

# C172 SP N16895

## Preflight Inspection

Pitot cover – REMOVE & STOW

## COCKPIT

Hobbs hours – RECORD  
Aircraft Documents (AROW)  
G1000 Ref Guide - AVAILABLE  
Control Lock - REMOVE  
Compass – FLUID/HEADING  
Master - OFF  
Ignition - OFF  
Circuit breakers - IN  
Electrical Switches – OFF  
Master – ON  
Flaps – 30° DOWN  
PFD - ON  
Fuel Gauges – CHECK L & R  
Annunciators –  
    Low Fuel L – NOT SHOWN  
    Low Fuel R – NOT SHOWN  
    Oil Pressure – SHOWN  
    Low Vacuum – SHOWN  
    Low Volts - SHOWN  
Avionics Bus 1 – ON  
Listen for Fwd Fan- VERIFY ON  
Avionics Bus 1 – OFF  
Avionics Bus 2 – ON  
Listen for Aft Fan – VERIFY ON  
Avionics Bus 2 – OFF  
Pitot Heat – ON. Verify warm to touch within 30 sec  
Pitot Heat – OFF  
Master - OFF  
Trim Tab—SET TO TAKE OFF  
Fuel Selector – BOTH  
Alt Static Air Valve - OFF  
Fire Extinguisher – CHECK GREEN  
ARC

## Fuselage

Baggage Door - LOCK WITH KEY  
Autopilot static port--CHECK  
Elevator & Trim Tab—CHECK  
Rudder - CHECK  
Beacon & Position Light - CHECK  
Tiedown – REMOVE  
Antennas - CHECK

## RIGHT WING

Fuel Sumps—DRAIN (5)  
Flap—CHECK GENERAL  
CONDITION  
Aileron—CHECK GENERAL  
CONDITION AND FREEDOM OF  
MOVEMENT  
Wing Tip—CHECK  
Position Light—CHECK  
Leading edge—CHECK  
Tiedown - REMOVE  
Tire, Brake Line - CHECK  
Fuel Tank—CHECK QUANTITY  
Fuel Cap - SECURE

## NOSE SECTION

Windshield – CLEAN  
Fuel Sumps – DRAIN (3)  
Engine Cowling—CHECK  
CONDITION & SECURITY  
Engine Oil—CHECK QUANTITY  
Dipstick & Door—SECURE  
Propeller—EXAMINE FOR  
NICKS, SECURITY  
Spinner –SECURE  
Alternator belt – CHECK  
Air Filter - CHECK  
Tire – CHECK  
Static Port—CLEAR

## LEFT WING

Fuel Sumps — DRAIN (5)  
Tire, Brake Line - CHECK  
Fuel Vent - CLEAR  
Fuel Tank—CHECK QUANTITY  
Cap—SECURE  
Leading edge---CHECK  
Tiedown & Chocks—REMOVE  
Stall Warning Vane—CHECK  
Pitot/Drain hole—CLEAR  
Landing/taxi light – CHECK (night operations)  
Wing Tip—CHECK  
Position Light—CHECK  
Aileron—CHECK CONDITION  
AND FREEDOM OF  
MOVEMENT  
Flap—CHECK GENERAL  
CONDITION  
Roll to check tires

## **NORMAL PROCEDURES**

### **BEFORE STARTING**

Preflight Inspection - COMPLETE  
Passenger Briefing - COMPLETE  
Seats—POSITION & LOCK  
Seat Backs—UPRIGHT  
Seat Belts - FASTEN  
Flight Controls - CHECK PROPER  
DIRECTION & FREEDOM OF  
MOVEMENT  
Parking Brake—SET (optional)  
All Switches—OFF  
Fuel Selector Valve – BOTH  
Fuel Shutoff Valve – ON (push in)  
Beacon – ON

### **STARTING**

#### CAUTION

*Maximum starter engage duty cycle  
is 10 seconds ON, followed by 20  
seconds OFF*

Repeat up to 2 additional times  
then 10 minutes OFF

For starting with External power – see  
aircraft checklist

STBY BATT Switch –HOLD DOWN  
IN THE TEST POSITION FOR 10  
SECONDS. VERIFY GREEN  
LIGHT REMAINS ILLUMINATED  
Standby battery switch – ARM  
Engine Indicating Sys – NO X's  
Electrical Sys –  
    BUS E -  $\geq 24$  VOLTS  
    M BUS -  $\leq 1.5$  VOLTS  
    BATT S Amps – negative  
    Standby battery Annum – ON  
Throttle – OPEN 1/4 INCH  
Mixture – RICH  
Master Switch—ON

### **COLD START**

Aux Fuel Pump—ON until rise in  
fuel flow  
Aux Fuel Pump – OFF  
Mixture – IDLE CUT-OFF

## **HOT START**

Mixture—IDLE CUT-OFF

### **ENGINE FLOODED START**

Mixture—IDLE CUT-OFF  
Throttle— HALF to FULL OPEN

Brakes – TESTED & HOLD  
Propeller - CLEAR  
Ignition — START

*when engine starts*

Mixture - ADVANCE TO RICH  
Throttle – 1000 RPM  
Oil Pressure – GREEN ARC  
Mixture – LEAN for taxi  
Flaps----UP  
Amps (M and S)—POSITIVE  
Low Volts Annum – NOT SHOWN  
Avionics (Bus1 & Bus2) - ON  
PFD Transponder – 1200  
    CDI Nav Source – SET  
    Heading bug – SET  
    ALT Pre select – SET

Flight Plan - INPUT  
MFD Fuel quantity – Set [system]  
Comm Freqs – SET  
NAV Freqs – SET  
Audio Panel – SET  
ATIS – Listen  
PFD – BARO SET  
Standby Altimeter – SET  
Autopilot Baro & Alt Preset-- SET  
Parking Brake – OFF  
Make radio call  
Brakes—RELEASE & TEST

