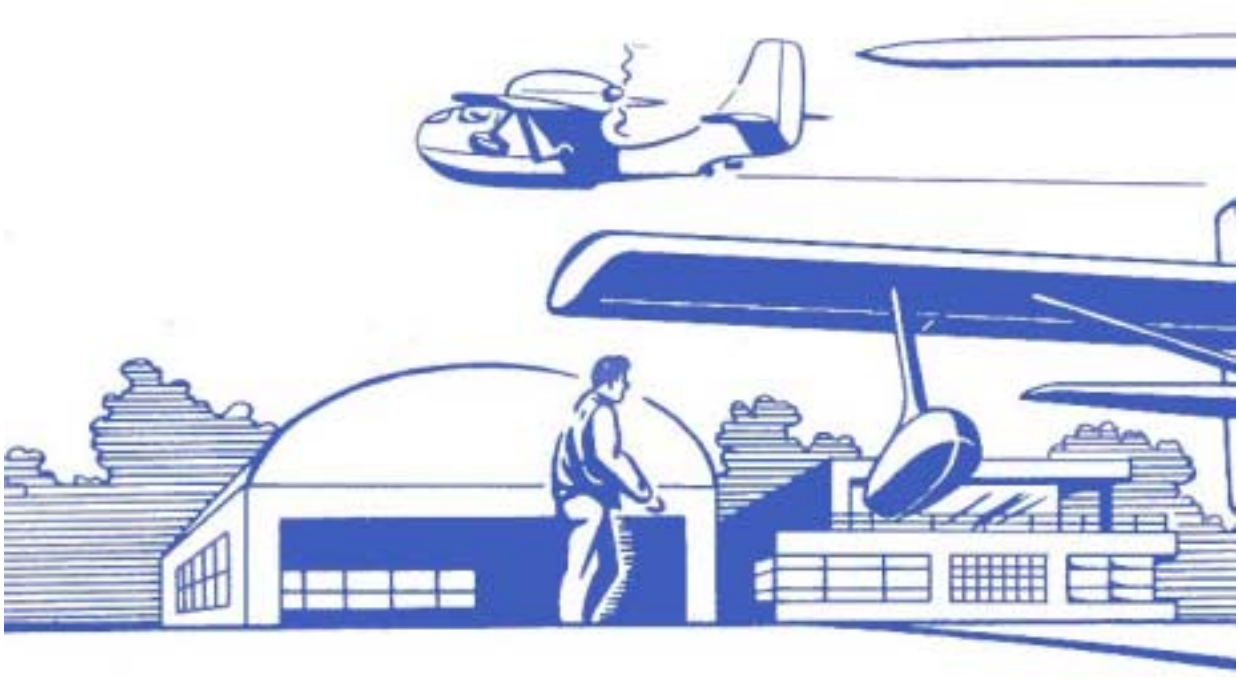
Operating your Seabee

As safety precautions for you as pilot and for your passengers a complete inspection of your Seabee should be made before each flight. Don't neglect the weather forecasts. Weather conditions play one of the most important parts in successful flight. Check all instructional material for procedures and follow them.

Don't start inspection until ignition switch is checked for off position.



EXTERIOR CHECK (PREFLIGHT)

Look your airplane over carefully; walk around it and observe the landing gear, floats, water rudder and attachments for looseness or wear.

Examine the structure for cracks and for corrosion particularly if you are operating on salt water.

Check oil level and view lines and connections for leaks.

Be on the lookout for proper safetying of bolts, nuts and turnbuckles.

