

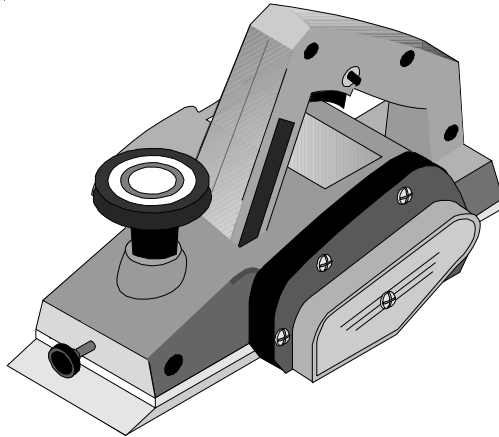
# CHICAGO

## Electric Power Tools

### 3-1/4" PLANER

**Model 32222**

#### ASSEMBLY and OPERATING INSTRUCTIONS



Due to continuing improvements, actual product may differ slightly from the product described herein.

3491 Mission Oaks Blvd. / Camarillo, CA 93011

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**For technical questions and replacement parts, please call 1-800-444-3353.**

## **SPECIFICATIONS**

<b>Item #</b>	<b>32222</b>
Motor	5 amps @ 110V, 60Hz
Rate	34,000 CPM
Planing Width	3-1/4"
Max. Planing Depth	1/10"
Max. Rabbeting Depth	25/64"
Tool Weight	6-1/4 lbs.

## **SAVE THIS MANUAL**

You will need the manual for the safety warnings and cautions, assembly instructions, operating procedures, maintenance procedures, trouble shooting, parts list, and diagram. **Keep your invoice with this manual. Write the invoice number on the inside of the front cover.** Keep both this manual and your invoice in a safe, dry place for future reference.

<b>READ ALL INSTRUCTIONS BEFORE ASSEMBLING OR OPERATING THIS TOOL.</b>
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## **SAFETY WARNING & CAUTIONS**

**WARNING:** When using electric tools, machines, or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury. **READ ALL INSTRUCTIONS BEFORE USING THIS TOOL!**

1. **KEEP WORK AREA CLEAN.** Cluttered areas invite injuries.
2. **OBSERVE WORK AREA CONDITIONS.** Do not use machines or power tools in damp, wet, or poorly lit locations. Don't expose to rain. Keep work area well lit. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **KEEP CHILDREN AWAY.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **STORE IDLE EQUIPMENT.** When not in use, tools must be locked up in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **DO NOT FORCE THE TOOL.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool's capacities.
6. **USE THE RIGHT TOOL FOR THE JOB.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. Do not use a tool for a purpose for which it was not intended.
7. **DRESS PROPERLY.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.

8. **USE EYE AND EAR PROTECTION.** Always wear ANSI approved chemical splash goggles when working with chemicals. Always wear ANSI approved impact safety goggles at other times. Wear a full face shield if you are producing metal filings or wood chips. Wear and ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
9. **DO NOT ABUSE THE POWER CORD.** Do not yank it to disconnect it from the receptacle. Do not carry tools by the cord.
10. **DO NOT OVERREACH.** Keep proper footing and balance at all times. Do not reach over or across running machines.
11. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.
12. **DISCONNECT POWER.** Unplug when not in use, before servicing, and when changing accessories.
13. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make it a habit to check that keys and adjusting wrenches are removed from the tool or machine work surface before plugging it in.
14. **AVOID UNINTENTIONAL STARTING.** Be sure the switch is in the OFF position when not in use and before plugging in. Do not carry any tool with your finger on the trigger, whether it is plugged in or not.
15. **OUTDOOR EXTENSIONS CORDS.** When the equipment is operated outdoors, use only extension cords intended for outdoor use. See chart under "Extension Cords: for the proper AWG rating depending on the length of the cord(s) being used.
16. **STAY ALERT.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
17. **CHECK DAMAGED PARTS.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn on and off properly.
18. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
19. **REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
20. **DO NOT OPERATE TOOL IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

21. REMOVE FOREIGN OBJECTS FORM STOCK. All nails, screws, and all other hardware must be removed from wood before planing. Never allow planer to come in contact with any metal when operating. This will chip the blades.
22. DO NOT LEAVE BLADE EXPOSED WHEN NOT IN USE. Never lay planer on its shoe while cutter head is exposed. Retract cutter head entirely when storing.
23. DO NOT COVER OR ALLOW AIR VENTS TO BECOME BLOCKED. Motor requires sufficient ventilation to prevent overheating.
24. KEEP ALL GUARDS IN PLACE. Do not operate if a guard is functioning improperly.
25. KEEP CHIP CHUTE CLEAR. Make sure there are no obstructions that would prevent the ejection of chips. *Always* unplug tool and let cutterhead reach a complete stop before clearing out chute.
26. RELEASE TRIGGER IMMEDIATELY AFTER REMOVING CUTTERHEAD FROM STOCK. Do not leave trigger locked on after lifting. Only use trigger lock when planing for extended period of time and when cutterhead will be in constant contact with your stock.

