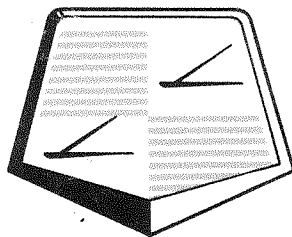
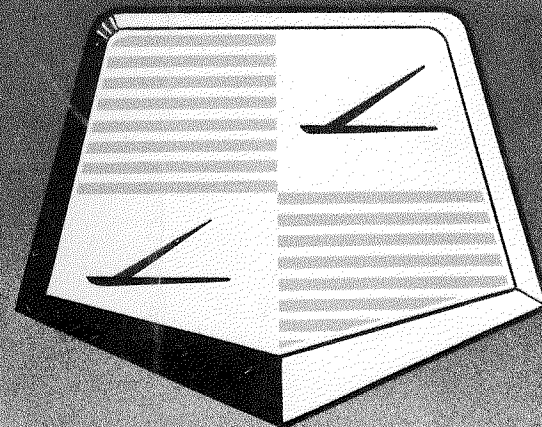


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Cessna 182



1957-58

OWNER'S MANUAL

NOTE

During oil changes, remove and clean oil filter screen located on the right side of the engine accessory section.

OIL TEMPERATURE GAGE.

A capillary type, oil temperature gage (15, figure 1) is mounted within the engine instrument cluster on the right side of the instrument panel. A green arc on the gage dial indicates the normal operating range of oil temperatures. Refer to Section IV for instrument markings.

OIL PRESSURE GAGE.

An oil pressure gage (12, figure 1) is mounted within the engine instrument cluster on the right side of the instrument panel. The gage is calibrated in pounds per square inch. Refer to Section IV for instrument markings.

AIR INDUCTION SYSTEM.

Air is ducted to the carburetor from an air scoop located on the bottom of the engine cowl. Dirt and other foreign matter is filtered from the incom-

ing air by a filter screen located in the air scoop. Proper cleaning and servicing of this air filter is important to increase life and maintain top efficiency of the engine. The filter should be serviced every 25 hours (during regular oil change) or oftener when operating in dusty conditions. Under extremely dusty conditions, daily maintenance of the air filter is recommended. Refer to the servicing instructions stamped on the carburetor air filter for the servicing procedure to be used.

FUEL SYSTEM.

Fuel is supplied to the engine from two rubberized, bladder-type fuel cells, one located in each wing. From these tanks, fuel is gravity-fed through a fuel selector valve and fuel strainer to the engine carburetor.

FUEL SPECIFICATION AND GRADE.

Aviation grade fuel should always be used except under emergency conditions. The recommended fuel is 80 octane minimum rating. Highly leaded fuels are not recommended.

FUEL QUANTITY DATA (U. S. GALLONS).

TANKS	NO	USABLE FUEL ALL FLIGHT CONDITIONS	ADDITIONAL USABLE FUEL FOR LEVEL FLIGHT ONLY	UNUSABLE FUEL	TOTAL FUEL VOLUME EACH
LEFT WING	1	27.5 gal.	3.5 gal.	1.5 gal.	32.5
RIGHT WING	1	27.5 gal.	3.5 gal.	1.5 gal.	32.5

