

# PALMGREN®

## 10" BENCH MODEL DRILL PRESS



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

## DESCRIPTION

Palmgren 10" Bench Model Drill Press features 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 5 and 6.

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 assembly, table crank handle, handle bars with grip and batteries.

Contents of hardware bag includes: chuck with key, three hex bolts, flat washers and lock washers, 3mm and 4mm hex wrenches.

**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 .....	2.36"
Quill diameter .....	1.57"
Quill collar diameter .....	2.17"
Column diameter .....	2.34"
Speeds .....	5
RPM .....	570-3070
Swing .....	10"
Table work surface .....	7.8 x 7.8"
Table slots .....	1/2"
Base size .....	8.2 x 13.5"
Base work surface .....	6.9 x 7.2"
Drilling capacity (cast iron) .....	1/2"
Max. distance spindle to table .....	10.7"
Distance spindle to base .....	15.8"
Overall height .....	27.5"
Shipping weight .....	50 lbs.
Motor .....	1/3 HP, 120V, 3.2A, 1725 RPM

## SAFETY RULES

**WARNING:** For your own safety, read all of the instructions and precautions before operating tool.

**PROPOSITION 65 WARNING:** Some dust created by using power tools contain chemicals known to the state of California 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 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. Always wear **OSHA/NIOSH** approved, properly fitting face mask or respirator when using such tools.

**WARNING:** Always follow proper operating procedures as defined in this manual even if you are familiar with the use of this or similar tools. Remember that being careless for even a fraction of a second can result in severe personal injury.

## 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 complying 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 operation is dusty.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.

## PREPARE WORK AREA FOR JOB

- Keep work area clean. Cluttered work areas 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 receptacle 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.
- Consult manual for specific maintaining and adjusting procedures.
- Keep tool lubricated and clean for safest operation.
- Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before switching machine on.

## SAFETY RULES (CONTINUED)

- Keep all parts in working order. Check to determine that the guard or other parts will operate properly and perform their intended function.
- Check for damaged parts. Check for alignment of moving parts, binding, breakage, mounting and any other condition that may affect a tool's operation.
- A guard or other part that is damaged should be properly repaired or replaced. Do not perform makeshift repairs. (Use parts list provided to order repair parts.)

### KNOW HOW TO USE TOOL

- Use right tool for job. Do not force tool or attachment to do a job for which it was not designed.
- Disconnect tool when changing the blade.
- Avoid accidental start-up. Make sure that the tool is in the OFF position before plugging in.
- Do not force tool. It will work most efficiently at the rate for which it was designed.
- Keep hands away from moving parts and cutting surfaces.
- Never leave 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 blade is unintentionally contacted.
- Know your tool. Learn the tool's operation, application and specific limitations.
- Use recommended accessories. Use of improper accessories may cause risk of injury to persons.
- Handle workpiece correctly. Protect hands from possible injury.

### SPECIFIC SAFETY INSTRUCTIONS FOR DRILL PRESSES

- Turn machine off if it jams. Drill bit jams when it digs too deeply into workpiece. (Motor force keeps it stuck in the work.) Do not remove jammed or cut off pieces until the drill press is turned off, unplugged and the drill bit has stopped.
- All work shall be secured using either clamps or a vise to the drill press table. It is unsafe to use your hands to hold any workpiece being drilled.
- Feed work into a bit or cutter against the direction of rotation of bit or cutter.
- Use recommended speed for drill accessory and workpiece material.
- Keep guards in place and in proper working order. Do not operate the machine with guards removed.
- Always be sure the machine is securely anchored to the floor or the workbench.
- Make certain table locks and head locks are tightened before starting machine.
- Do not use wire wheels, router bits, shaper cutters, circle (fly) cutters, or rotary planers on this drill press.
- Use only the self-ejecting type chuck key as provided with the drill press.
- Avoid direct eye exposure when using the laser guide.
- Always ensure the laser beam is aimed at a surface without reflective properties. Shiny reflective materials are not suitable for laser use.

**CAUTION:** Think safety! Safety is a combination of operator common sense and alertness at all times when tool is being used.

## ASSEMBLY

**CAUTION:** Do not attempt assembly if parts are missing. Use this manual to order repair parts.

### MOUNT COLUMN TO BASE

Refer to Figure 6.

1. Place base (Ref. No. 1) on flat level surface.
2. Mount column (Ref. No. 4) to base using three hex head bolts (Ref. No. 3).

### MOUNT TABLE

Refer to Figure 6.

