Pommel Plates or Going out in a Braze of Glory

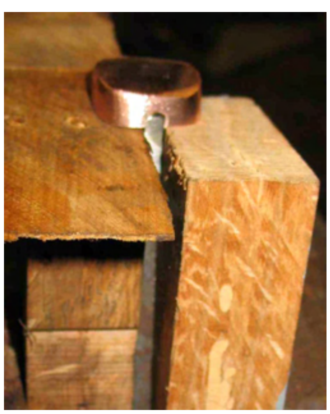
Steve Bloom

Mokume gane (non-ferric Damascus) has been the subject of demos both in the Northeast and Southwest Regions and some articles in this newsletter. The stuff is more than pretty enough to justify using it (or maybe overusing it), so this article outlines using it for pommel plates.

Given the process of making mokume from quarters, it is relatively easy to make thin sheets (we've experimented and have gotten them down to 0.050" thick using a power hammer) but not so easy to make thick enough blocks to make bolsters (typically 3/8" thick). So the goal here was to use thinner sheets that enhanced the appearance of a blade (see above)

Tools for grooving

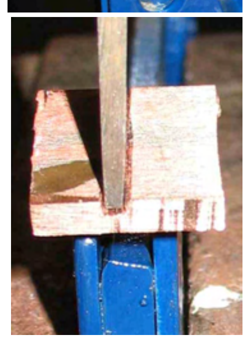
Given a plate of material, the real question is how to attach it to a tang with sufficient strength so that there won't be a falling out between maker and customer. The first step is to cut a narrow slot as wide as the tang's end is thick in the backside of the plate. If you are lucky or foresightful, the tang thickness at the end will correspond to an end mill in your collection. If not, a wafer wheel and/or file will suffice.



The next step is to somehow lock the plate to the tang. You could silver solder the pieces together but the strength of the bond is problematical. I have experimented with using hard and soft silver solder to attach hidden coupling nuts to pommels for screw-on pommels on hidden-tang blades and I have not been impressed. As I have mentioned in previous articles, silver brazing is a much stronger process, so it seemed worth a shot.

As a test, I silver brazed a copper pommel to a test blade. To test the joint, the blade was locked into a vise with two blocks of oak acting as the "scales". One block was touching the backside of the plate and the other was set about 0.5" below the interface. A wooden wedge was then driven into the gap. The result is shown here - the wedge was crushed and planed while the plate stayed in place (below left). That was good enough for me, so it's off to a real blade.

The next problem is how to hold the plate at right angles to the tang, in the correct position, in the slot and still braze the pieces together. The solution is (of course) a jig. I fabricated a holder from an old lab clamp (a vise grip would do, too) and some scrap steel. The plate rests on a curved set of "fingers" so as to make a minimum heat sink. The blade is held by the clamp and the plate rests on the fingers. The joint was hit with silver braze flux before placing it on the jig, so all that is left to do is to "paint" the joint with an oxy-acetylene brazing torch (I haven't tried oxy-propane, but it would probably work since it does work for brass brazing). The brazing rod is touched lightly to the joint to test if it is hot enough. Eventually, the rod tip melts and the braze flows into the joint - treat it just like solder and you'll be okay.



The results are a strong joint and once you get the wood slabs on, a nice looking blade (see above).

Materials: Harris Stay-Silv white brazing flux & Harris Radnor Safety-Silv 56 (essentially a life-time supply: UseEnco.com Flux=240-64492 @ $4.04; Alloy: 5 bars 328-4755 @ $57.00

Next Month: Build a 2x72" variable speed knife grinder from junk and what's left of your 401K.