



VH-CEV C172SP

Disclaimer: The data contained in this sheet is for information only. It remains the user's responsibility to confirm the accuracy of the data from official sources such as the pilot operating handbook, prior to any operational use.

Aircraft General

Wingspan.....	36' 1"	11.00m
Height to top of the fin.....	8'11"	2.72m
Length.....	27' 2"	8.15m
Maximum Ramp Weight.....	2558lbs	1160kg
MTOW.....	2550lbs	1157kg
MLW.....	2550lbs	1157kg
Standard Empty Weight.....	1714lbs	779kg
Baggage Max Weight.....	120lbs	54kg
Total Fuel Capacity.....	56USG	212lt
Fuel Filler Tabs.....	35USG usable	130lt
Useable Fuel.....	53USG	200lt
Fuel Consumption:.....	9.5 USG/HR @ 65%	36lt/hr
Fuel Planning:.....	10.6 USG/HR	40lt/hr
Oil Cap.....	8US Qt	7.6lt
Qty Min.....	5US Qt	4.7lt
V _{NE}		163 KIAS
V _{NO}		129 KIAS
V _A @ 2550LBS.....		105 KIAS
V _A @ 2200LBS.....		98 KIAS
V _A @ 1900LBS.....		90 KIAS
V _Y		74 KIAS
V _X		62 KIAS
Glide no flap.....		70 KIAS
Glide with flap.....		65 KIAS
Best Glide.....		68 KIAS
V _{TOSS}		55 KIAS
V _{S1}		48 KIAS
V _{S0}		40 KIAS
V _{ST/O}		43 KIAS



Engine

Manufacturer:Lycoming
Model: IO-360-L2A
Type: Horizontally Opposed, Fuel Injected
Power: 180HP@2700RPM
Propeller: MacCauley 76" metal two blade, fixed pitch
Operation monitored by:
Oil Pressure Gauge:.....Minimum 20PSI (On the Ground Only)
.....Green 50-90PSI
.....Maximum 115 PSI
Oil Pressure Annunciator:Illuminates if oil pressure below 20 PSI
Oil Temperature Gauge:..... Min 75°F Green 100°-245°F
Tachometer (Normal Operations): 1900-2700RPM
Fuel Flow Gauge..... 0-12GPH
EGT (exhaust gas temp) indicator

Ignition:

- Right Magneto fires lower right and upper left spark plugs
- Left Magneto fires lower left and upper right spark plugs

Air for the induction system is taken from a ram air intake located centrally in the front lower engine cowling. An air filter removes dust & debris. If this system is blocked an alternate air door opens and unfiltered air is drawn from inside engine compartment causing approximately 10% power loss at full throttle.

Exhaust air is removed via a muffler and tail pipe. Outside air is passed over the muffler through heat exchanger to supply cabin heat. Engine cooling air comes from ram air entering the two intakes at front of upper engine cowl. It is then directed around cylinders and other areas by baffles. The used air is exhausted at bottom aft of cowl.



Fuel System

System consists of:

- Two vented integral (one in each wing) tanks
- Three position selector valve (Left, Both and Right) Can only select Left or Right in level cruise flight. Must be on BOTH for all other operations.
- Auxiliary Fuel Pump
- Fuel Shutoff Valve
- Fuel Strainer

Fuel Drains:

- Five under each wing.
- Fuel Selector Drain. (Under fuselage, in the centre)
- Fuel Reservoir Sump (Under fuselage, slightly displaced starboard)
- Fuel Strainer Sump (Under starboard side of the lower engine cowl)

Fuel venting is accomplished by an interconnect pipe connecting the starboard tank to the port tank. The port tank is vented overboard via a pipe located behind the port wing strut. There is a check valve between the vent and the port tank. Both fuel filler caps are also vented.

Fuel quantity is indicated on a two needle gauge located on the middle left side of the instrument panel. Contents are displayed in litres. A dipstick calibrated in usable litres is stored in the receptacle between the front two seats.

LOW FUEL message illuminates when fuel level is below approx 5 USG or 20lt for 60seconds

Fuel pressure is measured from the fuel manifold and displayed in GPH. This gauge is the right side of the top right gauge, next to the fuel quantity gauge. The left side of this gauge displays EGT.

Pilots must reduce fuel load for more than two occupants.

Whilst it is highly RECOMMENDED the tanks be filled after each flight to prevent condensation, the club requires the aircraft be refuelled after each flight to 130 litres which is the bottom of the filler neck.



Electrical System

System Voltage 28v DC
Alternator Output 60amp
Battery 24V

The battery is located on the left hand side of the engine compartment forward of the external power receptacle.

The external power receptacle is located on the upper left side engine cowling, forward of firewall.

Annunciator Panel:. Provides warnings for:

Low Fuel: (L LOW FUEL R)

Low Oil Pressure: (OIL PRESS)

Vacuum transducers: (L VAC R)

Alternator Control Unit: (VOLTS)

The system is monitored by an ammeter, a voltmeter and the low voltage annunciator. This warning flashes for 10seconds and then remains illuminated when the system voltage is less than 24.5 Volts.

