



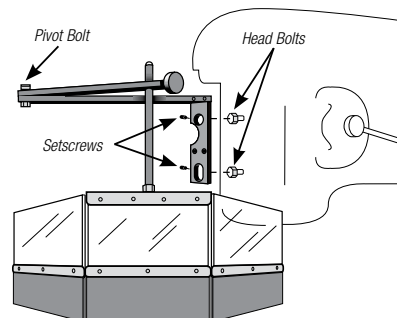
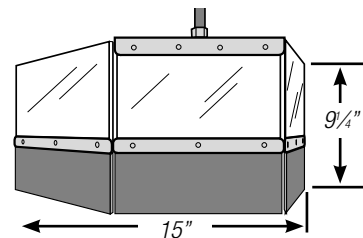
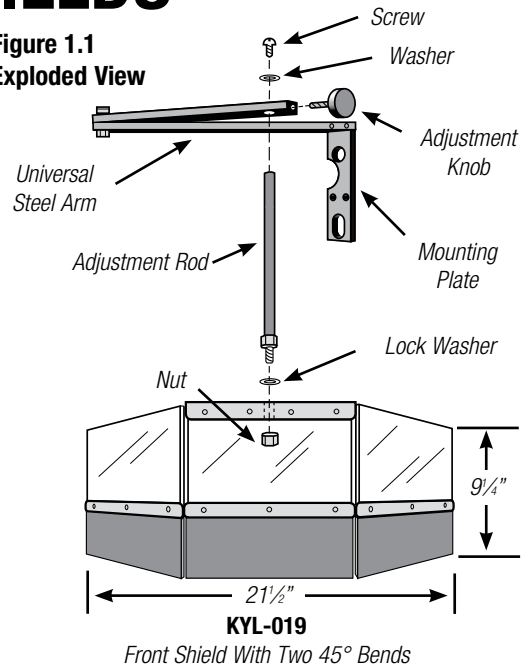
# INSTALLATION INSTRUCTIONS FOR MILLING MACHINE SHIELDS

This shield is designed for vertical Bridgeport milling machines. The mounting plate on the front shield is designed to fit over the bolts on the front of the Bridgeport. The rear shield is designed to mount to the dovetails of the mill head.

## Mounting the Front Shield— Part Nos. KYL-019 & KYL-059

1. Remove all packing material from the shield and its mounting assembly.
2. Locate the universal steel arm. Loosen the adjustment knob to clear the hole.
3. Locate the adjustment rod. Remove the screw and washer at the top of the rod.
4. Insert the adjustment rod into the hole on the steel arm. Make sure the flat side faces the adjustment knob. See Figure 1.1.
5. Replace the screw and washer on the end of the adjustment rod and tighten.
6. Tighten the adjustment knob.
7. Remove one nut and the lock washer from the bottom portion of the adjustment rod. Insert the adjustment rod into the hole on the shield. Replace and tighten the lock washer and nut. See Figure 1.1.
8. Attach the arm mounting plate directly to the existing machine head bolts. No drilling or tapping is required. See Figure 1.2.
9. Once it is in position, tighten the set-screws to secure the shield to the machine.
10. If necessary, use the adjusting knob on the arm to raise or lower the shield. The shield itself can also be used to hold a print by adding a clip (not furnished).

**Figure 1.1  
Exploded View**



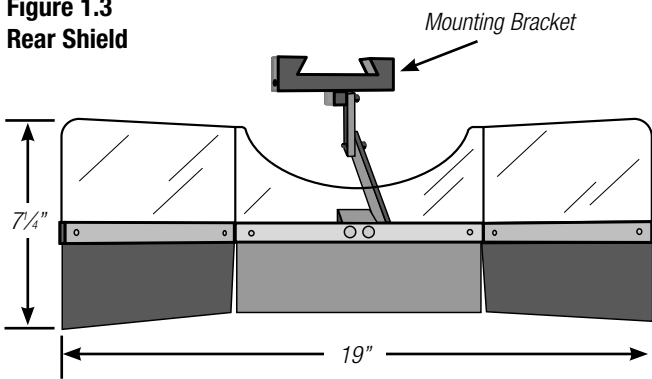
**Figure 1.2  
Attaching Front Shield to Machine**

