



MODEL G0485/G0491 16 SPEED DRILL PRESS OWNER'S MANUAL



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WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemical are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

WARNING

The safety labels on this machine warn and indicate how to protect the operator or bystander from machine hazards. The machine owner **MUST** maintain the original label location and readability. If a label is removed or becomes unreadable, **REPLACE** the label before using the machine. For new labels, contact Grizzly Industrial Inc. at (570) 546-9663 or techsupport@grizzly.com.

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INTRODUCTION

Foreword

We are proud to offer the Model G0485/G0491 16 Speed Drill Press. This machine is part of a growing Grizzly family of fine woodworking and metalworking machinery. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

We are pleased to provide this manual with the Model G0485/G0491. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. It represents our effort to produce the best documentation possible.

The specifications, drawings, and photographs illustrated in this manual represent the Model G0485/G0491 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at **www.grizzly.com**. Any updates to your machine will be reflected in these manuals as soon as they are complete. Visit our site often to check for the latest updates to this manual!

Contact Info

If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
c/o Technical Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069

We stand behind our machines. If you have any service questions or parts requests, please call or write us at the location listed below.

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Fax: (800) 438-5901
E-Mail: techsupport@grizzly.com
Web Site: <http://www.grizzly.com>





MACHINE DATA SHEET

Customer Service #: (570) 546-9663 • To Order Call: (800) 523-4777 • Fax #: (800) 438-5901

MODEL G0485 16 SPEED BENCH-TOP DRILL PRESS

Product Dimensions:

Weight97 lbs.
Length/Width/Height 24 x 14 x 38 in.
Foot Print (Length/Width)..... 16-3/4 x 10-1/8 in.

Shipping Dimensions:

Type Cardboard
Content..... Machine
Weight 107 lbs.
Length/Width/Height..... 31-1/2 x 17-1/2 x 11 in.

Electrical:

Switch..... Toggle On/Off with Safety Lock Tab
Switch Voltage 110V
Cord Length 5 ft.
Cord Gauge 16 gauge
Recommended Breaker Size 13 amp
Plug Yes

Motors:

Main

Type..... TEFC Capacitor Start Induction
Horsepower..... 1/2 HP
Voltage..... 110V
Prewired 110V
Phase Single
Amps 8.5A
Speed..... 1725 RPM
Cycle 60 Hz
Number Of Speeds 1
Power Transfer V-Belt Drive
Bearings Shielded and Lubricated

Main Specifications:

Construction

Table Construction Precision Ground Cast Iron
Spindle Housing Construction..... Cast Iron
Column Construction Cylindrical Ground Steel
Head Construction Cast Iron
Base Construction..... Cast Iron
Paint Epoxy

Head Information

Head Swivel 360 deg.



Other Related Information

Base Length	16-1/2 in.
Base Width	9-3/4 in.
Quill Diameter	2.17 in.
Depth Stop Type	Threaded Rod with Positive Stop
Column Diameter	2-7/8 in.
Illumination	110V Socket

Spindle Information

Spindle Taper	MT#2
Spindle Travel	3-3/16 in.
Dist From Spindle To Column	6-1/2 in.
Dist From Spindle To Table	17 in.
Dist From Spindle To Base	24-1/4 in.

Table Information

Table Length	11-1/2 in.
Table Width	11-1/2 in.
Table Thickness	1-1/4 in.
Floor To Table Height	8-7/8 - 25-1/4 in.
Vertical Table Movement	Crank Handle Operate
Table Swing	360 deg.
Table Tilt	Left and Right 90 deg.
Table Swivel Around Center	360 deg.
Table Swivel Around Column	360 deg.
Maximum Movement Of Work Table	16-1/4 in.
No. Of T Slots	6
T Slot Width	5/8 in.
T Slot Length	3-1/4 in.

Operation Information

Swing	13 in.
Drilling Capacity	5/8 in. in Steel
No Of Spindle Speeds	16
Range Of Spindle Speeds	220, 310, 340, 440, 510, 530, 620, 730, 780, 800, 1400, 1540, 1670, 2140, 2330, 3230 RPM
Drill Chuck Type	JT33 Key Chuck
Drill Chuck Size	5/8 in.

Other Specifications:

Country Of Origin	China
Warranty	1 Year
Serial Number Location	Data Label on Headstock
Assembly Time	45 minutes

Features:

Crank Handle Operated Rack and Pinion Vertical Table Movement
Threaded Depth Stop
Includes Built-in Light
Table and Base are Cast Iron
1/2 HP Motor
5/8" Chuck





MACHINE DATA SHEET

Customer Service #: (570) 546-9663 • To Order Call: (800) 523-4777 • Fax #: (800) 438-5901

MODEL G0491 16 SPEED FLOOR DRILL PRESS

Product Dimensions:

Weight 128 lbs.
Length/Width/Height 24 x 14 x 62 in.
Foot Print (Length/Width) 19-5/8 x 12 in.

Shipping Dimensions:

Type Cardboard
Content Machine
Weight 132 lbs.
Length/Width/Height 54-1/2 x 17-1/2 x 9.5 in.

Electrical:

Switch Toggle On/Off with Safety Lock Tab
Switch Voltage 110V
Cord Length 5 ft.
Cord Gauge 16 gauge
Recommended Breaker Size 13 amp
Plug Yes

Motors:

Main

Type TEFC Capacitor Start Induction
Horsepower 1/2 HP
Voltage 110V
Prewired 110V
Phase Single
Amps 8.5A
Speed 1725 RPM
Cycle 60 Hz
Number Of Speeds 1
Power Transfer V-Belt Drive
Bearings Shielded and Lubricated

Main Specifications:

Construction

Table Construction Precision Ground Cast Iron
Spindle Housing Construction Cast Iron
Column Construction Cylindrical Ground Steel
Head Construction Cast Iron
Base Construction Cast Iron
Paint Epoxy

Head Information

Head Swivel 360 deg.



Other Related Information

Base Length.....	19-5/8 in.
Base Width.....	11-3/4 in.
Quill Diameter.....	2.17 in.
Depth Stop Type.....	Threaded Rod with Positive Stop
Column Diameter.....	2-7/8 in.
Illumination.....	110V Socket

Spindle Information

Spindle Taper.....	MT#2
Spindle Travel.....	3-3/16 in.
Dist From Spindle To Column.....	6-1/2 in.
Dist From Spindle To Table.....	30-3/4 in.
Dist From Spindle To Base.....	48 in.

Table Information

Table Length.....	11-1/2 in.
Table Width.....	11-1/2 in.
Table Thickness.....	1-1/4 in.
Floor To Table Height.....	19-5/8 - 45-1/4 in.
Vertical Table Movement.....	Crank Handle Operate
Table Swing.....	360 deg.
Table Tilt.....	Left and Right 90 deg.
Table Swivel Around Center.....	360 deg.
Table Swivel Around Column.....	360 deg.
Maximum Movement Of Work Table.....	25-1/2 in.
No. Of T Slots.....	6
T Slot Width.....	5/8 in.
T Slot Length.....	3-1/4 in.

Operation Information

Swing.....	13 in.
Drilling Capacity.....	5/8 in. in Steel
No Of Spindle Speeds.....	16
Range Of Spindle Speeds.....	220, 310, 340, 440, 510, 530, 620, 730, 780, 800, 1400, 1540, 1670, 2140, 2330, 3230 RPM
Drill Chuck Type.....	JT33 Key Chuck
Drill Chuck Size.....	5/8 in.

Other Specifications:

Country Of Origin.....	China
Warranty.....	1 Year
Serial Number Location.....	Data Label on Headstock
Assembly Time.....	45 minutes

Features:

Crank Handle Operated Rack and Pinion Vertical Table Movement
Threaded Depth Stop
Includes Built-in Light
Table and Base are Cast Iron
1/2 HP Motor
5/8" Chuck



Identification

Refer to the list below and see **Figures 1 & 2** to become familiar with the drill press controls.

1. **Light Switch:** Turns light **ON/OFF**.
2. **Power Switch:** Turns motor **ON/OFF**.
3. **Chuck Guard:** Adjustable plastic shield covering the chuck minimizes exposure to sharp drill bits.
4. **Belt Tension Lock:** Locks motor in place to maintain belt tension.
5. **Crank Handle:** Raises/lowers table.
6. **Small Lock Lever:** Locks table rotation.
7. **Large Lock Lever:** Locks table height.
8. **Torsion Spring:** Returns quill into headstock.
9. **Lash Screw:** Removes quill lash.
10. **Depth Stop:** Limits quill travel to a pre-set drilling depth.
11. **Table Tilt Scale:** Displays current table-tilt angle.

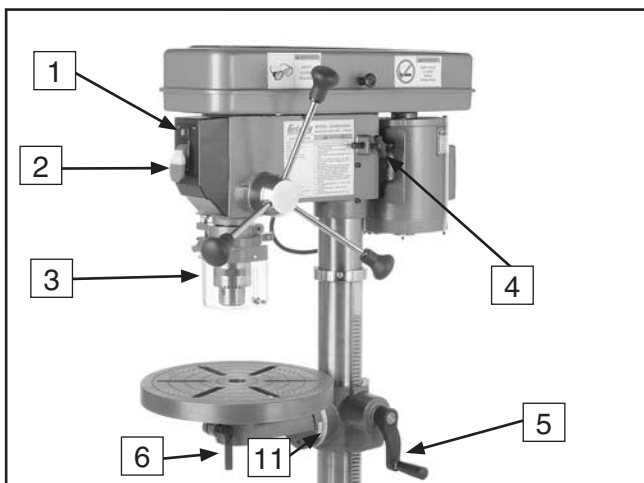


Figure 1. Right-side controls.

Refer to the list below to become familiar with the drill press terms and definitions.

Headstock: The cast iron upper portion of the drill press, which houses the quill and work light, and supports the motor and belt housing.

Drift Key: A wedge-shaped tool used to separate tapers.

T-Slot: A slot in a table used to trap a hex nut or hex bolt to clamp down a workpiece or a vise.

Arbor: A tapered shaft that connects the chuck to the spindle.

Quill: Houses the spindle and bearings.

Spindle: The hollow shaft that accepts the arbor.

Chuck: Holds the drill bit.

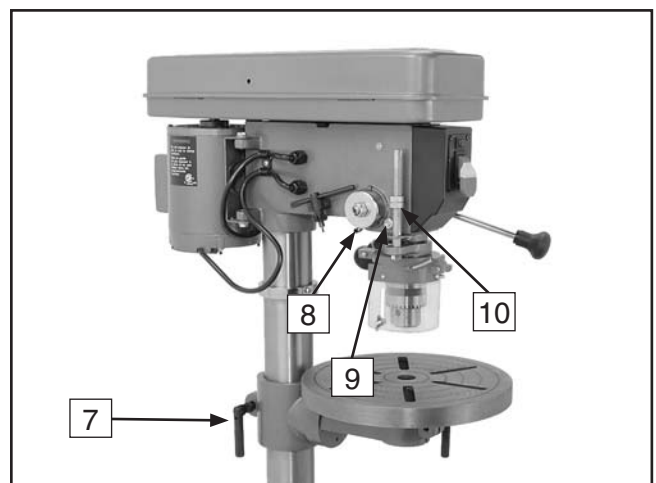


Figure 2. Left-side controls.



SECTION 1: SAFETY

WARNING

For Your Own Safety, Read Instruction Manual Before Operating this Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the machine.

WARNING

Safety Instructions for Machinery

- 1. READ THROUGH THE ENTIRE MANUAL BEFORE STARTING MACHINERY.** Machinery presents serious injury hazards to untrained users.
- 2. ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- 3. ALWAYS WEAR AN ANSI APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Wood dust is a carcinogen and can cause cancer and severe respiratory illnesses.
- 4. ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing damage.
- 5. WEAR PROPER APPAREL. DO NOT** wear loose clothing, gloves, neckties, rings, or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.
- 6. NEVER OPERATE MACHINERY WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.



