

# CESSNA C-172

LY-LAD

[1]

Airplane Documents	CHECK
Weight and Balance	WITHIN LIMITS
1'st Aid kit/Extinguisher	CHECK VALID
Headsets	TWO On board
Control Lock	REMOVE
Foreign objects	INSPECT
Ignition Switch	OFF
Master Switch	ON
Flaps	DOWN
Fuel Quantity	CHECK
Auxiliary Fuel Quantity	CHECK
Auxiliary Pump Operation	CHECK
Master Switch	OFF
Fuel Selector Valve	BOTH
Fuel Shutoff Valve	ON (full in)
Baggage Door	SECURED

[2]

Static Port	CHECK OPEN (both sides)
Empennage Surface	CHECK
Horizontal Stabilizer	SECURE
Elevator	FREE & SECURE
Rudder	FREE & SECURE
Tail tie-down	DISCONNECT
Lights & Antenna	CHECK
Drain	DRAIN SAMPLE AND CHECK NO LEAK

[3]

Flaps	FREE & SECURE
Aileron	FREE & SECURE
Lights & Wingtip	CHECK
Leading Edge	CHECK

[4]

Wing Tie-Down	DISCONNECT
Main Wheel & Tyre	CHECK
Fuel Tank Sump	DRAIN SAMPLE AND CHECK NO LEAK
Fuel Quantity	VISUAL CKECK
Fuel Filler Cap	SECURE

## Pre-flight Inspection

[5]

Engine Oil	CHECK LEVEL (MIN 7qts(6.6ltr) MAX 10qts(9.5ltr))
Strainer Drain	SAMPLE AND CHECK NO LEAK
Prop/Spinner	CHECK
Air Filter/Inlet	CHECK CLEAR
Nose Strut/Tire	CHECK
Engine Cowling	SECURE
Windshield	CLEAN

[6]

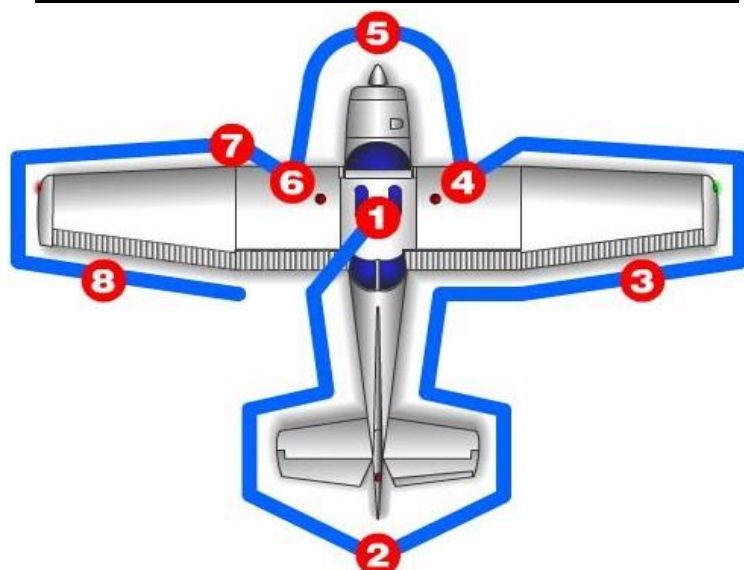
Fuel Quantity	VISUALLY CHECK
Fuel Filler Cap	SECURE
Fuel Tank Sump Drain	SAMPLE AND CHECK NO LEAK
Main Wheel & Tyre	CHECK

[7]

Pitot Tube Cover/Pitot	REMOVE/CHK
Stall Warn. Opening	CHECK
Fuel Tank Vent	OPEN
Wing tie-down	DISCONNECT
Wing Lights	CHECK
Wingtip/Lights	CHECK

[8]

