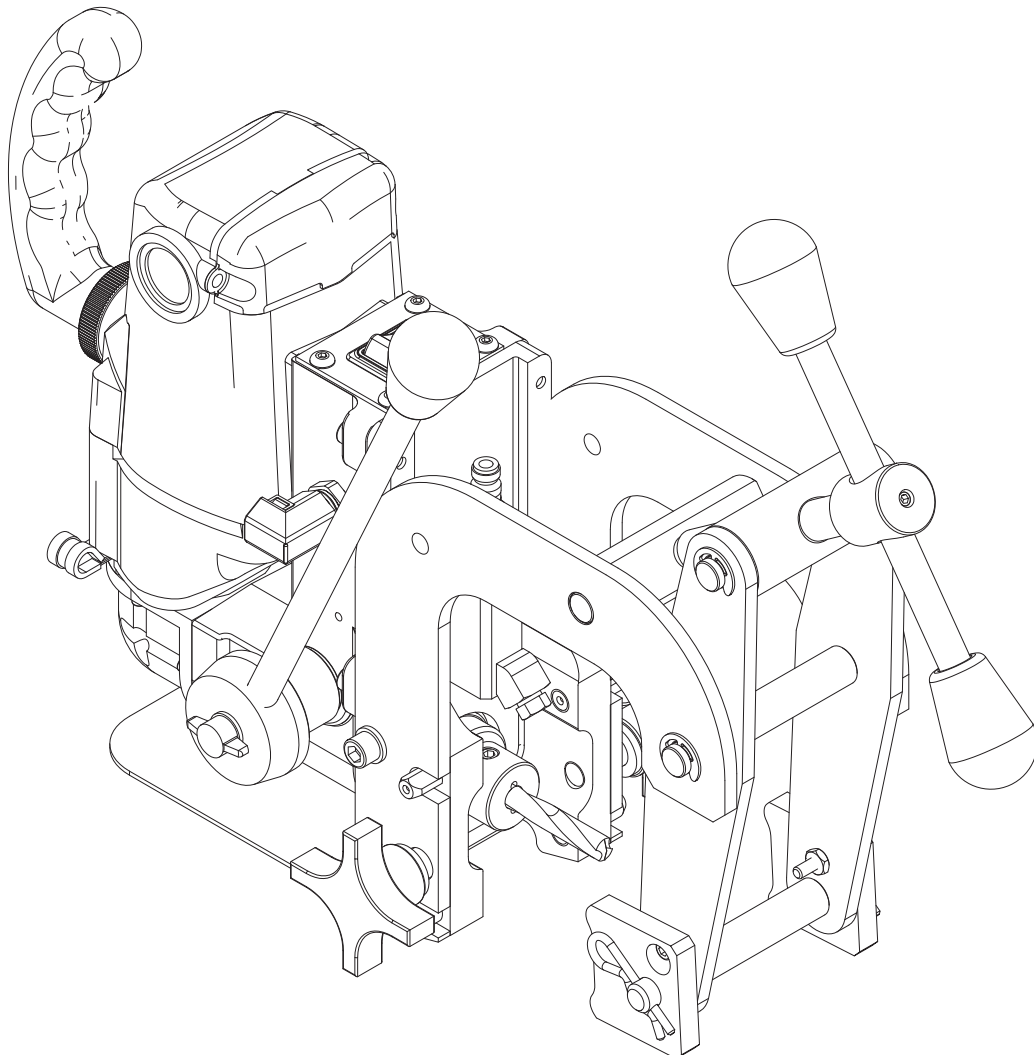




# BD17 ELECTRIC BONDING & TRANSDUCER DRILL

## OPERATOR'S MANUAL

COVERS PART NUMBERS 0017102, 0017202, 0017302 & 0017109



Serial #: \_\_\_\_\_ Date: \_\_\_\_\_

# Trak-Star®

## BD17 Electric Bonding Drill & BD17 Transducer Drill

### Welcome to Trak-Star®

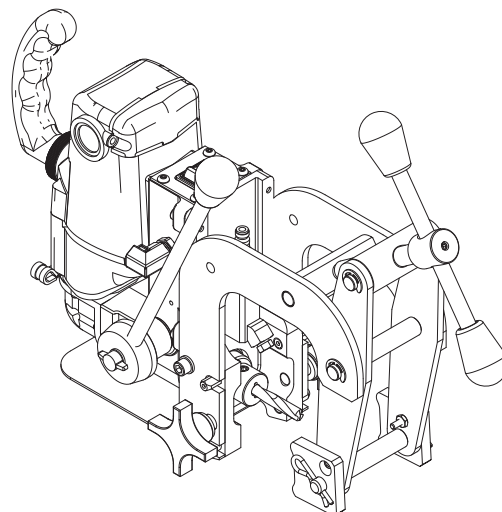
Congratulations on your purchase of the Trak-Star® Drill. Your model is designed to produce superior holes quickly and efficiently. Through constant innovation and development, Trak-Star® is committed to provide you with hole-producing tools and products that lead the industrial world.

Before attempting to operate your new Trak-Star® Drill, please read all instructions first. These include the Operators Manual and Warning Label on the unit itself. With proper use, care, and maintenance, your model will provide you with years of effective hole drilling performance. Once again, thank you for selecting our product and welcome to Trak-Star®.

**0017102** - BD17 120 volt, Electric Bonding Drill  
**0017202** - BD17 230 volt, Electric Bonding Drill, U.S. Plug  
**0017302** - BD17 230 volt, Electric Bonding Drill, Type I Plug  
**0017109** - BD17 120 volt, Transducer Drill

### Specifications

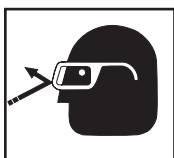
Cutter Type.....3/8" Flatted Shank Bonding Drill  
Hole Diameter Capacity  
    Bonding Drill.....9/32", 8mm, 3/8" & 13/32"  
    Transducer.....13/32"  
Depth of Cut.....3/4"/19mm  
Motor.....120V, 7.2A, 450 RPM  
                    230V, 3.6A, 450 RPM  
Electrical.....120V, 50/60 Hz, 8A, 960W  
                    230V, 50/60Hz, 4A, 920W  
Feed System.....Manual Quill Feed  
Net Weight  
    Bonding Drill.....26.5 lbs.  
    Transducer.....28.5 lbs.



### INDEX

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## SAFETY FIRST



Always wear eye protection while using cutting tools, or in the vicinity of cutting.



**CAUTION!** The slug is ejected at the end of the cut. Do not aim cutter or arbor so that ejected slug may hit someone around, or below you.



**CAUTION!** Cutters are sharp. Wear gloves when installing or removing cutter from arbor. Do not grab a rotating cutter.



