



**10"**  
**BENCH MODEL DRILL PRESS**

***Read carefully and follow all safety rules and operating instructions before first use of this product.***

**DESCRIPTION**

Palmgren Drill Presses feature a heavy cast iron base, column collar, work table and head. Work table height is adjustable using rack and pinion. Table can be tilted 45° both right and left, and rotates 360° on a vertical axis. Work table surface is precision ground which features T-slots for secure, accurate mounting of workpiece. Battery-powered laser attachment provides a beam that helps operator precisely position the drill bit. Other features of the Palmgren drill press are an enclosed ball bearing quill assembly, quick belt change and tension mechanism, positive quick-adjust feed depth stop and a 1/3 HP, 1725 RPM motor. Chuck is included. Palmgren drill presses are ideal for use in home shops, maintenance shops and light industrial applications. Spindle speeds are adjustable for drilling steel, cast iron, aluminum, wood and plastic.

**UNPACKING**

Refer to Figures 4 and 5.

Crates should be handled with care to avoid damage from dropping, bumping, etc. Store and unpack crates with correct side up. After uncrating drill press, inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts. If any damage or loss has occurred, claim must be filed with carrier immediately. Check for completeness. Immediately report missing parts to dealer.

Drill press is shipped unassembled. Locate and identify the following assemblies and loose parts: head assembly, base, column assembly, table crank handle, handle bars with grip and batteries.

Contents of hardware bag includes: Drill chuck with key, four M8 x 20 hex head bolts and one 4mm hex wrench.

**IMPORTANT:** The tool has been coated with a protective coating. In order to ensure proper fit and operation the coating must be removed. Remove coating with mild solvents such as mineral spirits and a soft cloth. Nonflammable solvents are recommended. After cleaning, cover all exposed surfaces with a light coating of oil. Paste wax is recommended for table top.

**CAUTION:** Never use highly volatile solvents. Avoid getting cleaning solution on paint as it may tend to deteriorate these finishes. Use soap and water on painted components.

**SPECIFICATIONS**

Chuck size .....	1.5-13mm, (1/16"-1/2")
Spindle taper .....	JT33
Spindle travel .....	2.5"
Quill diameter .....	1.57"
Quill collar diameter .....	2.05"
Column diameter .....	2.28"
Speeds .....	5
RPM .....	620-3100
Swing .....	10"
Table size .....	7.8 x 7.8"
Table Slots .....	9/16"
Base size .....	8.2" x 13.5"
Base working surface .....	6 x 6.3"
Drilling capacity (cast iron) .....	1/2"
Max. distance, spindle to table: .....	10.7"
Distance, spindle to base: .....	15.8"
Overall height: .....	27.5"
Weight: .....	70 lbs
Motor .....	1/3 HP, 115V, 1725 RPM, 3.5 A

**SAFETY RULES**

Before any work is done, carefully read the cautions listed. Working safely prevents accidents.

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

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

Your risk from these exposures vary, 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. Always wear OSHA/NIOSH approved, properly fitting face mask or respirator when using such tools.

**BE PREPARED FOR JOB**

- Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts of machine.
- Wear protective hair covering to contain long hair.
- Wear safety shoes with non-slip soles.
- Wear safety glasses which comply with United States ANSI Z87.1. Everyday glasses have only impact resistant lenses. They are NOT safety glasses.
- Wear face mask or dust mask if cutting operation is dusty.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.

**WORK AREA SHOULD BE READY FOR JOB**

- Keep work area clean. Cluttered work areas and work benches invite accidents.
- Do not use power tools in dangerous environments. Do not use power tools in damp or wet locations. Do not expose power tools to rain.
- Work area should be properly lighted.
- Proper electrical outlet should be available for tool. Three-prong plug should be plugged directly into properly grounded, three-prong receptacle.
- Extension cords should have a grounding prong, and the three wires of the extension cord should be of the correct gauge.
- Keep visitors at a safe distance from work area.
- Keep children out of workplace. Make workshop childproof. Use padlocks, master switches or remove switch keys to prevent any unintentional use of power tools.

**TOOL SHOULD BE MAINTAINED**

- Always unplug tool prior to inspection.
- Read operating instructions manual for specific maintaining and adjusting procedures.
- Keep tool lubricated.
- Use sharp cutters and keep the tool clean for safest operation.
- Remove adjusting tools. Form the habit of checking that adjusting tools are removed before turning on the machine.
- Keep all parts in working order. Check to determine that the guard or other parts will operate properly and perform their intended function.

**SAFETY RULES (CONTINUED)**

- Check for damaged parts. Check for alignment of moving parts, binding, breakage, mounting and any other condition that may affect a tool's operation.
- Damaged parts should be properly repaired or replaced. Do not perform makeshift repairs. (Use the parts list provided to order replacement parts.)

