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## Seabee Beaching and Ramping Techniques

*Written by Don Kyte*

This article will deal primarily with the Republic Seabee, since that is the aircraft that I am most familiar with. Lake owners may find some useful information as well. While I don't claim to be an 'expert,' after some 2000 hours and 28 years operating my Seabee, I guess you could call me "experienced."

Even at idle power the Seabee moves through the water at a pretty fair clip - fast enough to get you in trouble before you can do much about it when approaching shallow water, especially if it is murky. At the same time, oil pressure, which makes the prop respond to reverse pitch inputs, is too low at idle RPM to allow the rapid response you would want to avoid an obstacle.

To overcome these dual problems, I recommend moving your reverse control lever an inch or so out of the forward detent as you approach an area that might require you to stop suddenly. At the same time, adjust the throttle to give you between 1200 and 1500 RPM. Forward speed is controlled, from this point on, with the reverse lever. You may have to readjust the throttle to keep the RPMs within the above limits.

The speed you choose depends on many factors but the main point is that you want to be going slow enough to stop if you come to an underwater obstacle, or at least be going slow enough that you won't do any damage if you do hit it.

Let us assume you are approaching a regular ramp designed for seaplanes (amphibious type) or a boat launching ramp that will accommodate aircraft. With the gear extended in deep enough water to insure the gear doesn't touch bottom until fully extended and locked, you will proceed until your wheels touch. If all looks well, move the reverse lever to the forward detent and then come right up on the power to complete the ramping maneuver.

### Beaching

Now let's talk about beaching. If you are unfamiliar with the beach, I recommend keeping the gear up and very slowly approaching the shore until the bottom is contacted (gently, we hope). After it has rested there, power ahead just enough to slide slightly forward, usually no more than a few inches.

Now, shut down the engine and hop out the bow door with a rope tied to the bow cleat so you can secure it while you check out the beach. As you deplane, you will notice that the plane (being more buoyant without your weight) might drift free (the main

reason for sliding up the beach those few extra inches). You will also notice that you are probably 2 to 6 feet from shore and have leaped into a foot or so of water. For this reason, a good pair of knee length boots are a handy item to carry on board, or a pair of sneakers you don't mind getting wet. At any rate, you should have something on your feet for the next step in the beaching maneuver.



*Waiting for high tide predicted by the fishermen who live in the huts in the background to be the following morning. Note the high water mark just behind the tail.*

After securing the plane so it won't drift away, either with the rope or having someone stay and hold the plane, check the beach for firmness. I have found that if I can't stomp my heel into the beach more than an inch or so it is probably firm enough to taxi out of the water on your gear.

Assuming the beach is firm enough, bringing your Bee to shore on the gear is by far the preferred procedure. Besides eliminating all the problems associated with securing it in the water and possible damage from water and wind action, it is very convenient to have your Bee up on the beach where you can get at your supplies without wading. This is also the perfect opportunity to impress everyone with the Seabee's rugged versatility. Done properly, few things are as spectacular as a Seabee roaring out of the water to park on a remote beach. By the same token, nothing is more embarrassing than to get stuck in the process if you have done it improperly or miscalculated. I hope my advice will make you look like a hero and not a fool.

Besides the firmness of the beach, you want to be sure you have enough clearance for your wings (usually 30 to 40 feet) between the waterline and brush or trees, and no rocks larger than baseballs. Frequently, you will have to clear away some rocks and driftwood. ALWAYS plan to bring your Bee up at a 45-degree angle to the shoreline and make a 90-degree turn (at least) back toward the water so it is always heading downhill before you stop. Clear a path accordingly.

Now you're ready for your grand entry. Offload your passengers and whatever gear you can get to easily to lighten the plane. Have them stand beyond where you plan to stop so you won't sandblast them when you make your turn. Push the Seabee back until it is just barely floating and then get in while your biggest, strongest passenger holds the bow. Start up and reverse off (with a shove from your bow tender if needed). Make sure you are in deep enough water to allow the gear to be pumped down without contacting the bottom because if it does before it is down and locked, you could break the gear clevis attachment and be unable to raise or lower the gear hydraulically. (You could still lift it to an up and locked position manually for a water takeoff and landing but you couldn't move it in flight. You could also force it down and locked manually but it would be extremely difficult due to the buoyancy of the tires).

