Piper PA28R-200 Checklist

LAKE ELMO AERO

INTERIOR PREFLIGHT

Required Documents	On Board
Master Switch	Off
Avionics Master	Off
Landing Gear Handle	Down
Fuel Selector	Cycle
Master Switch	On
Fuel Quantity Gauges	Check
Flaps	Extend
Aircraft Lights	On/Check
Pitot Heat	On/Check
Stall Warning Light	Check
All Electrical Switches	Off

EXTERIOR PREFLIGHT

RIGHT WING:

Flap	Check
Aileron	Check
Nav/Anti-Collision	Check
Leading Edge	Check
Fuel Vent	Check
Fuel Tank Sump	Drain
Fuel Quantity	Check
Main Wheel/Strut	Check
Brakes	Check
Air Inlets	Clear

NOSE:

Windshield	Check
Oil	6 Qts Min
Cowling	Check
Alternator Belt	Check
Propeller	Check
Nose Wheel/Strut	Check
Air Inlet	Check
Fuel System Sump	Drain

LEFT WING:

Air Inlet	Check
Brakes	Check
Main Wheel/Strut	Check
Fuel Tank Sump	Drain
Fuel Quantity	Check
Fuel Vent	Check
Leading Edge	Check
Pitot Head	Check

EXTERIOR PREFLIGHT CON'T

Nav/Anti Collision	Check
Aileron	Check
Flap	Check

FUSELAGE/TAIL:

Antennas	Check
Lights	Check
Stabilator	Check
Rudder	Check
Baggage Door	Check

BEFORE START

Preflight	Complete
Belts/Harnesses/Seats	Secure
Circuit Breakers	In
Avionics Master	Off
Fuel Selector	Fullest Tank

ENGINE START

Throttle	½ Inch Open
Propeller	High RPM
Mixture	Idle Cut-Off
Master Switch	On
Aircraft Lights	Set
Fuel Pump	On
If engine is warm omit Priming Procedure (shaded area)	
Mixture (3 Seconds)	Rich
Mixture (Positive Flow)	Cut-Off
Brakes	Hold
Propeller Area	Clear
Starter	Engage
Mixture	Rich
Throttle	800-1,000 RPM
Oil Pressure	Check

BEFORE TAXI

Ammeter	Check Positive
Flaps	Up
Mixture	Lean
Fuel Pump	Off
Fuel Selector	Switch, then Fullest
Avionics Master	On
Transponder	Set Code/ALT
Avionics	Set
Flight Instruments	Set/Check
Aircraft Lights	Set
Nav Lights	On
Brakes	Test

RUN-UP

Brakes	Hold
Flight Controls	Free & Correct
Fuel Selector	Fullest Tank
Circuit Breakers	Check
Mixture	Rich
Throttle	2,000 RPM
Propeller	Cycle/High RPM
Magnetos	Check
Max drop 175 RPM, Max Diff 50 RPM	
Alternate Air	Check
Vacuum	5.0" Hg.
Oil Pressure	Check
Fuel Pressure	Check
Oil Temp	Check
Throttle	Idle Check
Throttle	800-1000 RPM
Mixture	Lean
Fuel Pump	On
Radios/Nav	Set
Magnetos	Both

BEFORE TAKEOFF

Transponder	Set ALT
Trim	Set Takeoff
Flaps	Set
Propeller	High RPM
Mixture	Rich
Fuel Pump	On
Flight Instruments	Set
Aircraft Lights	Set
Cabin Door/Windows	Latched
Takeoff Briefing	Complete

NORMAL TAKEOFF

Heading	Check Correct Runway
Throttle	Full Open
Rotate	60-70 MPH/51-61 KIAS

CLIMB

Gear	Up
Flaps	Up
Climb Power	25"MP, 2500 RPM
Fuel Pump	Set

CRUISE

Throttle	Set
Propeller	Set
Mixture	Set
Fuel Pump	Off
Aircraft Lights	Set

DESCENT

Descent Power	Set
Fuel Pump	On
Mixture	Set
Fuel Selector	Fullest Tank
Approach Briefing	Complete