**KNOW HOW TO USE TOOL**

- Use the right tool for the job. Do not force tool or attachment to do a job for which it was not designed.
- Disconnect tool when changing accessories such as bits, cutters and the like.
- Avoid accidental start-up. Make sure switch is in OFF position before plugging in.
- Do not force tool. It will work most efficiently at the rate for which it was designed.
- Handle workpiece correctly. Secure work with clamps or vise. Leave hands free to operate machine, Protect hands from possible injury.
- Never leave a tool running unattended. Turn the power off and do not leave tool until it comes to a complete stop.
- Do not overreach. Keep proper footing and balance.
- Never stand on tool. Serious injury could occur if tool is tipped or if cutter is unintentionally contacted.
- Keep hands away from moving parts and cutting surfaces.
- Know your tool. Learn its operation, application and specific limitations.
- Feed work into a bit or cutter against the direction of rotation of bit or cutter.
- Turn the machine off if it jams. A cutter jams when it digs too deeply into the workpiece. (The motor force keeps it stuck in workpiece.)
- Use recommended accessories. Refer to page 9. Use of improper accessories may cause risk of injury to persons.
- Clamp workpiece or brace against column to prevent rotation.
- Use recommended speed for drill accessory and workpiece material.

**WARNING:** Think Safety! Safety is a combination of operator common sense and alertness at all times when drill press is being used.

## ASSEMBLY

**MOUNT COLUMN ASSEMBLY TO BASE**

Refer to Figure 6.

- Place base (Ref. No. 1) on flat level surface.
- Mount column assembly (Ref. No. 2) to base using four hex head bolts. (Ref. No. 3).

**MOUNT TABLE**

Refer to Figure 6.

- Loosen set screw (Ref. No. 8) Remove rack and rack retaining ring (Ref. Nos. 9 and 10) from column (Ref. No. 2).
- Place rack inside table assembly bracket with large, unmachined portion of rack to the top. Slide rack into slot in bracket so that teeth of rack engage pinion gear in bracket.
- Slide table assembly with rack over column. Place bottom end of rack inside beveled edge of column flange.
- Slide rack retaining ring over column with beveled edge down. Position ring against top of rack so that rack is in beveled edge of ring. Secure ring with set screw (Ref. No. 8).

- Rotate table assembly around column. Adjust rack retaining ring as necessary to prevent binding of rack.
- Attach crank handle (Ref. No. 7) to shaft on worm gear, rotate worm gear to remove slack, and shoulder crank handle against table bracket. Secure handle with set screw (Ref. No. 11).
- Tighten table bracket locking handle (Ref. No. 12) to secure table assembly.

**MOUNT HEAD ASSEMBLY**

Refer to Figure 7.

- Slide drill press head assembly onto top of column.
- Position head so that it is centered over base.
- Secure head by tightening set screws (Ref. No. 3) on side of head.

**MOUNT QUILL FEED HANDLES**

Refer to Figure 7.

- Thread the (3) handle bars with grips (Ref. No. 12) securely into quill feed assembly (Ref. No. 10).

**MOUNT DRILL CHUCK AND ARBOR**

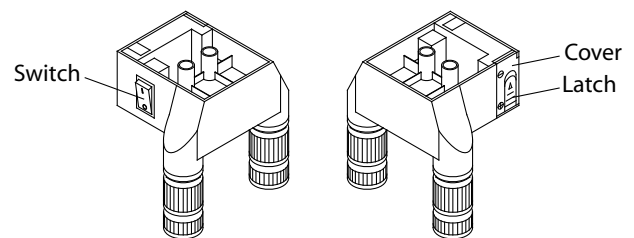
Refer to Figure 7.

- Be sure spindle and chuck tapers are clean and dry. Make sure quill is in the **UP** position.
- Use the provided chuck key (Ref. No. 40) to adjust the jaws of the chuck (Ref. No. 31) until they are recessed inside the drill chuck body.
- Slide chuck over spindle taper and push chuck onto spindle.
- Tap the end of drill chuck with a rubber or wooden mallet to seat it onto the spindle.

**INSTALLING BATTERY FOR LASER GUIDE**

Refer to Figure 1.

- Open the cover of battery compartment by sliding latch upward.
- Install 2 pieces of 1.5V batteries into the battery compartment according to the polarity indicated on the cover.
- Close the cover.
- Turn on the switch to check the laser guide operation.



**Figure 1 – Laser Guide Assembly**

**NOTE:** Replace the batteries with batteries that have a rating of 1.5 volts (Number 4 series and AAA size or equivalent). When replacing the batteries, the laser guide should be thoroughly cleansed. Use a soft paintbrush or similar device, to remove all sawdust and debris.

## INSTALLATION

Refer to Figures 2 and 3.

