

# Introduction to the Bridgeport Mill

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The Bridgeport Series I is the machining standard for cheap and effective manual mills, with a long history of use dating back over 50 years.

## *Bridgeport*

### **Built the Bridgeport Way**

The Bridgeport Series II is precise and easy-to-use. The Bridgeport construction method makes each mill a long-lived and sophisticated machine that has a durable build. The mills are constructed in quality steel and built for rigid work, perfect for professional and hobby machining alike.



### **Hand-Scraped Ways**

All alignment ways and gibs are completely hand scraped to within tenths of a thousandth. This ensures optimum machine geometry, rigidity and accuracy.

### **Bridgeport Painting**

Castings along the entirety of the mill are blasted, annealed, and oxide-coated. They are painted with a polyurethane coating to seal the castings. Painted again and again sealed with polyurethane before shipping.

### **Easy-to-Use Construction**

Bridgeport mills are built for ease of use. They are a very good teaching tool and a choice for beginning machinists. The ways glide easily and are marked sensibly. All levers and bolts on the machine are visible, easy to access, and clear of use. Each part of the machine

### **Bridgeport 2J Head**

The patented Bridgeport 2J head is a complex machine that utilizes a special air cooling system that ensures excessive heat buildup to remain within 20 degrees F of ambient temperature. In doing so, the machine is more precise as well. The build of the head ensures long-life of all internal parts and tools.

# Overview

## Machine Size

*Height:* 87 in. (2.21 m)  
*Mass:* 1,930 lb (875 kg)  
*Floor Space:* 7 x 10 ft (2.13 x 3.0m)

## Range

*X-Axis Travel:* 36 in (914mm)  
*Y-Axis Travel:* 12 in (305mm)  
*Z-Axis Travel:* 16 in (406 mm)  
*Quill Travel:* 5 in (127 mm)  
*Ram Travel:* 12 in (305 mm)  
*Throat Distance:* 6.75 in (171 mm) -  
18.75 in (476 mm)

## Drilling

*Drilling Capacity:* 2 CI/min  
*Boring Range:* 6 in dia. (152 mm)  
*Spindle Dia.:* 1.875 in (48 mm)  
*Quill Dia.:* 3.375 in (86 mm)

## Work Table

*Standard Size:* 49 x 9 in (1,245 x 299 mm)  
*T-Slot Size:* 0.625 in (16 mm) / 3 @ 2.5 in (64 mm)  
*Height Above Floor:* 47.25 in (1,200 mm)  
*Weight:* 750 lb (340 kg)

## Speed Range

*High Range:* 500 – 4,200 RPM @ 60 Hz  
*Low Range:* 60 – 500 RPM @ 60 Hz  
*Quill Feed:* 0.0015 in/rev (0.038 mm)  
*Manual Adjust:* 0.003 in/rev (0.076 mm) /  
0.006 in/rev (0.152 mm)



**The Head**

**The Table**

# The Head

## Draw Bar

The draw bar is used to mount and dismount tooling. With accessories for easy use.

## Power Switch

The switch to start the spindle. With a high and low gear start. Starting in the opposite gear spins reverse.

## Motor Housing

The housing for the motor, and

## Gear Housing

The gear housing for the drive gears and belt assemblies that turns the spindle.

## Speed Setting

The handle for changing spindle speeds. The left window indicating high gear, the right for low gear.

## Gear Shift Lever

The shift lever for switching between high and low gear speeds.

## Automatic Quill Speed Setting

Lever for setting the descending speed of the quill.

## Quill Handle

The lever for extending the quill.

## Y-Axis Rotation Bolts

Locking bolts for Y-Axis Rotation.

## Automatic Quill Feed Handle

A handle for automatic quill feed.