BEFORE LANDING

Fuel Pump	On
Mixture	Rich
Propeller	High RPM
Throttle	Set
Aircraft Lights	Set
Gear	**Down & Locked**
Flaps	Set
Approach Airspeed	90 MPH/78 KIAS

AFTER LANDING

Flaps	Up
Trim	Set Takeoff
Aircraft Lights	Set
Pitot Heat	Off
Fuel Pump	Off
Mixture	Lean

SHUT DOWN

Avionics Master	Off
Aircraft Lights	Set
Throttle	Idle
Magneto	Check
Mixture	Idle Cut-Off
Magnetos	Off
All Switches	Off
Nav Lights	**ON**
Brakes	Released

Important Speeds

	MPH	KIAS
Vso	64	56
Vs1	70	61
Vr	65-70	56-61
Vx…Gear Down 81, Gear Up 91		70/71
Vy…Gear Down 85, Gear Up 95		74/83
Vfe	125	108
Vlo	125	108
Vle	150	130
Va (2600 lbs.)	134	117
Vno	170	148
Vne	214	186
Best Glide	**105**	**91**
Approach	90	78

Piper PA28R-200
Emergencies&Abnormals

LAKE ELMO AERO

Engine Fire-*Start*

Starter……..…Continue Cranking
Mixture ……..…….....Idle Cut-Off
Throttle ……..Open
Fuel Pump ……Off
Fuel Selector ……Off

Engine Failure-*Takeoff*

Airspeed ……...Maintain Safe Airspeed
Gear ……..Down
Land ……...Straight Ahead

If Sufficient altitude has been gained attempt to restart:

Airspeed ……..Maintain Safe Airspeed
Fuel Selector ……Switch Tanks
Electric Fuel Pump ……...On
Mixture ……..……Rich
Alternate Air ……On
Emergency Gear Lever ……..…..Set

If power is not restored, proceed to ***POWER OFF LANDING***

Engine Failure-*In Flight*

Airspeed ……..110 MPH/95 KIAS
Fuel Selector ……Switch Tanks
Fuel Pump ……On
Mixture ……..……..Rich
Alternate Air ……On
Engine Gauges ……Check
Ignition ……...Both

If power is ***NOT restored*** *proceed to* ***POWER OFF LANDING****:*

Airspeed……...105 MPH/91 KIAS
Ignition Switch ……."L" then "R" then "BOTH"
Throttle & Mixture…….Different Settings
Fuel Selector ……Switch Tanks

Power Off Landing

Airspeed ……..105 MPH/91 KIAS
Place to Land ……...Locate
Propeller ……Low RPM
Landing Assured ……...90 MPH/78 KIAS
Flaps ……...Set
Gear ……Set
Touchdown ……Lowest Airspeed
Sqawk ……7700
Radios ……..Transmit

When committed to landing:

Ignition ……Off
Master Switch ……..Off
Fuel Selector ……Off
Mixture ……..Idle Cut-Off
Seatbelt ……Secure

Engine Fire-*Flight*

Magneto Switch ……Off
Throttle ……Idle
Mixture ……...Idle Cut-Off
Fuel Selector ……Off
Fuel Pump ……Off
Master Switch ……...Off
Heater/Defroster ……..……Off

Proceed to ***POWER OFF LANDING***

Electrical Fire in Flight

Master Switch ……...Off
Vents ……..Open
Cabin Heat ……Off

Land as Soon as Possible

Spin Recovery

Rudder …… Full Opposite (To the direction of rotation)
Control Wheel ……Neutral/Forward
Throttle ……Idle
Rudder ……Neutral (When rotation stops)
Control Wheel …..,..To Desired Flight Path
Throttle ……..…..Set