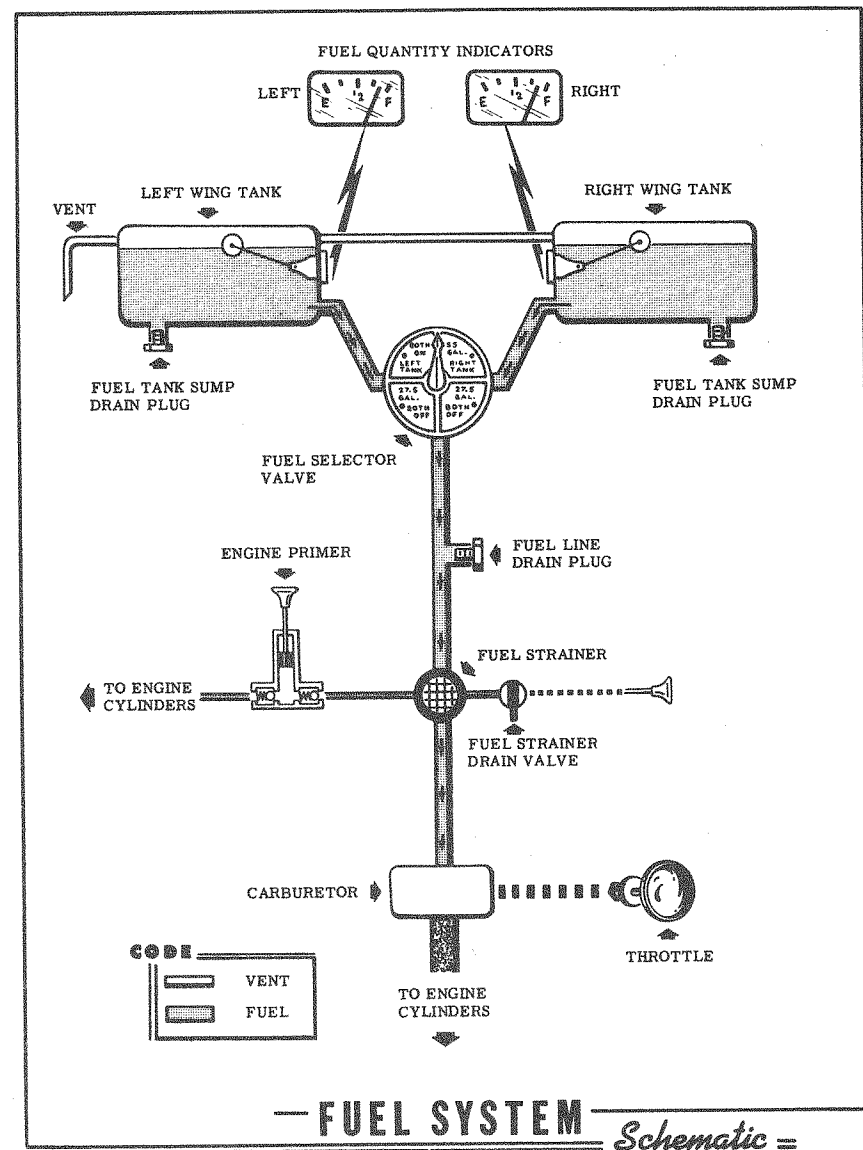


Figure 4.

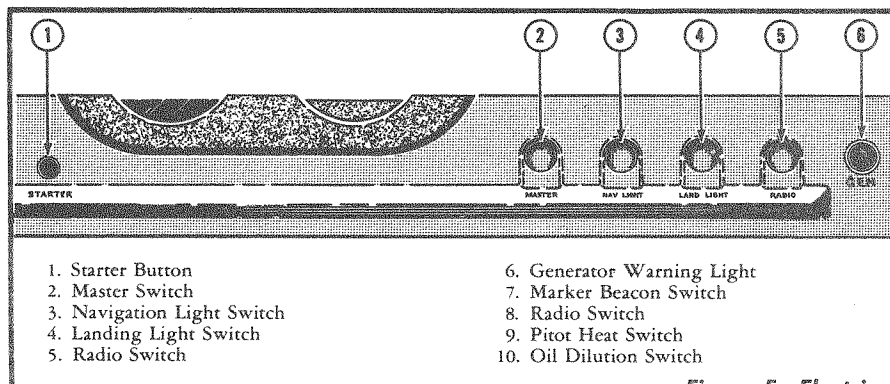


Figure 5. Electrical

FUEL SELECTOR VALVE.

A rotary-type fuel selector valve is located between the front seats at the aft end of the cabin floor tunnel. The valve has four positions labeled "BOTH OFF", "LEFT TANK", "BOTH ON", and "RIGHT TANK". The "BOTH OFF" position shuts off both fuel tanks from the fuel system and allows no fuel to pass the fuel selector valve. The "LEFT TANK" or "RIGHT TANK" position allows fuel to flow from only one fuel tank at a time, while "BOTH ON" permits simultaneous flow from both tanks. *Important* — The fuel valve *handle* is the pointer for the fuel selector valve and indicates the setting of the valve by its position above the dial. *Take-off should be made in the "BOTH ON" position to prevent inadvertent take-off on an empty tank.*

FUEL STRAINER DRAIN KNOB.

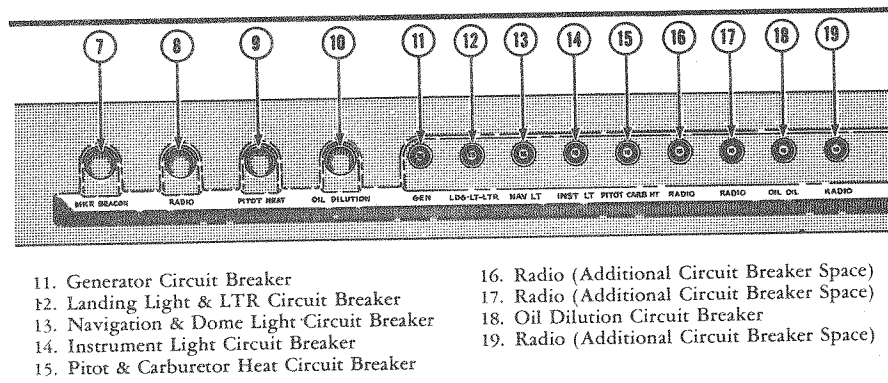
A fuel strainer drain knob decalated "STRAINER DRAIN" (26, figure 1) is mounted slightly to the left of center below the instrument panel.

The knob provides a quick, convenient method of draining water and sediment that may have collected in the fuel strainer. The fuel strainer is located in the lower aft section of the engine compartment just forward of the firewall.

A two ounce quantity of fuel (approximately 3 to 4 seconds of drain knob operation) should be drained from the strainer before the initial flight of the day or after each refueling operation to insure against the presence of water or sediment in the fuel. The spring loaded drain valve in the strainer is *OPEN* when the fuel strainer drain knob is *pulled out* all the way. The drain valve automatically *closes* when the knob is *released*.

FUEL TANK SUMP DRAIN PLUG.

A fuel tank sump drain plug is located on the underside of each wing in line with the rear edge of the cabin door and out a few inches from the fuselage. These plugs are used to drain any sediment or water that may collect in the fuel tanks. Under normal

**System Control Panel**

operating conditions, it is recommended that the wing tank sumps be drained at each 100 hour inspection period.

FUEL LINE DRAIN PLUG.

A fuel line drain plug is located on the underside of the airplane directly below the fuel tank selector valve. At each 100 hour inspection period, this plug should be removed to drain any sediment or water accumulated in the fuel line.

FUEL QUANTITY INDICATORS.

Electrically-operated fuel quantity indicators (11 and 17, figure 1) are mounted below the tachometer within the engine instrument cluster.

NOTE

After the master switch is turned on, a warming period is required before the indicator needles will arrive at the actual reading. Also, the needles will require several seconds to readjust themselves to the actual reading after any abrupt change in flight attitude of the

airplane.

The indicators, identified "LEFT" and "RIGHT" indicate the amount of fuel remaining in their respective tank. A red arc extending from the empty to $\frac{1}{4}$ full range on each indicator dial warns the pilot that the respective tank is $\frac{1}{4}$ full or less. *Do not take off if the pointer is in the red arc.*

ELECTRICAL SYSTEM.

Electrical energy is supplied by a 12-volt, direct-current system powered by an engine-driven generator. A 12-volt storage battery, located aft of the baggage compartment curtain, serves as a stand-by power source, supplying current to the system when the generator is inoperative or when the generator voltage is insufficient to close the reverse-current relay.

MASTER SWITCH.

The master switch (2, figure 5) is mounted at the left end of the switch row in front of the left front seat. The switch positions are: "ON" (out posi-

OPERATING LIMITATIONS

moment values of items to be carried.