**MOUNT DRILL PRESS**

- Drill press must be mounted to flat level surface. Use shims or machine mounts if necessary. Do not mount drill press in direct sunlight.

**INSTALLATION (CONTINUED)**

- Be sure to bolt drill press to bench securely to prevent tipping and minimize vibration.
- Tighten all nuts and bolts that may have loosened during shipment.

**POWER SOURCE**

The motor is designed for operation on the voltage and frequency specified. Normal loads will be handled safely on voltages not more than 10% above or below the specified voltage.

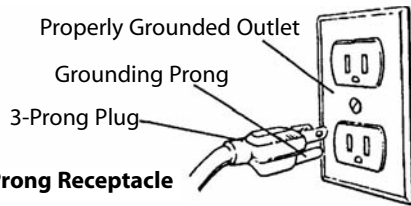
Running the unit on voltages which are not within the range may cause overheating and motor burn out. Heavy loads require that the voltage at motor terminals be no less than the voltage specified.

**GROUNDING INSTRUCTIONS**

**WARNING:** Improper connection of equipment grounding conductor can result in the risk of electrical shock. Equipment should be grounded while in use to protect operator from electrical shock. Check with a qualified electrician if grounding instructions are not understood or if in doubt as to whether the tool is properly grounded.

This tool is equipped with an approved 3-conductor cord rated up to 150V and a 3-prong grounding type plug rated at 115V (See Figure 2) for your protection against shock hazards.

Grounding plug should be plugged directly into a properly installed and grounded 3-prong grounding-type receptacle, as shown (Figure 2).



**Figure 2 – 3-Prong Receptacle**

Do not remove or alter grounding prong in any manner. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical shock.

**WARNING:** Do not permit fingers to touch the terminals of plug when installing or removing from outlet.

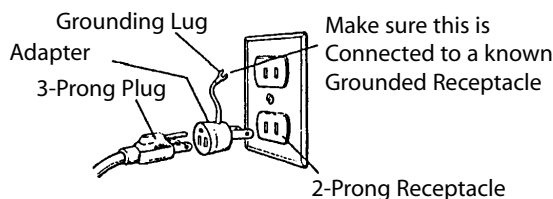
Plug must be plugged into matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify plug provided. If it will not fit in outlet, have proper outlet installed by a qualified electrician.

Inspect tool cords periodically, and if damaged, have repaired by an authorized service facility.

Green (or green and yellow) conductor in cord is the grounding wire. If repair or replacement of the electric cord or plug is necessary, do not connect the green (or green and yellow) wire to a live terminal.

Where a 2-prong wall receptacle is encountered, it must be replaced with a properly grounded 3-prong receptacle installed in accordance with National Electric Code and local codes and ordinances.

**WARNING:** This work should be performed by a qualified electrician. A temporary 3-prong to 2-prong grounding adapter (See Figure 3) is available for connecting plugs to a two pole outlet if it is properly grounded.



**Figure 3 – 2-Prong Receptacle with adapter**

Do not use a 3-prong to 2-prong grounding adapter unless permitted by local and national codes and ordinances.

(A 3-prong to 2-prong grounding adapter is not permitted in Canada.) Where permitted, the rigid green tab or terminal on the side of the adapter must be securely connected to a permanent electrical ground such as a properly grounded water pipe, a properly grounded outlet box or a properly grounded wire system.

Many cover plate screws, water pipes and outlet boxes are not properly grounded. To ensure proper ground, grounding means must be tested by a qualified electrician.

**EXTENSION CORDS**

- The use of any extension cord will cause some drop in voltage and loss of power.
- Wires of the extension cord must be of sufficient size to carry the current and maintain adequate voltage.
- Use the table to determine the minimum wire size (A.W.G.) extension cord.
- Use only 3-wire extension cords having 3-prong grounding type plugs and 3-pole receptacles which accept the tool plug.
- If the extension cord is worn, cut, or damaged in any way, replace it immediately.

**EXTENSION CORD LENGTH**

Wire Size.....	A.W.G.
Up to 25 ft.....	18
25-50 ft.....	16

**NOTE:** Using extension cords over 50 ft. long is not recommended.

**OPERATION**

Refer to Figures 4, 5, 6 and 7.

**WARNING:** Read and understand operating instructions and parts manual before operating this machine.

**CAUTION:** The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety glasses complying with United States ANSI Z87.1 (shown on package) before commencing power tool operation.

**THE LASER GUIDE**

Your tool is equipped with a laser guide, a battery powered device using Class IIIa laser beams. The laser beams will enable you to preview the drill bit path on the workpiece to be drilled before you begin your operation.

**⚠ DANGER** Laser Radiation: Avoid direct eye contact. A Laser light is radiated when the laser guide is turned on. Avoid direct eye contact. Always turn off the laser and unplug the drill press from the power source before making any adjustments.

