

**PILOT'S  
FLIGHT CREW CHECKLIST**

**C-172 P**

Manufacture date 1985

---

**N 98306**

---

**USAF ACADEMY AERO CLUB**

**P.O. BOX 77**

**AIR FORCE ACADEMY, CO 80840**

**719-333-4423**

**1 January 2019**

**B**

**C-172 P / N98306  
KTS**

<b>ROTATION</b>	<b>55</b>
<b>NORMAL CLIMB</b>	<b>70</b>
<b>BEST GLIDE</b>	<b>65</b>
<b>V<sub>x</sub></b>	<b>56</b>
<b>V<sub>y</sub> (SL-10,000 MSL)</b>	<b>76-71</b>
<b>V<sub>s</sub></b>	<b>44</b>
<b>V<sub>so</sub></b>	<b>33</b>
<b>V<sub>fe</sub></b>	<b>110 / 85</b>
<b>V<sub>a</sub></b> weight	<b>99/92/82</b> <b>2400/2000/1600</b>
<b>DOWNWIND</b>	<b>85</b>
<b>BASE</b>	<b>75</b>
<b>FINAL</b>	<b>65</b>
<b>SHORT FINAL</b> FLAPS UP	<b>65</b>
<b>SHORT FINAL</b> FLAPS DOWN	<b>60</b>
<b>USABLE FUEL</b> Gals all flt conditions	<b>40</b>
<b>MAX WEIGHT</b> (lbs)	<b>2550</b>

## INTERIOR INSPECTION

1. Parking Brake ----- SET
2. Hobbs & Engine Tach readings ----- VERIFY
3. Required Documents ----- ON BOARD
4. CO Detector Exp. Date & Color ----- CHECK
5. Avionics Master Switch ----- OFF
6. Mixture ----- IDLE CUT OFF
7. Electrical Switches ----- OFF
8. Circuit Breakers ----- IN
9. Control Wheel Lock ----- REMOVE
10. Ignition Switch ----- OFF
11. Primer ----- IN & LOCKED
12. Battery ----- ON
13. Voltage Light ----- ON
14. Avionics Cooling Fan ----- CHECK AUDIBLY
15. Fuel Quantity ----- CHECK
16. Flaps ----- DOWN 30 DEGREES
17. Landing Light ----- CHECK, THEN OFF
18. Pitot Heat ----- CHECK, THEN OFF
19. Nav/Beacon/Strobe Lights ----- CHECK, THEN OFF
20. Battery ----- OFF
21. Beacon Light Switch ----- ON
22. Alternate Static Air ----- CHECK, THEN OFF
23. Elevator Trim ----- SET FOR TAKE OFF
24. Fuel Selector ----- BOTH

## EXTERIOR INSPECTION

### LEFT SIDE

1. Fuel Tank Sump ----- DRAIN
2. Baggage Door ----- CLOSED & LOCKED
3. ELT Antenna ----- CONDITION
4. Left Fuselage & Bottom ----- CONDITION

## EMPENNAGE

### LEFT SIDE

1. Vertical Stabilizer ----- CONDITION
2. Horizontal Stabilizer ----- CONDITION
3. Elevator ----- CONDITION
  - Movement & Stops ----- CHECK
  - Security (cable & hinges) ----- CHECK
4. Lights ----- CHECK
5. VOR Antenna ----- CONDITION
6. Rudder ----- CONDITION
  - Movement & Stops ----- CHECK
  - Security (cable & hinges) ----- CHECK
7. Tie Down ----- DISCONNECT

### RIGHT SIDE

8. Elevator ----- CONDITION
  - Movement & Stops ----- CHECK
  - Security (cable & hinge) ----- CHECK
  - Trim Tab (alignment) ----- CHECK
9. Vertical Stabilizer ----- CONDITION
10. Horizontal Stabilizer ----- CONDITION
11. Fuselage ----- CONDITION

### RIGHT MAIN LANDING GEAR

1. Main Gear Strut ----- CHECK
2. Brake Assembly ----- CHECK
3. Tire Condition & Inflation ----- CHECK
4. Wheel Hub Nut & Pin ----- CHECK
5. Chock ----- REMOVE

