

CloudFlyt

C172SP Normal Checklist

Not to be used for flight - always refer to POH/Supplemental POH

BEFORE ENGINE START

- 1) Exterior Preflight -- COMPLETE
- 2) Tow Bar -- STOWED
- 3) Hobbs Meter -- RECORD
- 4) Clock -- SET/CHECK
- 5) Charts & Supplement -- CHECK NOT EXPIRED
- 6) Alternate Static Source -- CHECK (Check Alt & VSI)
- 7) Seats, Belts, Harnesses -- ADJUST & LOCKED
- 8) Passenger & Crew -- BRIEF

ENGINE START

- 1) Fuel Selector Valve -- ROTATE TO BOTH
- 2) Radio Master -- OFF
- 3) Master Alt & Batt -- ON
- 4) Circuit Breakers -- CHECK
- 5) Mixture -- FULL RICH
- 6) Fuel Pump -- ON
- 7) Fuel Pressure -- CHECK
- 8) Fuel Pump -- OFF
- 9) Mixture -- IDLE CUTOFF
- 10) Throttle -- UNLOCK & OPEN ½ INCH
- 11) Panel Lights -- BEACON ON, NAVS AT NIGHT
- 12) Brakes -- HOLD
- 13) Propeller Area -- CLEAR (LEFT, RIGHT, BEHIND, YELL)
- 14) Mags/Ignition Switch -- START
- 15) Mixture -- RICHEN
- 16) Oil Pressure -- CHECK
- 17) Ammeter -- CHECK
- 18) Throttle -- ADJUST TO <1000 RPM
- 19) Mixture -- LEAN FOR TAXI

PRE-TAXI

- 1) Radio Master -- ON
- 2) ATIS -- GET & SET ALTIMETER, NOTE WIND
- 3) Flaps -- UP
- 4) Parking Brake -- RELEASE
- 5) Brakes -- CHECK

TAXIING

- 1) Headwind -- LEVEL BANK TOWARDS WIND
- 2) Tailwind -- DIVE AWAY FROM WIND
- 3) Turn Coordinator & Compass -- CHECK
- 4) Direction Gyro -- SET TO COMPASS/RWY HEADING
- 5) Taxiways -- LOOK/CALL CLEAR

PRE-TAKEOFF

- 1) Cabin Doors & Windows -- LATCHED
- 2) Flight Controls -- FREE & CORRECT
- 3) Fuel Selector Valve -- CHECK BOTH
- 4) Elevator Trim -- TAKEOFF POSITION
- 5) Brakes -- HOLD
- 6) Mixture -- FULL RICH
- 7) Throttle -- 1700 RPM
- 8) Magnetos -- CHECK R&L, MAX 125 DROP, 50 DIFF
- 9) Oil Pressure/Temp & Ammeter -- CHECK
- 10) Suction Gauge -- CHECK
- 11) Throttle -- RETURN TO IDLE
- 12) Throttle Friction Lock -- ADJUST
- 13) Wing Flaps -- AS REQUIRED
- 14) Instruments and Radios -- SET, CONTACT TOWER

NORMAL TAKE-OFF

- 1) Time -- RECORD
- 2) Nav, Strobe & Landing Lights -- ON
- 3) Wing Flaps -- UP
- 4) Mixture -- FULL RICH
- 5) Yoke -- INTO CROSSWIND
- 6) Throttle -- FULL OPEN (SMOOTHLY)
- 7) Oil Pressure, RPM, Airspeed -- CHECK GREEN
- 8) Elevator -- ROTATE at Vr=**55** KIAS
- 9) Climb Speed -- Vy=**74** KIAS

CLIMB

- 1) Airspeed -- **75** to **85** KIAS
- 2) Throttle -- FULL OPEN
- 3) Mixture -- FULL RICH (*unless rough/high alt*)

CRUISE

- 1) Power -- **2200** to **2500** (< 75%)
- 2) Elevator Trim -- ADJUST
- 3) Mixture -- LEAN or FULL RICH BELOW 3000'
- 4) Landing Lights -- OFF

BEFORE LANDING

- 1) ATIS/Clearance -- GET & SET ALTIMETER, NOTE WIND
- 2) Landing Lights/Strobes -- ON
- 3) Fuel Selector Valve -- SET TO BOTH
- 4) Mixture -- FULL RICH
- 5) Wing Flaps -- AS NEEDED (10° below **110** KIAS)
- 6) Elevator Trim -- AS NEEDED
- 7) Airspeed -- **60** to **70** KIAS

