

Converting a 3-Knife Head to a Byrd Shelix® Head for a 8-Inch Delta Model 37-380 Jointer

The conversion process is started with the removal of the cast iron fence assembly. It is attached to the fence support bracket by two 6 mm Allen head cap screws. The fence will have to be adjusted forward over the jointer bed by about 4 inches to allow access to the bolts.

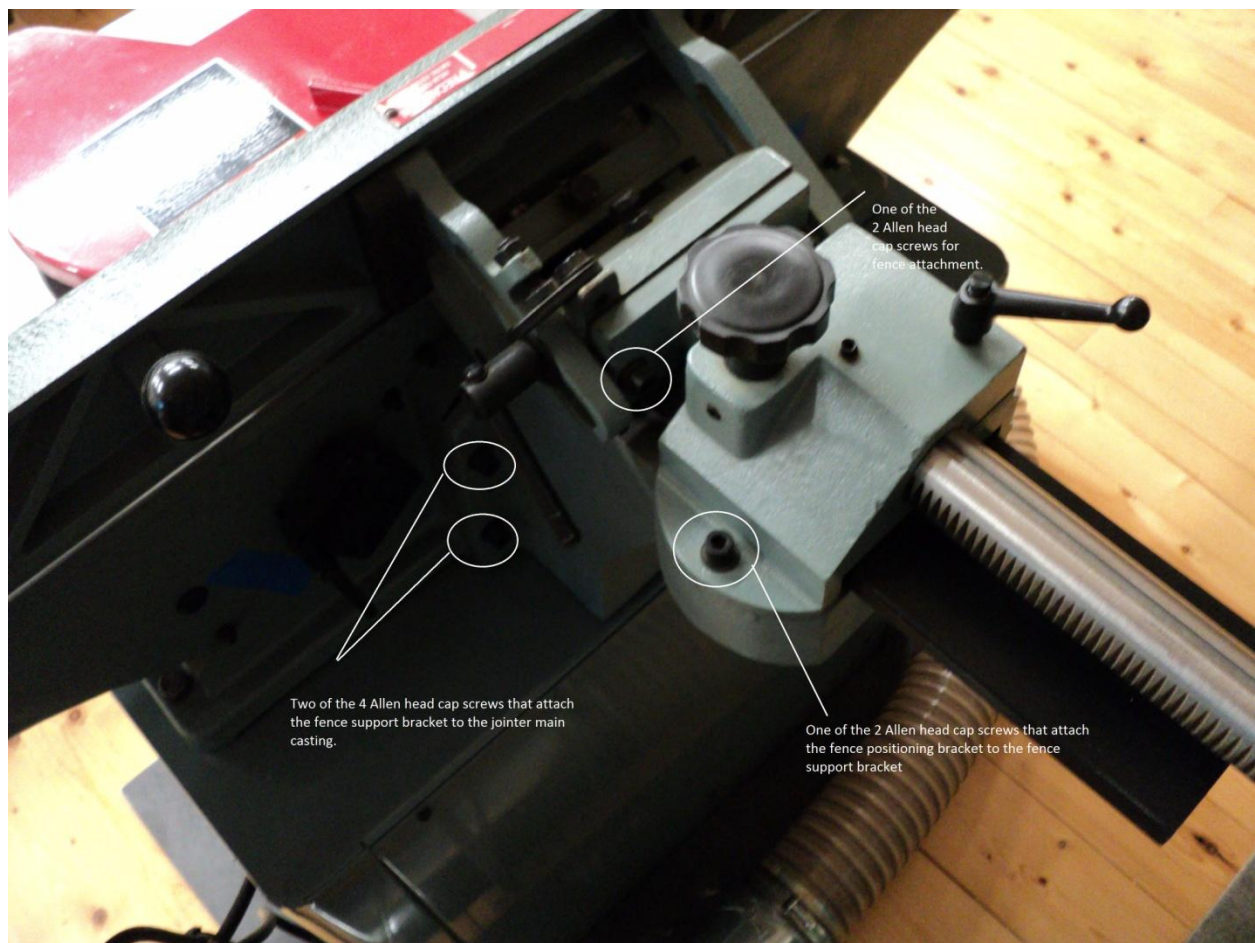


Figure 1 – Details of bolts that must be removed for disassembling the jointer

After the bolts have been removed, set the fence assembly aside for future reassembly. The jointer will appear as shown below.