- A laser pointer is not a toy and should not come into hands of children. Misuse of this appliance can lead to irreparable eye injuries.
- Any adjustments to increase the laser power is forbidden.
- When using the laser pointer, do not point the laser beam towards people and / or reflecting surfaces. Even a laser beam of lower intensity may cause eye damage. Therefore, do not look directly into the laser beam.
- If the laser pointer is stored for more than three months without use, please remove the batteries to avoid damage from possibly leaking batteries.
- The laser pointer includes no user serviceable components. Never open the housing for repair or adjustments.

**OPERATION (CONTINUED)**

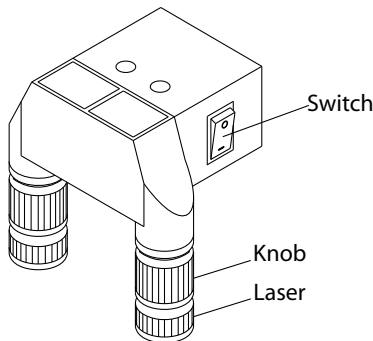
- On units equipped with the Laser-Guide attachment, repairs shall only be carried out by the laser manufacturer or authorized agent.
- Laser Warning label: Max output <5mW DIODE LASER: 630-660nm, Complies with 21CFR 1040.10 and 1040. 11.

**ADJUSTING THE LASER LINES**

Refer to Figure 4.

Check the laser beam alignment to ensure the intersection of the laser lines precisely at the spot where the drill bit meets the work-piece. If it is not, the laser lines should be adjusted using the laser adjustment knobs located on the opposite sides of the head assembly.

- Mark an "X" on a piece of scrap wood.
- Insert a small drill bit into the chuck and align its tip to the intersection of the lines of the "X".
- Secure the board to the table.
- Turn on the laser and verify the laser lines align with the "X" on the workpiece.
- If the laser lines do not align, loosen knobs on each side of the laser module and rotate the lasers until the lines meet in the center of the "X". Retighten the knobs to secure.



**Figure 4 – Laser Guide Assembly**

**NOTE:** Check and adjust the laser beam alignment every time the drill press table is raised or lowered to a new position.

**SPEED ADJUSTMENTS**

Refer to Figures 5 and 7.

**WARNING:** Be sure drill press is turned off and is disconnected from power source before adjusting speeds.

- To change spindle speed, loosen motor lock bolt (Ref. No. 5), on the right side of the head and push the motor toward front of

drill press. This will loosen the belt and permit relocating the belt to the desired pulley groove for the required spindle speed (See Figure 5).

- After belt has been repositioned, push motor mount plate (Ref. No. 6) to move motor toward rear of drill press and tighten motor lock bolt.
- Check belt for proper tension and make any final adjustment. A belt is properly tensioned when light pressure applied to mid-point of the belt produces about 1/2" deflection.

**TABLE ADJUSTMENTS**

Refer to Figure 6.

- Height adjustments: To adjust table, loosen locking handle (Ref. No. 12) and turn crank handle (Ref. No. 7) to desired height. Immediately retighten table bracket locking handle.
- Rotation of work table : Loosen table locking handle (Ref. No. 12) and rotate table to desired position and retighten handle.
- Tilting work table: Loosen hex head bolt (Ref. No. 13). Tilt table to desired angle up to 45° and retighten hex head bolt.
- To obtain more distance between chuck and table, the work table can be rotated 180° and base can be used as a work surface. This permits drilling of larger objects.
- Clamp table securely after adjustments have been made.

**DEPTH STOP ADJUSTMENT**

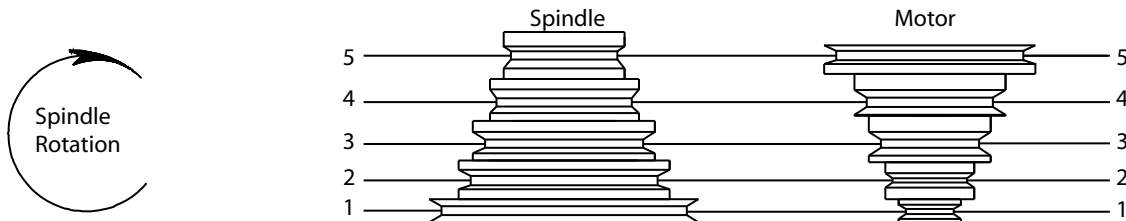
Refer to Figure 7.

- To control drilling depth, loosen locking bolt (Ref. No. 11) on quill feed assembly (Ref. No. 10). Rotate scale so desired depth is indicated on scale next to the pointer. Tighten locking bolt. Use this feature to drill more than one hole to the same depth.
- Spindle can be locked in either fully or partially down position. Loosen locking bolt (Ref. No. 11). Lower chuck to desired depth, rotate scale fully clockwise and tighten locking bolt. Use this feature to set up and align work.