1. Place rack (Ref. No. 15) inside notch of table assembly bracket (Ref. No. 14) 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.
2. Slide table assembly with rack over column. Place bottom end of rack inside beveled edge of column flange.
3. Slide rack retaining ring (Ref. No. 7) 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. 6).
4. Rotate table assembly around column. Adjust rack retaining ring as necessary to prevent binding of rack.
5. Attach crank handle (Ref. No. 12) 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. 6).
6. Tighten table bracket locking handle (Ref. No. 8) to secure table assembly.

### MOUNT HEAD ASSEMBLY

Refer to Figure 6.

1. Slide drill press head assembly onto top of column.
2. Position head so that it is centered over base.
3. Secure head by tightening set screws (Ref. No. 26) on side of head.

### MOUNT QUILL FEED HANDLES

Refer to Figure 6.

Thread the (3) handle bars with grips (Ref. No. 17) securely into quill feed assembly.

### MOUNT CHUCK

Refer to Figure 6.

1. Be sure spindle and chuck tapers are clean and dry. Make sure quill is in the UP position.
2. Use the provided chuck key (Ref. No. 83) to adjust the jaws of the chuck (Ref. No. 82) until they are recessed inside the drill chuck body.
3. Slide chuck over spindle taper and push chuck onto spindle.
4. Tap the end of drill chuck with a rubber or wooden mallet to seat it onto the spindle.

### INSTALL BATTERIES FOR LASER GUIDE

1. Open the cover of battery compartment by pushing tab down and toward you.
2. Install two AA batteries into the battery compartment according to the polarity indicated on the cover.
3. Close the cover
4. Turn on the switch to check the laser guide operation.

**NOTE:** Replacement batteries should be AA or equivalent. When replacing batteries, the laser guide should be cleaned. Use a soft brush to remove all sawdust and debris.

## INSTALLATION

**WARNING:** All electrical connections must be performed by a qualified electrician.

**WARNING:** Do not connect Drill Press to the power source until all assembly steps have been completed.

### 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.

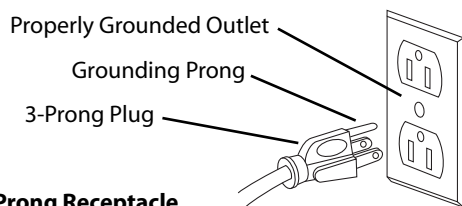
Running the unit on voltages which are not within the range may cause over heating and motor burn-out. Heavy loads require that the voltage at motor terminals be no less than the voltage specified. Power supply to the motor is controlled by a double pole locking rocker switch. Remove the key to prevent unauthorized use.

### 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 at 300V and a three prong grounding type plug (See Figure 1) 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 in Figure 1.



**Figure 1 – 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.

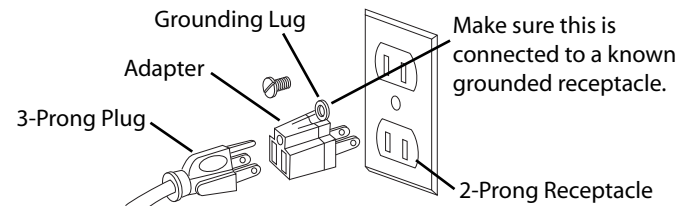
Inspect tool cords periodically, and if damaged, have them repaired by an authorized service facility.

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.

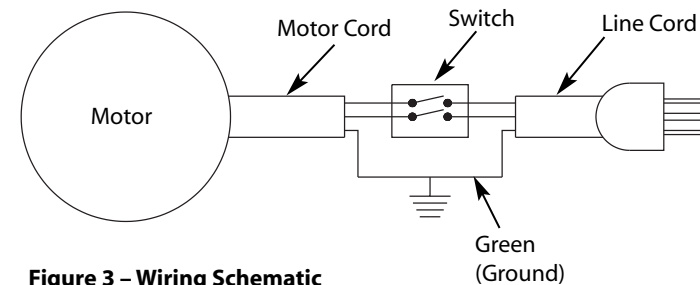
A temporary 3-prong to 2-prong grounding adapter (See Figure 2) is available for connecting plugs to a two pole outlet if it is properly grounded.



**Figure 2 – 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.



**Figure 3 – Wiring Schematic**

### 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 AND GAUGE

Length	A.W.G.
Up to 25 ft.	18
25 – 100 ft.	16
100 – 150 ft.	14

**NOTE:** Using extension cords over 150 ft. long is not recommended.

## OPERATION

**WARNING:** Do not attempt to operate tool until it is completely assembled according to the instructions.

### THE LASER GUIDE

Your tool is equipped with a laser guide, a battery powered device using Class II 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.