Figure 2 – View of the jointer with the fence assembly removed

The next step is to remove the jointer knife guard. First, remove the 2.5 mm Allen set screw that is located at the bottom of the guard shaft. The guard can be carefully rotated and lifted upward to completely remove it.



2.5 mm set screw that must be removed to allow fence removal.

Figure 3 – Front view of jointer knife guard attachment set screw

The torsion spring that holds the guard tight to the fence will unwind as you pull the guard shaft off the support bracket. The tension will be reset later when the guard is reassembled.



Figure 4 – View of the jointer with the knife guard and fence assembly removed

The front cast iron support bracket must be removed next. The bracket is attached with two 6mm Allen head cap screws. The bracket is located and held in place with 2 roll pins. Carefully pull the support bracket forward and utilize a slight up and down rocking motion to allow the roll pins to move with the front bracket. The roll pins will likely remain in the front bracket once it has been removed.



Figure 5 – Jointer after the knife guard support bracket is removed

The fence positioning bracket assembly can be removed next. The assembly is attached with two 6 mm Allen head cap screws. After removal, set the assembly aside.



Figure 6 – Jointer after removal of fence positioning bracket

The fence support bracket has four 6 mm Allen head cap screws and two roll pins that locate and attach it to the main jointer casting. Remove the cap screws and using a rocking motion, remove the fence support bracket from the jointer. The roll pins should stay in the fence support bracket.



Figure 7 – Jointer after removal of fence support bracket

Remove the back cover plate from the jointer base support. There are six self-tapping 5/16 inch screws that hold the back cover in place, but only the top three screws need to be removed. The bottom three screws should be loosened and left in place.

