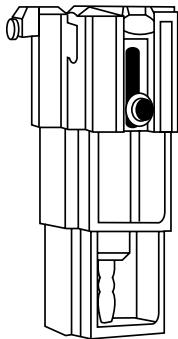
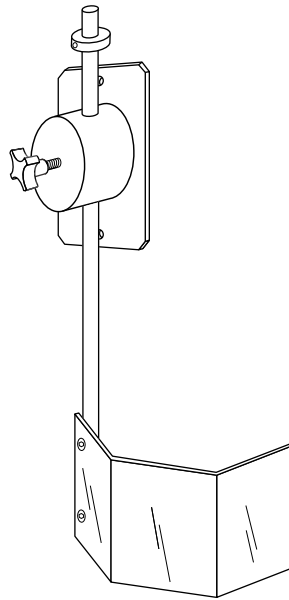




INSTALLATION INSTRUCTIONS FOR DRILL SHIELDS

Safety Chip Shields (Page 2)

- KYL001
- KYL055



Aluminum Drill Shields (Pages 6-7)

- DZS001
- DZS003
- DZS004
- DZS005
- DZS006

These shields are designed for machines that require protection from chips and coolant generated at the point of operation.

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SECTION 1 — IN GENERAL

Protector Series Shields

“**⚠ DANGER**” Danger is used to indicate the presence of a hazard which WILL cause SEVERE personal injury if the warning is ignored.



THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL  BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY, AND CAREFULLY READ THE MESSAGE THAT FOLLOWS.

Efficient and safe machine operation depends on the development, implementation and enforcement of a safety program. This program requires, among other things, the proper selection of point-of-operation guards and safety devices for each particular job or operation, a thorough safety training program for all machine personnel, that includes instruction on the proper operation of the machine, the point-of-operation guards and safety devices on the machine, and a regularly scheduled inspection and maintenance program.

Rules and procedures covering each aspect of your safety program should be developed and published both in an operator's safety manual, as well as in prominent places throughout the plant and on each machine. Some rules or instructions which must be conveyed to your personnel and incorporated into your program include:

⚠ DANGER Never place your hands or any part of your body in this machine.

⚠ DANGER Never operate this machine without proper eye, face and body protection.



Never operate this machine unless you are fully trained, instructed, and have read the instruction manual.



Never operate this machine if it is not working properly—stop operating and advise your supervisor immediately.



Never tamper with, rewire or bypass any control or component on this machine.

A company's safety program must involve everyone in the company, from top management to operators, since only as a group can any operational problems be identified and resolved. It is everyone's responsibility to implement and communicate the information and material contained in catalogs and instruction manuals to all persons involved in machine operation. If a language barrier or insufficient education would prevent a person from



For maintenance and inspection always refer to the OEM's (Original Equipment Manufacturer's) maintenance manual or owner's manual. If you do not have an owner's manual, please contact the original equipment manufacturer.

SECTION 1 — IN GENERAL

Protector Series Shields

Safety References

OSHA'S ACT AND FEDERAL REGULATIONS

Since the enclosed equipment can never overcome a mechanical deficiency, defect or malfunction in the machine itself, OSHA (Occupational Safety and Health Administration) has established certain safety regulations that the employers (users) must comply with so that the machines used in their plants, factories or facilities are thoroughly inspected and are in first-class operating condition before any of the enclosed equipment is installed.

1. An Act – Public Law 91 - 596, 91st Congress, S. 2193, December 29, 1970

Duties:

Sec. 5. (a) Each employer —

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

2. OSHA's Code of Federal Regulations, Subpart O, that an employer (user) must comply with include:

Section 1910.211 Definitions

Section 1910.212 (a) General Requirements for all Machines

Section 1910.217 Mechanical Power Presses

Section 1910.219 (b)(1) Mechanical Power-Transmission Apparatus (Flywheel and Gear Covers)

3. OSHA's 29 Code of Federal Regulations, Subpart J 1910.147 The Control of Hazardous Energy (Lockout / Tagout)

4. OSHA's Publications

a. "General Industry Safety and Health Regulations Part 1910," Code of Federal Regulations, Subpart O

b. "Concepts and Techniques of Machine Safeguarding," OSHA 3067, Revised 1992

These publications can be acquired by contacting:

US Department of Labor

Occupational Safety and Health Administration

Washington, DC 20210

ANSI SAFETY STANDARDS FOR MACHINES

The most complete safety standards for machine tools are published in the ANSI (American National Standards Institute) B11 series.

