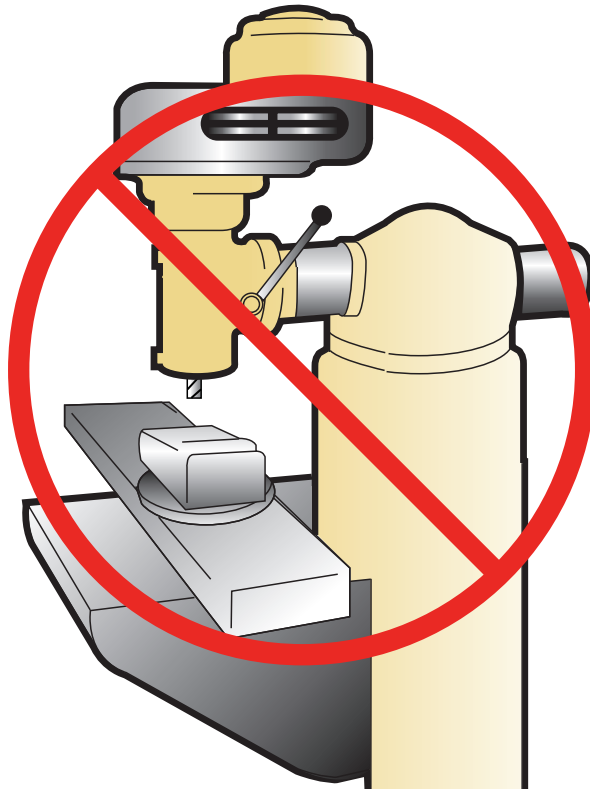
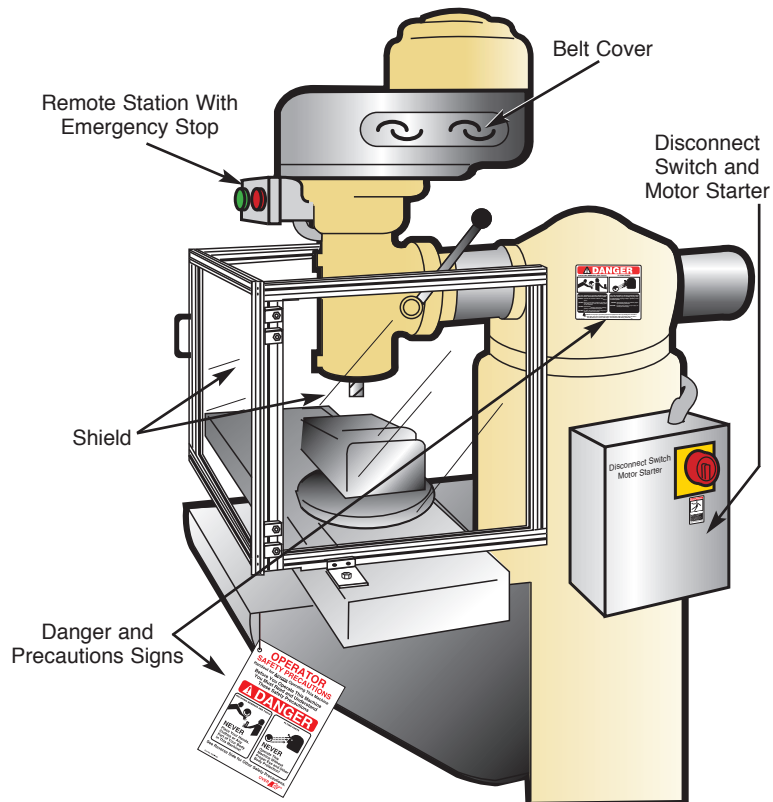


## UNGUARDED MILLING MACHINE

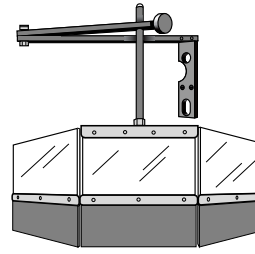


## SAFEGUARDED MILLING MACHINE

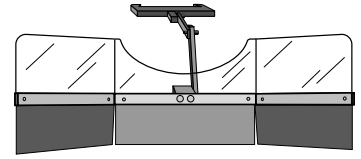




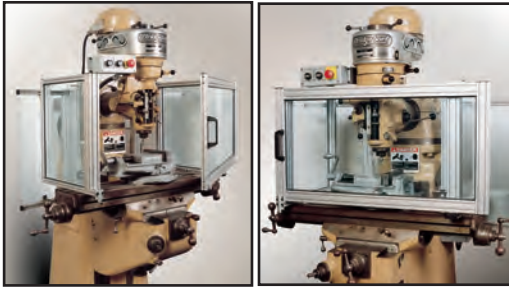
**Electrically Interlocked Heavy-Duty Milling Machine Shields (Pages 14-15)**