Aileron	FREE & SECURE
Flaps	FREE & SECURE
Chocks	REMOVE



**PILOTU MOKYKLAI**  
**PILOT TRAINING CENTER**

## Normal Procedures

### Before Starting Engine

Departure briefing	COMPLETE
Preflight Inspection	COMPLETE
Log book fill and Tach	CHECK
Passenger Briefing	COMPLETE
Seat Position	ADJUST and LOCK
Safety Belts, shoulder harness	FASTEN
Fuel Selector Valve	BOTH
Fuel Shut Off Valve	ON(full Inn)
Radios/Electric Equipment	OFF
Fuses/Circuit Breakers	CHECK
ELT	ARM
Brakes	TEST & SET

### Starting Engine

Mixture	RICH
Propeller	HIGH RPM
Throttle	OPEN 1 Inch
Primer	As Required/Locked
Master Switch	ON
Beacon Light	ON
Prop Area	CLEAR!
Auxiliary Fuel Pump	LOW
Ignition (when fuel/flow 2-4 gal/h)	START (hold until engine starts, but no longer than 30sec.)
Aux Fuel Pump (after engine runs smoothly)	OFF
Throttle	ADJUST (1000RPM or less)
Oil Pressure	CHECK
Radios	ON and VOLUME ADJUST

### Before Taxi

Lights	AS REQUIRED
Avionics	SET as required
Transponder	STANDBY
Wing flaps	UP
ATIS	if available OBTAIN
Altimeter	SET and CHECK $\pm 60$ Ft
H.I. & Compass	SET
Time	RECORD

### During Taxi

Brakes	CHECK
Direction control	CHECK
Flight instruments	CHECK

### Before Take-off

Brakes	SET
Cabin doors/windows	CLOSE/LOCK
Flight controls	FREE & CORRECT
Fuel Selector Valve	BOTH
Mixture	RICH
Elevator Trim	TAKEOFF
Throttle (when engine warm)	1800 RPM
Engine Instruments /Ammeter	CHECK
Suction Gauge	CHECK (4,6-5,4)
Magetos (R Then L)	CHECK (50 RPM max diff)
Propeller	CYCLE from High to Low RPM
Throttle	Check Idle and Set 1200 RPM
Flight Instrumens, Radios	SET
Transponder	SQUAWK/ALT
Landing Light	ON
Wing Flaps	0°-10°
Brakes	RELEASE

### Normal Takeoff

Throttle	FULL 2800RPM
Mixture	Lean for field elevation
Elevator Control	ROTATE 60MPH
Climb Speed	85-95MPH
Wing Flaps	RETRACT

### Maximum performance Takeoff

Wing Flaps	10°
Brakes	APPLY
Power	FULL THROTTLE 2800RPM
Mixture	Lean for field elevation
Brakes	RELEASE
Airplane Attitude	Slightly Tail Low
Climb speed	70MPH (until all obst. are cleared)
Wing Flaps	RETRACT (after all obst. are cleared)

### Climb

Landing Light	OFF
Airspeed	100-110MPH
Power	25 inches / 2600RPM
Mixture	Lean to 13 gal/hr
Trim	ADJUST
Instruments	CHECK

**Climb**

Landing Light	OFF
Airspeed	100-110MPH
Power	25 inches / 2600RPM
Mixture	Lean to 13 gal/hr
Trim	ADJUST
Instruments	CHECK

**Maximum performance climb**

Airspeed	95MPH (sea level)
Power	FULL and 2800RPM
Mixture	Lean for altitude per f/flow ind.

**Cruising**

Power	15-25 inches and 2200-2600RPM (Select combination to give no more than 75% power)
Elevator Trim	AS REQUIRED
Mixture	Lean for cruise fuel flow
Engine Instruments	CHECK

**Descent/ Approach**

Approach Briefing	COMPLETE
Power	AS REQUIRED
Mixture	Adjust for smooth operation

**Before Landing**

Landing Light	ON
Seat belts, soulder harnesses	LOCKED
Fuel Selector Valve	BOTH
Mixture	RICH (or adjust for alt.)
Landing Light	ON
Propeller	HIGH RPM
Airspeed	75-85MPH (flaps UP)
Wing Flaps	AS REQUIRED
App Airspeed	70-80MPH (flaps down)

**Normal landing**

Touch Down	MAIN WHEELS FIRST
Landing Roll	Lover Nose Wheel Gently
Braking	MINIMUM REQUIRED

