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Alignment Link

ABC

Adjustments

Adjustments

SS01 Freecut from the sliding table

To measure the free-cut you will need a dial indicator. Place the indicator on the sliding table, with the needle touching the saw blade at the front of the blade, but not the teeth, as shown in figure SS01.1

Figure SS01.1 Start position of the dial indicator

Rotate the saw blade several times and find it's lowest value. This effectively gives us a reference point that we will be able to check at the other end of the blade. You can zero this low-point on the scale or use arithmetic to calculate what the next reading must be within. For a Ø300mm saw blade, there should be between 0.05mm and 0.1mm of toe-out. (0.002"-0.004" Imperial).

Keeping the dial indicator perfectly stationary on the sliding table, move the sliding table until the needle of the dial indicator is close to the back tooth of the saw blade, shown in figure SS01.2. Now rotate the saw blade to find the same low point. This low-point value subtracted from the previous value equals the current free-cut amount (LET 0 = 1).

Continued…

Adjustments

SS01 continued

Figure SS01.2 End position of the dial indicator

If we had zero'd the scale in the previous position, we should now read between 0.90mm and 0.95mm (not 0.05mm-0.10mm as we should be moving away from the saw blade). (0.096"-0.098" Imperial). Figure SS01.2 shows that the saw blade has 0.004" toe-out to the sliding table.

The toe-out of the sliding table in relation to the saw blade is what provides the 'free-cut'. Therefore, the position that the table is tightened down in controls this. The best way to adjust the table to this level of accuracy is to loosen all lower-most nuts (inside the chassis) at each point where the sliding table attaches to the chassis. Then, without yet moving the table, measure the distance between the sliding table and the cast iron table at the very front and the very back of the cast iron table. This way you have created a reference from which to move the table before re-tightening it. Try to move the table at one end only by no more than 0.25mm each time. Re-tighten the table, check the free-cut again and re-adjut as necessary

This will also then require the sliding table to be checked for it's alignment to the cast iron table, once it is re-tighened down. This is covered in the following sections, SS02 and SS03.

Adjustments

SS02 Centre locked position

The sliding table can be a fairly tricky aspect of the machine to adjust, but if the following technique is applied it will be possible to adjust the sliding table to within the tight tolerances specified by the FELDER group.

First, a quick description of the functions of the securing nuts (see figure SS02.1)

1. The main fuction of the rectangular washers is to help to spread the load that the screw head would otherwise place directly onto the slidng table bed.
2. The function of the top nut is to secure the sliding table bed to the screw
3. The middle nut (just above the chassis) controls the hieght of the sliding table, moving the nut down will raise the table, moving it up the screw will lower the table (at that point)
4. The lower nut (underneath the chassis) is for tightening the entire sliding table assembly to the chassis.

Figure SS02.1 Sliding table securing nuts

Depending on the length of the sliding table, the locations of the adjustments vary slightly. The permutations are shown in the following diagrams:

