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

Master Switch……On
Fuel Totalizer ……Set
Throttle……½ Inch Open
Propeller……High RPM
Mixture……Idle Cut-Off
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
Avionics Master……On
Flaps……Up
Mixture……Lean
Fuel Pump……Off
Landing Gear Position Lights …… Check
Fuel Selector……Switch, then Fullest
Transponder……Set Code/ALT
Avionics……Set
Flight Instruments……Set/Check
Aircraft Lights……Set
Brakes……Test

RUN-UP

Brakes……Hold
Flight Controls……Free & Correct
Fuel Selector……Fullest Tank
Circuit Breakers……Check
Mixture……Rich
Throttle……2,100 RPM
Propeller……Cycle/High RPM
Magnetos……Check

Max drop 175 RPM, Max Diff 50 RPM

Alternate Air……Check
Oil Temp……Check
Oil Pressure……Check
Fuel Pressure……Check
Throttle……Idle Check
Throttle……800-1000 RPM
Mixture……Lean
Radios/Nav……Set
Magnetos……Both

BEFORE TAKEOFF

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

NORMAL TAKEOFF

Heading……Check Correct Runway
Throttle……Full Open
Rotate……65-70 MPH

CLIMB

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

CRUISE

Throttle……Set
Propeller……Set
Mixture……Set
Fuel Pump….Off (Unless Switching Tanks)
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

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
Magnetos……Check
Mixture……Idle Cut-Off
Magnetos……Off
All Switches……Off
Nav Lights……**ON**
Brakes……Released

Important Speeds

	MPH
Vso	64
Vs1	70
Vr	65-70
Vx	Gear Down 80, Gear Up 91
Vy	Gear Down 85, Gear Up 95
Vfe	125
Vlo	125
Vle	150
Va (2600 lbs.)	134
Vno	170
Vne	214
Best Glide Approach	**105**

Piper PA28R-200 Maneuvers

LAKE ELMO AERO

Normal Takeoff

Before Takeoff Checklist Complete
Throttle ……Full
Engine Instruments ……...Verify Green
Rotate ……..60-70 MPH
Climb out:
Vx……...Gear Down **80**, Gear Up **91**
Vy……...Gear Down **85,** Gear Up **95**
1000 ft AGL ……25" MP, 2500 RPM

Normal Landing

Before Landing Checklist Complete
Entry/Downwind ……BCGUMPS
Downwind -
Airspeed ……110 MPH
Flaps ……..10°
Base –
Airspeed…..……...100 MPH
Flaps ……..25°
Final –
Airspeed ……...90 MPH
Flaps ……..40°
Gear ……Check Down
Prop ……...High RPM
Touchdown ……..Just above stall speed

Short Field Takeoff

Before Takeoff Checklist Complete
Flaps ……25°
Runway ……Use All Available
Brakes ……Hold
Throttle ……Full
Engine Instruments ……...Verify Green
Brakes ……Release
Rotate ……..60-65 MPH
Climb Out ……...Vx Gear Down: 80MPH
Landing Gear ……Up
Above Obstacle ……Vy Gear Up: 95MPH
Flaps ……...Retract Slowly
1000 ft AGL ……...25" MP, 2500 RPM

Short Field Landing

Before Landing Checklist Complete
Entry/Downwind ……BCGUMPS
Approach slightly steeper than normal
Downwind-
Airspeed ……...….110 MPH
Flaps ……..……..10°
Base –
Airspeed…..……...100 MPH
Flaps ……..25°
Final –
Airspeed ……..…...90 MPH
Flaps ……..40°
Gear ……Check Down
Prop ……..…...High RPM
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
Ground effect until Vx Gear Down 80
Landing Gear ……Up
Climb ……...Vy Gear Up: 95MPH
Flaps ……...Retract Slowly
1000 ft AGL ……...25" MP, 2500 RPM

Soft Field Landing

Before Landing Checklist Complete
Entry/Downwind……..BCGUMPS
Downwind -
Airspeed ……110 MPH
Flaps ……..10°
Base –
Airspeed…..……...100 MPH
Flaps ……..25°
Final –
Airspeed ……....90 MPH
Flaps ……..40°
Gear ……Check Down
Prop ……...High RPM
Touchdown ……..Just above stall speed
Keep nosewheel off ground as long as possible, holding full backpressure. Use min. wheel braking

Go-Around

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"- 20" MP
Propeller……2400 RPM
Airspeed……..125 MPH
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" - 20" MP
Propeller……2400 RPM
Airspeed……..…125 MPH
Altitude……600 - 1000 ft AGL
Entry……..Downwind ¼ -½ m 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" - 20" MP
Propeller……2400 RPM
Airspeed……..…125 MPH
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)
Airspeed……...Just Above Stall Indication
Throttle……...To Maintain Altitude
Bank……..…...Shallow Turns
Recovery……..……Go-around procedure