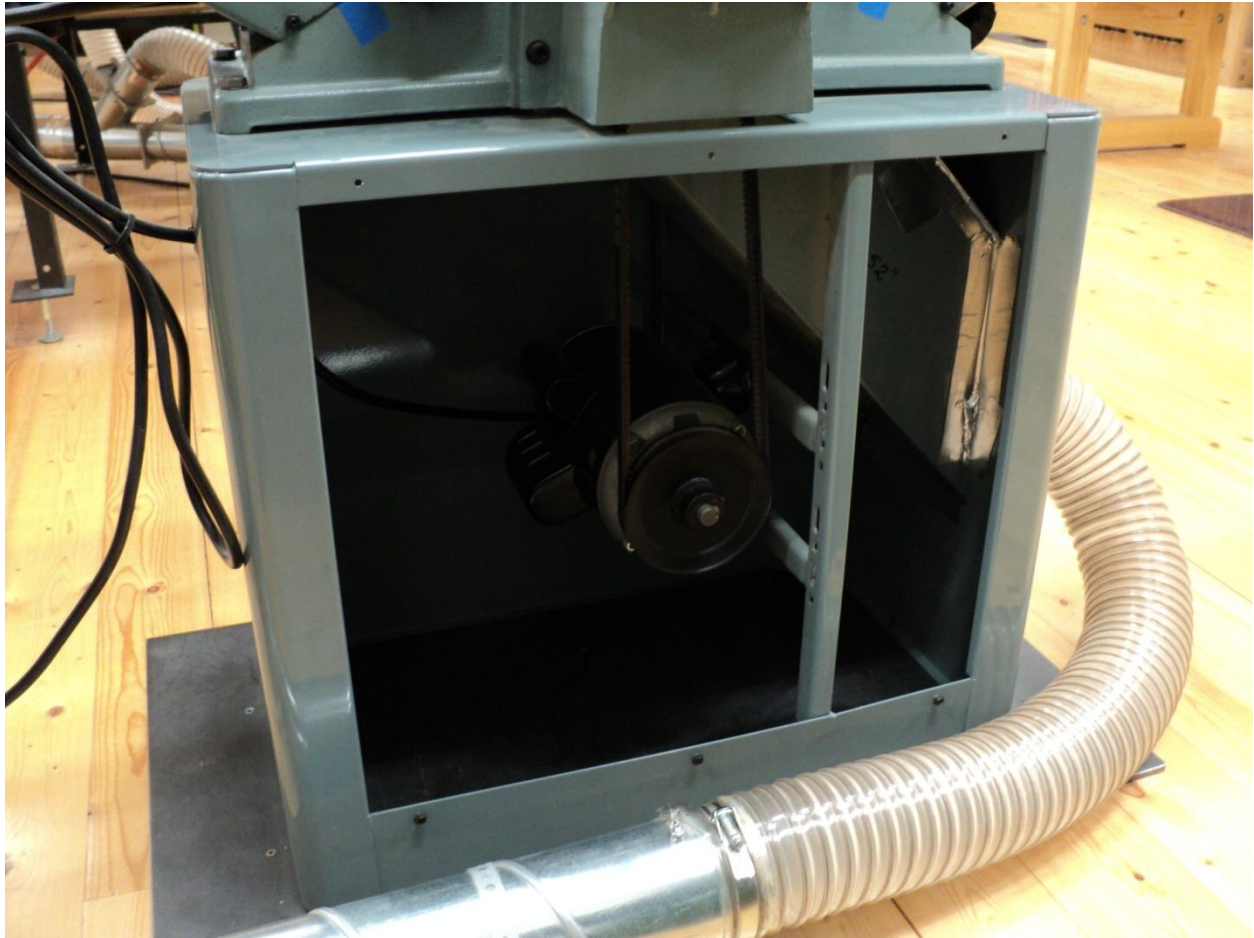


Figure 8 - Back of jointer with rear cover removed

Next, remove the drive belt. The motor mounting bolts should be loosened to relieve belt tension and allow for belt removal.