**CAUTION!** To prevent electric shock, do not use power tools near wet areas, or where power tool may become wet.

# Important Safety Instructions



**WARNING:** Read and understand all instructions. Failure to follow all instructions listed below, may result in electrical shock, fire and/or serious personal injury.

## Work Area

**Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.

**Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.

**Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

## Electrical Safety

**Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the ground prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break-down, grounding provides a low resistance path to carry electricity away from the user.

**Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.

**Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

**Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.

**When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W";** These cords are rated for outdoor use and reduce the risk of electrical shock.

## Personal Safety

**Stay alert, watch what you are doing and use common sense when using a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.

**Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.

**Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

**Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

**Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.

**Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

**Always use safety chain.** Mounting can release.

## Tool Use and Care

**Use clamps or other practical way to secure and support the work piece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.

**Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.

**Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.

**Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.

**Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.

**Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.

**Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

**Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

## Service

**Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.

**When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

# IMPORTANT SAFETY INSTRUCTIONS

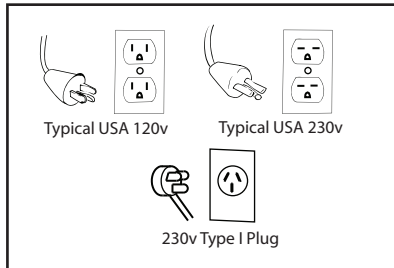


**WARNING:** Read and understand all instructions. Failure to follow all instructions listed below, may result in electrical shock, fire and/or serious personal injury.

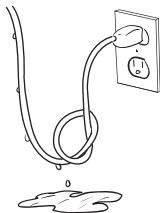
## Safe Electrical Connection

Your Bonding Drill is rated for use on 115VAC at 50-60Hz. Do not attempt to use drill on power sources rated other than this.

### Plugs and Receptacles



Wet electrical connections are shock hazards. To prevent the cutting fluid from traveling along the cord and contacting the plug or power outlet, tie a drip loop as shown. Also, elevate extension cords or gang box connections.



## Extension Cords

Use only 3-wire extension cords that have 3-prong grounding type plugs and 3-pole receptacles that accept the tool's plug. Replace or repair damaged cords. Make sure the conductor size is large enough to prevent excessive voltage drop which will cause loss of power and possible motor damage.

### Extension Cord Table

| LENGTH OF CORD, FEET | RECOMMENDED WIRE GAUGE     | RECOMMENDED WIRE GAUGE    |
|----------------------|----------------------------|---------------------------|
|                      | 115V MOTOR<br>10 - 12 AMPS | 230 V MOTOR<br>5 - 6 AMPS |
| UP TO 25             | 16                         | 18                        |
| 26 - 50              | 14                         | 18                        |
| 51 - 100             | 10                         | 16                        |
| 101 - 200            | 8                          | 14                        |
| 201 - 300            | 6                          | 12                        |
| 301 - 500            | 4                          | 10                        |

## Outdoor Use Extension Cords

When tool is used outdoors, use only extension cords intended for use outdoors and so marked.

## Additional Safety Precautions

Arbor and cutter should never be used as a handhold. Keep hands and clothing away from all moving parts. Also, adhere to all operating instructions. Do not drill through any surface that may contain live electrical wiring. Drilling into a live wire could cause exposed metal parts of the drill to be made live. Remove chips wrapped around cutter and arbor after each hole. With motor off and power disconnected, grasp chips with leather gloved hand or pliers and pull while rotating counterclockwise. Should the cutter become jammed in the work, stop the unit immediately to prevent personal injury. Disconnect the drill from the power supply and loosen jammed cutter by turning the arbor counterclockwise. Never attempt to free the jammed cutter by starting the motor. Service at authorized repair center only.

## Operating Near Welding Equipment

DO NOT operate this unit on the same work surface that welding is being performed on. Severe damage to the unit, particularly the power cord, could occur. This could also result in personal injury to the operator.

## Circuit Breaker (If Applicable)

Changing of the circuit breaker to a higher amp rated breaker, or bypassing the circuit breaker is not recommended and will void product warranty.

## Circuit Breaker Operation (If Applicable)

The circuit breaker is a thermal breaker. When it reaches the higher temperature rating it will trip and cause the unit to shut down. This is a protective device and can be reset after 5 to 10 minutes. To reset the breaker, press the breaker button back in. If it does not reset, let the unit cool a little longer until you can push the button in and it stays in position.

**Save these Instructions.**

# INSTALLING / REMOVING BONDING BIT ADAPTER

## Installing the Bonding Bit Adapter

Be sure engine is stopped and turned off. Turn off coolant at shut-off.

1. Position the Bonding Bit so the flat is in-line with the set screw on the Bonding Bit Adapter. Push the Bonding Bit into the Bonding Bit Adapter and tighten the set screw.
2. Line the flat surface of the Bonding Bit Adapter with the dowel pin that is located at the end of the Arbor Body Assembly. Push the Bonding Bit Adapter in toward the Arbor Body and twist the Adapter clock-wise until it is locked into place.
3. Install the correct size rail shoe, according to the size of rail that is being drilled.

The Bonding Bit Adapter is now installed and ready for use. Follow all standard operation procedures to operate your BD17 Bonding Drill.

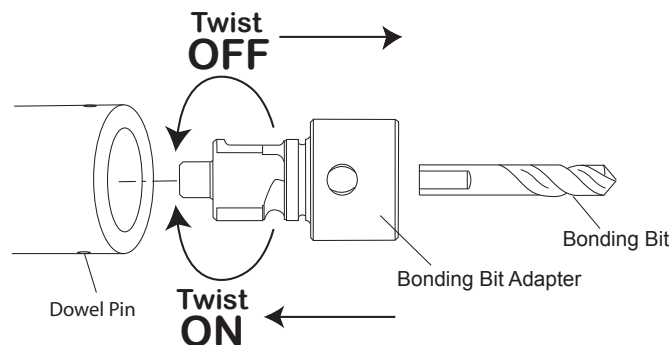
## Removing the Bonding Bit Adapter

Be sure engine is stopped and turned off. Turn off coolant at shut-off.

1. Position the BD17 so the cutter area is easily access able. While removing the Bonding Bit Adapter, a small amount of coolant may drain out from the Arbor Body.
2. Push the Bonding Bit Adapter toward the Arbor Body and twist the Adapter counter clock-wise until the Adapter is unlocked and the flat on the Adapter is aligned with the dowel pin in the Arbor Body. Pull the Bonding Bit Adapter out toward the Clamp Assembly.
3. With the assembly now free from the machine, you now have access to the set screw which holds the Bonding Bit in place. You can now use a hex key wrench and loosen the set screw to remove the Bonding Bit from the Adapter.

Refer to the installation steps listed above to re-install the Bonding Bit Assembly.

