

CESSNA

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FLY CESSNA AIRPLANES
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1974

WORLD'S LARGEST PRO-
DUCER OF GENERAL
AVIATION AIRCRAFT
SINCE 1956

MODEL 182 AND SKYLANE

OWNER'S MANUAL

PERFORMANCE - SPECIFICATIONS

	Skylane *
GROSS WEIGHT	2950 lbs
SPEED:	
Top Speed at Sea Level	168 mph
Cruise, 75% Power at 6500 ft	160 mph
RANGE:	
Cruise, 75% Power at 6500 ft	690 mi
60 Gallons, No Reserve	4.3 hrs
160 mph	160 mph
Cruise, 75% Power at 6500 ft	910 mi
79 Gallons, No Reserve	5.7 hrs
160 mph	160 mph
Maximum Range at 10,000 ft	885 mi
60 Gallons, No Reserve	7.7 hrs
115 mph	115 mph
Maximum Range at 10,000 ft	1160 mi
79 Gallons, No Reserve	10.1 hrs
115 mph	115 mph
RATE OF CLIMB AT SEA LEVEL	890 fpm
SERVICE CEILING	17,700 ft
TAKE-OFF:	
Ground Run	705 ft
Total Distance Over 50-Foot Obstacle	1350 ft
LANDING:	
Ground Roll	590 ft
Total Distance Over 50-Foot Obstacle	1350 ft
STALL SPEEDS:	
Flaps Up, Power Off	64 mph
Flaps Down, Power Off	57 mph
EMPTY WEIGHT: (Approximate)	
Skylane	1645 lbs
Model 182	1595 lbs
USEFUL LOAD:	
Skylane	1305 lbs
Model 182	1355 lbs
BAGGAGE:	
Forward Area "A" (Station 82 to 108)	120 lbs
Aft Area "B" (Station 108 to 124)	80 lbs
WING LOADING: Pounds/Sq Foot	16.9
POWER LOADING: Pounds/HP	12.8
FUEL CAPACITY: Total	
Standard Tanks	65 gal.
Optional Long Range Tanks	84 gal.
OIL CAPACITY: Total	12 qts
PROPELLER: Constant Speed, Diameter	82 inches
ENGINE: Continental Engine	O-470-R
230 rated BHP at 2600 RPM	

NOTE: Performance data is shown for the Skylane which is 2 to 3 mph faster than a standard-equipped Model 182 (without speed fairings). There is a corresponding difference in range, while all other performance figures are the same for the 182 as shown for the Skylane.

*This manual covers operation of the Model 182/Skylane which is certificated as Model 182P under FAA Type Certificate No. 3A13.

Section IV

OPERATING LIMITATIONS

OPERATIONS AUTHORIZED.

Your Cessna exceeds the requirements for airworthiness as set forth by the United States Government, and is certificated under FAA Type Certificate No. 3A13 as Cessna Model No. 182P.

The airplane may be equipped for day, night, VFR, or IFR operation. Your Cessna Dealer will be happy to assist you in selecting equipment best suited to your needs.

Your airplane must be operated in accordance with all FAA-approved markings and placards in the airplane. If there is any information in this section which contradicts the FAA-approved markings and placards, it is to be disregarded.

MANEUVERS—NORMAL CATEGORY.

The airplane is certificated in the normal category. The normal category is applicable to airplanes intended for non-aerobatic operations. These include any maneuvers incidental to normal flying, stalls (except whip stalls) and turns in which the angle of bank is not more than 60°. In connection with the foregoing, the following gross weight and flight load factors apply:

Gross Weight	2950 lbs
Flight Load Factor:	
*Flaps Up	+3.8 -1.52
*Flaps Down	+2.0

*The design load factors are 150% of the above, and in all cases, the structure meets or exceeds design loads.

AIRSPEED LIMITATIONS (CAS).

The following is a list of the certificated calibrated airspeed (CAS) limitations for the airplane.

Never Exceed Speed (glide or dive, smooth air)	198 MPH
Maximum Structural Cruising Speed	160 MPH
Maximum Speed, Flaps Extended	
Flaps 10°	160 MPH
Flaps 10° - 40°	110 MPH
*Maneuvering Speed	126 MPH

*The maximum speed at which you may use abrupt control travel.

AIRSPEED INDICATOR MARKINGS.

The following is a list of the certificated calibrated airspeed markings (CAS) for the airplane.

Never Exceed (glide or dive, smooth air)	198 MPH (red line)
Caution Range	160-198 MPH (yellow arc)
Normal Operating Range	68-160 MPH (green arc)
Flap Operating Range	63-110 MPH (white arc)

ENGINE OPERATION LIMITATIONS.

Power and Speed	230 BHP at 2600 RPM
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ENGINE INSTRUMENT MARKINGS.

