Preflight Check List

**Inside**

1. PLACE KEYS ON GLARE SHEILD
2. RELEASE control wheel belts
3. Required papers – on board
4. Record – Hobbs, tach, check squawks
5. Avionics Master Off
6. Check Circuit Breakers
7. Electrical Switches Off
8. Master switch ON
9. CHECK Fuel quantity gauges
10. CHECK Rotating beacon on tail is operational
11. CHECK navigational lights are operational (Night Flight)
12. Check Pitot (In possible Icing)
13. Master switch OFF
14. Fuel Selector to right tank
15. Extend Flaps

**Outside/Right Side**

1. Control surfaces – check for interference, free of ice, snow, frost
2. Hinges – check for interference
3. Navigation lights – CHECK
4. Wings – free of ice, snow, frost, leading edge in good condition
5. Tie Down – remove
6. Fuel Tank – visually verify fuel level and SECURE CAP
7. Fuel tank sump – drain and check for water, sediment and proper fuel
8. Fuel vents – OPEN
9. Main gear strut – proper inflation of 4.5 in
10. Tire – check for dry rot, balding, proper inflation 24 psi.
11. Brake blocks – CHECK
12. Remove Chocks

**Outside/Front**

1. Oil – CHECK LEVEL – min safe quantity 2 quarts – max is 8 quarts (Aeroshell 15W–50)
2. Dipstick – properly seated (not too tight, but not too loose)
3. Fuel and Oil – CHECK for leaks
4. Windshield – Check that it is clean
5. Cowling – Secure
6. Inspection covers – Secure
7. Nose wheel tire – check for dry rot, bald spots and proper inflation 18 psi
8. Nose gear strut – Proper inflation of 3.25 in.
9. Remove Chocks
10. Air inlets – clear of debris
11. Alternator belt – check tension
12. Fuel tank sump – drain and check for water, sediment and proper fuel

**Outside/Left Side**

1. Brake blocks – CHECK
2. Tire – check for dry rot, balding, proper inflation 24 psi.
3. Main gear strut – proper inflation of 4.5 in
4. Remove Chocks
5. Fuel vents – OPEN
6. Fuel Tank – visually verify fuel level and SECURE CAP
7. Fuel tank sump – drain and check for water, sediment and proper fuel
8. Pitot head – remove cover – holes clear
9. Tie Down – remove
10. Navigation lights – CHECK
11. Wings – free of ice, snow, frost, leading edge in good condition
12. Control surfaces – check for interference, free of ice, snow, frost
13. Hinges – check for interference

**Back**

1. Stabilator and Tail – free of ice, snow, frost
2. Hinges – check for interference
3. Tie Down – remove
4. Tow bar and control locks – stowed
5. Baggage – stowed properly
6. Baggage door – close and secure
7. Flaps up
8. Fuel Selector to left tank
9. Nose drain sump – check.
10. Fuel strainer – emptied and stowed
11. Seat belts and harness – fasten/adjust and check inertia reel

**ARCHER II (PA-28 181) -- NORMAL OPERATING PROCEDURES N4052F**

**BEFORE STARTING ENGINE**

1. Preflight Inspection – COMPLETE
2. Surrounding Area – CHECK
3. Seats and Belts – ADJUST / LOCK
4. Passengers – BRIEFED
5. Fuel Selector– DESIRED TANK
6. Brakes – TEST and SET
7. Flashing Beacon Switch - ON

**STARTING ENGINE COLD**

1. Brakes – SET
2. Fuel selector – DESIRED TANK
3. Prime - as required / LOCKED
4. Throttle – OPEN ¼ INCH
5. Mixture – FULL RICH
6. Carburetor heat – FULL COLD
7. Master Switch – ON
8. Electric fuel pump – ON
9. Propeller Area – CLEAR
10. Starter - ENGAGE[[1]](#footnote-1)
11. Throttle: 800 ­– 1200 RPM
12. Oil pressure – CHECK
13. Avionics Master Switch – ON
Radios – SET & CHECK
Transponder – SQUAWK STBY
14. Electrical Equipment – ON
15. **Fuel Pump OFF**

**TAXI CHECK**

1. Taxi area – CLEAR
2. Radio – TAXI CLEARANCE or announce intentions
3. Brakes - CHECK
4. Steering – CHECK
5. Ailerons – POSITION for x-wind
6. CHK: Mag Compass, DG, Turn Coord.

