

**ON-TRACK AVIATION LIMITED**

**CESSNA 172SP**

**FLIGHT CHECK LIST**

**CHECKS SIDELINED SHOULD BE  
CARRIED OUT FROM MEMORY**

## FULL CHECK A

Note:

Before entering the aircraft, check surfaces clear of hoar frost, snow, ice and mud

### COCKPIT PREPARATIONS

1.	Control lock	Stowed
2.	Parking brake	On
3.	Fire extinguisher	Check
4.	First aid kit	Check
5.	Magneto/starter switch	OFF, keys out
6.	Avionics master switch	OFF
7.	Battery master/alternator switch	ON
8.	Fuel selector	Check contents Select lowest tank
9.	Fuel shutoff valve	ON
10.	Low fuel annunciators (L Low Fuel R)	Out
11.	Avionics master switch	ON
12.	Avionics cooling fan	Audible
13.	Avionics master switch	OFF
14.	Alternate static pressure source	OFF
15.	Annunciator panel	TST
16.	Fin beacon	Check
17.	Wing strobes	Check
* 18.	Taxi/landing light(s)	Check
19.	Pitot heater	Check
* 20.	Nav, cockpit and under wing lights	Check
21.	Flaps	Down
22.	Battery master/alternator switch	OFF

\* These items may be omitted provided no part of the planned flight takes place at night

### REAR FUSELAGE AND TAIL SECTION

1.	Fuselage skin and windows	Check
2.	Baggage door	Secure
3.	Fin surfaces	Check
4.	Elevator and trim tab	Check
5.	Rudder	Condition
6.	Fin beacon and nav light	Check
7.	Aerials	Check
8.	Fuselage skin and windows	Check
9.	Tie down	Removed

**STARBOARD WING**

- |    |                               |                                  |
|----|-------------------------------|----------------------------------|
| 1. | Flap                          | Check                            |
| 2. | Aileron                       | Check                            |
| 3. | Wing tip and nav/strobe light | Check                            |
| 4. | Wing Surface                  | Check                            |
| 5. | Fuel tank, vents and drains   | Contents<br>Water/sediment check |
| 6. | Strut                         | Secure                           |
| 7. | Under wing light              | Check                            |
| 8. | Tie down                      | Removed                          |
| 9. | Landing gear                  | Check                            |

**FRONT FUSELAGE**

- |     |                             |   |
|-----|-----------------------------|---|
| 1.  | Windscreen                  | Condition   |
| 2.  | Oil contents                | Check,<br>5 US quarts minimum<br>8 US quarts extended flights |
| 3.  | Access flap                 | Secure  |
| 4.  | Propeller and spinner       | Check   |
| 5.  | Air filter                  | Check   |
| 6.  | Fuel drain (under fuselage) | Water/sediment check  |
| 7.  | Exhaust pipe                | Secure  |
| 8.  | Nose wheel                  | Check   |
| 9.  | Static vent                 | Unblocked   |
| 10. | Cabin doors                 | Check   |

**PORT WING**

- |     |                               |                                  |
|-----|-------------------------------|----------------------------------|
| 1.  | Landing gear                  | Check                            |
| 2.  | Strut                         | Secure                           |
| 3.  | Under wing light              | Check                            |
| 4.  | Tie down                      | Removed                          |
| 5.  | Fuel tank, vents and drains   | Contents<br>Water/sediment check |
| 6.  | Wing surfaces                 | Check                            |
| 7.  | Pitot head                    | Unblocked                        |
| 6.  | Taxi/landing light(s)         | Condition                        |
| 8.  | Stall warner                  | Check                            |
| 9.  | Wing tip and nav/strobe light | Check                            |
| 10. | Aileron                       | Check                            |
| 11. | Flap                          | Check                            |

