Let me add some context to better position my evaluation process and my objectives. I am sorry this is going to be longer, and I have to respect the length of the post by putting this in a PDF.

I think we all can accept precision costs money, and extreme precision, even more money and in tools and reference tools, it is a given.

Personally I will not invest the dollars it takes to achieve .00015 reference tool accuracy to measure woodworking tool surfaces when wood (the work product made with the tool I seek to align) is incapable of being reliably assembled to those tolerances and frequently vary with the environment, and disproportionately between species of wood, or between boards in the same lot.

This is further exacerbated by the fact that the machine being aligned itself is not manufactured to those tolerances and cannot be reliably adjusted to achieve those tolerances, but we must all accept that to verify what tolerance exists, we must measure with a reference tool that exceeds the tolerances.

The Starrett 20 Master Precision Square 50136 has squareness accuracy to .0001" every 6" but is $656 this morning and if one wants that level of accuracy they can certainly acquire it and use it.

http://www.starrett.com/metrology/product-detail/Solid-Squares/Squares/Precision-Hand-Tools/Precision-Measuring-Tools/20-12

My point here is that with the Shopsmith Table, Miter Gauge, Rip Fence, 12” Sanding disk and so on, if irregular surfaces are found, we cannot adjust them, making the measurement of flatness a go-no-go, use or replace the part perhaps decision. There is meat there, but you are going to have to season it to your own taste so to speak. If you are framing a house, you can accept more variances than if building an exotic piece of inlaid art in a music box for example.

In cabinetry we often leave gaps in assembly to allow for the movement of the wood in its usable life cycle by varying the joinery techniques of assembly to prevent it from tearing itself apart as it moves.

If the medium were machine steel, opposed to wood, that acceptable tolerance would tighten up significantly.

As you read through my method previously, you would have picked up on the fact that I use the 12” Sanding Disk (once verified flat and true) as a basis on which my other reference alignments are made. This gets me away from the teeth of a 10” saw blade, and working around the set of the teeth, and even the overall flatness of the blade. I can take that easily to a machine shop to verify it is flat to very high tolerances if I choose, but the point is if it is flat and true, I can use it as my reference.

I can lay it face down on the MDF workbench and pass it all over it in all directions to visually inspect the workbench flatness. I can do that with the 48” Square and the Starrett or other Precision Square. They all are going to report the same thing on the MDF if they are true and it is true. The point here is that I don’t just do one of them, I do all of them. I can still pass the level and the square over the surface of the 12” disk, which proves them up to each other. If one has been dropped for example and bent, it will show up.

Those then become my ‘bon-i-fide’ proofs that everything else will reference.

If I find the work table is not flat and rocks on the MDF, is it something I can remedy? If I take the time to remove the insert, I can even check the center 'cupping' with a feeler gauge in the center of the table between it and the MDF.

If either is off, can I remedy that? If the mounting bolts aren't torqued high on one and under on others perhaps (and before you ask, I do not have torque specifications for tightness of those bolts) and even that would vary from steel to aluminum work tables.

Yes I can lay the 12" Sanding Disk on the table for a go-no-go flatness test as well, but that will not align the extension tables with the connecting tubes.

A flat MDF surface (Ok Baltic Burch Plywood) would work as well, but both have to be sealed and proven up to a reference flatness standard you can live with. Remember, you are not likely going to lay a 4' level in one place on the surface and call it done. You are going to move it and measure various places at combinations of angles to validate reasonable flatness.

It doesn't have to be 100% level, just very flat along the distance if you are rolling bench and way tubes over it. If you find them off, remember the set screw areas may need a quick pass with a bit of abrasive to remove bumps. Are you going to be able to repair the way or bench tubes if they are warped or distorted? No. Will they still work acceptably for you? Perhaps

Did that help you understand why I do it the way I do it? I am looking to make sawdust or turnings and need a quick way to check things out. I am not into proving it to .002" per se. I want it square, flat, and aligned to itself. Whatever that tolerance is, is all I have to work with.