Applicable Standard

B11.8 Manual Milling, Drilling, and Boring Machines

B11.19 Performance Requirements For Risk Reduction Measures: Safeguarding And Other Means Of Reducing Risk

NFPA 79 Electrical Standard for Industrial Machinery

These standards can be purchased by contacting:

American National Standards Institute, Inc.

11 West 42nd Street

New York, New York 10036

(212) 642-4900

OR

AMT-The Association of Manufacturing Technology

7901 Westpark Drive

McLean, Virginia 22102-4269

(703) 827-5211

NATIONAL SAFETY COUNCIL SAFETY MANUALS & DATA SHEETS

Other good references for safety on machine tools are the National Safety Council's Safety Manuals and Data Sheets. These manuals and data sheets are written by various committees including the Power Press, Forging and Fabricating Executive Committee. The following publications are available for all types of machines:

APPLICABLE MANUAL

Power Press Safety Manual - 4th Edition

Safeguarding Concept Illustrations - 6th Edition

Forging Safety Manual

DATA SHEETS

Bench and Pedestal Grinding Wheel Operations 12304-0705

Boring Mills, Horizontal Metal 12304-0269

Boring Mills, Vertical 12304-0347

Coated Abrasives 12304-0452

Cold Shearing Billets and Bars in the Forging Industry 12304-0739

Degreasing (Liquid), Small Metal Parts 12304-0537

Dies, Setup and Removal of Forging Hammer 12304-0716

Drill Presses, Metalworking 12304-0335

Drills, Portable Reamer 12304-0497

Drop Hammers, Steam 12304-0720

Electrical Controls for Mechanical Power Presses 12304-0624

..... Safeguarding, Concepts of 12304-0710
Power Press Point-of-Operation Safeguarding:
.....Two-Hand Control and Two-Hand Tripping
..... Devices 12304-0714
Power Press Point-of-Operation Safeguarding:
.....Type A and B Movable Barrier Devices 12304-0712
Power Press Point-of-Operation Safeguarding:
.....Point-of-Operation Guards 12304-0715
Power Press Point-of-Operation Safeguarding:
.....Presence Sensing Devices 12304-0711
Power Press Point-of-Operation Safeguarding:
..... Pullbacks and Restraint Devices 12304-0713
Power Presses (Mechanical), Inspection and Maintenance of .
12304-0603
Power Presses (Mechanical), Removing Pieceparts from Dies in
.....12304-0534
Power Press, Setting Up and Removing Dies 12304-0211
Press Brakes 12304-0419
Robots 12304-0717
Saws, Metal (Cold Working) 12304-0584
Shapers, Metal 12304-0216
Shears, Alligator 12304-0213
Shears, Squaring, Metal 12304-0328
Upsetters, 12304-0721

These manuals and data sheets can be purchased by contacting:

National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
(708) 295-1121

For additional safety information and assistance in devising,

Warranty

9. Limited Warranties.

9.1. (i) Subject to Section 8.1(ii) below, Rockford Systems makes to Customer the following sole and exclusive warranties with respect to Goods:

(a) with respect to Goods that are manufactured based on Customer specifications, at the time of shipment by Rockford Systems, the Goods sold under the Agreement that are manufactured by Rockford Systems pursuant to such specifications conform to such specifications set forth in the applicable Order Documentation; and

(b) at the time of shipment by Rockford Systems, the Goods sold under the Agreement that are manufactured by Rockford Systems are free from defects in material and workmanship.

(c) Rockford Systems's warranty is for a period of 1 year, and begins from date of shipment from Rockford Systems to the original purchaser.

This warranty does not include accessories, parts or equipment sold hereunder that are manufactured by someone other than Rockford Systems.

(ii) Every claim by Customer against Rockford Systems for breach of warranty with respect to the Goods shall be deemed waived by Customer unless written notice thereof is received by Rockford Systems within fifteen (15) days after discovery.

9.2. If Rockford Systems breaches either of the warranties set forth in Section 8.1(i) above, and written notice thereof is received by Rockford Systems from Customer within the applicable time period specified in Section 8.1(ii) above, Customer's sole and exclusive remedy and Rockford Systems's only obligation shall be, as Rockford Systems in its sole and exclusive judgment shall determine, the replacement of the nonconforming Goods, or an adjustment to the purchase price for the nonconforming Goods or the repair of the nonconforming Goods. All transportation charges related to replacement or repair of Goods shipped to Rockford Systems's plant or facility (or other place at Rockford Systems's direction) shall be prepaid by Customer. Rockford Systems shall be responsible for reasonable transportation charges back to Customer for Goods that have been replaced or repaired by Rockford Systems. Any replacement Goods or repaired Goods shall be subject to these Terms and Conditions.

