C172NS SKYHAWK II

Carenado

full FSX DIRECTX10 certified

CHECKLIST & PROCEDURES

C172NS SKYHAWK II

NORMAL PROCEDURES

BEFORE STARTING ENGINE

1. Preflight Inspection -- COMPLETE
2. Seats, Belts, Shoulder Harnesses -- ADJUST and LOCK
3. Fuel Selector Valve -- BOTH
4. Avionics Power Switch, Autopilot (if installed), Electrical Equipment, -- OFF
5. Brakes -- TEST and SET
6. Circuit Breakers -- CHECK IN

STARTING ENGINE

1. Mixture -- RICH
2. Carburetor Heat -- COLD
3. Master Switch -- ON
4. Prime -- AS REQUIRED (2 to 6 strokes; none if engine is warm)
5. Throttle -- OPEN 1/8 INCH
6. Propeller Area -- CLEAR
7. Ignition Switch -- START (release when engine starts)
8. Oil Pressure -- CHECK

BEFORE TAKEOFF

1. Parking Brake -- SET
2. Cabin Doors and Window(s) -- CLOSED and LOCKED
3. Flight Controls -- FREE and CORRECT
4. Flight Instruments -- SET
5. Fuel Selector Valve -- BOTH
6. Mixture -- RICH (below 3000 feet)
7. Elevator Trim and Rudder Trim (if installed) -- TAKEOFF
8. Throttle -- 1700 RPM

a. Magnetos -- CHECK (RPM drop should not exceed 125 RPM on either magneto or 50 RPM differential between magnetos).
b. Carburetor Heat -- CHECK (for RPM drop)
c. Engine Instruments and Ammeter -- CHECK
d. Suction Gage -- CHECK

9. Avionics Power Switch -- OFF
10. Radios -- SET
11. Autopilot (if installed) -- OFF
12. Air Conditioner (if installed) -- OFF
13. Flashing Beacon, Navigator Lights and/or Strobe Lights -- ON as required
14. Throttle Friction Lock -- ADJUST
15. Brakes -- RELEASE

TAKEOFF

Normal Takeoff

1. Wing Flaps -- UP
2. Carburetor Heat -- COLD
3. Throttle -- FULL OPEN
4. Elevator Control -- LIFT NOSE WHEEL (at 55 KIAS)
5. Climb Speed -- 70-8 KIAS

Short Field Takeoff

1. Wing Flaps -- UP
2. Carburetor Heat -- COLD
3. Brakes -- APPLY
4. Throttle -- FULL OPEN
5. Mixture -- RICH (above 3000 feet, LEAN to obtain maximum RPM)
6. Breaks -- RELEASE
7. Elevator Control -- SLIGHTLY TAIL LOW
8. Climb Speed -- 59 KIAS (Until all obstacles are cleared)

ENROUTE CLIMB

1. Airspeed -- 70-85 KIAS
2. Throttle -- FULL OPEN
3. Mixture -- RICH (above 3000 feet, LEAN to obtain maximum RPM)

CRUISE

1. Power -- 2200-2700 RPM (no more than 75% is recommended)
2. Elevator and Rudder Trim (if installed) -- ADJUST
3. Mixture -- LEAN

DESCENT

1. Mixture -- ADJUST for smooth operation (full rich for idle power)
2. Power -- AS DESIRED
3. Carburetor Heat -- AS REQUIRED (to prevent carburetor icing).

BEFORE LANDING

1. Seats, Belts, Harnesses -- SECURE
2. Fuel Selector Valve -- BOTH
3. Mixture -- RICH
4. Carburetor Heat -- ON (apply full heat before closing throttle).
5. Autopilot (if installed) -- OFF
6. Air Conditioner (if installed) -- OFF

LANDING

Normal Landing
1. Airspeed -- 60-70 KIAS (flaps UP)
2. Wing Flaps -- AS DESIRED (below 85 KIAS)
3. Airspeed -- 55-65 KIAS (Flaps DOWN)
4. Touchdown -- MAIN WHEELS FIRST
5. Landing Roll -- LOWER NOSE WHEEL GENTLY
6. Braking -- MINIMUM REQUIRED

Short Field Landing
1. Airspeed -- 60-70 KIAS (Flaps UP)
2. Wing Flaps -- FULL DOWN (40º)
3. Airspeed -- 60 KIAS (until flare)
4. Power -- REDUCE to Idle after clearing obstacle)
5. Touchdown -- MAIN WHEELS FIRST
6. Brakes -- APPLY HEAVILY
7. Wing Flaps -- RETRACT

Balked Landing
1. Throttle -- FULL OPEN
2. Carburetor Heat -- COLD
3. Wing Flaps -- 20° (immediately)
3. Climb Speed -- 55 KIAS
4. Wing Flaps -- 10º (until obstacles are cleared).
   RETRACT (after reaching a safe altitude and 60 KIAS)

