Exceed 60 Amps.

DUAL ALTERNATOR FAILURE: Reduce Load To Min.,Both Alt. Switches Off, Check C.B.'s Reset If Req., *(1 At A Time)* Turn Alt. Switches On, If One Restored Turn Faulty Off, Reduce <60 Amps. If Neither Restored Turn Switches Off, Maintain Minimum Electrical Load and Land A.S.A.P. (BATTERY ONLY)

RADIO OUT: Check Circuit Breakers & VOLUME
Recycle Alternator Switch
If IFR & Still Out, Set Transponder At 7600.
(Suggested For VFR If In B, C, D Airspace.)

TOWER SIGNALS	ON GROUND	IN FLIGHT
Steady Green	Cleared For Takeoff	Cleared To Land
Flashing Green	Cleared To Taxi	Return For Landing
Steady Red	Stop	Yield & Continue Circling
Flashing Red	Taxi Clear of Landing Area	Airport Unsafe - Do Not Land
Flashing White	Return To Starting Point	N/A
Alternating Red & Green	Use Extreme Caution	Use Extreme Caution

* *Every Plane Has A Different Empty Weight And Useful Load*
Piper Seminole PA-44-180, (Lycoming:O-360 / LO-360)

* Empty Weight:		LBS *(Specific Plane Weight)*
* Max. Useful Load:		LBS *(Including Fuel @ 6 lbs/gal)*
Max. Bag Area:	200 LBS	*(Included in Useful Load)*
Max. T.O. Weight	3800 LBS	

Fuel Type:	100 LL *(Blue)* / 100 *(Green)*
Usable Fuel:	108 Gallons
Oil Capacity:	6 Qts Per/Eng *(Min 2) [Lyc. O-360 E Series]*
Oil Capacity:	8 Qts Per/Eng *(Min 2) [Lyc. O-360 A Series]*
Electrical:	12-14 VOLT / 60 AMP
Tire Pressure:	Nose - 50 psi / Mains - 55 psi