## TRANSIT PRE-FLIGHT CHECKS

### COCKPIT PREPARATION

- |    |                                  |                                      |
|----|----------------------------------|--------------------------------------|
| 1. | Parking brake                    | On                                   |
| 2. | Magneto/starter switch           | OFF, keys Out                        |
| 3. | Battery master/alternator switch | ON                                   |
| 4. | Fuel selector                    | Check contents<br>Select lowest tank |
| 5. | Fuel shutoff valve               | ON                                   |
| 6. | Flaps                            | Down                                 |
| 7. | Battery master/alternator switch | OFF                                  |

### EXTERNAL CHECKS

- |     |                           |   |
|-----|---------------------------|---|
| 1.  | Aircraft surface/controls | Check   |
| 2.  | Flaps                     | Check   |
| 3.  | Fuel contents             | Check   |
| 4.  | Landing gear              | Check   |
| 5.  | Windscreen                | Clean   |
| 6.  | Oil contents              | Check<br>5 US quarts minimum<br>8 US quarts extended flight |
| 7.  | Access flap               | Secure  |
| 8.  | Propeller and spinner     | Check   |
| 9.  | Pitot head                | Unblocked   |
| 10. | Static vent               | Unblocked   |

**BEFORE STARTING ENGINE**

- |     |                                  |                           |
|-----|----------------------------------|---------------------------|
| 1.  | External check                   | Complete                  |
| 2.  | Cabin doors                      | Closed, locked            |
| 3.  | Parking brake                    | On                        |
| 4.  | Seat and seat belts              | Adjusted, secure          |
| 5.  | Ailerons, elevators, trim        | Full and correct movement |
| 6.  | External power                   | Connect (if reqd)         |
| 7.  | Battery master/alternator switch | ON                        |
| 8.  | Navigation lights (Night only)   | ON                        |
| 9.  | Circuit breakers                 | Made                      |
| 10. | Avionics master switch           | OFF                       |
| 11. | Fin beacon                       | ON                        |

**STARTING ENGINE**

- |    |                        |  |
|----|------------------------|--|
| 1. | Throttle               | Set 1/4 inch open  |
| 2. | Mixture                | ICO  |
| 3. | Engine                 | Prime if cold<br>(To prime engine: Fuel pump ON, Mixture RICH, Fuel flow rises,<br>Mixture ICO, Fuel pump OFF) |
| 4. | Propeller area         | Clear  |
| 5. | Magneto/starter switch | BOTH/START<br>(max 30 secs)  |
| 6. | Mixture                | RICH as engine fires   |

**AFTER ENGINE START**

- |     |                          |                             |
|-----|--------------------------|-----------------------------|
| 1.  | Starter warning light    | Out                         |
| 2.  | Oil pressure             | Rising within 30 secs       |
| 3.  | Throttle                 | 1000 rpm                    |
| 4.  | External power           | Disconnect (if reqd)        |
| 5.  | Avionics master switch   | ON                          |
| 6.  | Alternator               | Charging                    |
| 7.  | Suction                  | 4.6 to 5.4 inches Hg        |
| 8.  | Annunciator panel lights | Out                         |
| 9.  | Radio/nav/intercom       | Set                         |
| 10. | Transponder              | STBY                        |
| 11. | NAV/GPS switch           | Set                         |
| 12. | Magnetos                 | Drop not stop               |
| 13. | Flight instruments       | Check, set altimeter and DI |
| 14. | Flaps                    | UP                          |

**TAXYING**

- |    |                    |                     |
|----|--------------------|---------------------|
| 1. | Brakes             | Check               |
| 2. | Flight instruments | Check               |
| 3. | Rudder             | Check full movement |

**POWER CHECK**

- |    |                            |  |
|----|----------------------------|--|
| 1. | Temperatures and pressures | Check in green                                   |
| 2. | Fuel selector              | Select other tank                                |
| 3. | Throttle                   | 1800 rpm   |
| 4. | Magnetos                   | Check<br>Max drop 150 rpm<br>Differential 50 rpm |
| 5. | Alternator                 | Charging   |
| 6. | Suction                    | 4.6 to 5.4 inches Hg                             |
| 7. | Throttle idle              | 700-800 rpm                                      |
| 8. | Throttle                   | 1000 rpm   |