AFTER LANDING

1. Wing Flaps -- UP
2. Carburetor Heat -- COLD

SECURING AIRPLANE

1. Parking brake -- SET
2. Avionics Power Switch, Electrical Equipment, Autopilot (if installed) -- OFF
3. Mixture -- IDLE CUT-OFF (Pulled full out)
4. Ignition Switch -- OFF
5. Master Switch -- OFF
6. Control Lock -- INSTALL

EMERGENCY PROCEDURES

ENGINE FAILURES

Engine Failure During Takeoff Run
1. Throttle -- IDLE
2. Brakes -- APPLY
3. Wing Flaps -- RETRACT
4. Mixture -- IDLE CUT-OFF
5. Ignition Switch -- OFF
6. Master Switch – OFF

Engine Failure Immediately after Takeoff
1. Airspeed -- 65 KIAS (Flaps UP) - 60 KIAS (Flaps DOWN)
2. Mixture -- IDLE CUT-OFF
3. Fuel Selector Valve -- OFF
4. Ignition Switch -- OFF
5. Wing Flaps -- AS REQUIRED
6. Master Switch -- OFF

Engine Failure During Flight
1. Airspeed -- 65 KIAS
2. Carburetor Heat – ON
3. Fuel Selector Valve -- BOTH
4. Mixture – RICH
5. Ignition Switch -- BOTH (or START if propeller is stopped)
6. Primer -- IN and LOCKED

FORCED LANDINGS

Emergency Landing Without Engine Power
1. Airspeed -- 65 KIAS (flaps UP) - 60 KIAS (Flaps DOWN)
2. Mixture -- IDLE CUT-OFF
3. Fuel Selector Valve -- OFF
4. Ignition Switch -- OFF
5. Wing Flaps -- AS REQUIRED (40° recommended)
6. Master Switch -- OFF
7. Doors -- UNLATCH PRIOR TO TOUCHDOWN
8. Touchdown -- SLIGHTLY TAIL LOW
9. Brakes -- APPLY HEAVILY

Precautionary Landing with Engine Power
1. Wing Flaps -- 20°
2. Airspeed -- 60 KIAS
3. Selected Field -- FLY OVER, noting terrain and obstructions,
   then retract flaps upon reaching a safe altitude and airspeed.
4. Avionics Power Switch and Electrical Switches -- OFF
5. Wing Flaps -- 40° (on final approach)
6. Airspeed -- 60 KIAS
7. Master Switch -- OFF
8. Doors -- UNLATCH PRIOR TO TOUCHDOWN
9. Touchdown -- SLIGHTLY TAIL LOW
10. Ignition Switch -- OFF
11. Brakes -- APPLY HEAVILY

Ditching
1. Radio -- TRANSMIT MAYDAY on 121.5 MHz, giving location and intentions.
2. Heavy Objects (in baggage area) -- SECURE or JETTISON
3. Approach -- High Winds, Heavy Seas -- INTO THE WIND
Light Winds, Heavy Swells -- PARALLEL TO SWELLS
4. Wing Flaps -- 20° to 40°
5. Power -- ESTABLISH 300 FT/MIN DESCENT AT 55 KIAS
If no power is available, approach at 65KIAS with flaps up or at 60 KIAS with 10° flaps.
6. Cabin Doors -- UNLATCH
7. Touchdown -- LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT.
8. Face -- CUSHION at touchdown with folded coat
9. Airplane -- EVACUATE through cabin doors. If necessary,
open windows and flood cabin to equalize pressure so doors can be opened.
10. Life Vests and Raft-- INFLATE.

FIRES

During Start On Ground
1. Cranking -- CONTINUE to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine.

If the engine starts:
2. Power -- 1700 RPM for a few minutes.
3. Engine -- SHUTDOWN and inspect for damage.

If engine fails to start:
4. Throttle -- FULL OPEN
5. Mixture -- IDLE CUT-OFF
6. Cranking -- CONTINUE
7. Fire Extinguisher -- OBTAIN (have ground attendants obtain if not installed)
8. Engine -- SECURE
a. Master Switch -- OFF
b. Ignition Switch -- OFF
c. Fuel Selector Valve -- OFF
9. Fire -- EXTINGUISH using fire extinguisher, wool blanket, or dirt
10. Fire Damage -- INSPECT

Engine Fire in Flight
1. Mixture -- IDLE CUT-OFF
2. Fuel Selector Valve -- OFF
3. Master Switch -- OFF
4. Cabin Heat and Air -- OFF (except overhead vents)
5. Airspeed -- 100 KIAS (If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture)
6. Forced Landing -- EXECUTE (as described in Emergency Landing Without Engine Power).

Electrical Fire in Flight
1. Master Switch -- OFF
2. Avionics Power Switch -- OFF
3. All Other Switches (except ignition switch) -- OFF
4. Vents/Cabin Air/Heat –CLOSED
5. Fire Extinguisher -- ACTIVATE (if available).