# BONDING BIT ADAPTER ASSEMBLY



|   | 9/32" | 8mm   | 3/8"  | 13/32" |
|---|-------|-------|-------|--------|
| <b>Bonding Bit Assembly (Adapter &amp; Bit)</b> | 07305 | 07302 | 05565 | 07316  |
| <b>Bonding Bit</b>                              | 07307 | 07304 | 03452 | 07318  |

# CLAMPING PROCEDURE

## WARNING: IMPROPER CLAMPING WILL CAUSE PREMATURE CUTTER FAILURE

Confirm that the correct Rail Shoes have been installed according to the size of Rail that is being drilled.

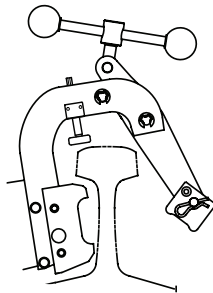


FIGURE A.

### STEP #1:

With clamp in open position, rest unit on rail base. Bottom of shoes should contact taper on rail base. (See Fig. A)

#### \* **PERFORMANCE TIP:**

*Close clamp until clamp pad contacts web or rail prior to STEP #2.*

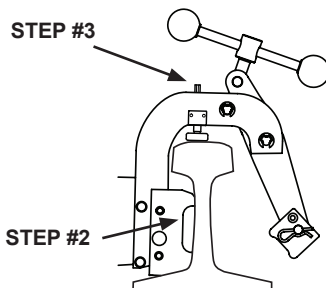


FIGURE B.

### STEP #2:

Raise rear of rail drill to locate shoes in proper position. (See Fig. B)

### STEP #3:

Loosen locking nut on Height Adjustment Assembly. Turn Height Screw to achieve desired hole height. Tighten locking nut to secure.

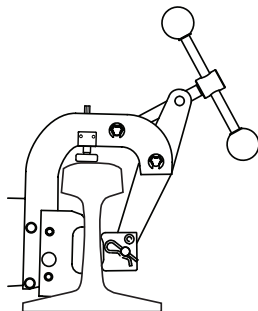


FIGURE C.

### STEP #4:

While maintaining contact between shoes and rail, tighten clamp. (See Fig. C)

#### \* **CLAMPING NOTE:**

*When you have the clamp tight on the rail, check for pad contact. If pad contact is good, tighten clamp handle one more half turn. DO NOT OVER-TIGHTEN.*

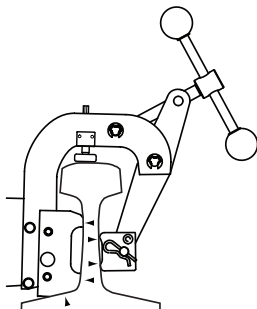


FIGURE D.

### STEP #5:

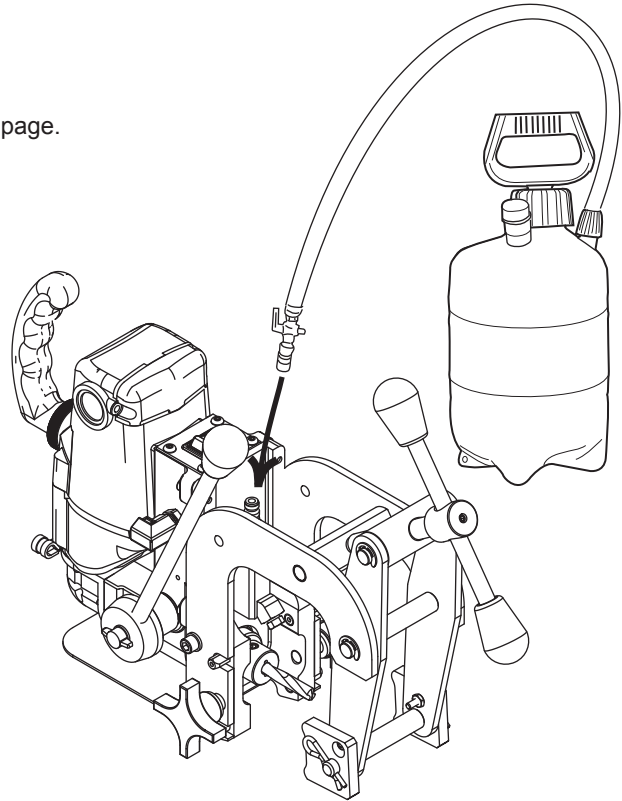
When unit is firmly clamped, check for proper shoe and pad contact on both sides again. (See Fig. D)

*When properly clamped to the rail there will be a small gap between the top of the shoe and the rail.*

## DRILL & PRESSURIZED COOLANT SYSTEM

**DO NOT USE STRAIGHT WATER OR WINDOW WASHER FLUID. DAMAGE TO DRILL WILL OCCUR!  
ONLY USE TRAK-STAR ROTAMAGIC COOLANT.**

1. Install correct shoes for rail type being drilled.
2. Install correct size Bonding Bit and Adapter into the Drill arbor. See Bonding Bit Installation procedure on previous page.
3. Fill coolant bottle with TRAK-STAR cutting fluid ( a water soluble and biodegradable product) Conventional fill access is achieved by removing pump handle.  
**Caution: Contents under pressure. Partially open to slowly release pressure before removing.**
4. Attach coolant bottle quick connect hose fitting to drill, located near power button inbetween clamp arms.
5. Pressurize coolant bottle until resistance is felt in the handle.
6. Open coolant shut off valve 1/4" and watch for coolant flow from the nozzle onto the work surface.  
NOTE - Coolant is under pressure -- stay out of path of spray.  
If coolant does not flow, rotate valve further to open or unclog coolant system.



### Coolant System Replacement Parts

01569 On/Off Valve  
05621 Quick Connect Fitting  
01592 Coolant Bottle and Hose Assy

## ROTAMAGIC™ CONCENTRATE CUTTING FLUID

A good flow of cutting fluid to the tool is important. It cools and lubricates the cutting edge, helps evacuate the chips, keeps the slug from expanding, and helps eject the slug. Various mineral and sulphur base oils are quite popular, however, water base solutions have better cooling qualities.

Listed is our own recommended Concentrated Cutting Fluid for Twister Bits and similar cutting tools. It is a water soluble, biodegradable product. This cutting fluid contains no ingredients that are on the U.S. Government Hazardous Materials List. It is a super concentrated form that will require a 10:1 mixture of water.