OIL TEMPERATURE GAGE.

Normal Operating Range	Green Arc
Do Not Exceed	225° F (red line)

OIL PRESSURE GAGE.

Idling Pressure 10 psi (red line)
Normal Operating Range 30-60 psi (green arc)
Maximum Pressure 100 psi (red line)

FUEL QUANTITY INDICATORS.

Empty E (red line)
(2.5 gallons unusable each tank in normal flight maneuvers
with fuel selector valve on "BOTH. ")

CYLINDER HEAD TEMPERATURE GAGE.

Normal Operating Range 200 -460°F (green arc)
Do Not Exceed 460°F (red line)

TACHOMETER.

Normal Operating Range 2200-2450 RPM (green arc)
Do Not Exceed (Engine rated speed) 2600 RPM (red line)

MANIFOLD PRESSURE GAGE.

Normal Operating Range15-23 in. Hg (green arc)

CARBURETOR AIR TEMPERATURE GAGE (OPT).

Icing Range -15° to 5°C (yellow arc)

SUCTION GAGE (GYRO SYSTEM).

Normal Operating Range 4.6-5.4 in. Hg (green arc)

WEIGHT AND BALANCE.

The following information will enable you to operate your Cessna within the prescribed weight and center of gravity limitations. To figure weight and balance, use the Sample Loading Problem, Loading Graph, and Center of Gravity Moment Envelope as follows:

Take the licensed empty weight and moment from appropriate weight and balance records carried in your airplane, and write them down in the column titled "YOUR AIRPLANE" on the Sample Loading Problem.

NOTE

The licensed empty weight and moment are recorded on the Weight and Balance and Installed Equipment Data sheet, or

Section VI

OPERATIONAL DATA

The operational data charts on the following pages are presented for two purposes; first, so that you may know what to expect from your airplane under various conditions, and second, to enable you to plan your flights in detail and with reasonable accuracy.

The data in the charts has been compiled from actual flight tests with the airplane and engine in good condition and using average piloting techniques. Note also that the range charts make no allowances for wind, navigational errors, warm-up, take-off, climb, etc. You must estimate these variables for yourself and make allowances accordingly. Speeds shown in the Cruise Performance charts reflect performance of the Skylane configuration; these speeds are 2 to 3 MPH faster than the Model 182.

Remember that the charts contained herein are based on standard day conditions. For more precise power, fuel consumption, and endurance information, consult the Power Computer supplied with your aircraft. With the Power Computer you can easily take into account temperature variations from standard at any flight altitude.

AIRSPEED CORRECTION TABLE

FLAPS UP	IAS	60	80	100	120	140	160	180	---
	CAS	68	83	101	119	139	158	177	---
FLAPS DOWN 20° - 40°	IAS	40	50	60	70	80	90	100	110
	CAS	55	60	66	74	83	92	102	111

Figure 6-1.

STALL SPEEDS - MPH CAS

		ANGLE OF BANK		
CONDITION	0°	30°	60°	
2950 LBS. GROSS WEIGHT	FLAPS UP	64	69	91
	FLAPS 20°	59	63	83
	FLAPS 40°	57	61	81

POWER OFF - AFT CG

Figure 6-2.

TAKE-OFF DATA

TAKE-OFF DISTANCE WITH 20° FLAPS FROM HARD SURFACE RUNWAY

GROSS WEIGHT LBS.	IAS @ 50' MPH	HEAD WIND KNOTS	AT SEA LEVEL & 59°F.		AT 2500 FT. & 50°F.		AT 5000 FT. & 41°F.		AT 7500 FT. & 32° F.	
			GROUND RUN	TOTAL TO CLEAR 50' OBS	GROUND RUN	TOTAL TO CLEAR 50' OBS	GROUND RUN	TOTAL TO CLEAR 50' OBS	GROUND RUN	TOTAL TO CLEAR 50' OBS
2950	60	0	705	1350	845	1625	1015	1990	1240	2585
		10	490	1025	595	1245	725	1550	900	2040
		20	310	740	385	910	480	1150	610	1545
2500	55	0	485	955	575	1120	690	1330	840	1630
		10	325	710	395	840	475	1005	590	1255
		20	195	490	245	590	300	720	380	915
2000	50	0	295	655	350	745	415	855	500	1005
		10	185	460	225	530	275	620	335	740
		20	105	305	130	355	160	425	205	515

- NOTES: 1. Increase distances 10% for each 25°F above standard temperature for particular altitude.
 2. For operation on a dry, grass runway, increase distances (both "ground run" and "total to clear 50 ft. obstacle") by 7% of the "total to clear 50 ft. obstacle" figure.

MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT LBS.	AT SEA LEVEL & 59°F.			AT 5000 FT. & 41°F.			AT 10,000 FT. & 23°F.			AT 15,000 FT. & 5°F.			AT 20,000 FT. & -12°F.		
	IAS MPH	RATE OF CLIMB FT/MIN	GAL. OF FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED
2950	89	890	1.5	87	665	3.8	85	445	6.8	83	220	11.5	--	--	--
2500	87	1210	1.5	85	935	3.2	83	655	5.2	80	380	8.2	78	105	14.9
2000	84	1710	1.5	82	1350	2.7	79	995	4.1	76	640	5.9	74	280	9.2

- NOTES: 1. Flaps up, full throttle, 2600 RPM, mixture leaned for smooth operation above 5000 ft.
 2. Fuel used includes warm-up and take-off allowance.
 3. For hot weather, decrease rate of climb 30 ft./min. for each 10°F above standard day temperature for particular altitude.

Figure 6-3.

CRUISE PERFORMANCE

EXTENDED RANGE MIXTURE

Standard Conditions \searrow Zero Wind \swarrow Gross Weight- 2950 Pounds

2500 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	60 GAL(NO RESERVE)		79 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2450	23	76	156	14.2	4.2	660	5.6	870
	22	72	153	13.4	4.5	685	5.9	900
	21	68	149	12.7	4.7	705	6.2	925
	20	63	144	12.0	5.0	720	6.6	950
2300	23	71	151	13.1	4.6	690	6.0	910
	22	67	148	12.2	4.9	730	6.5	960
	21	62	143	11.5	5.2	745	6.9	980
	20	59	140	11.0	5.5	765	7.2	1005
2200	23	67	148	12.1	5.0	735	6.5	965
	22	63	144	11.4	5.3	760	6.9	1000
	21	59	140	10.8	5.6	780	7.3	1025
	20	55	135	10.2	5.9	795	7.7	1045
*2000	20	47	123	8.7	6.9	850	9.1	1115
	19	43	117	8.2	7.3	855	9.6	1125
	18	39	110	7.5	8.0	880	10.5	1160
	17	35	101	7.0	8.6	865	11.3	1140

*Power settings in this block represent maximum range settings.

Figure 6-4 (Sheet 1 of 5).

CRUISE PERFORMANCE

EXTENDED RANGE MIXTURE

Standard Conditions \ Zero Wind \ Gross Weight- 2950 Pounds

5000 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	60 GAL(NO RESERVE)		79 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2450	23	78	160	14.5	4.1	660	5.4	870
	22	73	157	13.6	4.4	695	5.8	910
	21	70	153	13.0	4.6	705	6.1	930
	20	65	149	12.2	4.9	735	6.5	965
2300	23	73	157	13.4	4.5	705	5.9	925
	22	69	152	12.6	4.8	725	6.3	955
	21	64	148	11.9	5.0	745	6.6	985
	20	60	144	11.2	5.4	770	7.1	1015
2200	23	68	151	12.4	4.8	730	6.4	960
	22	64	148	11.7	5.1	760	6.8	1000
	21	60	144	11.0	5.5	785	7.2	1035
	20	57	139	10.5	5.7	795	7.5	1045
*2000	20	48	128	9.0	6.7	855	8.8	1125
	19	45	121	8.5	7.1	855	9.3	1125
	18	41	114	7.9	7.6	865	10.0	1140
	17	37	105	7.3	8.2	865	10.8	1135

*Power settings in this block represent maximum range settings.

Figure 6-4 (Sheet 2 of 5).

CRUISE PERFORMANCE

EXTENDED RANGE MIXTURE

Standard Conditions \searrow Zero Wind \swarrow Gross Weight- 2950 Pounds

7500 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	60 GAL(NO RESERVE)		79 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2450	21	71	157	13.1	4.6	720	6.0	945
	20	67	154	12.4	4.8	745	6.4	980
	19	62	149	11.7	5.1	765	6.8	1005
	18	58	144	11.0	5.5	785	7.2	1035
2300	21	66	153	12.2	4.9	750	6.5	990
	20	62	149	11.6	5.2	770	6.8	1015
	19	58	144	11.0	5.5	785	7.2	1035
	18	54	139	10.5	5.7	795	7.5	1045
2200	21	62	149	11.4	5.3	785	6.9	1035
	20	58	144	10.7	5.6	805	7.4	1065
	19	54	139	10.2	5.9	820	7.7	1075
	18	51	133	9.7	6.2	825	8.1	1085
*2000	20	50	132	9.2	6.5	860	8.6	1135
	19	47	126	8.7	6.9	870	9.1	1145
	18	43	118	8.1	7.4	875	9.8	1150
	17	39	110	7.6	7.9	870	10.4	1145

*Power settings in this block represent maximum range settings.

Figure 6-4 (Sheet 3 of 5).