1. 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.
2. Any adjustments to increase the laser power is forbidden.
3. 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.
4. If the laser pointer is stored for more than three months without use, please remove the batteries to avoid damage from possibly leaking batteries.
5. The laser pointer includes no user serviceable components. Never open the housing for repair or adjustments.
6. On units equipped with the Laser-Guide attachment, repairs shall only be carried out by the laser manufacturer or authorized agent.
7. Laser Warning label: Max output 1mW DIODE LASER: 650nm, Complies with 1040.10e.

### 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 workpiece. If it is not, the laser lines should be adjusted using the laser adjustment knobs located on the opposite sides of the head assembly.

1. Mark an "X" on a piece of scrap wood.

2. Insert a small drill bit into the chuck and align its tip to the intersection of the lines of the "X".
3. Secure the board to the table.
4. Turn on the laser and verify the laser lines align with the "X" on the workpiece.
5. If the laser lines do not align, loosen screws on each side of the laser module and rotate the lasers until the lines meet in the center of the "X". Screws 'A' loosen the laser about its axis. Loosening screws "B" changes the laser line position with respect to the center of the spindle.

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

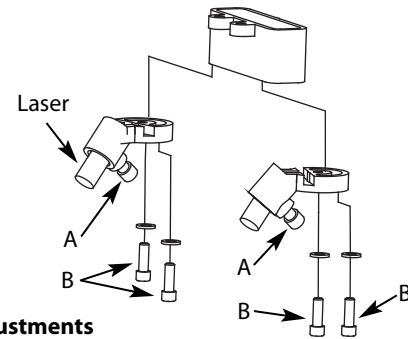


Figure 4 – Adjustments

### SPEED ADJUSTMENTS

Refer to Figures 5 and 6.

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

1. To change spindle speed, loosen lock knob (Ref. No. 21) 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 and chart).
2. After belt has been repositioned, push motor mount plate (Ref. No. 34) to move motor toward rear of drill press and tighten motor lock knob.
3. Check belt for proper tension and make any final adjustment. A belt is properly tensioned when light pressure applied to midpoint of the belt produces about 1/2" deflection.

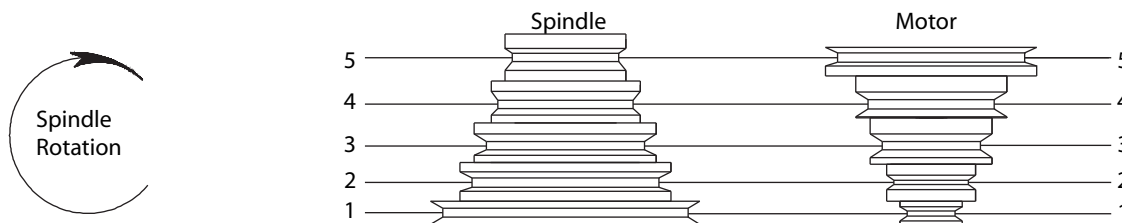


Figure 5 – Spindle Speed Adjustment

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	3070	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	2050	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	1390	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	900	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	570	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

Recommended speed based on material and drill bit size.

**OPERATION (CONTINUED)****TABLE ADJUSTMENTS**

Refer to Figure 6.

1. Height adjustments: To adjust table, loosen lock handle (Ref. No. 8) and turn cranking handle (Ref. No. 12) to desired height. Immediately retighten table bracket locking handle.
2. Rotation of work table: Loosen table locking handle (Ref. No. 8) and rotate table to desired position and retighten handle.
3. Tilting work table: Loosen hex head bolt (Ref. No. 10). Tilt table to desired angle up to 45° and retighten hex head bolt.
4. 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.
5. Clamp table securely after adjustments have been made.

**DEPTH STOP ADJUSTMENT**

Refer to Figure 6.

1. To control drilling depth, loosen locking handle (Ref. No. 21) on quill feed assembly (Ref. No. 20). Rotate scale so desired depth is indicated on scale next to the pointer. Tighten locking handle. Use this feature to drill more than one hole to the same depth.
2. Spindle can be locked in either fully or partially down position. Loosen locking handle (Ref. No. 21). 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**

Refer to Figure 6.

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

1. Place drill bit in jaws of chuck.
2. Tighten chuck with chuck key. Be sure to tighten chuck using all three positions on chuck body and remove key.
3. Use only the self-ejecting chuck key (Ref. No. 83) 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.

**MAINTENANCE**

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

Replace worn V-belt when needed.

**BATTERIES**

Check the laser batteries regularly to avoid deterioration. Remove the batteries if you will not be using the laser for an extended time.