WARNING

Safety Instructions for Machinery

7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.
8. **KEEP CHILDREN AND VISITORS AWAY.** Keep all children and visitors a safe distance from the work area.
9. **MAKE WORKSHOP CHILD PROOF.** Use padlocks, master switches, and remove start switch keys.
10. **NEVER LEAVE WHEN MACHINE IS RUNNING.** Turn power **OFF** and allow all moving parts to come to a complete stop before leaving machine unattended.
11. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.
12. **KEEP WORK AREA CLEAN AND WELL LIT.** Clutter and dark shadows may cause accidents.
13. **USE A GROUNDED EXTENSION CORD RATED FOR THE MACHINE AMPERAGE.** Undersized cords overheat and lose power. Replace extension cords if they become damaged. DO NOT use extension cords for 220V machinery.
14. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY.** Make sure switch is in OFF position before reconnecting.
15. **MAINTAIN MACHINERY WITH CARE.** Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
16. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**
17. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make a habit of checking for keys and adjusting wrenches before turning machinery **ON**.
18. **CHECK FOR DAMAGED PARTS BEFORE USING MACHINERY.** Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other conditions that may affect machine operation. Repair or replace damaged parts.
19. **USE RECOMMENDED ACCESSORIES.** Refer to the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury.
20. **DO NOT FORCE MACHINERY.** Work at the speed for which the machine or accessory was designed.
21. **SECURE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.
22. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
23. **MANY MACHINES WILL EJECT WORKPIECE TOWARD OPERATOR.** Know and avoid conditions that cause the workpiece to "kickback."
24. **ALWAYS LOCK MOBILE BASES (IF USED) BEFORE OPERATING MACHINERY.**
25. **BE AWARE THAT CERTAIN WOODS MAY CAUSE AN ALLERGIC REACTION.** in people and animals, especially when exposed to fine dust. Make sure you know what type of wood dust you will be exposed to and always wear an approved respirator.



WARNING

Safety for Drill Presses

1. **EYE/FACE/HAND PROTECTION.** A face shield used with safety glasses is recommended. Always keep hands and fingers away from the drill bit. Never hold a workpiece by hand while drilling! **DO NOT** wear gloves when operating the drill.
2. **GUARD.** **DO NOT** operate this machine when the chuck guard is removed.
3. **SECURING BIT.** Properly tighten and securely lock the drill bit in the chuck.
4. **CORRECT BIT.** Use only round, hex, or triangular shank drill bits.
5. **ADJUSTING KEYS AND WRENCHES.** Remove all adjusting keys and wrenches before turning the machine **ON**.
6. **DRILLING SHEET METAL.** Never drill sheet metal unless it is securely clamped to the table.
7. **SURFACE/WORKPIECE PREPARATION.** Never turn the drill press **ON** before clearing the table of all objects (tools, scrap wood, etc.) **DO NOT** drill material that does not have a flat surface, unless a suitable support is used.
8. **DAMAGED TOOLS.** Never use tools in poor condition. Dull or damaged cutting tools are hard to control and may cause serious injury.
9. **DRILL OPERATION.** Never start the drill press with the drill bit pressed against the workpiece. Feed the drill bit evenly into the workpiece. Back the bit out of deep holes.

Turn the machine **OFF** and clear chips and scrap pieces with a brush. Shut power **OFF**, remove drill bit, and clean table before leaving the machine.
10. **OPERATING SPEED.** Always operate your drill press at speeds that are appropriate for the drill bit size and the material that you are drilling.
11. **MAINTENANCE/SPEED CHANGES.** Never do maintenance or change speeds with the machine plugged in.
12. **MOUNTING WORKPIECES.** Use clamps or vises to secure workpiece before drilling. Position work so you avoid drilling into the table.
13. **TABLE LOCK.** Make sure the table lock is tightened before starting the drill press.
14. **EXPERIENCING DIFFICULTIES.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact our Service Department at (570) 546-9663.

WARNING

Like all machines there is danger associated with this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.



SECTION 2: CIRCUIT REQUIREMENTS

110V Operation

WARNING

Serious personal injury could occur if you connect the machine to the power source before you have completed the set up process. **DO NOT** connect the machine to the power source until instructed to do so.

Amperage Draw

The 1/2 HP motor on the Model G0485/G0491 will draw the following amps:

Motor Draw8.5 Amps

Circuit Requirements

We recommend connecting this machine to a dedicated circuit with a verified ground, using the circuit breaker size given below. Never replace a circuit breaker with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. **If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, you may create a fire hazard—consult a qualified electrician to reduce this risk.**

Circuit Breaker..... 15 Amps

Plug/Receptacle Type

Included Plug Type..... NEMA 5-15

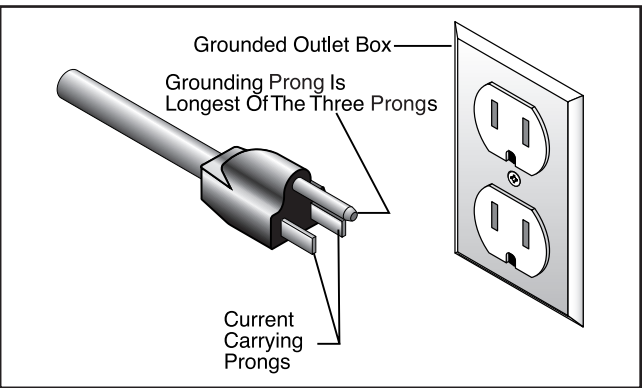
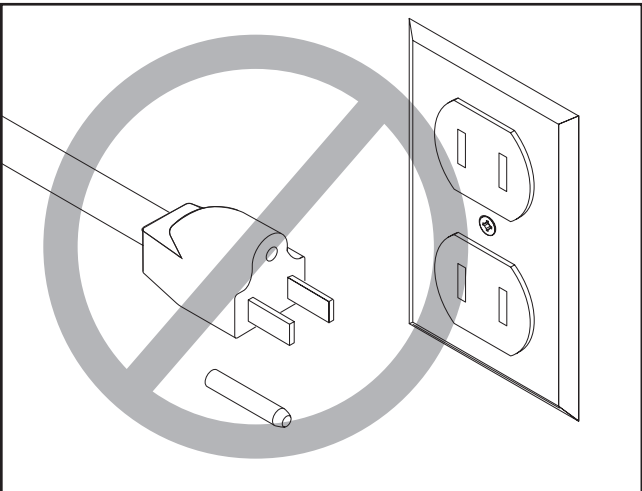


Figure 3. Typical type 5-15 plug and receptacle.



WARNING

Electrocution or fire could result if this machine is not grounded correctly or if your electrical configuration does not comply with local and state codes. Ensure compliance by checking with a qualified electrician!



CAUTION

This machine must have a ground prong in the plug to help ensure that it is grounded. **DO NOT** remove ground prong from plug to fit into a two-pronged outlet! If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.

Extension Cords

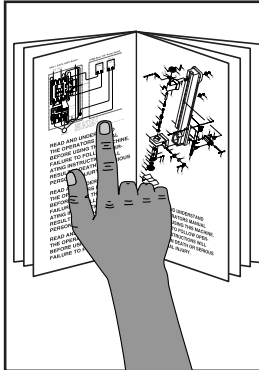
We do not recommend the use of extension cords. If you find it absolutely necessary to use an extension cord with your machine:

- Use at least a 14 gauge cord that does not exceed 50 feet in length!
- The extension cord must also contain a ground wire and plug pin.
- A qualified electrician **MUST** size cords over 50 feet long to prevent motor damage.



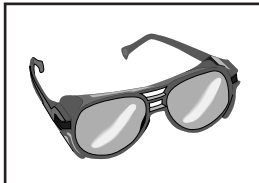
SECTION 3: SET UP

Set Up Safety



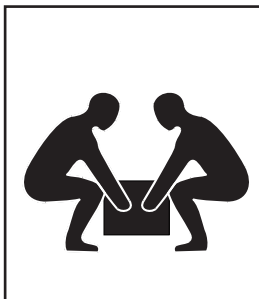
!WARNING

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!



!WARNING

Wear safety glasses during the entire set up process!



!WARNING

The Model G0485/G0491 is a heavy machine. DO NOT over-exert yourself while unpacking or moving your machine—get assistance.

Items Needed for Set Up

The following items are needed to complete the set up process, but are not included with your machine:

Description	Qty
• Wrench 24mm	1
• Wrench 14mm	1
• Wrench 7mm	1
• Phillips Head Screwdriver #2	1
• Plumb Bob	1
• People for Lifting Help	1
• Rubber Mallet	1
• 60W Light Bulb	1
• Permanent Marker	1
• 1/2" Mounting Hardware (Page 24)	Varies
• Mineral Spirits or Solvent	As Needed
• Degreaser	As Needed
• Ruler or Tape Measure	As Needed

Unpacking

The Model G0485/G0491 was carefully packed when it left our warehouse. If you discover the machine is damaged after you have signed for delivery, please immediately call Customer Service at (570) 546-9663 for advice.

Save the containers and all packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

When you are completely satisfied with the condition of your shipment, you should inventory the contents.



Inventory

If any nonproprietary parts are missing (e.g. a nut or a washer), we would be glad to replace them, but for the sake of expediency, you can get replacements at a hardware store.

Use **Figure 4** and the inventory list below to inventory your drill press parts:

Description	Qty
1. Table	1
2. Table Support Assembly	1
3. Small Lock Lever.....	1
4. Large Lock Lever	1
5. Crank Handle	1
6. Handle	1
7. Column	1
8. Base	1
9. Chuck Guard	1
10. Downfeed Handles	3
11. Knobs M10-1.5	3
12. Arbor.....	1
13. Drift Key.....	1
14. Chuck Key	1
15. Chuck	1
16. Headstock Assembly.....	1
17. Hardware Bag (Not Shown)	1
—Belt Cover Knob	1
—Hex Wrench 3mm	1
—Hex Wrench 4mm	1
—Hex Bolt M8-1.25 x 25mm	4
—Lock Washer 8mm.....	4

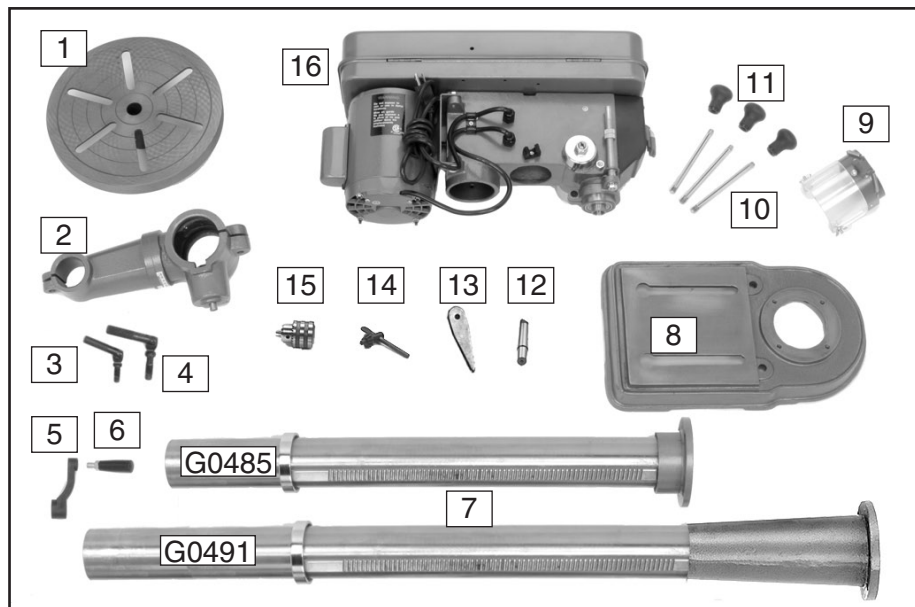


Figure 4. G0485/G0491 box inventory.



Hardware Recognition Chart

USE THIS CHART TO MATCH UP
HARDWARE DURING THE ASSEMBLY
PROCESS!