**Bridgeport Milling Machine Shields—Front (Page 34)**



**Bridgeport Milling Machine Shields—Rear (Page 35)**



**Slide and Swing-Aside Shields (Pages 36-37)**



**Rigid-Arm Magnetic-Base Shields (Page 47)**



**Flexible Copolymer Lock-Arm Shields (Pages 51-54)**



**Flexible Spring-Steel Arm Shields (Pages 55-58)**



**Universal Ball & Socket Shields (Pages 48-50)**



**On/Off Magnetic-Base Shields (Pages 59-60)**



**Adjustable Slide Shields (Page 46)**



**Milling Machine Belt Cover (Page 38)**



**Electrical Interlock Assembly (Page 38)**



**Bridgeport Milling Machine Controls (Page 35)**



**Sensing Saf-Start® (Page 65)**



**Disconnect Switches, Motor Starters, & Accessories (Pages 63-69)**

## CHIP SHIELDS FOR BRIDGEPORT MILLING MACHINES

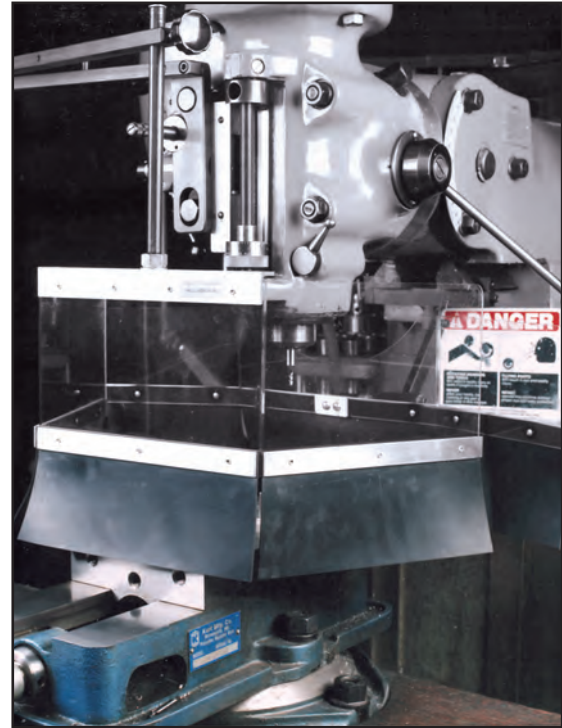
These specially designed, quality-constructed shields are ideal for Bridgeport milling machines. They place a barrier between flying chips (swarf), sparks, coolant from the machine, and the operators or other employees in the area. They can be easily moved in or out of position to provide quick tool and part changes.

These shields are quick and easy to install. They attach directly to existing head machine bolts so no additional drilling or tapping is required.

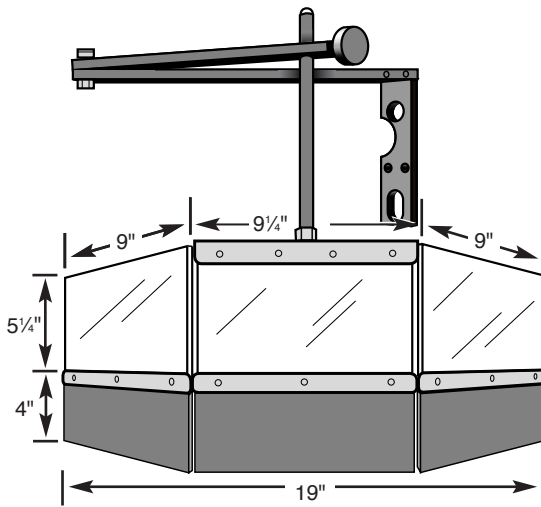
These shields are constructed of high-impact-resistant polycarbonate material. Attached at the bottom of each section of the shield is durable, flexible neoprene material to keep flying chips and swarf contained as the bed moves up and down.

### Front Shields

The front shield is mounted on a heavy-duty universal steel arm which is used to swing it back into the exact position it was before tool or workpiece changes. The arm is 29" long and has an adjusting knob for raising and lowering the shield. The shield itself can also be used to hold a print.

