

# Cessna 172

## Preflight Inspection Cockpit

Aircraft docs (ARROW)	<b>Check</b>
Weight & Balance	<b>Check</b>
Parking Brake	<b>Set</b>
Control wheel lock	<b>Remove</b>
Hobbs/Tach	<b>Check/Remove</b>
Ignition	<b>Off</b>
Avionics Power Switch	<b>Off</b>
Master Switch	<b>On</b>
Fuel quantity indicators	<b>Check</b>
Pitot Heat	<b>On</b>
Avionics Master Switch	<b>On</b>
Avionics Cooling Fan	<b>Audible</b>
Avionics Master Switch	<b>Off</b>
Static Pressure Alt Src Valve	<b>Off</b>
Annunciator Panel Switch	<b>Test</b>
Annunciator's Illuminate	<b>Check</b>
Annunciator Panel Switch	<b>Off</b>
Flaps	<b>Extend</b>
Pitot Heat	<b>Off</b>
Master Switch	<b>Off</b>
Pitot Tube	<b>Test for Heat</b>
Fuel shutoff valve	<b>On (In)</b>

## Fuselage and Empenage

Baggage Door	<b>Closed &amp; Locked</b>
Rivets	<b>Check</b>
Rudder Gust Lock	<b>Remove</b>
Tail Tie-Down	<b>Disconnect</b>
Control surfaces	<b>Free &amp; Secure</b>
Trim Tab	<b>Check Security</b>
Antennas	<b>Check Security</b>

## Right wing

Wing tie-down	<b>Disconnect</b>
Aileron	<b>Free and Secure</b>
Flaps	<b>Secure</b>
Main wheel tire	<b>Inflated/Cond</b>
Brakes	<b>Not Leaking</b>
Fuel tank sump	<b>Sample</b>
Fuel Quantity	<b>Check</b>
Fuel Filler cap	<b>Secure</b>

## Nose

Engine oil level	<b>Check</b>
Fuel strainer	<b>Sample</b>
Propeller and spinner	<b>Check</b>

# Preflight

Alternator belt	<b>Check</b>
Air intake	<b>Check</b>
Carburetor air filter	<b>Check</b>
Landing lights	<b>Check</b>
Nose wheel strut & tire	<b>Check</b>
Nose-Tie down	<b>Disconnect</b>
Static source opening	<b>Check</b>

## Left Wing

Wing tie-down	<b>Disconnect</b>
Aileron	<b>Free and Secure</b>
Flaps	<b>Secure</b>
Main wheel tire	<b>Inflated/Cond</b>
Brakes	<b>Not Leaking</b>
Fuel tank vent open	<b>Check</b>
Fuel tank sump	<b>Sample</b>
Fuel Quantity	<b>Check</b>
Fuel Filler cap	<b>Secure</b>
Pitot tube	<b>Uncover and Check</b>
Stall warning	<b>Check</b>
Landing/Taxi Light(s)	<b>Clean/Cond</b>

## Before starting engine

Preflight inspection	<b>Complete</b>
Passenger Briefing	<b>Complete</b>
Seats, belts	<b>Adjust &amp; Lock</b>
Doors	<b>Closed &amp; Locked</b>
Brakes	<b>Test &amp; Set</b>
Circuit breakers	<b>Check In</b>
Electrical Equip/Autopilot	<b>Off</b>
Avionics Power Switch	<b>Off</b>
Fuel Selector Valve	<b>Both</b>
Fuel shutoff valve	<b>On (In)</b>

## Starting Engine

Throttle	<b>Open 1/4 inch</b>
Mixture	<b>Rich (IN)</b>
Carb heat	<b>Cold (IN)</b>
Prime	<b>As required; locked</b>
Aux Fuel Pump	<b>On</b>
Propeller area	<b>Clear</b>
Master Switch	<b>On</b>
Beacon	<b>On</b>
Ignition	<b>Start</b>
Throttle	<b>Adjust 1000 rpm</b>
Oil Pressure	<b>Check normal</b>
Aux Fuel Pump	<b>Off</b>
Avionics Master Switch	<b>On</b>
Radios	<b>On</b>

# Cessna 172

Transponder	<b>Standby</b>
Flaps	<b>Up</b>
Ammeter	<b>Check</b>
Heading Indicator	<b>Set</b>
ATIS/AWOS/ASOS	<b>Obtain</b>
Altimeter	<b>Set</b>
Autopilot	<b>Engage</b>
Flight Controls	<b>Move Against AP</b>
Autopilot	<b>Disconnect (Sound)</b>
Departure & Taxi Clrnce	<b>Contact</b>