### **GROUNDING INSTRUCTIONS**

1. This machine has a three prong plug. The third prong (round) is the ground. Plug the machine's cord only into three-prong receptacles. Never cut off the round prong. Cutting off the ground will result in a safety hazard and void the warranty.
2. If a three-prong receptacle is not available, you may use an adapter. Extending from the male end of the adapter, you will find a ring connector or wire lead with a ring connector where the ground (round prong) would be. Remove the center screw of the outlet cover and put the screw through the ring connector and back into the hole of the outlet cover. Do not over tighten or you will crack the outlet cover.

### **VOLTAGE WARNING**

Common household current is 110-120 volts. As long as your tool is rated from 110V-120V there will be no complications using this tool with household receptacles. If your tool is rated 220V-240V it has a completely different style of plug and must be used with a 220V-240V receptacle. Never try to plug a 110V-120V tool into a 220V-240V circuit (or vice-versa) or serious complications will arise, including possible injury to the operator. The plugs and receptacle have completely different shapes to prevent this from occurring accidentally. Do not modify your plug in any way. If you have any doubts, call a qualified electrician.

## **EXTENSION CORDS**

Your tool has a three prong plug, therefore you must use a three- prong extension cord. Only use rounded jacket extension cords listed by the Underwriters Laboratories (UL). If you are using the tool outdoors, you must use an extension cord rated for outdoor use. This is signified by the letters "WA" on the jacket.

The extension cord must have a minimum wire size depending on the amperage of the tool and the length of the extension cord. This size is signified by its AWG (American Wire Gauge) rating. The smaller the gauge, the greater the cable's capacity. It does not matter if you are using one cord, or two or more- the total length is what is used to determine the minimum AWG rating. Every cord used must meet the AWG rating. Use the chart below to determine what AWG rating is required for your situation. Cord length is rated in feet.

<b>AMP RATING</b>	<b>TOTAL EXTENSION CORD(S) LENGTH IN FEET</b>								
	25	50	75	100	125	150	175	200	
0-10.0	18	18	16	16	14	14	12	12	<b>A</b>
10.1-13.0	16	16	14	14	14	12	12	12	<b>W</b>
13.1-15	14	14	12	12	12	12	12	—	<b>G</b>
15-18	14	12	12	12	12	12	—	—	

Always inspect extension cords for any damage. If there are any loose, frayed, or exposed wires; damaged insulation; or defective connections, the cord must not be used. Harbor Freight Tools can supply UL listed and outdoor rated cords in multiple AWG rating if needed.

## **UNPACKING**

When unpacking, check to make sure the following parts are included. All sizes listed below are approximate. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

<b>ITEM #</b>	<b>DESCRIPTION</b>
56	Replacement Belt
58	One Set Replacement Brushes
62	Blade Set Jig
63	Blade Sharpening Jig
65	Guide Fence
66	5mm T-Handle Box Wrench

