

CHECKLIST

N56136



1973 **Piper** Cherokee Challenger 180

PA-28-180



**Nebraska
Flight
Center**

Eppley Airfield
3636 Wilbur Plaza
Omaha, NE 68110
Tel. (402) 305-4994

www.nebflight.com

LIGHT GUN SIGNALS

Steady Green

Ground Cleared For Takeoff
In Flight Cleared To Land

Flashing Green

Ground Cleared To Taxi
In Flight Return For Landing

Steady Red

Ground Stop
In Flight Give Way, Continue Circling

Flashing Red

Ground Taxi Clear Of Runway In Use
In Flight Airport Unsafe, Do Not Land

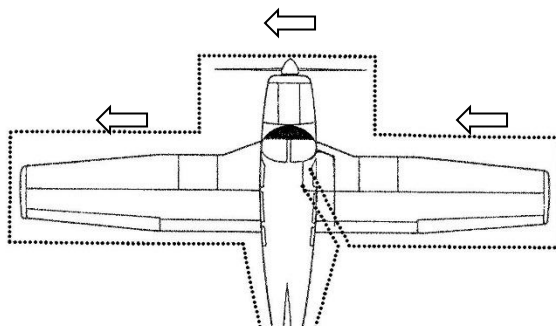
Flashing White

Ground Return To Starting Point
In Flight Not Used

Alternating Red & Green

General Warning Signal
Exercise Extreme Caution

**A superior pilot
uses his
superior judgment
to avoid situations
that require
the use
of his
superior skills**





CABIN

- 1 Required Documents Aboard
- 2 Control Wheel Release Belt
- 3 Magneto Switch Off (remove key)
- 4 Avionics Off
- 5 Beacon **Always ON**
- 6 All Other Electrical Switches Off
- 7 Master Switch On
- 8 Fuel Gauges Check

PREFLIGHT INSPECTION

- 9 Lights On
- 10 Pitot Heat On
- 11 Exit Aircraft - Position, Anti-Collision & Landing Lights .. Check
- 12 Pitot Tube Heat Check
- 13 Stall Warning Check
- 14 Beacon **Always ON**
- 15 All Other Lights Off
- 16 Pitot Heat Off
- 17 Master Switch Off
- 18 Circuit Breakers Check
- 19 Tach & Hobbs Time Record
- 20 Flaps Extend
- 21 Get Fuel Sampler Ok

RIGHT WING

- 1 Flap Check
- 2 Aileron Check
- 3 Wingtip Check
- 4 Tie-Down Release
- 5 Fuel Tank Check Quantity
- 6 Fuel Tank Vent Check
- 7 Fuel Tank Sump Drain
- 8 Main Wheel Tire Check
- 9 Brake Check Pads / Caliper
- 10 Main Strut Check Leakage / Ext (4½")

NOSE

- 1 Windshield Condition / Clean
- 2 Cowling Open
- 3 Oil Quantity .. **Do Not Over-Tighten Dipstick** .. 2-8 Qt
- 4 Engine Mounts, Accessories, Leaks Check
- 5 Cowling Close / Secure
- 6 Exhaust Check
- 7 Nose Tire Check
- 8 Nose Strut Check Leakage / Ext (3¼")

- 9 Propeller Nicks / Security
- 10 Spinner Check
- 11 Cowling Air Inlets Check
- 12 Alternator Belt Check Condition / Tension
- 13 Oil Cooler Check
- 14 Landing Light / Intake Air Filter Check
- 15 Carb Air Inlet Check
- 16 Fuel Strainer Drain

LEFT WING

- 1 Main Wheel Tire Check
- 2 Brake Check Pads / Caliper
- 3 Main Strut Check Leakage / Ext (4½")
- 4 Fuel Tank Check Quantity
- 5 Fuel Tank Vent Check
- 6 Fuel Tank Sump Drain
- 7 Pitot Mast Check Pitot & Static Ports
- 8 Tie-Down Release
- 9 Wingtip & **skyBeacon** Check
- 10 Aileron Check
- 11 Flap Check

FUSELAGE LEFT SIDE

- 1 Windows / Antennas Check
- 2 Underside Check

EMPENNAGE

- 1 Stabilator Check
- 2 Anti-Servo Tab Check
- 3 Rudder Check
- 4 Tie-Down Release

FUSELAGE RIGHT SIDE

- 1 Windows / Antennas Check
- 2 Underside Check
- 3 Main Door Check

BEFORE STARTING ENGINE

- 1 Preflight Inspection Completed
- 2 Seatbelts / Shoulder Harness Fasten / Adjust
- 3 Passenger Briefing Complete
- 4 Avionics Off
- 5 Carb Heat Off
- 6 Fuel Selector Tank with Least Fuel
- 7 Flight Controls Free and Correct
- 8 Brakes Test / Apply / Hold