**Ground/Run-up Check**

1. Brakes Engaged
2. Belts and Harnesses - Check
3. Empty Seats – belts snugly fastened
4. Seat Backs – Erect
5. Fight Instruments – SET (attitude Ind, DG, Altimeter)
6. Fuel Quantity – CHECK
7. Primer – IN and LOCKED
8. Elevator/Rudder Trim – AS REQD
9. Controls Free / Operational
10. Throttle – 2000 RPM
11. Magnetos – max drop 175 RPM and max difference 50 RPM
12. Vacuum – 5.0” HG +- 0.1
13. Oil Temp – Check
14. Oil Pressure – Check
15. Check fuel pressure
16. Annunciator panel – press to test
17. Carb. heat ON: Check RPM Drop
18. Throttle –IDLE; Check
19. Carburetor heat – OFF RPM rise
20. Throttle – 800-1200 RPM
21. Electric Fuel Pump – ON
22. Engine Gauges – Check
23. Flaps – AS REQUIRED
24. Strobe Lights – ON
25. Nav. Lights – ON (Night)
26. Doors Latched
27. Open Flight Plan & Call for (announce) Takeoff Clearance
28. SET CODE & SQUAWK ALTITUDE
29. Record Time Off
30. Engine is warm for takeoff when throttle can be opened without engine faltering

**Normal Takeoff**

1. Wing flaps – SET 0-10 degrees
2. Trim Tab - SET
3. Carburetor Heat – COLD
4. Throttle – FULL OPEN
5. AT 52-65 KIAS - BACK PRESSURE ROTATE TO CLIMB ATTITUDE

**CRUISE**

1. Electric Fuel Pump – OFF once at cruise altitude
2. Normal Max Power – 75%
3. Power – SET PER POWER TABLE
4. Elevator and rudder trim – ADJUST
5. Mixture – LEAN ABOVE 5000 FEET
6. DG – CHECK / SET

**DESCENT**

1. Throttle – 2500 RPM
2. Airspeed – 126 KIAS
3. Mixture – RICH
4. Carburetor Heat – ON IF REQD

APPROACH AND NORMAL LANDING

1. Fuel Selector – FULLEST TANK
2. Seat Backs / Belts / Harness
3. Electric Fuel Pump – ON
4. Mixture – FULL RICH
5. Carburetor Heat – ONLY IN SUSPECTED ICING CONDITIONS
6. Flaps – SET – ($V\_{FE}= 102 KIAS$)
7. Trim TO 75 KIAS
8. Final approach: flaps $40°$@66 KIAS
9. Touchdown: NOSE UP, FLAPS UP
10. Nose down: GENTLY APPLY BRAKES

**AFTER LANDING**

1. Flaps – UP
2. Electric Fuel Pump – OFF
3. Carburetor Heat – COLD
4. Transponder – STBY
5. Strobe Lights – OFF
6. Landing / Taxi Lights – OFF
(as required at night)
7. Radio Call
8. CLOSE FLIGHT PLAN

**STOPPING ENGINE**

1. Parking break – SET
2. Flight Plan – CLOSED
3. Avionics Master – OFF
4. Electrical Equipment – OFF
5. Throttle – CLOSED (IDLE)
6. Mixture – IDLE CUTOFF
7. Ignition Switch – OFF – Remove keys and place on glare shield
8. Master Switch – OFF
9. Control Wheel – TIE OFF WITH SEATBELT
10. Record – Hobbs, Tach, Squawks
11. Clean Cabin
12. TIE DOWN AIRPLANE
13. PITOT TUBE COVER
14. COVER AIRPLANE

|  |  |
| --- | --- |
| Airspeed IND | V (KIAS) |
| Stall (Landing) | $$V\_{SO}$$ | 49 |
| Stall (Clean) | $$V\_{S}$$ | 55 |
|  |  |  |
| Best Angle | $$V\_{X}$$ | 64 |
| Best Rate | $$V\_{Y}$$ | 76 |
| Flaps | $$V\_{FE}$$ | 102 |
| Maneuver | $$V\_{A}$$ | 113 |
| Normal | $$V\_{NO}$$ | 125 |
| Never Exceed | $$V\_{NE}$$ | 154 |
| Best Glide |  | 76 |
|  |  |  |
| Initial Approach Speed |  | 76 |
| Final Approach Speed |  | 66 |

**ARCHER II (PA-28 181) – UNUSUAL OPERATING PROCEDURES N4052F**

**STARTING ENGINE HOT**

1. Brakes – SET
2. Fuel selector – DESIRED TANK
3. Prime - as required / LOCKED
4. Throttle – OPEN ½ INCH
5. Mixture – FULL RICH
6. Carburetor heat – FULL COLD
7. Master Switch – ON
8. Electric fuel pump – ON
9. Propeller Area – CLEAR
10. Starter - ENGAGE
11. Throttle: 800 – 1200 RPM
12. Oil pressure – CHECK
13. Avionics Master Switch – ON
Radios – SET & CHECK
Transponder – SQUAWK STBY
14. Electrical Equipment – ON
15. **Fuel Pump OFF**