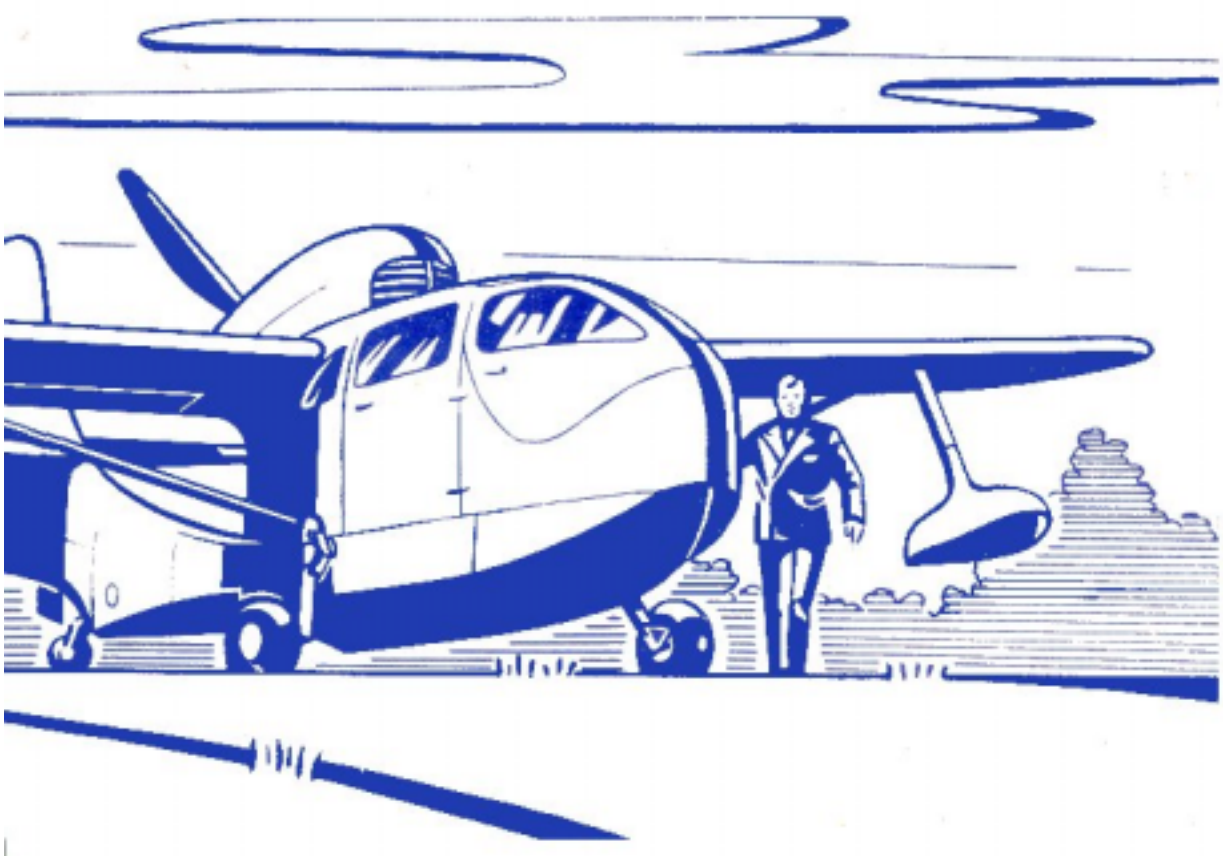
Move control surfaces and note their alignment and soundness.

Make certain the doors, access openings, inspection plates and cowlings are properly fastened.

Inspect your fueling. Make absolutely certain that the gas cap is properly replaced and firmly secured on the filler neck.

Survey the propeller for nicks, cuts and cracks.

Drain water at strainer and tank sump drains and check that drain cocks are closed.



INTERIOR CHECK (PREFLIGHT)

As soon as you enter the cabin require your passengers to fasten their safety belts; then fasten yours. Cultivate this habit.

Carefully view the cabin and note that all doors are securely closed and that your fire extinguisher and first aid kit are at hand.

Check your surface controls again from the inside---raise and lower the elevators...work the ailerons and rudder...move the engine controls.

Check propeller reversing lever for normal thrust setting and insure that the lock is engaged so that the propeller may not be reversed accidentally.

With your ignition switch still in the "OFF" position, turn on the battery switch. Observe your lights and instruments.

Consult the weight book for permissible loading and check that you are within the load limits; then set trim in proper relation.

STARTING ENGINE

As a precautionary measure before starting engine always make certain that no one is near the propeller. If the engine has not been operated for some time and is cold, it is a good policy to pull the propeller through by hand for about two revolutions before starting.

To start the engine, open throttle slightly beyond the idle position. Push mixture control in to the full rich position and carburetor heat control to the cold position. Close battery switch and place ignition switch to "START" position. When engine fires return ignition switch to "B" (both) position.

Do not operate starter for more than 30 seconds at any one time; allow one minute rest before engaging the starter again.

If the engine appears to be loaded (flooded), place mixture in the idle-cut-off position (full out), open throttle wide and crank the engine over with the starter to clean out the mixture before attempting to start in the regular manner.

