STC SUPPLEMENTS TO POH

Cessna 1978 C-172N

SN 172-70815

C-172N

N739UK

MODIFIED BY STC SA2196CE (GW increase to 2,550 lbs., limit flaps to 30° maximum.) and STC SA4428SW (180-hp. engine and fixed pitch propeller.)

THESE PAGES REFLECT CORRECTIONS TO THIS AIRCRAFT'S PILOT OPERATING HANDBOOK (POH), MODIFIED IN ACCORDANCE WITH SPECIFIC SUPPLEMENTAL TYPE CERTIFICATES (STCs).

THIS MATERIAL IS PRESENTED TO CLIENTS FOR TRAINING PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR ACCURACY OR OMISSIONS. ALL FLIGHTS MUST BE CONDUCTED IN ACCORDANCE WITH THE POH AND STC ADDITIONS FOR THIS AIRCRAFT. P.O.H. AND STC ADDITIONS SHALL BE FINAL AUTHORITY FOR ALL OPERATIONS.

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Part 3 of 3

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LANDING DISTANCE

SHORT FIELD

CONDITIONS:
Flaps 30° [re: STC Page 8 of 10]
Power Off
Maximum Braking
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Short field technique as specified in Section 4.
2. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots
3. For operation on a dry, grass runway, increase distances by 45% of the "ground roll" figure.
4. If a landing with flaps up is necessary, increase approach speed by 9 KIAS and allow for 35% longer distance. [re: STC Page 8 of 10]

WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
2550	62	S.L.	545	1290	565	1320	585	1350	605	1380	625	1415
		1000	565	1320	585	1350	605	1385	625	1420	650	1450
		2000	585	1355	610	1385	630	1420	650	1455	670	1490
		3000	610	1385	630	1425	655	1460	675	1495	695	1530
		4000	630	1425	655	1460	675	1495	700	1535	725	1570
		5000	655	1460	680	1500	705	1535	725	1575	750	1615
		6000	680	1500	705	1540	730	1580	755	1620	780	1660
		7000	705	1545	730	1585	760	1625	785	1665	810	1705
		8000	735	1585	760	1630	790	1670	815	1715	840	1755

Figure 5-10. Landing Distance

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takeoff run. Any sign of rough engine operation or sluggish engine acceleration is good cause for discontinuing the takeoff. If this occurs, you are justified in making a thorough full-throttle static runup before another takeoff is attempted. The engine should run smoothly and turn approximately 2280 to 2400 RPM with carburetor heat off and mixture full rich.

NOTE

Carburetor heat should not be used during takeoff unless it is absolutely necessary for obtaining smooth engine acceleration.

Full-throttle runups over loose gravel are especially harmful to propeller tips. When takeoffs must be made over a gravel surface, it is very important that the throttle be advanced slowly. This allows the airplane to start rolling before high RPM is developed, and the gravel will be blown back of the propeller rather than pulled into it. When unavoidable small dents appear in the propeller blades, they should be immediately corrected as described in Section 8 under Propeller Care.

Prior to takeoff from fields above 3000 feet elevation, the mixture should be leaned to give maximum RPM in a full-throttle, static runup.

After full throttle is applied, adjust the throttle friction lock clockwise to prevent the throttle from creeping back from a maximum power position. Similar friction lock adjustments should be made as required in other flight conditions to maintain a fixed throttle setting.

WING FLAP SETTINGS [re: POH Page 4-3 & STC Page 7 of 10.]

Normal ~~and short field~~ takeoffs are performed with flaps up. Flap settings greater than 10° are not approved for takeoff.

Use of 10° flaps is reserved for takeoff from short fields with obstacles, or soft or rough fields. Use of 10° flaps allows safe use of approximately 5 KIAS lower takeoff speeds than with flaps up. The lower speeds result in shortening takeoff distances up to approximately 10%. However, this advantage is lost if flaps up speeds are used, or in high altitude takeoffs at maximum weight where climb performance would be marginal with 10° flaps. Therefore, use of 10° flaps is not recommended for takeoff over an obstacle at high altitude in hot weather.

SHORT FIELD TAKEOFF [re: POH Page 4-3 & STC Page 7 of 10.]

