LAKE AIRCRAFT DIVISION

CONSOLIDATED AERONAUTICS, INC.

MODEL LA-4-200

AIRPLANE FLIGHT MANUAL

THIS DOCUMENT MUST BE KEPT IN AIRPLANE AT ALL TIMES

AIRPLANE SERIAL NO. 664 FAA IDENT. NO. N1071L

## I. LIMITATIONS

The following limitations must be observed in the operation of this airplane.

Engine: Lycoming IO-360-A1B, 200 HP, 2700 RPM full throttle.

Fuel: 100/130 octane aviation gasoline.

Propeller: Hartzell hub/blade HC-C2YK-1BL/L7666-2 or L7666A-2 or HC-C2YK-1BLF/FL7666A-2

Diameter 74" maximum, 72" minimum
Pitch 14° minimum low pitch, 27° to 31° high pitch. Pitch range measured at 30" blade station.

Note: Avoid continuous operation between 2100 and 2300 RPM

Maximum Weight: 2600 Lbs.

C.G. Range:

| Weight Pounds | Forward Limit Aft of Datum | Aft Limit Aft of Datum |
|---|---|---|
| 2600 | 102.5 | 106.0 |
| 1950 | 102.5 | 108.0 |

Straight line variation between points given. See attached loading schedule. Datum is Station 0, which is 90.75 inches forward of the wing leading edge at the side of the hull.

Note: It is the responsibility of the airplane owner and pilot to insure that the airplane is properly loaded.

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Take off roll Land/water
600'/1100'

Landing roll Land/water
500/600

Power Instruments: Green Arc - Normal Operating Range
Yellow Arc - Caution Range
Red Line - Maximum or minimum

(a) Oil temperature: Red line at 245°F

(b) Oil Pressure: Green Arc 60 to 100 PSI
Yellow Arc 25 to 60 PSI
Red Line 25 PSI min, 100 PSI max.

(c) Fuel Pressure: Green Arc 14 to 30 PSI
Red Line, 14 PSI min, 30 PSI max.

(d) Tachometer: Green Arc 500 to 2700 RPM
Yellow Arc 2100 to 2300 RPM ("avoid" range)
Red Line 2700 RPM

Airspeed:

| | |
|---|---|
| Never Exceed | 146 MPH CAS |
| Max. Structural Cruising | 122 MPH CAS |
| Maneuvering | 121 MPH CAS |
| Gear & Flap Extension | 125 MPH CAS |

Instrument Markings:

Red Line: Maximum safe airspeed
Yellow Arc: Range of speed in which operation should be conducted with caution in smooth air.
Green Arc: Normal operating speed range
White Arc: Range in which flap and gear may be safely lowered.

Note: Maneuvers involving approach to stalling angle or full application of control surfaces should be confined to speeds below maneuvering speed.

Flight Load Factors: Max. positive----------3.8
Max. negative----------No inverted maneuvers approved
No acrobatic maneuvers are approved for Normal Category operations.

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Trim Tab System: Two interconnected hydraulically operated trim tabs operate independently of the elevator. A green arc on the trim indicator denotes the trim range to be used for takeoff.

CAUTION: Do not use full nose up trim for takeoff in the most aft C.G. reduced weight condition, since engine failure would result in the inability to pitch the nose down when the gear flaps are retracted.

## I. PROCEDURES

Hydraulic System:

1. In normal operation, hydraulic pressure is maintained by an electric pump when the pump switch is in the ON position.
2. For emergency operation, hydraulic pressure may be maintained by use of the emergency hand pump.
3. The handle of the emergency pump should be approximately parallel to the floor when not in use.

Fuel System: Boost pump may be required to maintain fuel pressure above 11000 feet.

## I. PERFORMANCE

Climb: Best rate of climb speeds:
Gear & Flaps Down 65 MPH, TIAS
Gear & Flaps Up 85 MPH, TIAS

Flaps: Use full flap for takeoff and landing.