Continued…

Adjustments

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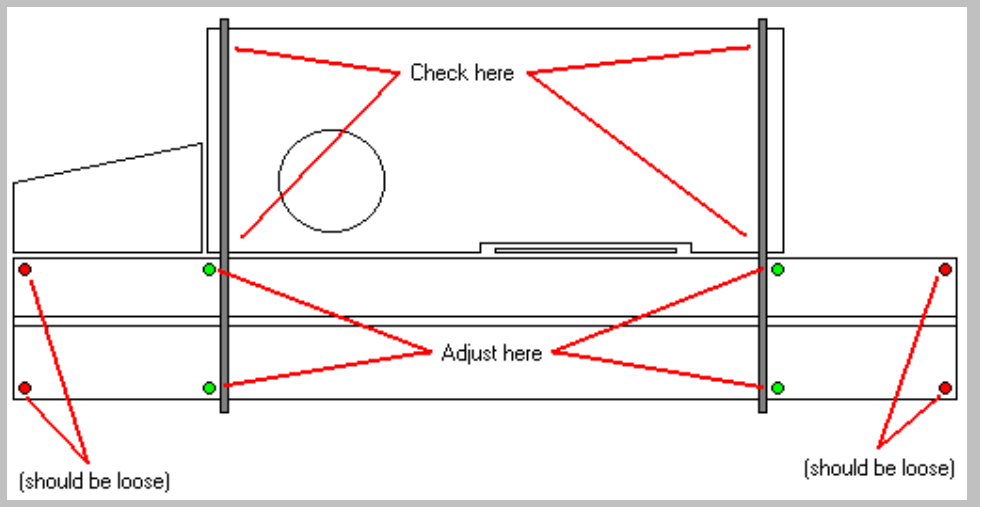
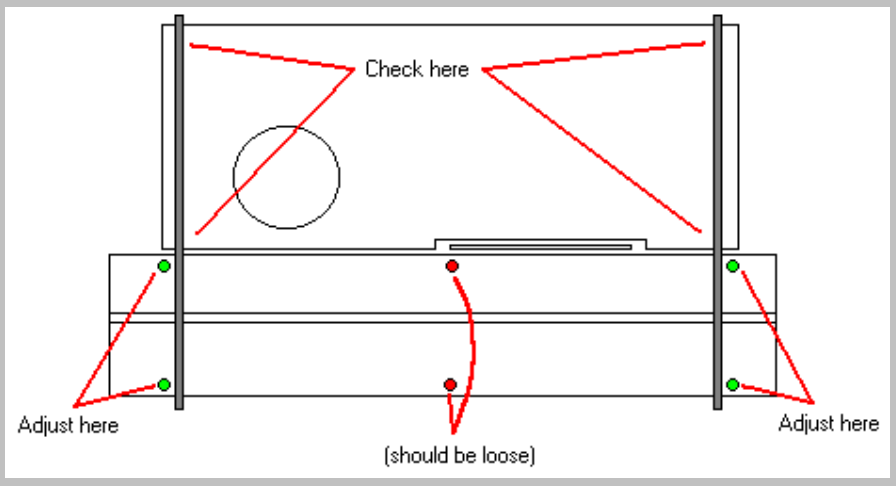
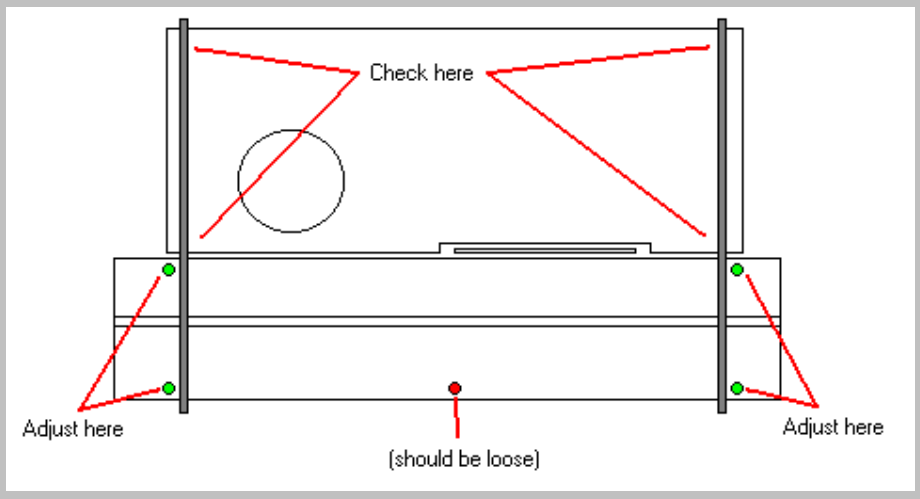
SS02 continued