**MOUNT DRILL BIT**

**WARNING:** Be sure drill press is turned off and is disconnected from power source before adjusting speeds.

- Place drill bit in jaws of drill chuck.
- Tighten chuck with drill chuck key. Be sure to tighten the chuck using all three key positions on the chuck body and remove chuck key.
- Use only the self-ejecting chuck key (Ref. No. 40) supplied with this drill press, or a duplicate key. Use of any other key might allow start up with the key still in the chuck. An airborne key could strike the operator and cause injury.



**Figure 5 – Spindle Speed Adjustment**

**Recommended Drill Size per Material for 5 Speeds**

Belt Location	RPM	Wood		Zinc Diecast	Alum. & Brass		Plastic	Cast Iron & Bronze Steel		Mild & Malleable Steel Cast &	Med. Carbon Steel	Stainless & Tool					
		in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm				
5-5	3100	5/16	7.9	3/16	4.8	11/64	4.4	5/32	4.0	7/64	2.8	3/32	2.4	1/16	1.6	1/32	0.8
4-4	2340	3/8	9.5	1/4	6.4	7/32	5.6	3/16	4.8	1/8	3.2	3/32	2.4	1/16	1.6	3/64	1.2
3-3	1720	5/8	15.9	3/8	9.5	11/32	8.7	5/16	7.9	1/4	6.4	5/32	4.0	1/8	3.2	1/16	1.6
2-2	1100	7/8	22.2	1/2	12.7	15/32	11.9	7/16	11.1	11/32	8.7	1/4	6.4	3/16	4.8	1/8	3.2
1-1	620	1 1/4	31.8	3/4	19.0	11/16	17.5	5/8	15.9	1/2	12.7	3/8	9.5	5/16	7.9	1/4	6.4

## MAINTENANCE

**WARNING:** Turn switch off and remove plug from power source outlet before maintaining or lubricating your drill press

### V-BELT

Replace V-belt when worn.

### LUBRICATION

Refer to Figures 6 and 7.

The ball bearings are lubricated at the factory and need no further lubrication. Using 20wt. non detergent oil, periodically lubricate the splines (grooves) in the spindle and the rack (teeth on the quill) as follows:

- Lower quill assembly (Figure 7, Ref. No. 54) all the way down.
- Apply lubricant around the inside of the hole in the spindle pulley (Figure 7, Ref. No. 29).

- Apply lubricant to rack (teeth) on quill (Figure 7, Ref. No. 27) while extended below drill press head.
- Apply lubricant to rack and pinion gear (Figure 6, Ref. Nos. 9 and 15) on column and table assembly.

### CLEAN MOTOR

Frequently blow out any dust that may accumulate inside motor. If power cord is worn, cut or damaged in any way, have it replaced immediately.

## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Spindle does not turn	<ol style="list-style-type: none"> <li>1. No power to drill press</li> <li>2. Defective switch</li> <li>3. Defective motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Check wiring, fuse or circuit breaker</li> <li>2. Replace switch</li> <li>3. Replace motor</li> </ol>
Noisy spindle	Defective bearings	Replace bearings
Noisy operation	<ol style="list-style-type: none"> <li>1. Incorrect bet tension</li> <li>2. Dry spindle</li> <li>3. Loose spindle</li> <li>4. Loose motor pulley</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust tension</li> <li>2. Lubricate spindle, See Lubrication, page 5</li> <li>3. Tighten pulley nut</li> <li>4. Tighten set screw in pulley</li> </ol>
Bit burns or smokes	<ol style="list-style-type: none"> <li>1. Incorrect speed</li> <li>2. Chips not coming out of hole</li> <li>3. Dull bit</li> <li>4. Feeding too slow</li> <li>5. Bit not lubricated</li> <li>6. Bit running backwards</li> </ol>	<ol style="list-style-type: none"> <li>1. Change speed</li> <li>2. Retract bit frequently to clear chips</li> <li>3. Sharpen or replace bit</li> <li>4. Feed faster; enough to allow drill to cut</li> <li>5. Lubricate bit</li> <li>6. Check motor rotation to be sure it is clockwise facing shaft end</li> </ol>
Excessive drill runout or wobble	<ol style="list-style-type: none"> <li>1. Bent bit</li> <li>2. Bit not properly installed in chuck</li> <li>3. Chuck not properly installed</li> <li>4. Worn spindle bearings</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace bit</li> <li>2. Install bit properly</li> <li>3. Install chuck properly</li> <li>4. Replace bearings</li> </ol>
Drill bit binds in workpiece	<ol style="list-style-type: none"> <li>1. Workpiece pinching bit or excessive feed</li> <li>2. Improper belt tension</li> <li>3. Workpiece not supported or clamped properly</li> </ol>	<ol style="list-style-type: none"> <li>1. Support or clamp work, decrease feed pressure</li> <li>2. Adjust tension</li> <li>3. Support or clamp workpiece securely</li> </ol>
The laser guide will not turn on	The batteries have become uncharged	See Assembly section, "Installing Battery for Laser Guide"

