

Pilot's Operating Manual

Aeronca

11 Series Chiefs

11AC - S11AC - 11BC - S11BC

This manual has been prepared to inform the pilot of systems and features incorporated in the Aeronca Model 11AC and 11BC series of aircraft. The enclosed operating procedures and performance data are provided so that maximum utilization can be obtained with the utmost safety, economy and serviceability.

This manual does NOT replace the FAA approved placards and operating limits in a specific aircraft. If a difference exists between this manual and the FAA approved placards / operating limitations, the FAA approved placards and operating limitations shall be the authority.

Engines:

Continental A-65-8 C-85-8
Type Certification No. E-205 E-233
Cylinder Bore 3.875 4 1/16
Stroke 3.625 4 5/8
Displacement 171 ci 188 ci
Rated HP (sea level) 65 hp 85 hp
Maximum RPM 2300 2575
Recommended Cruise RPM 2150 2400
Minimum Octane 73 73
Oil pressure - cruise 30/40 30/40 - Minimum 10/ 10
Oil Capacity 4.5 qt 4.5 qt
Max Oil Temp(at 100 F outside temp) 220 220

This manual is provided to the Aeronca “Chief” Owner for Flight and Operating procedures. It includes a copy of the aircraft Type Certificate as well as specifications and performance data.

The Aeronca Chief is designed and assembled so that proper care and maintenance will assure long life to the aircraft.

ATTENTION

When taxiing downwind with the Model 11AC/11BC, it is advisable in strong and gusty winds to taxi slowly with the stick well forward. Use particular care when turning from a downwind to a cross wind position. When a quartering tail wind is experienced, keep the aileron nearest the direction from which the wind is blowing in a DOWN position. With a quartering tail wind, always keep the stick directly away from the wind direction.

Always face directly into the wind when “running up” the engine. Facing the wind tends to eliminate torque-quartering effects and aids engine cooling at high RPM.

GENERAL DESCRIPTION

The “Chief” is a two place, side by side, high wing monoplane. Basic fuselage construction is welded tubing with fabric covering. The wings are composed of two wooden spars with aluminum ribs and fabric covering. The wing leading edges are covered with aluminum sheet to provide a more efficient airfoil. Power is provided by a 65 hp or 85 hp engine and fixed pitch propeller. Engine vibrations are dampened by rubber mount bushings.

Good vision is attained through the use of a one piece windshield plus large door and rear quarter windows. Basically the Chief is a conventional three control aircraft. The wheel type dual control system provides smooth and non-fatiguing control. Large aluminum toe brake pedals are provided on the pilot’s side, and rudder pedals without brakes on the copilot’s side. A trim tab on the left elevator compensates for load differences and provides for hands-off flight. The trim tab control is located above and between the two occupants. Engine controls are readily accessible from either seat. Concealment of cabin control cables provide greater cabin comfort. A large baggage compartment is located behind the seat to accommodate luggage and other items.

The famous Aeronca Oleo Landing gear is incorporated in the Chief. This time-tested method of land-

ing gear construction ensures sturdy yet smooth handling on rough fields. Much of the shock is absorbed in the oleo, thereby lessening fatigue in the rest of the airframe and wing structure. Ease in ground handling is assured with steer-able leaf spring tail wheel and positive-acting mechanical brakes. Tie-down rings are incorporated at the strut wing attachment point for security in the event storage space is not available.

CABIN

Plexiglas windows are used throughout, assuring a minimum of discoloration due to exposure. When cleaning, all grit and foreign particles should be flushed off with clean water. Final cleaning should be done with a soft cloth and any recommended type of Plexiglas cleaner. Never use dirty, oily rags to clean Plexiglas. Rapid changes in temperature should be avoided, such as moving from a warm hangar to extreme cold, which will cause rapid contraction and breakage. Allowing fifteen minutes after Plexiglas has cooled is recommended before starting engine. Vibration increases possibility of breakage during cooling.

The instrument panel is hydro-formed all metal with a rich grained finish harmonizing with the interior color scheme of the cabin. Instruments and controls are functionally grouped. The primary group center panel is sloped to provide better visibility of instruments. Decorative center trim may be removed to provide room for additional instruments without defacing the panel. Two ash trays, key type switch, new type compass, and two glove compartments are standard equipment in addition to oil temperature, oil pressure, tachometer, altimeter and airspeed instruments. The

carburetor heat control, switch, cabin heater control, throttle, mixture control, push/pull main fuel shut-off are mounted in a lower sub-instrument panel located between the control columns and readily accessible to both occupants.