:Long chassis Sliding tables



:Mid to long size sliding tables

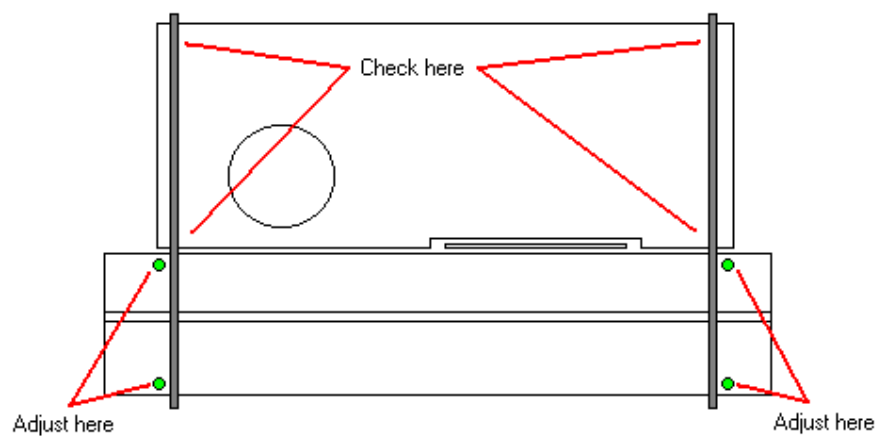


:Short sliding tables

Continued…

Adjustments

SS02 continued



:Shortest sliding tables

Start by loosening the lower and middle nuts that attach the middle of the sliding table to the chassis. Only the outer 4 points should remain tight. Then place a straight edge along the tables, as shown in figure SS02.2. Check the alignment of the sliding table here with the specified tolerances. Make any adjustments with the two fixing points closest (shown in figure SS02.2)