EXAMPLE FOR AN AIRPLANE WITH A LICENSED EMPTY WEIGHT OF 1621 LBS. AND A MOMENT OF 57,047 IN. LBS.

	WT.	MOMENT 1000
EMPTY WEIGHT (LICENSED).....	1621.0*	+ 57.0
OIL (12 QTS.).....	22.5	- 0.3
PILOT & PASSENGER (1).....	340.0	+ 12.2
REAR PASSENGERS (2).....	290.0	+ 20.3
FUEL (MAXIMUM) 55 GAL.....	330.0	+ 15.8
BAGGAGE (TO MAKE GR. WT.).....	46.5	+ 4.4
Total.....	2650.0	109.4

Locate this point (2650.0-109.4) on the center of gravity envelope graph, and, since the point falls within the envelope, the above loading meets all balance requirements.

*Includes 10 gallons of unusable fuel, 7 gallons of which are usable in level flight only.

NOTE

The above problem is an example of only one of many different loading configurations. To best utilize the available payload for *your* airplane, the loading charts should be consulted to determine proper load distribution.

Section

V

operational data

THE OPERATIONAL DATA shown on the following pages are compiled from actual tests with airplane and engine in good condition and using average piloting technique and lean mixture. You will find this data a valuable aid when planning your flights. However, inasmuch as the number of variables involved precludes great accuracy, an ample fuel reserve should be provided. The charts make no allowance for wind, navigational error, pilot technique, warm-up, take-off, climb, etc. All of these factors must be considered when estimating reserve fuel.

In addition to the advantages of comfort and safety, airplanes are primarily an exceptionally rapid mode of transportation. Therefore, to realize the maximum usefulness from your Cessna, take advantage of the power your engine can develop. For normal cruising, choose a cruising power setting which gives you a fast cruising speed. If your destination is over 600 miles, it may pay you to fly at lower power settings, thereby increasing your range and allowing you to make the trip non-stop with ample fuel reserve. Use the range charts to solve flight planning problems of this nature.

Airspeed Correction Table								
FLAPS UP	IAS	60	80	100	120	140	160	180
	TIAS	68	82	100	118	138	157	176
FLAPS DOWN	IAS	40	50	60	70	80	90	100
	TIAS	56	60	67	74	83	92	101