MEASURE BOLT DIAMETER BY PLACING INSIDE CIRCLE

○ #10

○ 1/4"

○ 5/16"

○ 3/8"

○ 7/16"

○ 1/2"



Key

4mm ○

6mm ○

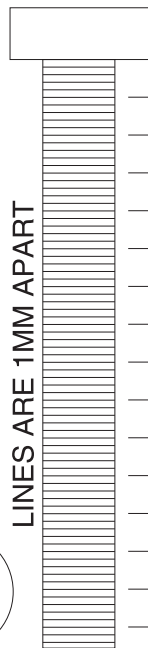
8mm ○

10mm ○

12mm ○

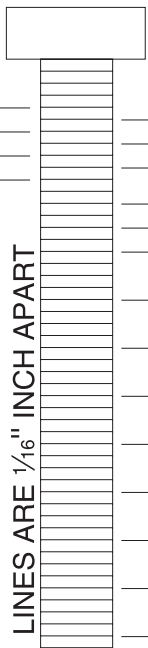
16mm ○

LINES ARE 1MM APART

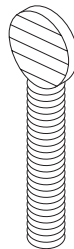


5mm
10mm
15mm
20mm
25mm
30mm
35mm
40mm
45mm
50mm
55mm
60mm
65mm
70mm
75mm

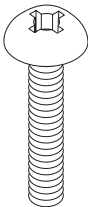
LINES ARE 1/16" INCH APART



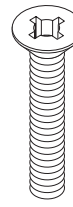
1/4"
3/8"
1/2"
5/8"
5/16"
7/16"
9/16"
3/4"
7/8"
1"
1 1/4"
1 1/2"
1 3/4"
2
2 1/4"
2 1/2"
2 3/4"
3



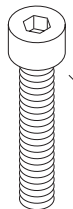
Thumb
Screw



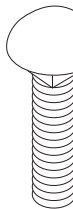
Phillips
Head
Screw



Flat
Head
Screw



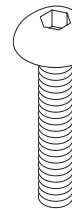
Cap
Screw



Carriage
Bolt



Flange
Bolt



Button
Head
Screw



External
Retaining
Ring



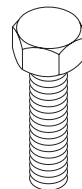
Internal
Retaining
Ring



E-Clip



Setscrew



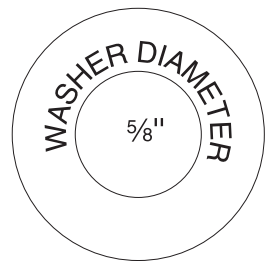
Hex
Bolt



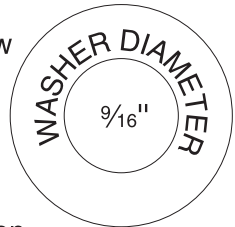
Lock
Nut



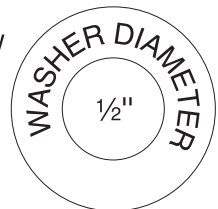
Wing
Nut



WASHER DIAMETER
5/8"



WASHER DIAMETER
9/16"



WASHER DIAMETER
1/2"



WASHER DIAMETER
7/16"



WASHER DIAMETER
3/8"



WASHER DIAMETER
5/16"



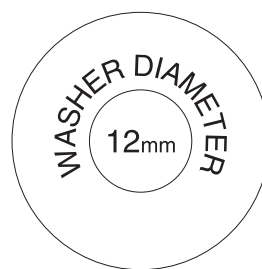
WASHER DIAMETER
1/4"



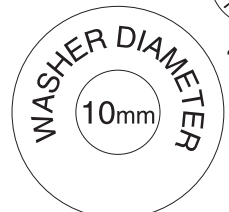
WASHER DIAMETER
8mm

#10

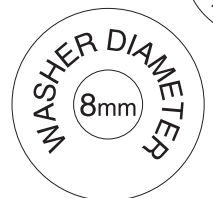
WASHERS ARE MEASURED BY THE INSIDE DIAMETER



WASHER DIAMETER
12mm



WASHER DIAMETER
10mm



WASHER DIAMETER
8mm



WASHER DIAMETER
4mm



WASHER DIAMETER
6mm



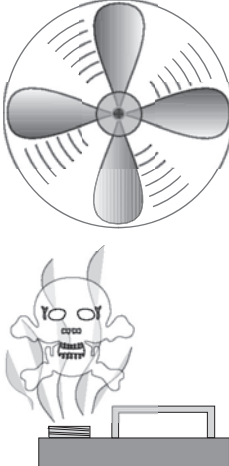
WASHER DIAMETER
1/4"



Clean Up

The unpainted surfaces are coated with a waxy oil to protect them from corrosion during shipment. Remove this protective coating with a solvent cleaner or citrus-based degreaser such as Grizzly's G7895 Degreaser. To clean thoroughly, some parts may need to be removed. **For optimum performance from your machine, make sure you clean all moving parts or sliding contact surfaces that are coated.** Avoid chlorine-based solvents, such as acetone or brake parts cleaner, as they may damage painted surfaces should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

	!WARNING Gasoline and petroleum products have low flash points and could cause an explosion or fire if used to clean machinery. DO NOT use gasoline or petroleum products to clean the machinery.
--	---

	!CAUTION Many of the solvents commonly used to clean machinery can be toxic when inhaled or ingested. Lack of ventilation while using these solvents could cause serious personal health risks or fire. Take precautions from this hazard by only using cleaning solvents in a well ventilated area.
---	---

Site Considerations

Floor Load

Refer to the **Machine Data Sheet** for weight and footprint specifications for your machine. Some residential floors may require additional reinforcement to support both the machine and operator. Some workbenches may require additional reinforcement to support both the machine and the workpiece.

Working Clearances

Consider existing and anticipated needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your machine. See **Figure 5** for the minimum working clearances of the Model G0485/G0491.

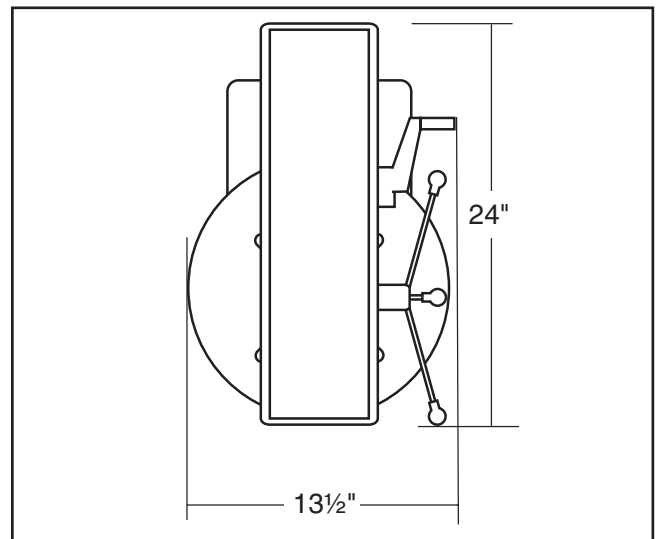
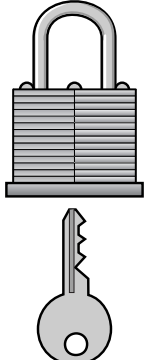


Figure 5. Working clearances.

	!CAUTION Unsupervised children and visitors inside your shop could cause serious personal injury to themselves. Lock all entrances to the shop when you are away and DO NOT allow unsupervised children or visitors in your shop at any time!
--	---



Column and Base

Components and Hardware Needed:	Qty
Base	1
Column	1
Hex Bolts M8-1.25 x 25	4
Lock Washers 8mm.....	4

The column must be secured on the base to properly assemble your drill press.

To secure the column to the base:

1. Place the column on the base and align the mounting holes.
2. Secure the column to the base with the four lock washers and hex bolts as shown in **Figure 6**.



Figure 6. Column secured to base.

Table Support

Components and Hardware Needed:	Qty
Table Support Assembly	1
Crank Handle	1
Handle	1
Large Lock Lever.....	1
Small Lock Lever.....	1

The table support must be installed as described to properly assemble your drill press.

To install the table support:

1. Check to make sure the pinion is inserted into the table support, as shown in **Figure 7**, so the pinion and gear teeth mesh together.

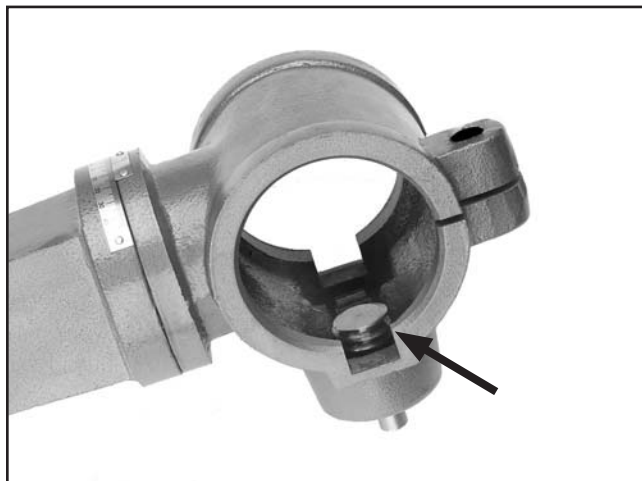


Figure 7. Pinion correctly installed in table support.



2. Mark the top of the rack, as shown in **Figure 8**, to keep track of which end is up.

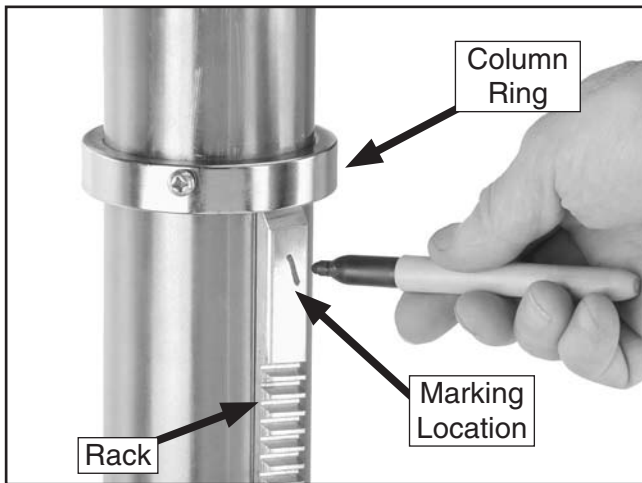


Figure 8. Marking top of rack to show which end is up.

3. Remove the column ring by loosening the Phillips head screw, and remove the rack.
4. Place the rack inside of the table support assembly, mesh it together with the pinion, and slide the table support/rack assembly over the column, as shown in **Figure 9**.



Figure 9. Sliding table support and rack over the column.

5. Slide the column ring over the column with the beveled edge facing down (**Figure 10**), fit the beveled edge of the column ring over the rack, and tighten the Phillips head screw.

Note: Do not over-tighten the screw or you may split the column ring. Also make sure the rack is seated firmly in the lower ring.



Figure 10. Correct column ring orientation.

6. Install the crank handle over the pinion shaft, and tighten the setscrew in the crank handle against the flat part of the pinion shaft.

Note: If the crank handle does not slide all the way onto the pinion shaft, loosen the setscrew, and gently tap the handle with a rubber hammer.

7. Thread the handle into the crank handle.
8. Thread the large lock lever into the back of the table support assembly approximately three turns, for now.
9. Thread the small lock lever into the front part of the table support assembly approximately three turns, for now. The assembly should now be assembled as shown in **Figure 11**.

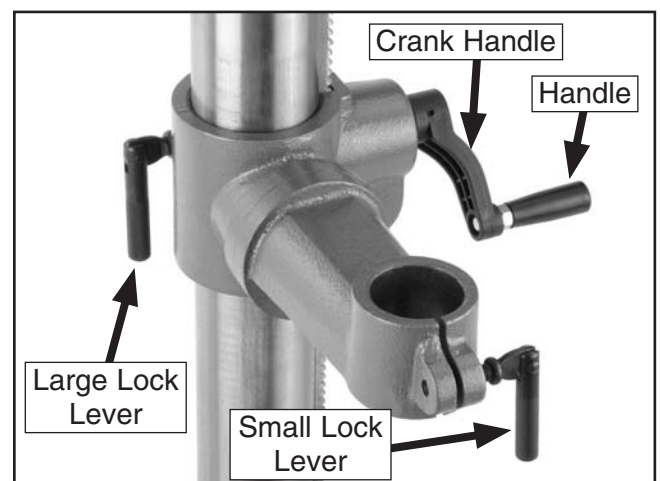


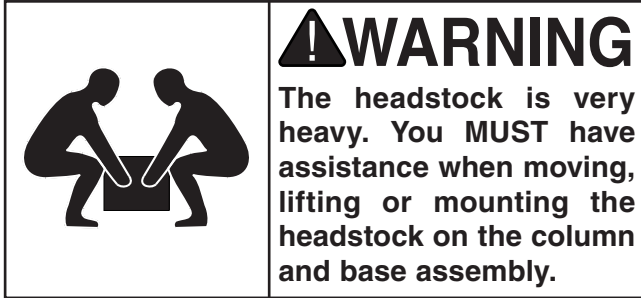
Figure 11. Handles and lock levers installed.



Headstock

Components and Hardware Needed:	Qty
Headstock	1

The headstock must be mounted on the column/base assembly before the drill press can be operated. Moving and installing the headstock is a two-person job.



To mount the headstock onto the column:

1. Loosen the two set screws on the right side of the headstock enough so they are flush with the inside pocket of the headstock.
2. With the help of an assistant, lift the headstock assembly above the column, and gently slide it down the column as far as it will go.

NOTICE

Do NOT force the headstock onto the column! If you do, you could damage the headstock and the column.

An alternate method is to lay the headstock on the packaging styrofoam and slide the column into the headstock, tilt the assembly up, and position the drill press on its base in the upright position.

3. Place a ruler or tape measure on the base and suspend a plum bob from the center of the headstock spindle so it is over the tape/ruler as shown in **Figure 12**.
4. Center the headstock directly over the base as indicated by the plum bob and ruler.