CRUISE PERFORMANCE

EXTENDED RANGE MIXTURE

Standard Conditions \searrow Zero Wind \swarrow Gross Weight- 2950 Pounds
10,000 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	60 GAL(NO RESERVE)		79 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2450	19	63	154	11.9	5.0	775	6.6	1020
	18	60	149	11.2	5.4	800	7.1	1050
	17	55	143	10.6	5.7	810	7.5	1065
	16	51	137	10.0	6.0	820	7.9	1080
2300	19	60	149	11.1	5.4	805	7.1	1060
	18	56	144	10.5	5.7	825	7.5	1085
	17	51	137	9.8	6.1	840	8.1	1105
	16	47	130	9.2	6.5	850	8.6	1115
2200	19	56	144	10.4	5.8	830	7.6	1095
	18	52	138	9.8	6.1	845	8.1	1110
	17	49	132	9.3	6.5	850	8.5	1120
	16	45	124	8.7	6.9	855	9.1	1125
*2000	19	48	130	8.9	6.7	875	8.9	1155
	18	44	123	8.4	7.1	880	9.4	1155
	17	40	115	7.8	7.7	885	10.1	1165
	16	38	101	7.4	8.1	820	10.7	1080

*Power settings in this block represent maximum range settings.

Figure 6-4 (Sheet 4 of 5).

CRUISE PERFORMANCE

EXTENDED RANGE MIXTURE

Standard Conditions \searrow Zero Wind \swarrow Gross Weight- 2950 Pounds
15,000 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	60 GAL(NO RESERVE)		79 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2450	16	54	145	10.4	5.8	835	7.6	1100
	15	50	139	9.8	6.1	850	8.1	1120
	14	46	126	9.2	6.5	820	8.6	1080
2300	16	50	139	9.6	6.2	870	8.2	1145
	15	47	131	9.1	6.6	865	8.7	1135
	14	42	113	8.5	7.1	800	9.3	1050
2200	16	47	131	9.1	6.6	865	8.7	1135
	15	44	120	8.6	7.0	835	9.2	1100
	14	40	106	8.0	7.5	795	9.9	1045
2000	16	40	106	7.8	7.7	815	10.1	1075
	15	37	97	7.3	8.2	795	10.8	1050

Figure 6-4 (Sheet 5 of 5).

LANDING DISTANCE TABLE

LANDING DISTANCE WITH 40° FLAPS ON HARD SURFACED RUNWAY

GROSS WEIGHT POUNDS	APPROACH IAS MPH	@ SEA LEVEL & 59° F		@ 2500 FEET & 50° F		@ 5000 FEET & 41° F		@ 7500 FEET & 32° F	
		GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.	GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.	GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.	GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.
2950	69	590	1350	640	1430	680	1505	740	1595

- NOTES: 1. Distances shown are based on zero wind, power off and heavy braking.
 2. Reduce landing distances 10% for each 5 knots headwind.
 3. For operation on a dry, grass runway, increase distances (both "ground roll" and "total to clear 50 ft. obstacle") by 20% of the "total to clear 50 ft. obstacle" figure.

Figure 6-5.

MAXIMUM GLIDE

- SPEED 80 MPH (IAS) —
- PROPELLER WINDMILLING
- FLAPS UP ● ZERO WIND

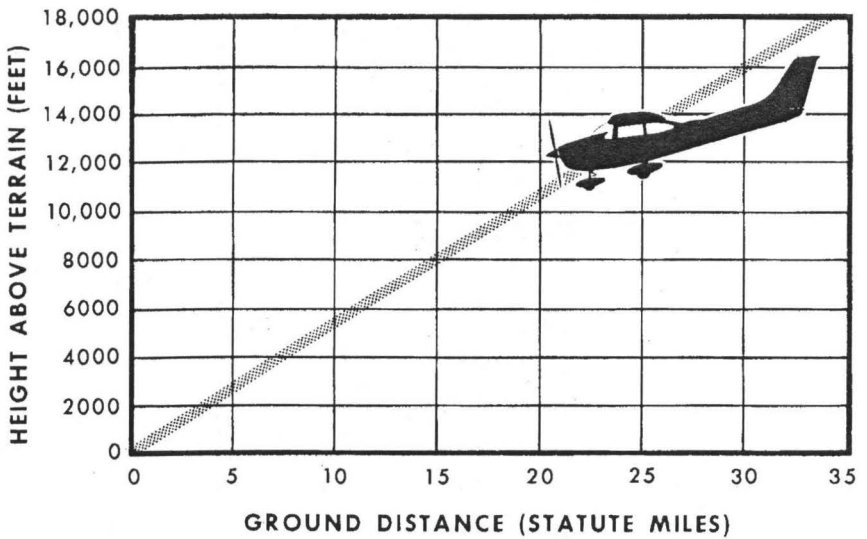


Figure 6-6.