Alternator Failure

Ammeter ……..Verify Failure
Electrical Load ……...Reduce
ALT Circuit Breaker …..……Check/Reset
Alternator Switch ……Off 30 sec.
Alternator Switch ……..On

If Power is not restored:

Alternator Switch ……..…..Off

Land as Soon as Practical

If battery is fully discharged lower gear using ***EMERGENCY LANDING GEAR EXTENSION****, the position lights will not be operating*

Propeller Overspeed

Throttle ……...Reduce
Oil Pressure ……..Check
Propeller Control ……..Full Decrease
Airspeed ……Reduce
Throttle ……..…..Set (below 2700 RPM)

Alternate Landing Gear Extension

Master Switch ……..…On
Circuit Breakers ……...Check
Panel/Nav Lights ……Off (In Daytime)
Gear Ind. Lights ……...Check
Airspeed …...Slow to 115 MPH/100 KIAS
Emer. Ldg. Gear Ext Handle ……Down
Gear Ind. Lights ……...Check

Emergency Descent

Throttle ……..……..Idle
Propeller ……..…..High RPM
Mixture ……..……Rich
Gear ……..……Down
Bank ……30° - 45°
Fuel Pump ……On
Roll Out ……150 MPH/130 KIAS or pattern altitude

Engine Roughness

Alternate Air ……On

If roughness continues after one min:

Alternate Air ……Off
Mixture ……..Adjust for Smoothness
Fuel Pump ……On
Fuel Selector ……Switch Tanks
Engine Gauges ……Check
Magneto Switch ……"L" then "R" then "BOTH"

If operation is satisfactory on either one, continue on that magneto at reduced power and full "RICH" mixture to first airport. Prepare for ***POWER OFF LANDING***

Loss of Oil Pressure

Land as Soon as Practical
Prepare for ***POWER OFF LANDING***

Loss of Fuel Pressure

Fuel Pump ……On
Fuel Selector ……..Fullest Tank

High Oil Temperature

Mixture ……...Rich
Throttle ……...Reduce

Land as Soon as Practical
Prepare for ***POWER OFF LANDING***

Electrical Overload

ALT Switch ……...On
BATT Switch ……...Off

If Alternator Load are reduced:

Electrical Load ……..……Reduce
Land ……..As Soon as Practical

If Alternator Loads are not reduced:

ALT Switch ……..Off
BATT Switch ……...Off

Land as Soon as Practical

Open Door

Airspeed ……..Slow to100 MPH/89 KIAS
Cabin Vents ……...Close
Storm Window ……..Open
Door ……...Secure Top Latch

Piper PA28R-200 Maneuvers

LAKE ELMO AERO

Normal Takeoff

Before Takeoff Checklist Complete
Throttle ……Full
Engine Instruments ……...Verify Green
Rotate ……65-70 MPH/56-61 KIAS
Climb out:
Vx…..Gear Down **81/70**, Gear Up **91/79**
Vy…..Gear Down **85/74,** Gear Up **95/83**
500 ft AGL ……25" MP, 2500 RPM

Normal Landing

Before Landing Checklist Complete
Entry/Downwind ……BCGUMPS
Downwind -
MP……15-17"
Airspeed ……115 MPH/100 KIAS
Flaps ……..10°
Base –
Airspeed ……...105 MPH/91 KIAS
Flaps ……..25°
Final –
Airspeed ……90 MPH/78 KIAS
Flaps ……..40°
Gear ……Check Down
Prop ……...High RPM
Touchdown ……..Just above stall speed

Short Field Takeoff Obstacle Clearance

Before Takeoff Checklist Complete
Flaps ……25°
Runway ……Use All Available
Brakes……Hold
Throttle……Full
Engine Instruments……Verify Green
Brakes……Release
Rotate ……60-65 MPH/52-56 KIAS
Climb Out ……...Vx Gear Down: 81/70
Clear of Obstacle ……..Gear Up
Climb ……...Vy Gear Up: 95/83
Flaps ……...Retract Slowly
500 ft AGL ……25" MP, 2500 RPM