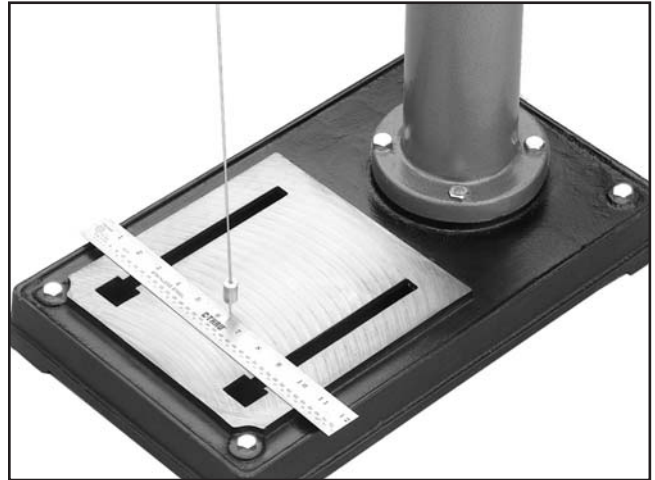


Figure 12. Aligning headstock with base.

5. Tighten the two headstock setscrews to the column, as shown in **Figure 13**.



Figure 13. Securing headstock to column.



Chuck Guard

The chuck guard must be installed before the chuck is attached to the spindle.

Components and Hardware Needed: Qty
Chuck Guard 1

To install the chuck guard:

1. Loosen the Phillips head screw and lock nut on the chuck guard clamp.
2. Place the chuck guard over the spindle, and tighten the Phillips head screw and lock nut.

Note: (Optional) To prevent the guard from slipping off of the spindle, move the table up until it is just below the guard as shown in **Figure 14**. Or have an assistant hold the guard in place while you secure it.



Figure 14. Installing chuck guard.

Drill Chuck & Arbor

The drill chuck attaches to the spindle by means of the arbor, shown in **Figure 15**. Matched tapers on the arbor and the inside of the chuck create a semi-permanent assembly when properly joined. When the drill press is shipped from the factory, a plastic plug is installed in the chuck.

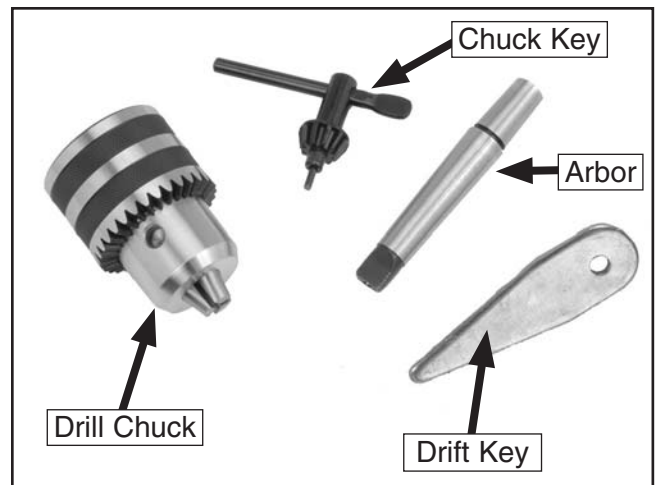


Figure 15. Chuck components.

To assemble the drill chuck and mount it to the spindle:

1. Use the chuck key to back the jaws out and remove the plastic plug.
2. Use mineral spirits to thoroughly clean the drill chuck, arbor, and spindle sockets and dry all surfaces before assembly. Follow all safety warnings on the container of the mineral spirits. **Failure to clean the mating surfaces may cause the tapered fit to loosen during operation, resulting in separation and an unsafe condition.**
3. Use the chuck key to adjust the jaws of the drill chuck until they are inside the drill chuck body.



4. Place the drill chuck face down on a workbench. The arbor has a short taper and a long taper. Place the short taper into the socket in the back of the drill chuck and tap it with a rubber or wooden mallet, as shown in **Figure 16**. If the chuck fails to remain secure on the arbor, repeat **Steps 1 & 2**.

5. Raise the chuck guard.

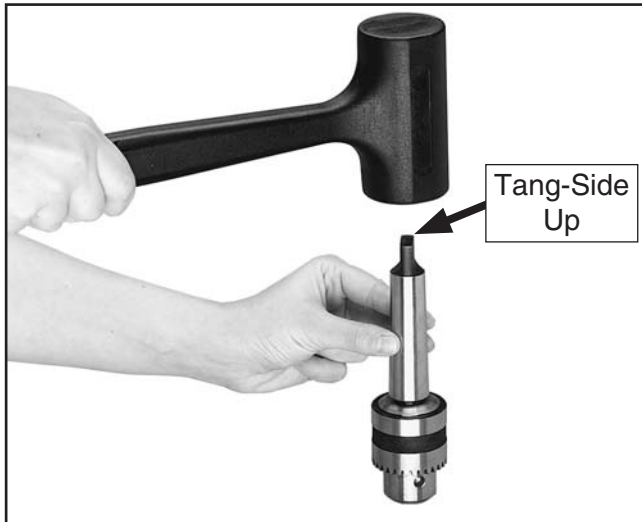


Figure 16. Seating arbor into chuck.

6. Slide the arbor into the spindle socket while slowly rotating the drill chuck. The socket has a rectangular pocket where the tang (or flat portion of the arbor shown in **Figure 16**) fits into.
7. Seat the chuck with a rubber mallet, as shown in **Figure 17**.

CAUTION

DO NOT use a steel hammer on the drill chuck to seat the arbor into the spindle. You will damage the chuck and/or spindle, which may make them unusable or unsafe.

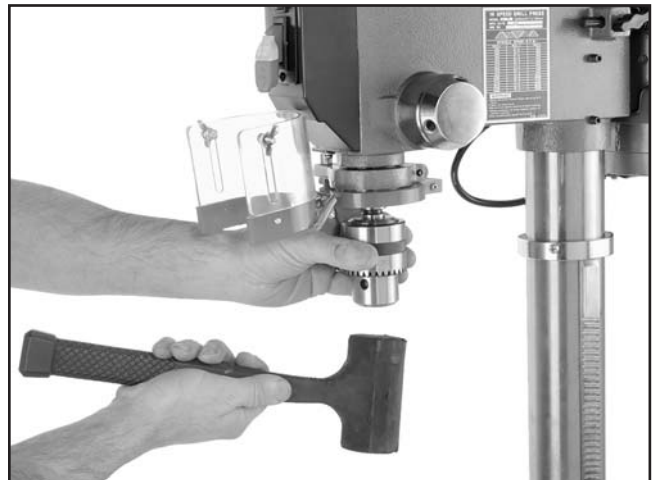


Figure 17. Seating arbor and chuck into spindle.

Downfeed Handles & Belt Cover Knob

Components and Hardware Needed:	Qty
Downfeed Handles	3
Knobs M10-1.5	3
Belt Cover Knob	1

The downfeed handles must be installed to properly operate the drill press.

To install the downfeed handles:

1. Thread the knobs onto the handles, then thread the handles into the spindle hub, as shown in **Figure 18**, and tighten.
2. Install the belt cover knob in its place (see **Figure 18** for location).



Figure 18. Downfeed handles and belt cover knob installed.

Table

Components and Hardware Needed:	Qty
Table	1

The table must be installed to properly support the workpiece during operation.

To install the table:

1. Insert the table shaft into the table support assembly.
2. Tighten the small locking lever (**Figure 19**) to secure the table in the table support assembly.

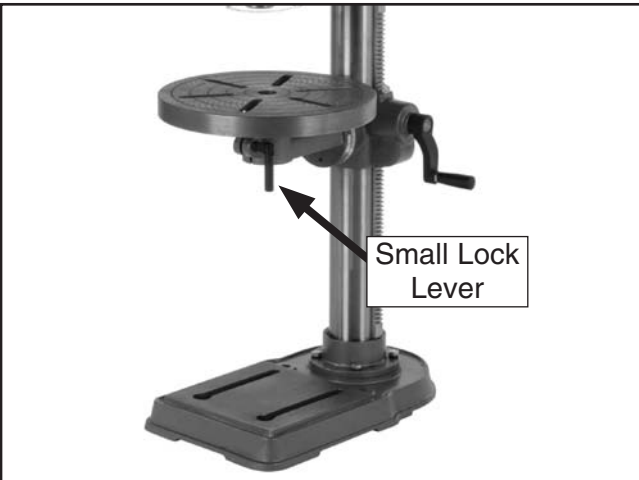


Figure 19. Table installed.



Light

Components and Hardware Needed: Qty
60W Light Bulb..... 1

The Model G0485/G0491 includes a 110V light socket. When the drill press is shipped from the factory, a dust plug is installed in the light socket for protection.

To install a light bulb in the drill press:

1. Remove the dust plug from the light socket.
2. Install a 60W or smaller light bulb in the location shown in **Figure 20**.



Figure 20. Light bulb access location.

!WARNING

Use only bulbs that are “safety coated” and shatter resistant. The bulb will be exposed at the bottom of the head casting which helps with illumination. Impacts with a bulb not “safety coated” may shatter, exposing the electrical filaments and creating an electrical shock hazard.

Test Run

Once assembly is complete, you are ready to test run the drill press.



To test run the drill press:

1. Plug the drill press into the power.
2. With your finger poised on the paddle switch (in case there is a problem), flip the START button **ON**. The drill press should run smoothly, with little or no vibration or rubbing noises.

Investigate and correct for strange or unusual noises before operating the machine further.

If you cannot easily locate the source of a potential problem, refer to **Troubleshooting** on **Page 35**. If you still can't solve the problem, contact our Technical Support at (570) 546-9663.



Mounting

The Model G0485 should be secured to a bench. The Model G0491 base should be secured to the floor.

Bench Mounting

Components and Hardware Needed:	Qty
Assembled Drill Press	1
1/2" Mounting Hardware (Not Included).....	Varies

To mount the G0485 drill press to a table:

1. Clamp the base on a bench top capable of holding approximately 100 lbs. plus the weight of the workpiece using two clamps. Make sure the surface is flat and stable.
2. Using holes in the base as a guide (**Figure 21**), drill and bolt the base to the bench top using lag bolts, or hex bolts, flat washers, and hex nuts.

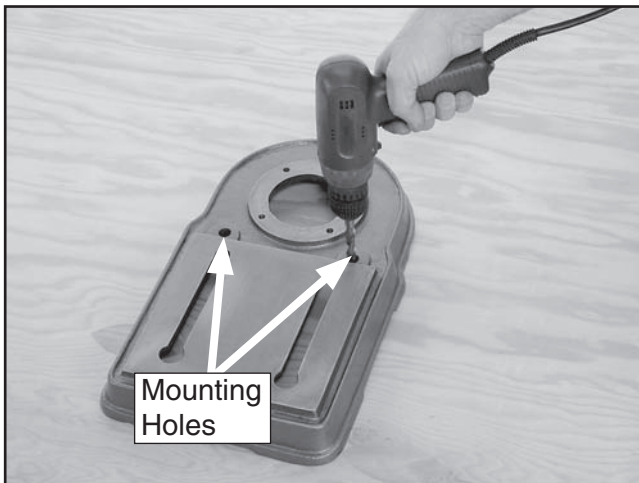


Figure 21. Using holes as a drilling guide.

Floor Mounting

Once you have confirmed that your Model G0491 is running properly, we strongly recommend mounting it to the floor to ensure optimum stability.

Lag shield anchors with lag bolts and anchor studs (**Figure 22**) are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine and choose the best that fits your specific application.

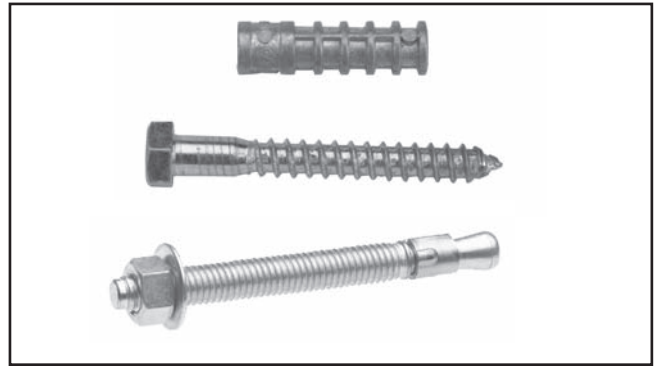


Figure 22. Typical concrete mounting hardware.

Mobile Base Mounting

Because the Model G0491 drill press is top-heavy by nature, we recommend mounting it to the floor, rather than a mobile base.

If you must use a mobile base, ALWAYS mount your drill press to a base plate inside of the mobile base, as shown in **Figure 24**.

A good quality base plate increases the standard footprint of the drill press to make it much more stable. The base plate must be at least 1 1/2" thick and made of plywood (do not use OSB, MDF, or particle board) to hold the weight of the drill press. A common way for making the baseplate is described in this sub-section.