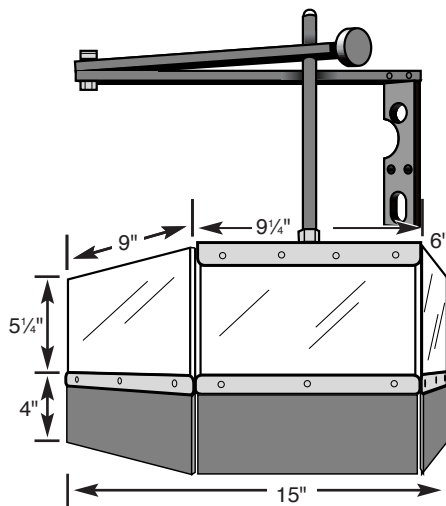


KYL-019 front chip shield.



### Ordering Information

Part No.	Description
KYL-019	9 1/4" H x 19" W <b>Front</b> Shield With Two 45° Bends
KYL-065	9 1/4" x 19" <b>Front</b> Replacement Shield Only



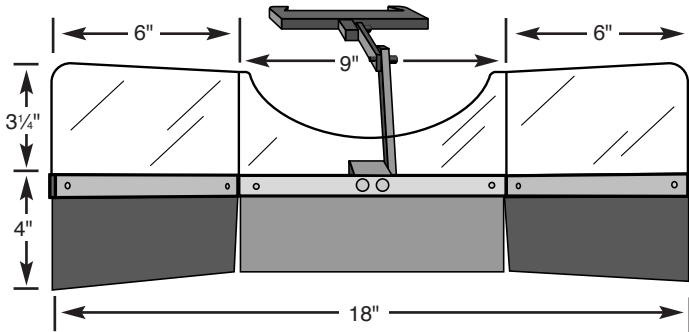
### Ordering Information

Part No.	Description
KYL-059	9 1/4" H x 15" W <b>Front</b> Shield With One 45° Bend and One 90° Bend

## CHIP SHIELDS FOR BRIDGEPORT MILLING MACHINES (continued)

### Rear Shield

A rear shield is also available to protect the back area of the milling machine. This shield is easy to install and mounts directly onto the machine frame with a setscrew to hold it in place.



Rear shield only (front shield not shown).

### Ordering Information

Part No.	Description
KYL-020	7 1/4" H x 18" W Rear Shield With Two 45° Bends
KYL-194	7 1/4" H x 18" W Rear Replacement Shield Only

## BRIDGEPORT VERTICAL MILLING MACHINE CONTROLS

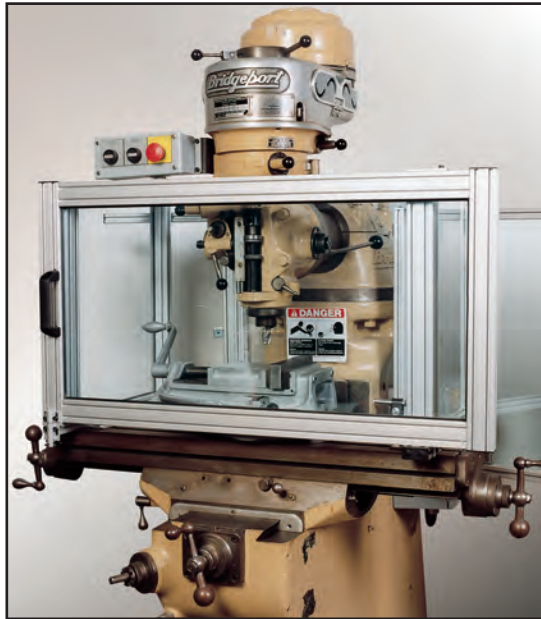
This control is designed for Bridgeport vertical milling machines that have a table motor. Each milling machine control is housed in a NEMA 12 enclosure that includes a disconnect switch, reversing magnetic main drive motor starter, a control relay for the table motor, and a 100 VA transformer that is generically numbered and wired to terminals. A remote station provides the operator controls consisting of a self-latching red emergency-stop palm button, an illuminated green table motor reset push button, and a main motor reverse/off/forward selector switch. These Bridgeport vertical milling machine controls are available for machines with 230 or 460 V AC and 1 to 3 HP.



### Ordering Information

Part No.	Description
BVM-230-1	For 1 HP, 230-V AC Machines
BVM-230-15	For 1.5 HP, 230-V AC Machines
BVM-230-2	For 2 HP, 230-V AC Machines
BVM-230-3	For 3 HP, 230-V AC Machines
BVM-460-1	For 1 HP, 460-V AC Machines
BVM-460-15	For 1.5 HP, 460-V AC Machines
BVM-460-2	For 2 HP, 460-V AC Machines
BVM-460-3	For 3 HP, 460-V AC Machines

## SLIDE AND SWING-ASIDE SHIELDS



Part No. SSA-000 with door closed.