STARTING ENGINE

- 1 Throttle Pump Open and Closed 2 or 3x
- 2 Mixture Full Rich
- 3 Master Switch On
- 4 Anti-Collision Light On
- 5 Electric Fuel Pump On For 3 Sec.
- 6 Electric Fuel Pump Off
- 7 Primer Prime (Only <50°F) & Lock
- 8 Throttle Open ¼
- 9 Propeller Area Clear
- 10 Magneto Switch **Start on BOTH**
- 11 Starter Engage
- 12 Throttle Adjust
- 13 Oil Pressure **Moving Up** within 30 Seconds
- 14 Warm-Up 800-1200 RPM
- 15 Mixture **Lean for Taxi**
- 16 Alternator Check
- 17 Circuit Breakers Check
- 19 Fuel Pressure Check
- 20 **Nav Lights Must be ON for ADS-B Out** **On**
- 21 Transponder **ALT**

BEFORE TAXI

- 1 Flaps Up
- 2 Radios On / Set
- 3 Listen to AWOS or ATIS Copy
- 4 Contact Clearance / Radio Check Copy

TAXI

- 1 Brakes Check
- 2 Throttle As Required
- 3 Direction Control Check
- 4 Magnetic Compass Check
- 5 Turn Coordinator Check

BEFORE TAKEOFF / RUNUP

- 1 Cabin Door / Window Closed and Locked
- 2 Brakes Apply / Hold
- 3 Flight Controls Free & Correct
- 4 Electric Fuel Pump On
- 5 Fuel Selector Full Tank
- 6 Throttle 1800 RPM
- 7 Mixture Set / Best Rich
- 8 Engine Instruments Check
- 9 Magnetos Check
 - *Right / Both*
 - *Left / Both*
 - *Max Drop 175 RPM*
 - *Max Difference 50 RPM*
- 10 Carb Heat On / Check Drop / **Off**
- 11 Vacuum Verify 5.0" +/- 1"
- 12 Alternator Check Output
- 13 Electric Fuel Pump Off / Check Pressure / **On**
- 14 Mixture Full Rich
- 15 Throttle Idle
- 16 Flight Instruments Set
- 17 Primer Locked
- 18 Elevator Trim Set
- 19 Seats Locked
- 20 Seat Backs Erect
- 21 **Landing & Nav Lights** **On**
- 22 Transponder **ALT**
- 23 Parking Brake Release

TAKEOFF

NORMAL TAKEOFF

- 1 Flaps Set (0 Degrees)
- 2 Mixture Full Rich
- 3 Power Full Throttle
- 4 Lift Off Lift Nose 70 MPH
- 5 Climb 85 MPH

SHORT FIELD

- 1 Flaps 25 Degrees (2nd Notch)
- 2 Mixture Full Rich
- 3 Power Full Throttle
Brakes are NOT to be held during power application for training purposes, due to potential propeller damage.
- 4 Lift Off Lift Nose 70 MPH
- 5 Climb Vx until obstacle cleared – 74 MPH
- 6 Transition to Vy 85 MPH
- 7 Flaps Retract

CLIMB

- 1 Electric Fuel Pump Off Above 1,000' AGL
- 2 Fuel Pressure Check
- 3 Engine Instruments Check
- 4 Airspeed 85 MPH
- 5 Trim Adjust
- 6 Mixture Lean Above 5,000' MSL

CRUISE

- 1 Landing Light Off
- 2 Power Set for Cruise
 - *After cruise IAS has been reached:*
- 3 Trim Adjust
- 4 Mixture Lean / Best Power
- 5 Engine Instruments Check
- 6 Switch Tanks Every 30 minutes

- 1 Power Reduce, As Required
- 2 Carb Heat As Required

DESCENT

- 3 Mixture ENRICHEN
- 4 Landing Light Prior to traffic pattern entry On

BEFORE LANDING

- 1 Seatbelts / Shoulder Harness Fasten / Adjust

LANDING

- 2 Seat Backs Erect
- 3 Trim Neutral or **As Required**
- 4 Electric Fuel Pump On
- 5 Fuel Selector Full Tank
- 6 Carb Heat **On**, Check for Ice
- 7 Carb Heat Off
- 8 Mixture Best Rich

REJECTED LANDING (GO AROUND)

- 1 Power Full Throttle
- 2 Carb Heat Off
- 3 Flaps 25 Degrees (2nd Notch)
- 4 Positive Climb Verify
- 5 Flaps Retract After Acceleration