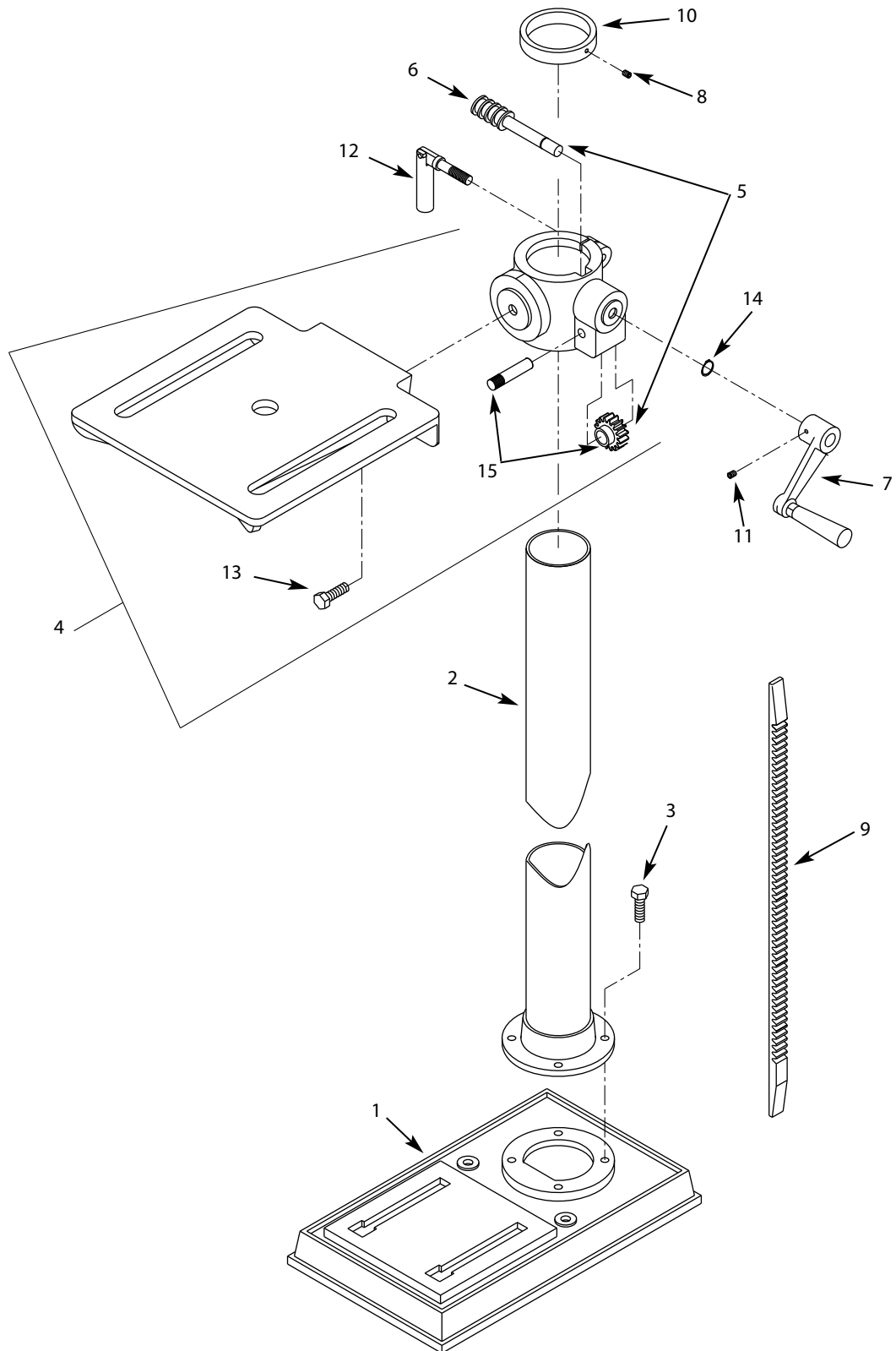


Figure 6 - Replacement Parts Illustration for Base



## REPLACEMENT PARTS LIST FOR BASE

Ref. No.	Description	Part Number	Qty.
1	Base	21811.00	1
2	Column and collar assembly	21812.00	1
3	8-1.25 x 20mm Hex head bolt	*	4
4	Table and bracket assembly (Including Ref. Nos. 13 and 15)	21813.00	1
5	Worm and pinion gear set, (Ref. Nos. 6 and 15)	21814.00	1
6	Worm gear	21815.00	1
7	Crank handle	21816.00	1
8	6-1.0 x 14mm Pan head screw	*	1
9	Rack	21817.00	1
10	Rack retaining ring	21818.00	1
11	6-1.0 x 12mm Hex head bolt	21819.00	1
12	Table bracket locking handle	00311.00	1
13	12-1.75 x 25mm Hex head bolt	*	1
14	3AMI-14 Retaining ring	05989.00	1
15	Pinion gear and shaft	21820.00	1
<b>Recommended Accessories</b>			
Δ	4" Angle vise	11351	1
Δ	4" Drill press vise	12352	1
Δ	4" Standard vise	12403	1

Δ Not Shown.

\* Standard hardware item available locally.