**Balked Landing (Go-around)**

Power	FULL throttle and 2800RPM
Wing Flaps	RETRACT to 20°
Retract Flaps slowly after 75MPH reached	

**Short field landing**

Approach	73MPH and 40° FLAPS
Touchdown	MAIN WHEELS FIRST
Brakes	APPLY HEAVY
Wing Flaps	UP (for maximum braking)

**After landing**

Wing Flaps	UP
Landing Lights	OFF
Transponder	ON/STBY
Pitot Heat	OFF

**Shut down and Securing**

Parking Brake	SET
Transponder	OFF
Radios	CHECK 121.5Mhz
Radios/Electrical Equipment	OFF
Mixture	IDLE CUT-OFF
Ignition And Master Switches	OFF
Control Lock	INSTALL
Flight Plan	CLOSE
Log Book	FILL
Pitot Cover	INSTALL
Chocks/Tie Downs	SECURED
Doors	CLOSE/LOCK

**Maximum Take-Off Weight Speeds**

Rotation speed (Flaps 0°-10°)	60 MPH
Best angle of climb (Flaps 0°)	75 MPH
Best rate of climb spd. (Flaps 0°)	95 MPH
Approach speed (Flaps 40°)	73 MPH

**Auxiliary Fuel System Operation**

At levelling off at cruise altitude, switch fuel selector to "RIGHT" and operate from this tank until the fuel supply is exhausted

Switch to "LEFT" for operation, then pull on transfer pump switch and refill right main fuel tank from auxiliary tank. Push transfer pump off when transfer complete.

(Transfer can last from 45 min to 1 hour)

Return fuel selector valve handle to "BOTH" position after refiling right tank, or if desired switch again to right main tank

**IMPORTANT**

Do not operate transfer pump with fuel selector turned on "BOTH" or "RIGHT". Engine stoppage might result from air being pumped into fuel lines after fuel transfer has been completed. If the pump was accidenta-ly turned on with the fuel selector in any of these positions, and engine stops, engine will restart in 3 to 5 seconds after turning off the transfer pump as the air in the fuel line will evacuate rapidly. To expedite restart, mo-mentarily turn auxiliary fuel pump to "HIGH".

## Emergency procedures

### Engine Failures

#### Engine Failure During Take-off Run

Throttle	IDLE
Brakes	APPLY
Flaps	UP
Mixture	IDLE CUT-OFF

*With the airplane under control*

Ignition	OFF
Master switch	OFF

#### Engine Failure After Take-off

Airspeed	80Mph
Suitable Place to Land	LOCATE
Mixture	IDLE CUT-OFF
Fuel Shut Off Valve	Pulled Full OUT
Ignition Switch	OFF
Wing Flaps	AS REQUIRED
Master Switch (after extending flaps)	OFF

#### Engine Failure In Flight/Restart

Airspeed	85Mph
<i>Attempt to restart engine if time permits:</i>	
Fuel Shut Off Valve	Pushed Full IN
Fuel Selector Valve	BOTH
Mixture	RICH
Throttle	1/2 INCH
Auxiliary Fuel Pump	ON "HIGH" 3-5sec.
Throttle	1 INCH
Ignition Switch	BOTH (prop wind milling)
<i>(If Prop Stopped, Use Starter to Turn Engine)</i>	

*If Restart Failed:*

#### Forced Landing Without Engine Power

Suitable Place To Land	LOCATE
Activate ELT, MAYDAY call, squawk 7700	
Mixture	IDLE CUT-OFF
Fuel Shut Off Valve	Pull Full OUT
All Switches (except Master)	OFF
Airspeed	75-85Mph (Flaps UP)
Flaps	AS REQUIRED
Airspeed	70-80Mph (Flaps Down)
Master Switch	OFF
Unlatch Cabin Doors Prior Final Approach	
Land In a Slightly Tail-Low Attitude	
Apply Heavy Braking While Full Up Elevator	

### Emergency Landing With Engine Power

Perform "Before Landing" Check

Fly Over Selected Field With Flaps 20°, IAS 75Mph.  
 Note Touchdown area For Next Landing.