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# SECTION 1—BRIDGEPORT MILL

## Milling Machine Shield Installation Instructions

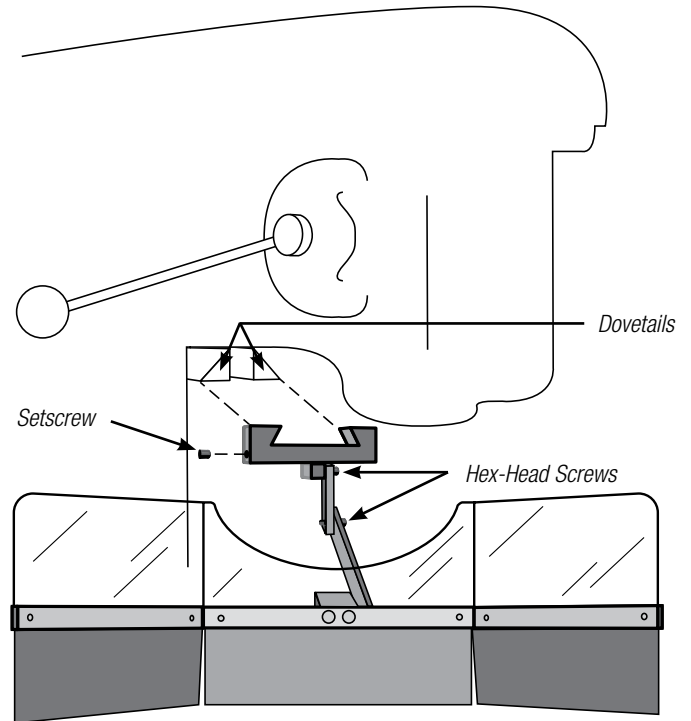
**Figure 1.3**  
Rear Shield



### Mounting the Rear Shield Part No. KYL-020

1. Remove all packing material from the shield and its mounting assembly.
2. Slide the mounting bracket onto the dovetails of the machine frame. Place it in the desired position. See Figure 1.4.
3. Once it is in position, tighten the setscrew to secure the shield to the machine.
4. Adjust the shield to the proper position and tighten the hex-head screws.

**Figure 1.4**  
Attaching Rear Shield to Machine



# SECTION 2—MILLING MACHINE BELT COVERS

## INSTALLATION

OSHA (Occupational Safety and Health Administration) 29 CFR 1910.219 states that all mechanical power-transmission apparatuses on machinery that create a hazard must be covered up to a 7 foot level above floor. The sheaves and belts on older Bridgeport milling machines must be covered to meet this requirement.

These unique patented belt covers are made of durable cast aluminum. The hinged covers are sold in pairs and are permanently attached to the machine head. This makes spindle speed changes a fast and efficient procedure while still providing protection.

To install belt covers:

1. Select the mounting location and spot two holes on the machine head using the hinge as a guide. See Photos 2.1 and 2.2.
2. Drill and tap two holes on each side of the machine head for the hinge. Be sure to avoid any internal components.
3. Fasten the belt covers to the machine using the mounting hardware provided.



**Photo 2.1** Cover Open



**Photo 2.2** Cover Closed

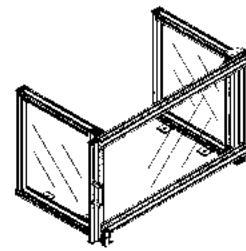
Part No.	Description
KYL-021J	Model J Belt Cover With Hinges (Pair)

### Front Shields

These shields protect operators when machining either small workpieces or large castings that sometimes overhang the milling machine table. The transparent portion of the shield is constructed of impact-resistant polycarbonate and is housed in a 1" x 2" extruded-aluminum frame. The shield has front sliding panel(s) and two side fixed panels. Each of the front panels can slide to the right or left and swing aside on their own axis out of the way. The side panels are attached at both ends of the table.

### Front Shield Specifications

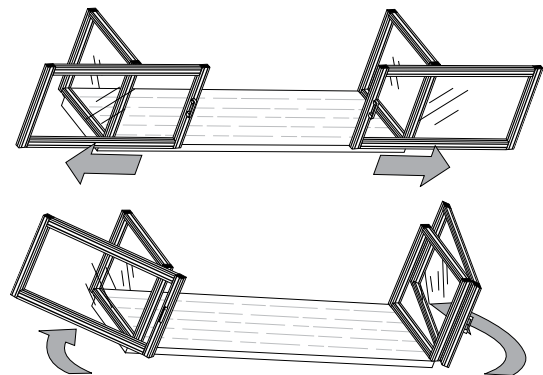
Part Number	Length of Table	Height of Shield	Depth	Maximum Adjustment
SSA-000	24"-36"	20"	20"	13"
SSA-200	36"-56"	20"	20"	13"
SSA-300	56"-76"	20"	20"	13"