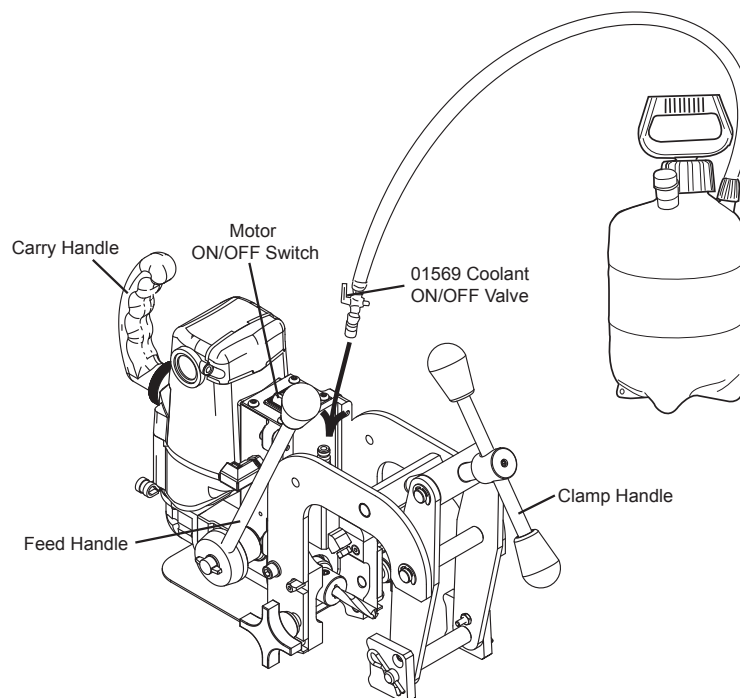
| Part No. | Description   |
|----------|---|
| 11742-4  | (4) 1 Gallon concentrate bottles, makes 11 Gallons each, or 44 Gallons total. |
| 11743    | (1) 5 Gallon concentrate pail, makes 55 Gallons.                              |



# OPERATING INSTRUCTIONS

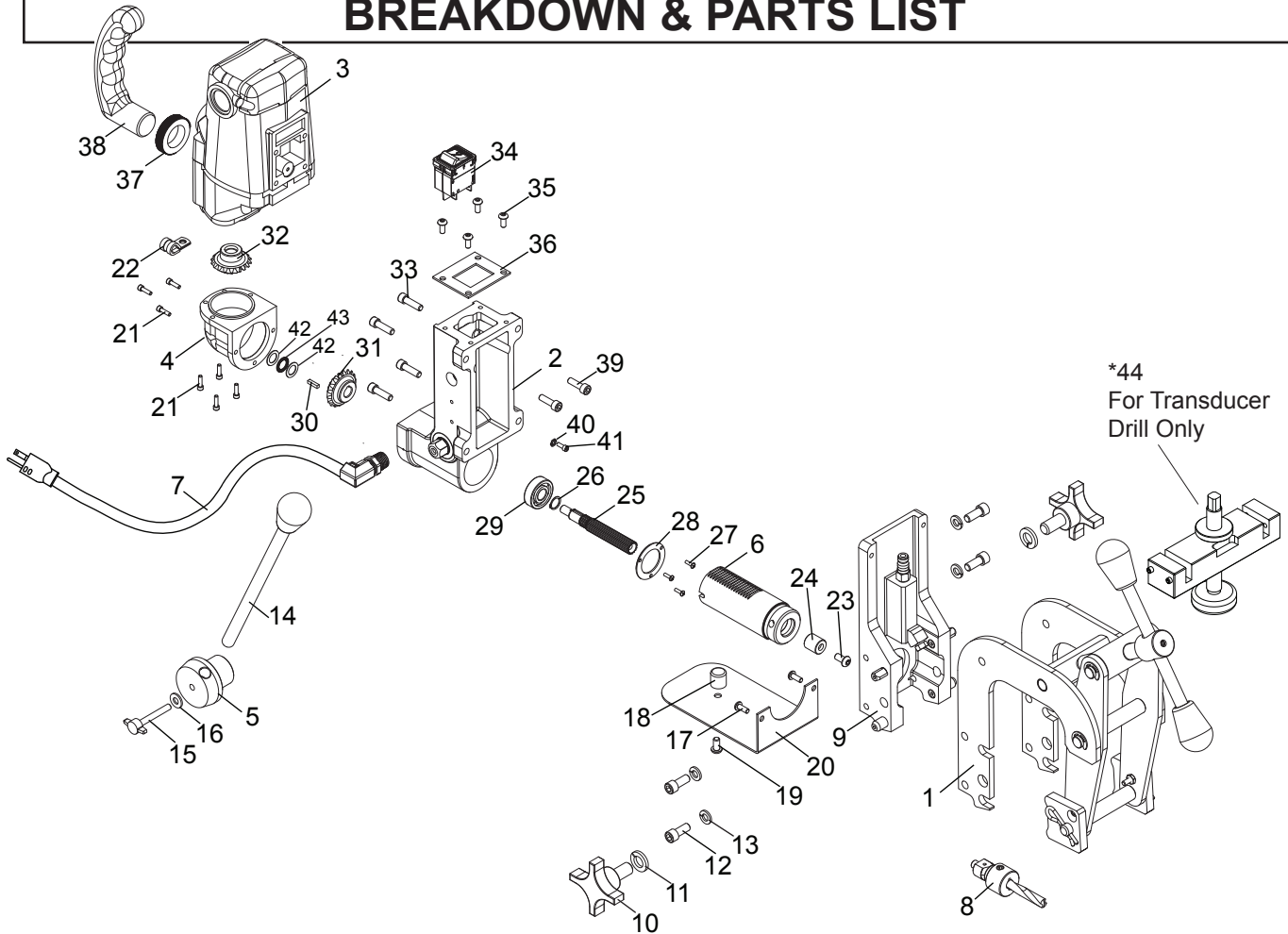
## IMPORTANT NOTICE

- ⚠ Read all Safety Instructions listed at the being of this Operators Manual before operating the BD17 Transducer Drill.
  - ⚠ Make sure the cutter is installed properly.
  - ⚠ Verify that the correct shoes for the rail that is being drilled is installed.
  - ⚠ Always use caution when contacting the rail with the cutting tool. Allow the cutter to enter the rail before full feed pressure is applied.
  - ⚠ Verify that the power cord is clear of any moving objects.
1. Make sure the work piece, cutter and shoes are free of chips or any other forms of debris.
  2. Secure the Drill to the rail and adjust height by following the Clamping Procedure listed previously in this Manual.
  3. Slowly feed the Bonding Bit to the rail to verify the location of the hole. Once location is verified, retract the Bonding Bit so it is not contacting the rail.
  4. Attach the Pressurized Coolant Bottle by following the procedure listed previously in this Manual. Open the valve on the Bottle Hose and verify that coolant is flowing.
  5. Plug the power cord into the correct outlet. If an extension cord is needed, refer to the Extension Cord Chart in the Safety Instructions for the correct size and length.
  6. Make sure the Bonding Bit is free of the work piece and turn the motor ON by moving the rocker switch to the On position.
  7. Feed the Arbor slowly until the Bonding Bit makes full contact with the rail. Once full contact is made, full pressure can be applied to the Feed Handle.
  8. Anticipate the end of your cut and ease up on the feed prior to completing the hole.
  9. After completing the hole, retract the cutter fully and select OFF on the rocker switch.
  10. Close the valve on the Coolant Bottle Hose to stop the coolant flow and unplug the power cord.
  11. Loosen the Clamp Assembly and remove the Transducer Drill from the rail.