Retract Flaps At Safe Altitude and Speed

On Downwind Leg All Switches Except Ignition and Master - OFF

Approach FLAPS 40° at IAS 75Mph

Unlatch Cabin Doors Prior to Final Approach

Before Touchdown - Ignition and Master OFF

Land in a Slightly Tail-Low Attitude

### Ditching

Activate ELT, MAYDAY call, Squawk 7700

Heavy, loose objects Secure or Jettison

Approach High Winds/Heavy Seas - In to Wind  
 Light Winds/Heavy Swells - Parallel Swells

Power	Establish	300ft/min descent
	Flaps	40°
	Airspeed	70Mph

Cabin Doors UNLATCH (prior approach)

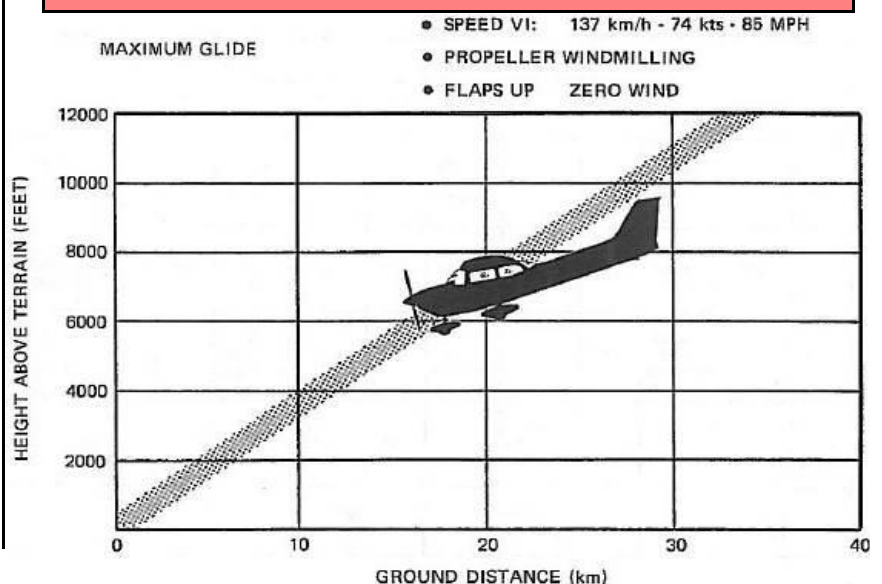
Touchdown Level Attitude (make No Flare)

Protect Head CUSHION, Coat, Pillow etc.

Airplane EVACUATE through cabin doors  
 If necessary open windows  
 flood the cabin to equalize pressure

Life vests and raft INFLATE

### Maximum Glide



## Emergency procedures

### Smoke and Fire

#### Engine fire during start on ground

Auxiliary Fuel Pump	OFF
Mixture	IDLE CUT-OFF
Parking Brake	RELEASE
Fire Extinguisher	OBTAIN
Extinguish Fire With Fire Extinguisher	
Make inspection/repairs before next flight	

#### Engine fire in flight

Mixture	IDLE CUT-OFF
Fuel Shutoff Valve Knob	Pulled Full OUT
Master Switch	OFF
Airspeed	Establish 120MPH Glide
Cabin Heat and Air	CLOSE
Suitable Field to Land	LOCATE
Increase Glide Speed If Fire Is Not Extinguished	
Execute "Forced Landing w/o Engine Power"	

#### i

Master Switch	OFF
Cabin Heat and Air	CLOSE
All Switches (Except Ignition)	OFF
Fire Extinguisher	ACTIVATE (if available)
<i>(Ventilate cabin after activation of extinguisher)</i>	
<i>If fire is out and electric power is necessary:</i>	
Master switch	ON
Circuit Breakers	Check faulty, Do Not Reset
Radio/Electrical Switches ON (one at a time with delay to locate short circuit)	
Vents, Cabin air, Heat	OPEN

#### Cabin Fire

Master switch	OFF
Vents, Cabin air, Heat	CLOSED
Fire Extinguisher	ACTIVATE (if available)
<i>(Ventilate cabin after activation of extinguisher)</i>	
Land the Airplane	ASAP

#### Wing Fire

Master Switch	OFF
Vents, Cabin air, Heat	CLOSED
Perform A Side Slip To Keep Flames Away From Fuel Tank, Land ASAP with No Flaps	

### Rough engine operation/loss of power

#### Low oil pressure

Oil Temperature	CHECK
<i>If the temperature tends to increase</i>	
Throttle	REDUCE IMMEDIATELY
Land As Soon As Possible	
<i>If the temperature remains in green limits</i>	
Land At Nearest Airport And Inspect.	