Figure 15. Airspeed Correction Table



Figure 16. Take-Off Diagram



Figure 17. Take-Off & Climb Chart

CRUISE & RANGE PERFORMANCE									
Altitude	RPM	M. P.	BHP	%BHP	TAS MPH	Gal/Hr.	End. Hours	Mi/Gal.	Range Miles
2500	2450	23	175	76	152	14.2	3.9	10.6	585
		22	166	72	148	13.4	4.1	11.0	605
		21	157	68	145	12.7	4.3	11.4	625
		20	148	63	142	12.0	4.6	11.8	650
	2300	23	164	71	148	13.1	4.2	11.3	620
		22	153	67	144	12.3	4.5	11.8	630
		21	143	62	140	11.5	4.8	12.2	670
		20	135	59	136	11.0	5.0	12.4	690
	2200	23	153	67	144	12.1	4.6	11.9	655
		22	144	63	140	11.4	4.8	12.2	670
		21	135	59	136	10.8	5.1	12.6	695
		20	126	55	132	10.2	5.4	12.9	710
Maximum Range Settings	2000	20	107	47	120	8.7	6.3	13.7	755
		19	99	43	115	8.2	6.7	14.0	770
		18	89	39	107	7.5	7.3	14.3	785
		17	81	35	99	7.0	7.9	14.2	780
5000	2450	23	179	78	157	14.5	3.8	10.8	595
		22	169	73	153	13.6	4.0	11.3	620
		21	161	70	150	13.0	4.2	11.5	630
		20	150	65	146	12.2	4.5	11.9	655
	2300	23	167	73	152	13.4	4.1	11.4	625
		22	158	69	149	12.6	4.4	11.8	650
		21	148	64	144	11.9	4.6	12.0	660
		20	139	60	140	11.2	4.9	12.4	685
	2200	23	157	68	149	12.4	4.4	12.1	665
		22	148	64	144	11.7	4.7	12.3	675
		21	138	60	140	11.0	5.0	12.7	709
		20	131	57	137	10.5	5.2	13.1	720
Maximum Range Settings	2000	19	103	45	120	8.5	6.5	14.1	775
		18	94	41	112	7.9	7.0	14.2	780
		17	86	37	105	7.3	7.5	14.4	790
		16	79	34	98	6.8	8.0	14.4	790
7500	2450	21	163	71	154	13.1	4.2	11.8	650
		20	153	67	150	12.4	4.4	12.0	660
		19	143	62	146	11.7	4.7	12.4	685
		18	133	58	140	11.0	5.0	12.7	700
	2300	21	151	66	149	12.2	4.5	12.2	670
		20	142	62	145	11.6	4.7	12.4	680
		19	133	58	140	11.0	5.0	12.7	700
		18	125	54	136	10.5	5.2	12.9	710
	2200	21	143	62	146	11.4	4.8	12.7	700
		20	134	58	141	10.7	5.1	13.1	720
		19	126	54	136	10.2	5.4	13.4	735
		18	118	51	132	9.7	5.7	13.6	750
Maximum Range Settings	2000	19	107	47	124	8.7	6.3	14.2	780
		18	98	43	117	8.1	6.8	14.4	790
		17	90	39	110	7.6	7.2	14.4	790
		16	82	36	101	7.0	7.6	14.4	790

Cruise performance is based on standard conditions, zero wind, lean mixture, 55 gallons of fuel, no fuel reserve, and 2650 pounds gross weight. For Skylane performance, add approximately 3 miles per hour to the maximum cruise speeds shown.

Figure 18.

CRUISE & RANGE PERFORMANCE										
Altitude	RPM	M. P.	BHP	%BHP	TAS MPH	Gal/Hr.	End. Hours	Mi./Gal.	Range Miles	
10,000	2450	19	146	63	150	11.9	4.6	12.6	690	
		18	137	60	146	11.2	4.9	13.0	715	
		17	127	55	140	10.6	5.2	13.3	730	
		16	118	51	134	10.0	5.5	13.4	735	
	2300	19	137	60	146	11.1	5.0	13.1	720	
		18	128	56	140	10.5	5.2	13.4	735	
		17	118	51	134	9.8	5.6	13.6	750	
		16	109	47	128	9.2	6.0	14.0	770	
	2200	19	139	56	141	10.4	5.3	13.6	745	
		18	130	52	135	9.8	5.6	13.7	755	
		17	112	49	130	9.3	5.9	13.9	765	
		16	103	45	122	8.7	6.3	14.0	770	
Maximum Range Settings	2000	18	102	44	122	8.4	6.5	14.5	795	
		17	93	40	114	7.8	7.1	14.6	805	
		16	87	38	106	7.4	7.4	14.4	790	
		15	80	35	99	6.9	8.0	14.4	790	
15,000	2450	16	124	54	142	10.4	5.3	13.6	750	
		15	114	50	135	9.8	5.6	13.7	755	
		14	105	46	127	9.2	6.0	13.8	760	
	2300	16	115	50	136	9.6	5.7	14.0	770	
		15	107	47	129	9.1	6.0	14.1	775	
		14	98	42	120	8.5	6.5	14.1	775	
	2200	16	109	47	131	9.1	6.0	14.3	785	
		15	101	44	124	8.6	6.4	14.5	795	
		14	92	40	114	8.0	6.9	14.3	785	
	Maximum Range Settings	2000	16	93	40	115	7.8	7.1	14.8	815
			15	86	37	105	7.3	7.5	14.4	790
			14	78	34	92	6.8	8.1	13.5	745
20,000	2450	13	102	44	125	9.0	6.1	13.9	765	
		12	93	40	114	8.3	6.6	13.6	750	
	2300	13	96	42	118	8.4	6.6	14.1	775	
		12	87	38	105	7.7	7.1	13.5	745	
	2200	13	90	39	109	7.8	7.0	13.9	765	
		12	81	35	99	7.2	7.7	12.4	680	
Cruise performance is based on standard conditions, zero wind, lean mixture, 55 gallons of fuel, no fuel reserve, and 2650 pounds gross weight. For Skylane performance, add approximately 3 miles per hour to the maximum cruise speeds shown.										

Range Chart

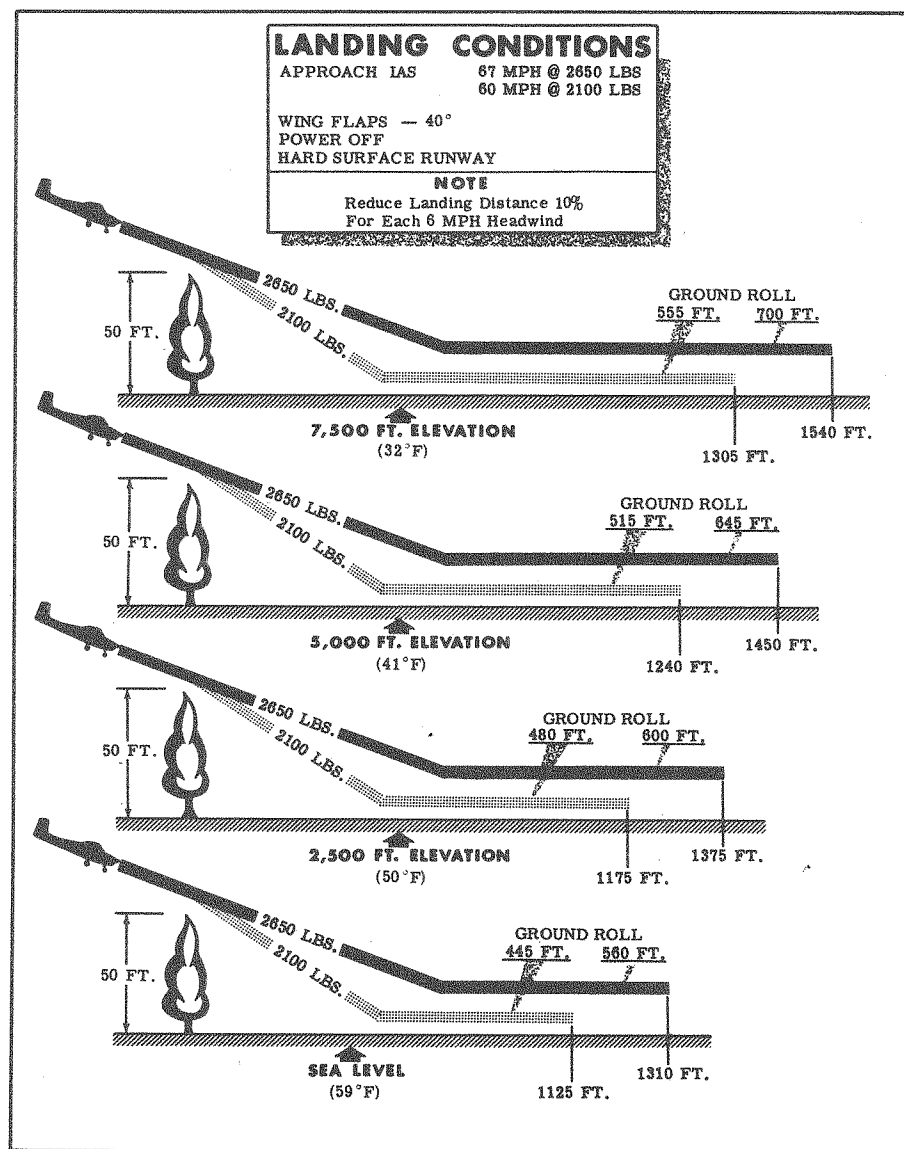


Figure 19. Landing Diagram