The auxiliary fuel tank is located behind the luggage compartment and the fuel valve is on the left side of the cabin directly below the instrument panel.

CAUTION — Very Important The auxiliary fuel valve should be in the “OFF” position when the aircraft is on the ground [or at nose-high attitude]. Failure to close this valve will allow fuel to drain back to the auxiliary tank from the main tank when in a three point position. Fuel should be transferred from the auxiliary to the main tank during level or gliding flight only, and when the main tank is less than one-half full. Always turn auxiliary valve to “OFF” position before landing.

CAUTION: Checking for water in the sediment bowl should be done daily. Operating in cold weather and storing in a warm hangar with an unfilled fuel tank or operating in a climate where high humidity is prevalent are most probably causes for condensation and the presence of water in the system.

For cold weather starting, three slow movements of the primer pump as the propeller is turning over will force fuel directly into the induction system assuring quick, positive starting.

CAUTION: Be sure fuel vent lines to the tanks are not plugged. There is a vent for each tank in the wing outboard of the tank.

Airplane Specifications

Airframe

Length 20' 5"
Height 6' 7"
Height Level 8' 8"
Wing Span 36'
Aspect Ratio 7.25
Wing Chord 60"
Stabilizer Span 10' 2"
Wheel Tread 72"
Wheel Base 15' 10"
Stabilizer Incidence -3.5 degrees
Wing Dihedral +2 degrees
Wing Incidence +1 degree
Fin Offset 3/8" Left of Centerline

Weights (CHECK current weight and balances)

	Sea	Land
Empty Weight	888	790
Gross Weight	1348	1250
Useful Load	460	460
Wing Loading	7.6	7.15
Power Loading	20.7	19.2
Baggage	70	70

Performance

Cruising Speed 90 MPH
Maximum Speed 129 MPH
Landing Speed 40 MPH
Rate of Climb 500 fpm
Fuel Capacity 15 Main - 8
Aux Cruise Range 270/420 miles

Propeller Limits

	11AC	11BC
Full Throttle (static)	2300	2380 Max
	1990	2160 Min

Preflight Inspection

1. Cabin

- Cabin Door - CHECK condition, security
- Flight Controls - CHECK freedom of movement
- Magneto & Electrical Switches - OFF (check operation of lights if required and stall warning system with respective switches ON)
- Fuel quantity Gauges - CHECK quantity
- Main Fuel Shut-off Valve - OPEN
- Aux Fuel Shut-off Valve - CLOSED
- Seat Belts - CHECK condition, secure belt and harness if not in use
- Emergency Locator Transmitter - ARMED

2. Right Wing

- Wing Root Fairing - CHECK secure
- Aileron - CHECK condition, freedom of movement, security
- Wing Tip and Light - CHECK condition • During preflight performed by pilot
- Inspect the front and rear lift struts for straightness, dents and other damage.
- CHECK strut drain holes to ensure that they are not plugged and the struts do not contain water.
- If either of the above conditions is found, contact an authorized aircraft mechanic to determine aircraft airworthiness.
- Tie-down - REMOVE
- Pitot-Static Tubes - CHECK unobstructed (visual check only)
- Fuel - CHECK quantity, color, cap secure

3. Right Main Gear

- Chocks - REMOVE
- Tires - CHECK condition, inflation

- Brakes - CHECK condition

4.Nose Section

- Windshield - CHECK condition, cleanliness
- Oil - CHECK quantity, dip stick secure
- Fuel - DRAIN gascolator, CHECK for leakage
- Engine Compartment - CHECK condition, leakage, etc.
- Cowling and Inspection Door - CHECK condition, security
- Propeller and Spinner - CHECK condition, security
- Air Filter - CHECK condition.

5.Left Main Gear

- Same as right main gear.

6.Left Wing

- Same as right wing.