## Before Takeoff

Parking brake	<b>Set</b>
Cabin doors	<b>Closed &amp; Locked</b>
Seats, belts	<b>Adjust &amp; Lock</b>
Flight controls	<b>Free &amp; Correct</b>
Instruments (4)	<b>Set</b>
Fuel Quantity	<b>Check</b>
Fuel Shutoff Valve	<b>On</b>
Mixture	<b>Rich (IN)</b>
Fuel Selector Valve	<b>Both</b>
Elevator Trim	<b>Set for TAKEOFF</b>
Throttle	<b>1800 rpm</b>
Magnetos	<b>Check</b>
Suction gage	<b>Check</b>
Engine Instruments	<b>Check</b>
Ammeter	<b>Check</b>
Mixture	<b>Set for Density Alt</b>
Carb heat	<b>On</b>
Annunciator Panel	<b>Clear</b>
Throttle	<b>1000 rpm</b>
Throttle Friction Lock	<b>Adjust</b>
Strobe Lights	<b>On</b>
Radios/Avionics	<b>Set</b>
Autopilot	<b>Off</b>
Flaps	<b>Set for Takeoff (0<sup>0</sup>-10<sup>0</sup>)</b>
Parking Brake	<b>Release</b>
Windows	<b>Closed</b>

## Takeoff

Flaps	<b>Up</b>
Carb heat	<b>Cold (In)</b>
Transponder	<b>Altitude</b>
Trim	<b>set for TAKEOFF</b>
Throttle	<b>Full</b>
Tach, oil, airspeed	<b>Check</b>
Elevator	<b>Lift at 55 KIAS</b>
Climb	<b>70-80 KIAS</b>

# In Flight

## Cruise

Pitch	<b>Set</b>
Throttle	<b>As required</b>
Trim	<b>Set</b>
Mixture	<b>Adjust</b>

## Pre-landing checklist

Fuel selector	<b>On</b>
Mixture	<b>Rich</b>
Carb Heat	<b>On</b>
Seatbelts	<b>Fastened</b>

## Approach

Flight instruments	<b>Ckd &amp; Set</b>
Radios	<b>Checked</b>
ATIS	<b>Checked</b>
Carb Heat	<b>On (Out)</b>
Mixture	<b>Rich</b>
Landing light	<b>On</b>
Airspeed	<b>65-75 KIAS (Flaps Up)</b> <b>60-70 KIAS (Flaps Dn)</b>

## After landing

Flaps	<b>Up</b>
Carb Heat	<b>Cold (In)</b>
Transponder	<b>Standby</b>
Landing light	<b>Off</b>

## Parking

Avionics	<b>Off</b>
Electrical	<b>Off</b>
Throttle	<b>1000 RPM</b>
Mixture	<b>Cut-off</b>
Ignition switch	<b>Off</b>
Master switch	<b>Off</b>

## Securing the aircraft

Control Lock	<b>Install</b>
Hobbs/Tach	<b>Record</b>
Door/Window	<b>Secure</b>
Tie-downs	<b>Secure</b>

## Comm Freq

ATIS	
Ground	
Tower	
Club	
Fuel	

# Procedures

## Short field take-off

Take-off checklist	<b>Complete</b>
Taxi	<b>Max runway</b>
Brakes	<b>Set and hold</b>
Flaps	<b>10°</b>
Throttle	<b>Full</b>
Brakes	<b>Release</b>
Climb	<b>57 KIAS</b>
Flaps	<b>Retract when clear</b>
Airspeed	<b>67 KIAS</b>

## Short field landing

Pre-landing check	<b>Complete</b>
Approach	<b>62 KIAS</b>
Flaps	<b>30°</b>
Throttle	<b>Maintain glide</b>
Touchdown	<b>Power Off</b>
Flaps	<b>Up</b>
Elevator	<b>Full up</b>
Braking	<b>Heavy as required</b>

## Soft field take-off

Take-off checklist	<b>Complete</b>
Flaps	<b>10°</b>
Taxi	<b>keep rolling</b>
Climb	<b>54 KIAS</b>
Flaps	<b>retract</b>
Airspeed	<b>67 KIAS</b>

## Soft field landing

Pre-landing check	<b>Complete</b>
Throttle	<b>1500 RPM</b>
Flaps	<b>10°</b>
Airspeed	<b>60 KIAS</b>
Touchdown	<b>Main first, softly</b>
Landing roll	<b>Nose wheel up</b>
Elevator	<b>Up</b>
Braking	<b>As required</b>

## Go-around

Throttle	<b>Full</b>
Carb Heat	<b>Cold (In)</b>
Flaps	<b>20°</b>
Climb	<b>55 KIAS</b>
Flaps	<b>10°</b>
Climb	<b>60 KIAS</b>
Flaps	<b>Up</b>
Climb	<b>&gt;60 KIAS</b>

