

Using the Lifting Bar Kit

Product Information: Lifting Bar Kit (PN 31446)

Purpose: This document details the assembly and use of the Lifting Bar Kit to lift a mill from ground level onto the Machine Stand. This kit includes the items as shown in the following image.



I.1 Required Tools

Before you begin, make sure you have the following tools and items:

- Adjustable wrench
- Clean rag
- Engine hoist

I.2 Before You Begin

⚠ WARNING! Transportation and Lift Hazard: Keep all persons clear of the area below the machine. Qualified professionals must transport, lift, and move the machine.

1. Inspect the lifting chain for any broken links, and all other parts to make sure that there are no breaks or imperfections. If you find any broken links or imperfections, contact Tormach for a replacement.
2. Use a clean rag to remove any shipping grease from all components in the Lifting Bar Kit, and the surface of the machine table.

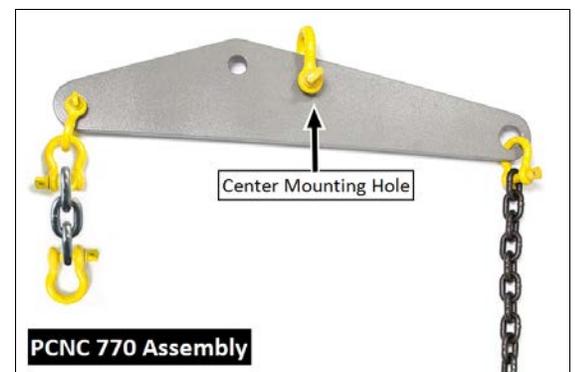
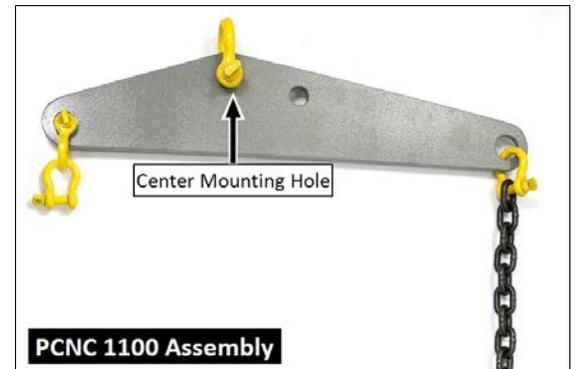
I.3 Preparing to Lift the Machine

To prepare your machine for lifting onto the Machine Stand, complete the following procedures in the order listed:

1. "Assembling the Lifting Bar Kit" (below)
2. "Connecting the Machine for Lifting" (on the next page)

I.4 Assembling the Lifting Bar Kit

1. Locate the Lifting Bar Kit mounting holes:
 - On each end of the Lifting Bar Kit are the **Front** and **Rear** mounting holes: The **Front** connects the lifting chain to the machine table, and the **Rear** connects to the machine column itself.
 - In the center of the Lifting Bar Kit are two mounting holes: one for a PCNC 1100® mill, and one for a PCNC 770® mill.



2. Insert one 3/8-inch forged lifting clevis and the lifting chain into the **Front** mounting hole.
3. Depending on your machine, the center hole that you use varies. Insert the 1/2-inch forged lifting clevis in the appropriate center mounting hole.

- Depending on your machine, the procedure for the **Rear** mounting hole varies:
 - PCNC 1100®**: Insert two 3/8-inch forged lifting clevises into the **Rear** mounting hole.
 - PCNC 770®**: Insert two connected 3/8-inch forged lifting clevises, one three-link chain, and one 3/8-inch forged lifting clevis into the **Rear** mounting hole.

I.5 Connecting the Machine for Lifting

- On the machine table, move three M12 T-nuts into the front T-slot, and arrange them in the center of the machine table as shown in the following image.



- Insert the M12 lifting eye in the center M12 T-nut.
- Use an adjustable wrench to securely tighten the M12 lifting eye.
- Insert one M12 × 25 mm hex bolt and one M12 flat washer into the each of the remaining M12 T-nuts.
- Use an adjustable wrench to securely tighten the two M12 × 25 mm Hex Bolts and two M12 flat washers.

- Connect the loose end of the lifting chain to the M12 lifting eye as shown in the following image.



- Connect the hook from your engine hoist to the center 1/2-inch forged lifting clevis on the lifting bar.

8. Depending on your machine, the procedure for connecting the lifting bar varies:
 - **PCNC 1100®:** Connect the lifting bar's rear 3/8-inch forged lifting clevis to the M12 lifting eye on the top of the machine column.
 - **PCNC 770®:** Connect the lifting bar's rear 3/8-inch forged lifting clevis to the lifting bracket on the rear of the machine column.



1.6 Lifting the Machine

1. Without yet lifting the machine, raise the engine hoist to remove any slack in the lifting chain.
2. From the machine table, on the M12 hex bolts and the M12 lifting eye, use an adjustable wrench to make sure all connections are securely tightened.
3. Slowly and steadily lift the machine to examine the alignment. The machine must lift flat and remain parallel with the floor as shown in the following image.



If necessary, lower the machine and, from the machine table, adjust the position of the M12 T-nuts.

WARNING! Tip Hazard: Before lifting the machine, you must make sure it is properly leveled. If the machine is not level while it is lifted, the load on the engine hoist could unexpectedly slide.

4. Continue to lift the machine until it reaches the height at which it can clear the Machine Stand.
5. Position the machine above the Machine Stand.
6. Slowly and steadily lower the machine on to the Machine Stand's mounting pads, as shown in the following image.



WARNING! Crush Hazard: While lowering the machine onto the Machine Stand, you must keep your hands away from all moving parts.

7. Secure the machine to the Machine Stand.

NOTE: For information on the procedure to secure the machine to the machine stand, refer to the Operator Manual.

8. Once the machine is completely supported by the machine stand, remove all components of the Lifting Bar Kit.