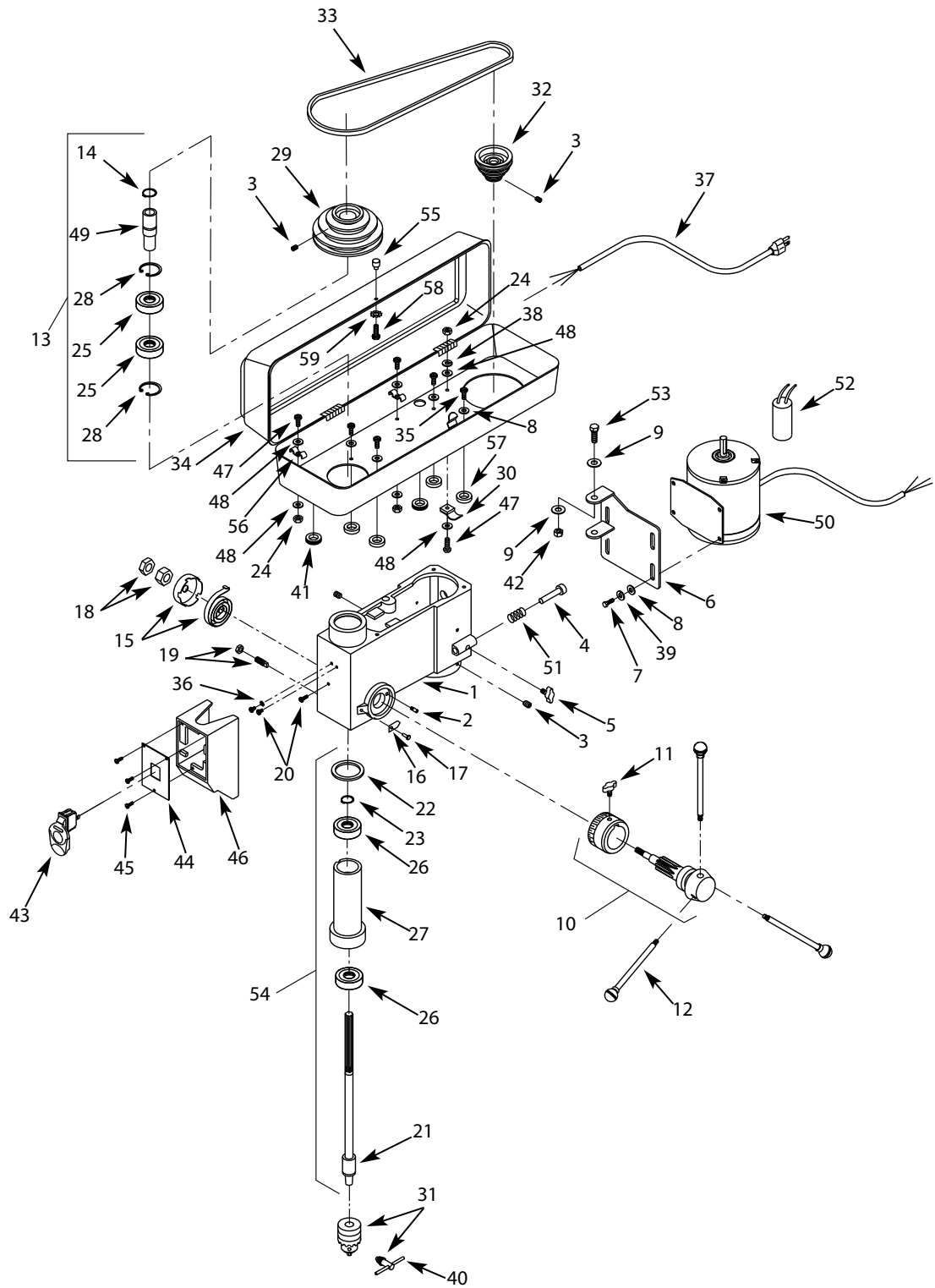


Figure 7 - Replacement Parts Illustration for Head

## REPLACEMENT PARTS LIST FOR HEAD

Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	Drill press head	†	1	32	Motor pulley	21796.00	1
2	Stop pin	21778.00	1	33	V-belt	21797.00	1
3	8-1.25 x 8mm Set screw	*	4	34	Pulley housing	21798.00	1
4	Tension adjustment bar	21779.00	1	35	6-1.0 x 8mm Pan head screw	*	4
5	Motor lock bolt	21780.00	1	36	5mm Serrated washer	*	1
6	Motor mount plate	21781.00	1	37	Line cord	21799.00	1
7	6-1.0 x 12mm Hex head bolt	*	4	38	5mm Lock washer	*	1
8	6mm Flat washer	*	8	39	6mm Lock washer	*	4
9	8mm Flat washer	*	4	40	Chuck key	21800.00	1
10	Quill feed assembly	21782.00	1	41	Grommet	04076.00	2
11	Knob	21783.00	1	42	8-1.25mm Hex nut	*	2
12	Handle bar and grip	21784.00	3	43	Switch with key	16080.00	1
13	Upper spindle assembly (Ref. Nos. 14, 25, 28 and 49)	21785.00	1	44	Switch plate	21801.00	1
14	3AMI-22 Retaining ring	01861.00	1	45	4-1.60 x 12mm Thread forming screw	10372.00	3
15	Cap cover with spring	21786.00	1	46	Face cover	21802.00	1
16	Pointer	21787.00	1	47	5-0.8 x 15mm Pan head screw	*	3
17	Rivet	21788.00	1	48	5mm Flat washer	*	6
18	10-1.5mm Hex nut (set)	21789.00	1	49	Upper spindle sleeve	21803.00	1
19	Screw and nut	21790.00	1	50	1/3 HP Motor	21804.00	1
20	5-0.8 x 10mm Pan head screw	*	3	51	Spring	21805.00	1
21	Spindle	21791.00	1	52	Capacitor 25MFD 250 VAC	21806.00	2
22	Rubber bumper	21792.00	1	53	8-1.25 x 25mm Hex head bolt	*	2
23	3AMI-12 Retaining ring	00519.00	1	54	Lower spindle assembly (Ref. Nos. 21-23, 26 and 27)	21807.00	1
24	5-0.8mm Hex nut	*	2	55	Knob	21808.00	1
25	6203ZZ Bearing	01901.00	2	56	Line cord clamp	21809.00	2
26	6201ZZ Bearing	00520.00	2	57	Spacer	21810.00	4
27	Quill	†	1	58	4-0.7 x 8mm Pan head screw	*	1
28	3BMI-40 Retaining ring	03838.00	2	59	4mm Serrated washer	*	1
29	Spindle pulley	21794.00	1	Δ	Laser Guide Assembly	25153.00	1
30	Cord clamp	07752.00	1	Δ	Operator's Manual	30796.00	1
31	JT-33 Chuck with key (Ref. No. 40)	21795.00	1				

Δ Not Shown.

\* Standard hardware item available locally.