## **RIGHT WING**

1. Fuel Tank Sump ----- DRAIN
2. Flap ----- CONDITION & MOVEMENT
  - Tracks & Roller----- CONDITION
  - Control Rod ----- SECURE
3. Aileron ----- CONDITION & MOVEMENT
  - Hinges & Control Rod ----- SECURE
4. Left Wing Tip & Lights ----- CONDITION
5. Leading Edge ----- CONDITION
6. Under Surface of Wing & Strut ----- CONDITION
7. Tie Down ----- DISCONNECT
8. Fuel Quantity ----- CHECK VISUALLY
9. Fuel Filler Cap ----- SECURE
10. Top of Wing & Antennas ----- CONDITION
11. Air Vents Inlets ----- CLEAR

## **NOSE**

1. Windshield ----- CONDITION & CLEAR
2. Cowling Fasteners ----- SECURE
3. Oil Quantity ----- CHECK
4. Oil Dip Stick ----- SECURE
5. Fuel Strainer Knob ----- PULL 4 SECONDS
6. Oil Access Door ----- SECURE
7. Spinner & Propeller ----- CONDITION
8. Engine Cooling Air Inlets ----- CLEAR
9. Alternator Belt ----- CHECK
10. Carburetor Air Filter ----- CONDITION
11. Nose Gear Strut -----EXTENTION 3"
  - Steering Rods ----- SECURE
  - Shimmy Dampener ----- CONDITION
12. Tire Inflation & Condition ----- CHECK
13. Tie Down ----- DISCONNECT
14. Static Port ----- CLEAR
15. Cowling Fasteners ----- SECURE

## **LEFT WING**

1. Fuel Quantity ----- CHECK VISUALLY
2. Fuel Filler Cap ----- SECURE
3. Top of Wing & Antennas ----- CONDITION
4. Air Vent Inlets ----- CLEAR
5. Pitot Tube ----- CHECK
6. Fuel Vent ----- CHECK
7. Stall Warning Horn Vent ----- CLEAR
8. Landing Light ----- CONDITION
9. Tie Down ----- DISCONNECT
10. Under Surface of Wing & Strut ----- CONDITION
11. Wing Leading Edge ----- CONDITION
12. Wing Tip ----- CONDITION
13. Aileron ----- CONDITION & MOVEMENT
  - hinges & control rod ----- SECURE
14. Flap ----- CONDITION & SECURE
  - track & roller ----- CONDITION
  - control rod ----- SECURE

## **LEFT MAIN LANDING GEAR**

1. Main Gear Strut ----- CHECK
2. Brake Assembly ----- CHECK
3. Tire Inflation & Condition ----- CHECK
4. Wheel Hub Nut & Pin ----- CHECK
5. Chock ----- REMOVE
6. Aircraft ----- ROLL FORWARD 1 FOOT
7. All Tires ----- CHECK AGAIN

## PASSENGER BRIEFING

1. Use of Seat Belt & Shoulder Harness
2. Operation of Fresh Air Vents
3. Latching of Doors & Windows
4. Location of Exits
5. Location of Survival Equipment
6. Emergency Procedures

## BEFORE STARTING ENGINE

1. Seats & Seat Belts ----- ADJUST & SECURE
2. Flight Controls ----- FREE & CORRECT
3. Key ----- IN IGNITION

## NORMAL START

1. Mixture ----- RICH
2. Throttle ----- PUMP ONCE, THEN OPEN 1/8"
3. Carburetor Heat ----- COLD
4. Primer ----- AS REQUIRED
5. Master Switch ----- ON
6. Propeller Area ----- CLEAR
7. Ignition Switch ----- START
  - release when engine startsif engine fails to start within 10 blades, stop cranking and allow starter to cool for 2 minutes.