9.3. THE EXPRESS WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES APPLICABLE TO THE SALE OF GOODS BY ROCKFORD SYSTEMS TO CUSTOMER PURSUANT TO THE AGREEMENT, AND THEY EXCLUDE ALL OTHER EXPRESS, ORAL OR WRITTEN WARRANTIES, AS WELL AS ANY WARRANTIES IMPLIED BY LAW WITH RESPECT TO THE GOODS, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PURPOSE, NOTWITHSTANDING ANY DISCLOSURE TO ROCKFORD SYSTEMS OF THE INTENDED USE OF THE GOODS.

9.4. Rockford Systems's warranties under Section 8.1(i) are void if repairs or modifications of the Goods are made by anyone other than Rockford Systems. Without limitation of the foregoing, Rockford Systems assumes no responsibility for and shall have no obligations to Customer because defects in any materials furnished by, or any faulty workmanship provided by, any party other than Rockford Systems.

9.5. Rockford Systems reserves the right to improve its products through changes in design or material without being obligated to incorporate such changes into products of prior manufacture. Customer cannot rely on any such changes as proof of insufficiency or inadequacy of prior designs of the Goods or material contained in the Goods.

9.6. If Customer grants to an end user of the Goods (or any other customer of Customer) any warranty that is greater in scope or time than the warranty and claims period stated herein, Rockford Systems shall not be liable beyond the scope of the limited warranty, the claim period, the damages and the remedies provided for under this Section.

9.7. Solely to the extent transferable, Rockford Systems assigns and transfers to Customer the original manufacturer's warranty on Goods sold hereunder that are not manufactured by Rockford Systems.

SECTION 1—SAFETY CHIP SHIELDS

Shield Installation Instructions

Introduction

These safety chip shields provide protection from flying chips, coolant, and rotating parts. They fit drill presses, small mills, and can be magnetically or permanently mounted.

The clear polycarbonate chip shield provides total visibility to the point of operation. It locks in any vertical position and provides easy access to the work area by swinging away for tool changes.

Installation

1. Remove all packing material from the shield and its mounting assembly.
2. To permanently mount the shield, drill and tap holes on the machine where the shield is to be located. Be careful when drilling holes into the frame of the machine. Avoid internal components that could affect machine operation.
3. Using the mounting plate and fasteners (not furnished), attach the shield to the machine.

REPLACEMENT PARTS FOR KYL001

Part No.	Description
KYM001	Polycarbonate Shield Only
KYM002	Mounting Arm
KYM003	Magnetic Base and Carrier
FKT213	Mounting Plate