Short Field Takeoff No Obstacle

Before Takeoff Checklist Complete
Flaps ……25°
Runway ……Use All Available
Brakes ……Hold
Throttle ……Full
Engine Instruments ……...Verify Green
Brakes ……Release
Rotate ……60-65 MPH/52-56 KIAS
Climb Out ……...Vx Gear Down: 81/70
Landing Gear ……Up
Climb ……...Vy Gear Up: 95/83
Flaps ……...Retract Slowly
500 ft AGL ……25" MP, 2500 RPM

Short Field Landing

Before Landing Checklist Complete
Entry/Downwind ……BCGUMPS
Approach slightly steeper than normal
Downwind -
MP ……...15-17"
Airspeed ……115 MPH/100 KIAS
Flaps ……..10°
Base –
Airspeed ……..105 MPH /91 KIAS
Flaps ……..25°
Final –
Airspeed ……90 MPH/78 KIAS
Flaps ……..40°
Gear ……Check Down
Prop ……...High RPM
Threshold -
Airspeed ……..As per POH
Touchdown ……..Just above stall speed
Use max. foot and aerodynamic braking

Soft Field Takeoff

Before Takeoff Checklist Complete
Flaps……..25°
Flight Controls……Full Back
Engine Instruments…....…..Verify Green
Throttle……Full
Rotate……...Min. Airspeed
Remain in ground effect until Vx Gear Down 81/70
Landing Gear ……Up
Climb ……...Vy Gear Up: 95/83
Flaps ……...Retract Slowly
500 ft AGL ……25" MP, 2500 RPM

Soft Field Landing

Before Landing Checklist Complete
Entry/Downwind……..BCGUMPS
Downwind -
MP ……...15-17"
Airspeed ……115 MPH/100 KIAS
Flaps ……..10°
Base –
Airspeed ……...105 MPH/91 KIAS
Flaps ……..25°
Final –
Airspeed ……90 MPH/78 KIAS
Flaps ……..40°
Gear ……Check Down
Prop ……...High RPM
Threshold -
Airspeed ……..As per POH
Touchdown ……..Just above stall speed
Keep nosewheel off ground as long as possible, holding full backpressure. Use min. wheel braking

Go-Around

Approach ……Not Stabilized by 100 ft
Go-Around ……Execute
Throttle ……Full
Flight Control ……Increase Pitch Attitude
Flaps ……Retract to 25°
Landing Gear …….UP after a positive rate of climb is established
Airspeed ……Accelerate to Vx or Vy before final flap retraction
Maintain full power until 500 ft AGL then set climb power

Rectangular Course

Select Rectangular field for maneuver
Clearing Turns……Complete
BCGUMPS ……Complete
Throttle……...18"- 22" MP
Propeller……2400 RPM
Airspeed……125 MPH/108 KIAS
Altitude……600 - 1000 ft AGL
Entry……Downwind 45° ¼ -½ mi away from reference area
Ground Track…….Adjust for wind drift to maintain ¼ -½ mi from reference

Turns Around a Point

Select a clearly defined point i.e. 4-Way Intersection
Clearing Turns ……Complete
BCGUMPS……..Complete
Throttle……..18" - 22" MP
Propeller……2400 RPM
Airspeed……125 MPH/108 KIAS
Altitude……600 - 1000 ft AGL
Entry……...Downwind ¼ -½ mi from reference point
Ground Track…….Adjust for wind drift to maintain ¼ -½ mi from radius

S -Turns Along a Road

Select road perpendicular to wind
Clearing Turns……Complete
BCGUMPS ……Complete
Throttle……..18" - 22" MP
Propeller……2400 RPM
Airspeed……125 MPH/108 KIAS
Altitude ……..600-1000 ft AGL
Entry……Downwind
Ground Track…….Adjust for wind drift to maintain ¼ -½ mi from radius