⚠ CAUTION

Drill presses are top-heavy and must be securely attached to a large-footprint base plate when used with a mobile base. Failure to use a base plate greatly increases possibility of tipping and personal injury.

Needed Materials for Base Plate

Qty

- Plywood $\frac{3}{4}$ " x $23\frac{3}{4}$ " x $23\frac{3}{4}$ " 2
- Wood Glue As Needed
- Wood Screws #6 x $1\frac{1}{4}$ " 24
- Mounting Hardware Varies

To make and use the base plate:

1. Glue the two pieces of plywood together, and align the edges and corners so the two boards make one thick piece.
2. Use the wood screws to fasten the boards together from both sides.
3. Allow 24 hours for the glue to dry before placing the drill press on it.
4. Place the base plate on the mobile base.
5. Drill holes through the base plate and the metal plates at the corners of the mobile base.
6. Secure the base plate to the mobile base with hex bolts, hex nuts, flat washers and lock washers, as shown in **Figure 23**.

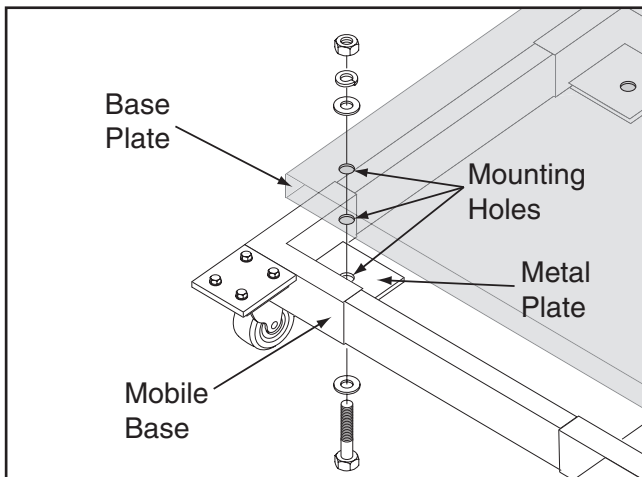


Figure 23. Mounting base plate to mobile base.

Note: Use 2" to $2\frac{1}{4}$ " long hex bolts.

7. Place the drill press on the base plate.
8. Position the drill press close to the front of the mobile base, so the mobile base will not be a tripping hazard.
9. Mount the drill press to the base plate with lag bolts and flat washers (**Figure 24**); or with through bolts, flat washers, and hex nuts.

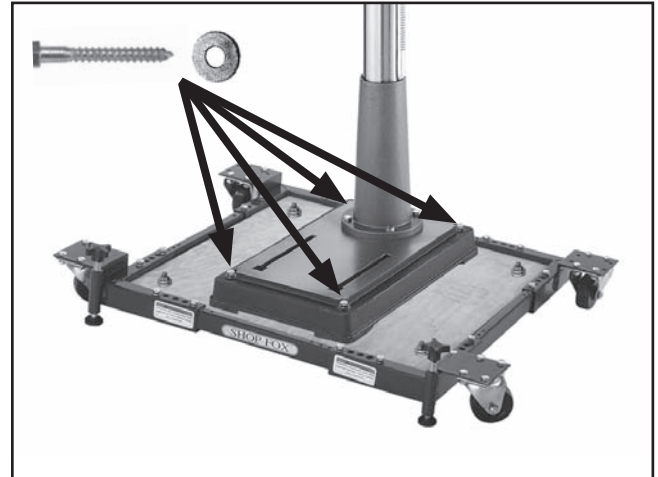


Figure 24. Drill press mounted on mobile base, using a base plate for support.

Recommended Adjustments

For your convenience, the adjustments listed below have been performed at the factory; however, because of the many variables involved with shipping, we recommend that you at least verify the following adjustments before operating your machine—this will ensure that you know the operating tolerances of your machine, and you have them adjusted to your expectation.

Step-by-step instructions for these adjustments can be found in **SECTION 7: SERVICE**.

Factory adjustments that should be verified:

1. Feed Shaft Spring Tension (**Page 38**).



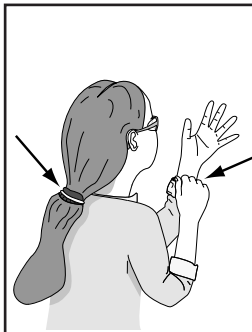
SECTION 4: OPERATIONS

Operation Safety



! WARNING

Wear safety glasses when operating this machine. Serious injury may occur if this warning is ignored!



! WARNING

Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing and long hair away from moving machinery.

NOTICE

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

Switch/Safety Key

The ON/OFF switch can be disabled to prevent unauthorized use.

To disable the switch, remove the yellow key from the switch housing, as shown in **Figure 25**. Place the key in a safe place.

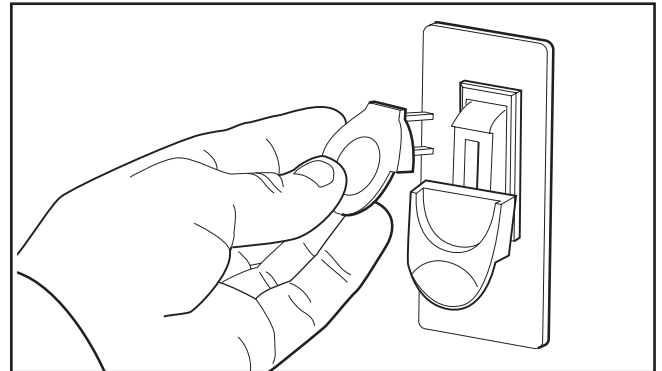


Figure 25. Disabling switch.

Installing/Removing Drill Bits

Any drill bit you install in the chuck must be tight enough that it will not come loose during operation.

To install a drill bit:

1. DISCONNECT THE DRILL PRESS FROM POWER!
2. Open the drill chuck wide enough to accept the shank of the drill bit.
3. Insert the drill bit as far as possible into the chuck WITHOUT allowing the chuck jaws to touch the fluted portion of the bit, and hand tighten the chuck. **Note:** Make sure small bits are not trapped between the edges of two jaws; if they are, reinstall the drill bit or it will not be secure enough to use for drilling.
4. Final tighten the drill bit with the chuck key.

To remove a drill bit:

1. DISCONNECT THE DRILL PRESS FROM POWER!
2. Use the chuck key to open the drill chuck, and catch the drill bit with a rag to protect your hands.



Choosing Speeds

Using the Drill Bit Speed Chart

The chart shown in **Figure 26** is intended as a guide only. Always follow the manufacturer's speed recommendations if provided with your drill bits, cutters, or hole saws. Exceeding the recommended speeds may be dangerous to the operator.

The speeds shown here are intended to get you started. The optimum speed will always depend on various factors, including tool diameter, drilling pressure, material hardness, material quality, and desired finish.

Often, when drilling materials other than wood, some type of lubrication is necessary.

Lubrication Suggestions

WoodNone
 Plastics Soapy Water
 Brass Water-Based Lubricant
 Aluminum.....Paraffin-Based Lubricant
 Mild Steel.....Oil-Based Lubricant

CAUTION

Larger bits turning at slower speeds tend to grab the workpiece aggressively. This can result in the operator's hand being pulled into the bit or the workpiece being thrown with great force. Always clamp the workpiece to the table to prevent injuries.

Twist/Brad Point Drill Bits	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1/16" – 3/16"	3000	2500	2500	2500	3000	2500
13/64" – 3/8"	2000	1500	2000	1250	2500	1250
25/64" – 5/8"	1500	750	1500	750	1500	600
11/16" – 1"	750	500	1000	400	1000	350

Spade/Forstner Bits	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1/4" – 1/2"	2000	1500				
9/16" – 1"	1500	1250				
1-1/8" – 1-7/8"	1000	750				
2–3"	500	350				

Hole Saws	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
1/2" – 7/8"	500	500	600	600	600	500
1" – 1-7/8"	400	400	500	500	500	400
2" – 2-7/8"	300	300	400	400	400	300
3" – 3-7/8"	200	200	300	300	300	200
4" – 5"	100	100	200	200	200	100

Rosette Cutters	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
Carbide Insert Type	350	250				
One-Piece Type	1800	500				

Tenon/Plug Cutters	Soft Wood	Hard Wood	Plastic	Brass	Aluminum	Mild Steel
3/8" – 1/2"	1200	1000				
5/8" – 1"	800	600				

Figure 26. Drill bit speed chart.



Changing Speeds

The belts in the headstock must be rearranged to change speeds. A chart under the pulley cover (**Figure 27**) shows the belt positions needed to make the drill press run at the desired speed.

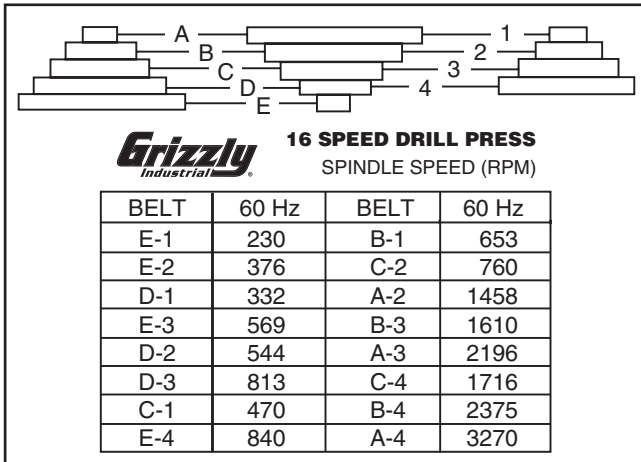


Figure 27. Speed chart.

To change speeds:

1. DISCONNECT THE DRILL PRESS FROM POWER!
2. Loosen the belt tension lock knob (shown in **Figure 28**) on the right side of the headstock, to take tension off of the V-belts and allow the motor to move freely.



Figure 28. Loosening lock knob.

3. Locate the desired speed on the speed chart and move the V-belts to the desired V-grooves on the motor, idler, and spindle pulleys.
4. Pivot the motor toward the back of the headstock and tighten the lock knob once the desired V-belt tension is achieved.
5. Close the cover before plugging in the machine.

⚠ WARNING

Never operate drill press with pulley cover in the open position. Your hand may become trapped in the belt and serious personal injury will occur.



Drilling

The Model G0485/G0491 is designed for drilling holes in wood or metal. The basic operation of a drill press is lining up your drill bit with the intended hole location, turning the drill press **ON**, and using the downfeed handles to move the spinning drill bit into the workpiece.

For safe operation and optimum results, it is very important to follow these guidelines when drilling:

CLEARING CHIPS: Raise the drill bit often to clear chips and cool the drill bit. This will ease the work of the drill press motor and extend the life of your drill bits.

SECURING WORKPIECE TO TABLE: Secure the workpiece to the table or in a vise that is secured to the table before drilling.

PROTECTING TABLE: Protect the table by placing the workpiece on scrap wood, or center the location of the hole to be drilled over the pocket in the table when through drilling. Also, make use of the depth stop so that the drill bit goes no deeper than necessary.

USING CORRECT SPEEDS: Use the correct speed for the diameter of the drill bit being used and the type of material being drilled. Refer to the **Drill Bit Speed Chart** on **Page 27** to help you choose the correct speed for your application.

LARGE DIAMETER BITS: Large diameter drill bits require slower spindle speeds.

SMALL DIAMETER BITS: Smaller diameter drill bits require faster spindle speeds.

HARD MATERIAL: The harder the material, (steel vs. wood) the slower the spindle speed.

SOFT MATERIAL: The softer the material, the faster the spindle may turn. (Plastics can melt at too high of a spindle speed!)

LUBRICANT: Use some form of lubricant on all materials except wood. Refer to **Lubrication Suggestions** on **Page 27** to find the correct lubrication for your application.

DRILLING ACCURACY: To prevent drill bit wandering and ensure accurate placement of holes, mark the hole location with a center punch before drilling. Also consider using a center-point drill to start the hole.

PLUG/ROSETTE CUTTERS: Plug cutters and rosette cutters are for wood only. However, carbide-tipped bits and cutters cut at a higher speed and can cut materials other than wood, depending on the cutter type.

5-FLUTE/2-FLUTE CUTTERS: Use a 5-flute cutter when cutting into plastics, brass, aluminum, and mild steel. A 2-flute cutter can aggressively grab the workpiece and damage the tool if used with materials other than wood.

SPADE BITS AND PLASTIC: When drilling plastic with a spade bit, use a spade bit with spurs.

HOLE SAWS: When using hole saws, apply firm and even pressure, so the saw teeth contact the surface all at the same time—not at an angle. You can also flip the workpiece and finish drilling from the other side.

CAUTION

Larger bits turning at slower speeds tend to grab the workpiece aggressively. This can result in the operator's hand being pulled into the bit or the workpiece being thrown with great force. Always clamp the workpiece to the table to prevent injuries.



