

**PILOT'S  
FLIGHT CREW CHECKLIST**

**C-172 M**

Manufacture date 1976

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**N1370U**

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**USAF ACADEMY AERO CLUB**

**P.O. BOX 77**

**AIR FORCE ACADEMY, CO 80840**

**719-333-4423**

**Jan 2019**

**B**

**C-172 M / N1370U  
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> (SL-10,000 MSL)</b>	<b>59</b>
<b>V<sub>y</sub> (SL-10,000 MSL)</b>	<b>78-68</b>
<b>V<sub>s</sub></b>	<b>47</b>
<b>V<sub>so</sub></b>	<b>41</b>
<b>V<sub>fe</sub></b>	<b>85</b>
<b>V<sub>a</sub> (2400/2000/1600 lbs.)</b>	<b>97/89/80</b>
<b>DOWNWIND</b>	<b>85</b>
<b>BASE</b>	<b>75</b>
<b>FINAL</b>	<b>65</b>
<b>SHORT FINAL FLAPS UP</b>	<b>60</b>
<b>SHORT FINAL FLAPS DOWN</b>	<b>55</b>
<b>USABLE FUEL Gals all flt conditions</b>	<b>38</b>
<b>MAX WEIGHT (LBS)</b>	<b>2550</b>

## PREFLIGHT

### INTERIOR INSPECTION

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

### EXTERIOR INSPECTION

#### LEFT SIDE

1. Fuel Tank Sump ----- DRAIN
2. Baggage Door ----- CLOSED & LOCKED
3. ELT Antenna ----- CONDITION
4. Side of 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. VOR Antenna ----- CONDITION
5. Rudder ----- CONDITION
  - Movement & Stops ----- CHECK
  - Security (cable & hinges) ----- CHECK
6. Tie Down ----- DISCONNECT

### RIGHT SIDE

7. Elevator ----- CONDITION
  - Movement & Stops ----- CHECK
  - Security (cable & hinge) ----- CHECK
  - Trim Tab (alignment) ----- CHECK
8. Vertical Stabilizer ----- CONDITION
9. Horizontal Stabilizer ----- CONDITION
10. 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 & rollers ----- CONDITION
  - control rod ----- SECURE
3. Aileron ----- CONDITION & MOVEMENT
  - hinges & Control Rod ----- SECURE
4. Wing Tip ----- CONDITION
5. Leading Edge ----- CONDITION
6. Under Surface of Wing & Strut ----- CONDITION
7. Tie Down ----- REMOVE
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 & CLEAN
2. Radio Cooling Vent ----- CLEAR
3. Cowling Fasteners ----- SECURE
4. Oil Quantity ----- CHECK
5. Oil Dip Stick ----- SECURE
6. Fuel Strainer Knob ----- PULL 4 SECONDS
7. Oil Access Door ----- SECURE
8. Spinner & Propeller ----- CONDITION
9. Engine Cooling Air Inlets ----- CLEAR
10. Alternator Belt ----- CHECK
11. Landing Light ----- CONDITION
12. Carburetor Air Filter ----- CONDITION
13. Nose Gear Strut ----- EXTENTION 3"
  - steering Rods ----- SECURE
  - shimmy Dampener ----- CONDITION
14. Tire Inflation & Condition ----- CHECK
15. Tie Down ----- REMOVE
16. Static Port ----- CLEAR
17. Radio Cooling Vent ----- CLEAR
18. 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. Tie Down ----- REMOVE
9. Under Surface of Wing & Strut ----- CONDITION
10. Wing Leading Edge ----- CONDITION
11. Wing Tip ----- CONDITION
12. Aileron ----- CONDITION & MOVEMENT
  - hinges & control rod ----- SECURE
13. Flap ----- CONDITION & SECURE
  - Tracks & Rollers ----- 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 Belts & 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

**STARTING ENGINE**

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

**NORMAL START**

1. Mixture -----(push/pull only) RICH
2. Throttle ----- Pump once, 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 starts
  - if 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
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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 -- (push/pull only) LEAN 1" above 3000' MSL
5. Radios / Transponder ----- ON / SET FREQUENCIES
6. ATIS / ASOS ----- WEATHER / RUNWAY INFO

**TAXI**

1. Obtain Taxi Clearance or Announce on CTAF
2. Toe Brakes ----- CHECK
3. Control Surfaces during taxi set for the wind POSITION
4. Flight Instruments during taxi ----- CHECK

**RUN UP**

1. Brakes -----HOLD
2. Throttle ----- 1700 RPM
3. Mixture --- above 3000'MSL LEAN FOR MAX POWER
4. Suction/Engine ----- 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 operation
  - idle rpm
  - oil pressure
9. Mixture ----- (push/pull only) ENRICHEN 1/4 INCH
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. Obtain T/O clearance or announce on CTAF
- 2. Landing & Strobe Lights ----- ON

**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 -----UP
- 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 ----- 59KTS
  - until obstacles are cleared, then climb at Vy-70

**SOFT FIELD TAKEOFF**

- 1. Wing Flaps ----- 10
- 2. Carburetor Heat ----- COLD
- 3. Brakes ----- DO NOT APPLY
- 4. Power 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, accelerate using ground effect, climb at Vx-59 until obstacles are cleared, then climb at Vy-70
- 10. Flaps ----- RETRACT INCREMENTALLY

**ENROUTE**

**CLIMB**

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

**CRUISE**

- 1. Throttle ----- 2100-2700RP
  - No more than 75% power refer to POH
- 2. Mixture ----- (push/pull only) 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. Mixture ----- (push/pull only) RICH AS REQUIRED
- 3. Carburetor Heat ----- AS REQUIRED
- 4. Throttle ----- AS DESIRE

**LANDING**

**BEFORE LANDING**

- 1. Landing Light ----- ON
- 2. Carburetor Heat ----- ON
- 3. Throttle ----- AS REQUIRED

4. Mixture -----(push/pull only) RICH AS NECESSARY
5. Fuel Selector ----- BOTH
6. Seat Belt & Shoulder Harness ----- FASTEN

#### NORMAL LANDING

1. Airspeed ----- 70KTS flaps up  
----- 55KTS 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 ----- 20
4. Establish Climb Attitude ----- V<sub>x</sub>-60 or V-70
5. Flaps ----- RETRACT INCREMENTLLY

#### 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  
----- 55KTS flaps down
2. Throttle ----- REDUCE TO IDLE
3. Touchdown ----- MAIN WHEELS FIRST
4. Flaps ----- RETRACT
5. Brakes ----- APPLY HEAVILY

#### SOFT FIELD LANDING

1. Airspeed ----- 60KTS flaps up  
----- 55 KTS flaps down
2. Throttle ----- AS REQUIRED
  - 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
7. Throttle ----- AS NECESSARY
  - keep A/C rolling until clear of runway

#### AFTER LANDING

1. Landing Light & Strobe ----- OFF
2. Carburetor Heat ----- OFF
3. Flaps ----- UP
4. Obtain Taxi clearance or announce on CTAF

#### POST FLIGHT

##### SHUT DOWN

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 CUT OFF
7. Throttle ----- CLOSE
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**