Rebuilding Kohler Carburetors

First, disconnect the battery to eliminate any chance of creating sparks. Remove the choke and throttle linkage. Close the fuel shutoff valve. Remove the fuel line from the carb. Hold a small can (an empty tuna can is the perfect size) under the carb to catch any gas that comes out. Loosen and remove the two bolts holding the carb to the engine. Keep the can under it while you carry it to the workbench. Next, remove the bolt holding the bowl onto the carb. Gas will probably come out when the bowl seal is broken, so hold it over the can while doing this. It may be necessary to tap on the bowl with a rubber mallet after removing the bolt. After removing the bowl, slide out the float pivot pin and remove the float and needle. Pull out the old gaskets and remove the old seat with a 3/8" nut driver. If the tractor was running before removal of the carburetor, take note of the position of the mixture screws. I usually screw them in until they gently bottom, counting the turns. I write the numbers on the cardboard I use to keep the workbench clean. After doing these things, you'll have something like this:

For the next step, you'll need a 1-gallon can of carb cleaner in which to soak the carb. A spray can of the fast-evaporating carb cleaner is also handy.

Clean off all of the large chunks of dirt and grime, and then put all of the parts in the basket except for the float, as it's difficult to completely submerge it. Let them soak for about half an hour. Clean the float with the spray can of cleaner. If it looks questionable or you can hear gas sloshing around in it, replace it. Lately I've been preemptively replacing floats because I don't like taking these things apart more times than I have to.

After 30 minutes or so in the carb cleaner and some scrubbing with an old toothbrush and rinsing, the parts should look something like this:

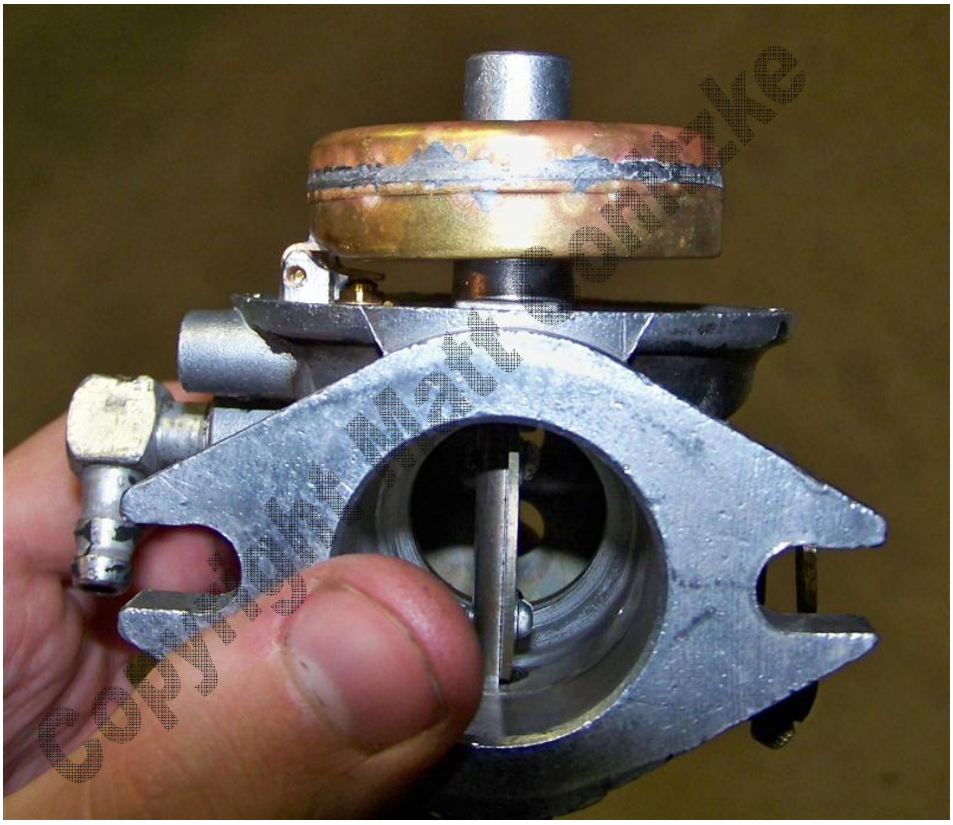
The can of carb cleaner works wonders. Both the throttle and choke were stuck on this carb, and after soaking, both were free. I didn't bother leaving it in there until all the paint fell off, as (1) this is going on a work tractor, not a resto and (2) it's eating the carb while it's in the solution, so I only leave stuff in there as long as is necessary. Note that I have removed the butterfly valve and throttle shaft because this carb needed a bushing installed to take up excess play in the

throttle shaft. If the butterfly valve is to be removed, extreme care and patience are necessary not to twist off the brass screws. The ends are peened so they don't vibrate out and get sucked into the engine, which makes them difficult to remove. Loosen them 1/4 turn at a time, and loosen/tighten them several times, 1/4 turn at a time, until they have been removed. After ensuring that everything is clean and all passages are open, install the throttle shaft bushing if necessary by using a 1/4" bolt as a guide, as shown. Install the bushing flush with the carb body.