BALKED LANDING/GO AROUND

- 1) Throttle -- FULL OPEN
- 2) Wing Flaps -- RETRACT TO 20°
- 3) Elevator -- PITCH UP GENTLY
- 4) Airspeed -- $V_x = 62$ KIAS
- 5) Wing Flaps -- RETRACT (incrementally)
- 6) Trim -- SET FOR CLIMB

NORMAL LANDING

- 1) Flaps -- AS NEEDED (MAX 30° BELOW $V_{fe} = 85$ KIAS)
- 2) Airspeed -- **60-70** KIAS (FLAPS 30°)
- 3) Touch Down -- MAIN WHEELS FIRST
- 4) Braking -- MINIMUM REQUIRED

AFTER LANDING

- 1) Turn Off -- WHEN ABLE
- 2) Radios -- MONITOR GROUND
- 3) Wing Flaps -- UP
- 4) Mixture -- LEAN FOR TAXI
- 5) Landing Light & Strobes -- OFF

SECURING AIRCRAFT

- 1) Radio Master -- OFF
- 2) Mixture -- IDLE CUT-OFF
- 3) Magnetos -- OFF (KEY ON DASH)
- 4) Master Alt & Batt -- OFF
- 5) Hobbs Meter -- RECORD

CloudFlyt C172SP Airspeeds (KIAS)

Vr	55
Vx	62
Vy	74
Va	90-105
Vs.....	48
Vs1	44
Vso	40
Vfe	85
Vno.....	129
Vne.....	163
Best Glide.....	68
(xx) at 10,000'	

Max turbulent air penetration	
2400 lbs	105
2000 lbs	95
1600 lbs	90

Max Demo X-Wind 15

CloudFlyt

C172SP Special Checklist

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MAXIMUM PERFORMANCE (SHORT) TAKEOFF

- 1) Wing Flaps -- 10°
- 2) Taxi -- MAX RUNWAY (DISPLACED THRESHOLD)
- 3) Brakes -- HOLD
- 4) Yoke -- INTO CROSSWIND
- 5) Throttle -- FULL OPEN (SMOOTHLY)
- 6) Brakes -- RELEASE
- 7) Oil Pressure, RPM, Airspeed -- CHECK GREEN
- 8) Elevator -- SLIGHTLY TAIL LOW
- 9) Climb Speed -- $V_x=62$ KIAS (*over obstacles*)
- 10) Climb Speed -- $V_y=74$ KIAS

SOFT FIELD TAKEOFF

- 1) Wing Flaps -- 10°
- 2) Taxi -- CONTINUOUS SLOW ROLL ONTO RUNWAY
- 3) Elevator -- FULL BACK
- 4) Yoke -- INTO CROSSWIND
- 5) Throttle -- FULL OPEN (SMOOTHLY)
- 6) Oil Pressure, RPM, Airspeed -- CHECK GREEN
- 7) Elevator -- SLOWLY RELEASE BACKPRESSURE
- 8) Lift Off -- MINIMUM AIRSPEED
- 9) Elevator -- PUSH FORWARD
- 10) Ground Effect -- UNTIL $V_y=74$ KIAS (or $V_x=62$ if obst.)

SHORT FIELD LANDING

- 1) Airspeed -- **65-75** KIAS
- 2) Flaps -- 30°
- 3) Airspeed -- **61** KIAS (until flare)
- 4) Elevator -- FULL BACK
- 5) Brakes -- MAXIMUM BRAKING (NO SKID)

SOFT FIELD LANDING

- 1) Airspeed -- **55-60** KIAS
- 2) Flaps -- 30°
- 3) Airspeed -- **55** KIAS (until flare)
- 4) Elevator -- HOLD NOSEWHEEL OFF
- 5) Elevator -- GENTLY LET NOSE DOWN
- 6) Elevator -- FULL BACK
- 7) Brakes -- NO BRAKES



CloudFlyt
C172SP Emergency Checklist

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ENGINE FIRE IN FLIGHT

- 1) Mixture -- IDLE CUT OFF
- 2) Fuel Selector -- OFF
- 3) Master Alt & Batt -- OFF
- 4) Cabin Heat and Air -- OFF
- 5) Airspeed -- 100 KIAS
- 6) Forced Landing -- EXECUTE
- 7) Cowling Flames -- FORWARD SLIP AWAY

WING FIRE

- 1) Navigation Light Switch -- OFF
- 2) Pitot Heat Switch -- OFF
- 3) Strobe Light Switch -- OFF
- 4) SIDE SLIP to keep fire away from fuel tank

