

Check your H-Bracket (Republic Part Number 1112)

Note: You must have the approval of a certified aircraft mechanic (A&P) to perform this procedure. This procedure requires putting the Seabee on hull stands and inspecting closely. A logbook entry by your mechanic is required.

Description:

Something happened to a club member that I have never seen before (maybe you have) and the following information is of utmost importance unless you never plan on landing on a runway!

After flying one day, this club member noticed that the gear would not go down and lock. Cycling the gear a few times he realized drastic measures had to be taken as it would not extend fully. Slowing the Seabee down and opening the door allowed him to grab the left gear with the boat hook and pull it forward to lock it in position. (You do have a boat hook within reach while flying, right?) This measure has been done before by previous members and by various means with a rope, boat hook, seat belt, wife's purse, etc. but the cause of his problem was elusive for quite a while.

Warning – Do not try this unless it is absolutely necessary! Land on the water and inspect the gear mechanism. If you do need to open the door, make sure your seat belt is on and if you happen to have a pilot passenger flying with you, let them fly while you take care of the problem. BE CAREFUL!

The interesting thing is the gear worked perfectly on the hull stands in the hangar both up and down! The gear was cycled at least ten times on the hull stands with normal results. Time for a test flight; in flight the gear would retract but not extend far enough to lock down. Darn! Grab the boat hook again and pull the gear over center.

At the maintenance facility the Seabee was then placed back on the hull stands and a retract test was done again numerous times with normal results. What the heck was going on! A complete inspection of the mechanism had to be done. It was decided that the whole main gear system had to be taken out and inspected, however, it never got that far as the problem was noticed once the main gear actuator was disconnected from the H-Bracket (RPN 1112). A previous repair to the bracket had been done, as shown in the photos below, and it appears to have instigated the problem after years of normal use. (Strangely enough the repair seems to be intact but the H-Bracket cracked around it.) A large crack was found around this repair and wouldn't allow the gear to extend all the way. Fortunately a new H-Bracket was located and installed with excellent results. Ground and flight-testing was completed and fixed the problem. Whew!!



Subject area

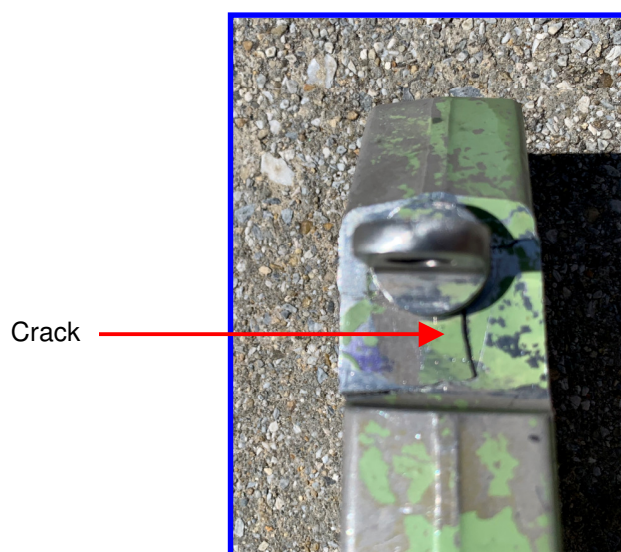
H-Bracket as removed from landing gear mechanism



Closer view of H-Bracket



Really close view



Top view of H-Bracket with previous repair

Warning: Do not attempt to weld the H-Bracket to repair it! This can weaken the bracket and you will be right back on the hull stands wondering what the heck happened.

Procedure:

Inspect the main gear mechanism at least during every annual inspection. A strong flashlight and a mirror will have to be used to inspect the aft section of the H-Bracket. Pay particular attention to the H-Bracket's pivot point where the main gear actuator is attached. There is also a tab on the upper section of the H-Bracket that should be inspected as well. This tab has been known to crack.

It's a tight fit under the back seat inspection covers so get the smallest aviation friend you have and "volunteer" him/her to inspect it. If all is well lubricate the mechanism liberally with grease and oil. As my father used to say, "You can never have too much lubrication!" I have found this to be good advice.

**Conclusion:**

A thorough inspection is essential for good landing gear operation. Inspection can be done with the Seabee sitting on the gear but if ANY parts of the system have to be replaced the Seabee MUST be put on hull stands.

Remove the back seat and the floor panels underneath to gain access to the main gear mechanism. Again, with a good flashlight, inspect the H-Bracket and other associated parts to check for cracking and wear. This goes for the tail wheel mechanism as well. Remove the left and right handholes just above the tail wheel and inspect the tail wheel mechanism. Use copious amounts of oil on the tail wheel joints and grease where necessary.

Remember: "Grease prevents wear and oil prevents friction."