Figure 1.1
Complete Shield
KYL001

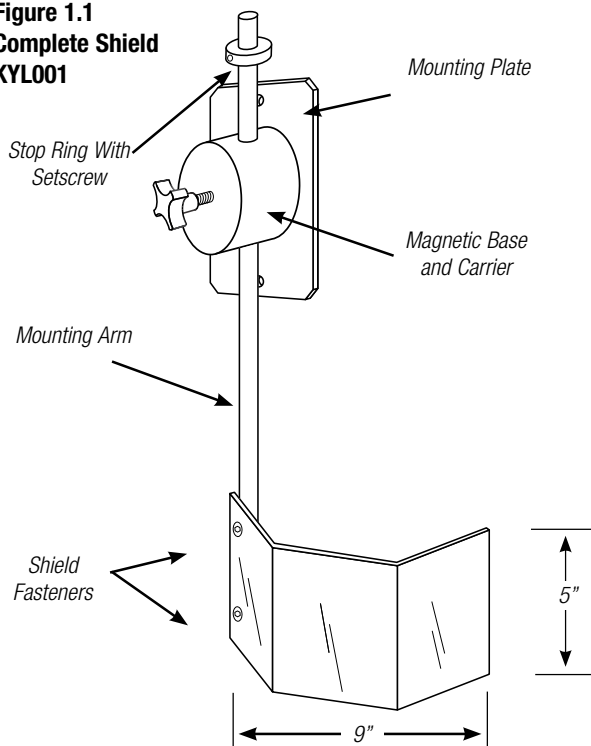


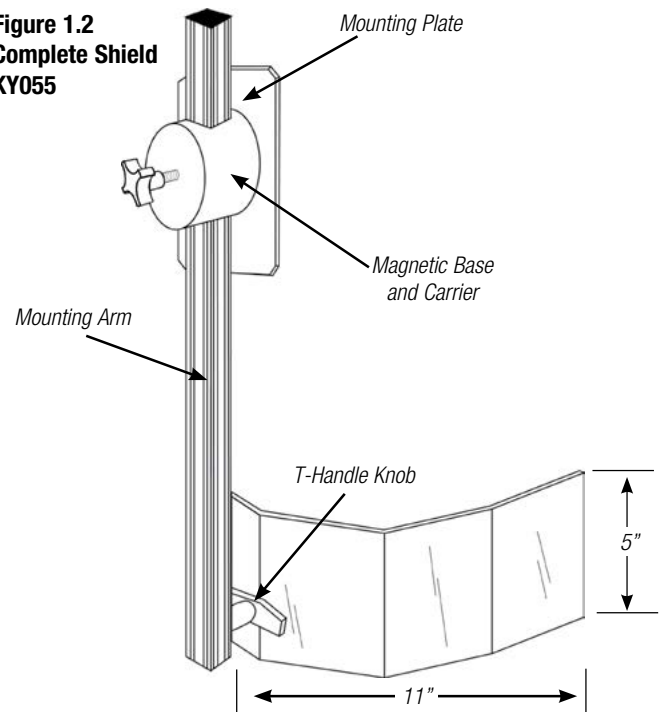
Photo 1.1



REPLACEMENT PARTS FOR KYL055

Part No.	Description
KYL044	Polycarbonate Shield Only
FKT792	Mounting Arm
KYM069	Magnetic Base and Carrier
FKT083	T-Handle Knob
FKT213	Mounting Plate

Figure 1.2
Complete Shield
KY055



SECTION 3—HEAVY-DUTY ALUMINUM DRILL SHIELDS

Shield Installation Instructions

Introduction

These cast aluminum drill shields are furnished with a standard 1 3/4" bore. The holder can be bored up to a maximum diameter of 3 1/2" by the user.

The shield is available in 2-tier or 3-tier models and provides protection from 3" to 6" travel of the drill bit. The bottom section(s) of the shield has a clear panel for visibility.

The holder attaches to the machine quill of the drill press. For changing chucks or drill bits, the 2- or 3-tier section can be swung forward and upward out of the way (Photo 3.2). Shields are also available which have a side hinge that swings to the left side.

Photo 3.1

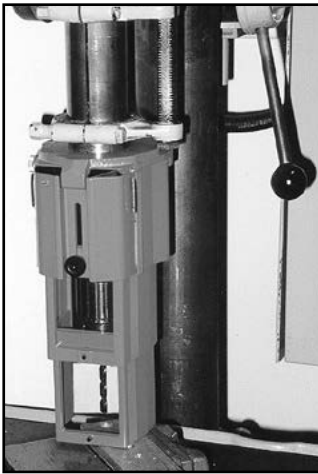


Photo 3.2



Installation

1. If the machine quill (nonrotating collar) is larger than 1 3/4" diameter, bore the holder up to the required diameter (3 1/2" maximum). See Figure 3.1. On some drilling machines it may be necessary to raise the stop-gauge casting to expose this quill.
2. When the holder is at the desired size, split the rear of the holder with two saw cuts 3/16" apart. The cuts must extend into the precast slot to ensure sufficient clearance for clamping action when tightening the hex bolt. See Figure 3.1.

Figure 3.1
Top View of Holder

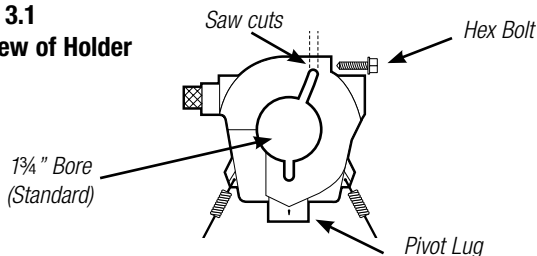
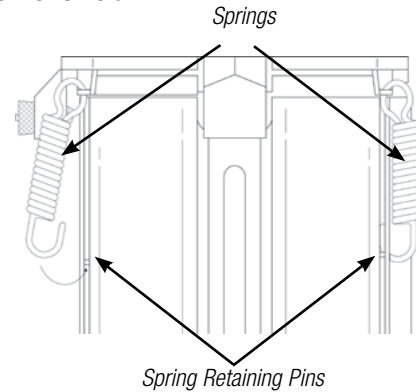


Figure 3.2
Front View of Shield



3. Insert the pivot lug (on holder) into the channel of the body section.
4. Using a hammer, tap the pivot pin into the pivot hole in the body section through the pivot lug.
5. Peen the end of the pivot pin to prevent it from coming out.
6. Using pliers, extend the springs and hook them behind the retaining pins which are positioned midway down the body section. See Figure 3.2.
7. Insert the hex bolt into the rear of the top holder. Attach the top holder to the machine quill. Tighten the bolt to clamp onto the quill.
8. Use the adjusting knob to shorten the stroke of the shield.

