

Cam Clamp Mechanism

The cam clamp mechanism makes quick work of clamping and releasing jigs and fixtures, especially when doing repetitive work. Each size may be used to impart up to 400 lb of clamping force. Depending upon the version in hand, the cam clamp may be used with your choice of 1/4-20 or 5/16-18 fastener (machine screw, T-bolt, threaded rod, etc.). Each clamp includes the appropriately sized cross dowel as well as two washers that can be used to adjust the orientation of the locked position of the handle.

Suggested Uses

A cam clamp is typically used to lock two portions of a jig or fixture together. The examples below illustrate several possible configurations.

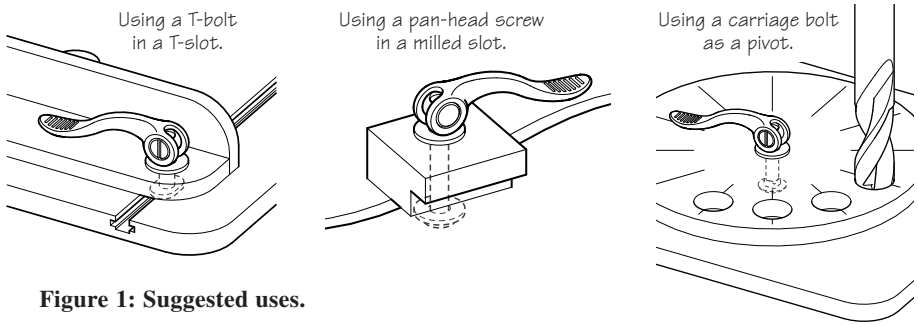


Figure 1: Suggested uses.

Installation

The length of exposed stud (or threaded rod) is critical. Too much and the handle will catch; too little and the cross dowel will not engage. The table below illustrates the stud length required for each cam clamp size.

Stud Lengths for Cam Clamp

Cam Clamp	Stud Length	
	Min.	Max.
1/4" (05J51.01)	1/2"	5/8"
5/16" (05J51.05)	9/16"	3/4"

Note: If the exposed stud is too long, place additional washers (not included) on the stud (to shorten it) before threading on the cam handle.

Set your jig or fixture such that the threaded stud is facing outward. Insert the cross dowel into the cam handle, aligning the slot in the cross dowel with the threaded stud. Place one of the washers on the stud, then thread the handle and cross dowel onto the stud until the handle contacts the washer. Test the clamping pressure by rotating the cam handle down, as shown in **Figure 2**.

If there is not enough clamping pressure, release the handle and continue to thread the handle onto the stud. If the clamping pressure is too great, unthread the handle after releasing it.

⚠ Caution: Always make the clamping pressure adjustments gradually, since this cam clamp can easily apply enough pressure to damage the jig or the material being clamped, or both.

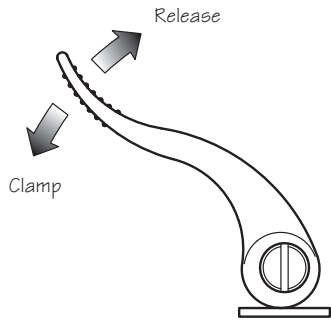


Figure 2: Using the cam clamp.

Adjusting the Handle's Clamping Orientation

There may be instances where you wish to change the cam handle's orientation while maintaining the clamping pressure, but do not have the option of rotating the fastener. The two washers supplied with the cam clamp are of precise thickness to allow the handle's orientation to be flipped 180°. If, for example, the handle locks facing left when using one washer, adding the second washer (or removing the first) would allow the handle to lock facing right.

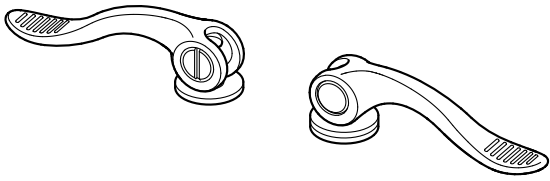


Figure 3: Flipping the orientation by adding a washer.

Adjusting Clamping Pressure when the Bolt Head Access is Restricted

If you are using a bolt with the cam clamp but access to the head is restricted, cut a slot in the end of the bolt with a hacksaw before installing it. To adjust the clamping pressure, simply flip the cam handle to gain access to the slot. Use a slot-head screwdriver to turn the bolt to adjust the clamping pressure as required (counterclockwise to increase the clamping pressure, clockwise to reduce it).

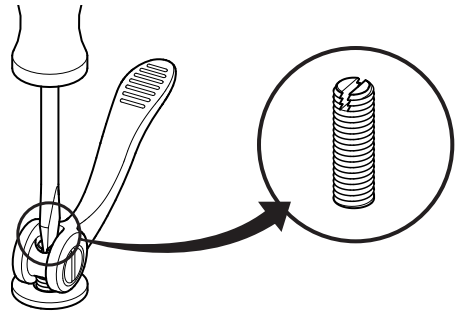


Figure 4: Adjusting the bolt from above.