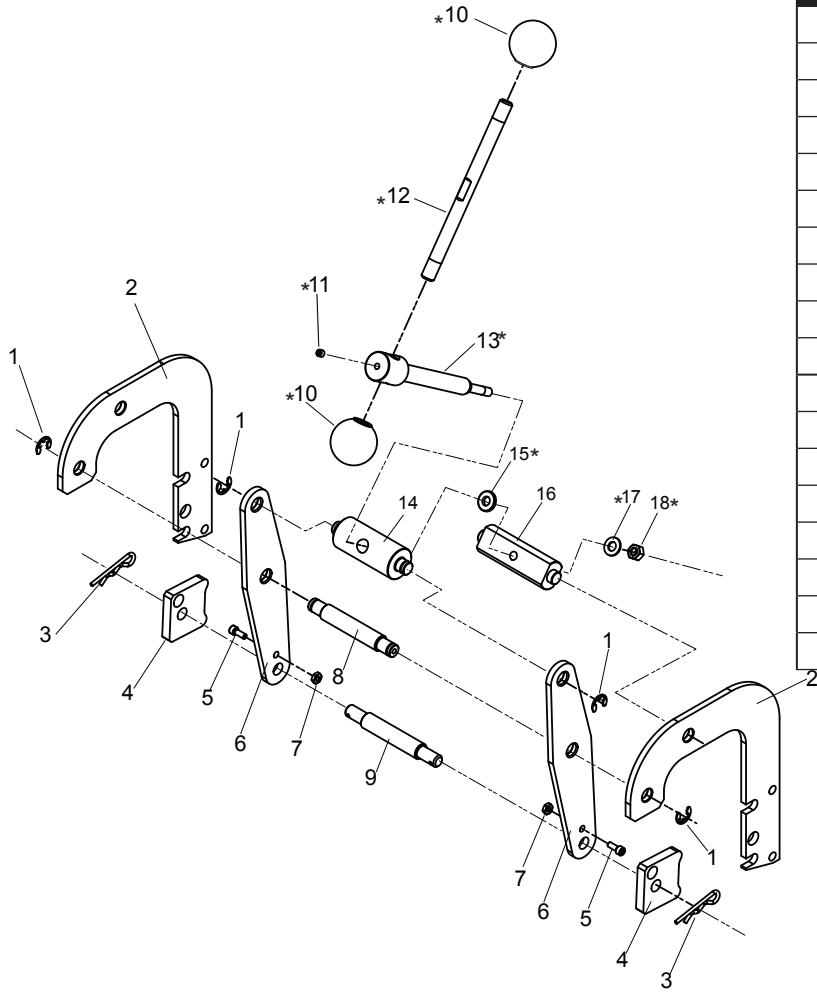
# BREAKDOWN & PARTS LIST



| Item | Part #   | Description               | Qty |
|------|--|---------------------------|-----|
| 1    | 27115  | Rail Clamp Assembly       | 1   |
| 2    | 07189  | Housing Assembly          | 1   |
| 3    | 07241  | 120V Motor Assembly       | 1   |
| 4    | 07290  | Gear Cap Assembly         | 1   |
| 5    | 07233  | Feed Hub Assembly         | 1   |
| 6    | 07174  | Quill/Arbor Assembly      | 1   |
| 7    | 07236  | 120V Power Cord Assembly  | 1   |
| 8    | See pg. 5 ( Adapter Install Inst.) for Adapters & Bits |                           |     |
| 9    | 07250  | Clamp Bracket Assembly    | 1   |
| 10   | 04918  | 4-Point Knob              | 2   |
| 11   | 40110  | 1/2" Lock Washer          | 2   |
| 12   | 40558  | Screw - SHC 5/16-18 X 3/4 | 4   |
| 13   | 40107  | 5/16" Lock Washer         | 4   |
| 14   | 07190  | Feed Handle Assembly      | 1   |
| 15   | 17291  | Screw w/Knob M6-1 X 45mm  | 1   |
| 16   | 90027  | 1/4" Flat Washer          | 1   |
| 17   | 90077  | Screw - BHC #10-32 X 1/2  | 2   |
| 18   | 07186  | Rubber Bumper             | 1   |
| 19   | 90358  | Screw - BHC 1/4-20 X 1/2  | 1   |
| 20   | 07170  | Bonding Drill Guard       | 1   |
| 21   | 17002  | Screw - SHC #6-32 X 1/2   | 7   |
| 22   | 02420  | Cable Clamp               | 1   |
| 23   | 07187  | Screw - BHC 1/4-28 X 1/2  | 1   |

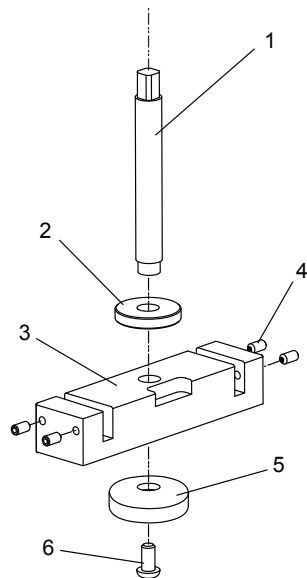
| Item | Part # | Description  | Qty |
|------|--------|--|-----|
| 24   | 07188  | Retainer Cup   | 1   |
| 25   | 17280  | Splined Shaft  | 1   |
| 26   | 17475  | Retaining Ring   | 1   |
| 27   | 04718  | Screw - Pan Head #4-40 X 3/8                             | 3   |
| 28   | 17289  | Bearing Retaining Washer                                 | 1   |
| 29   | 17270  | Bearing 32 O.D X 12 I.D X 10mm                           | 1   |
| 30   | 17277  | 1/8 Sq Key X .53   | 1   |
| 31   | 17278  | Right Hand Miter Gear                                    | 1   |
| 32   | 17502  | Left Hand Miter Gear                                     | 1   |
| 33   | 10553  | Screw - SHC 1/4-20 X 7/8                                 | 4   |
| 34   | 07237  | 120V Rocker Switch                                       | 1   |
| 35   | 07245  | Screw - BHC M5 X 12 mm                                   | 4   |
| 36   | 07168  | Switch Plate   | 1   |
| 37   | 05920  | Locking Nut 3/4-14 NPT                                   | 1   |
| 38   | 05921  | Carring Handle   | 1   |
| 39   | 75096  | Screw - SHC M6-1 X 20mm                                  | 2   |
| 40   | 90052  | Lock Washer  | 1   |
| 41   | 24082  | Screw - SHC #6-32 X 3/8                                  | 1   |
| 42   | 17517  | Thrust Washer .312 X .750                                | 2   |
| 43   | 17516  | Thrust Bearing   | 1   |
|      | 05372  | Lubiplate Grease   |     |
| *44  | 07556  | Height Adjustment Bracket<br>(For Transducer Drill Only) | 1   |