**STARTING ENGINE FLOODED**

1. Brakes – SET
2. Fuel selector – DESIRED TANK
3. Throttle – OPEN ½ INCH
4. Mixture – FULL RICH
5. Carburetor heat – FULL COLD
6. Master Switch – ON
7. Electric fuel pump – ON
8. Propeller Area – CLEAR
9. Starter - ENGAGE
10. Throttle: 800 – 1200 RPM
11. Oil pressure – CHECK
12. Avionics Master Switch – ON
Radios – SET & CHECK
Transponder – SQUAWK STBY
13. Electrical Equipment – ON
14. **Fuel Pump OFF**

**EXTERNAL POWER SOURCE START**

1. Master Switch – OFF
2. All Electrical Equipment – OFF
3. Terminals – Connect
4. External Power Plug – insert in fuselage
5. Proceed with normal start, **MASTER SWITCH OFF**
6. Throttle – lowest possible RPM
7. External power plug – disconnect from fuselage
8. Master Switch – ON Check ammeter

**SHORT FIELD TAKEOFF**

1. Flaps – 25 degrees (second notch)
2. Carburetor Heat – COLD
3. Throttle – FULL OPEN
4. AT 41-49 KIAS – BACK PRESSURE ROTATE TO CLIMB ATTITUDE
5. AFTER LIFT OFF – ACCELERATE TO 45-54 KIAS BASED ON WEIGHT
6. ACCELERATE TO VX = 64 KIAS
7. Flaps – SLOWLY RETRACT THE FLAPS PAST THE OBSTACLE.
8. ACCLERATE TO $V\_{Y}=76 KIAS$

**SOFT FIELD TAKEOFF**

1. Flaps – 25 degrees (second notch)
2. Carburetor Heat – COLD
3. Throttle – FULL OPEN
4. AT 41-49 KIAS – BACK PRESSURE ROTATE TO CLIMB ATTITUDE
5. AFTER LIFT OFF – ACCELERATE TO 45-54 KIAS BASED ON WEIGHT
6. ACCELERATE TO BEST FLAPS UP ANGLE OF CLIMB SPEED – 64 KIAS
7. ACCLERATE TO BEST FLAPS UP RATE OF CLIMB SPEED – 76 KIAS
8. Flaps – SLOWLY RETRACT THE FLAPS PAST THE OBSTACLE.
9. ENROUTE CLIMB
10. Airspeed – 87 KIAS
11. Throttle – FULL OPEN
12. Mixture – RICH (above 5000 feet lean to obtain maximum RPM)

**DESCENT – POWER OFF**

1. Carburetor Heat – ON IF REQD
2. Throttle – CLOSED (IDLE)
3. Airspeed – AS REQUIRED
4. Mixture – LEANED AS REQUIRED
5. Power – VERIFY WITH THROTTLE EVERY 30 SECONDS

**SOFT FIELD LANDING**

1. Fuel Selector – FULLEST TANK
2. Seat Backs / Belts / Harness
3. Electric Fuel Pump – ON
4. Mixture – FULL RICH
5. Carburetor Heat – ONLY IN SUSPECTED ICING CONDITIONS
6. Flaps – SET – ($V\_{FE}= 102 KIAS$)
7. Trim TO 75 KIAS
8. Final approach: flaps $40°$@66 KIAS
9. Power – MAINTAIN UNTIL AFTER TOUCHDOWN
10. After touchdown – NOSE UP AS LONG AS POSSIBLE
11. After nose down – NO BRAKES – KEEP PLANE MOVING

**SHORT FIELD LANDING**

1. Fuel Selector – FULLEST TANK
2. Seat Backs / Belts / Harness
3. Electric Fuel Pump – ON
4. Mixture – FULL RICH
5. Carburetor Heat – ONLY IN SUSPECTED ICING CONDITIONS
6. Flaps – SET – ($V\_{FE}= 102 KIAS$)
7. Trim TO 75 KIAS
8. Final approach: flaps $40°$@66 KIAS
9. After touchdown – NOSE UP, FLAPS UP,
10. After nose down – APPLY BRAKES WITHOUT SKIDDING

|  |  |
| --- | --- |
| Airspeed IND | V (KIAS) |
| Stall (Landing) | $$V\_{SO}$$ | 49 |
| Stall (Clean) | $$V\_{S}$$ | 55 |
|  |  |  |
| Best Angle | $$V\_{X}$$ | 64 |
| Best Rate | $$V\_{Y}$$ | 76 |
| Flaps | $$V\_{FE}$$ | 102 |
| Maneuver | $$V\_{A}$$ | 113 |
| Normal | $$V\_{NO}$$ | 125 |
| Never Exceed | $$V\_{NE}$$ | 154 |
| Best Glide |  | 76 |
|  |  |  |
| Initial Approach Speed |  | 76 |
| Final Approach Speed |  | 66 |

1. If engine does not start within 10 seconds, prime and repeat [↑](#footnote-ref-1)