**WARNING: CHECK BLADE SETTING AND TIGHTNESS BEFORE INITIAL USE.**

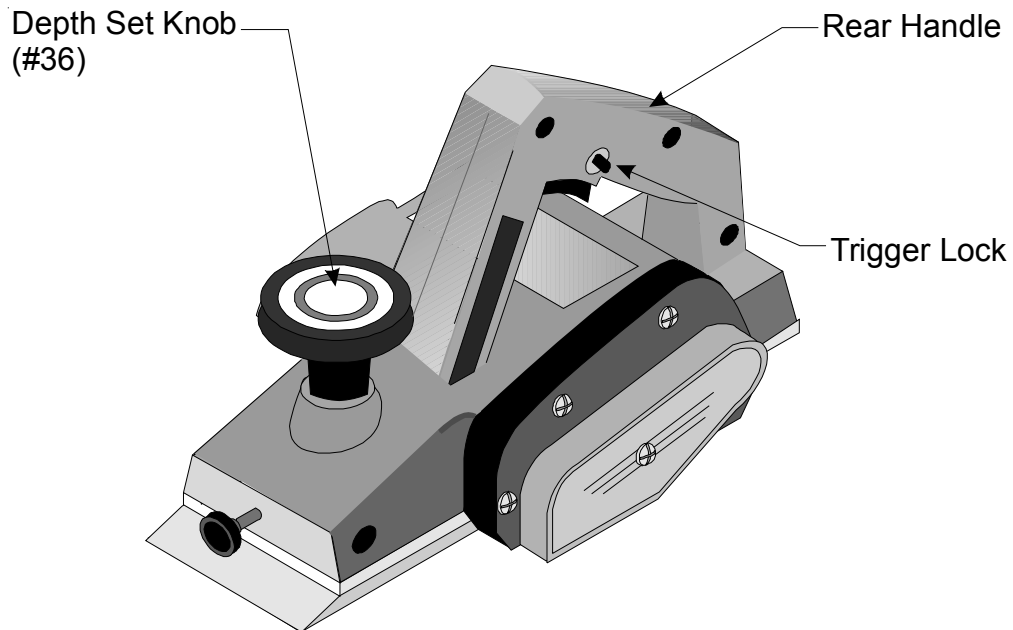
## **OPERATIONS**

### ***Basic Procedures***

Step 1: Bring cutterhead up to full speed before engaging stock.

Step 2: The TRIGGER (#40) can be locked on using the Trigger Lock Button as shown in Figure #1. See Safety Warnings and Precautions #26.

Step 3: Use the Rear Handle to gently push the Planer. Do not force. See Figure #1.



***Figure 1 — Using the Planer***

Step 4: The DEPTH SET KNOB (#36) controls the depth of cut. Turn counterclockwise to decrease, and clockwise to increase the cutting depth. Note that several light passes will create a finer finish than one or two deep cuts. See Figure #1.

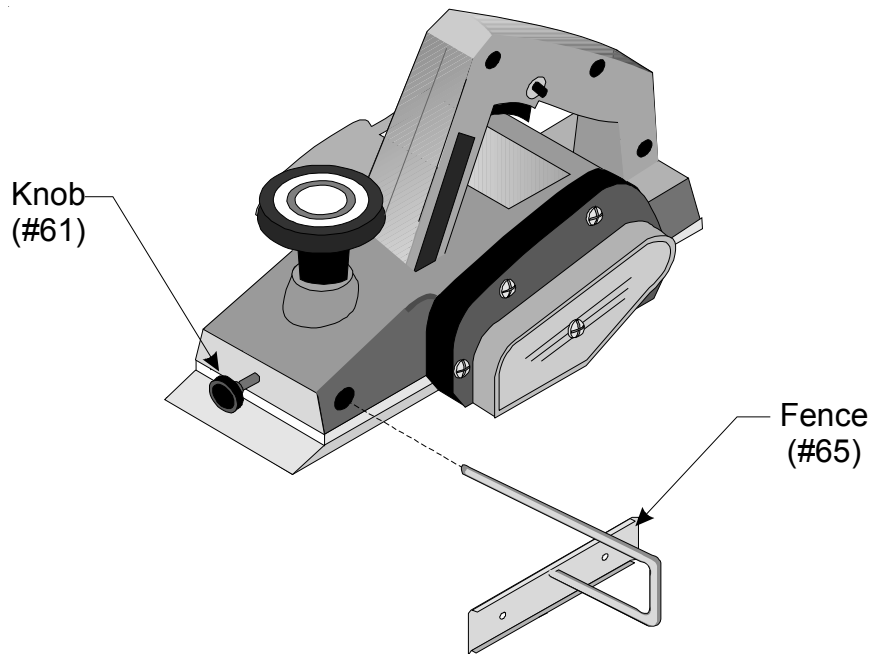
Step 5: The DEPTH SET KNOB is also used to guide the planer when operating. Apply only light pressure.

## ***Fence Use and Installation***

Step 1: The FENCE (#65) can only be used when edge of stock is flat and at a 90° angle to the surface being plane.

Step 2: The Fence must be used to engage is Rabbeting Procedures (see below).

Step 3: To install the FENCE, first loosen the front KNOB (#61) by turning it counterclockwise. (See Figure 2.)



***Figure 2 — Using the Fence***

Step 4: Insert the fence into the hole as shown in Figure 2.

Step 5: Though the FENCE is shown being installed in the right side, it can be positioned on the left as well.

Step 6: Set the fence so that it rests against the edge of the stock and so that the cutterhead is positioned to plane the desired area.

