



# **CarvLock™ HDLM6 Manual Machinable Jaw Vise**

Instructions

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# CarvLock™ HDL

Manual Clamping

Model # HDLM6

## **Introduction**

The CarvLock™ HDL model #HDLM6 offers two clamping stations with carvable aluminum or ductile iron jaws mounted to an 80,000 PSI ductile iron base. This lightweight double station vise, yet provides over 6300 pounds of clamping force. The quick-change aluminum jaws can be machined to match the contours of your parts, creating dedicated fixturing at an “off the shelf” price.

The CarvLock™ HDL is backed by Kurt™ Manufacturing’s industry leading lifetime limited warranty. Please inspect your vise carefully for any shipping damage and, if necessary, report it to your carrier.

**Caution: Do not attempt to lift vise assembly by gripping the movable jaws, they will break loose and personal injury could result.**

**Also, attempting to open the vise beyond the stops, located in the front and rear nut, may cause damage to the vise assembly.**

## **Installation Instructions**

- 1) Position the vise on your machine table, pallet, or sub-plate using the locating holes (5/8” or 16mm) on the bottom of the vise if you prefer or other suitable methods.
- 2) There are two methods that can be used to secure your vise in place.
  - a. One way is to clamp the vise in place using the clamp ledge on either side of the vise. Locate the clamps near the center of the vise body to minimize deflection.
  - b. The other way is to use existing holes that run vertically through the vise body. To access the holes, remove the stationary and movable jaws (See disassembly instructions).

Both mounting options could be used if desired but is not required or recommended.

## **Carving Jaws**

The CarvLock™ HDL comes with 7075-T6 aluminum or 65-45-12 ductile iron jaws that can be machined to match the contours of your parts. Optional jaws are available.

To carve the jaws;

- 1) Open the jaws to the desired spacing.
- 2) Position spacers in each station locating them so as not to machine into them while machining the jaws.
- 3) Clamp spacers in place.

- 4) Machine contours in to jaws. **CAUTION:** *Do not machine beyond the grooves marked on the sides of the jaws. Machining past these points may damage your vise and could void the warranty.*
- 5) Unclamp and remove spacers.
- 6) Reset pre-load adjustment, if necessary.

Your vise is now ready for use.

### **Holding Block Pre-load setup**

**\*PRE-LOAD PARTS.**

(\* Is defined as ability to clamp one part first with limited pressure before second part is installed.)

***Caution: Pre-Load places only enough spring pressure to hold one part and are not intended to clamp part for machining. Both stations must be clamped to achieve clamping pressures.***

NOTE 1: In all jaw settings, unless both parts are the same size, the **Widest** part must always be mounted in the Rear Jaw Set.

NOTE 2: Same size part, Pre-load must be setup to clamp front part.

### **Horizontal vise position**

1. Open both Moveable Jaws sets to accept part being clamped.
2. Place one part into each station and close.
3. Open only enough to release pressure from each part.
4. Remove the part that is planned to be pre-loaded. (**Vertical vise position see caution below**)
5. Leaving the opposite part in the vise, begin to close allowing the Holding block to slide 3/16" minimum.
6. Begin to open and both Movables will open.
7. Remove all parts in the vise.
8. Your Pre-load is now set.
9. Place part to be Pre-loaded in and begin to close until part is clamped. Install opposite part and clamp.

### **Vertical vise position**

***Caution:*** In this position, the horizontal vise position setup is used but we recommend to always setup with the pre-load in the top station. The Stationary Jaw is a fixed stop where the bottom Moveable Jaw will have movement and part could appear to be pre-loaded and part could move causing personal injury. Please use caution at step #4.