Steep Turns

Clearing Turns ……Complete
BCGUMPS ……Complete
Throttle……18"-20" MP
Propeller……2400 RPM
Airspeed……..125 MPH
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……90 MPH
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
Throttle……...25” MP
Stall……Pitch to Induce
Recognize and recover from stall.
Stall Recovery:
Flight Control……..Release back pressure
Propeller ……...High RPM
Throttle ……Full
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°
Airspeed……90 MPH
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.
Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……..18” - 20” MP
Propeller……2400 RPM
Airspeed……..…125 MPH
Entry……Downwind 45° at Pivotal Alt.
PA= (GSxKIAS) / 11.3
Bank……..30° - 40°

Elevator Trim Stall

Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……...15” MP
Propeller……..High RPM
Landing Gear……Down
Flaps…….. 40°
Throttle……..Idle
Trim……Nose up (glide)
Airspeed……90 MPH
Throttle……...25” MP
Stall...Pitch to Induce, using Elevator Trim
Recognize and recover from stall.
Stall Recovery:
Flight Control…Nose down (reduce AoA)
Throttle……Full
Altitude……Minimal Loss
Landing Gear……..Retract after a positive rate of climb (if down)
Flaps……Retract
Airspeed……Accelerate to Vx or Vy before the final flap retraction

Secondary Stall

Clearing Turns……Complete
BCGUMPS……..Complete
Throttle……...15” MP
Propeller……High RPM
Landing Gear……Down
Flaps…….. 40°
Throttle……Idle
Airspeed……90 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……81 MPH
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……...105 MPH
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” - 20” MP
Propeller……High RPM
Airspeed……..….125 MPH
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” - 20” MP
Propeller……2400 RPM
Airspeed…….……125 MPH
(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°
Entry Altitude and Entry Airspeed

Power Off 180° Landing

Touch Down Point……Determine
Enter Downwind……1000 ft AGL
MP……18”MAP
ABEAM…….....Throttle Idle
Propeller……High RPM
Airspeed……..105 MPH
Landing Gear…….…….. Down
Flaps…….……..... Set
Landing Assured……90 MPH
Touchdown…….+200 ft/-0 ft

Holding

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

Instrument Approach

Airspeed……...125 MPH
MP……...15-18” MAP
Propeller…….2400 RPM

Missed Approach

Mixture……Rich
Propeller…….…High RPM
Throttle…….……Full
Landing Gear…..…Up (positive rate, below 125 MPH)
Airspeed……...……...…95 MPH
Flaps……..……Retract
1000 ft AGL……...…...25”MP, 2500 RPM

Preferred Power Settings
(these performance numbers approximate only and are for reference only. They do not take the place of POH performance numbers)

Climb
25” Manifold Pressure and 2500RPM

Cruise
55% - approx. 137MPH and 9GPH
20” and 2400RPM

65% - approx. 150MPH and 10.5GPH
22” and 2400RPM

75% - approx. 162MPH and 12GPH
24” and 2400RPM

Leaning should be to 75 degrees rich of peak, or approximately 1430 EGT

Descent
18” Manifold Pressure and 2400 RPM
Or as Desired being careful not to increase manifold pressure above 24”

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
Land ……...Straight Ahead
Landing Gear ……Down

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 ……105 MPH
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****:*

Emergency Descent

Throttle ……..……..Idle
Propeller ……..…..High RPM
Mixture ……..……Rich
Gear ……..……Down
Bank ……30° - 45°
Fuel Pump ……On
Roll Out ……150 MPH or landing assured

Power Off Landing

Airspeed ……..105 MPH
Place to Land ……...Locate
Propeller ……Low RPM (as needed)
Squawk……7700
Radios ……..Transmit

When committed to landing:

Ignition ……Off
Master Switch ……..Off
Fuel Selector ……Off
Mixture ……..Idle Cut-Off
Seatbelt ……Secure
Landing Assured ……...90 MPH
Flaps ……..Set
Gear ……..…Set

Gear Up Off Airport Situations:
Soft Field
Short Field
Water Landing

Touchdown ……Lowest Airspeed

Engine Fire-*Flight*

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

If fire persists,
Proceed to ***Emergency Descent***
If fire is out,
Proceed to ***POWER OFF LANDING***

Electrical Fire in Flight

Master Switch ……...Off
Vents ……..Open
Cabin Heat ……Off
Fire Extinguisher ..Extinguish (if equipped)

G5 power buttons ……..… Press to keep on

If Fire Persists,
proceed to ***Emergency Descent***
Land as Soon as Possible

Spin Recovery

Rudder …… Full Opposite
(To the direction of rotation)
Control Wheel ……Neutral/Forward
Throttle ……Idle
(When rotation stops)
Rudder ……Neutral
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. When battery power is lost, press the G5 Battery Backup buttons.*

Propeller Overspeed

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

Land as Soon as Possible
If Oil Pressure is low or missing,
Prepare for ***Engine Failure in Flight***

Alternate Landing Gear Extension

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

If gear does not drop, fishtail

Engine Roughness

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

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 Possible
Prepare for ***Engine Failure in Flight***

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 ***Engine Failure in Flight***

Electrical Overload

ALT Switch ……...On
BAT 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
G5 instruments ……Press Button for Battery Backup

Land as Soon as Practical

Open Door

Airspeed ……Slow to 100 MPH
Cabin Vents ……...Close
Storm Window ……..Open
Door ……...Secure Top Latch

If unable to secure
Land as Soon as Practical