ELECTRICAL FIRE IN FLIGHT

- 1) Master Switch -- OFF
- 2) All Other Switches -- OFF
- 3) Vents/Cabin Air/Heat -- CLOSED
- 4) Fire Extinguisher -- ACTIVATE
--Fire Out, Continue Flight--
- 5) Master Switch -- ON
- 6) Circuit Breakers -- CHECK
- 7) Radio/Electrical Switches -- ON
--one at a time, until short is found--
- 8) Vents/Cabin Air -- OPEN



CloudFlyt
C172SP Emergency Checklist

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ENGINE FAILURE / POWER LOSS DURING FLIGHT

- 1) Airspeed -- 65 KIAS
- 2) Throttle -- FULL
- 3) Fuel Selector -- SET TO BOTH
- 4) Mixture -- FULL RICH
- 5) Fuel Pump -- ON
- 6) Magnetos -- BOTH (OR START IF PROP STOPPED)

ENGINE SHUTDOWN

- 1) Mixture -- IDLE CUT OFF
- 2) Fuel Selector -- SET TO OFF
- 3) Fuel Pump -- OFF
- 4) Magnetos -- OFF
- 5) Flaps -- AS REQUIRED
- 6) Master Alt & Batt -- OFF

HIGH VOLTAGE LIGHT ILLUMINATES

- 1) Master Alt & Batt -- OFF
- 2) Master Alt & Batt -- ON
- 3) High Voltage Light -- CHECK
- 4) High Voltage Light -- STILL ON, LAND ASAP

AMMETER SHOWS DISCHARGE

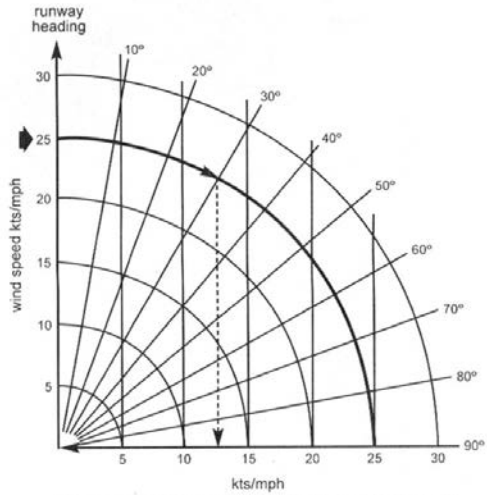
- 1) Master Alternator -- OFF AND ON AGAIN - CHECK
- 2) Master Alternator -- OFF
- 3) Non-essential equipment -- OFF
- 4) Flight -- LAND ASAP

DECLARE EMERGENCY

- 1) Transponder -- SET TO 7700
- 2) Call Emergency -- 121.5/MAYDAY
- 3) Doors/Seatbelts -- OPEN/FASTEN