If an obstruction dictates the use of a steep climb angle, after liftoff accelerate to and climb out at an obstacle clearance speed of 57 KIAS with flaps ~~retracted~~ extended 10°. This speed provides the best overall climb speed to clear

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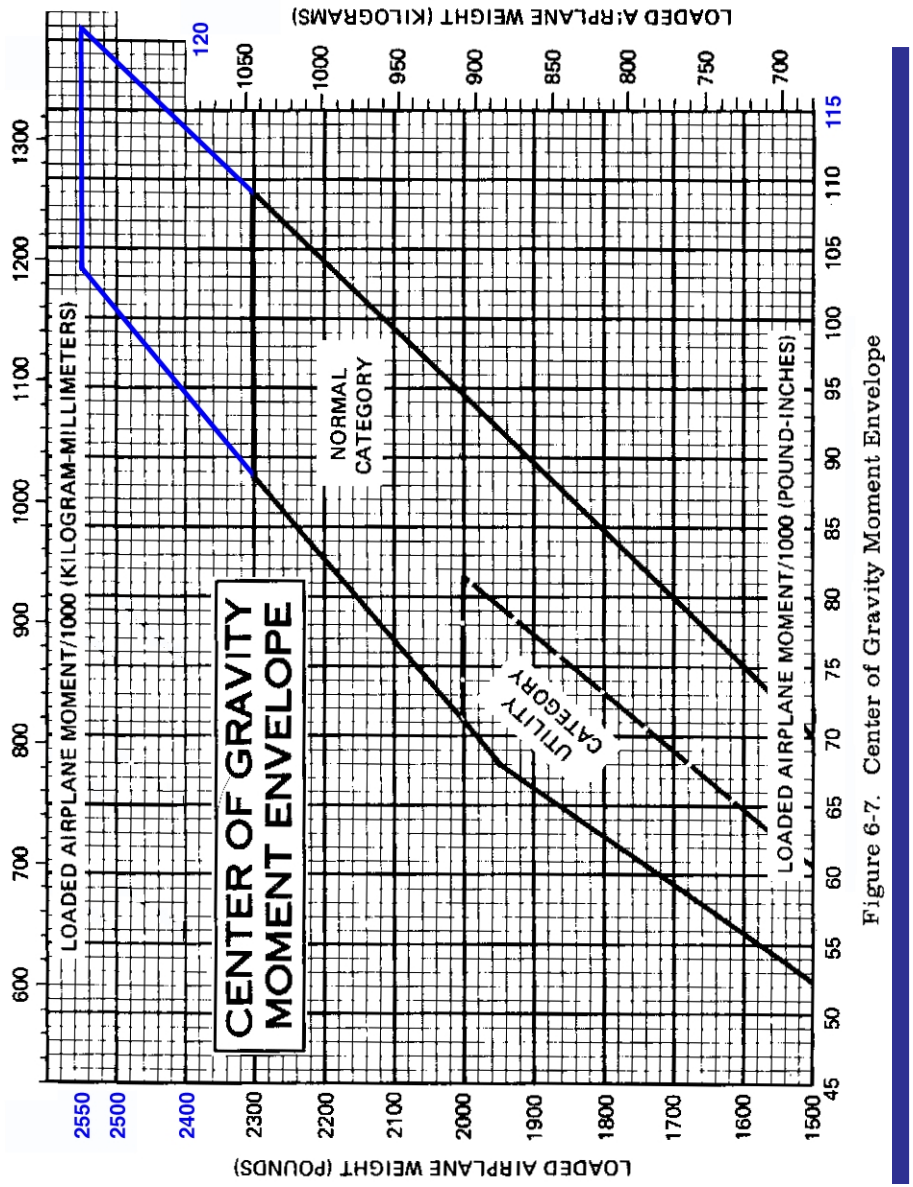

Figure 6-7. Center of Gravity Moment Envelope

[re: STC Page 10 of 10]

