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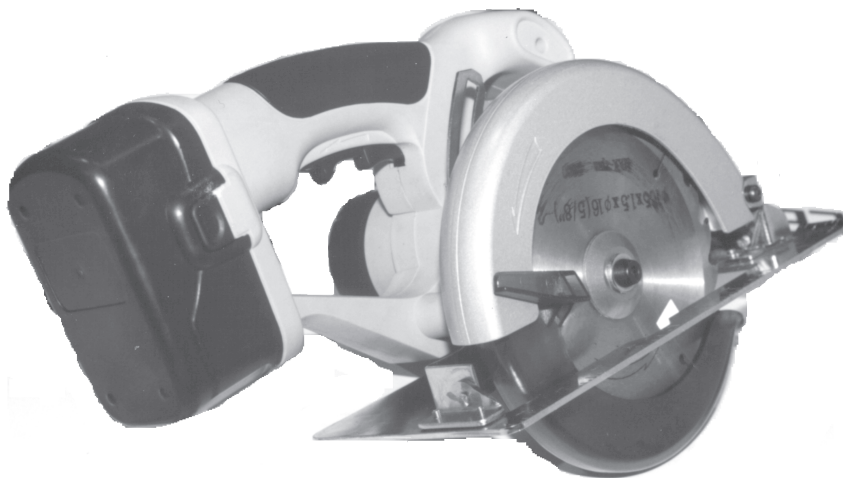
Electric[®] Power Tools

6-1/2" (18V)

CIRCULAR SAW

Model 41903

ASSEMBLY & OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at <http://www.harborfreight.com>

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

THANK YOU for choosing a **HARBOR FREIGHT TOOLS** product. For future reference, please complete the owner's record below:

Model _____ **Serial No.** _____ **Purchase Date** _____

SAVE THE RECEIPT, WARRANTY AND THESE INSTRUCTIONS. It is important that you read the entire manual to become familiar with the unit BEFORE you begin assembly.

Technical Specifications

Tool Name: 6-1/2" 18V Circular Saw
SKU: 41903
Cutting Capacity: 2-1/16" @ 90 degrees, 1-1/2" @ 45 degrees
Motor RPM: 3,000 RPM
Arbor Size: 5/8"
Safety Switch: 2 Action
Blade: 6-1/2" X 24T C-2 Tip with Hardness 89-92 HRC
Max. Blade RPM: 7000
Also Included: Quick Charger with U.L. Approved Adapter, 18V Battery, 4 mm Hex Wrench, Blow Mold Case.



READ ALL INSTRUCTIONS BEFORE USING THIS PRODUCT!

Warning: The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that **COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO THIS PRODUCT, BUT MUST BE SUPPLIED BY THE OPERATOR.**

The Operator

PLEASE REMEMBER:

Do not operate the product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment/reflexes might be impaired.

Do not wear loose clothing or jewelry as they can be caught in moving parts.

Protective gloves and nonskid footwear is recommended.

Wear restrictive hair covering to contain long hair.

Use eye and ear protection. Always wear ANSI approved impact safety goggles and a dust mask or respirator when working around metal, wood and chemical dusts and mists.

Wear a full face shield if you are producing metal or wood filings.

Maintain proper footing and balance at all times.

Keep hands out of the cutting area and away from the blade.

Make certain that the piece being cut is properly supported; do not support the piece being cut with your hands or by bracing with your leg.

Avoid carrying the Saw with your fingers on the Handle. Your fingers may touch the Switch and Safety trigger and start the Saw.

WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, 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 or other masonry products
- Arsenic and chromium from chemically treated lumber

(California Health & Safety Code 25249.5, *et seq.*)

Work Area

TO AVOID RISK OF PERSONAL INJURY, EQUIPMENT DAMAGE, FIRE AND SHOCK, MAKE SURE YOUR **WORK AREA IS:**

Free of damp, wet or rainy conditions.

Free of flammable gasses or liquids.

Free of children (never let them handle tools or machinery).

Well-lit.

Clean and uncluttered.

Well-ventilated.

Before Operating

Before operating your Circular Saw check for 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.

DO NOT exceed the tools maximum capacity.

Never force the tool or attachment to do the work of a larger industrial tool. It is designed to do the job better and more safely at the rate for which it was intended.