Step 7: Tighten the KNOB by turning clockwise.

## ***Rabbeting***

Step 1: Install FENCE as described above

Step 2: Determine the width of the desired rabbet.

Step 3: Using a ruler or other suitable device, set the fence so that only the necessary amount of the cutterhead will plane the stock.

Step 4: Set the DEPTH KNOB to the desired cutting depth.

## ***Chamfering***

Chamfering is a delicate, free-hand operation. Practice on old stock before using on valuable workpieces. The FENCE must be removed when chamfering.

Step 1: The FRONT FOOT (#32) as a V-groove to aid in this operation. Each side of the V-groove must rest against the sides of the corner to be chamfered. In other words, the corner of the stock and the V-groove must fit together.

Step 2: Do not allow cutterhead to engage stock until it has reached full speed.

Step 3: Engage motor and move planer slowly forward so that the cutterhead begins to plane. Use slightly more pressure on both handles, move the planer very slowly, and keep a steady hand.

## **MAINTENANCE**

### ***Removing & Sharpening Blades***

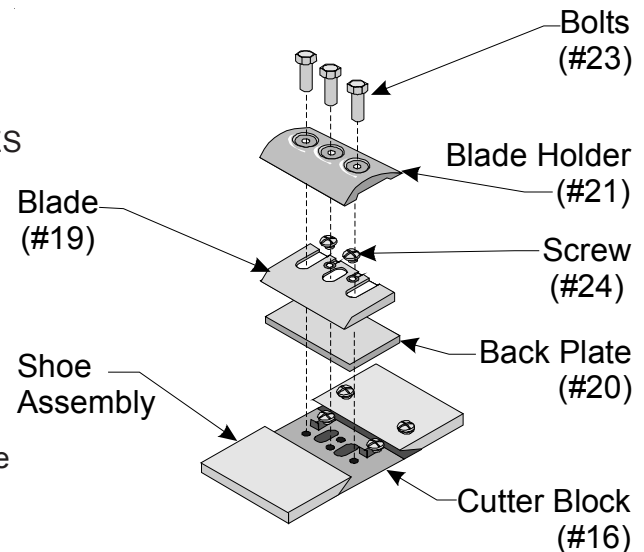
Both BLADES (#19) must be sharpened (or replaced) at the same time. To remove BLADES do the following:

Step 1: Remove the three BOLTS (#23) on the cutterhead assembly. (See Figure 3.)

Step 2: Remove the BLADE HOLDER (#21).

Step 3: Gently pry up on the BLADE and remove it from the CUTTER BLOCK (#16). Be careful, as the blade is sharp.

Step 4: Loosen the two SCREWS (#24) and set them and the BACK PLATE (#20) aside.



**Figure 3 — Removing the Blades**

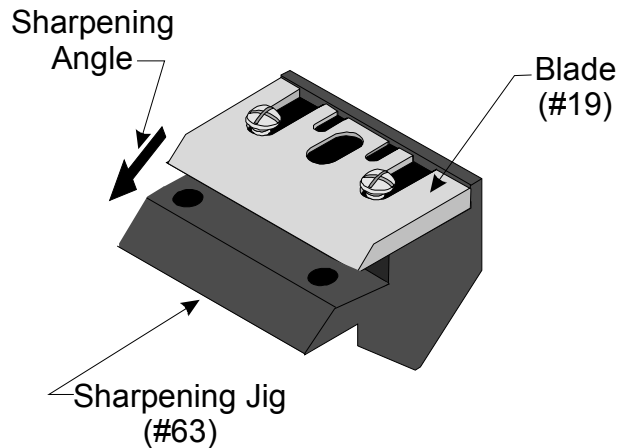


Step 5: Mount the BLADE to the SHARPENING JIG (#63) as shown in Figure 4.

Step 6: Use the angle to keep the edge correct as shown by the arrow.

Step 7: Sharpen by hand using a fine, metal file or a whetstone.

Step 8: Remove BLADE from the SHARPENING JIG.