## Quill Travel

A screw to limit quill travel and a nut

## Spindle

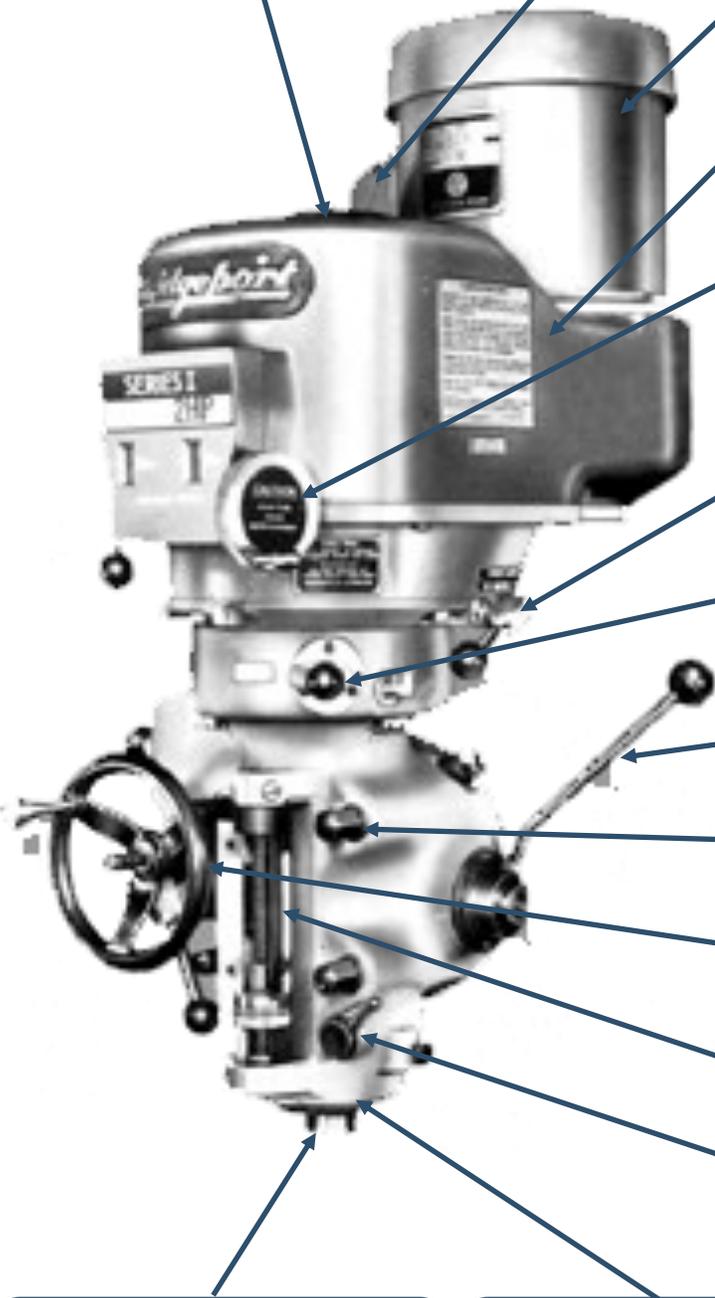
The housing for tooling and rotating portion of the machine.

## Quill

The extendable spindle housing for drilling operations.

## Quill Lock

A lever for locking the quill in place for rigid cutting.



# The Body

## Z-Axis Ways

The track along which the knee travels.

## Y-Axis Ways

The track along which the Y-axis travels.

## Y-Axis Handle

The handle for the y-axis in .001" increments.

## Table Slots

Table slots are for mounting jigs and fixtures, as well as holding

## Support Pillar

The main pillar along the back of the machine that holds the head.

## Table

The table has a long travel, heavy construction, and tracks to mount

## X-Axis Ways

The track along which the x-axis travels.

## X-Axis Handle

The handle for the x-axis in .001" increments.

## Y-Axis Lock

The lock on Y-Axis travel.

## Way Lube Box

The box holding the way lube. It is recommended that the way lube be pumped every few hours.

## Knee

The knee is the support for the table and is also the z-axis of movement.

## Z-Axis Lock

## Z-Axis Handle

The handle for the z-axis in .002" increments.