Part No. SSA-000 with door open.

### Introduction

These shields protect operators when machining either small workpieces or large castings that sometimes overhang the milling machine table. At the same time, they can provide immediate and complete access to the workpiece or casting being machined by sliding or swinging aside the door(s), as illustrated.

### The Shield

The transparent portion of the shield is constructed of impact-resistant polycarbonate. The frame of the shield is made of 1" x 2" extruded aluminum. The shield has front sliding panel(s) and two side fixed panels. The side panels are attached at both ends of the table.

These assemblies can be mounted or removed in a matter of minutes by using two locking T-bolts with nuts.

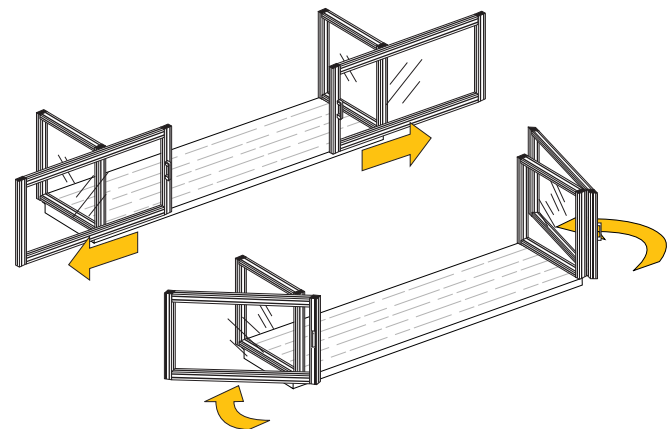
Each of the front panels can slide to the right or left and swing aside on their own axis out of the way (see drawings).

The advantage of the slide and swing-aside movement is that you can obtain immediate access to the whole length of the table for loading and unloading large workpieces. Although the panels slide aside, they will not take up any more room than the actual length of the table itself, because the sliding and swing-aside action takes place in one movement by simply lifting a latch.

### The Shield Construction

The parallel sliding bars enable the shield to be adjusted to the distance required from the front of the table to the shield. The adjustment on these bars caters to castings or large components which overhang the table. This adjustment is achieved by loosening the two socket cap screws at either end of the table. This permits the complete shield assembly to be moved backwards or forwards to the position required.

A safety latch is provided where the two front panels or the front and side panels come together which holds the panels in place. The latch has to be released manually prior to opening the panels.



The unique construction allows the front panels to slide and swing aside exposing the entire table.

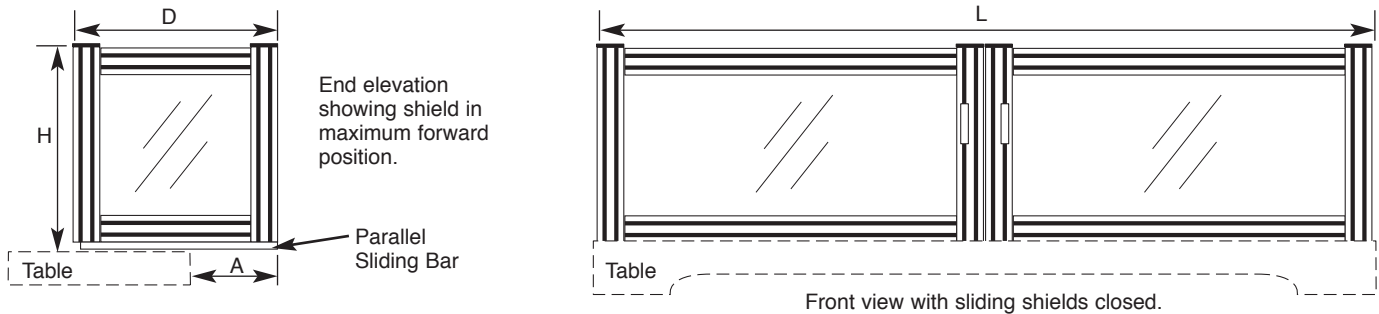
(Continued on next page.)

## SLIDE AND SWING-ASIDE SHIELDS (continued)

There are three sizes of shields available which cover table sizes up to a maximum length of 76". On bed-type milling machines, where the table length is well in excess of 76", it is still possible to use the SSA-300 shield. In many instances, only part of the maximum length of the table is used. If this is the case, the SSA-300 shield would be suitable as long as the longitudinal traverse used does not exceed the maximum length of the shield. For a table length of less than 36", the SSA-000 shield may be used.

These shields have been generously designed to give protection to the operator; this will be noted in dimension H, which gives the height of the shields. Special height panels are available upon request.