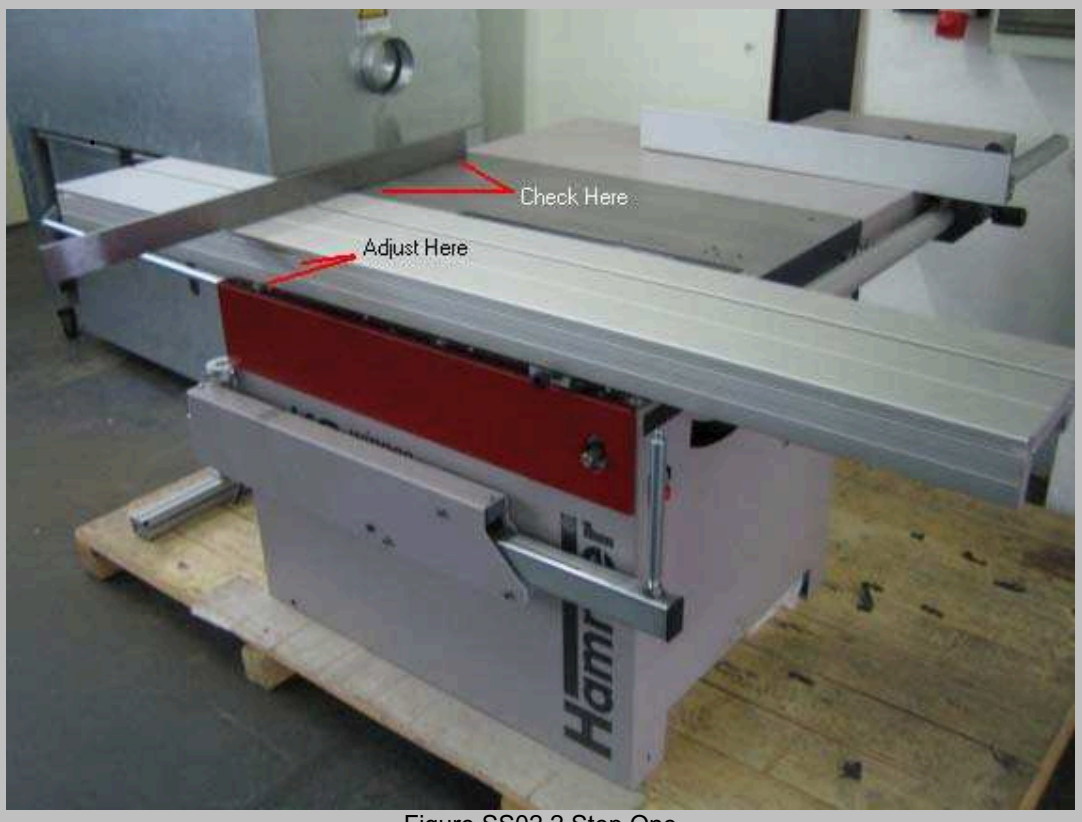


Figure SS02.2 Step One

Continued…

SS02 continued

Once that position is correct according to the alignment information, move the straight edge to the next position, as shown in figure SS02.3. Make the necessary adjustments in light of the specified tolerances then once correct, move back to the previously checked position and check the alignment again. It is likely that if adjustments are made at both positions, because they have an effect on each other, the first position will now be out of tolerance. Continue to re-adjust and check as necessary.

Figure SS02.3 Step two

The Sliding Table… A Second Approach

If you find adjusting the sliding table especially difficult then try something slightly different. This will also work well for cases when the sliding has to be assembled to the machine and the fixing screws have been either removed or loosened – but in either case no longer have any useful settings to work with. It may also work better for longer sliding tables, 6ft in particular.

If you have been trying to adjust the sliding table for hours on end then it is recommended to loosen the sliding table so that it is not under stress and leave it for 24 hours to prevent any permanent damage being caused.

When re-starting, follow the same procedures as described before but this time begin with only 3 fixing points, not 4. Try to adjust the slding table with 3 of the 4 points shown in the graphic illustrations in SS02. This will ensure that the sliding table begins co-planar and then will not be twisted or distorted by subsequent minor adjustments.
Once within tolerance – or close to – tighten up the 4th nut, being careful not to change the current setting. Hand tighten to begin with and make any small adjustments necessary. Then, where applicable, move to the outer four fixing points or the inner fixing point. These points are described in SS03, Sliding Table End Positions.

SS03 Sliding Table End Positions

Once the sliding table has been adjusted in the centre locked position, we can look at the table in its end positions. The best way to do this is by putting the sliding table and the straight edge in the position shown in figure SS03.1. Check the alignment here and make any adjustment using the centre fixing points also shown in the picture.

