

The maximum allowable r.p.m. drop on either magneto is 100 r.p.m. Switch to both magnetos before continuing.

- (6) Check carburetor heat and leave on full heat until take-off.
- (7) Full throttle r.p.m. check is optional but not recommended. The engine should run smoothly and turn, with carburetor heat off, 2230 to 2330 r.p.m. The engine should idle between 300 and 400 r.p.m. Except for short check do not idle below 600 r.p.m.

F. TAKE-OFF.

- (1) Set flaps (20° — second notch) if desired.
- (2) Release brakes.
- (3) Turn carburetor heat "off" (full in).
- (4) For take-offs use full throttle, or power required.
- (5) Heels on the floor to avoid dragging brakes.
- (6) Climb at full throttle, or power required for safety. Best rate of climb—88 m.p.h. indicated airspeed.
- (7) If flaps were used, retract them slowly as soon as a reasonable altitude has been attained. (See "Use of Flaps For Take-Off" paragraph on page 27.)

G. CRUISING.

- (1) Recommended cruising r.p.m.—2450.
- (2) Trim airplane by adjusting elevator tab.
- (3) Oil pressure—30-40 lbs./sq. in.
- (4) Oil temperature—within green arc range.
- (5) Lean mixture to maximum r.p.m.; then enrichen mixture until r.p.m. begins to decrease.
- (6) Lean mixture as required to obtain smooth engine operation when using carburetor heat in cruise.

H. BEFORE LANDING.

- (1) Set fuel valve to both tanks.
- (2) Set mixture control full rich (full in).
- (3) Apply full carburetor heat before closing throttle. If a long letdown is available, avoid "chopping" the throttle.
- (4) Suggested glide speed—70-75 m.p.h.
- (5) Lower flaps as desired (do not lower flaps when indicated airspeed is above 100 m.p.h.)
- (6) Retain cruising elevator trim tab setting.

I. AFTER LANDING.

- (1) Raise flaps.
- (2) Normal glide and taxiing should cool engine sufficiently;

SECTION V

operational data

PERFORMANCE INFORMATION—LANDPLANE.

The following operational data are compiled from actual tests with airplane and engine in good condition and using average piloting technique. Data are based upon a gross weight of 2200 lbs. with McCauley propeller installed, and full throttle for take-off and climb. Performance figures are for zero wind velocity and hard surface level runway. Speeds are true indicated airspeeds.

ITEM				ALTITUDE	OUTSIDE AIR TEMPERATURE					
					0°F	20°F	40°F	60°F	80°F	100°F
Flaps 40°	Landing Distance* (Ft.) To land over 50 ft. obstacle at 67 MPH TIAS approach (Roll 40% distance shown)			Sea Level	1035	1070	1110	1145	1180	1215
				2000 Ft.	1100	1140	1175	1210	1245	1280
				4000 Ft.	1165	1205	1240	1280	1315	1350
				6000 Ft.	1235	1270	1310	1345	1380	1415
				7000 Ft.	1270	1305	1345	1380	1415	1450
Flaps Up	Take-off Distance* (Ft.) To clear 50 ft. obstacle at 76 MPH TIAS (Ground run approx. 40% distance shown)			Sea Level	1460	1580	1700	1820	1930	2050
				2000 Ft.	1780	1910	2050	2190	2340	2500
				4000 Ft.	2140	2290	2450	2610	2790	3000
				6000 Ft.	2550	2740	2930	3140	3360	3620
				7000 Ft.	2820	3040	3260	3500	3750	4040
Flaps 20°	Take-off Distance* (Ft.) To clear 50 ft. obstacle at approx. 67 MPH TIAS (Ground run approx. 38% distance shown)			Sea Level	1230	1350	1480	1625	1795	1995
				2000 Ft.	1540	1700	1860	2050	2250	2450
				4000 Ft.	1920	2110	2340	2580	2855	3140
				6000 Ft.	2450	2720	3000	3300	3620	3990
				7000 Ft.	2780	3100	3420	3745	4080	4455
Flaps Up	Normal Rate of Climb Feet per min.	Best Climb Speed TIAS	89	Sea Level	760	740	715	690	670	645
			86	2000 Ft.	670	645	625	600	580	555
			84	4000 Ft.	580	555	535	510	485	465
			81	6000 Ft.	490	465	440	420	395	370
			79	7000 Ft.	445	420	395	370	345	325

* Both take-off and landing distances are reduced approximately 10% for each 6 m.p.h. wind velocity.

NOTE

Take-off performance figures for 10° flaps are approximately the same as for 20° flaps.



In this area, the use of wing flaps will *increase* take-off distance. Under these atmospheric conditions, it is recommended that take-off be made with flaps up.

PERFORMANCE INFORMATION—SKIPLANE.

Take-Off: Under the most favorable conditions of smooth packed snow at