**PRE-TAKE OFF**

- |     |                             |                          |
|-----|-----------------------------|--------------------------|
| 1.  | Trim                        | TAKE OFF                 |
| 2.  | Throttle friction           | Set                      |
| 3.  | Mixture                     | RICH                     |
| 4.  | Fuel selector               | BOTH<br>Contents checked |
| 5.  | Flaps                       | As required              |
| 6.  | Engine instruments          | Check in green           |
| 7.  | Annunciator panel lights    | Out                      |
| 8.  | Fin beacon                  | ON                       |
| 9.  | Seat backs                  | Most upright position    |
| 10. | Seat and seat belts         | Secure                   |
| 11. | Cabin doors                 | Closed, locked           |
| 12. | Windows                     | Closed, locked           |
| 13. | Flying controls             | Full and free movement   |
| 14. | Flight instruments          | Check                    |
| 15. | Auotpilot                   | OFF                      |
| 16. | ATC clearance (if required) | Obtained                 |
| 17. | Emergency brief             | Complete                 |

When cleared onto runway before releasing brakes:

- |     |              |     |
|-----|--------------|-----|
| 18. | Pitot heater | ON  |
| 19. | Transponder  | ALT |
| 20. | Wing strobes | ON  |

**AFTER TAKE OFF / MISSED APPROACH**

- |    |                       |             |
|----|-----------------------|-------------|
| 1. | Flaps                 | Up          |
| 2. | Engine                | Check       |
| 3. | Taxi/landing light(s) | As required |

**IN-FLIGHT CHECKS**

1.	Fuel	Contents and balance
2.	Radio	As required
3.	Engine	Temperatures, pressures, amps, suction and mixture
4.	DI	Synchronized
5.	Altimeter	Pressure setting

**PRE-LANDING CHECKS**

1.	Fuel	BOTH Contents and balance
2.	Mixture	RICH
3.	Brakes	Check, off
4.	Landing light(s)	As required
5.	Seat backs	Most upright position
6.	Seat and seat belts	Secure
7.	Autopilot	OFF

**AFTER LANDING CHECK**

1.	Flaps	UP
2.	Throttle friction	Loose
3.	Taxi/landing light(s)	As required
4.	Pitot heater	OFF
5.	Transponder	STBY
6.	Trim	TAKE OFF

**CLOSING DOWN**

1.	Parking brake	On
2.	Throttle	1000 rpm
3.	Magnetos	Drop not stop
4.	Avionics master switch	OFF
5.	Throttle	CLOSED
6.	Mixture	ICO
7.	Magneto/starter switch	OFF, keys out
8.	Fuel selector	LEFT or RIGHT (prevents cross feeding)
9.	Electrical equipment	OFF
10.	Battery master/alternator switch	OFF
11.	Straps	Leave tidy
12.	Control lock	Fitted

**PRE-STALLING CHECKS**

- |    |   |          |   |
|----|---|----------|---|
| 1. | H | Height   | Sufficient to recover by 3000ft agl   |
| 2. | A | Airframe | Flaps as required   |
| 3. | S | Security | Cabin doors and windows closed and locked, No loose articles<br>Seat backs most upright position<br>Seat and seat belts secure              |
| 4. | E | Engine   | Fuel selector BOTH, Fuel pump ON<br>Fuel contents and balance<br>Mixture RICH, Fuel shutoff valve ON<br>Temperatures and pressures in green |
| 5. | L | Location | Clear of active airfields,<br>Built up areas, Cloud, Controlled airspace<br>and Danger areas  |
| 6. | L | Lookout  | Clear of other aircraft   |

**ENGINE FIRE (GROUND)**

- |    |   |      |
|----|---|------|
| 1. | Continue to crank/run engine to suck flames into engine |      |
| 2. | Throttle  | OPEN |
| 3. | Mixture   | ICO  |
| 4. | Fuel shutoff valve                                      | OFF  |
| 5. | Fuel pump   | OFF  |
| 6. | Battery master/alternator switch                        | OFF  |
| 7. | Magnetos  | OFF  |
| 8. | Brakes  | Off  |
| 9. | Evacuate aircraft as soon as possible                   |      |