**LUBRICATION**

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

1. Lower quill and spindle all the way down. Lock the quill.
2. Apply lubricant around the inside of the hole in the spindle pulley.
3. Apply lubricant to rack (teeth) on quill while extended below drill press head.
4. Apply lubricant to rack and pinion gear on column and table assembly.
5. Frequently blow out any dust that may accumulate inside the motor. If the power cord is worn, cut, or damaged in any way, have it replaced immediately. For motor lubrication, follow instructions on motor plate.





## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Noisy operation	<ol style="list-style-type: none"> <li>1. Incorrect belt 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)</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 pressure</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, page 3 – “Install Batteries for Laser Guide”



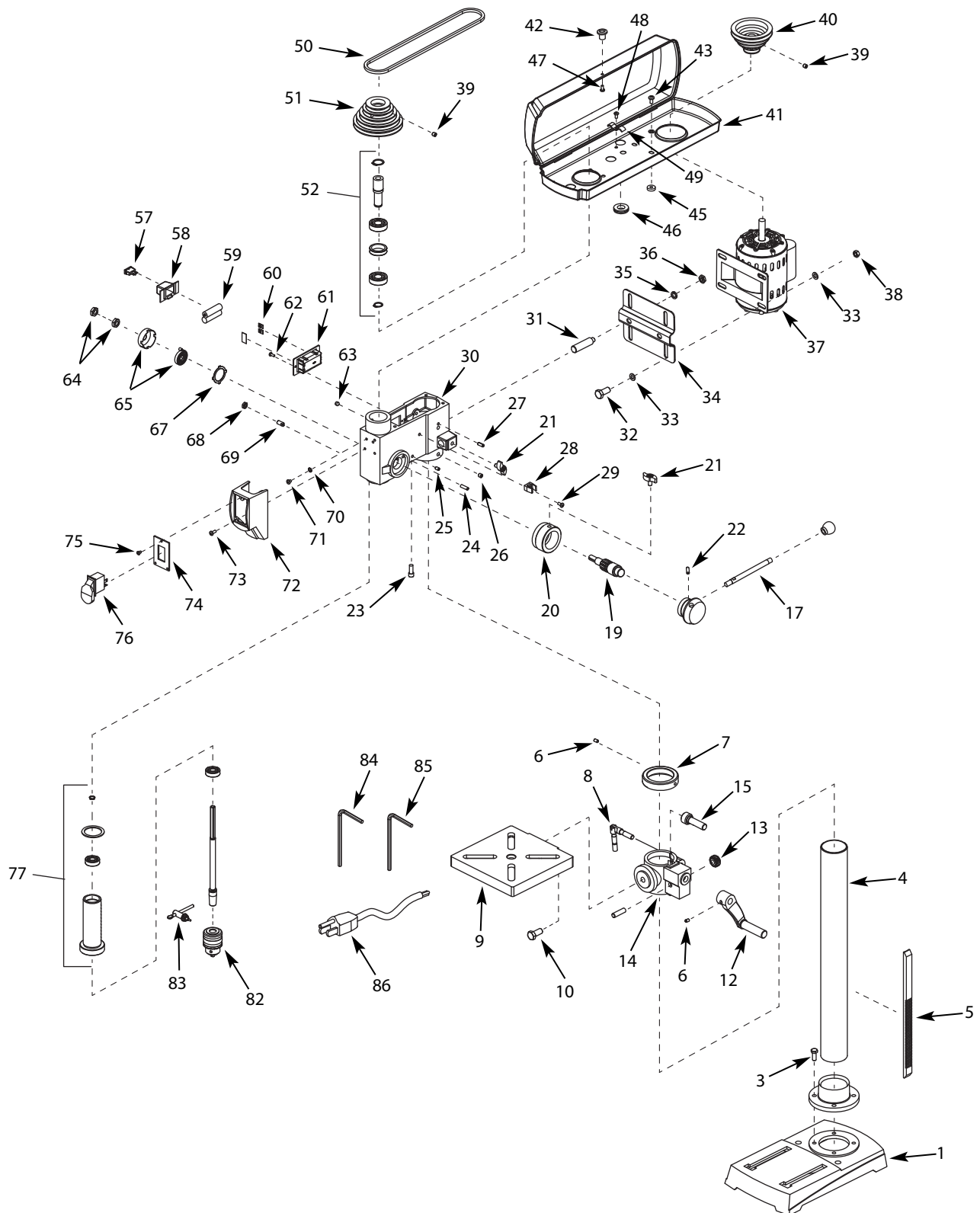


Figure 6 – Replacement parts illustration for 9680100C 10" Bench Model Drill Press.



