

# NORMAL PROCEDURES CHECKLISTS C-172SP

## INTRODUCTION

### USE OF CHECKLISTS

The importance of consistent use of the checklist cannot be overstated in pilot training. A major objective in primary flight training is to establish habit patterns that will serve pilots well throughout their entire flying career. Checklists provide a logical and standardized method to operate a particular make and model of airplane.

The following checklists contain the required normal and emergency procedures for the safe operation of the Cessna 172SP as specified in the Information Manual provided by the aircraft manufacturer. Specific flight training maneuvers are outlined in separate sections of this manual.

In order to increase operational knowledge of the airplane and provide a basis for decisive action, pilots should begin familiarizing themselves with the checklist early in flight training.

There are three primary methods of checklist usage. “*Read and DO*,” “*Do and Verify*,” and “*Critical to Flight*.”

**READ and DO:** Most sections of this checklist consist of “Read and Do” items. The pilot refers to the checklist items for the particular phase of flight and sets the required condition.

**Do and VERIFY:** These sections of the checklist are outlined in a black box and should be committed to memory. The pilot sets the required condition by memory and the checklist is picked up to verify that the appropriate condition for that phase of flight has been set.

**CRITICAL to FLIGHT:** Following a system failure of other emergency requiring immediate attention, there are certain critical items that need to be committed to memory. Once these critical items are accomplished to maintain safe flight, the remainder of the emergency can be resolved by reference to the checklist. These sections of the emergency checklist are outlined in a black box.

## PREFLIGHT INSPECTION

### FUSELAGE (Left Side)

Baggage Door.....CHECK/LOCKED  
General Condition.....CHECK  
Antennas.....CHECK  
Underbelly.....CHECK

### EMPENNAGE

General Condition.....CHECK  
Elevator and Trim Tab.....(Avoid Bending Tab).....CHECK  
Rudder and Cables .....CHECK  
Tie Down.....REMOVE

### RIGHT WING

Flap/Aileron/CounterWeights.....CHECK  
Wing Tip/Lights.....CHECK  
Leading Edge.....CHECK  
Tie Down.....REMOVE  
Fresh Air Inlet.....CHECK  
Landing Gear/Tire/Brakes.....CHECK  
Fuel Tank Sumps (All 5).....SAMPLE  
Fuel Level.....CHECK

### NOSE

Belly Fuel Drains (All 3).....CHECK  
Engine Oil (Min. 5 qts.).....CHECK  
Nose Gear/Tire.....CHECK  
Air Filter.....CLEAR  
Alternator Belt.....CHECK  
Propeller/Spinner.....CHECK  
Static Source.....CLEAR  
Windshield.....CLEAN

### LEFT WING

Fresh Air Inlet.....CHECK  
Landing Gear/Tire/Brakes.....CHECK  
Pitot Tube.....CHECK  
Fuel Vent.....CHECK  
Stall Warning Opening.....CLEAR  
Tie Down.....REMOVE  
Leading Edge.....CHECK  
Wing Tip/Lights.....CHECK  
Aileron/Counter Weights/Flap.....CHECK  
Fuel Tank Sumps (All 5).....SAMPLE  
Fuel Level.....CHECK  
**CHECKLIST.....COMPLETE**

## **BEFORE START**

Preflight Inspection.....COMPLETE  
Passenger Briefing.....COMPLETE  
Seat Belts.....CHECK  
Parking Brake.....SET  
Fuel Selector Valve.....BOTH  
Circuit Breakers.....CHECK  
Radios & Transponder.....OFF

## **STARTING ENGINE (Normal and/or Cold)**

Throttle.....1/4" OPEN  
Mixture.....IDLE CUT OFF  
Master Switch.....ON  
Lights (Beacon & Strokes).....ON  
Propeller Area....."CLEAR"  
Auxiliary Fuel Pump\*\*\*.....ON  
Mixture.....ADVANCE UNTIL FUEL FLOW RISES  
Mixture.....IDLE CUT OFF  
Auxiliary Fuel Pump.....OFF  
Ignition Switch.....START  
Mixture.....ADVANCE WHEN ENGINE STARTS  
Throttle.....1000 RPM  
*(If engine does not start within 30 seconds, repeat steps from  
\*\*\*Auxiliary Fuel Pump.)*  
Oil Pressure.....CHECK  
Mixture.....LEAN  
Flaps.....RETRACT  
Ammeter.....CHECK

## **MOVE TO BEFORE TAXI CHECK**

## **ENGINE START (Hot or Flooded)**

Throttle.....1/2 OPEN  
Mixture.....IDLE CUT OFF  
Ignition Switch.....START  
*(As Engine starts, ADVANCE Mixture & REDUCE Throttle)*  
Throttle.....1000 RPM  
Oil Pressure.....CHECK  
Mixture.....LEAN  
Flaps.....RETRACT  
Ammeter.....CHECK

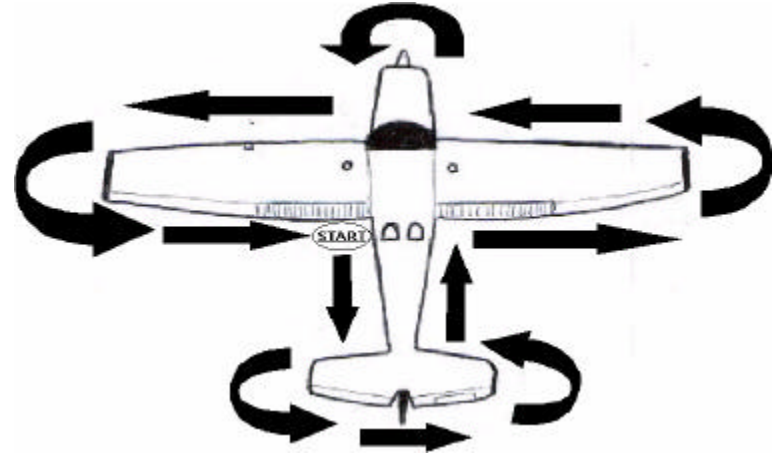
## **PREFLIGHT INSPECTION**

## **AIRCRAFT ACCEPTANCE**

Maintenance Status.....CHECK  
Emergency/Safety Equipment.....CHECK  
Hobbs/T.I.S. Meter Dispatch Records.....CHECK  
Tachometer Time Dispatch Records.....CHECK  
A.R.O.W. Documents.....CHECK

## **CABIN**

Aircraft Acceptance.....COMPLETE  
Control Yoke Lock.....REMOVE  
Pitot Tube Cover.....REMOVE  
Ignition Switch.....OFF  
Avionics Master Switch.....OFF  
Battery/Master Switch.....ON  
Fuel Gauges.....CHECK  
Avionics Master Switch.....ON  
Avionics Cooling Fan.....CHECK AUDIBLY FOR OPERATION  
Avionics Master Switch.....OFF  
Lights ON.....CHECK  
Annunciator Panel Switch.....TEST  
Static Pressure Alternate Source Valve.....OFF  
Flaps.....EXTEND/30°  
Pitot Heat.....ON/CHECK/OFF  
Battery/Master Switch.....OFF  
Fuel Selector Valve.....BOTH  
Fuel Shut Off Valve.....On (Push full in)  
PREPARE FOR WALK-AROUND INSPECTION



**BEFORE TAXI CHECK**

Avionics Master.....ON  
Radios & Avionics.....ON  
Transponder.....1200/STANDBY  
Circuit Breakers.....CHECK  
ATIS/ASOS.....OBTAIN  
Altimeter.....SET  
Clearance.....OBTAIN

**TAXI CHECK**

Taxi Area.....CLEAR  
Parking Brake.....RELEASE  
Brakes/Steering.....CHECK  
When clear of RAMP area...CHECK TC, HI, ALT, M/ Compass

**TAXI CHECK COMPLETE**

**GROUND ENGINE RUN-UP CHECK**

Parking Brake.....SET  
Doors.....CLOSED & LATCHED  
Fuel Selector Valve.....BOTH  
Elevator Trim.....SET  
Mixture.....FULL RICH  
Throttle.....1800 RPM  
Engine Instruments (RPM, Oil Pressure/Temp).....CHECK  
Ammeter.....CHECK  
Magnetos (Max. drop 125/Max. diff. 50).....CHECK  
Vacuum Gauge (4.6 to 5.4).....CHECK  
Throttle.....IDLE  
Throttle.....1000 RPM  
Mixture.....LEAN

**BEFORE TAKEOFF CHECK**

Flight Controls.....FREE & CORRECT  
Flight Instruments (see page 8 if IFR).....CHECK  
Radios/Avionics/NAV/GPS.....SET  
Annunciator Panel.....TEST  
Seat Belts.....FASTENED  
Flaps/Trim.....SET

**TAKEOFF BRIEFING**

- Computed takeoff distance.
- Available runway distance.
- Climb-out speeds.
- Brief intentions if engine fails.