Do not try to use inappropriate attachments in an attempt to exceed the tool's capacity. Approved accessories are available from Harbor Freight Tools.

Make sure all clamps, locks and bolts are tight.

MAKE CERTAIN TO TURN OFF THE SAW, AND REMOVE THE BATTERY PACK WHEN MOVING OR LOADING OR WHEN DOING ANY MAINTENANCE. THE TOOL SHOULD ALWAYS BE TURNED OFF WHEN NOT IN USE.

Do not reach over or across running machines.

Battery Precautions

Read all instructions and warnings on the battery before charging the battery.

To avoid accidents, charge the supplied battery only. Do not use a different charger with this battery.

Do not expose the battery to rain or wet conditions.

To avoid damage of cable and plug, never pull the cable to disconnect the charger.

Do not use the charger if the cable or plug are damaged.

Repairs should be carried out by experts only

Do not touch the battery poles with any conductive source.

Do not store the battery in a box with other metal objects.

Do not throw the battery in a fire. **Ni-Cd** Battery must be recycled or disposed of properly.

Note: The operation time of a new battery will ramp up as it is properly used and recharged. It will take about 5 cycles before the battery is at maximum efficiency. Warning: If two or more batteries are to be charged, allow the Quick Charger time to cool down between charges. Charging room temperature: 50° F - 104° F.

Note: Always switch to a fresh battery when tool performance begins to diminish. Severe heat is most destructive to a battery; the more heat generated, the faster the battery loses power. A battery that gets too hot can be permanently damaged. Never over-discharge a battery by using the tool even after tool performance is decreasing. Never attempt to discharge a tool's battery by continuing to pull the tool trigger. **When tool performance begins to diminish, stop the tool, recharge the battery and use the fresh battery for optimal performance.**

Warning: Never charge more than 2 hours continuously. Chargers should not be left plugged in or charging for more than 2 hours.

Charging the Battery Pack

The Battery Pack (part #14) does not come charged from the factory. Charge it before using.

- Step 1) Insert the Battery Pack (#14) into the Quick Charger. The Battery Pack will only fit in one way.
- Step 2) Plug the Quick Charger into a wall socket.
- Step 3) When the Quick Charger is plugged into a wall socket, the GREEN light will go on. This shows that all circuitry is working properly and that the Charger is ready.
- Step 4) Press the SET button to start charging. The RED light will go on and will continue to be on while the Battery Pack is charging. When the RED light goes off, the Battery pack charge is complete. It will take approximately 1 to 1-1/2 hours to fully charge the Battery Pack.
- Step 5) After charging, unplug the Quick Charger from the wall outlet.
- Step 6) Remove the Battery from the Quick Charger.
- Step 7) Insert the Battery Pack (part #14) into Saw body as shown in Figure 1.
- Step 8) When removing the Battery Pack from the Saw body, press down on the locking tabs located on each side of the Battery Pack and pull straight out from the body.



Figure 1-Installing the Battery Pack
Assembly

Your Circular Saw may require some assembly. Information on installation is included below for your reference. Please refer to the photos and illustrations as well as the Assembly Diagram located on page 9 of this manual. The Parts List is located on page 8.

It is important that you read the entire manual to become familiar with the unit **BEFORE** you use it. Be sure that you have all parts described in the Parts List. For assistance with assembly please refer to the assembly diagram and the parts list on page.

Warning: Remove the Battery Pack (part #14) before making any adjustments to the Saw.

Installing the Cutting Blade - Note: Loosen the Hex Wrench Knob as shown in Figure 4, and remove the Hex Wrench.

- Step 1) Remove the Battery Pack (part #14).
- Step 2) Press down on the Stop Button located on the top of the Saw while slowly moving the blade. The tip of the Stop Button will engage in a cutout in the blade to stop the blade from moving.

Step 3) While continuing to hold down the Lock Button, use the 4 mm Hex Wrench to loosen and remove the Arbor Bolt (part #38). Remove the Spring Washer (part #37) and the Flange (part #36).

Step 4) Rotate the Retractable Guard (part #32) clockwise to allow entry of the Saw Blade (part #35).

Step 5) Insert the Saw Blade (#35) up through the Shoe (part #53) with the teeth facing forward and up, until the center hole of the Saw Blade fits over the Main Shaft (part #25) - (See Figure 3).