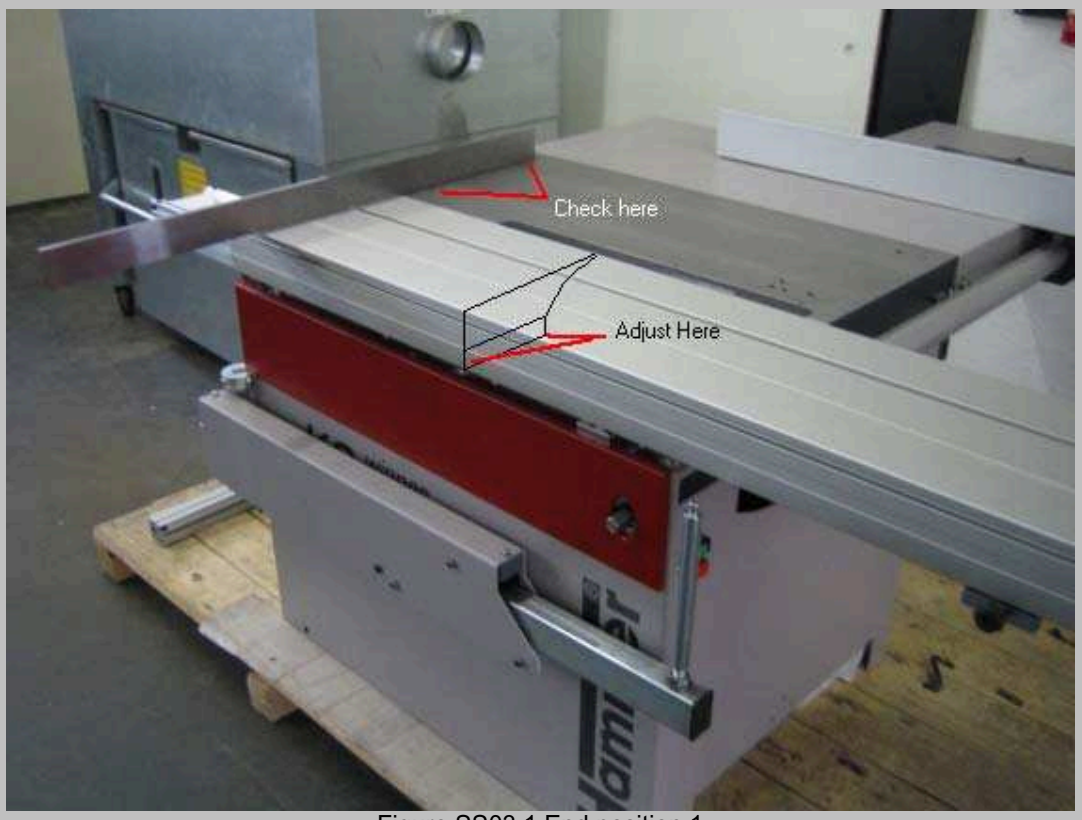


Figure SS03.1 End position 1

When making any adjustments, always check the table at both ends. The other position is shown in figure SS03.2. Because the two end postions are adjusted at the same position, if it is not possible to adjust both ends to within tolerance, it is due to a mis-alignment in the centre locked position. Even if the centre locked position indicated that both sides were within tolerance, if one side was at the lower limit of the tolerance and the other at the higher limit, it would cause the sliding table to move out of tolerance.