Pitot Heat.....AS REQUIRED  
Doors/Windows.....SECURED  
Parking Brake.....RELEASE  
Clearance.....OBTAIN

**BEFORE LANDING CHECK**

Auto Pilot.....OFF  
Mixture.....SET  
Landing Light.....ON  
Fuel Selector.....BOTH  
Radios.....SET  
ATIS/ASOS.....OBTAIN  
Altimeter.....SET  
Heading Indicator.....SET  
Seat Belts/Harnesses.....FASTENED  
Clearance.....OBTAIN  
Flaps.....AS REQUIRED

**AFTER LANDING CHECK – When clear of the runway**

Flaps.....RETRACT  
Mixture.....LEAN  
Landing Light.....OFF  
Pitot Heat.....OFF  
Transponder.....STANDBY  
Clearance.....OBTAIN

**ENGINE SHUTDOWN**

Parking Brake.....SET  
Throttle.....1000 RPM  
Radios/Avionics.....OFF  
Avionics Master Switch.....OFF  
External Lights (Except Strokes & Beacon).....OFF  
Throttle.....IDLE  
Magnetos.....GROUND CHECK  
Mixture.....IDLE CUT-OFF  
Magnetos.....OFF  
Strobe Light.....OFF  
Beacon Light.....OFF  
Battery/Alternator Master Switch.....OFF  
Parking Brake.....RELEASE

**SECURING AIRCRAFT**

Dispatch Record (Tach. & Hobbs).....RECORD  
Flight Control Lock.....SECURE  
Cabin Interior.....CLEAN  
Doors/Windows.....CLOSE & LOCK  
Tie Downs.....SECURE  
Post Flight Inspection.....COMPLETE

**INSTRUMENT COCKPIT CHECK**

Audio Panel.....SET AUTO TO PHONES  
Marker Beacon.....TEST AND SET TO SPEAKER  
COM. 1 .....SET ATC/TOWER FREQ.  
COM. 2.....SET ATIS/GROUND  
NAV. 1 .....SET VOT/VOR & ID  
NAV. 2 .....SET VOT/VOR & ID  
OBS.....COMPARE READINGS  
Sensitivity.....CHECK  
Ambiguity.....CHECK  
DME.....SET & ID  
ADF.....SET, ID, & TEST  
Transponder.....SET CODE & TEST  
IFR Clearance.....OBTAIN

1. Make sure audio panel is set to AUTO on phones.
2. MARKER needs to be tested, set to LOW, and placed on speaker
3. COM 1 should be set to the next series of primary ATC frequencies. (TWR, APPROACH/DEPARTURE)
4. COM 2 should be set to the next series of secondary ATC frequencies. (GDN, ATIS, COMPANY)
5. NAV 1 should be set to the VOT or local VOR, ID the station, and center the OBS/HSI.
6. NAV 2 should be set to the VOT or local VOR, ID the station, and center the OBS/HSI.
7. Compare readings and record in the VOR log if necessary.
8. Check the sensitivity by turning the OBS off 5 degrees each way. The CDI needle should deflect half scale.
9. Check ambiguity by setting in the reciprocal heading and check the accuracy.
10. Setup the DME and ID.
11. Tune in the local NDB and ID.
12. Set the appropriate code in the transponder and test.

**INSTRUMENT COCKPIT CHECK COMPLETE**

**LINEUP CHECK – Prior to taxing onto the runway.**

Mixture.....FULL RICH  
Landing Light.....ON  
Transponder.....ON ALT  
Time Off.....RECORD  
Final Approach Area.....CLEAR  
**LINEUP CHECK COMPLETE**

**CLIMB CHECK AT 1000 FEET AGL**

Flaps.....VERIFIED RETRACTED  
Cruise Climb Airspeed..... 85 KIAS  
Departure Area.....CLEAR  
**CLIMB CHECK COMPLETE**

**CRUISE CHECK**

Cruise Power.....SET  
Mixture.....LEAN  
Landing Light.....OFF  
Heading Indicator.....SET  
**CRUISE CHECK COMPLETE**

**PRE-MANEUVER CHECK**

Mixture.....SET  
Landing Light.....ON  
Min. Safe Altitude.....VERIFY  
Area.....CLEAR  
**PRE-MANEUVER CHECK COMPLETE**

**POST-MANEUVER CHECK**

Landing Light.....OFF  
Mixture.....LEAN  
Engine Gauges.....CHECK  
**POST-MANEUVER CHECK COMPLETE**

## **EMERGENCY PROCEDURES C-172 SP**

### **GENERAL**

This section provides the recommended procedures for coping with various emergency or critical situations. All of the emergency procedures required by the FAA, as well as those necessary for the operation of the airplane are presented.

This section contains the emergency procedures checklist. They supply an immediate action sequence to be followed during critical situations with little emphasis on operation of the systems.

The amplified emergency procedures corresponding to the emergency procedures checklist items are found in the Aircraft Flight Manual (AFM). These amplified procedures contain additional information to provide the pilot with a more complete description of the procedures so they may be more easily understood.

Pilots must familiarize themselves with the procedures in this section and must be prepared to take the appropriate action should an emergency situation arise. The procedures are offered as a course of action for coping with the particular situation or condition described. They are not a substitute for sound judgment and common sense.

Most basic emergency procedures are a normal part of pilot training. The information presented in this section is not intended to replace that training. The pilot should review standard emergency procedures periodically to remain proficient in them.