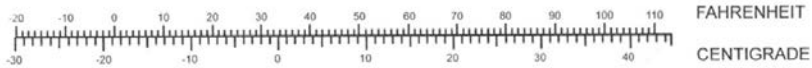


CROSSWIND CHART

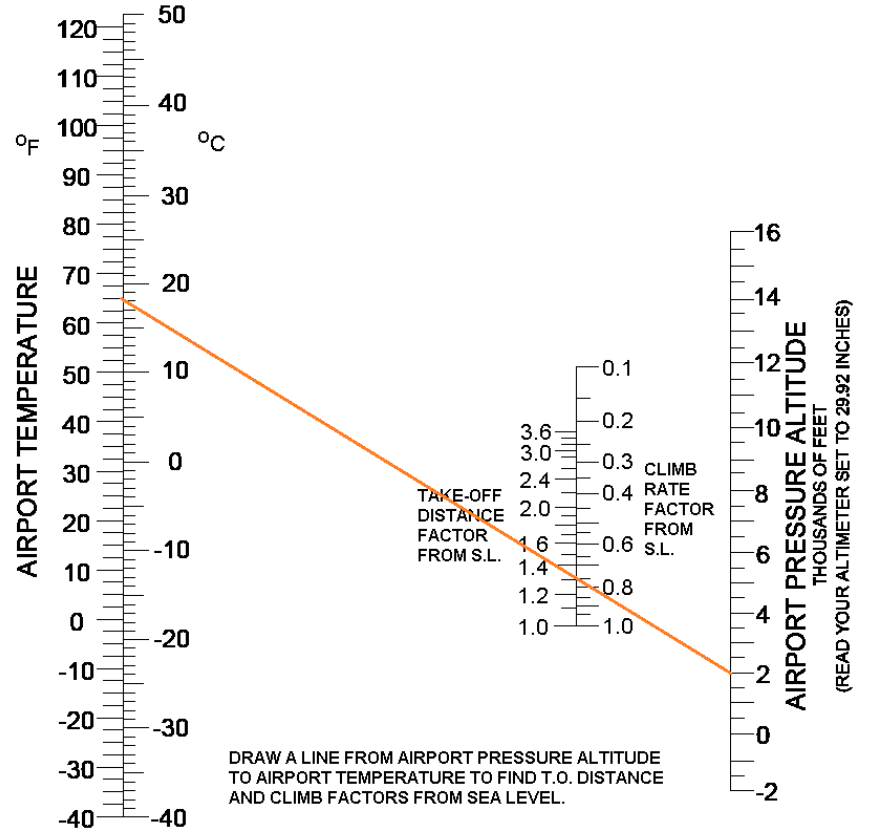


This crosswind component chart provides at a glance the effect current wind velocity and direction will have upon your take off. For example, a 25 knot wind at a 30 degree angle to either side of the runway heading has the same effect as a 13 knot crosswind. For more details on the effect of wind on your airplane at take off or landing, consult aircraft owner's manual.

example: 25 kt. wind 30° angle **result:** 13 kt. crosswind component



KOCH CHART



DRAW A LINE FROM AIRPORT PRESSURE ALTITUDE TO AIRPORT TEMPERATURE TO FIND T.O. DISTANCE AND CLIMB FACTORS FROM SEA LEVEL.

Example: 65F and 2000' = 1.3x runway and 75% climb performance

Weight and Balance C172N

Basic Information			
Aircraft Ident:	N734DR	Aircraft Type:	C-172N
Departure Date:		Departure Time:	

LOADING ARRANGEMENTS

* Hold on passenger center of gravity on adjustable seats positioned for average occupancy. Numbers in brackets indicate forward and aft limits of occupant center of gravity range.

** Area restricted to the center of the area shown.

NOTE: The rear seats (approximate station 108) or aft baggage (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area loadage stations.

Verified Empty Weight: 1526.5
-Includes oil and unusable fuel

Verified Empty CG: 41.1

Max Gross Weight: 2400

Max Usable Fuel: 40

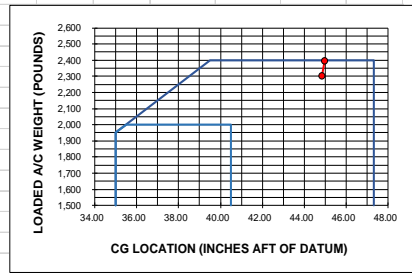
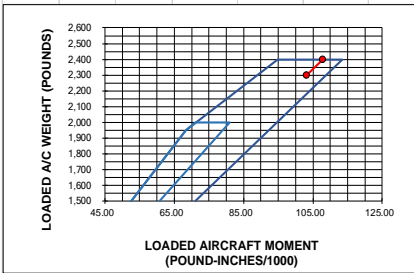
Max Usable Load: 873.5

Max Area 2 Baggage: 50

Max Total Baggage: 120

Weight and Balance at Departure			
Loads	Weight (Pounds)	Arm (Inches)	Moment /1000
Empty Aircraft:	1526.5	41.1	62.7
Front Left:	200.0	36.0	7.2
Front Right:	160.0	36.0	5.8
Rear Left:	115.0	73.0	8.4
Rear Right:	130.0	73.0	9.5
Baggage (Area 1):	15.0	95.0	1.4
Baggage (Area 2):	10.0	123.0	1.2
Fuel (Gal):	40.0	240.0	11.5
Grnd Ops All:	0.0	0.0	0.0
Totals:	2396.5		107.8
CG = Total Moment / Total Weight:			45.0

Weight and Balance at Arrival			
Loads	Weight (Pounds)	Arm (Inches)	Moment /1000
Empty Aircraft:	1526.5	41.1	62.7
Front Left:	200.0	36.0	7.2
Front Right:	160.0	36.0	5.8
Rear Left:	115.0	73.0	8.4
Rear Right:	130.0	73.0	9.5
Baggage (Area 1):	15.0	95.0	1.4
Baggage (Area 2):	10.0	123.0	1.2
Fuel (Gal):	24.0	144.0	6.9
Totals:	2300.5		103.2
CG = Total Moment / Total Weight:			44.8



C-172N Weight and Balance Envelope (Normal)			
Moment Env		CG Envelope	
Moment	Weight	CG Locn	Weight
52.50	1,500	35.00	1,500
68.25	1,950	35.00	1,950
94.80	2,400	39.50	2,400
113.52	2,400	47.30	2,400
70.95	1,500	47.30	1,500