**Figure 4 — Removing the Blade and Sharpening Jig**

### **Setting & Replacing Blades**

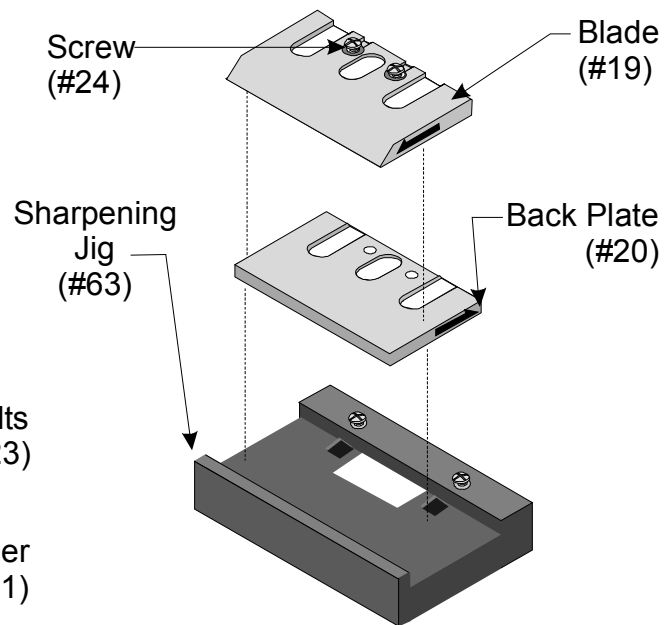
Step 1: Loosely attach the BACK PLATE (#20) to the BLADE SET JIG (#62) as shown in Figure 5.

Step 2: Make sure the edge of the BLADE (#19) is resting on the front of the JIG.

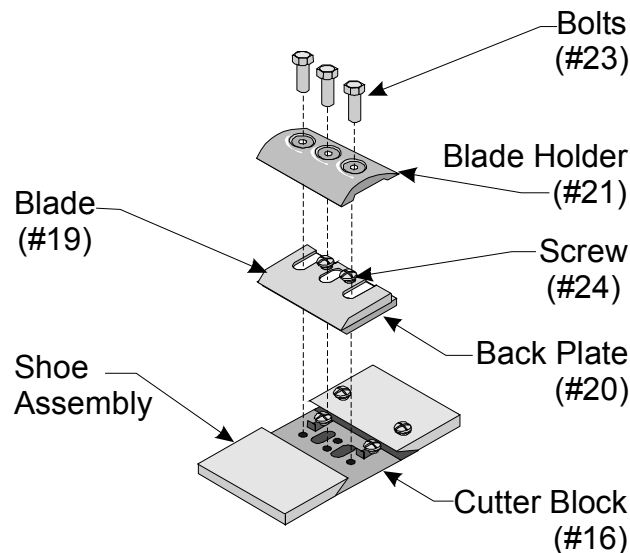
Step 3: Set the BACK PLATE against the back of the JIG.

Step 4: Holding both pieces firmly in place, tighten the two SCREWS (#24).

Step 5: Snap blade assembly back into the CUTTER BLOCK (#16) as shown in Figure 6.



**Figure 5 — Setting the Blades**

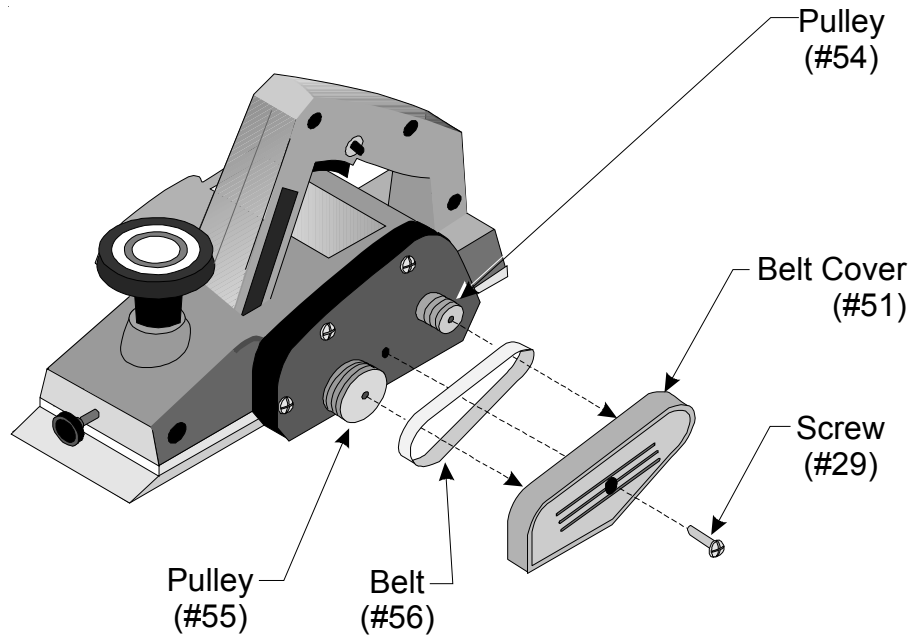


**Figure 6 — Placing the Blade onto the Cutter Block**

Step 6: Replace the BLADE HOLDER (#21) using the three BOLTS (#23).