Slow Flight

Clearing Turns ……...…Complete
BCGUMPS……..Complete
Throttle……...15" MP
Propeller……High RPM
Landing Gear……Down
Flaps……40° (in white arc)
Altitude……Maintain
Airspeed……..Stall Light ON
Throttle……...18"- 22" MP
Bank……...…..Shallow Turns
Recovery……...……Go-around procedure

Steep Turns

Clearing Turns ……Complete
BCGUMPS ……Complete
Throttle……18"-22" MP
Propeller……2400 RPM
Airspeed……125 MPH/108 KIAS
Bank……..45°
Turn ……360°either direction
Roll Out ……...Original heading
Repeat ……Other direction

Piper PA28R-200 Maneuvers

LAKE ELMO AERO

Power Off-Stall

Clearing Turns ……Complete
BCGUMPS …….Complete
Throttle……...15” MP
Propeller ……...High RPM
Landing Gear……..…..Down
Flaps ……40°
Stabilized Descent……Establish
Throttle……Idle
Stall……..…Pitch to Induce
Recognize and recover from stall
Stall Recovery:
Flight Control …….Release back pressure
Throttle ……Full
Flaps ……Retract to 25°
Altitude ……Minimal Loss
Landing Gear …….Retract after a positive rate of climb
Airspeed ……Accelerate to Vx or Vy before the final flap retraction

Power-On Stall Takeoff Configuration

Clearing Turns ……Complete
BCGUMPS …….Complete
Throttle ……..15” MP
Propeller ……...High RPM
Landing Gear ……Down
Flaps……...0° - 25°
Airspeed……80 MPH/69 KIAS
Throttle……Full
Stall.....…..Pitch to Induce
Recognize and recover from stall.
Stall Recovery:
Flight Control …….Release back pressure
Throttle……Full
Altitude ……Minimal Loss
Landing Gear……Retract after a positive rate of climb
Airspeed ……Accelerate to Vx or Vy before the final flap retraction

Power-On Stall Climb Configuration

Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……...15” MP
Propeller……2500 RPM
Landing Gear……Up
Flaps……0°
Airspeed……95 MPH/83 KIAS
Throttle……...25” MP
Stall……Pitch to Induce
Recognize and recover from stall.
Stall Recovery:
Flight Control……..Release back pressure
Throttle ……Full
Propeller ……...High RPM
Altitude ……...Minimal Loss
Airspeed ……Accelerate to Vx or Vy before the final flap retraction

Cross-Controlled Stall

Clearing Turns ……Complete
BCGUMPS ……Complete
Throttle ……..15” MP
Propeller ……...High RPM
Landing Gear ……Down
Flaps……...0° - 40°
Airspeed……82 MPH/71 KIAS
Stabilized Descent……Establish
Stall……...Pitch to Induce, Cross Controls
Recognize and recover from stall.
Stall Recovery:
Flight Control …….Release back pressure
Throttle……Full
Altitude……Minimal Loss
Landing Gear……..Retract after a positive rate of climb
Airspeed……Accelerate to Vx or Vy before the final flap retraction

Eights On Pylons

Reference Point……..Select: 3-5 Sec.
(straight and level flight between pylons)
Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……..18” - 22” MP
Propeller……2400 RPM
Airspeed……125 MPH/108 KIAS
Entry……Downwind 45° at Pivotal Alt.

$$PA = \frac{(GS \times KIAS)}{11.3}$$

Bank……..30° - 40°

Elevator Trim Stall

Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……...15” MP
Propeller……2500 RPM
Landing Gear……..As Specified
Flaps……0°- 40°
Airspeed……82 MPH/71 KIAS
Throttle……...25” MP
Stall...Pitch to Induce, using Elevator Trim
Recognize and recover from stall.
Stall Recovery:
Flight Control……..Release back pressure
Throttle……Full
Propeller……High RPM
Altitude……Minimal Loss
Landing Gear……..Retract after a positive rate of climb (if down)
Airspeed……Accelerate to Vx or Vy before the final flap retraction