## HOT START =====

1. Mixture ----- RICH
2. Throttle ----- Pump Once, OPEN 1"
3. Carburetor Heat ----- COLD
4. Master Switch ----- ON
5. Propeller Area ----- CLEAR
6. Ignition Switch ----- START

- 
8. Throttle ----- 1000 RPM
  9. Oil Pressure / Suction ----- CHECK
  10. Ammeter / Voltage Light ----- CHECK / OUT

## AFTER ENGINE START

1. Avionics Master Switch ----- ON
2. Nav Lights (Night) ----- ON
3. Flaps ----- UP (check visually)
4. Mixture ----- LEAN 1" (above 3000' MSL)
5. Radios ----- SET
6. Transponder ----- ALTITUDE
7. ATIS / ASOS ----- WEATHER/RUNWAY INFO

## TAXI

1. Obtain Taxi Clearance or announce on CTAF
2. Toe Brakes ----- CHECK
3. Control Surfaces ----- (according to wind) POSITION
4. Flight Instruments ----- CHECK

## RUN UP

1. Brakes ----- HOLD
2. Throttle ----- 1700 RPM
3. Mixture ----- LEAN FOR MAX POWER  
Above 3000' MSL
4. Suction / Engine Instrument ----- CHECK
5. Alternator ----- CHECK
  - Alternator OFF
  - Check ammeter discharge, Voltage Light ON
  - Alternator ON
  - Check ammeter charge, Voltage Light OUT
6. Carburetor Heat ----- CHECK
7. Magnetos ----- CHECK
  - Check right first, 125 max drop / 50 max diff.
8. Throttle ----- IDLE CHECK, THEN 1000RPM
  - smooth engine-e operation
  - idle rpm
  - oil pressure

- 9. Mixture ----- ENRICHEN 1 FULL TURN
- 10. Flight Instruments ----- CHECK & SET
- 11. Nav Instruments ----- SET COURSE
- 12. Departure Procedure ----- REVIEW
- 13. Emergency Procedures ----- REVIEW
- 14. Doors & Windows ----- CLOSED & LOCKED

**BEFORE TAKEOFF**

- 1. Landing & Strobe Lights ----- ON
- 2. Obtain takeoff clearance or announce on CTAF

**NORMAL TAKEOFF**

- 1. Wing Flaps ----- UP
- 2. Carburetor Heat ----- COLD
- 3. Throttle ----- FULL OPEN
- 4. RPM 2300 / Oil Pressure / Airspeed ----- CHECK
- 5. Rotate ----- 55KTS
- 6. Normal Climb Speed ----- 70KTS

**SHORT FIELD TAKEOFF**

- 1. Wing Flaps ----- 10
- 2. Carburetor Heat ----- COLD
- 3. Brakes ----- APPLY
- 4. Throttle ----- FULL OPEN
- 5. RPM 2300 / Oil Pressure ----- CHECK
- 6. Brakes ----- RELEASE
- 7. Elevator Control ----- SLIGHTY TAIL LOW
- 8. Climb Speed ----- 56KTS
  - until obstacles are cleared, then climb at Vy-70
- 9. Flaps ----- RETRACT INCREMENTALLY

**SOFT FIELD TAKEOFF**

- 1. Wing Flaps ----- 10
- 2. Carburetor Heat ----- COLD
- 3. Brakes ----- DO NOT APPLY
- 4. Throttle as necessary to keep rolling
- 5. Elevator Control ----- FULL BACK
- 6. Throttle ----- FULL OPEN
  - when aligned with the runway
- 7. Elevator Control ----- RELAX
  - after nose wheel is clear of the ground
- 8. RPM 2300 minimum / oil pressure / airspeed
- 9. When Airborne Level off immediately and accelerate
  - using ground effect, climb at Vx-56 until obstacles are cleared, then climb at Vy-70
- 10. Flaps ----- RETRACT INCREMENTALLY

**ENROUTE**

**CLIMB**

- 1. Normal Climb Speed ----- 70KTS
- 2. Throttle ----- FULL OPEN
- 4. RPM / Oil Pressure / Temp ----- CHECK
- 5. Flaps ----- UP
- 6. Landing Light ----- OFF