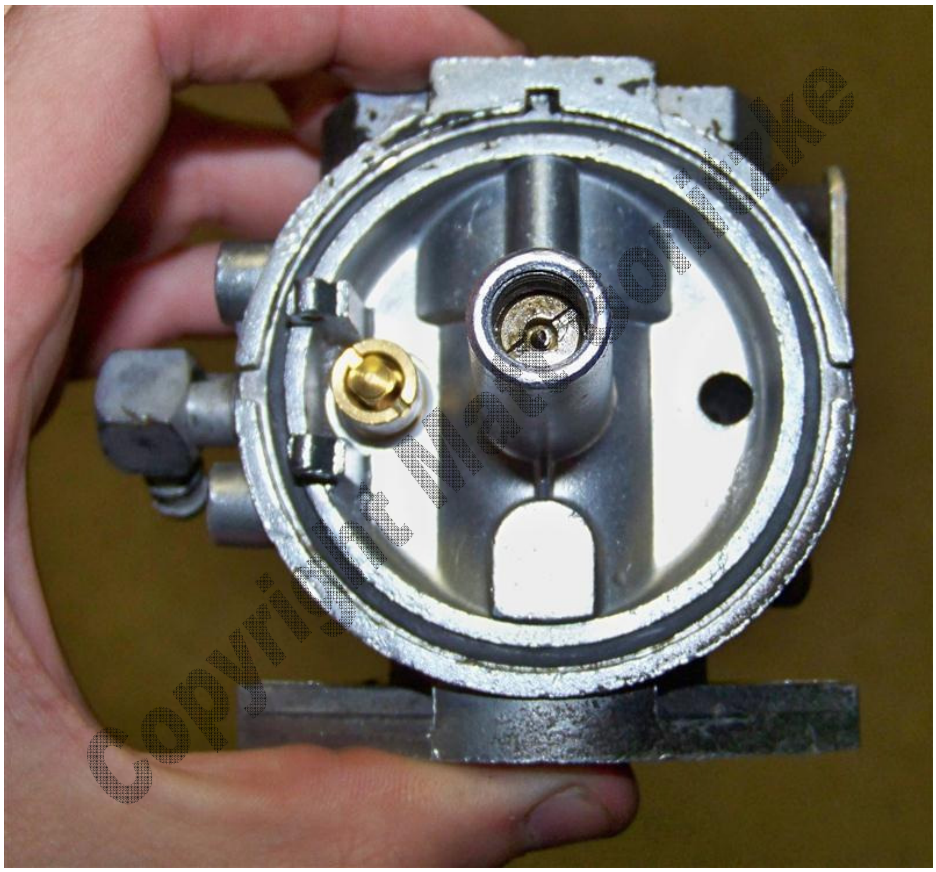
Next, reinstall the throttle shaft and butterfly valve. DO NOT attempt to re-use the brass screws you removed, as they'll just twist off when you try to reinstall them. Don't ask how I know this. Pick up some new screws (I think they're #3-48) and lockwashers, as well as some blue lock-tite. Install the screws with lockwashers and lock-tite.

The rest of the carb is assembled next. Open up your carb kit (and new float, if that was necessary) and make sure you have all the parts. The small red gasket goes on the bowl bolt, and the black [Kohler kit] or white [some aftermarket kits] one goes on the seat.

Make sure the main jet needle is clear. There are several sets of holes in it; after soaking in the carb cleaner, it should be clear, but to check, stick the pointy end in your mouth and blow. Air should be coming out of the two upper sets of holes. If not, it's not clean enough. If it's clear, reinstall the main and idle needles. I usually set the main to 2 1/4 turns and idle to 1 3/4 as a starting point. Install the new seat and float, and check the float level. The manual has a measurement for this, but I set them by eye. The float should be parallel to the carb body or down slightly, as shown in this picture:



After the float level has been set, remove the float again, and then put in the gasket that looks like a square O-ring. This is a three-ring circus if you are using an aftermarket gasket set, as it has to be stretched to fit and likes to fall out. After you get it in, make sure it isn't twisted.



Put the baffle gasket over the top of the other gasket:

Reinstall the float. Some aftermarket kits come with this POS float pivot pin that is knurled on one end. If yours has this, use the old pin that was in the carb. Put on the bowl, being careful not to disturb the two gaskets. The carb is then ready to reinstall on the tractor.