Replacing the Polycarbonate Window

The polycarbonate window(s) on the drill shield is replaceable because it will become scratched and opaque from normal wear and tear. For comfortable operator vision, the window should be replaced whenever it becomes cloudy.

1. Tap out the window retaining pin.
2. Slide the used polycarbonate window out and insert the new window.
3. Replace the retaining pin.

REPLACEMENT WINDOW

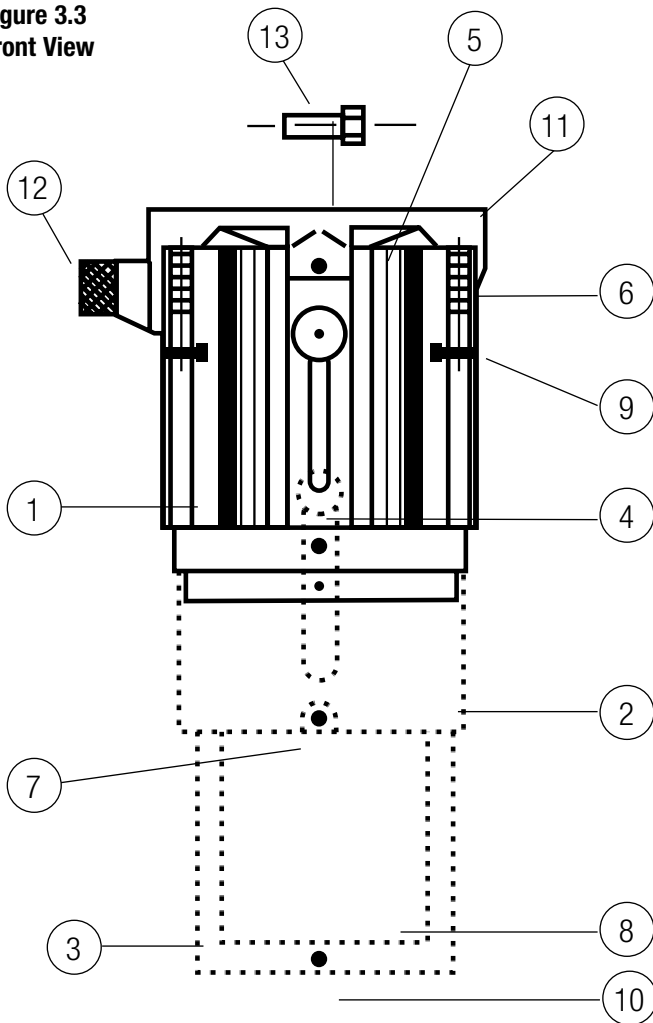
Part No. DZS002 Replacement polycarbonate window for all aluminum drill shields. (The 3-tier drill shield has two windows.)

SECTION 3—HEAVY-DUTY ALUMINUM DRILL SHIELDS

Shield Installation Instructions

DIAGRAM AND PARTS LIST

Figure 3.3
Front View



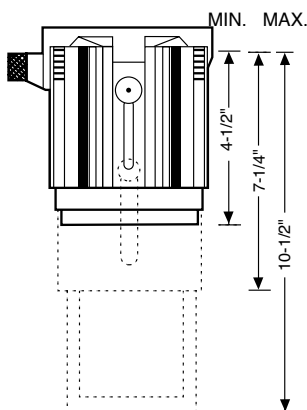
TOP ASSEMBLY KIT

Item No.	Description
5	Hardened Pivot Pin
6	Extension Springs (2)
11	Top Carrier
12	Plunger Pin Assembly
13	1/4" BSW Hex Bolt

TELESCOPIC SHIELD ASSEMBLY

Item No.	Description
1	Body Section
2	Middle Section
3	Visor Section
4	Adjusting Knob Assembly
7	Hardened Stop Pin
8	Polycarbonate Window
9	Spring Retaining Pins (2)
10	Window Retaining Pin (1)