# CLAMP ASSEMBLY



| 27080 CLAMP HANDLE ASSEMBLY |        |                        |     |
|-----------------------------|--------|------------------------|-----|
| Item                        | Part # | Description            | Qty |
| 1                           | 27066  | Retaining Ring Set     | 1   |
| 2                           | 27110  | Primary Clamp Arm      | 2   |
| 3                           | 03501  | Hitch Pin              | 2   |
| 4                           | 27062  | Clamp Pad              | 2   |
| 5                           | 90098  | Screw - #10-24 X 3/4   | 2   |
| 6                           | 27022  | Secondary Clamp Arm    | 2   |
| 7                           | 10662  | Lock Nut #10-24        | 2   |
| 8                           | 27024  | Pin                    | 1   |
| 9                           | 27023  | Pin                    | 1   |
| 10                          | 04532  | Knob                   | 2   |
| 11                          | 02470  | Set Screw 1/4-28 X 3/8 | 1   |
| 12                          | 03522  | Clamp Turn Handle      | 1   |
| 13                          | 27027  | Clamp Feed Screw       | 1   |
| 14                          | 27026  | Bushing                | 1   |
| 15                          | 04782  | Flat Washer            | 1   |
| 16                          | 27025  | Bushing                | 1   |
| 17                          | 40074  | 5/16 Flat Washer       | 1   |
| 18                          | 03563  | 5/16-18 Hex Nut        | 1   |

# HEIGHT ADJUSTMENT (For Transducer Drill Only)

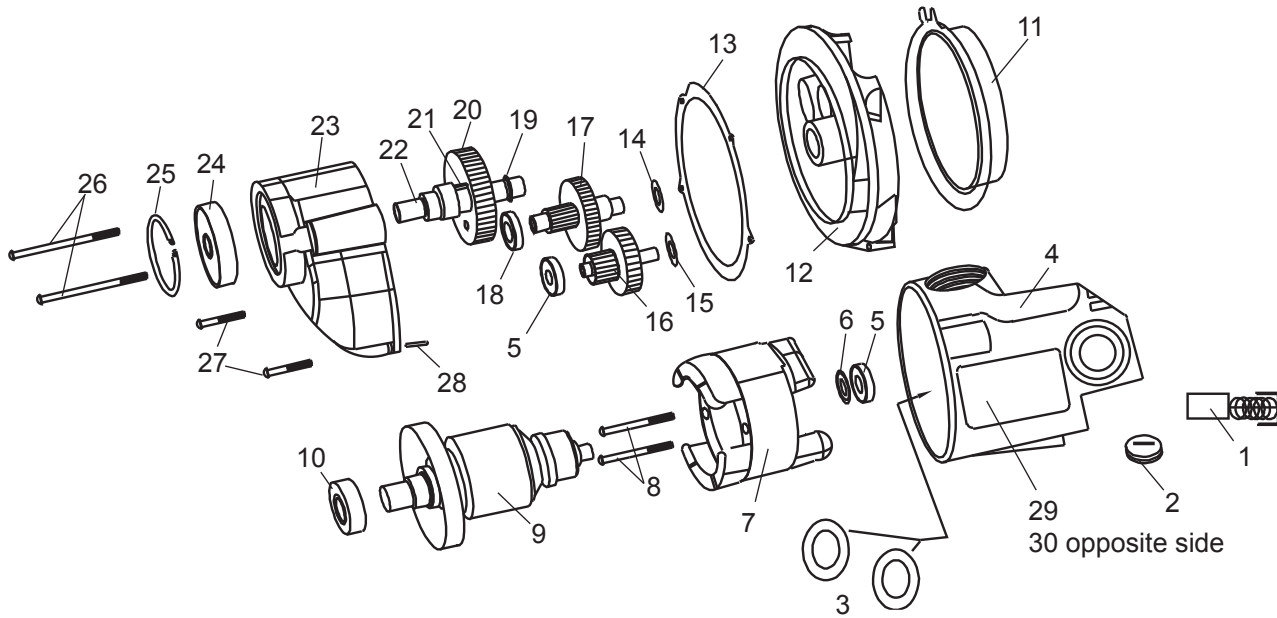


| 07556 HEIGHT ADJUSTMENT ASSEMBLY |        |                         |     |
|----------------------------------|--------|-------------------------|-----|
| Item                             | Part # | Description             | Qty |
| 1                                | 07554  | Height Adjustment Screw | 1   |
| 2                                | 51043  | Lock Nut                | 1   |
| 3                                | 07553  | Height Mount Bracket    | 1   |
| 4                                | 05473  | Screw - #10-32 X 3/8    | 4   |
| 5                                | 07555  | Rail Pad                | 1   |
| 6                                | 27022  | Screw - 1/4-20 X 1/2    | 1   |