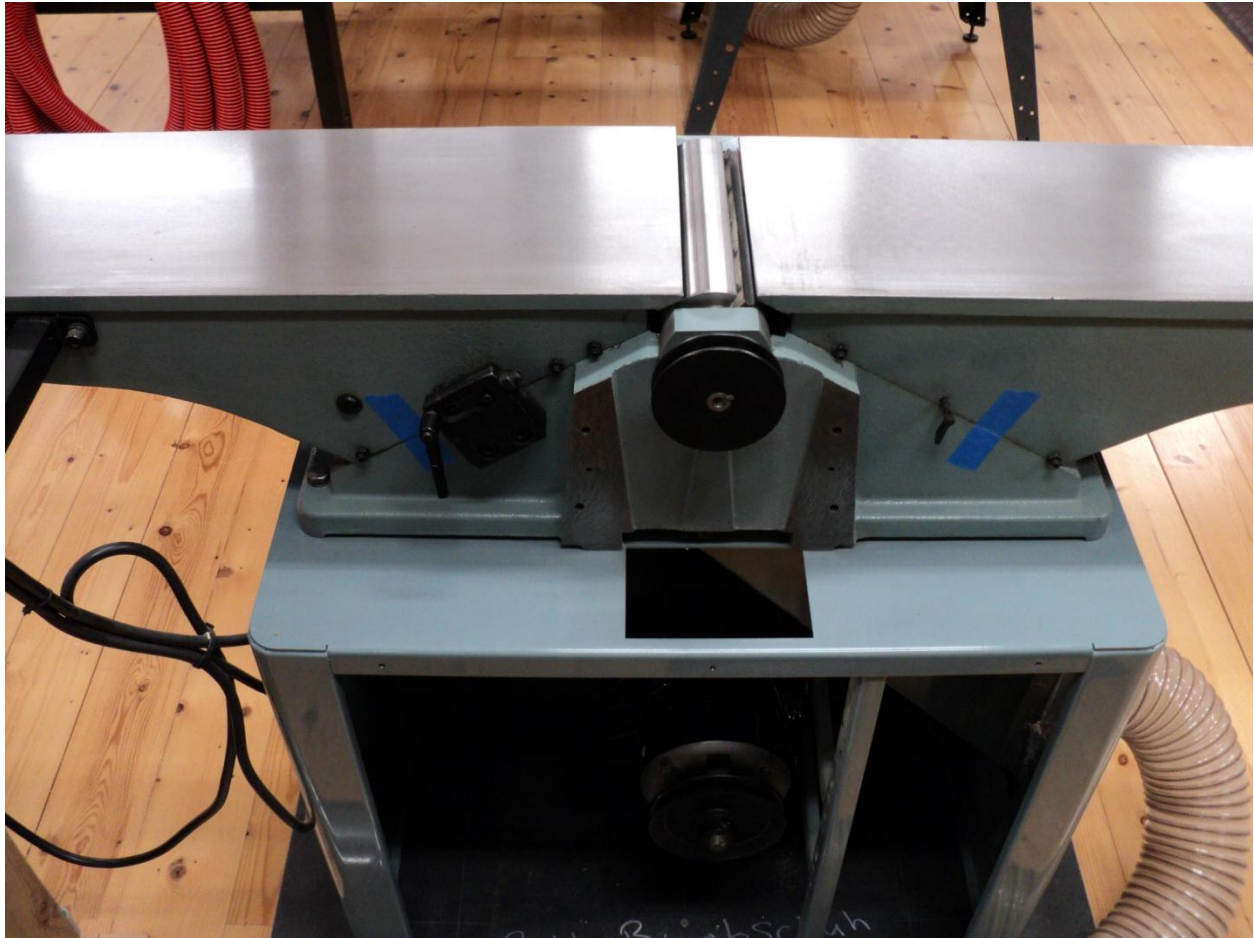


Figure 9 – Rear view of jointer with belt removed

Infeed and outfeed tables will have to be adjusted to allow the jointer knife head assembly to be removed. The outfeed table lock screw should be turned counter clockwise to release it. Then, the large knob below the outfeed table can be rotated to drop the outfeed table out of the way of the knife head. The infeed table must also be dropped out of the way. The front and back table lock ratchets for the infeed table have to be loosened and the infeed table lever will adjust the infeed table away from the knife head.



Figure 10 –Jointer with infeed and outfeed tables lowered to allow head removal

With the knife head clear of the infeed and outfeed tables, remove the front and back 11/16 inch nuts and lock washers that attach the knife head to the jointer. These nuts are on the bottom of the jointer in the relief area on the base. The knife head can now be lifted out of the jointer.