**CABIN FIRE**

- |    |  |                     |
|----|--|---------------------|
| 1. | Battery master/alternator switch                   | OFF                 |
| 2. | Vents/cabin air/heat                               | CLOSED              |
| 3. | Fire extinguisher                                  | Operate as required |
| 4. | Ventilate cabin after using hand fire extinguisher |                     |
| 5. | Land as soon as possible                           |                     |

**WING FIRE**

- |    |  |     |
|----|--|-----|
| 1. | Nav/strobe/taxi/landing lights                     | OFF |
| 2. | Pitot heat   | OFF |
| 3. | Side slip to keep flames away from fuel tank/cabin |     |
| 4. | Land as soon as possible with flaps retracted      |     |

**ELECTRICAL FIRE (AIR)**

- |    |  |                     |
|----|--|---------------------|
| 1. | Battery master/alternator switch                   | OFF                 |
| 2. | Vents/cabin air/heat                               | CLOSED              |
| 3. | Fire extinguisher                                  | Operate as required |
| 4. | Avionics master switch                             | OFF                 |
| 5. | All other switches (except ignition)               | OFF                 |
| 6. | Ventilate cabin after using hand fire extinguisher |                     |

If fire appears extinguished and electrical power required:

- |     |                                  |                     |
|-----|----------------------------------|---------------------|
| 7.  | Battery master/alternator switch | ON                  |
| 8.  | Circuit breakers                 | Check, DO NOT RESET |
| 9.  | Avionics master switch           | ON                  |
| 10. | Radio/electrical switches        | ON one at a time    |

**ENGINE FIRE (AIR)**

- |     |   |                                       |
|-----|---|---------------------------------------|
| 1.  | Mixture   | ICO                                   |
| 2.  | Fuel shutoff valve                                  | OFF                                   |
| 3.  | Fuel pump   | OFF                                   |
| 4.  | Magnetos  | OFF                                   |
| 5.  | Battery master/alternator switch                    | OFF                                   |
| 6.  | Cabin heat/air                                      | OFF, except overhead vents            |
| 7.  | Airspeed  | 100 kts or more<br>to extinguish fire |
| 8.  | Mayday call, forced landing, do not attempt restart |                                       |
| 9.  | Doors   | Unlatch                               |
| 10. | Seat backs  | Most upright position                 |
| 11. | Seat and seat belts                                 | Secure                                |
| 12. | Battery master/alternator switch                    | ON, OFF after flaps selected          |

**ENGINE FAILURE**

- Glide 70 kts and Trim  
Select a field and plan the descent  
Check reason for failure:
- |    |                                       |                                       |
|----|---------------------------------------|---------------------------------------|
| 1. | Fuel selector                         | BOTH, LEFT or RIGHT                   |
| 2. | Fuel shutoff valve                    | ON                                    |
| 3. | Fuel pump                             | ON                                    |
| 4. | Mixture                               | RICH                                  |
| 5. | Throttle                              | 1/4 inch open                         |
| 6. | Magnetos                              | BOTH or<br>START if propeller stopped |
| 7. | Mayday call then CRASH / EFATO CHECKS |                                       |

**CRASH / EFATO CHECKS**

- |    |  |                       |
|----|--|-----------------------|
| 1. | Throttle   | Closed                |
| 2. | Mixture  | ICO                   |
| 3. | Fuel shutoff valve   | OFF                   |
| 4. | Magnetos   | OFF                   |
| 5. | Doors  | Unlatch               |
| 6. | Seat backs   | Most upright position |
| 7. | Seats and seat belts                                       | Secure                |
| 8. | Mayday call  |                       |
| 9. | Battery master/alternator switch<br>(After flaps selected) | OFF                   |

**LOW VOLTAGE ANNUNCIATOR (VOLTS) ILLUMINATES**

- |    |         |   |
|----|---------|---|
| 1. | Ammeter | Check to verify if alternator inoperative |
|----|---------|---|