### **BEFORE TAKEOFF**

Mixture - FULL RICH OR LEAN  
FOR SMOOTH OPERATION  
Seatbelts - CHECK  
Parking Brake -optional  
Throttle - 1800 RPM  
Magneto - CHECK (175 rpm max  
drop, within 50 rpm each other)  
Engine Instruments - Green Arc  
Throttle – IDLE  
A/P ON/OFF switch – OFF  
DOORS & Windows - SECURE  
Engine Instruments – CHECK  
Emergency T.O. Briefing - GIVEN  
Parking Brake – OFF

## **TAKEOFF**

Flaps - 10°  
Mixture - FULL RICH OR LEAN  
FOR SMOOTH OPERATION  
Position - CENTERLINE  
Engine Instruments—CHECK  
Throttle – FULL  
Rotate – 55 kts  
Airspeed - ≥ 60 kts  
Flaps – UP  
Climb – V<sub>y</sub> – 74 KTS

## **SHORT FIELD TAKEOFF**

Flaps - 10°  
Taxi into Position – STOP  
Brakes – HOLD  
Throttle – FULL  
Brakes – RELEASE  
Rotate – 55 KTS  
Climb – V<sub>x</sub> – 58 KTS  
Obstacles CLEARED  
Airspeed - ≥ 60 kts  
Flaps – UP  
Climb – V<sub>y</sub> – 74 KTS

## **CRUISE CLIMB**

Throttle: FULL  
Engine Temp—MONITOR  
Power—SET  
Airspeed – 90 kts  
Mixtures—LEAN ABOVE 3000'  
100° rich of peak

## **CRUISE**

Power—SET AS DESIRED  
Mixture - LEAN AS REQUIRED  
(50° rich of peak)  
Trim – SET

## **DESCENT**

Altimeter—SET  
Windshield Defroster—AS  
REQUIRED  
Power—AS REQUIRED  
Mixtures—ENRICH AS REQUIRED

## **BEFORE LANDING**

Seatbelts – FASTENED  
Seat Backs - UPRIGHT  
Fuel Selector— BOTH  
Aux FUEL Pump—OFF  
Mixture —FULL RICH or LEAN  
AS REQUIRED  
Landing & Taxi Lights—AS  
REQUIRED  
Wing Flaps—AS REQUIRED  
Auto Pilot - OFF  
Airspeed — 65 KTS

## **BALKED LANDING**

Throttle—FULL FORWARD  
Airspeed—80 kts  
Wing Flaps—RETRACT to 20°  
Side Step runway  
Airspeed >60KTS- FINISH  
CLEAN UP AND MAKE RADIO  
CALL

## **AFTER LANDING**

CLEAR ACTIVE RUNWAY  
Landing Light—AS REQUIRED  
Wing Flaps — UP  
Pitot Heat—OFF  
Mixture—LEAN FOR TAXI  
Contact ground or taxi to ramp

## **SHUTDOWN**

Tach Time - RECORD  
Avionics Bus 1 & Bus 2 – OFF  
Throttle—IDLE  
Mixture—IDLE CUTOFF  
Ignition—AFTER ENGINE  
STOPS, OFF  
Master – OFF  
STBY BATT – OFF  
Beacon - OFF  
Hobbs hours – RECORD  
Control Lock – INSTALL  
Checklist - STOW  
Chock wheels or tie down  
Pitot cover – INSTALL

CLOSE FLIGHT PLAN

## AUTOPILOT

### ROL Mode

A/P ON/OFF switch – OFF

*When switching the autopilot ON have one hand on the yoke and be ready for anything.*

*One of the ways that autopilots can fail is to drive the ailerons to full deflection.*

A/P ON/OFF switch – ON

The autopilot will start in ROL and VS mode to hold the wings level and the VS at that time.

### Heading Mode

HDG Bug – SET to current heading

HDG switch – ON

To make turns in this mode set the HDG Bug to the new heading. (Max 160° right or left)

### NAV Mode

*Use this mode to track enroute*

VOR – Tune and identify

Or GPS – desired course is magenta

PFD – Select desired source for

CDI on the HSI

If NOT ON COURSE - turn to an intercept heading.

NAV button - PUSH

If on course A/P will indicate “NAV”

If on intercept A/P will indicate

“NAV ARM”

*Note: Procedure turns, Holding, and missed approaches, must be flown in the HDG Mode*

### ALT Mode

Alt Preselect – SET

If at desired altitude:

ALT button – PUSH

A/P will indicate “ALT”

If not at desired altitude:

Vertical speed – SET

ARM button – PUSH

A/P will indicate “ALT ARM”

## Airspeeds KIAS

V<sub>so</sub> 40

V<sub>s1</sub> 48

V<sub>x</sub> 58

V<sub>y</sub> 74

V<sub>FE</sub> 110 10°

V<sub>FE</sub> 85 10° to FULL

V<sub>NO</sub> 129

V<sub>NE</sub> 163

V<sub>glide</sub> 68

## PRACTICE OR REAL EMERGENCY PROCEDURES

### ENGINE FAILURE DURING GROUND ROLL

Throttle—IDLE

Braking—AS REQUIRED

Directional Control—MAINTAIN

Exit runway if/when able

Shutdown

### ENGINE FAILURE IN FLIGHT

Emer. glide speed Vg = 68 KIAS

Identify landing site

Trim

Turn to it

Fuel selector –BOTH

Mixture – RICH

Aux fuel pump – ON

Ignition – to best operating Mag

L, R or Both

### SECURING THE ENGINE

Mixture Control—IDLE CUT OFF

Fuel Selector—OFF

Aux Fuel Pump—OFF

Magnetos—OFF