

EQUIPMENT AND DISTICTIVE FEATURES OF THE
REPUBLIC SEABEE

SEABEE ENGINE

The Republic four-passenger amphibian Seabee is powered with a 215 HP 6-cylinder opposed Franklin Aircooled engine (model 6A8-215-B7F). The engine is a floating powerplant, on rubber mountings, minimizing vibration and redducing engine noise.

It has been redesigned since the acquisition of Aircooled Motors Corporation by Republic to further enhance the ease with which it can be serviced and maintained. As installed in the Seabee, both spark plugs on each engine cylinder are visible and easily reached for checking or replacement by simply raising the hood.

This hood, hinged at its forward edge, comprises the larger portion of the engine cowling. It is raised as simply as an automobile hood by merely disengaging four external fastener clamps and raising it to an automatically locking open position, where braces hold it up like an automobile trunk lid.

Mounting

The Seabee's engine is mounted above and behind the cabin, utilizing a pusher type propeller. This keeps the spinning propeller blades in the clear path between the right and left spray streams on water landings and takeoffs. It also reduces engine noise to a minimum within the insulated cabin and virtually eliminates motor and fuel odors.

The location of both engine and propeller not only enhance the efficient utilization of the air stream but constitute exceptional safety factors. In tests made at the Republic Field, Seabees have been deliberately nosed over onto the reinforced metal keel without resultant damage to the hull and obviously without damage to either the rearward mounted engine or propeller blades. In case of a nose over from any unusual cause, the Seabee would simply rock forward onto its nose keel and rock back to normal level.

SEABEE CONTROLS

Dual wheel controls for pilot and co-pilot or student are standard equipment on the Republic Seabee.

A mechanism of Republic's engineers own design, the two attractively patterned wheels are mounted on arms extending to the left and right of a horizontal shaft emerging from the instrument panel, which in turn attaches to an upright column concealing beneath the dash.

The right hand or co-pilot's wheel and its attached shaft attach to the central column with a snap pin. By pulling out this pin the right hand controls can be instantly disengaged and the co-pilot's wheel removed. When the right hand wheel is not being used a fitted cap neatly covers the opening in the central column.

The auxiliary control whell canbe reattached as simply as it is removed, by simply removing the cap, reinserting the shaft in its socket and plugging in

the snap pin. All gears to aileron and elevator control mechanisms automatically reengage.

Each wheel is in a comfortable, convenient position and the absence of any upright column in the cockpit affords a maximum of clear foot room. When the right hand wheel is removed, a clear openway is provided to the nose door in the bow.

Landing Gear, Brakes and Flaps

Both main landing gear and tail wheel on the Seabee are retractable in flight or for water landings and takeoffs. Retraction mechanisms for both the main gear and tail wheel are concealed within the hull.

Landing gear brakes and flaps are manually operated by a hydraulic retracting mechanism. A single hydraulic pressure system activates both landing gear and flaps. A single lever, extending upward from beneath the cabin floor and between the two front seat occupants, activates a pump with which the hydraulic pressure is built up. Another lever, operating through synchronized controls, raises or lowers both main landing gear and tail wheel. A third lever raises or lowers the flaps.

SEABEE PROPELLERS

Standard equipment on the Seabee will be the Koppers Aeromaster ground adjustable propeller. Its blades are laminated wood with resin bonding, to reduce warpage and provide greater strength than wooden blades. The laminated wood is covered with aeroloid plastic, protection against water spray and abrasion. The plastic sheeting is pressure bonded to the blades and a stainless steel leading edge is fastened over the aeroloid plastic.

The Aeromasters have a simple, rugged one-piece chrome steel hub. Blades are removable or adjustable simply by loosening a clamp ring.

The ground adjustable feature facilitates setting the propeller blades at any desired angle, which will accomplish maximum performance of the airplane whether at sea, level or higher altitudes. This assures full utilization of potential performance, such as, for instance, extra power for a takeoff, or most efficient continuous operation on an extended flight at cruising speeds.

Economy is another factor, resulting from ability to operate the engine at its most favorable speed and power output.

Optional Controllable Pitch Propeller

Optional extra equipment, installed at the factory at a charge of \$333 additional to list price, is the Hartzell controllable and reversible pitch propeller. The pitch of this propeller is controlled by a push-pull lever installed on the instrument panel or dash conveniently near the throttle.

The pitch of the blades is altered by hydraulic mechanism and can be set at a given RPM for any flight attitude. The control which reverses the propeller blades is entirely separate from the pitch control, being located within convenient reach above the pilot's head, so that it cannot be confused with the adjustable control.

PASSENGER CONVENIENCE and COMFORT

Exceptional Visibility

The Seabee affords unexcelled passenger and pilot visibility, from all four seats. There are no wings, struts, engine or propeller in the way to obstruct a clear view ahead, to either side, or above. Seven large clear-vision windows surround the compartment to the front, sides and even in the forward roof.

Doors - Ease of Access

The two extra wide side doors, each with a low built-in step, enable passengers to enter either front or rear seats of the Seabee, from either side. Backseat passengers can take their places without displacing either the pilot or passenger in the front seat. In addition, an exclusive feature of the new Republic amphibian is a spacious door in the right hand side of the nose.