## Pre-Load range Adjustment Nut

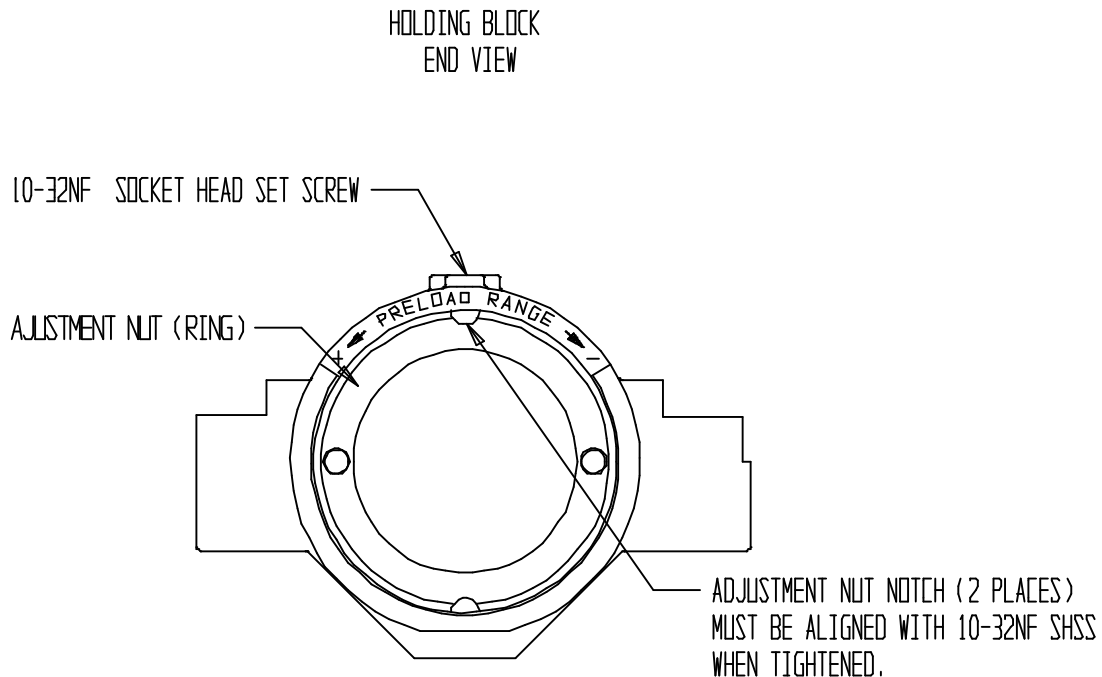
Refer to sketch below for direction of adjustment

### To remove Pre-Load range (Reducing the amount of turns of the handle when clamping or unclamping parts).

1. Loosen but do not remove the (socket head set screw) on top of Holding Block.
2. With the use of a spanner wrench, begin to turn the Adjustment Nut clockwise. Each full turn will reduce Pre-Load amount by appoximtitly .04. NOTE: Maximum reduction is .100/.150 or approximately 3-3/4 turns of the Nut. NOTE: If adjustment Nut turns to a complete stop before the 3-3/4 turns, maximum reduction range is complete.
3. Turn counterclockwise Aligning the first slot on the Adjustment Nut with the SHSS and tighten.

### To add Pre-Load range (Increase the amount of turns of the handle)

1. Loosen but do not remove the SHSS on top of the Holding Block.
2. With a spanner wrench turn the adjustment nut counter clockwise until threads on the Adjustment Nut begin to show.
3. Align the slot on the Adjustment Nut with the SHSS and tighten.



### **Disassembly**

Occasionally it may be necessary to disassemble the CarvLock™ HDL vise for cleaning to ensure trouble free operation.

**Note:** Vise body should be clamped to a table or workbench for disassembly or re-assembly.

- 1) Remove stationary jaw by loosening the two M10 x 1.5 socket head cap screws from the vise body. Pull up on the screws and rotate counterclockwise until they are engaged in the stationary jaw. Use these screws as a handle to aid in removing the stationary jaw from the vise body. Lift the jaw straight up off of the locating pins to prevent the stationary jaw from binding on the pins.
- 2) Remove both front and rear movable jaws by lifting up on the back edge of the jaw until it snaps loose. Slide the jaw toward the center until you can lift it off.
- 3) Remove the M10 button head cap screw from the end of the vise body, located the handle end of the vise
- 4) Slide the screw and nut assembly out of the vise body. **NOTE:** *Disassembly of the screw and nut assembly may result in improper function once re-assembled.*  
**CAUTION:** *The nuts are timed to the screw shoulder to insure proper opening and closure. Should the timing become altered consult the factory for instructions.*
- 5) Clean as required.

### **Re-assembly**

- 1) Slide the nut and screw assembly back into the vise body
- 2) Install M10 button head cap screw back into end of vise body.
- 3) Install the front and rear movable jaws by tipping them slightly toward the center of the vise. Hook the front of the moveable jaw onto the hook area of the nut and press down on the back of the movable jaw until it snaps in to place. **CAUTION:** *Use care to avoid pinching fingers between movable jaw and the vise body.*
- 4) Place the stationary jaw on to the two locating pins and fasten down with two M10x1.5 socket head cap screws.

Your vise is now ready for use.