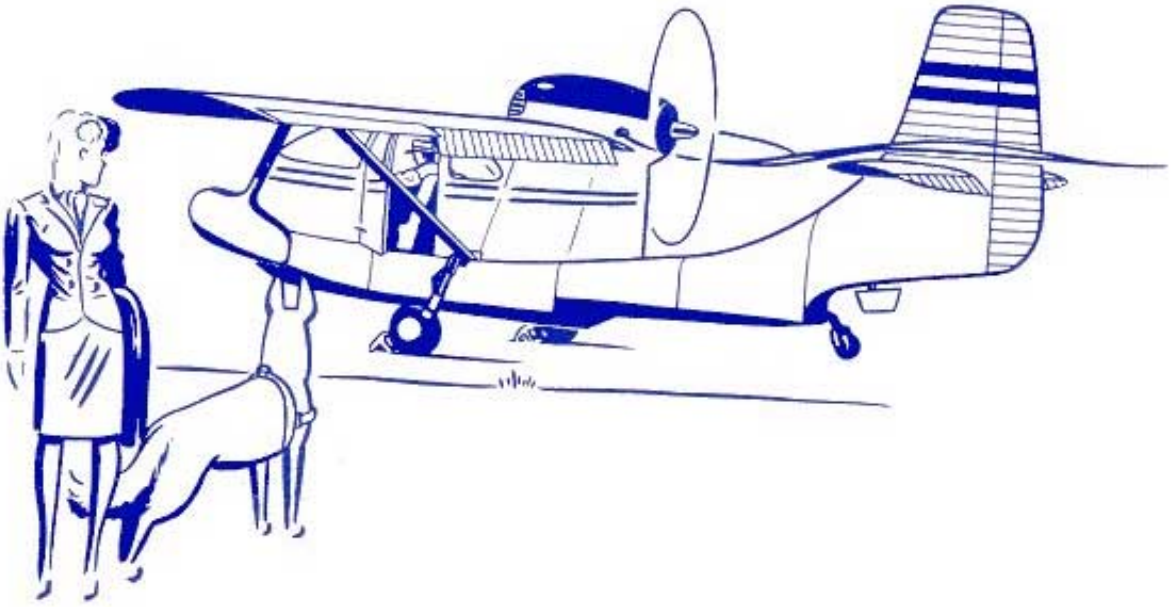
WARM UP

As soon as the engine fires, check the oil pressure gage; if oil pressure is not indicated within a few seconds after starting, shut off engine at once and investigate the cause. Operation with lack of lubricant can result in severe engine damage.

After starting engine set throttle for a speed of about 900 RPM and permit the engine to warm up at this speed for several minutes. Then increase speed to 1200 RPM. After further warm up check engine operation on single magnetos at full throttle. Maximum permissible drop from double to single ignition is 150 RPM.

Do not operate on the single magneto for any period of time other than that required to note the RPM drop.

If the controllable propeller is installed, check for pitch change and reverse action. First make sure that your doors are securely closed.



FINAL CHECK

As a last minute check, prior to take-off, see that safety belts are fastened securely. Examine the control panel again and verify that mixture control is in the full rich position. Check for oil pressure and temperature, fuel pressure and generator charge. Check that lock of propeller reversing lever is in the forward position.

LAND TAKE-OFF

After the ground test has been completed the Seabee is ready for take-off:

Taxi airplane forward in order to lock and center tailwheel.

Open throttle to full RPM.

The airplane will take off in about 800 feet with a normal load; when airborne, retract the landing gear.

Adjust throttle to power desired (see power charts).

WATER TAKE-OFF

Take-off from water presents little difference from normal land take-off except that on water the Seabee requires about 1000 feet of run at sea level, with full gross load and no wind. Extreme care should be exercised on glassy water take-offs. Be sure to continue the climb after leaving the water to prevent the possibility of letting the nose drop and flying back onto the water.

Use fully-extended flaps for water take-offs. When airborne, retract the flaps at a slow, steady rate.

CAUTION

Do not retract flaps at less than 250 feet altitude for airspeeds below 80 mph.

CRUISE CONTROL

For increased economy in level flight the mixture may be leaned provided that allowable cylinder head temperatures are not exceeded. To lean, maintain constant throttle position in level flight and observe RPM indicator while adjusting mixture control; mixture setting is at best power when RPM is maximum. A change in altitude or throttle setting will necessitate readjustment of the mixture control. Maintain correlated rpm-manifold pressure settings for controllable propeller installations.

CLIMBING

At sea level the Seabee climbs at a rate of 650 feet per minute. The best climb occurs at 75 IAS and at 2500 RPM with flaps and gear up.