**CRUISE**

- 1. Throttle ----- 2100-2700RPM
  - No more than 75% power refer to POH
- 2. Mixture ----- LEAN AS REQUIRED
  - WARNING: Improper leaning procedures will greatly reduce endurance
- 3. Trim ----- ADJUST
- 4. Engine Instruments ----- CHECK
- 5. Flight Instruments ----- CHECK

## DESCENT

1. Fuel Quantity ----- CHECK
2. Carburetor Heat ----- AS REQUIRED
3. Throttle ----- AS DESIRED
4. Mixture ----- RICH AS REQUIRED

## LANDING

### BEFORE LANDING

1. Landing Light ----- ON
2. Carburetor Heat ----- ON
3. Throttle ----- AS REQUIRED
4. Mixture ----- RICH AS NECESSARY
5. Fuel Selector ----- BOTH
6. Seat Belt & Shoulder Harness ----- FASTEN

### NORMAL LANDING

1. Airspeed ----- 65KTS (flaps up)  
----- 60KTS (flaps down)
2. Touchdown ----- ON MAIN WHEELS FIRST
3. Landing Roll ----- LOWER NOSE WHEEL GENTLY
4. Braking ----- MINIMUM REQUIRED

### GO-AROUND

1. Throttle ----- FULL OPEN
2. Carburetor Heat ----- COLD
3. Flaps Retract ----- 20
4. Establish Climb Attitude ----- Vy-70
5. Flaps ----- RETRACT INCREMENTALLY

## TOUCH AND GO

1. Flaps ----- UP
2. Throttle ----- FULL OPEN
3. Carburetor Heat ----- COLD
4. Rotate ----- 55KTS
5. Normal Climb Airspeed -----70KTS

### SHORT FIELD LANDING

1. Airspeed ----- 65KTS (flaps up)  
----- 60KTS (flaps down)
2. Throttle ----- REDUCE TO IDLE
3. Touchdown ----- MAIN WHEELS FIRST
4. Flaps ----- RETRACT
5. Brakes ----- APPLY HEAVILY

### SOFT FIELD LANDING

1. Airspeed ----- 65KTS (flaps up)  
-----60KTS (flaps down)
2. Throttle ----- AS REQUIRED
  - To touchdown on main wheel as softly as possible
3. Landing Roll ----- LOWER NOSE WHEEL GENTLY
  - As late as possible
4. Elevator Control ----- (speed permitting) FULL BACK
5. Brakes ----- DO NOT APPLY
6. Flaps ----- DO NOT RETRACT

### AFTER LANDING

1. Landing Light & Strobe ----- OFF
2. Carburetor Heat ----- OFF
3. Flaps ----- UP
4. Obtain Taxi Clearance or Announce of CTAF

## POST FLIGHT

### SHUTDOWN

1. Avionics Master Switch ----- OFF
2. Nav Lights (if used) ----- OFF
3. Throttle ----- IDLE
4. Magneto Grounding ----- CHECK
5. Throttle ----- 1000 RPM
6. Mixture ----- IDLE CUTOFF
7. Throttle ----- CLOSED
8. Ignition Switch ----- OFF, KEY REMOVED
9. Master Switch ----- OFF
10. FLIGHT PLAN ----- CLOSE

### SECURING AIRCRAFT

1. Control Wheel Lock ----- (except in hanger) INSTALL
2. Headsets ----- STOW
3. Cabin Vents, Air & Heat Knobs ----- CLOSED
4. CO Detector Color ----- CHECK
5. Hobbs & Engine Tach Readings / Key ----- RECORD
6. Sun Screen (summer) ----- INSTALL
7. Seat Belts / Shoulder Harness ----- STOW
8. Fuel Selector ----- LEFT or RIGHT
9. Remove Personal Belongings ----- INCLUDING TRASH
10. Inspect Tires ----- CHECK FOR TREAD CORD
11. Chocks ----- INSTALL
12. Oil Access Door (summer only) ----- OPEN
13. Windshield ----- CLEAN
14. Tie Downs ----- INSTALL
15. Master Switch ----- RECHECK OFF
16. Doors & Windows ----- CLOSE & LOCK
  - Do not lock doors in hanger
  - Leave windows open; summer only
17. Checklist ----- STOW BETWEEN PILOT SEATS