Depth Stop

The Model G0485/G0491 has a depth stop that allows you to drill repeated non-through holes to the same depth every time.

The depth stop consists of a stud attached to the quill with two knurled nuts that can be lowered or raised on the stud so the lower nut (depth nut) hits a stop bracket when the drill bit is lowered. The upper nut (jam nut) is then used to tighten against the depth nut to secure it in place so it doesn't move with repeated operations. **Figure 29** shows the various components of the depth stop.

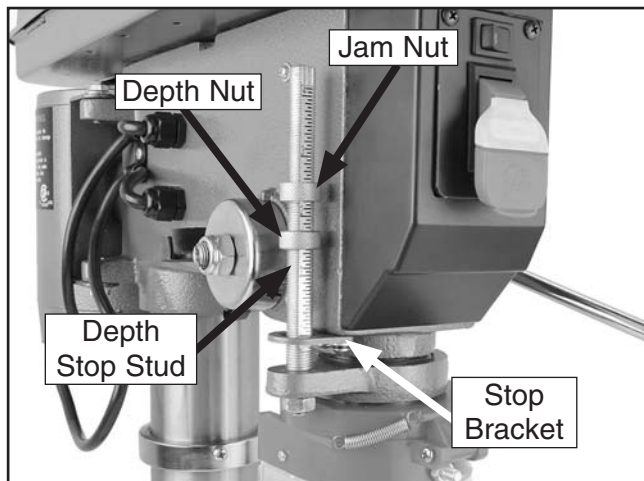


Figure 29. Depth stop components.

To set the depth stop:

1. Lower the drill bit to the required height.
2. Thread the depth nut down against the stop bracket.
3. Lower the jam nut against the depth nut.
4. Hold the depth nut in place and tighten the jam nut against the depth nut.

Adjusting Table

The table can be raised/lowered, rotated, and tilted 90° left or right. Table adjustment controls are shown in **Figure 30**.

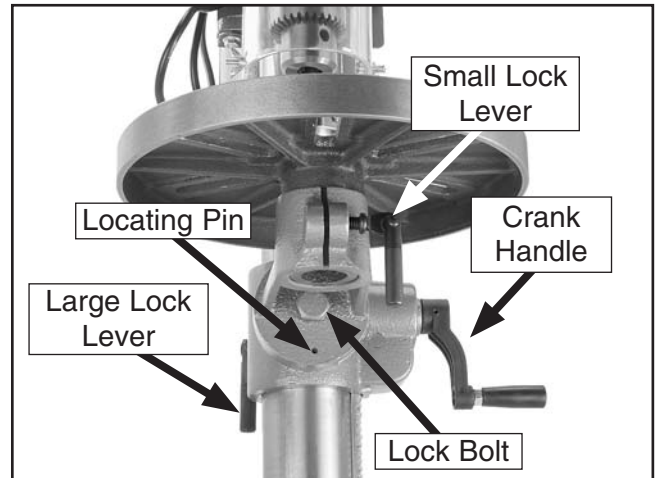


Figure 30. Table adjustment controls.

Table Height

1. Loosen the large lock lever.
2. Adjust the height with the crank handle.
3. Lock the large lock lever.

Table Rotation

1. Loosen the small lock lever.
2. Rotate the table as necessary.
3. Lock the small lock lever.

Table Tilt

1. Use a hex wrench to remove the locating pin from the hole.
2. Loosen the lock bolt and tilt the table to the desired angle (make sure the small lock lever is locked, so the table won't fall out).
3. Tighten the lock bolt.
4. To return the table to 0°, loosen the lock bolt, align the arrow and the 0° mark on the angle scale, reinstall the locating pin, and tighten the lock bolt.



Arbor Removal

The arbor can be removed to install another drill chuck in the spindle. A drift key is included to help remove the arbor from the spindle. Usually, once the chuck and arbor have been properly mounted together, they are considered semi-permanent connections. (If you would like to install a different chuck, we recommend getting a new arbor for that chuck.)

To remove the drill chuck and arbor:

1. DISCONNECT THE DRILL PRESS FROM POWER!
2. Rotate the downfeed handles until the drift-key slot is exposed in the side of the quill. For now, keep the downfeed handles in this position.
3. Move the table up until it is $\frac{1}{4}$ " below the bottom of the chuck, and place a towel or cloth under the chuck.
4. Rotate the spindle until the inner drift-key slot is aligned with the outer slot, as shown in **Figure 31**. You will see through the spindle when the slot is properly aligned.

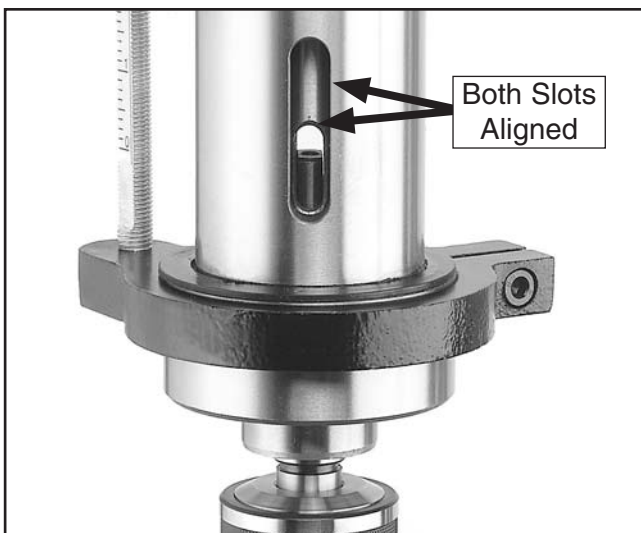


Figure 31. Inner and outer drift-key slots aligned.

5. Insert the drift key into the drift-key slot.
6. Tap the drift key with a rubber or wooden mallet, as shown in **Figure 32**, until the chuck releases and catch the chuck with your hand.



Figure 32. Using drift key to remove arbor.

7. Remove the drift key and carefully retract the quill into the headstock.

SECTION 5: ACCESSORIES

G2500—20-PC Regular Sanding Drum Set

Use on your drill press, lathe, or hand drill. This kit consists of 5 drums in popular $\frac{1}{2}$ " x $\frac{1}{2}$ ", $\frac{3}{4}$ " x 1", 1" x 1", 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ ", and 2" x 1 $\frac{1}{2}$ " sizes. Comes with 50, 80 and 120 grit sizes for each drum.



Figure 33. Model G2500 20-PC Sanding Drum Set.

G5753—Drill Press Vise 6"

If you use a drill press and value your fingers, you need one of these. Made from high-grade cast iron, these hefty horizontal vises offer support and stability, allowing you to keep your hands well away from fast moving bits and cutters.

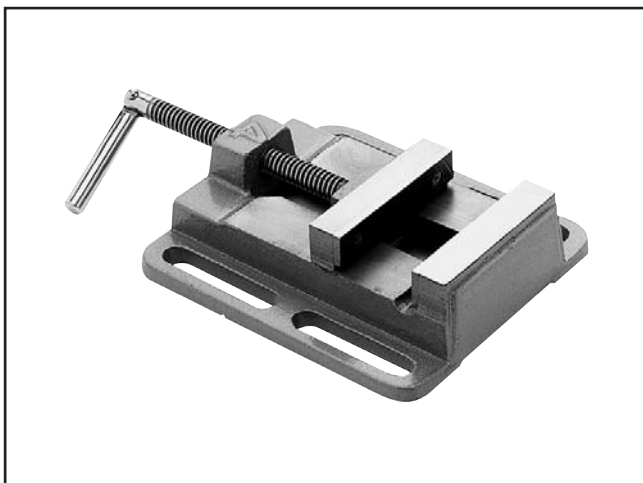


Figure 34. Model G5753 Drill Press Vise 6".

Call 1-800-523-4777 To Order

G8581— $\frac{1}{2}$ " Keyless Drill Chuck JT #33

Industrial grade keyless chucks are excellent for quick bit changes. Knurled grips and exceptional accuracy make these chucks an indispensable part of any shop. Use on drill presses, lathe tailstocks and milling machines. 0 – $\frac{1}{2}$ " capacity with a Jacobs Taper #33 in back.



Figure 35. Model G8581 $\frac{1}{2}$ " Keyless Drill Chuck JT #33.

G5562—SLIPIT® 1 Qt. Gel

G5563—SLIPIT® 12 oz Spray

G2871—Boeshield® T-9 12 oz Spray

G2870—Boeshield® T-9 4 oz Spray

H3788—G96® Gun Treatment 12 oz Spray

H3789—G96® Gun Treatment 4.5 oz Spray



Figure 36. Recommended products for protecting unpainted cast iron/steel areas.



H7827—Drill Press Table

Add this 23 $\frac{3}{4}$ " wide x 11 $\frac{7}{8}$ " deep drill press table with 3" high fence and stop block to your drill press for greater work support and increased accuracy. The fence and stop block slide along T-slots for quick, yet secure set-up, and a removable 3 $\frac{5}{16}$ " square center block allows through drilling past the table. Fits all standard drill press tables and includes two universal table clamps.

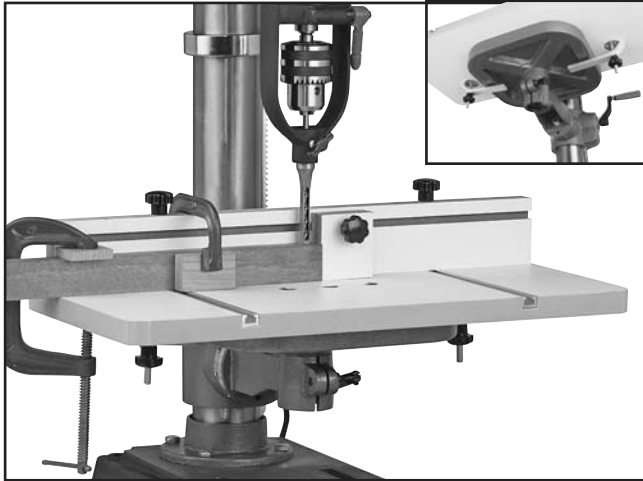


Figure 37. H7827 Drill Press Table.

H7789—Mortising Attachment Kit

This mortising attachment kit, with its variety of interchangeable bushings, will fit just about any drill press for boring precision mortises. The entire kit includes cast iron chisel holder and fence, hold down assembly, quill alignment pin, $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " chisels, 3 two-piece bushings, 3 split bushings and carrying case.

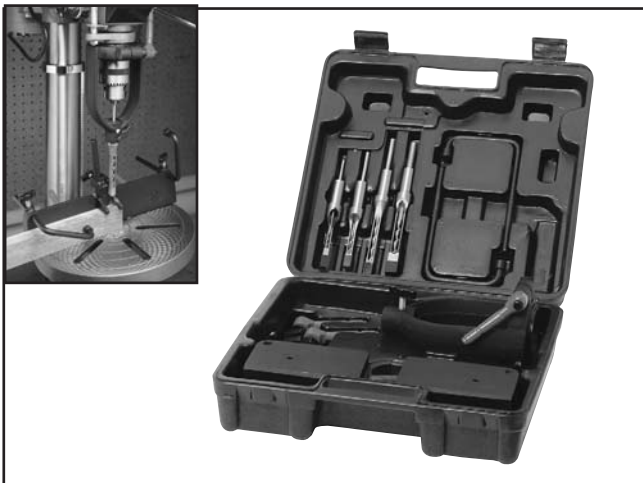


Figure 38. H7789 Mortising Attachment Kit.

G8865—Cobalt Alloy Drill Bits 13-PC. Set

G8866—Steelex® Cobalt Alloy Drill Bits 21-PC Set

G8867—Steelex® Cobalt Alloy Drill Bits 29-PC Set

Cobalt Alloy bits will retain their edge sharpness longer than normal HSS bits, resulting in a significant saving of time and money in the workshop. Includes a heavy-gauge steel index case for storing. G8865: $\frac{1}{16}$ " - $\frac{1}{4}$ "; G8866: $\frac{1}{16}$ " - $\frac{3}{8}$ "; G8867: $\frac{1}{16}$ " - $\frac{1}{2}$ ". More bits are available at Grizzly.com or see the current Grizzly catalog.



Figure 39. Model G8865 13-PC Alloy Drill Bits.

G3639—Power Twist® V-Belt $\frac{3}{8}$ " x 48"

Smooth running with less vibration and noise than solid belts. The Power Twist® V-belts can be customized in minutes to any size—just add or remove sections to fit your needs. Size: $\frac{3}{8}$ " x 48"; replaces all "M" sized V-belts. Requires one Power Twist® V-belt to replace the stock V-belts on your Model G0485/G0491. Well worth it!