The standard shield does not provide protection on the back of the table. The rear shields (below) are used to minimize coolant splash and flying chips that may fly out of the back of the machine.



### Ordering Information

Part Number	L-Length of Table Work Surface	H Height	D Depth	A Maximum Adjustment
SSA-000*	24"-36"	20"	20"	13"
SSA-200**	36"-56"	20"	20"	13"
SSA-300**	56"-76"	20"	20"	13"

\*Has one sliding and swing front door.

\*\*Has two sliding and swing front panels.

## 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. They can be used on milling machines or other equipment that require these types of shields. The two 1/4"-thick polycarbonate panels are mounted to the frame of the machine with mounts (see photo). Each panel has extruded aluminum framing to hold the polycarbonate in place. The mounts are also attached to this frame. The assembly is available in two sizes and includes two shields, one set of mounts, and connectors. Special sizes are available upon request.

### Ordering Information

Part No.	Description
SSA-420	24" x 24" Rear Shields With Mounts (Set)
SSA-430	24" x 36" Rear Shields With Mounts (Set)



Rear shield assembly on left side of machine column.

## MILLING MACHINE BELT COVER

OSHA requires under 29 CFR 1910.219 that all mechanical power-transmission apparatuses on machinery that create a hazard be covered if below a 7-foot level from the floor or working platform. The sheaves and belts on 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 for the right and left sides and are

permanently attached to the machine. Spindle speed changes are done quickly and efficiently by simply pulling down the belt cover.

This belt cover is made for Bridgeport model J.

### Ordering Information

Part No.	Description (Sold in Pairs)
KYL-021J	Model J Belt Cover With Hinges



Cover closed.



Cover open on model J Bridgeport milling machine.

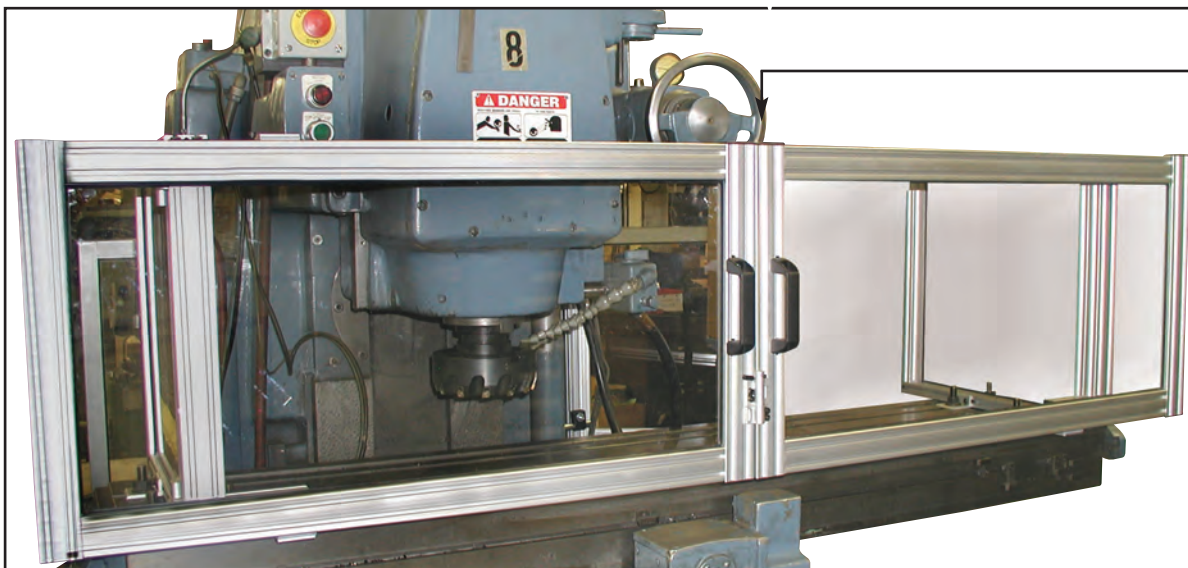
## ELECTRICAL INTERLOCK ASSEMBLY

**Part No. FKT-876** Magnetic Safety Switch and Bracket Assembly

Additional operator safety can be provided by the installation of this magnetic safety switch and bracket assembly. See *Catalog SS* for further details and ordering information on other interlocking switches.

### INTERLOCK SWITCH SPECIFICATIONS

Contacts.....1 NO  
 Rated Current .....2 A, fuse externally 1.6 A quick acting  
 Rated Voltage .....250 V AC  
 Cable .....13 ft of prewired 2-conductor flexible cable  
 Operating Temperature .....14° to 149° F (-10° to 65° C)



(Mounted on inside of front panels.)