External Lighting consists of navigation lights; strobes on the wing tips; taxi light and landing light located approximately mid span on the port wing leading edge; and a rotating beacon

Internal lighting is provided by flood lights for the Pilot, Co-pilot and a rear dome light. The glare shield is equipped with fluoro or light emitting diodes for illumination. The pedestal has a single hooded light above the fuel selector. Instruments have internal illumination and there is a further light in the left control column. Lighting Intensity can be controlled by dimmer swiches located on the lower left instrument panel. The Annunciator panel can be dimmed using the test switch.



Airframe

Flight Control:

Conventional Aileron, Rudder, Elevator surfaces are operated through cables and mechanical linkages using the control column and rudder pedals.

Trim System:

There is a trim tab on the starboard trailing edge of the elevator. It operated with a trim wheel on the centre pedestal with a position indicator next to the control. There are also electrical trim switches on the left horn of the pilot control column. There is a manual trim tab on the trailing edge of the rudder. There is no cockpit control for rudder trim

Flaps:

The flaps are located on the inboard trailing edge of each wing. The starboard flap is directly positioned by an electrical motor in the starboard wing. The left flap is positioned by the same motor via a worm drive cable. Flap is controlled by a four position switch (0, 10°, 20°, 30°) on the lower instrument panel, right of the centreline of the cockpit. A scale and pointer is located to the left of the flap switch.

Flap limiting airspeeds are:

0-10°:..... 110 KIAS

11°-30°:..... 85 KIAS

Take off with either 0° or 10° flap. Land with 30° flap.

Landing Gear

The landing gear is fixed tricycle type. It has tubular spring steel main landing gear struts and a steerable oleo nose gear strut. Each main gear wheel is equipped with a hydraulically actuated disc brake which is controlled by pedals fixed to the top of the rudder pedals. The park brake is applied by depressing Rudder Pedals, pulling the handle under the pilot control column aft, and the rotating it 90° down. It is released by rotating the handle 90° left and pushing it in. When towing or ground handling the aircraft, do not exceed 30° displacement of the nosewheel either side of the aircraft centreline.



Instruments

Pitot Static System & Instruments:

The pitot tube is located under the post wing. It incorporates an electric heater controlled by a switch and 5 amp circuit breaker. Pitot heat should be used for operations in cloud.

The static port is located on the port side fuselage, forward of the cabin door. There is an alternate static source located below the throttle. The pressure instruments will be affected by the use of the heaters, vents and windows. Refer to the POH.

The pitot static system is connected to the airspeed indicator. The static system is also connected to the altimeter and vertical speed indicator.

Vacuum System & Instruments:

This system consists of two engine-driven vacuum pumps, two pressure switches, a vacuum relief valve, a vacuum system air filter, a vacuum gauge, and a low vacuum warning on the annunciator panel. The system is protected by check valves. The desired suction range is 4.5 to 5.5 in Hg. The Low Vacuum annunciator will flash for 10 seconds then remain illuminated when the output of the respective pump falls below 3.0 in Hg.

The vacuum system powers the Attitude Indicator and Direction Indicator.

Clock / OAT

A digital clock and outside air temperature gauge is located on the top left corner of the instrument panel. A Voltmeter is incorporated in this instrument.

Stall Warning system

Forward moving low pressure draws air through the warning horn 5-10 knots above stall.



Avionics

Avionics Cooling Fan

An avionics cooling fan is installed on the left side of the interior firewall. It cools the centre stack radios whenever the Master and Avionics switches are both on. The fan must be serviceable for flight and therefore a pre-flight check is mandatory.

Avionics Master Switches:

These are located on the lower left instrument panel, to the right of the external light switches. It is a split rocker switch. The left side controls avionics bus 1. The King KLN94 GPS and KING KX155a COM/NAV 1 are connected to this bus. The right side controls avionics bus 2. The King KMD550 large screen GPS, King KX155a COM/NAV2, King KAP140 Autopilot, and King KT74 Transponder are connected to this bus. In the event of an electrical emergency, load shed by turning avionics bus 2 off.

Emergency Locator Transmitter (ELT):

The ELT is fitted to the right wall of the rear fuselage. It is accessible behind the baggage compartment inspection hatch. It is controlled by a three position switch on the top right corner of the instrument panel.

Cabin Fire Extinguisher (BCF)

The fire extinguisher is a Bromochlorotrifluoromethane type. It is located between the two front seats. If used, the cabin should be ventilated as the discharge causes asphyxiation.

Cabin Heating, Ventilating and Defrosting

Cabin Heat and Cabin Air are control by Push/Pull controls on the right side of the instrument panel. Both controls are of the button locking type which allows any setting in the range of control movement. Windshield Defrost air controlled by two knobs controlling sliding valves on the instrument coaming. There are separate adjustable outlets in each door pillar for the front occupants and on the upper portion of the cockpit wall for the rear occupants.