AFTER LANDING *Aircraft Clear of the Runway, Stopped*

- 1 Flaps Retract
- 2 Carb Heat Off
- 3 Transponder **ALT**
- 4 Landing Light Off, or as needed

SECURING AIRPLANE

- 1 Brakes Apply / Hold
- 2 Avionics Off
- 3 Beacon **Always ON**
- 4 Lights and Electric Equipment Off
- 5 Carb Heat Off
- 6 Electric Fuel Pump Off
- 7 Throttle Retard
- 8 Mixture Idle / Cut-Off
- 9 Magneto Switch Off (remove key)
- 10 Master Switch Off
- 11 Control Wheel Secure
- 12 Hobbs / Tach Record
- 13 Airplane Chock / Tie Down

IMPORTANT:

- **Transponder: Set to 1200 & Off**
- **Remove your papers or trash from airplane**
- **Do Not Push Airplane from Nose Cowl or Spinner**
- **Push or Pull Only from Propeller Root**
- **When Getting In or Out, Do Not Step Outside of Black Surface**
- **Be Careful Not to Damage the Vortex Generators on the Wing**
- **Do Not Step on Flaps**

CLOSE YOUR FLIGHT PLAN!

KOMA VOT: 109.0

EMERGENCY CHECKLIST

ENGINE FIRE DURING START

- 1 Starter Continue Cranking
- 2 Mixture Idle / Cut-Off
- 3 Throttle Open
- 4 Electric Fuel Pump Off
- 5 Fuel Selector Off
- 6 Magneto Switch Off
- 7 Master Switch Off
 - Abandon, obtain fire extinguisher, if fire continues.

ENGINE POWER LOSS DURING TAKEOFF

- 1 If sufficient runway for landing straight ahead: **LAND**

IF INSUFFICIENT RUNWAY REMAINS

- 1 Maintain Safe Airspeed 80 MPH
 - Make only shallow turns to avoid obstructions.
- 2 Flaps As Required
- 3 Mixture Idle / Cut-Off
- 4 Throttle Off
- 5 Electric Fuel Pump Off
- 6 Fuel Selector Off
- 7 Magneto Switch Off
- 8 Master Switch Off
- 9 Cabin Door Unlatch
- 10 Touch Down Minimum Controllable Airspeed

IF SUFFICIENT ALTITUDE FOR RESTART

- 1 Maintain Safe Airspeed 80 MPH
- 2 Electric Fuel Pump On
- 3 Fuel Selector Switch Tanks
- 4 Mixture Enrichen
- 5 Carb Heat On
- 6 Primer Locked
 - If power is not restored, proceed with power-off landing.

ENGINE ROUGHNESS

- 1 Carb Heat On

IF ROUGHNESS CONTINUES AFTER ONE MINUTE

- 2 Carb Heat Off
- 3 Mixture Adjust Max Smoothness
- 4 Electric Fuel Pump On
- 5 Fuel Selector Switch Tanks
- 6 Engine Gauges Check
- 7 Magneto Switch L then R then Both
 - If operation is satisfactory on either one magneto, continue on that magneto at reduced power and full rich mixture to first suitable airport.

PREPARE FOR POWER OFF LANDING

CARBURETOR ICING

- 1 Carb Heat On
- 2 Mixture Adjust Max Smoothness

ENGINE POWER LOSS IN FLIGHT

- 1 Maintain Safe Airspeed 80 MPH
- 2 Fuel Selector Switch Tanks
- 3 Electric Fuel Pump On
- 4 Mixture Enrichen
- 5 Carb Heat On
- 6 Engine Gauges Check
- 7 Primer Locked
- 8 Magneto Switch Check

IF POWER IS RESTORED

- 1 Carb Heat As Required
- 2 Electric Fuel Pump On

IF POWER IS NOT RESTORED PREPARE FOR POWER OFF LANDING

TRIM AND MAINTAIN 80 MPH

POWER OFF LANDING

- 1 Suitable Field Locate
- 2 Landing Pattern Establish
- 3 Transponder 7700
- 4 Radios Declare Emergency 121.5
- 5 Short Final 85 MPH
- 6 Flaps Full or As Needed
- 7 Touch Down Minimum Controllable Airspeed

WHEN COMMITTED TO LANDING

- 1 Throttle Off
- 2 Mixture Idle / Cut-Off
- 3 Fuel Selector Off
- 4 Electric Fuel Pump Off
- 5 Magneto Switch Off
- 6 Master Switch Off
- 7 Cabin Door Unlatch
- 8 Seatbelts / Shoulder Harness Tight