### ***Pulley Replacement***

Step 1: Remove the SCREW (#29) and the BELT COVER (#57). (See figure 7.)



***Figure 7 — Removing the Pulley***

Step 2: Remove the BELT (#56).

Step 3: Replace BELT. Make sure is tracking properly on the PULLEYS (#54 & 55) by moving carefully by hand.

Step 4: Replace the BELT COVER and tighten SCREW securely.

### ***Brush Replacement***

Both BRUSHES (#58) must be replaced at the same time. To remove the BRUSHES do the following:

Step 1: Remove CHIP CHUTE COVER (#51).

Step 2: Remove both BRUSH CAPS (#59).

Step 3: Remove BRUSHES from BRUSH HOLDERS (#3) and replace with new BRUSHES.

Step 4: Replace BRUSH CAPS and CHIP CHUTE COVER.

## TROUBLE SHOOTING

<b>PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>SOLUTION</b>
Planer will not start	<p>Not plugged in</p> <p>Fuse or circuit blown</p> <p>Socket</p> <p>Worn brushes</p> <p>Damaged cord of plug</p> <p>Switch not working</p> <p>Motor not working</p>	<p>Plug in.</p> <p>Replace fuse or reset circuit</p> <p>Test socket with current tester or try another tool in socket. If socket does not function properly, have it replaced by a qualified technician.</p> <p>Replace Brushes.</p> <p>Have cord replaced by a qualified technician.</p> <p>Have switch replaced by a qualified technician.</p> <p>Contact Harbor Freight Tools for servicing.</p>
Planer starts, but cutterhead does not move	Worn or broken belt	Replace belt.
Planer starts, cutterhead moves, but wood remains uncut	<p>Blade not extended beyond foot</p> <p>Belt worn and slipping</p>	<p>Adjust for more cutting depth.</p> <p>Replace belt.</p>
<p>Operation interrupted</p> <p>Rough/fuzzy grain</p>	<p>Forcing Unit</p> <p>Overloaded circuit</p> <p>Blade setting too deep</p> <p>High moisture content</p>	<p>Apply less pressure.</p> <p>Use on an isolated circuit.</p> <p>Check for adequate amp rating and, if necessary, install proper fuses/breaker to allow for sufficient amperage.</p> <p>Reduce depth setting and use more passes.</p> <p>Dry wood before planing.</p>
Grain is torn grain	<p>Blade setting too deep</p> <p>Dull cutter blades</p>	<p>Reduce depth setting and use more passes.</p> <p>Replace blades.</p>

## PARTS LIST

<b>NO.</b>	<b>DESCRIPTION</b>	<b>NO.</b>	<b>DESCRIPTION</b>
1	Housing Assembly	39	Thrust Washer
2	Set Screw	40	Trigger/Switch
3	Brush Holder	41	Noise Suppressor
4	Stator Assembly	42	Terminal
5	Brush Terminal	43	Cord Assembly
6	Grounding Washer	44	Cord Strain Relief
7	Lock Washer	45	Cord Clip
8	Machine Screw	46	Internal Wire Assembly
12	Armature Assembly	47	Connector
14	Ball Bearing (608ZZC2)	48	Tapping Screw
15	Ball Bearing (6200ZZCM)	49	Plate
16	Cutter Block	50	Rear Foot
17	Holder Spring	51	Handle
18	Guard Plate	52	Chip Chute Cover
19	Blade	53	Tapping Screw
20	Back Plate	54	Pulley (A)
21	Blade Holder	55	Pulley (B)
22	Washer	56	Belt
23	Bolt	57	Belt Cover
24	Machine Screw	58	Carbon Brush
25	Ball Bearing (6000ZZCM)	59	Brush Cap
26	Bearing Lock	60	Name Plate
27	Bearing Cover	61	Knob
28	End Bracket	62	Blade Set Jig
29	Tapping Screw	63	Blade Sharpening Jig
30	Washer	64	Machine Screw
32	Front Foot	65	Guide Fence
33	Rubber Packing	66	T-Handle Box Wrench
34	Spring	67	Caution Label
35	Washer	69	Tapping Screw
36	Depth Set Knob	70	Washer
37	Scale	71	Terminal
38	Washer	72	Plate

# EXPLODED VIEW DRAWING