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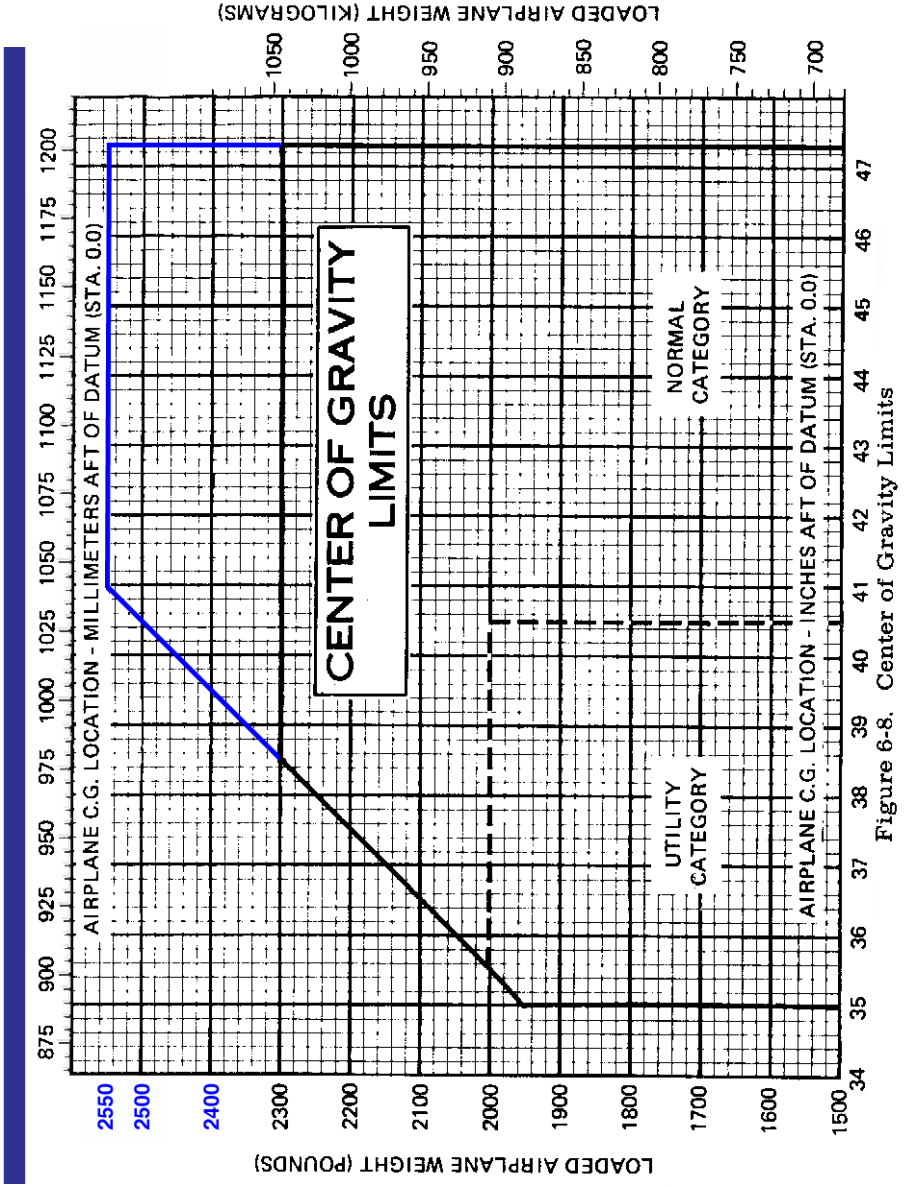

Figure 6-8. Center of Gravity Limits

[re: STC Page 9 of 10]

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obstacles when taking into account the turbulence often found near ground level. The takeoff performance data provided in Section 5 is based on the flaps up configuration.

If 10° of flaps are used on soft or rough fields with obstacles ahead, it is normally preferable to leave them extended rather than retract them in the climb to the obstacle. With 10° flaps, use an obstacle clearance speed of 57 KIAS. As soon as the obstacle is cleared, the flaps may be retracted as the airplane accelerates to the normal flaps-up climb-out speed.

CROSSWIND TAKEOFF

Takeoffs into strong crosswinds normally are performed with the minimum flap setting necessary for the field length, to minimize the drift angle immediately after takeoff. The airplane is accelerated to a speed slightly higher than normal, then pulled off abruptly to prevent possible settling back to the runway while drifting. When clear of the ground, make a coordinated turn into the wind to correct for drift.

ENROUTE CLIMB

Normal climbs are performed with flaps up and full throttle and at speeds 5 to 10 knots higher than best rate-of-climb speeds for the best combination of performance, visibility and engine cooling. The mixture should be full rich below 3000 feet and may be leaned above 3000 feet for smoother operation or to obtain maximum RPM. For maximum rate of climb, use the best rate-of-climb speeds shown in the Rate-of-Climb chart in Section 5. If an obstruction dictates the use of a steep climb angle, the best angle-of-climb speed should be used with flaps up and maximum power. Climbs at speeds lower than the best rate-of-climb speed should be of short duration to improve engine cooling.

CRUISE

Normal cruising is performed between 55% and 75% power. The engine RPM and corresponding fuel consumption for various altitudes can be determined by using your Cessna Power Computer or the data in Section 5.