7.Fuselage (Left Side)

- Fabric - CHECK condition
- Windows - CHECK condition, cleanliness

8.Empennage

- Horizontal Stabilizer and Brace Wires - CHECK condition, security
- Vertical Stabilizer and Tail Light - CHECK condition
- Elevator, Trim Tab and Rudder - CHECK condition, freedom of movement, security
- Tail Wheel - CHECK condition, inflation, security

9.Fuselage (Right Side)

- Same as fuselage left side

BEFORE STARTING

1. Seat Belts/Shoulder Harness - FASTENED
2. Fuel Shut-Off Valve - OPEN
3. Brakes - SET
4. Cabin Door - CLOSED (windows open as desired)

WARNING

Do not attempt to turn over and/or start the engine by hand unless you have had proper instruction and experience. If pulling the propeller through by hand is necessary, be sure the master and magnetos are in the OFF position and the throttle closed. Have a pilot at the controls and chock/tie down the aircraft. When pulling the propeller through by hand, treat it as if the ignition switch is turned on. A loose or broken ground wire on either magneto could cause the engine to fire.

CAUTION

Do not over-prime or excessively pump the throttle (carburetor accelerator pump) due to the resulting fire hazard.

The use of the fuel primer will vary with each engine and temperature condition. If the engine is warm, little or no prime is required. During cold weather conditions, 4 to 6 priming strokes may be required.

During cold weather operation (below 20 degrees F) it is recommended that the engine be preheated by directing warm air through the opening in the bottom or front of the engine cowl. This practice will prolong the service life of the engine and starter.

In very cold weather, it is important to use the proper viscosity engine oil and to run the engine suffi-

ciently long to bring the engine oil to the normal operating temperature.

During ground operation, the mixture should be FULL RICH and the carburetor/alternate air COLD to ensure good engine cooling and filtered air. Prolonged idle below 1000 RPM is not recommended due to plug fouling and insufficient cooling air when the aircraft is not in motion.

Aircraft landing characteristics are conventional. Either wheel landings or full stalls (3 point) are permissible. During gusty wind conditions, increase airspeed approximately 5 MPH above normal, and perform a wheel landing.

Full stall (3 point) landings are recommended for soft or rough fields.

Crosswind approaches can best be accomplished by using the wing down, top rudder method followed by either a full stall or wheel landing technique. Keep the lower wing into the wind after touchdown. Do not drop the tail until airspeed is well below flying speed.

CAUTION

The use of wheel brakes is not recommended until after the tail wheel is in contact with the ground. For maximum braking, the control stick should be FULL AFT.

Descent should be made with enough power to maintain cylinder and oil temperatures in the green arc. If possible, avoid windmilling the engine with the propeller by reducing airspeed or increasing power.

CHECKLIST for Aeronca 11AC/11BC

Following normal Preflight Inspection,

•Start

1. Magneto Switch ON
2. Throttle Cracked (1/8 to 1/4")
3. Carburetor Heat COLD (IN)
4. Prime (as required, if available)
5. Brakes CHECK SET AND FIRM
6. Propeller CLEAR
7. Prop to START
8. Oil Pressure - CHECK AT ONCE: SHUT
DOWN IF NO OIL PRESSURE IN 30 SECONDS
9. All other Instruments - CHECK
10. Throttle to 800-1000 RPM

•Take-Off - Normal

1. Controls - CHECK Free and Correct
2. Instruments - CHECK
3. Trim - SET for take-off
4. Main Fuel Valve - OPEN (IN)
5. Aux Fuel Valve - CLOSED
6. Altimeter - CHECK
7. Run Up
 - CHECK Mags at 1800 RPM - < 150 RPM Mag Drop
 - Carb Heat
8. Windows and Doors - CLOSED AND LATCHED
9. Seat Belts/Harness - FASTENED
10. CLEAR TRAFFIC PATTERN
11. Take Off
12. Establish Climb Speed
 - Best Angle 50 MPH
 - Best Rate 0-5000 ft 68 MPH
 - Best Rate 5-10000 ft 58 MPH

•Cruise (Gross Weight, Sea Level)

- Throttle - Set as Desired
- Trim - Set for level flight

•Airspeeds

	11AC	11BC
Level flight or climb	95 MPH	95 MPH
Glide or dive	128 MPH	129 MPH
Maneuver	80 MPH	80 MPH
Stall	40 MPH	40 MPH
Glide	67 MPH	67 MPH
Most Miles Per Gal	69 MPH	69 MPH
Most Flight Time per Gal.	48 MPH	48 MPH

•Landing

- Brakes - CHECK firm, parking brake OFF
- Approach Speed - 55 - 60 MPH

•Shutdown

- Brakes (Cool) SET
- Engine - AT IDLE RPM
- Magneto Switches OFF
- Tie Down or Hangar