As stated before, approach the beach at a 45-degree angle. When the gear touches as in ramping, put the reverse lever in the forward detent and come onto the beach with enough power to allow you to make at least a 90-degree turn back toward the water without stopping. Try to use little or no brake when making the turn as this may cause the wheel to dig into the sand. Also, make sure your tail wheel is unlocked (if it is the

locking type). This is not a major problem if you have forgotten it, as it will usually drag through the sand OK.

If you have managed to end up on the beach headed back down toward the water, you're home free! Set the parking brake, shut down and accept the accolades of your admiring public. If, however, you become stuck before completing your 90-degree turn, get it unstuck right away. The longer it sits the more stuck it is going to get. If it was just a rock, remove it and complete the maneuver, but if you miscalculated and the beach was not firm enough, this would be a good time to break out that folding shovel you carry (you do have one don't you?) and dig out the sand or obstruction. You might even want to firm up the footing with some twigs, fir boughs, or cardboard. The main thing is that you want to get your Seabee out of the mess NOW. Later it will just be worse.

If you find yourself very stuck and you're not sure you can power out with the engine alone, your passengers can help. I would caution you, however, that your passengers probably aren't as familiar with a pusher aircraft as you are and it would be very easy for someone to slip and be hit by the prop. The safest method for them to help would be to tie a sturdy rope to the strut fitting where it attaches to the wing. By pulling from a safe distance and well outside of the propeller arc, they would be in no danger, even if they slipped and fell.

As you can imagine digging out a stuck Seabee can be a lot of work, so if in doubt, a more prudent plan might be to leave it in the water. There are a number of ways of doing this depending on how long you intend to stay and if there is a tide or not.

### **A Beach Too Soft to Taxi Onto**

For short visits with no wind or tide action, probably nothing more is needed than a line from the nose to something solid on the beach. If nothing else, you can use your anchor, which you can bury firmly into the sand. For longer visits I would suggest, in addition to the nose line, a line from each tiedown ring or wing strut fitting to the shore to prevent a breeze from swinging the plane into the beach and allowing a wing float to contact the bottom. If a float is allowed to do this, you can count on waves or boat wakes developing that could damage the float bottom or strut. Unless my Seabee was in constant eyesight, I would ALWAYS have wing lines attached.



*The right gear has rolled into the hole dug for it, waiting for high tide. If the tide were not present, and thus not a factor, more digging would be required.*

### **Gear Down, Bow to Shore**

If the bank is rather steep or gets deep close to shore, I would suggest that you put the gear down and taxi in until the main gear barely touches bottom. Don't bring it any closer to shore as this will raise the nose and lower the tail.

Remember that those "water tight" compartments AREN'T. They are all open at the top of the bulkheads and if the tail is too low (anything much lower than when it sits on an

airport) water might work its way over the top of the last compartment and progressively sink your Seabee from the stern. Not a pretty sight. WARNING! If the water level should drop after securing your Bee (tide, etc.), the effect would be the

same as if you had rolled your wheels up onto the bottom. A good candidate for the "tail sinking syndrome." For this reason, I don't recommend the bow to shore method in tidal water.

### **Gear Down, Tail to Shore**

This is the most secure method of leaving a Seabee floating in the water. Tie a sturdy rope to the tie down ring under the tail (or to the tail wheel itself, if you want something stronger). That's about all there is to it. The only precaution worth mentioning is that if the water level should rise after securing your Bee, make sure your rudders (air & water) won't contact something on shore.

The extended gear will ensure that it contacts the bottom before anything fragile does. If the tide goes out, you're aimed downhill in the right direction. If you have to leave before the tide comes in again, give it a try. If you get stuck in the mud, you're no worse off than if you had waited for the tide in the first place. When it comes in you'll float free and be on your way. No need even to get out and dig. I was stuck this way a few summers ago at Mole Harbor in Southeast Alaska where the tides can run 20 feet or more. I had to wait several hours for the tide to float me free but they were two of the most enjoyable hours I have ever spent. The water rose at the rate of an inch every few minutes. It was fascinating watching the water flow rapidly around me and as the water reached 6 inches deep or more, the spawning salmon started swimming by me. Taxiing free was no problem after that.



*The moment of truth when I fired up and powered out.*

I can't give you firm guidelines for every situation but perhaps these techniques will help keep you out of serious trouble. After all, if you didn't have an adventurous spirit and some pioneering stock you wouldn't have a Seabee.

Few things can match the fun and adventure of visiting or camping in some wild, remote area. The Seabee is the most rugged,

versatile aircraft I know of for this purpose. Go out there and enjoy it. A plaque I once read said, "A ship in port is safe, but that's not what ships were made for."

Source: Summer 1992 issue of Water Flying



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