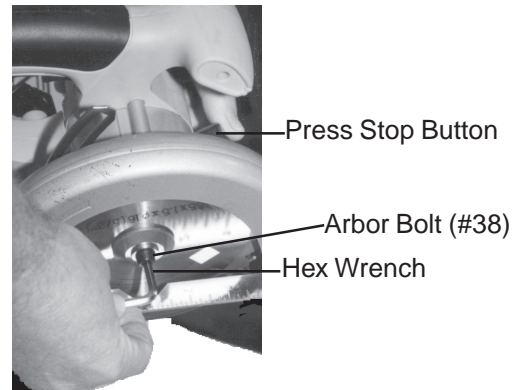


Figure 2-Installing the Saw Blade

Warning: Make certain that the arrow on the Retractable Guard (#32) and the Saw Blade are facing the same direction as in Figure 3.

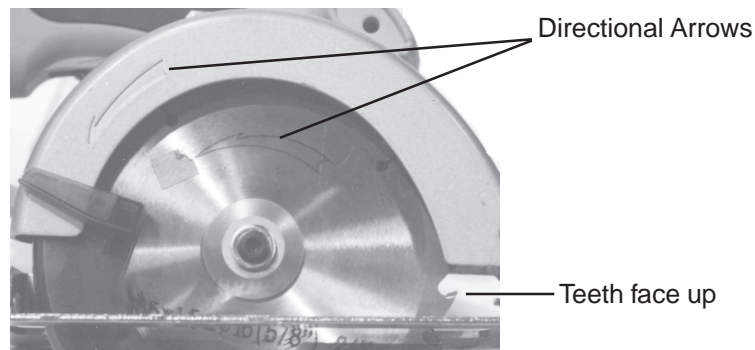


Figure 3

Step 6) While pressing on the Lock Button, replace the Flange (#36), Washer (#37) and Arbor Bolt (#38). Tighten into place with the Hex Wrench. When finished, make certain that the Lock Button has been returned to the up (unlocked) position.

Step 7) Slide the Hex Wrench into its storage slot and tighten it into place with the Hex Wrench Knob (See Figure 4).