C-172N Weight and Balance Envelope (Utility)			
Moment Env		CG Envelope	
Moment	Weight	CG Locn	Weight
52.50	1,500	35.00	1,500
68.25	1,950	35.00	1,950
71.00	2,000	35.50	2,000
81.00	2,000	40.50	2,000
60.75	1,500	40.50	1,500

Take Off and Landing Performance C172N

Maximum Rate of Climb						
Weight LBS	Pressure Altitude	Climb KIAS	Rate of Climb - FPM			
			-20C	0C	20C	40C
2400	SL	76	805	745	685	625
	2000'	75	695	640	500	525
	4000'	74	590	535	480	420
	6000'	73	485	430	375	320
	8000'	72	380	330	275	220
	10000'	71	275	225	175	---
12000'	70	175	125	---	---	

Landing Distance - Short Field, Flaps 30 degrees												
If a landing with flaps up is necessary, increase approach by 7 KIAS and allow for 35% longer distance												
Weight LBS	Speed @50' KIAS	Pressure Altitude	0C		10C		20C		30C		40C	
			Grnd Roll	Clear 50'	Grnd Roll	Clear 50'	Grnd Roll	Clear 50'	Grnd Roll	Clear 50'	Grnd Roll	Clear 50'
2400	61	SL	510	1235	530	1265	550	1295	570	1325	585	1350
		1000'	530	1265	550	1295	570	1325	590	1360	610	1390
		2000'	550	1295	570	1330	590	1360	610	1390	630	1425
		3000'	570	1330	590	1360	615	1395	635	1430	655	1460
		4000'	595	1365	615	1400	635	1430	660	1470	680	1500
		5000'	615	1400	640	1435	660	1470	685	1510	705	1540
		6000'	640	1435	660	1470	685	1510	710	1550	730	1580
		7000'	665	1475	690	1515	710	1550	735	1590	760	1630
8000'	690	1515	715	1555	740	1595	765	1635	790	1675		

Weight LBS	TO Speed KIAS		Pressure Altitude	0C		10C		20C		30C		40C	
	Lift Off	At 50'		Grnd Roll	Clear 50'	Grnd Roll	Clear 50'	Grnd Roll	Clear 50'	Grnd Roll	Clear 50'	Grnd Roll	Clear 50'
2400	51	56	SL	795	1460	860	1570	925	1685	995	1810	1065	1945
			1000'	875	1605	940	1725	1015	1860	1090	2000	1170	2155
			2000'	960	1770	1035	1910	1115	2060	1200	2220	1290	2395
			3000'	1055	1960	1140	2120	1230	2295	1325	2480	1425	2685
			4000'	1165	2185	1260	2355	1355	2570	1465	2790	1575	3030
			5000'	1285	2445	1390	2660	1500	2895	1620	3160	1745	3455
			6000'	1425	2755	1540	3015	1655	3300	1800	3620	1940	3990
			7000'	1580	3140	1710	3450	1850	3805	2000	4220	---	---
8000'	1755	3615	1905	4015	2060	4480	---	---	---	---			
2200	49	54	SL	650	1195	700	1280	750	1375	805	1470	865	1575
			1000'	710	1310	765	1405	825	1510	885	1615	950	1735
			2000'	780	1440	840	1545	905	1660	975	1785	1045	1915
			3000'	855	1585	925	1705	995	1835	1070	1975	1150	2130
			4000'	945	1750	1020	1890	1100	2040	1180	2200	1270	2375
			5000'	1040	1945	1125	2105	1210	2275	1305	2465	1405	2665
			6000'	1150	2170	1240	2355	1340	2555	1445	2775	1555	3020
			7000'	1270	2440	1375	2655	1485	2890	1605	3155	1730	3450
8000'	1410	2760	1525	3015	1650	3305	1785	3630	1925	4005			
2000	46	51	SL	525	970	565	1035	605	1110	650	1185	695	1265
			1000'	570	1060	615	1135	665	1215	710	1295	765	1385
			2000'	625	1160	675	1240	725	1330	780	1425	840	1525
			3000'	690	1270	740	1365	800	1465	860	1570	920	1685
			4000'	755	1400	815	1500	880	1615	945	1735	1015	1865
			5000'	830	1545	900	1660	970	1790	1040	1925	1120	2070
			6000'	920	1710	990	1845	1070	1990	1150	2145	1235	2315
			7000'	1015	1900	1095	2055	1180	2225	1275	2405	1370	2605
8000'	1125	2125	1215	2305	1310	2500	1410	2715	1520	2950			