## REPLACEMENT PARTS LIST FOR 9680100C 10" BENCH MODEL DRILL PRESS

Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	Base	9636191.01	1	41	Pulley housing	9636207.01	1
3	Hex.hd screw m8x20	*	4	42	Knob	9636208.01	1
4	Column & collar assembly	9636192.01	1	43	Screw pan m6x12	*	4
5	Rack	9636201.01	1	44	Washer m6	*	4
6	Hex.soc screw m6 x 10	*	2	45	Circle-rubber	9636209.01	4
7	Rack	9636200.01	1	46	Bushing-rubber	9636211.01	2
8	Locking handle	9636195.01	1	47	Screw pan m5x12	*	1
9	Table	9636193.01	1	48	Screw pan m5x10	*	2
10	Hex.hd screw m12x25	*	1	49	Cord clamp	*	3
12	Crank	9636198.01	1	50	V-belt	9636205.01	1
13	Pinion & gear shaft	9636194.01	1	51	Spindle pulley	9636228.01	1
14	Table support	9636197.01	1	52	Upper spindle assembly	9636229.01	1
15	Worm	9636199.01	1	57	Switch-laser	9642915.01	1
17	Feed handle & knob	9636218.01	3	58	Lid-cell box	9642916.01	1
19	Pinion hub assembly	9636219.01	1	59	Battery	*	2
20	Depth stop ring	9636222.01	1	60	Spring	9642917.01	1
21	Adjust knob	9636221.01	3	61	Cell box	9642918.01	1
22	Roll pin x16mm	*	1	62	Screw pan m4x10	*	2
23	Laser localizer	9642913.01	2	63	Hex.soc screw m8x8	*	1
24	Pin stop	9636225.01	1	64	Nut-hex m12	*	2
25	Hex.soc screw m6x8	*	2	65	Spring cap cover assembly	9636231.00	1
26	Hex.soc screw m8x8	*	2	67	Retainer spring-Removed from machine	N/A	1
27	Roll pin m6x16	*	2	68	Nut-hex m8	*	1
28	Nip-key	9642914.01	1	69	Socket set screw m8	*	1
29	Screw pan hd. m5x10	*	1	70	Star washer m5	*	2
30	Head	NA	1	71	Screw pan hd. m5x6	*	2
31	Motor support	9636215.01	2	72	Switch box	9636235.01	1
32	Hex.hd screw m8x16	*	4	73	Screw pan m5x14	*	2
33	Washer m8	*	8	74	Switch plate	9636236.01	1
34	Motor mount	9636214.01	1	75	Screw pan hd.	*	3
35	Lock washer m10	*	2	76	Switch-key	9636237.00	1
36	Nut-hex m10	*	2	77	Spindle & quill assembly	9636239.01	1
37	Motor	9636213.01	1	82	Chuck & key	9636240.01	1
38	Nut-hex m8	*	4	84	Wrench hex "I"	*	1
39	Hex.soc screw m8x10	*	2	85	Wrench hex "I"	*	1
40	Pulley motor	9636206.01	1	86	Cord & plug	9642920.01	1

(Δ) Not shown.

(\*) Standard hardware item, available locally.

(NA) Not available as replacement part.





## PALMGREN WARRANTY

C.H. Hanson / Palmgren warrants their products to be free of defects in material or workmanship. This warranty does not cover defects due directly or indirectly to misuse, abuse, normal wear and tear, failure to properly maintain the product, heated, ground or otherwise altered, or used for a purpose other than that for which it was intended.

The warranty does not cover expendable and/or wear part (i.e. v-belts, screws, abrasives, jaws), damage to tools arising from alteration, abuse or use other than their intended purpose, packing and freight. The duration of this warranty is expressly limited to the terms noted below beginning from the date of delivery to the original user.

The Palmgren branded items carry the following warranties on parts:

All vises, clamps, positioning tables, tombstones, jack screws and vise accessories - LIFETIME.

All bench grinders, drill presses, tapping machines, band saws, lathes, milling machines, arbor presses, abrasive finishing machines and work stands - 3 YEARS.

The obligation of C.H. Hanson / 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 inoperable. Purchaser must lubricate and maintain the product under normal operating conditions at all times. Prior to operation become familiar with product and the included materials, i.e. warnings, cautions and manuals.

**Failure to follow these instructions will void the warranty.**

This warranty is the purchaser's exclusive remedy against C. H. Hanson for any inoperable parts in its product. Under no circumstances is C. H. Hanson liable for any direct, indirect, incidental, special or consequential damages including loss of 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.

**PALMGREN**<sup>®</sup>

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