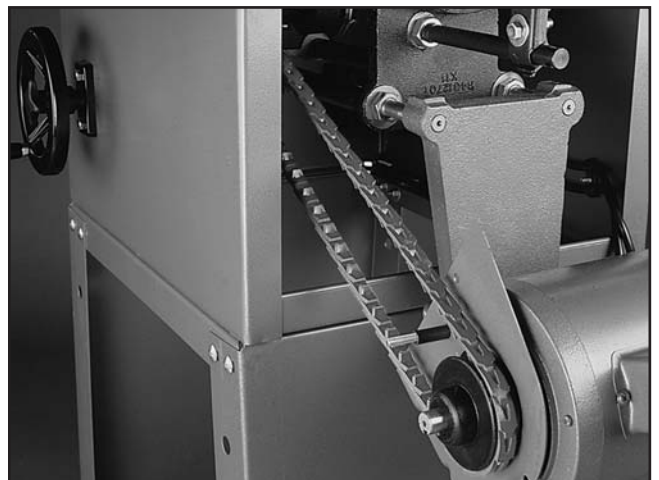


Figure 40. G3639 Power Twist® V-Belt installed.



SECTION 6: MAINTENANCE



General

Regular periodic maintenance on your drill press will ensure optimum performance. Make a habit of inspecting your machine each time you use it. Check for the following conditions and repair or replace when necessary:

- Loose mounting bolts.
- Worn switch.
- Worn or damaged cords and plugs.
- Damaged V-belts.
- Any other condition that could hamper the safe operation of this machine.

Cleaning

Cleaning the Model G0485/G0491 is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it.

Unpainted Cast Iron

Protect the unpainted cast iron surfaces by wiping them clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces. Treat all unpainted cast iron and steel with regular applications of a non-staining lubricant, such as G96® Gun Treatment, SLIPIT®, or Boeshield® T-9 (see **SECTION 5: ACCESSORIES** on **Page 32** for more details) to keep these surfaces rust free.

Lubrication

Since all bearings are shielded and permanently lubricated, simply leave them alone until they need to be replaced. DO NOT lubricate them.

Keep quill, spindle, column, and table top well lubricated to prevent rust.

V-Belts

Inspect regularly for tension and wear. Check pulleys to ensure that they are properly aligned. See **Changing Speeds** on **Page 27** for more information about removing/installing belts if you need help replacing the belts.

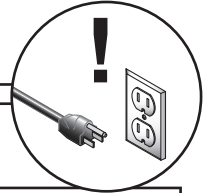


SECTION 7: SERVICE

About Service

Review the troubleshooting and procedures in this section to fix your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

Troubleshooting

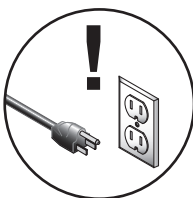


Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	1. Plug or receptacle is at fault or wired incorrectly. 2. Start capacitor is faulty. 3. Motor connection is wired incorrectly. 4. Power supply is faulty, or is switched OFF. 5. Safety switch key is at fault. 6. ON/OFF switch is faulty. 7. Cable or wiring is open or has high resistance. 8. Motor is at fault.	1. Test power plug and receptacle for good contact and correct wiring. 2. Replace capacitor. 3. Correct motor wiring (see Page 40). 4. Make sure all hot lines and grounds are operational and have correct voltage on all legs. 5. Install or replace safety key, or replace switch assembly. 6. Replace faulty switch. 7. Troubleshoot wires for internal or external breaks, check for disconnected or corroded connections and repair or replace wiring. 8. Test, repair or replace motor.
Machine stalls or is underpowered.	1. Incorrect spindle speed for task. 2. Machine is undersized for the task. 3. Bit or cutter is dull. 4. Low power supply voltage. 5. Belt(s) is slipping. 6. Plug or receptacle is at fault. 7. Motor connection is wired incorrectly. 8. Pulley is slipping on shaft. 9. Motor bearings are at fault. 10. Motor has overheated. 11. Motor is at fault.	1. Decrease spindle speed. 2. Use smaller drill bits/cutters and reduce the feed rate and spindle speed. 3. Sharpen/replace bit or cutter. 4. Make sure hot lines and grounds are operational w/correct voltage. 5. Replace bad belts, align pulleys, and re-tension. 6. Test power plug and receptacle for good contact and correct wiring. 7. Correct motor wiring (see Page 40). 8. Replace loose pulley and shaft. 9. Rotate motor shaft for noisy or burnt bearings, repair/replace as required. 10. Clean inside/outside of motor, let cool, and reduce workload on machine. 11. Test, repair or replace motor.

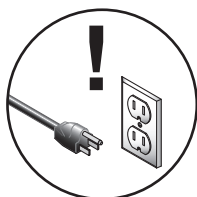


Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	1. Motor or component is loose. 2. Belts are slapping belt cover. 3. V-belt(s) is worn or is loose. 4. Motor fan is rubbing on fan cover. 5. Pulley is loose. 6. Machine is incorrectly mounted to the floor, or the floor is uneven. 7. Chuck or cutter is at fault. 8. Motor bearings are at fault. 9. Spindle bearings at fault.	1. Inspect, replace for stripped or damaged bolts/nuts, and re-tighten with thread locking fluid. 2. Replace/realign belts with a new matched set, and retension belts (refer to Page 28). 3. Replace belts. 4. Replace/repair dented fan cover, and replace loose or damaged fan. 5. Remove pulley, replace with key as required, and re-install securely. 6. Make sure floor mounting hardware is tight; place shims under machine. 7. Replace out-of-round chuck, replace or resharpen cutter, use appropriate feed rate and cutting RPM. 8. Check bearings, replace motor or bearings as required. 9. Replace bearing.



Drill Press Operations

Symptom	Possible Cause	Possible Solution
Drilling stops, but the motor still operates.	1. The belt is loose or worn. 2. The pulley for the spindle shaft or the motor is slipping on the shaft. 3. Bit slips in chuck.	1. Replace and/or adjust the belt. 2. To resecure the pulley, do these steps: a. DISCONNECT THE DRILL PRESS FROM POWER! b. Remove the setscrew on the slipping pulley. c. Align the flats on the pulley shaft with the setscrew hole. d. Reinstall and tighten the setscrew. 3. Tighten bit; inspect bit for burrs or other obstructions that might interfere with clamping surface.
The chuck wobbles or is loose on the spindle shaft.	1. Foreign material is stuck between the chuck-to-spindle mating surface. 2. Damaged chuck.	1. Remove the chuck and clean and deburr the tapered chuck and spindle mating surfaces, then reassemble. 2. Replace.
The spindle does not retract completely in the uppermost position or it binds.	1. The quill shaft is gummy with sawdust and oil. 2. The feed shaft return spring is weak. 3. The quill deflection screw is binding the quill.	1. Clean the gummy substance with penetrating oil and lubricate with a light coat of oil. 2. Increase the feed shaft return spring tension as described on Page 38. 3. Loosen the jam nut, and slightly turn out the screw where the quill binds. Retighten the jam nut and recheck for binding and looseness at all spindle locations.
The quill has excessive deflection.	1. The quill shaft is at fault. 2. The quill and/or bearings are worn.	1. Adjust the quill screw. 2. Replace the quill and/or bearings.
Holes drilled at an angle.	1. Table is not at 90 degrees.	1. Adjust table angle (see Page 30).
Drill bit wobbles, holes are oversized.	1. Drill bit installed incorrectly.	2. Remove drill bit and reinstall.



Feed Shaft Spring Tension

The feed shaft return spring is adjusted at the factory; however, during the life of the drill press you may want to adjust the feed shaft return spring so the pressure suits your operating needs.



To adjust the feed shaft spring tension:

1. DISCONNECT THE DRILL PRESS FROM POWER!
2. Wipe off any oil on the spring lock cover so it does not slip in your fingers when you hold the cover from spinning (see **Figure 41**).

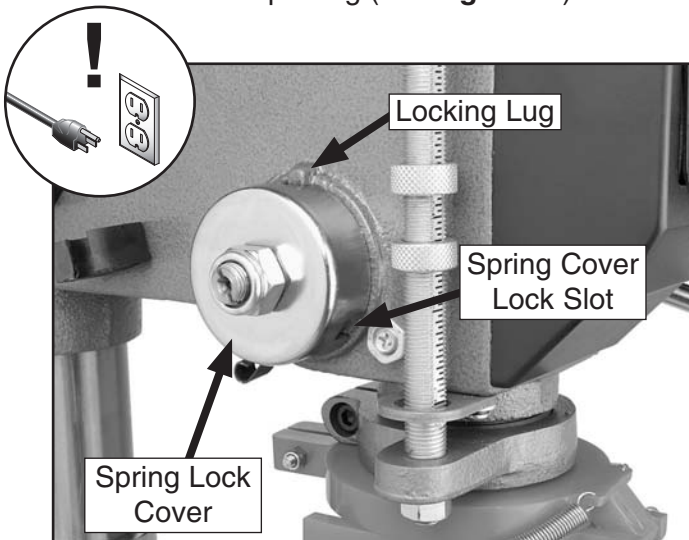


Figure 41. Feed shaft return spring assembly.

! CAUTION

A high tension coiled spring is underneath the cover. Put on heavy leather gloves to protect your hands from possible lacerations when removing the cover.

3. While holding the spring lock cover against the side of the headstock so the cover stays splined with the locking lug; loosen the cover nut approximately $\frac{1}{4}$ " (see **Figure 42**).



Figure 42. Loosening cover nut.

4. Put on heavy leather gloves to protect your hands from possible lacerations if the spring uncoils during the next step.
5. Pull the cover outward just enough to disengage the spring-cover lock slot from the locking lug.

Note: It is important to keep a good grip during this step. Letting go of the cover will cause the spring to rapidly uncoil.

6. Rotate the cover counterclockwise to increase spring tension, or let the cover slowly unwind in the clockwise direction to reduce spring tension.
7. Engage the next available spring-cover lock slot with the locking lug and hold the spring lock cover tightly against the side of the headstock.
8. Snug the cover nut against the spring cover just until the nut stops, and then back off the nut approximately $\frac{1}{3}$ turn, or just enough so there is no binding at complete spindle travel.
9. Tighten the cover nut.



Electrical Components

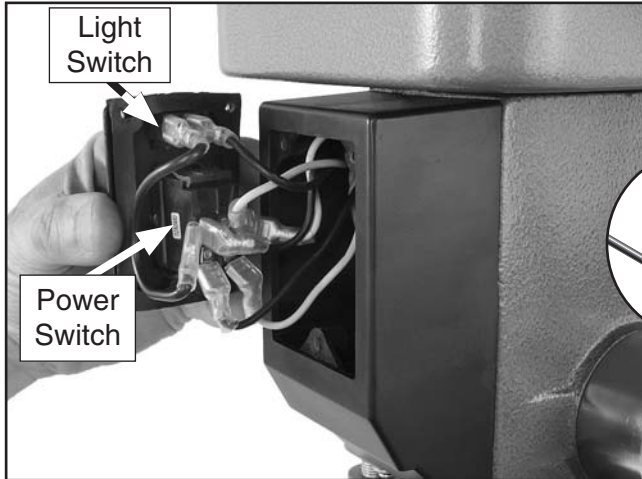


Figure 43. Power and light switch assembly.

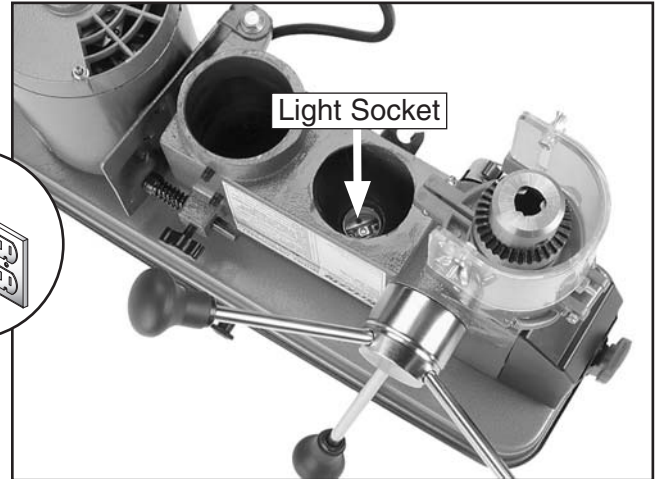


Figure 45. Light socket with dust plug removed.

