Alignment Checks to be demonstrated at commissioning:

Applicable to the Felder K700, KF700, F700, K900 series machines

The Felder technician should perform the following alignment checks during commissioning. A novice user should not attempt the adjustments involving the trunnion or slider height. You should ensure that all these alignments are checked by the Felder tech and **witness how they are proven to be within specification before the tech leaves your shop.**

- ☐ Check the main cast iron top of the machine for flatness. Adjust the mounting bolts and support brackets as required to work out any dips along the surface. This is a critical first step since most of the other alignments will be referenced off of the cast iron top. If this top is not flat, further adjustments will prove fruitless and frustrating.

- ☐ Check the run-out of the main saw arbor using a dial indicator. The saw arbor should exhibit eccentric run-out less than. .001". Run the saw arbor (without a blade installed) and check vibration levels of the main chassis and machine top.

- ☐ Install and adjust the rip-side extension table surface flat to, and parallel with the main cast iron tabletop. Do the same with the outfeed extension table if your machine includes this table.

- ☐ Install your primary saw blade and check that the riving knife (splitter) is centered behind and vertically parallel with the blade.

- ☐ Adjust the saw blade to the rip fence such that the back of the blade is .000-.002” further from the rip fence. The adjustment on some machines is accomplished by adjusting the saw trunnion, since the rip fence has no adjustment facility. Some machines have a rip fence bar at the front of the table that can be adjusted to bring the rip fence into alignment with the saw blade. The setting is checked by ripping a short section of stock, stopping the saw mid-cut and examining the gap at the rear of the blade. Make sure the setting is checked with the blade at 90 AND 45 degree bevel. Adjust the measuring tape on the rip fence so that it reads the true distance to the blade.

- ☐ Adjust the tilt stops on the saw trunnion so that they stop exactly at 90 and 45 degrees.

- ☐ Adjust the slider so that it runs parallel to the saw blade. Eliminate any toe-in. If anything, you want the slider to move away from the blade (toe-out) as it moves forward (0.002" sideways drift over 10" slider movement is sufficient toe-out).

- ☐ Adjust the slider so that it is co-planer to the saw tabletop, and set the distance from the tabletop to the slider per your preference. If you are doing mostly panel work, many people prefer the slider set .010” higher than the table top. Many users prefer to have the slider at the same height as the table, primarily because

Alignment Checks to be demonstrated at commissioning:

they do a lot of small block precision cuts, and use the slider extensively for machining joints on the shaper. Check the distance from tabletop to the slider at a minimum of three points: (1) in front of the rip fence to the side of the slider closest to the table, (2) at the saw blade extended over to the far side of the slider, and (3) at the tabletop side opposite the rip fence to the side of the slider closest to the table top. Check the slider vertical movement relative to the tabletop in front of the blade using a dial indicator. You want no more than +/-.004" of vertical movement as the slider is moved from full extension forward to full extension to the rear. If the slider goes up/down as it moves from front to back, make sure this is adjusted out of the slider or it will create problems when using the shaper. Check the slider toe-in/toe-out and vertical movement by making a long rip in a piece of plywood affixed to the slider during the cut. Flip the cut-off piece end for end and press it against the mating ripped piece of plywood. Inspect the cut line – there should be no gaps or waviness where the pieces fit together on either side.

☐ Install the outrigger. Adjust the outrigger so that it is flat to, and parallel with the slider and main iron table of the saw. Verify that the outrigger table stays in the same plane as the slider as the sliding table is moved fore and aft.

☐ Adjust the outrigger crosscut fence 90 degrees square to the blade. Double check this with the 5-sided-cut technique.

☐ Install the outrigger miter indexing unit and check it for accuracy at 45 degrees with the crosscut fence in both the front and rear positions..

☐ Adjust the crosscut fence measuring tape for accuracy to the blade as well as the tape on the extension fence.

☐ Install the short crosscut fence on the slider. Adjust the short crosscut fence 90 degrees to the blade. Check this with the 5-sided-cut technique.

☐ Adjust the measuring tape on the short crosscut fence for accuracy to the blade. Do the same with the short crosscut fence extension tape.

☐ Check and set the shaper trunnion and stops for alignment to the table top, i.e. the shaper spindle must be perpendicular to the saw table in both directions, front to back and side to side. Set the 45° stop on the shaper spindle. Adjust/check the height of the shaper rings to the saw table.

☐ Install and adjust the scoring unit and blade. Adjust the blade to your primary panel cutting blade such that it is shimmed properly and centered behind the blade. Make the tech go through with you how to adjust the scoring unit. Double check that if you ordered a split arbor, that the scoring arbor can be removed. Check that the scoring unit runs free and clear of any interference with the dust chute.