If fire appears out and electrical power is necessary for continuance of flight:
6. Master Switch -- ON
7. Circuit Breakers -- CHECK for faulty circuit, do not reset
8. Radio Switches -- OFF
9. Avionics Power Switch -- ON
10. Radio/Electrical Switches -- ON one at a time, with delay after each until short circuit is localized.
11. Vents/Cabin Air/Heat – OPEN when it is ascertained that fire is completely extinguished.

Cabin Fire
1. Master Switch -- OFF
2. Vents/Cabin Air/Heat -- CLOSED (to avoids drafts)
3. Fire Extinguisher -- ACTIVATE (if available)
After discharging an extinguisher within a closed cabin, ventilate the cabin.
4. Land the airplane as soon as possible to inspect for damage.

Wing Fire
1. Navigation Lights Switch-- OFF
2. Pitot Heat Switch (if installed) -- OFF
3. Strobe Light Switch (if installed) – OFF
Perform a sideslip to keep flames away from the fuel tank and cabin,
and land as soon as possible using flaps only as required for final approach and touchdown.

LANDING WITH A FLAT MAIN TIRE

1. Approach – NORMAL
2. Touchdown -- GOOD TIRE FIRST, hold airplane off flat tire as long as possible

ELECTRICAL POWER SUPPLY SYSTEM
MALFUNCTIONS

Over-Voltage Light Illuminates
1. Avionics Power Switch -- OFF
2. Master Switch -- OFF (both sides)
3. Master Switch -- ON
4. Over-Voltage Light -- OFF
5. Avionics Power Switch -- ON

If over-voltage light illuminates again:
6. Flight -- TERMINATE as soon as possible.

Ammeter Shows Discharge
1. Alternator -- OFF
2. Nonessential radio/Electrical Equipment -- OFF
3. Flight -- TERMINATE as soon as practical

PREFLIGHT INSPECTION

FIRST

1. Fuel Quantity -- CHECK VISUALLY for desired level in BOTH tanks
2. Fuel Filler Caps -- CHECK SECURE
3. Windshield -- CHECK

CABIN

1. Control Wheel Lock -- REMOVE
2. Ignition Switch -- OFF
3. Avionics Power Switch -- OFF
4. Master Switch -- ON
5. Fuel Quantity Indicators -- CHECK QUANTITY
6. Master Switch -- OFF
7. Baggage Door -- CHECH, lock with key if child's seat is to be occupied.

EMPENNAGE

1. Rudder Gust Lock -- REMOVE
2. Tail Tie-Down -- DISCONNECT
3. Control Surfaces -- CHECK freedom of movement and security

RIGHT WING Trailing Edge

1. Aileron -- CHECK freedom of movement and security

RIGHT WING

1. Wing Tie-Down -- DISCONNECT.
2. Main Wheel Tire -- CHECK for proper inflation
3. Before first flight of the day and after each refueling, use sampler cup
and drain small quantity of fuel from fuel tank sump quick drain valve to check for water,
sediment, and proper fuel grade.
4. Fuel Quantity -- CHECK VISUALLY for desired level.
5. Fuel Filler Cap -- SECURE

NOSE

1. Engine Oil Level -- CHECK, do not operate with less than four quarts.
Fill to six quarts for extended flight.
2. Before first flight of the day and after each refueling, pull out strainer drain knob for about four seconds
to clear fuel strainer of possible water and sediment. Check strainer drain closed.
If water is observed, the fuel system may contain additional water, and further draining of the system at the strainer,
fuel tank sumps, and fuel selector valve drain plug will be necessary.
3. Propeller and spinner -- CHECK for nicks and security
4. Landing Light(s) -- CHECK for condition and cleanliness
5. Carburetor Air Filter -- CHECK for restrictions by dust or other foreign matter.
6. Nose Wheel Strut and Tire -- CHECK for proper inflation
7. Nose Tie-Down -- DISCONNECT
8. Static Source Opening (left side of fuselage) -- CHECK for stoppage

LEFT WING

1. Main Wheel Tire -- CHECK for proper inflation
2. Before first flight of the day and after each refueling, use sampler cup and drain small
quantity of fuel from fuel tank sump quick drain valve to check for water, sediment, and proper fuel grade.
3. Fuel Quantity -- CHECK VISUALLY for desired level.
4. Fuel Filler Cap -- SECURE

LEFT WING Leading Edge

1. Pitot Tube Cover -- REMOVE and check opening for stoppage
2. Fuel Tank Vent Opening -- CHECK for stoppage
3. Stall Warning Opening -- CHECK for stoppage. To check the system,
place a clean handkerchief over the vent opening and apply suction:
a sound from the warning horn will confirm system operation.
4. Wing Tie-Down -- DISCONNECT

LEFT WING Trailing Edge

1. Aileron -- CHECK for freedom of movement and security

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