Continued…

SS03 continued

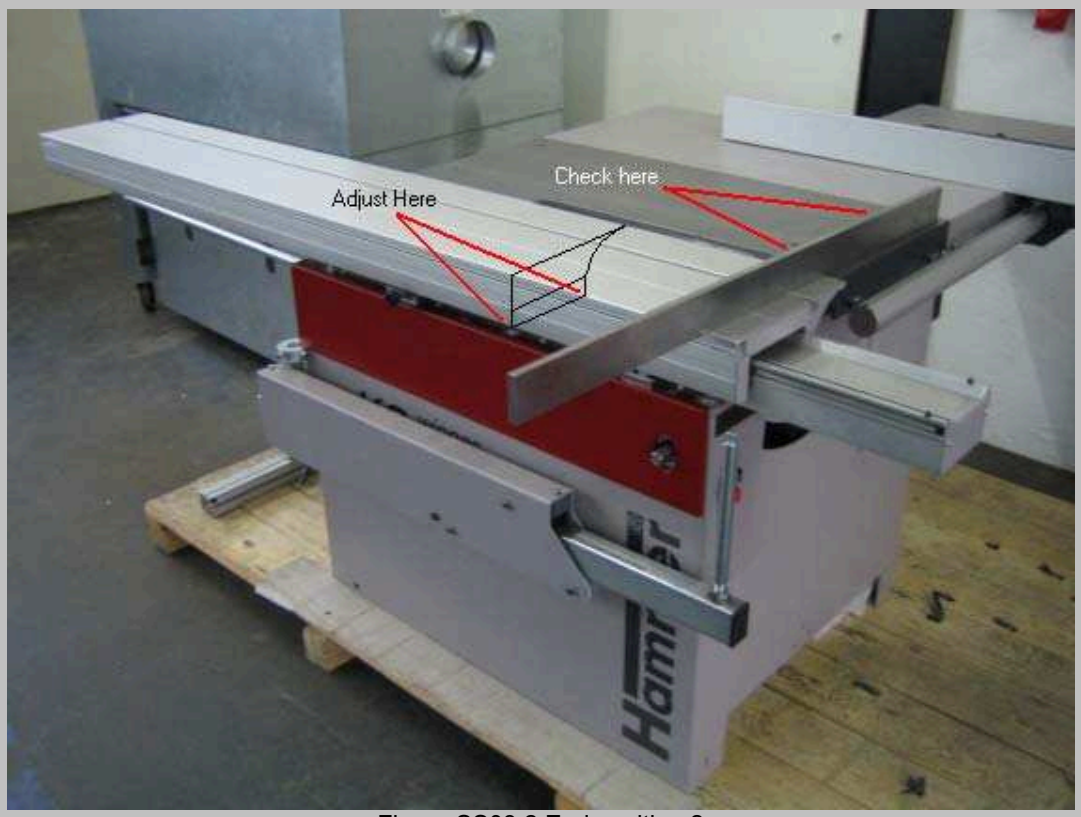


Figure SS03.2 End position 2

SS05 Crosscut Fence on Outrigger, Position A

To check the accuracy of the crosscut fence, perform the test as shown in the tolerancing information. Alternatively, as most tape measures cannot be accurate beyond 0.5mm, make a five sided cut and measure the off-cut with a pair of vernier calipers.

Figure SS05.1 shows the five sided cut for this side of the outrigger, the possible mis-alignments and the relative position of the crosscut fence (greatly exaggerated!).

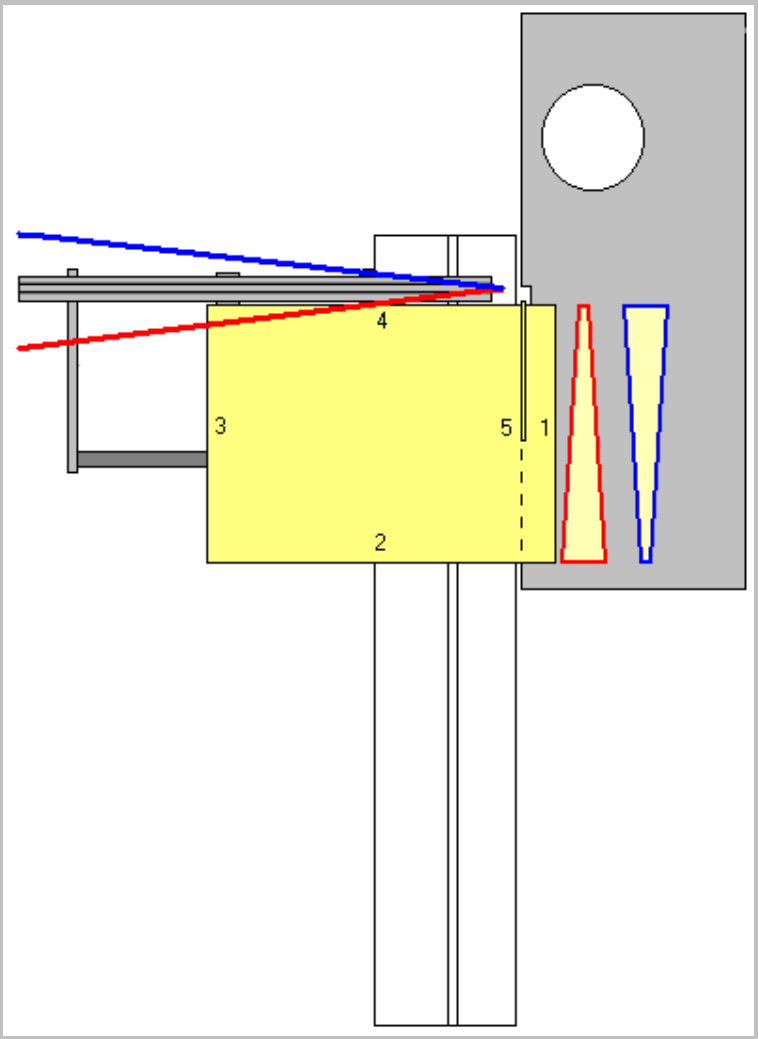


Figure SS05.1 Crosscut fence mis-alignments

Continued…

SS05 continued

To make adjustments to the position of the crosscut fence, the stop in figure SS05.2 must be moved in the appropriate direction. Start by making no more of an adjustment than a quarter of a revolution to the nuts on either side of the stop. After tightening, make sure that the stop can still be turned up and down but also so that there is no play in the stop.

Figure SS05.2 Crosscut fence 90° adjustment