Stalls: Stall speeds:
Gear & Flaps up, power on 52 MPH, TIAS
power off 52 MPH, TIAS

Gear & Flaps down, power on 45 MPH, TIAS
power off 45 MPH, TIAS

A power off stall may cause a 250 foot loss of altitude.

Trim: Trim change with power change in this airplane is unconventional in that the nose will tend to pitch DOWN with application of power, and UP with reduction of power.

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Water Operation: Maximum demonstrated wave height for water operations is 12 inches (trough to crest). This figure does not necessarily represent the limiting value for the aircraft.

Operation into waves of any height depends on the judgement of the pilot concerning aircraft loading, wind conditions, wave height and form, and his own level of skill.

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## WATER TAKE-OFF

Normal Conditions and Glassy Water:

Water Rudder UP
Control Wheel Back
Full Power (Apply Gradually)
Relax Back Pressure as aircraft starts to climb onto step.
If porpoising Begins - Reapply slight back pressure.
Attempt to keep aircraft on last 12" of step. (DO NOT Force airplane into air. Allow it to fly itself off.)

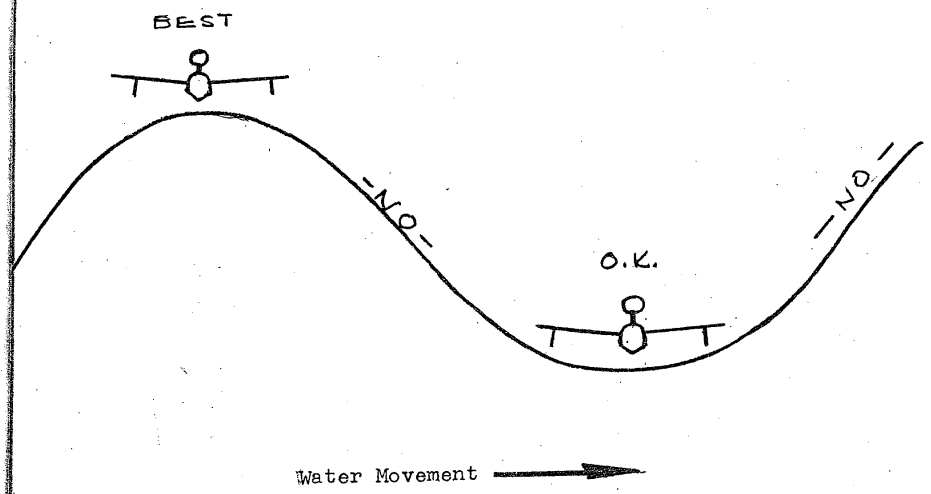
Rough Water:

Same as normal conditions, except:
Hold Bow Slightly higher to preclude premature flight due to being bounced into air. Flaps UP until plane is on step.

Swells: (Avoid If Possible)

Take-off and Landing

Movement: Always parallel, never perpendicular - regardless wind.



## WATER LANDINGS

Normal Conditions: (Step Landing)

Ripples to 12" Chop (Headwind)
Wind: 5 Kts - 15 Kts
Approach Speed: 70-80 IAS
If in doubt of conditions always make a full stall ldg.

Rough Water Conditions:

Waves 12" - 18"
Wind: 15 Kts-plus
Full Stall Landing
Approach Speed 70 IAS
Slow Deceleration (Stall Occurring at moment of touch down)

Glassy Water Conditions:

Calm - No Ripples
Wind: Little or none
Leave longer than normal distance for landing
Approach Speed 65 IAS
Control Rate of Decent Under 300 fpm with throttle (approx.) depending on load. 15" - 18" MP -High RPM
Land Close to shoreline or some reference point, using above and instruments to touch down.
Do not attempt glassy water Ldg. without a good check out.

Crosswind:

Take Off

Water rudder down until power applied

Full Aileron into wind until control response

Lift off normal

Landing

Approach Normal

Keep Wings Level

If narrow, use crab technique.