#### Unintentional Spin Recovery

Throttle	IDLE
Rudder	FULL OPOSITE to Spin Dir.
Control Wheel	After 1/4 turn, Move from neutral briskly forward

As rotation stops, neutralize rudder and make smooth recovery from the dive

#### Recovery from a spiral dive

Throttle	CLOSE
Stop Turn By Use of Aileron and Rudder to Align Symbolic Airplane in the Turn Coordinator With Horizon Reference Line	
Cautiously Apply Elevator Back Pressure to Slowly Reduce IAS to 90 MPH	
Adjust Elevator Trim for 90 MPH Glide	
Hands OFF Control Wheel, Use Rudder for Straight Heading	
Clear Engine Occasionally, but Avoid Using Enough Power to Disturb the Trimmed Glide	
Upon breaking out of clouds, apply normal cruising power and resume flight	

## Emergency procedures

### Electric Power System Malfunction

#### Ammeter (Excessive Rate of Charge)

Master Switch                      OFF (both sides)

Master Switch                      ON

If the problem appears again terminate flight as soon as practical

#### Ammeter (Insufficient Rate of Charge)

Alternator                              OFF

Nonessential Radio and El. Equip.    OFF

Flight    TERMINATE (as soon as practical)

### Icing

#### Flight in icing conditions

Pitot Heat                              ON

Turn 180°                              Or Change Altitude

Cabin Heat & Defrost                      FULL

Increase RPM to Minimize Ice Build-up on Propeller Blades

Land at Nearest Airport. With Extremely Rapid Ice Build-Up Land ASAP and Avoid Using Flaps

Approach At 80-90MPH Depending On Amount Of Ice Accumulation

Avoid steep turns during landing approach

Land At Level Attitude

### AIRSPEED LIMITATIONS

Speeds (IAS)	Mph(Kt)	Remarks
V <sub>FE</sub> Maximum flap operating	100(87)	Do not exceed this speed with full flaps
V <sub>A</sub> Manoeuvring    2550 Lbs	109(125)	Do not make full or abrupt control movements above this speed as this may cause stress in excess of limit load factor.
V <sub>NO</sub> Maximum structural cruising	146(127)	Never exceed this speed unless in smooth air and then only with caution.
V <sub>NE</sub> Never exceed	185(161)	Never exceed this speed in any operation.
V <sub>S0</sub> Stall (throttle-idle)	58(50)	Stalling speed in landing configuration (20°)
V <sub>S1</sub> Stall (throttle-idle)	64(56)	Stalling speed in clean configuration

### POWERPLANT LIMITATIONS

Power 210BHP, Normal operating Rpm Range (2200-2600Rpm), Maximum (2800Rpm)

Oil temperature markings	Oil pressure markings
Normal operating                      Green arc	Minimum idling                      10 PSI (Red line)
Maximum allowable    240°F    Red line	Normal operating                      30-60 PSI (Green arc)
Engine Oil - Max 8qt (7.5ltr).	Maximum                              100 PSI (Red line)

Engine Oil-Maximum 6qt, minimum 4qt.	Cylinder Head Temperature - Max 460°F
Maximum take-off weight - 2550 lbs, Max. baggage: 200 lbs	
Total fuel capacity - 52Gal/197ltr (two tanks 26Gal/98.5ltr each), <b>Usable fuel - 46Gal/174ltr</b>	
Auxiliary tank - 17 Gal/64ltr.	
Tyre pressure (front/rear): 45/38PSI. Crosswind Limitation: Take-Off - 20 Kt, Landing - 15Kt	