# Emergency

## Engine failure

### TAKEOFF

Throttle	<b>Idle</b>
Brakes	<b>Apply</b>
Flaps	<b>Retract</b>
Mixture	<b>IDLE cut-off</b>
Ignition	<b>Off</b>
Master switch	<b>Off</b>

### AFTER TAKEOFF

Airspeed	<b>65 KIAS (flaps UP)</b>
	<b>60 KIAS (flaps DN)</b>
Mixture	<b>Idle Cut-off</b>
Fuel shutoff valve	<b>Off (Out)</b>
Ignition	<b>Off</b>
Flaps	<b>As Required</b>
Master switch	<b>Off</b>
Cabin Doors	<b>Unlatch</b>
Land	<b>Straight Ahead</b>

### DURING FLIGHT

Airspeed	<b>65 KIAS</b>
	<b>LOOK FOR A FIELD</b>
Fuel shutoff valve	<b>On (In)</b>
Fuel selector valve	<b>Both</b>
Aux Fuel Pump Switch	<b>On</b>
Primer	<b>In &amp; Locked</b>
Mixture	<b>Rich</b>
Ignition	<b>BOTH (or START)</b>
Airspeed	<b>65 KIAS (flaps UP)</b>
	<b>60 KIAS (flaps DN)</b>
Mixture	<b>Idle Cut-off</b>
Fuel shutoff valve	<b>Off (Out)</b>
Ignition	<b>Off</b>
Flaps	<b>As Required</b>
Mayday	<b>Transmit 121.5</b>
Mayday	<b>Squawk 7700</b>
Master switch	<b>Off</b>
Cabin Doors	<b>Unlatch</b>
Touchdown	<b>Tail Low</b>

## Carburetor Icing

Throttle	<b>Full</b>
Carb Heat	<b>On (Out)</b>
Mixture	<b>Adjust</b>

## Engine Roughness

Magnetos	<b>Check</b>
Mixture	<b>Lean as necessary</b>

# Emergency

## Engine Fire during start

Crank	<b>Continue</b>
Power	<b>1700 RPM (2 min)</b>
Engine	<b>Shut down and inspect</b>

## Engine Fire during flight

Mixture	<b>Idle Cut-off</b>
Fuel shutoff valve	<b>Off (Out)</b>
Master Switch	<b>Off</b>
Boost Pump	<b>Off</b>
Cabin Heat/Air	<b>Off</b>
Airspeed	<b>100 KIAS</b>

## Electrical failure

Load meter	<b>Verify</b>
Alternator	<b>Off</b>
	<b>Reduce load to minimum</b>
Breaker/alt	<b>Check &amp; Rest</b>
Alternator	<b>On</b>
	If still no power:
Alternator	<b>Off</b>
	<b>Reduce load and land</b>

## Electrical overload

Master Switch	<b>Off</b>
Master Switch	<b>On</b>
Over-voltage light	<b>Off</b>
	<b>or TERMINATE flight ASAP</b>

## Spin Recovery

Ailerons	<b>NEUTRAL</b>
Throttle	<b>IDLE</b>
Rudder	<b>Full opposite</b>
Control wheel	<b>Full forward</b>
Rudder control/wheel	<b>Neutral</b>
Pitch	<b>Level</b>

## Light Signals:

Signal	On Ground	In Flight
Steady <b>Green</b>	Takeoff	Land
Flashing <b>Green</b>	Taxi	Return to land
Steady <b>Red</b>	Stop	Give way
Flashing <b>Red</b>	Clear runway	Do not land
Flashing <b>white</b>	Return to ramp	--
<b>Red/Green</b> alternating	WARNING – USE CAUTION	

# Reference

## V-Speeds (KIAS)

Rotate	V <sub>r</sub>	55
Normal Climb Out	V <sub>climb</sub>	70-85
Max angle (Sea Level)	V <sub>x</sub>	60
Max angle (10,000 ft)	V <sub>x</sub>	65
Climb rate (Sea Level)	V <sub>y</sub>	79
Climb rate (10,000 ft)	V <sub>y</sub>	71
Maneuver	V <sub>a</sub>	82-99
Flaps	V <sub>fe</sub>	85
Normal max	V <sub>no</sub>	127
Never exceed	V <sub>ne</sub>	158
Stall (clean)	V <sub>s</sub>	44
Stall (land)	V <sub>so</sub>	33
Final Approach	Flaps	60-70
	No flaps	65-75
<b>Max Glide</b>		<b>60</b>

Alpha  
Bravo  
Charlie  
Delta  
Echo  
Foxtrot  
Golf  
Hotel  
India  
Juliet  
Kilo  
Lima  
Mike  
November  
Oscar  
Papa  
Quebec  
Romeo  
Sierra  
Tango  
Uniform  
Victor  
Whiskey  
Xray  
Yankee  
Zulu