If ammeter shows discharge:

- |    |                                  |                      |
|----|----------------------------------|----------------------|
| 2. | Avionics master switch           | OFF                  |
| 3. | Alternator circuit breaker       | Check and reset once |
| 4. | Battery master/alternator switch | OFF                  |
| 5. | Battery master/alternator switch | ON                   |
| 6. | Low voltage annunciator (VOLTS)  | Out                  |
| 7. | Avionics master switch           | ON                   |

Low voltage annunciator (VOLTS) illuminates again:

- |     |  |     |
|-----|--|-----|
| 8.  | Alternator switch  | OFF |
| 9.  | Reduce electrical loads to minimum                                 |     |
| 10. | Battery only source of electrical power, land as soon as practical |     |

CAUTION: With alternator switch OFF compass deviations of as much as 25° may occur

**AMMETER SHOWS EXCESSIVE RATE OF CHARGE (FULL SCALE DEFLECTION)**

- |    |  |     |
|----|--|-----|
| 1. | Alternator switch  | OFF |
| 2. | Reduce electrical loads to minimum                                 |     |
| 3. | Battery only source of electrical power, land as soon as practical |     |

CAUTION: With alternator switch OFF compass deviations of as much as 25° may occur

**STATIC SOURCE BLOCKAGE (ERRONEOUS READING SUSPECTED)**

- |    |  |         |
|----|--|---------|
| 1. | Alternate static pressure source valve | ON      |
| 2. | Airspeed                               | Monitor |

**LEFT OR RIGHT VACUUM ANNUNCIATOR ILLUMINATED**

- |    |              |   |
|----|--------------|---|
| 1. | Vacuum gauge | Check to verify normal operating limits |
|----|--------------|---|

CAUTION: If vacuum outside normal limits a failure has occurred within vacuum system and limited panel procedures may be required

## **RECOMMENDED SPEEDS AND POWER SETTINGS - CESSNA 172SP**

### **TAKE-OFF**

Normal	$V_R$ 65 kts	Full power	Clean
Soft field	$V_R$ 51 kts	Full power	Flap 10°
	Normal climb 75-85 kts	Full power	Clean
	Best rate of climb 74 kts	Full power	Clean
	Best angle of climb 62 kts	Full power	Clean

### **CRUISE**

Normal	100 kts	2300 rpm	10 US gallons/hour
--------	---------	----------	--------------------

### **APPROACH**

Normal	60-70 kts	1500 rpm	Flap 30°
Flapless	65-75 kts	As required	Clean
Glide	70 kts	Idle	Clean
Short Field	61 kts	As required	Flap 30°

Note:

After flap 30° is selected on a glide approach speed may be reduced towards 65 kts

### **STALLING SPEEDS**

Power off / 2250 lbs	Clean	Flap 30°
	48 kts	40 kts

### **SPEED LIMITATIONS**

Never exceed speed ( $V_{NE}$ )	164 kts
Maximum normal speed ( $V_{NO}$ )	128 kts
Maximum manoeuvre speed ( $V_A$ )	105 kts / 2550 lbs
	98 kts / 2200 lbs
	90 kts / 1900 lbs
Maximum flap extend speed ( $V_{FE}$ )	110 kts / Flap 10°
	85 kts / Flap 20° and 30°
Maximum crosswind	15 kts

### **LIMITATIONS**

Avoid sideslips with flaps extended

Flight into known icing conditions prohibited

**LOADING**

Normal category

Usable fuel 53 US gallons

Maximum weight 2250 lbs

Maximum baggage 54 kg

+3.8g and -1.52g flaps up, +3g flaps down

Utility category

Maximum weight 2200 lbs

No baggage and rear seats must not be occupied

+4.4g and -1.76g flaps up, +3g flaps down

Spinning, stalling and steep turns approved

Inverted flight manoeuvres and intentional spins with flap extended not permitted

**GLIDING RANGE**

Engine windmilling, clean, still air and 68 kts

1.4 nm per 1000 ft