**Figure 3.1**  
Part No. SSA-000  
Front Shield With One Slide and Swing Aside Front Door

### INSTALLATION

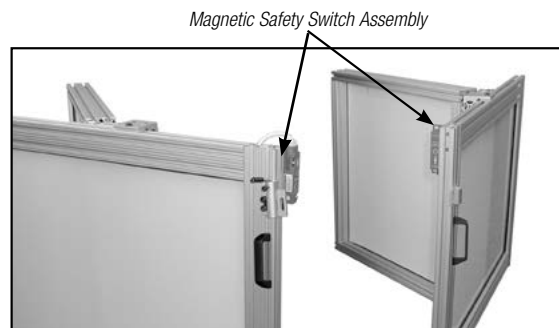
1. Unpack the shield and mounting assembly.
  - Open all component packages.
  - Make sure all panels and mounting hardware are included according to the drawing included with your shipment.
2. Select the mounting location on the machine bed. Insert the bolts into the machine bed slots at the mounting location.
3. Place the shield on the bolts. This may require more than one person.
  - Adjust the mounts to fit the bolts by loosening the button-head cap screws on the L-brackets. Slide the L-bracket mounts into position and tighten the button-head cap screws.
4. Permanently attach danger signs KSC-046 and KSC-048 to the machine where they are readily visible to all personnel that work on or around the machine.



**Figure 3.2**  
Part No. SSA-200 or SSA-300  
Front Shield With Two Slide and Swing-Aside Front Doors

### ELECTRICAL INTERLOCK ASSEMBLY —PART NO. FKT-876

Additional operator safety can be provided by installation of this magnetic safety switch and bracket assembly.



**Photo 3.1**  
Electrical Interlock Assembly  
Mounted on SSA-200 Front Shield

*(Continued on next page.)*

## SECTION 3—SLIDE AND SWING-ASIDE

### Milling Machine Shield Installation Instructions

## Rear Shield Assemblies

These shield assemblies can be used to protect personnel from swarf and chips at the rear of the table on both sides of the machine column. The two  $\frac{3}{16}$ " thick polycarbonate panels are mounted to the frame (column) of the machine with extended mounts. See Photo 3.2. Each panel has extruded-aluminum framing to hold the polycarbonate in place.

### INSTALLATION

1. Unpack the shield and mounting assembly.
  - Open all component packages.
  - Make sure all panels and mounting hardware are included according to the drawing included with your shipment.
2. Select the mounting location on the left and right sides of the machine. Measure or spot holes on the machine.
  - Make sure the holes do not interfere with any obstructions, gears, shafts, etc.
3. Drill and tap two (2) holes on each side of the machine for the type of mount furnished.
4. Install the shield on the machine using the mounts furnished. This may require more than one person.

### REAR SHIELD ORDERING INFORMATION

Part Number	Description
SSA-420	24"x 24" Rear Shield with Mounts (Set)
SSA-430	24"x 36" Rear Shield with Mounts (Set)



**Photo 3.2**  
**Part No. SSA-420**  
**Rear Shield Assembly**

## SECTION 4—OTHER CONSIDERATIONS

### Using the Shields

These shields are intended to deflect objects such as chips and coolant. For protection, position the shield between the point of operation and the operator. Make sure the shield will not be hit by normal movements of the table, rotating handles, etc. During loading or setup of workpieces, the shield can be swung aside.

*Note: Always make sure the shield is installed and maintained in first-class condition to meet the applicable OSHA (Occupational Safety and Health Administration) or ANSI (American National Standards Institute) standards.*

### Maintenance of the Polycarbonate

These shields are made of polycarbonate which was selected for its strength and durability under impact. Although it will scratch if mistreated, it can be kept clear with the following appropriate care.

1. Remove coolant, chips, or debris periodically.
2. Using a clean sponge or soft clean cloth, wash with mild soap or detergent and lukewarm water.
3. Rinse well with clean water.
4. Hairline scratches or minor abrasions can be removed or minimized using a mild car polish such as paste wax. A wax coating also makes cleaning easier.

Do Not rub or wipe with dirty shop towels or scrape with a blade.

Do Not use gasoline, benzene, acetone, or carbon tetrachloride on the shield.

Do Not use cleaners or powders that contain abrasives, or "dry rub" abrasive dust to remove coolant, lubricant, and chips.

When many shields are used in a plant, spare shields can be kept on hand and exchanged periodically. The shields can be removed from the machines, carefully washed, and exchanged at a later date.



**When operating any cutting machine (milling machine), the operator must be properly trained and must wear proper personal protective equipment such as safety glasses with side shields, safety clothing, and safety shoes. The operator must not wear loose clothing, must not have unrestrained long hair, and must not wear jewelry.**