† Not available as repair part.

## TWO YEAR LIMITED WARRANTY

Palmgren warrants their products to be free of deficiency in material or workmanship. The duration of this warranty is expressly limited to one year parts and labor unless otherwise noted beginning from the date of delivery to the original user. The following Palmgren products carry the following warranties on parts with a 1 year warranty on labor:

- USA Machine vises – Lifetime
- Imported Machine vises – 2 years
- Bench vises – 2 years
- Positioning tables – 2 years
- Bench grinders & buffers – 3 years
- Tapping machines – 2 years
- Drilling machines – 2 years
- Finishing machines – 2 years
- Band saws – 2 years
- Work stands – 2 years

The obligation of Palmgren is limited solely to the repair or replacement, at our option, at its factory or authorized repair agent of any part that should prove deficient. The warranty does not cover expendable and/or wear parts (i.e. v-belts, coated abrasives), damage to tools arising from alteration, abuse or use other than their intended purpose, packing and freight. Purchaser must lubricate and maintain the product under normal operating conditions at all times. Proper use and care instructions are provided in the operator's manual. Failure to follow these instructions will void the warranty.

This warranty is the purchaser's exclusive remedy against Palmgren for any deficiency in its products. Under no circumstances is Palmgren liable for any direct, indirect, incidental, special or consequential damages including lost profits in any way related to the use or inability to use our products. This warranty gives you specific legal rights which may vary from state to state.

### SERVICE & REPAIR

1. If a Palmgren product requires a repair or warranty service **DO NOT** return the product to the place of purchase.
2. All warranty related work must be evaluated and approved by Palmgren.
3. Prior to returning any item the user must obtain factory approval and a valid RGA number.
4. For instructions and RGA number call toll free (800) 621-6145.