FIRE IN FLIGHT

- 1 Source of Fire Determine

ELECTRICAL FIRE (*Smoke in Cabin*)

- 1 Master Switch Off
- 2 Vents Open
- 3 Cabin Heat Off

LAND AS SOON AS PRACTICABLE

ENGINE FIRE

- 1 Fuel Selector Off
- 2 Throttle Closed
- 3 Mixture Idle / Cut-Off
- 4 Electric Fuel Pump Off
- 5 Cabin Heat Off
- 6 Defroster Off

PREPARE FOR POWER OFF LANDING

LOSS OF OIL PRESSURE

LAND AS SOON AS POSSIBLE

PREPARE FOR POWER OFF LANDING

LOSS OF FUEL PRESSURE

- 1 Electric Fuel Pump On
- 2 Fuel Selector Fullest Tank

HIGH OIL TEMPERATURE

- 1 Mixture Enrichen
- 2 Airspeed Increase if Slow

PROCEED TO NEAREST AIRPORT

PREPARE FOR POWER OFF LANDING

ELECTRICAL FAILURES

ALT ANNUNCIATOR LIGHT ILLUMINATED

- 1 Ammeter Check, Verify Alt Inop

IF AMMETER SHOWS ZERO

- 2 ALT Switch Off
- 3 Electrical Load Reduce
- 4 ALT Circuit Breaker Check, reset as required
- 5 ALT Switch On

IF ALTERNATOR POWER NOT RESTORED

- 6 ALT Switch Off
 - *If alternator output cannot be restored, reduce electrical load and land as soon as practicable. The battery is the only remaining source of electrical power.*

ELECTRICAL OVERLOAD

Alternator over 20 amps above known electrical load

- 1 Electrical Load Reduce

IF ALTERNATOR LOADS ARE REDUCED

- 2 ALT Switch Off
 - *Land as soon as practical. Battery is the only remaining electrical source. Anticipate complete electrical failure.*

SPIN RECOVERY

- 1 Throttle Idle
- 2 Ailerons Neutral
- 3 Rudder Full opposite direction of rotation
- 4 Control Wheel Full Forward
- 5 Rudder Neutral when rotation stops
- 6 Control Wheel As required to smoothly regain level flight attitude

OPEN DOOR

If both upper and lower latches are open, the door will trail slightly open and airspeed will be reduced slightly.

TO CLOSE THE DOOR IN FLIGHT

- 1 Airspeed 100 MPH
- 2 Cabin Vents Closed
- 3 Storm Window Open
- 4 If upper latch open Close
- 5 If bottom latch open Open top latch and close
- 6 If both latches open Close bottom latch first

Piper Cherokee 180 N56136

1973

GENERAL INFORMATION

Model Piper PA-28-180 Cherokee Challenger 180
Serial No. 28-7305538

Power Plant Lycoming O-360-A4A
Type Four Cylinder/ Carbureted
Horsepower 180 HP @ 2,700 RPM
Propeller Sensenich, 2 Blade, Fixed Pitch
Electrical System 14 Volts DC

Fuel Capacity 50 Gal
Usable Fuel 48 Gal
Indicator Tab, each Tank 16 Gal
Fuel Type 100LL

Oil Capacity 2 to 8 Qts
Oil Type Phillips 66 ^x/c 20W50

Main Gear Tire Pressure 24 psi
Main Gear Oleo Strut Extension 4½ in
Nose Gear Tire Pressure 24 psi
Nose Gear Oleo Strut Extension 3½ in

Basic Empty Weight (11-18-2014) 1,481.93 lbs
Arm 86.02 in
Moment 127,470.85 lbs/in

Maximum Gross Weight - **Normal** 2,450 lbs
Useful Load 968 lbs
Full Fuel 300 lbs
Maximum Useful Load, Full Fuel 668 lbs
Maximum in Baggage Compartment 200 lbs

Maximum Gross Weight - **Utility** 1,950 lbs
Useful Load 494 lbs
Full Fuel 300 lbs
Maximum Useful Load, Full Fuel 138 lbs
Maximum in Baggage Compartment 0 lbs

Cruise Airspeed, 2,500 RPM 120 MPH
Fuel Consumption 8 to 10 gph

V_{SO} (flaps down) 61 MPH
V_{S1} (clean) 68 MPH
V_R 70 MPH
V_X 74 MPH
V_Y 85 MPH
BEST GLIDE 80 MPH
V_{FE} 115 MPH
V_{NO} 140 MPH
V_{NE} 171 MPH
V_A at 1950 lbs (maneuvering) 127 MPH

(*) Maneuvering Speed Decreases As Aircraft Weight Decreases