This nose or bow door is essentially a water accessory, of exceptional utility and convenience. It opens from the inside of the cabin and provides a clear passageway for pilot and passengers to use in anchoring or docking the plane, or through which they may step conveniently onto docks or shore line.

On the surface of the water, the bow door is ideal for fishing, casting, a quick cooling swim - or even under such circumstances as hunters now then enjoy "when the northern flight is on", an ideal shooting blind.

Durable, Comfortable Upholstery

The roomy interior of the Seabee is softly upholstered with waterproof and washable material. Front seats are adjustable to the comfort of the occupants, and fold down forward, or can be folded back to provide a full length bed for over night camping.

Air cushions forming the backs of front and rear seats are buoyant and will serve as life preservers in case of any water emergency.

SAFETY- DURABILITY

The hull of the Republic's amphibian is but typical of the sturdiness, security and long wearing qualities built into all-metal Seabee. The Seabee's hull is divided into watertight compartments, each separated from the others by bulkheads, which contributes maximum strength as well as insuring buoyancy for the airplane in case one or more sections should be punctured.

The hull is strongly stressed to take the heaviest impacts of water landings. Along the bottom runs a reinforced metal keel so sturdy that it has been proven by extraordinary measure of landing a Seabee on concrete runway with the wheels in retracted position. The plane slid down the runway on its keel and came to a halt without damage other than the wearing away of approximately 1/16th of an inch of the keel's reinforcement.

The metal skin on the forward part of the hull which is subject to the greatest impacts is of a thickness heavier than the skin of some military pursuit planes. This is equally important because of the resistance it affords to weather and corrosion as well as to damage from external forces.

Moreover, all internal parts and interior surfaces, as well as the outside surfaces, of the Seabee are lacquered for additional protection against corrosion. Exterior surfaces will be painted attractively, the standard paint scheme being a covering of the entire airplane with a silvery aluminum-pigmented lacquer, supplemented with a decorative but modest design of contrasting stripes.

The all-metal features of the Seabee are also important in that they eliminate the fire hazard attendant to doped fabric surfaces, as well as providing ease of maintenance, durability and wearing qualities unattainable in wood and fabric planes.

EASE AND ECONOMY OF MAINTENANCE

The success attained by Republic engineers in their task of simplifying the structural design and manufacturing operations for the Seabee amphibian has been equally fruitful in reducing maintenance costs and problems to a minimum.

The Seabee owner or operator will not require a single special tool for the care and upkeep of his plane. A conventional set of socket wrenches together with a kit of common tools normally carried by the reasonably careful automobile driver are all that are required.

Throughout the hull and tail section, hand holes, or inspection covers as they are called, are provided. The covers are quickly removable, providing ready access to any interior portion of the hull and placing within easy arm's reach all internal mechanisms and control cables for the tail wheel, elevator and rudder.

Seabee landing gear is equipped with aerol struts, utilizing both oil and air to cushion against landing shocks or bumps, and thereby requiring relatively low air pressure in the strut cylinder.

This simplification and ease of maintenance is equally pronounced in the convenient access afforded to the engine, through the hinged cowl or hood previously described under "Seabee Engine."

When the Seabee owner knows he is going to be operating exclusively from land bases for a period of time, the tip floats can be removed from the wings by simple removal of one bolt, in order to obtain improved performance.

On the other hand, for exclusive sea or water operations, the main landing gear can be easily removed, and as readily replaced when it is desired to restore the plane's amphibian characteristics.

The Seabee will be certificated for both these exclusive land plane or sea plane operations.

TWO-WAY RADIO

Determination to provide a really outstanding two-way radio as standard equipment on Republic's "Seabee" led to the selection of the Skyfone model CA-4, manufactured by the Hallicrafters Company of Chicago, producers of high frequency radio equipment.

Hallicrafters is a name famous for high precision equipment, delicate craftsmanship, fidelity of tone, and superb performance under almost any

condition. Research engineers of the Hallicrafters company, who designed and produced the famous army mobile communications unit, the SCR-299, immediately set to work designing a receiver which would meet all exacting requirements without adding excess weight. The result was the CA-4, the first light weight ruggedly designed radio receiver to be free from ignition noise without expensive ignition shielding.

The CA-4 aircraft transmitter-receiver unit is a single band radio receiver covering 195 to 410 kilocycles. This frequency range covers all radio ranges, control towers, or beacons for aircraft navigational purposes. Within the unit is a crystal controlled radio-telephone transmitter. The chassis is of light gauge sheet metal for maximum strength, and the cabinet, front panel, and mounting brackets are of aluminum alloy. A single unit, it weighs less than eight pounds.

Operation of the radio receiver-transmitter is simple, with only two control knobs on the front panel of the unit. One controls receiver volume and is the master switch, and the other knob is the tuning control.

Removal of the receiver for inspection and servicing after installation is exceedingly simple by disconnecting one power cable and one antenna lead. The entire set may be removed from the case merely by opening one fastener.