NOTE

Cruising should be done at 65% to 75% power until a total of 50 hours has accumulated or oil consumption has stabil-

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CONTROL LOCKS

A control lock is provided to lock the ailerons and elevator control surfaces in a neutral position and prevent damage to these systems by wind buffeting while the airplane is parked. The lock consists of a shaped steel rod with a red metal flag attached to it. The flag is labeled CONTROL LOCK, REMOVE BEFORE STARTING ENGINE. To install the control lock, align the hole in the top of the pilot's control wheel shaft with the hole in the top of the shaft collar on the instrument panel and insert the rod into the aligned holes. Proper installation of the lock will place the red flag over the ignition switch. In areas where high or gusty winds occur, a control surface lock should be installed over the vertical stabilizer and rudder. The control lock and any other type of locking device should be removed prior to starting the engine.

ENGINE

The airplane is powered by a horizontally-opposed, four-cylinder, overhead-valve, air-cooled, carbureted engine with a wet sump oil system. The engine is a Lycoming Model O-360-A4M and is rated at 180 horsepower at 2700 RPM. Major accessories include a starter and belt-driven alternator mounted on the front of the engine, and dual magnetos and a vacuum pump which are mounted on an accessory drive pad on the rear of the engine. Provisions are also made for a full flow oil filter.

ENGINE CONTROLS

Engine power is controlled by a throttle located on the lower center portion of the instrument panel. The throttle operates in a conventional manner; in the full forward position, the throttle is open, and in the full aft position, it is closed. A friction lock, which is a round knurled disk, is located at the base of the throttle and is operated by rotating the lock clockwise to increase friction or counterclockwise to decrease it.

The mixture control, mounted above the right corner of the control pedestal, is a red knob with raised points around the circumference and is equipped with a lock button in the end of the knob. The rich position is full forward, and full aft is the idle cut-off position. For small adjustments, the control may be moved forward by rotating the knob clockwise, and aft by rotating the knob counterclockwise. For rapid or large adjustments, the knob may be moved forward or aft by depressing the lock button in the end of the control, and then positioning the control as desired.

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SECTION 9
SUPPLEMENTS
(Optional Systems Description & Operating Procedures)

TABLE OF CONTENTS

MODIFIED BY STC SA2196CE (GW increase to 2,550 lbs., limit flaps to 30° maximum.)
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HAND CORRECTIONS TO PILOT OPERATING HANDBOOK PAGES
(Not addressed in STC POH supplement. Informational Only)

2-9: ☐ Line out FUEL LIMITATIONS for Long Range Tanks.

2-11: ☐ Line out placard for FUEL SELECTOR VALVE (long range tanks)
☐ Line out placard for near FUEL TANK CAP (long range tanks)

7-11: ☐ SEATS: Paragraph 1 line out “and a child’s seat (if installed) aft of the rear seats.”

7-12: ☐ Line out paragraph refering to Child’s Seat and paragraph refering to Headrests.
☐ SEAT BELTS AND SHOULDER HARNESSES: Paragraph 1, third line. Line out rest of paragraph, from “shoulder harnesses are available for the rear seat....positions if desired.”

7-13: ☐ Line out diagram for SEAT WITH INERTIA REEL HARNESS

7-14: ☐ Line out reference to INTEGRATED INERTIA REEL HARNESSES

7-15: ☐ Last paragraph, line out “An openable window is also available for the right door, and functions in the same manner as the left window.”
☐ Line out “cabin top windows (if installed),”

7-17: ☐ ENGINE INSTRUMENTS: Line out last paragraph regarding Carburetor Air Temperature Gage.

7-12: ☐ FUEL SYSTEM: Figure 7-5. Line out information for Long Range Tank.

7-18: ☐ ENGINE OIL SYSTEM: First paragraph, second line. change “six” to “eight,” as in “…the engine sump capacity is EIGHT quarts….”

7-28: ☐ First line: Line out “A single landing light or”
☐ INTERIOR LIGHTING: First paragraph, second line. Line out “, and post lighting (if installed)”.
☐ From fourth line to end of paragraph, line out “A slide-type switch....the BOTH position.”
☐ Third paragraph regarding post lights. Delete.
☐ Fourth paragraph, first line: line out “(if post lighting is installed),”

7-29: ☐ Third paragraph regarding Control Wheel Map Light. Delete.

8-11: ☐ CAPACITY OF ENGINE SUMP: Note capacity now 8 quarts, per STC, vs. previous 6 quarts..

8-12: ☐ FUEL: Line out “CAPACITY EACH LONG RANGE TANK -- 27 Gallons.”