Alignment Checks to be demonstrated at commissioning:

- ☐ If you ordered the mobile cart for the outrigger, adjust the height of the cart support arms to interface properly with the corresponding pivot points on the outrigger table. This will ensure that you have minimal problems removing and installing the outrigger table using the cart.

- ☐ Install and check each router and shaper spindle. Ask the tech to take you through changing spindles and moving the belts. Review the lubrication schedule for the grease points, trunnion and spindles.

- ☐ If you ordered a power feeder unit, have the tech install the mount for the feeder and the feeder. Wire the feeder as required and check the operation.

Alignment Checks to be demonstrated at commissioning:

Applicable to the Felder AD751 series Jointer / Planer combination machines:

The Felder tech should perform the following alignment checks during commissioning. A novice user should not attempt the adjustments involving the fixed settings of the tables. You should ensure that all these alignments are checked by the Felder tech and witness how they are proven to be within specification before the tech leaves your shop.

- ☐ Check that the outfeed table is co-planer to the cutterhead (parallel with the cutterhead across the width of the table). This is usually accomplished using a Oneway gauge, placing the gauge on the outfeed table and measuring the distance from the table to the cutterhead at the hinge side and the latch side of the table. Any error is removed by adjusting the temple-bolts at the latch side of the machine using a 32mm open-ended wrench. You must remove the cover assembly (the white shroud that connects to two tables together) and the cutter guard assembly to make any adjustments to the outfeed or infeed table fixed settings.

- ☐ Check that the temple-bolts on the outfeed table are engaging equally and that they feel centered with latching the table down

- ☐ Adjust the outfeed table using a Oneway gauge to insure the outfeed table is at the same height as the cutter knife when the knife is top-dead-center. Check the height at the latch side, center and hinge side of the table.

- ☐ Check that the infeed table is co-planer with the outfeed table. Start at the hinge side of the machine. Extend a straight edge out from the outfeed table across the infeed table. Secure the straightedge to the surface of the outfeed table with welders magnets. Raise the infeed table unit it just touches the straight edge at some point. If the straight edge touches the infeed table along it's length, the tables are co-planer at the hinge side, if not, an adjustment must be made to remove the error. Move the straight edge to the latch side of the machine. The straight edge should be secured to the outfeed table and extend over the infeed table as before. Check that the straightedge touches the infeed table all the way along the table. If it doesn't, the error is adjusted with the temple-bolts on the latch side of the infeed table.

- ☐ Check that the temple-bolts on the infeed table are engaging equally and that they feel centered when latching the table down.

- ☐ Install the fence unit. Adjust the fence stops at 90 and 45 degrees to be true as measured from the table surface.

- ☐ Make a series of test cuts using the jointer. Verify that the leading edge of the stock does not hang-up on the leading edge of the outfeed table. Watch for snipe as the rear of the stock moves off the infeed table. If either condition is present, the

Alignment Checks to be demonstrated at commissioning:

outfeed table is too high or to low relative to the infeed table. Adjust the outfeed table up or down using the adjustment handle (unlock the outfeed table with the Kip handle, back off the black handle and nut, push down on the handle to force the outfeed table down, then turn the adjustment handle to raise the outfeed table until it is even with the knife cutter at TDC). Check for hang-up and snipe at the hinge side of the tables, the center and the latch side of the tables. If you have hang-up or snipe on one side, but not the other, the infeed and outfeed tables are not co-planer.

☐ Machine the flat faces of two boards 3-4 feet long using the jointer. Take several light passes over both. Put the two machined faces together and look at the mated surfaces. They should touch along the entire length. If they exhibit a convex of concave shape, the tables are not co-planer to each other.

☐ Machine the edges of the same two using the jointer. Take several light passes. Flip one board end-for-end and mate the two machined surfaces. They should touch the entire length and present a 90 degree union (with the two boards together (edge-to-edge) check the machined flat sides with a straightedge to insure the edge joint is 90 degrees). If they are not, the tables are not co-planer or the fence is not square to the table.

☐ Set up the machine in the planing mode. Set the machine to plane a couple of millimeters off the face of the two boards used in the first jointer check above. Plane the un-machined surface of each board using the planer, machining one board on the hinge side of the planer and the second board on the latch side of the planer. Check that the two boards are precisely the same thickness. If they differ in thickness, the adjustable planer table is not parallel to the cutter. Inspect the machined stock for evidence of snipe or pressure roller indentation marks. The planed surface should be free of snipe and pressure roller indentations.

☐ Install the thickness indicator for the planer and adjust it to read true to the as-measured thickness of the stock. A caliper or dial indicator is useful for measuring the precise thickness of the planed stock.

☐ Have the Felder tech demonstrate the correct procedure for changing the knives on the cutterhead.

☐ Review the lubrication schedule for the grease points and spindles.