Secondary Stall

Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……...15” MP
Propeller……High RPM
Flaps……0°- 40°
Airspeed……82 MPH
Stabilized Descent……Establish
Stall……..……Pitch to Induce
Recognize and recover from stall.
Flight Control……..Release back pressure
Throttle……Full
Flight Control……..Increase back elevator pressure to initiate as secondary stall
Recognize and recover from stall.
Stall Recovery:
Flight Control……..Release back pressure
Throttle……Full
Altitude……Minimal Loss
Landing Gear……..Retract after a positive rate of climb
Airspeed……Accelerate to Vx or Vy before the final flap retraction

Accelerated Stall

Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……...15” MP
Propeller……High RPM
Flaps……0°
Airspeed……82 MPH/71 KIAS
Bank……..**45°**
Pitch…..……Maintain Alt. Induce Stall
Recognize and recover from stall.
Stall Recovery:
Flight Control……..Release back pressure
Throttle……Full
Altitude……Minimal Loss
Airspeed……Accelerate to Vx or Vy

Steep Spiral

Altitude……Complete (3) 360° turns
Reference Point……Select
Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……Idle
Propeller……High RPM
Airspeed……...110 MPH/95 KIAS
Spiral……...Max. Bank 60°
Entry……Downwind ½ mi from reference point
Radius……...Maintain constant ½ mi
Engine……...Clear once each turn on the upwind
Ground Track……Adjust for wind to maintain ½ mi radius

Chandelles

Altitude……...Min Alt. 1500 AGL
Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……..18” - 22” MP
Propeller……High RPM
Airspeed……125 MPH/108 KIAS
0° - 90° Point
Throttle……..Full
Bank……30° Constant
Pitch……...Gradually Increase
90° - 180° Point
Bank……...Gradual Rollout
Pitch……...Constant
180° point
Airspeed……5 kts above stall
Bank……0°

Piper PA28R-200 Maneuvers

LAKE ELMO AERO

Lazy Eights

Altitude……..……..Min Alt 1500 AGL
Clearing Turns…….Complete
BCGUMPS……..Complete
Throttle……..18” - 22” MP
Propeller……2400 RPM
Airspeed…….125 MPH/108 KIAS
(Constant change of pitch and roll rate)
45° Point……...Max. Pitch UP, Bank 15°
90° Point……...Level. Pitch, Bank 30°
135° Point…… Max. Pitch DN, Bank 15°
180° Point…… Level Pitch, Bank 0°
125 MPH/108KIAS
Entry Altitude

Power Off 180° Landing

Place to Land……Locate
Enter Downwind……1000 ft AGL
MP……15-17”
Airspeed……..115 MPH/100 KIAS
ABEAM…….....Throttle Idle
Propeller……High RPM
Airspeed……..105 MPH/91 KIAS
Landing Gear…….…….. Down
Flaps…….……..... Set
Landing Assured……90 MPH/78 KIAS
Touchdown…….+200 ft/-0 ft

Holding

Begin slowing to holding speed 3 min. prior to reaching fix
Entry…….Select Type
MP……16” - 18”
Airspeed…….125 MPH/108 KIAS
Propeller……2400 RPM

Non-Precision Approach

Airspeed…….125 MPH/108 KIAS
MP……16” - 18”
Propeller……2400 RPM

Precision Approach

Airspeed…….125 MPH/108 KIAS
MP……13” - 15”
Propeller……2400 RPM

Missed Approach

Throttle…….Full
Propeller……High RPM
Landing Gear……Up (positive rate, below 125 MPH/108 KIAS)
Airspeed……125 MPH/108 KIAS
Flaps……Retract
500 ft AGL……...25”MP, 2500 RPM