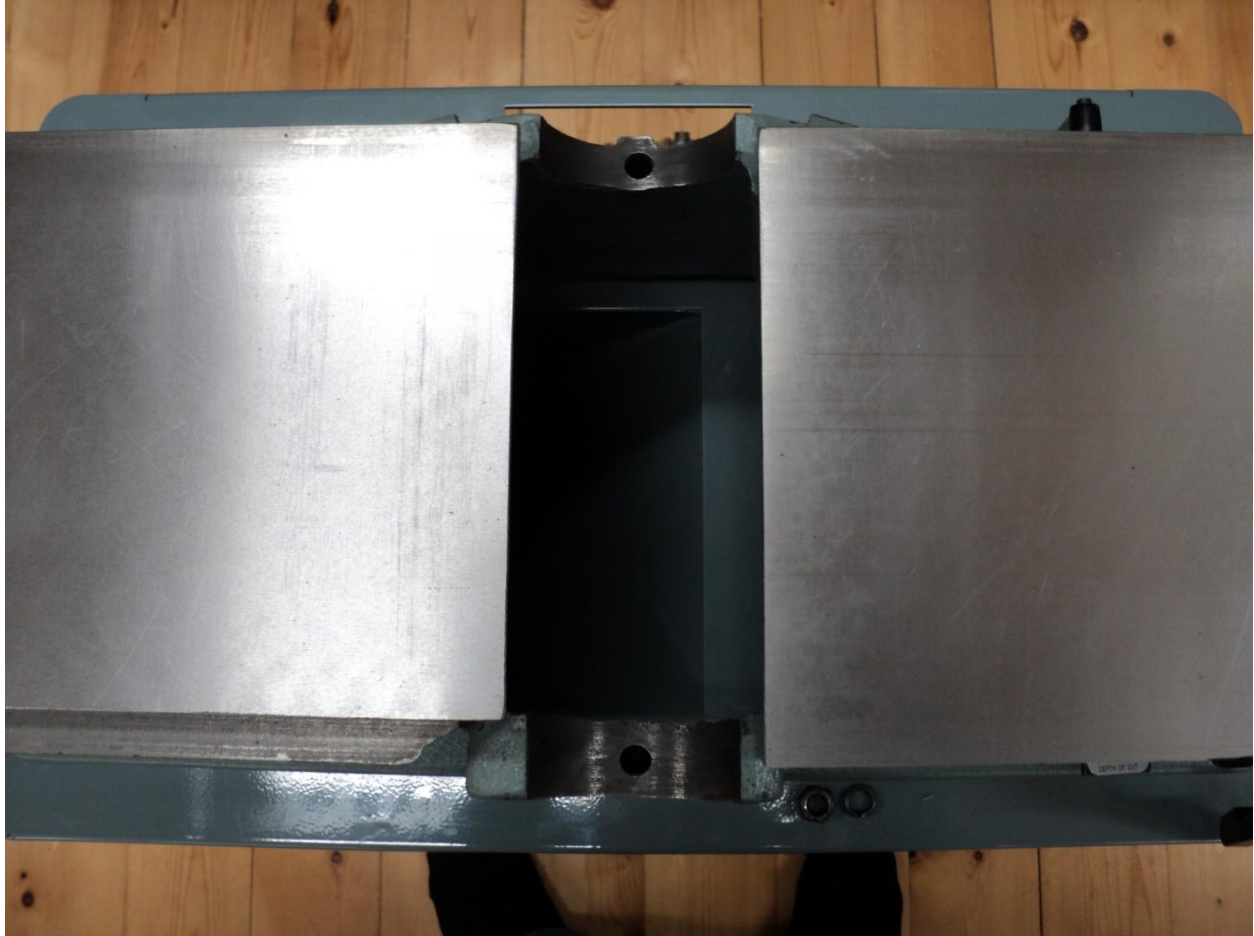


Figure 11 – Jointer with knife head removed

There are two 3 mm Allen head set screws on the belt pulley that will have to be loosened. Use a puller tool to remove the belt drive pulley from the knife head end shaft. Remove the 5 mm key from the shaft and set aside for reassembly.



Figure 12 – Knife head assembly after removal from jointer

The bolts that are screwed into the bearing support blocks should be removed. The bearing support blocks can be removed with the puller tool.



Figure 13 – Knife head with pulley, key, and both bearing supports removed

Take time to clean all surfaces and fit areas since they will likely have accumulations of wood dust and chips. The bearings that are needed for the Shelix® head are a 6203 ZZ for the blind end and a 6204 ZZ for the drive end. These can be purchased preinstalled on the Shelix® head and it is a good idea to replace the bearings when replacing the head.



Figure 14 - Shelix® head back in jointer - ready for final reassembly

The installation is just the reverse of the disassembly process. After the assembly is completed, test operate the jointer and notice improved quality of cut, lowered feed pressure requirements, and quieter operation of the tool.