STALLING

Stalling speed at sea level is 58 IAS with flaps and wheels down and 66 IAS when landing gear and flaps are up. Ample warning of approach to the stall is evidenced by a noticeable buffeting of the control column. When the stall occurs, the Seabee pitches moderately with little tendency to roll, then regains flying speed. A spin will not occur unless assisted by uncoordinated control movements. Should the airplane go into a spin, recovery is accomplished by neutralizing the controls. Recovery may be hastened by using normal recovery technique; namely, rudder against the spin followed by a slight forward movement of the control column. A burst of power greatly accelerates recovery.

DIVING

CAUTION

Do not exceed 159 mph in dives

APPROACH

Before approaches for landings, place mixture in the "full-in" position (rich) and propeller control to high RPM position. See that all safety belts are fastened and check the fuel quantity. If necessary, set the carburetor to "HOT".

With the throttle set at 1000 RPM, maintain an approach speed of 80 IAS. This speed is best for dead stick landings.

LANDINGS

CAUTION

Before landing check that the mixture selection is full-rich and that propeller control is in high-RPM.

For a land plane landing set the selector valve for flaps and gear to

the forward position and pump until the signal light glows green signifying that the wheels are down and locked. When close to the runway cut the throttle; with moderate use of the brakes the landing roll will be about 400 feet. After completion of the landing roll raise the flaps and taxi to position desired, then set the parking brake.

Normal landing of the Seabee on water involves the same landing technique except that the gear remains up (signal light red) and flaps are down. The airplane hydroplanes on its vee bottom and directional and lateral control is maintained as long as there is forward speed. The water rudder operates in conjunction with the air rudder.

When landing the Seabee on glassy or still water, make no attempt to judge height; use night landing technique. Adjust power to maintain 65 IAS with flaps down. This combination will insure a nose-high attitude and gradual rate of descent. Allow the airplane to land itself using a slight amount of back pressure on the control wheel. When the water is contacted, close the throttle and proceed as normal.

STOPPING ENGINE

Permit the engine to run at approximately 800 RPM for a short time before stopping it.

To stop engine pull mixture control lever full out to the idle-cut-off position.

After the engines stops, shut off the ignition switch and then the master and battery switches.

EMERGENCY OPERATION

Too dark to make a safe wheel landing? Forced landing in a short field? It may never be necessary, but should you be in a tight spot, leave your wheels up or retract them if already down and come in for a keel landing. Flight testing proves that an emergency keel landing in the Seabee is apparently a safe landing. The Seabee has been keel-landed on hard surface runways, on sand beaches, and on turf.

If, on an approach, you find it necessary to undershoot a field due to running out of gas or engine failure or for other reasons, and have not time to fully retract the landing gear, move the landing gear selector handle back to "landing gear up" position and start pumping. The first couple of strokes will unlock the gear and move it sufficiently aft to permit it to swing on landing. The extent of damage in this event will be slight and most important of all there is negligible danger of personal injury. Remember, in any emergency, a keel landing is the best way out.

The Seabee has been demonstrated to be fully maneuverable under all flight conditions with one flap down and the other up. Test stalls and recoveries in this condition experienced no change from normal characteristics. Therefore in the event that one flap only should deflect or if one flap fails to retract, excess aileron is available for use against the extended flap and the Seabee can be flown with relative ease.

Negligence in failing to check doors closed before flight, can be the only reason for a bow door swinging open during a negative-airload-creating maneuver; in this condition the Seabee is easily maneuverable and controllable for a perfectly safe landing. Some buffeting will occur due to the interrupted air flow, but it is best to avoid any possibility of this experience by checking your doors closed before take-off.

During water operation with one float only, hold that float on the water keeping the other wing out of the water. Effective aileron control can easily be maintained at 40 mph or over. If speed is less, the airplane may be held in its normal attitude by keeping the wing with the missing float headed into the wind so that the airplane will lean over onto the other wing. If the wing without the float has dropped into the water, it may be lifted out of the

water by stepping out throwing your weight on the wing lift strut of the opposite wing. You can then taxi to shore. Any water in the wet wing will drain off in a few moments.

Don't forget that Seabee seat backs and cushions are designed to support a person afloat and may be used as life preservers in an emergency.

Fuel-flow may be completely cut-off, if necessary, by pulling forward on the fuel flow shut-off control, which is located under the pilot's seat.

Your best assurance against emergencies, is faithful inspection, care and proper maintenance.