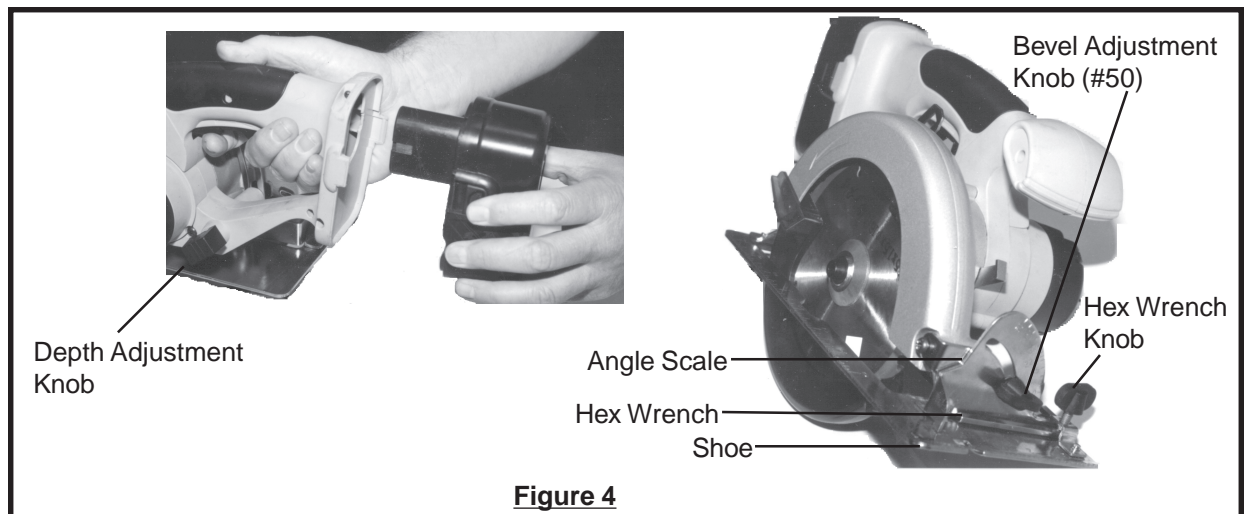


Figure 4

Adjusting the Saw Prior to Cutting

- Step 1) To adjust the angle of the Saw Blade up to 50° loosen the Bevel Adjustment Knob (part #50) and move the Shoe (part #53) down paying attention to the degrees indicated on the angle scale (See Figure 4). Once set, retighten the Bevel Adjustment Knob (part #50).
- Step 2) To adjust the depth of the cut, loosen the Depth Adjustment Knob (part #7) (See Figure 4). Move the Shoe (#53) down while observing the amount of Saw Blade exposed under the Shoe (#53). Once adjusted, tighten the Depth Adjustment Knob (#7).

Prepare Material Before Cutting

- Step 1) Support large panels to minimize the risk of pinching the Saw Blade and to reduce the risk of kickback.
- Step 2) Use the Rip Fence (part #49) when ripping material.
- Step 3) Securely clamp the work piece to be cut to the workbench.
- Step 4) Make sure the Saw does not cut into the supports or the workbench.
- Note:** Use the appropriate type of Saw Blade for the material you are cutting.

Operation

Before operating your Circular 6-1/2" Saw, it will be helpful to refer to each of the photos and illustrations shown in this manual, as well as to the Parts List on page 8 and Assembly Diagram on page 9.

Cutting

- Step 1) Position the Rip Fence (part #49) to guide the Saw on a straight path.
- Step 2) With your left hand resting on the front portion of the Body (part #9/13), position your right hand on the upper portion of the handle portion of the Body (directly above the Trigger/Safety).
- Step 3) Place the front edge of the Shoe (part #53) on the front edge of the material to be cut. Align the front notch (right notch aligns with the Saw Blade) on the cut line.
- Step 4) Pull the Safety (part #18) back with the middle finger and squeeze the Trigger (part #20) with the index finger. Do this before the Saw Blade touches the work piece.
- Step 5) With the Saw at full speed, move it slowly forward to start the cut.
- Step 6) When the cut is complete, release the Trigger (part #20). Do not set the Saw down until the Saw Blade stops turning.

Maintenance

CLEANING: Before remounting the Saw Blade, remove all sawdust that has accumulated around the Retractable Guard (part #32) and the Spacer (part #22), Bolts and Washers.

Regularly clean the work surface with a vacuum cleaner or a dry brush. At the end of every work session, remove sawdust from the motor vents. Prevent wood, dust and debris from accumulating in the working area.

Keep the Saw Blade (#35) clean and sharp. A sharp blade will minimize stalling and kickback.

STORAGE: Child-proof the machine and work area. Use of padlocks and master switches are recommended. Store the Circular Saw in its Case.

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THE TOOL.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Unpacking