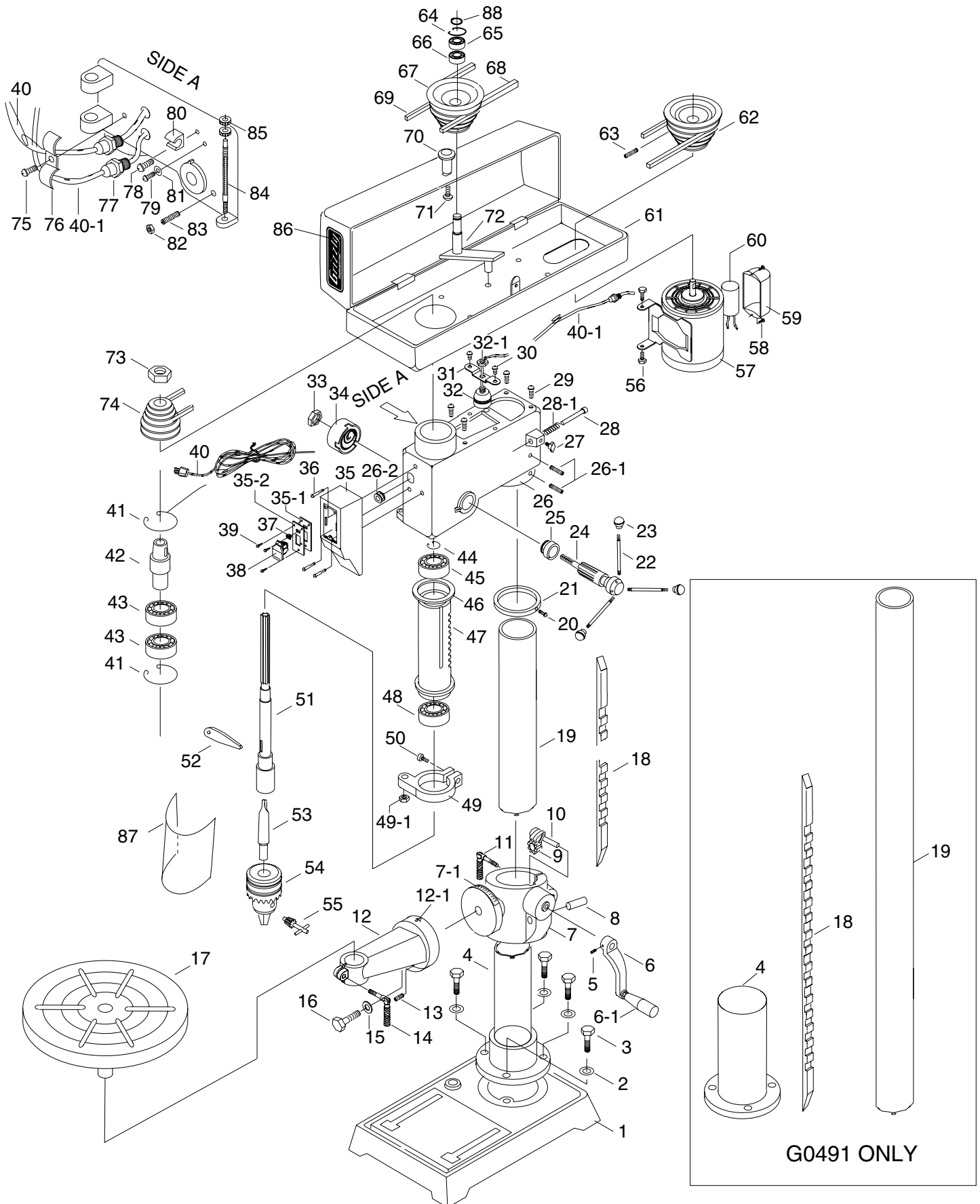


Figure 44. Capacitor.





G0485/G0491 Parts Breakdown



G0485/G0491 Parts List

REF	PART #	DESCRIPTION
1	P0485001	BASE
2	PLW04M	LOCK WASHER 8MM
3	PB07M	HEX BOLT M8-1.25 X 25
4	P0485004	BASE FLANGE (G0485)
4	P0491004	BASE FLANGE-LONG (G0491)
5	PSS01M	SET SCREW M6-1 X 10
6	P0485006	CRANK HANDLE
6-1	P0485006-1	HANDLE
7	P0485007	TABLE BRACKET
7-1	P0485007-1	SCALE
8	P0485008	GEAR SHAFT
9	P0485009	GEAR
10	P0485010	PINION GEAR
11	P0485011	LOCK LEVER M12-1.75 X 40
12	P0485012	TABLE SUPPORT ASSEMBLY
12-1	P0485012-1	ZERO MARK
13	PSS01M	SET SCREW M6-1 X 10
14	P0485014	LOCK LEVER M10-1.5 X 25
15	PLW10M	LOCK WASHER 16MM
16	PB154M	HEX BOLT M16-2 X 30
17	P0485017	TABLE
18	P0485018	RACK (G0485)
18	P0491018	LONG RACK (G0491)
19	P0485019	COLUMN (G0485)
19	P0491019	LONG COLUMN (G0491)
20	PS68M	PHLP HD SCR M6-1 X 10
21	P0485021	COLUMN RING
22	P0485022	FEED HANDLE M10-1.5 X 155
23	P0485023	HANDLE KNOB M10-1.5
24	P0485024	PINION SHAFT
25	P0485025	SCALE SLEEVE
26	P0485026	HEAD
26-1	PSS14M	SET SCREW M8-1.25 X 12
26-2	P0485026-2	RUBBER BUSHING
27	P0485027	KNOB BOLT M8-1.25 X 15
28	P0485028	BELT TENSION ADJ. ROD
28-1	P0485028-1	COMPRESSION SPRING
29	PFS11M	FLANGE SCREW M6-1 X 10
30	PS09M	PHLP HD SCR M5-.8 X 10
31	P0485031	LAMP FRAME
32	P0485032	LAMP HOLDER
32-1	P0485032-1	KNURLED NUT M8-1.25

REF	PART #	DESCRIPTION
33	PLN09M	LOCK NUT M12-1.25
34	P0485034	TORSION SPRING AND CAP
35	P0485035	SWITCH BOX
35-1	P0485035-1	WASHER PAD
35-2	P0485035-2	SWITCH MOUNTING PLATE
36	PS09M	PHLP HD SCR M5-.8 X 10
37	P0485037	LAMP SWITCH
38	P0485038	POWER SWITCH
39	PHTEK31M	TAP SCREW M4 X 14
40	P0485040	POWER CORD
40-1	P0485040-1	MOTOR CORD
41	PR23M	INT RETAINING RING 40MM
42	P0485042	DRIVER SLEEVE
43	P6203	BALL BEARING 6203ZZ
44	PR03M	EXT RETAINING RING 12MM
45	P6201	BALL BEARING 6201ZZ
46	P0485046	RUBBER GASKET
47	P0485047	QUILL
48	P6204	BALL BEARING 6204ZZ
49	P0485049	DEPTH GAUGE HOLDER
49-1	PN03M	HEX NUT M8-1.25
50	PSB02M	CAP SCREW M6-1 X 20
51	P0485051	SPINDLE MT2
52	P0485052	DRIFT KEY
53	P0485053	ARBOR MT2 X JT3
54	P0485054	CHUCK 16MM JT3
55	P0485055	KEY 16MMJT3
56	PFB12M	FLANGE BOLT M8-1.25 X 18
57	P0485057	MOTOR
58	PFS01M	FLANGE SCREW M5-.8 X 8
59	P0485059	CAPACITOR COVER
60	PC150A	CAPACITOR 150MFD, 250VAC
61	P0485061	PULLEY GUARD
62	P0485062	MOTOR PULLEY
63	PSS01M	SET SCREW M6-1 X 10
64	PR21M	INT RETAINING RING 35MM
65	P6202	BALL BEARING 6202ZZ
66	P6202	BALL BEARING 6202ZZ
67	P0485067	MIDDLE PULLEY
68	PVM22	V-BELT M-22 3L220
69	PVM22	V-BELT M-22 3L220
70	P0485070	BELT COVER KNOB M6-1



REF	PART #	DESCRIPTION
71	PFS11M	FLANGE SCREW M6-1 X 10
72	P0485072	MIDDLE PULLEY FRAME
73	P0485073	PULLEY NUT 1/2-20
74	P0485074	SPINDLE PULLEY
75	PS09M	PHLP HD SCR M5-.8 X 10
76	P0485076	WIRE STRAP
77	P0485077	STRAIN RELIEF
78	PS09M	PHLP HD SCR M5-.8 X 10
79	PS56M	PHLP HD SCR M4-.7 X 16

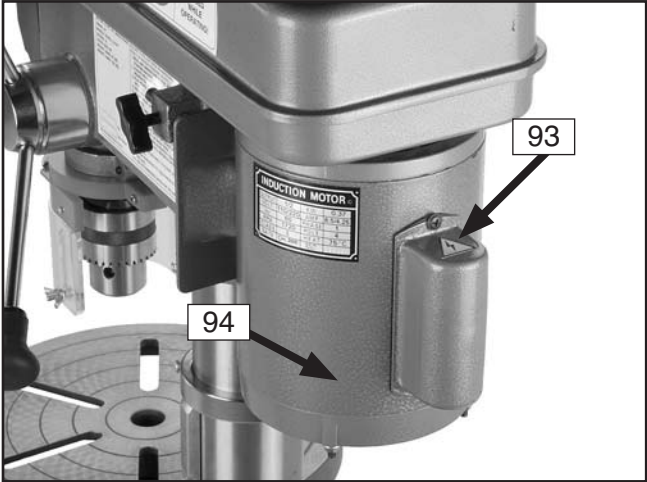
REF	PART #	DESCRIPTION
80	P0485080	KEY HOLDER
81	PW05M	FLAT WASHER 4MM
82	PN03M	HEX NUT M8-1.25
83	PSS87M	SET SCREW M8-1.25 X 28
84	P0485084	DEPTH STOP ROD
85	P0485085	KNURLED NUT M12-1.75
86	P0485086	GRIZZLY INDUSTRIAL NAMEPLATE
87	P0485087	CHUCK GUARD
88	PR05M	EXT RETAINING RING 15MM



Safety Label Placement and Parts List

WARNING

The safety labels on this machine warn and indicate how to protect the operator or bystander from machine hazards. The machine owner **MUST** maintain the original label location and readability. If a label is removed or becomes unreadable, **REPLACE** the label before using the machine. For new labels, contact Grizzly Industrial Inc. at (570) 546-9663 or techsupport@grizzly.com.



REF	PART #	DESCRIPTION
90	P0485090	MACHINE ID LABEL (G0485)
90	P0491090	MACHINE ID LABEL (G0491)
91	P0485091	LABEL (SAFETY GLASSES)
92	P0485092	LABEL (DOOR CLOSED-HORIZ)
93	PLABEL-14	LABEL (ELECTRICITY)
94	P0485094	TOUCH-UP PAINT (GRIZZLY GREEN)



WARRANTY AND RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.





WARRANTY CARD

Name _____
Street _____
City _____ State _____ Zip _____
Phone # _____ Email _____ Invoice # _____
Model # _____ Order # _____ Serial # _____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **Of course, all information is strictly confidential.**

1. How did you learn about us?

_____ Advertisement _____ Friend _____ Catalog
_____ Card Deck _____ Website _____ Other: _____

2. Which of the following magazines do you subscribe to?

_____ Cabinet Maker	_____ Popular Mechanics	_____ Today's Homeowner
_____ Family Handyman	_____ Popular Science	_____ Wood
_____ Hand Loader	_____ Popular Woodworking	_____ Wooden Boat
_____ Handy	_____ Practical Homeowner	_____ Woodshop News
_____ Home Shop Machinist	_____ Precision Shooter	_____ Woodsmith
_____ Journal of Light Cont.	_____ Projects in Metal	_____ Woodwork
_____ Live Steam	_____ RC Modeler	_____ Woodworker West
_____ Model Airplane News	_____ Rifle	_____ Woodworker's Journal
_____ Modeltec	_____ Shop Notes	_____ Other: _____
_____ Old House Journal	_____ Shotgun News	

3. What is your annual household income?

_____ \$20,000-\$29,000 _____ \$30,000-\$39,000 _____ \$40,000-\$49,000
_____ \$50,000-\$59,000 _____ \$60,000-\$69,000 _____ \$70,000+

4. What is your age group?

_____ 20-29 _____ 30-39 _____ 40-49
_____ 50-59 _____ 60-69 _____ 70+

5. How long have you been a woodworker/metalworker?

_____ 0-2 Years _____ 2-8 Years _____ 8-20 Years _____ 20+ Years

6. How many of your machines or tools are Grizzly?

_____ 0-2 _____ 3-5 _____ 6-9 _____ 10+

7. Do you think your machine represents a good value?

_____ Yes _____ No

8. Would you recommend Grizzly Industrial to a friend?

_____ Yes _____ No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?

Note: We never use names more than 3 times.

_____ Yes _____ No

10. Comments: _____

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