# MOTOR BREAKDOWN & PARTS LIST

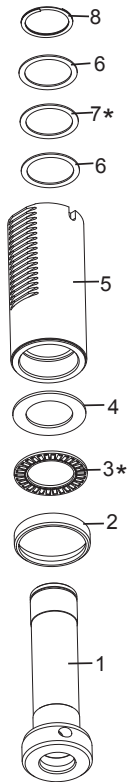
**07241 - 120V Motor Assembly**

**07291 - 230V Motor Assembly**



| Item | Part #       | Description          | Qty | Item | Part #       | Description                     | Qty |
|------|--------------|----------------------|-----|------|--------------|---------------------------------|-----|
| 1    | <b>17621</b> | Carbon Brush         | 2   | 16   | <b>17607</b> | 1st Inter. Gear Assy            | 1   |
| 2    | <b>17622</b> | Brush Cap            | 2   | 17   | <b>17608</b> | 2nd Inter. Gear Assy            | 1   |
| 3    | <b>17632</b> | Paper Washer         | 2   | 18   | <b>17603</b> | Ball Bearing                    | 1   |
| 4    | <b>17600</b> | Field Case           | 1   | 19   | <b>17626</b> | Retaining Ring                  | 1   |
| 5    | <b>17602</b> | Ball Bearing         | 2   | 20   | <b>17609</b> | Spur Gear                       | 1   |
| 6    | <b>17606</b> | Dust Seal            | 1   | 21   | <b>17611</b> | Key                             | 1   |
| 7    | <b>17628</b> | <b>120V</b> Field    | 1   | 22   | <b>17616</b> | Spindle                         | 1   |
|      | <b>17629</b> | <b>230V</b> Field    | 1   | 23   | <b>17615</b> | Gear Housing (includes 24 & 25) | 1   |
| 8    | <b>17623</b> | Pan Head Screw       | 2   | 24   | <b>17605</b> | Ball Bearing                    | 1   |
| 9    | <b>17630</b> | <b>120V</b> Armature | 1   | 25   | <b>17627</b> | Retaining Ring                  | 1   |
|      | <b>17631</b> | <b>230V</b> Armature | 1   | 26   | <b>17625</b> | Pan Head Screw Long             | 2   |
| 10   | <b>17604</b> | Ball Bearing         | 1   | 27   | <b>17624</b> | Pan Head Screw Short            | 2   |
| 11   | <b>17617</b> | Fan Guide            | 1   | 28   | <b>17612</b> | Dowel Pin                       | 1   |
| 12   | <b>17601</b> | Gear Housing         | 1   | 29   | <b>07243</b> | Label - Motor Safety            | 1   |
| 13   | <b>17618</b> | Gasket               | 1   | 30   | <b>07242</b> | Label - Motor Specs <b>120V</b> | 1   |
| 14   | <b>17613</b> | Flat Washer          | 1   |      | <b>07292</b> | Label - Motor Specs <b>230V</b> | 1   |
| 15   | <b>17610</b> | Flat Washer          | 1   |      |              |                                 |     |

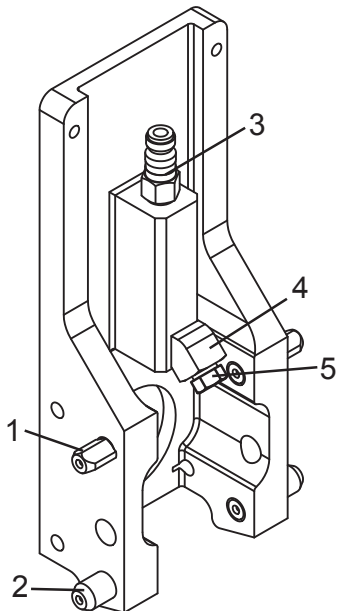
## 07174 ARBOR/QUILL BREAKDOWN & PARTS LIST



\*Apply a light coat of grease to these parts if 07174 is disassembled.

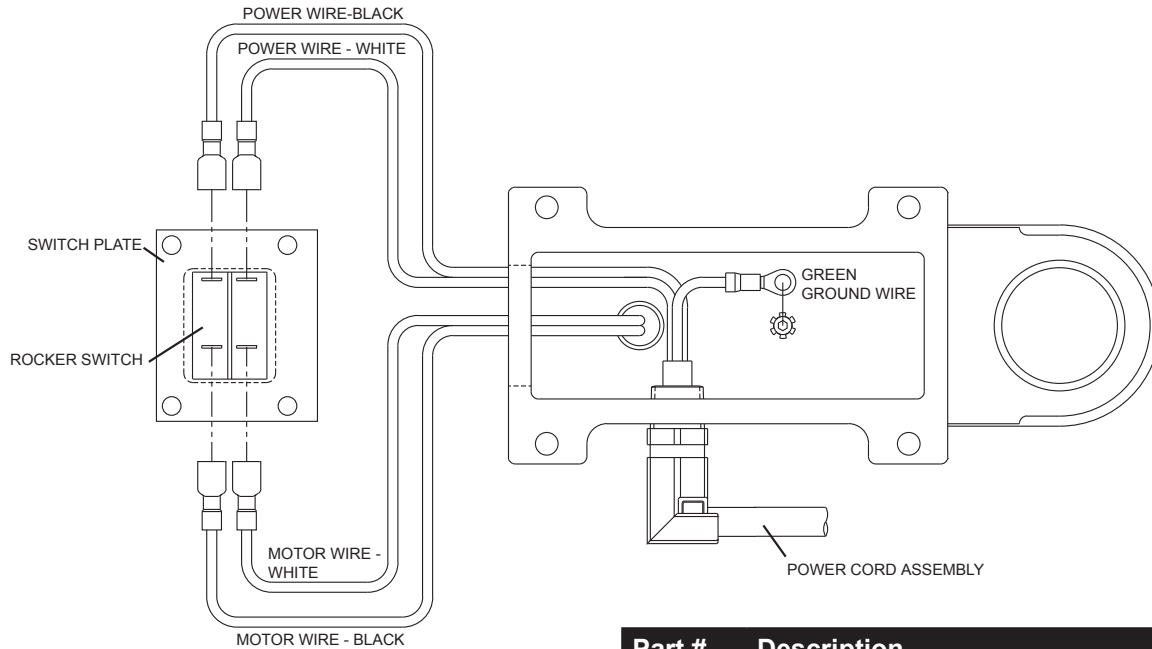
| Item | Part # | Description            | Qty |
|------|--------|------------------------|-----|
| 1    | 07173  | Arbor Assembly         | 1   |
| 2    | 17643  | Thrust Bearing Shield  | 1   |
| 3    | 17645  | Thrust Bearing         | 1   |
| 4    | 17644  | Bronze Thrust Washer   | 1   |
| 5    | 07172  | Quill Assembly         | 1   |
| 6    | 17547  | Steel Thrust Washer    | 2   |
| 7    | 17546  | Bronze Thrust Washer   | 1   |
| 8    | 04720  | Spiral Retaining Ring  | 1   |
| 9    | 24152  | GR132 Lubiplate Grease |     |