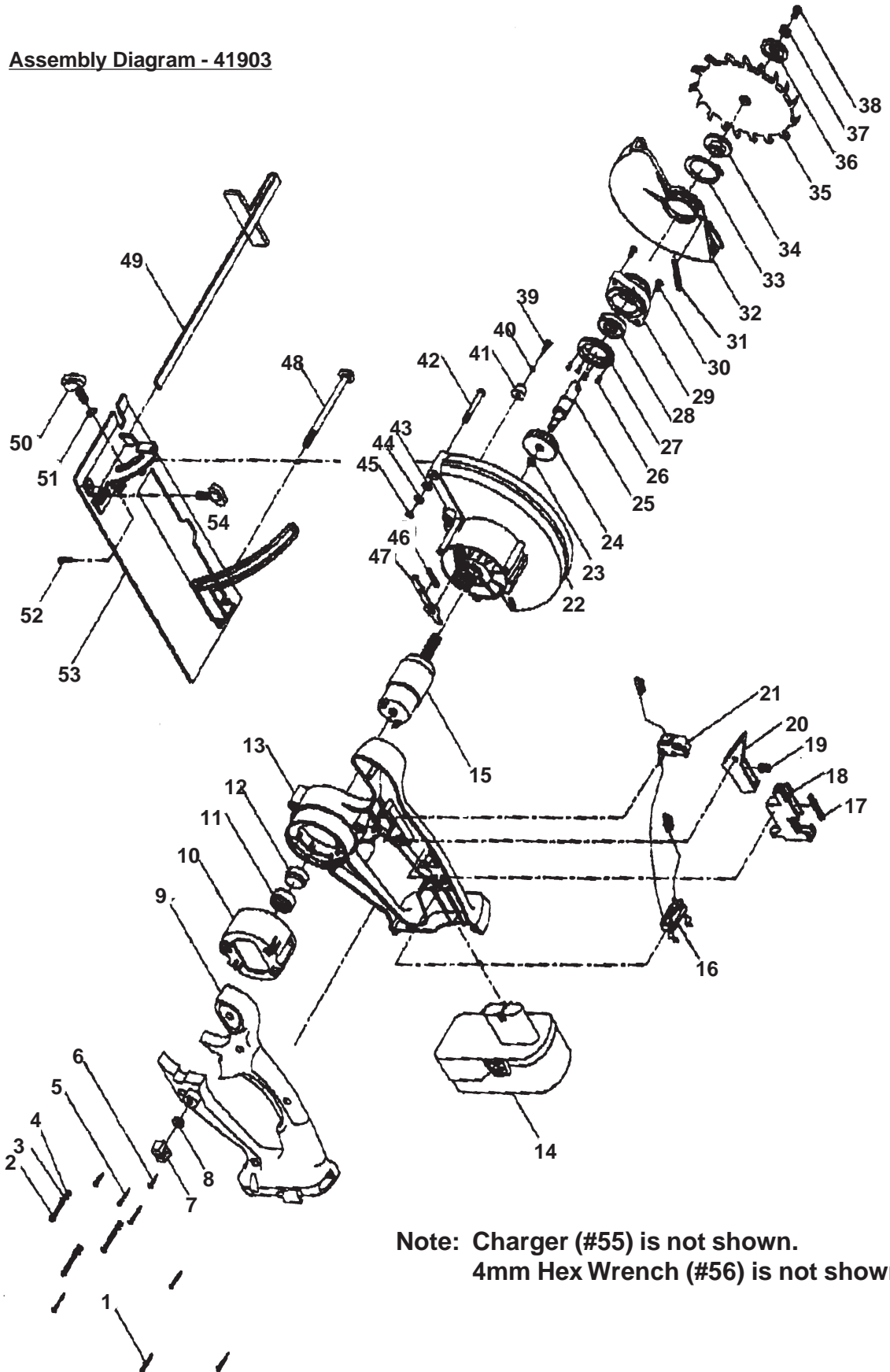
UNPACK AND CHECK CONTENTS

When unpacking your Circular 6-1/2", 18V Saw, check to make sure the following parts are included. If any parts are missing or broken, please call **HARBOR FREIGHT TOOLS** at **1-800-444-3353**.

Parts List-#41903

Part #	Description	Quantity	Part #	Description	Quantity
1	Screw ST 2.9 x 25	2	28	Snap Washer	1
2	Stud Screw M5 x 50	4	29	Gear Box	1
3	Snap Washer	4	30	Stud Screw M4 x 8	1
4	Stud Washer	4	31	Spring	1
5	Screw ST2.9 x 19	1	32	Retractable Guard	1
6	Screw ST2.9 x 13	1	33	Washer	1
7	Depth Adjustment Knob	1	34	Adapter	1
8	Washer	1	35	Saw Blade	1
9	Left Body	1	36	Flange	1
10	Back Case	1	37	Spring Washer	1
11	Snap Washer	1	38	Arbor Bolt	1
12	Motor Base	1	39	Stud Screw M4 x 10	1
13	Right Body	1	40	Washer	1
14	Battery Pack	1	41	Collar	1
15	Motor	1	42	Screw	1
16	Battery Clip	1	43	Washer	1
17	Spring	1	44	Spring Washer	1
18	Safety	1	45	Screw Cap	1
19	Spring	1	46	Plate	1
20	Trigger	1	47	Connecting Bar	1
21	Switch	1	48	Bolt M6 X 80	1
22	Guard	1	49	Rip Fence	1
23	Ball Bearing	1	50	Bevel Adjustment Knob	1
24	Master Gear	1	51	Washer	1
25	Main Shaft	1	52	Guard Bar	1
26	Stud Screw	1	53	Shoe	1
27	Spacer	1	54	Hex Wrench Knob	1
			55	Charger	1
			56	4mm Hex Wrench	1

Assembly Diagram - 41903



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