All emergency procedures outlined in boxes need to be committed to memory and can be referred to if time permits. Procedures that are not outlined in boxes should be performed by reference to the appropriate emergency checklist.

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### **ENGINE POWER LOSS DURING FLIGHT**

Establish Best Glide Attitude.....	68 KIAS
Landing Area.....	SELECT
Fuel Shutoff Valve.....(Push Full In).....	ON
Fuel Selector Valve.....	BOTH
Auxiliary Fuel Pump Switch.....	ON
Mixture.....	RICH
Ignition Switch.....	BOTH (or START if propeller is stopped.)

#### **When power is restored:**

Auxiliary Fuel Pump.....	OFF
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**If power is not restored, prepare for a power off landing.**

### **POWER OFF LANDING**

Trim for best glide angle and airspeed (68 KIAS).  
Establish a spiral pattern, or as necessary to be at 1000 feet above field at downwind position for normal landing approach.

Touchdown should normally be made at the slowest possible airspeed with full flaps extended.

If time permits, make an emergency call on an ATC frequency or 121.5 and set transponder code to 7700.

#### **When committed to landing:**

Passenger Seat Backs .....	MOST UPRIGHT POSITION.
Seat Belts.....	SECURE
Mixture.....	IDLE CUT-OFF
Fuel Shutoff Valve.....(Pull Full Out).....	OUT
Ignition Switch.....	OFF
Flaps.....	AS REQUIRED 30°
Master Switch.....(After landing is assured).....	OFF
Doors.....	UNLATCH
Touchdown.....	SLIGHTLY TAIL LOW

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**ELECTRICAL FIRE IN FLIGHT – SMOKE IN CABIN**

Battery/Master Switch.....OFF  
Vents.....OPEN  
Cabin Heat.....OFF  
**Land as soon as practical.**

**LOSS OF OIL PRESSURE**

Monitor engine temperature gauges.  
Land as soon as practical and investigate the cause.  
**Prepare for power off landing.**

**LOSS OF FUEL PRESSURE**

Auxiliary Fuel Pump.....ON  
Fuel Selector Valve.....BOTH or switch tanks if necessary  
**Land as soon as practical.**

**HIGH OIL TEMPERATURE**

Mixture.....RICH  
Throttle.....REDUCE  
Pitch Attitude.....LOWER TO INCREASE AIRFLOW  
**Land at nearest airport and investigate the problem.**  
**Prepare for power off landing.**

**ELECTRICAL FAILURES IN FLIGHT**

**ALT annunciator light illuminated.**  
Ammeter.....CHECK TO VERIFY INOP ALTERNATOR  
Alternator Switch.....OFF  
Alternator Field Circuit Breaker.....CHECK & RESET  
Alternator Switch.....ON

**If power is not restored:**  
Alternator Switch.....OFF

**NOTE:** If alternator output cannot be restored, reduce electrical loads and land as soon as practical. The battery is the only remaining source of electrical power...use it wisely.

**SPIN RECOVERY**

Throttle.....IDLE  
Rudder.....FULL OPPOSITE OF DIRECTION OF ROTATION  
Ailerons.....NEUTRAL  
Control Yoke (pitch).....FORWARD  
**When rotation stops, regain level flight.**

**ENGINE POWER LOSS DURING TAKEOFF**

**If sufficient runway remains for a normal landing, land straight ahead.**

**If insufficient runway remains:**  
Maintain a safe airspeed.  
Make only shallow turns to avoid obstacles and land.  
Set flaps as the situation requires.

**If sufficient altitude has been gained to attempt a restart:**  
Maintain safe airspeed  
Fuel Selector.....BOTH  
Mixture.....RICH  
Auxiliary Fuel Pump.....ON  
**If power is not restored, proceed with power off landing.**

**ENGINE FIRE DURING START**

Starter.....CONTINUE CRANKING ENGINE

**If engine starts:**  
Power.....1800 RPM  
Ignition.....OFF  
Shutdown and inspect for damages

**If engine fails to start:**  
Throttle.....FULL OPEN  
Mixture.....IDLE CUT-OFF  
Cranking Starter.....CONTINUE  
Fuel Shutoff Valve.....(Pull Full Out).....OFF  
Auxiliary Fuel Pump.....OFF  
Fire Extinguisher.....ACTIVATE  
Master Switch.....OFF  
Ignition Switch.....OFF  
Parking Brake.....RELEASE  
Inspect for damages

**ENGINE FIRE IN FLIGHT**

Mixture.....IDLE CUT-OFF  
Fuel Shutoff Valve.....(Pull Full Out).....OFF  
Auxiliary Fuel Pump.....OFF  
Master Switch.....OFF  
Cabin Heat & Air.....OFF  
Airspeed.....+100 KIAS  
**Proceed with Power off landing.**