## 07250 Clamp Bracket Assy. Breakdown & Parts List



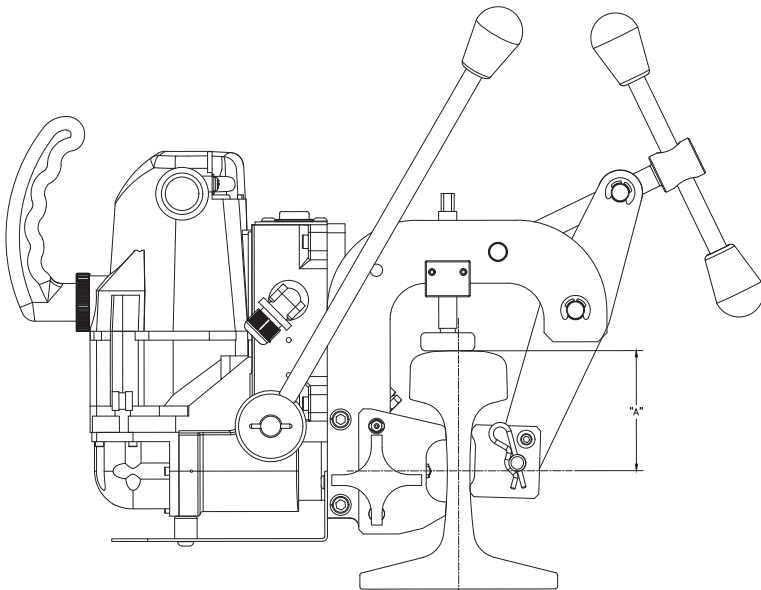
| Item | Part # | Description                  | Qty |
|------|--------|------------------------------|-----|
| 1    | 27006  | Locating Pin - Diamond Shape | 2   |
| 2    | 27007  | Locating Pin - Round         | 2   |
| 3    | 05646  | Quick Connect Fitting - male | 1   |
| 4    | 07251  | 45° Fitting                  | 1   |
| 5    | 07185  | Spray Nozzle                 | 1   |

## CONTROL PANEL & WIRING BREAKDOWN



| Part # | Description  | Qty |
|--------|--|-----|
| 07236  | 120V Power Cord Assembly<br>(includes Power cord & Strain Relief)          | 1   |
| 07295  | 230V Power Cord Assy. Type I Plug<br>(includes Power cord & Strain Relief) | 1   |
| 07237  | 120V Rocker Switch   | 1   |
| 07293  | 230V Rocker Switch   | 1   |
| 07168  | Switch Plate   | 1   |

## HEIGHT SIZING FOR TRANSDUCER DRILLING



| All Dimension Taken fom Top (Head) of Rail<br>to Centerline of Bonding Bit |                   |                   |
|--|-------------------|-------------------|
| Rail Sizes   | A DIM.<br>Minimum | A DIM.<br>Maximum |
| 112 AREA   | 3.12              | 3.19              |
| 115 AREA   | 3.34              | 3.54              |
| 119 AREA   | 3.50              | 3.62              |
| 129 AREA   | 3.73              | 3.98              |
| 130 AREA   | 3.38              | 3.53              |
| 131 AREA   | 3.16              | 3.31              |
| 132 AREA   | 3.38              | 3.50              |
| 136 AREA   | 3.50              | 3.80              |

## RAIL & SHOE DATA

| Railway Association or System                              | Tee Rail<br>Section (lb.)                             | Section Designation |     |     |       | Shoe<br>Part No. |
|--|---|---------------------|-----|-----|-------|------------------|
| ASCE - American Society<br>of Civil Engineers              | 70  | 7040                | 70  | AS  | 701   | 01906            |
|  | 75  | 7540                | 75  | AS  | 753   | 01907            |
|  | 80  | 8040                | 80  | AS  | 800   | 01908            |
|  | 85  | 8540                | 85  | AS  | 851   | 01909            |
|  | 90  | 9040                | 90  | AS  | ---   | 01910            |
|  | 100   | 10040               | 100 | AS  | ---   | 01911            |
| ARA - American<br>Railway Association                      | Type "A" - High Rail for High Speeds                  |                     |     |     |       |                  |
|  | 90  | 9020                | 90  | RA  | 902   | 01927            |
|  | 100   | 10020               | 100 | RA  | 1003  | 01928            |
|  | Type "B" - Lower Rail for Heavy Loads @ Slower Speeds |                     |     |     |       |                  |
|  | 90  | 9030                | 90  | RB  | 905   | 01908            |
|  | 100   | 10030               | 100 | RB  | 1002  | 01910            |
| AREA - American Railway<br>Engineering Association         | 100   | 10025               | 100 | RE  | 10025 | 01894            |
|  | 110   | 11025               | 110 | RE  | 1100  | 01895            |
|  | 112   | 11228               | 112 | RE  | 1121  | 01896            |
|  | 115/119   | 11525               | 115 | RE  | 1150  | 01897            |
|  |   | 11937               | 119 | RE  | 1190  |                  |
|  | 130   | 13025               | 130 | RE  | 1300  | 01898            |
|  | 131   | 13128               | 131 | RE  | 1311  | 01899            |
|  | 132/136/141   | 13228               | 132 | RE  | 1321  | 01902            |
|  |   | 13622               | 136 | RE  | 13637 |                  |
|  |   | ---                 | 141 | --- | ---   |                  |
|  | 133   | 13331               | 133 | RE  | 1330  | 01901            |
|  | 140   | ---                 | 140 | RE  | ---   | 01903            |
| CSX  | 122   | ---                 | 122 | CB  | ---   | 01918            |
| UP (former C & NW)   | 100   | 10035               | 100 | DM  | 10035 | 01926            |
| PS - Pennsylvania System                                   | 85  | 8531                | 85  | PS  | ---   | 01912            |
|  | 100   | 10031               | 100 | PS  | ---   | 01913            |
|  | 130   | 13031               | 130 | PS  | ---   | 01914            |
|  | 155   | 15531               | 155 | PS  | ---   | 01919            |
| NYC (Dudley) - New York Central &<br>Hudson River Railroad | 105   | 10524               | 105 | DY  | ---   | 01915            |
|  | 127   | 12723               | 127 | DY  | ---   | 01916            |
| PRR - Pennsylvania Railroad                                | 85  | 8533                | 85  | PR  | ---   | 01917            |

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Modern, high speed railways and welded rails call for modern, high precision rail equipment. Through our continual commitment, we now offer additional products that will be beneficial to your specific applications.

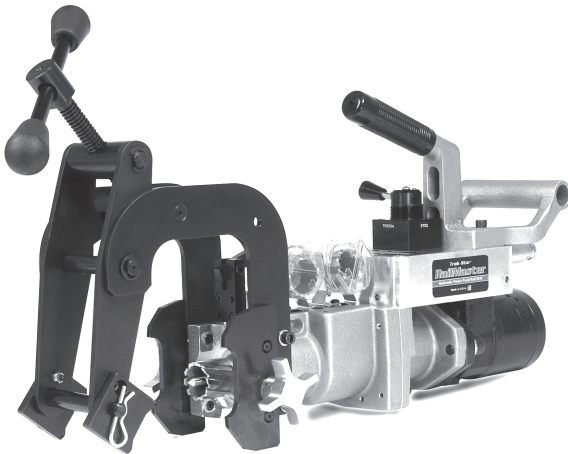
**Model RB28  
Portable Gas Rail Drill**



**Model HS16  
Hydraulic Rail Saw**



**Model RM42  
Power Feed Hydraulic Drill**



**Model RB30  
Portable Gas Bonding Drill**



**Model GW12  
Gas Impact Wrench**



**Model K1270  
Portable Gas Rail Saw**





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