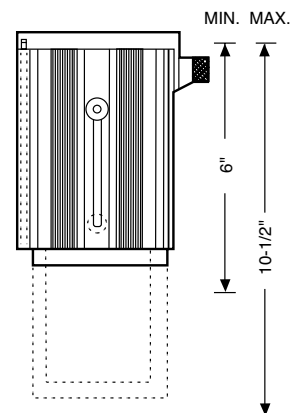
Figure 3.4
Part No. DZS001 Dimensions



DRILL SHIELDS

Part No.	Description
DZS001	3-Tier Front Hinge 4 1/2" Min; 10 1/2" Max; 6" Stroke; Max Chuck Dia. 2 1/2"
DZS003	2-Tier Front Hinge 4 3/16" Min; 7" Max; 2 1/16" Stroke; Max Chuck Dia. 2 3/4"
DZS004	2-Tier Front Hinge 6" Min; 10 1/2" Max; 4 1/2" Stroke; Max Chuck Dia. 2 3/4"
DZS005	2-Tier Side Hinge 6" Min; 10 1/2" Max; 4 1/2" Stroke; Max Chuck Dia. 2 3/4"
DZS006	3-Tier Side Hinge 4 1/2" Min; 10 1/2" Max; 6" Stroke; Max Chuck Dia. 2 1/2"

Figure 3.5
Part No. DZS005 Dimensions



SECTION 4—OTHER CONSIDERATIONS

Shield Installation Instructions

Using the Shields

These shields is 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, pieceparts, etc. During loading or setup of workpieces, the shield can be swung out of the way.

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

The transparent portions of 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.

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.

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

Do Not use gasoline, benzine, 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 operating any cutting machine (drill press), 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.

SECTION 4—OTHER CONSIDERATIONS

Shield Installation Instructions

Warranty

9. Limited Warranties.

9.1. (i) Subject to Section 8.1(ii) below, Rockford Systems makes to Customer the following sole and exclusive warranties with respect to Goods:

(a) with respect to Goods that are manufactured based on Customer specifications, at the time of shipment by Rockford Systems, the Goods sold under the Agreement that are manufactured by Rockford Systems pursuant to such specifications conform to such specifications set forth in the applicable Order Documentation; and

(b) at the time of shipment by Rockford Systems, the Goods sold under the Agreement that are manufactured by Rockford Systems are free from defects in material and workmanship.

(c) Rockford Systems's warranty is for a period of 1 year, and begins from date of shipment from Rockford Systems to the original purchaser.

This warranty does not include accessories, parts or equipment sold hereunder that are manufactured by someone other than Rockford Systems.

(ii) Every claim by Customer against Rockford Systems for breach of warranty with respect to the Goods shall be deemed waived by Customer unless written notice thereof is received by Rockford Systems within fifteen (15) days after discovery.

9.2. If Rockford Systems breaches either of the warranties set forth in Section 8.1(i) above, and written notice thereof is received by Rockford Systems from Customer within the applicable time period specified in Section 8.1(ii) above, Customer's sole and exclusive remedy and Rockford Systems's only obligation shall be, as Rockford Systems in its sole and exclusive judgment shall determine, the replacement of the nonconforming Goods, or an adjustment to the purchase price for the nonconforming Goods or the repair of the nonconforming Goods. All transportation charges related to replacement or repair of Goods shipped to Rockford Systems's plant or facility (or other place at Rockford Systems's direction) shall be prepaid by Customer. Rockford Systems shall be responsible for reasonable transportation charges back to Customer for Goods that have been replaced or repaired by Rockford Systems. Any replacement Goods or repaired Goods shall be subject to these Terms and Conditions.

9.3. THE EXPRESS WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES APPLICABLE TO THE SALE OF GOODS BY ROCKFORD SYSTEMS TO CUSTOMER PURSUANT TO THE AGREEMENT, AND THEY EXCLUDE ALL OTHER EXPRESS, ORAL OR WRITTEN WARRANTIES, AS WELL AS ANY WARRANTIES IMPLIED BY LAW WITH RESPECT TO THE GOODS, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PURPOSE, NOTWITHSTANDING ANY DISCLOSURE TO ROCKFORD SYSTEMS OF THE INTENDED USE OF THE GOODS.

9.4. Rockford Systems's warranties under Section 8.1(i) are void if repairs or modifications of the Goods are made by anyone other than Rockford Systems. Without limitation of the foregoing, Rockford Systems assumes no responsibility for and shall have no obligations to Customer because defects in any materials furnished by, or any faulty workmanship provided by, any party other than Rockford Systems.

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