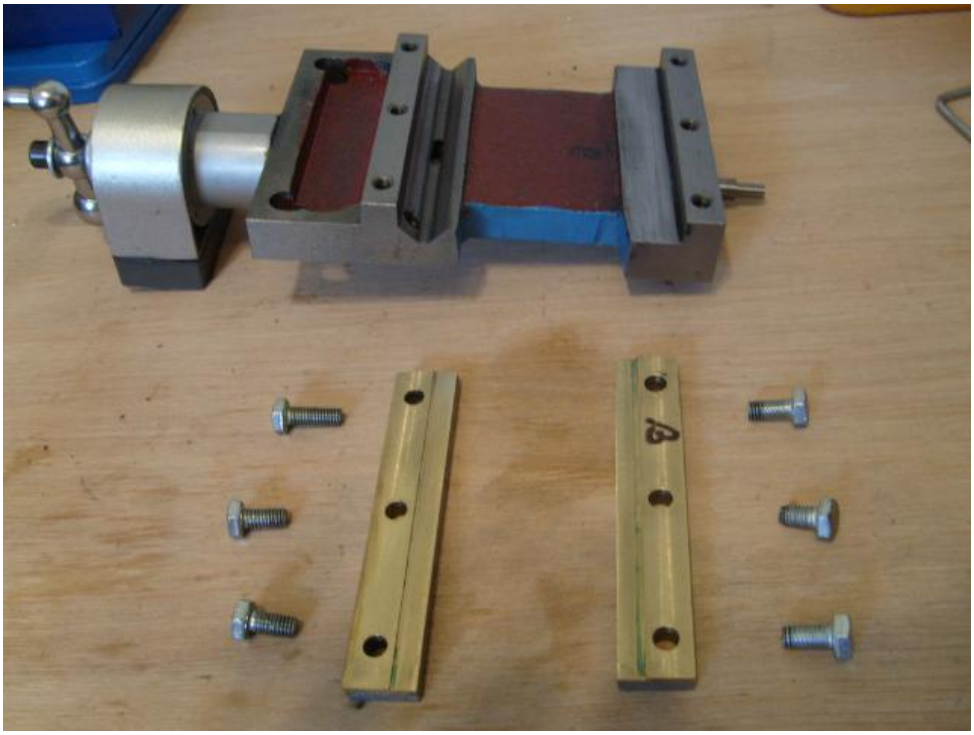
Carriage Saddle Press Board:

My lathe is equipped with “Carriage Saddle Press Boards” to reduce the play between the saddle and the bed. These boards use 2 pull screws and 3 push screws to adjust the play. These are very difficult to adjust and I can’t get it right.
To reduce the play, the original press boards need a light tension. Light tension results in high flex and poor rigidity. Poor rigidity gives poor finish en loss of accuracy. You can compensate for play (back lash) but not for poor rigidity.
I made new Press Boards The boards are made of steel on which I glued (epoxy glue) a 4 mm sheet of brass. I repeatedly milled it down the contact area (0.05 mm) and bolted it on until it fitted (carriage could be moved). Then I repeatedly milled down (0.01 mm) the brass top of the board and bolted it on until it blocked the carriage. The last 0.01 mm is removed by making the contact area black (white board marker), bolting it on, moving the carriage up and down a bit, taking it off en polishing the contact zones (these are shiny spots without the black) using a pencil grinder and polish.
The result is a very rigid press board “without play and tension”. In time the brass will wear out, but only on the contact area giving a “better” fit. Also the bed (bottom) will wear out but only on the contact area where the bed is the thickest, the less used portion of the bed.
In the old setup using push and pull screws, the bed wears out on the most used portion, making it more difficult to adjust the press boards.

Old press boards showing wear:

Old press boards showing wear:

New press boards:



New press boards mounted: