

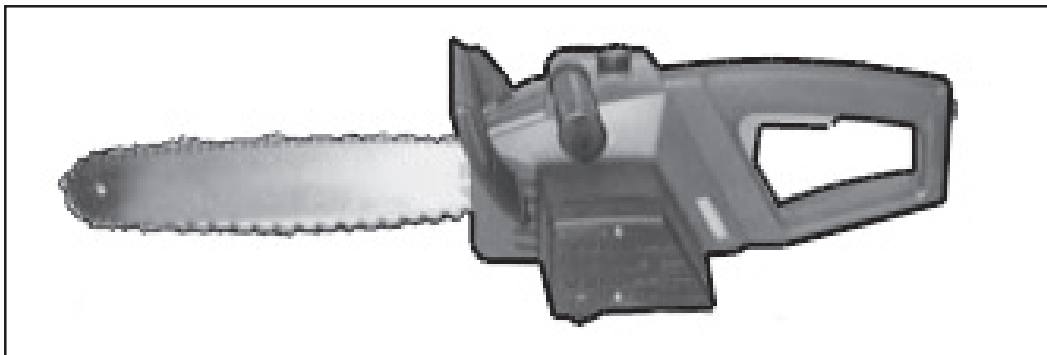
# CHICAGO

**Electric<sup>®</sup>Power Tools**

## 16" ELECTRIC Chain Saw WITH BRAKE

**Model 02810**

### ASSEMBLY AND OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011  
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**For technical questions, please call 1-800-444-3353.**

## PRODUCT SPECIFICATIONS

Item	Description
Electrical Requirements	2 HP / 120 V / 60 Hz / 13.2 Peak Amps, 7.8 No Load Amps / 1600 Watt
Cutter Bar Size	16"
Brake Stop	Electromagnetic Stop Within .15 Sec. After Shutoff
Chain Type	#91VG "Oregon® Chain"
Oiler System	Automatic
Chain Guide Rail Dimensions	16-1/8" Long x 2-1/2" Wide x 5/32" Thick
Weight	11 Pounds

## SAVE THIS MANUAL

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

## GENERAL SAFETY WARNINGS AND PRECAUTIONS

1. **KEEP WORK AREA CLEAN AND DRY.** Cluttered, damp, or wet work areas invite injuries.
2. **KEEP CHILDREN AWAY FROM WORK AREA.** Do not allow children to handle this product.
3. **STORE IDLE EQUIPMENT.** When not in use, tools and equipment should be stored in a dry location to inhibit rust. Always lock up tools and equipment, and keep out of reach of children.
4. **DO NOT USE THIS PRODUCT IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgement or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to use this product.
5. **USE EYE AND HEARING PROTECTION.** Wear ANSI approved safety impact eye goggles, full face shield and ANSI approved hearing protection (plugs or muffs) during use. ANSI approved safety impact eye goggles and hearing protection are available from Harbor Freight Tools.

6. **DRESS SAFELY.** Do not wear loose clothing or jewelry, as they can become caught in moving parts. Wear a protective hair covering to prevent long hair from becoming caught in moving parts. Wear close fitting clothing and steel toed shoes.
7. **DO NOT OVERREACH.** Keep proper footing and balance at all times to prevent tripping, falling, back injury, etcetera.
8. **INDUSTRIAL APPLICATIONS MUST FOLLOW OSHA REQUIREMENTS.**
9. **STAY ALERT.** Watch what you are doing at all times. Use common sense. Do not use this product when you are tired or distracted from the job at hand.
10. **CHECK FOR DAMAGED PARTS.** Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace or repair damaged or worn parts immediately.
11. **REPLACEMENT PARTS AND ACCESSORIES:** When servicing, use only identical replacement parts. Only use accessories intended for use with this product. Approved accessories are available from Harbor Freight Tools.
12. **MAINTAIN THIS PRODUCT WITH CARE.** Keep this product clean and dry for better and safer performance.
13. **MAINTENANCE:** For your safety, service and maintenance should be performed regularly by a qualified technician.
14. **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. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool, and do not use this tool for a purpose for which it was not intended.
15. **WARNING:** The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.
16. **WARNING:** Take caution as some woods contain preservatives such as copper chromium arsenate (CCA) which can be toxic. When cutting these materials extra care should be taken to avoid inhalation and minimize skin contact.

## SPECIFIC PRODUCT WARNINGS AND PRECAUTIONS

1. **MAINTAIN A SAFE WORKING ENVIRONMENT.** Make sure the work area is well lit. Make sure there is adequate surrounding workspace. Always keep the work area free of obstructions, tree limbs, vegetation, and other debris. Do not use the Chain Saw in areas near flammable chemicals, dusts, and vapors. Do not use the Chain Saw in a damp or wet location.
2. **DO NOT USE THE CHAIN SAW WITH ADULTS, CHILDREN, AND PETS IN CLOSE PROXIMITY.**
3. **ALWAYS HOLD THE CHAIN SAW FIRMLY WITH BOTH HANDS UNTIL THE ROTATING CHAIN (57) COMPLETELY STOPS. MAKE SURE TO STAND IN A STABLE, BALANCED POSITION WHEN USING THE CHAIN SAW.** Avoid awkward postures.
4. **DO NOT USE THE CHAIN SAW IF THE CHAIN (57) IS DULL.**
5. **BE AWARE OF THE DIRECTION OF THE ROTATION OF THE CHAIN (57).** Chain must move in the direction shown in Figure C, page 7.
6. **ALWAYS BE PREPARED FOR THE POSSIBILITY OF CHAIN SAW KICKBACK.** Kickback is a sharp, quick, upward movement of the Chain Saw when it is running. This usually occurs when the upper/front quarter of the Guide Bar (52) binds with the piece of wood being cut. In the event of a significant kickback, the Chain Safety Brake may be automatically triggered, instantly stopping the rotating Chain (57) and turning off the Chain Saw. The rotating chain may also be stopped by manually pushing the Chain Safety Brake forward.
7. **ALWAYS CARRY THE CHAIN SAW BY ITS HANDLE (47) WITH THE CHAIN (57) POINTING BACKWARDS AND THE CHAIN SAW A SAFE DISTANCE FROM YOUR BODY. NEVER CARRY THE CHAIN SAW BY ITS ELECTRIC CORD (23). KEEP HANDS AND FINGERS WELL AWAY FROM THE ON/OFF TRIGGER (25B) WHILE CARRYING THE CHAIN SAW.**
8. **MAKE SURE THE WOOD BEING CUT DOES NOT CONTAIN FOREIGN BODIES SUCH AS NAILS, SPIKES, STONES, ETC. DO NOT ATTEMPT TO CUT ANY OTHER MATERIALS OTHER THAN WOOD.**
9. **DO NOT ABUSE THE ELECTRIC CORD.** Do not use the Electric Cord (23) to pull its Plug from a power outlet or extension cord. Keep the Electric Cord away from heat, water, oil, sharp edges, and moving parts. Do not route the Electric Cord where it can be walked on or tripped over.
10. **KEEP ALL SAFETY GUARDS IN PLACE, IN PROPER ADJUSTMENT, AND IN PROPER ALIGNMENT.**

11. **IF AN EXTENSION CORD (not included) IS USED, MAKE SURE TO USE ONLY UL APPROVED, OUTDOOR, CORDS HAVING THE CORRECT GAUGE AND LENGTH. (See Figure A.)**

<b>REQUIRED MINIMUM EXTENSION CORD GAUGE – 120 VOLT</b>					
<b>NAMEPLATE AMPERES (At Full Load)</b>	<b>EXTENSION CORD LENGTH</b>				
	<b>0 - 25 Feet</b>	<b>25 - 50 Feet</b>	<b>50 -100 Feet</b>	<b>100 – 150 Feet</b>	<b>150– 200 Feet</b>
<b>0 - 5</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>12</b>	<b>12</b>
<b>5.1 - 8</b>	<b>16</b>	<b>16</b>	<b>14</b>	<b>10</b>	<b>-</b>
<b>8.1 - 12</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>-</b>	<b>-</b>
<b>12.1 - 15</b>	<b>12</b>	<b>12</b>	<b>10</b>	<b>-</b>	<b>-</b>
<b>15.1 - 20</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>-</b>	<b>-</b>

**FIGURE A**

12. **REDUCE THE RISK OF ACCIDENTAL STARTING.** Make sure the On/Off Trigger (25b) is in the “OFF” position before plugging the Electric Cord into a grounded, 120 Volt, electrical outlet.
13. **NEVER** pass hands or legs directly under the Chain (57) when cutting wood. Always keep hands and legs a safe distance away from the rotating Chain.
14. **PRIOR TO STARTING THE CHAIN SAW, MAKE SURE ALL ADJUSTING KEYS AND WRENCHES ARE REMOVED FROM THE TOOL.**
15. **ALLOW THE CHAIN (57) TO ROTATE UP TO FULL SPEED BEFORE FEEDING IT INTO WOOD.** When turning off the Chain Saw, allow the Chain to slow and stop on its own. Do not press against the Chain to stop it.
16. **FEED THE CHAIN (57) GRADUALLY INTO THE MATERIAL BEING CUT.** Do not force the Chain Saw to remove material faster than it was designed to cut.
17. **NEVER ATTEMPT TO REMOVE MATERIAL STUCK IN THE MOVING PARTS OF THE CHAIN SAW WHILE IT IS PLUGGED IN AND RUNNING. TURN OFF THE CHAIN SAW IF THE CHAIN (57) NEEDS TO BE BACKED OUT OF AN UN-COMPLETED CUT.**
18. **NEVER LEAVE THE CHAIN SAW UNATTENDED WHEN IT IS PLUGGED IN.** Turn off the Chain Saw, unplug it from its electrical power source, and wait until it has completely stopped before leaving.
19. **ALWAYS RELEASE THE ON/OFF TRIGGER (25B) TO ITS “OFF” POSITION, AND UNPLUG THE CHAIN SAW FROM ITS ELECTRICAL SUPPLY SOURCE BEFORE PERFORMING ANY INSPECTION, MAINTENANCE, OR CLEANING PROCEDURES.**
20. **IMPORTANT! TREE FELLING AND BRANCH TRIMMING IS A DANGEROUS ACTIVITY. USE OF A CHAIN SAW REQUIRES THAT YOU BE IN GOOD PHYSICAL CONDITION, WITH GOOD BALANCE AND COORDINATION.** If you are in

any doubt about the safety issues involved, have a qualified, certified, arborist/tree surgeon do the work for you.

21. **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. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)
22. **WARNING:** We recommend that people with pacemakers not use this tool. This tool produces strong electromagnetic fields that can cause interference or failure of the pacemaker. People with pacemakers should consult their physician(s) for advice.

## UNPACKING

When unpacking, check to make sure all the parts shown on the **Parts List on page 11** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

## ASSEMBLY INSTRUCTIONS

**NOTE:** For additional references to the parts listed in the following pages, refer to the **Assembly Diagram on page 12.**

### **To Attach Or Replace The Chain Guide Rail And Chain:**

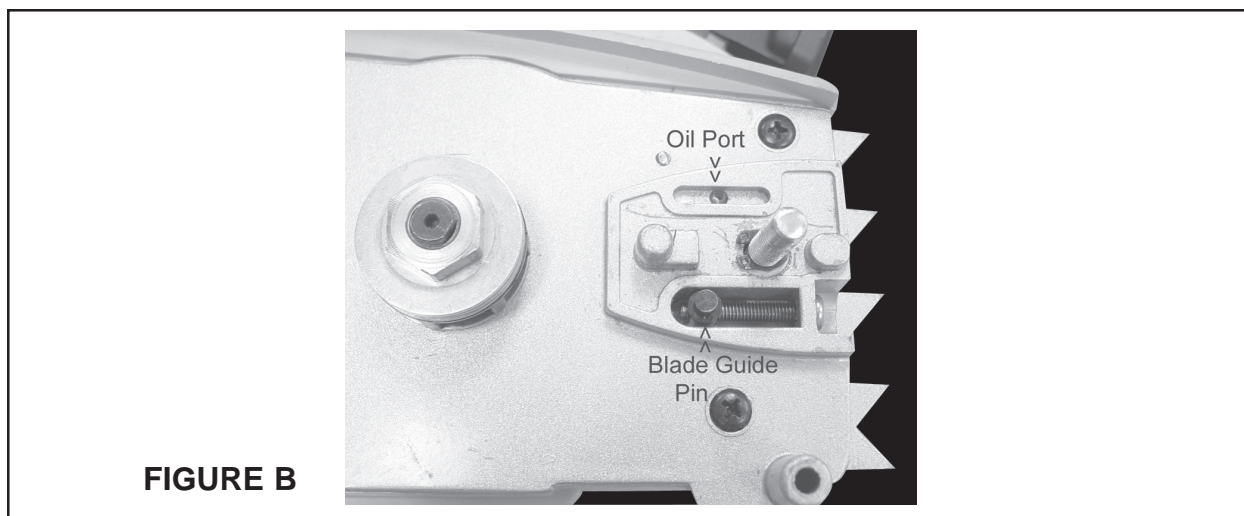
1. **WARNING:** Make sure to turn the On/Off Trigger (25b) to its "OFF" position and unplug the Electric Cord (23) from its electrical outlet before performing this procedure.
2. Remove Screw (7) and Nylon Insert Nut (67) from the Chain Cover (46) with the tools provided. Note the Blade Guide Pin (62) and Bolt (6) shown in **Figure B**. Make sure the Guide Pin is positioned near the rear (left end) of the slot. Make certain that the oil port is open and free of debris.
3. Place the Chain (57) around the rear of the Chain Gear (45), making certain that the teeth along the top of the Chain point forward.
4. Place Guide Bar (52) with the center slot over the threaded end of the Bolt (66), and fixed pin (molded into the Front Cover (42)), as in **Figure C**. The Blade Guide Pin (62) goes into the lower hole in the blade. These steps may be easier with assistance.

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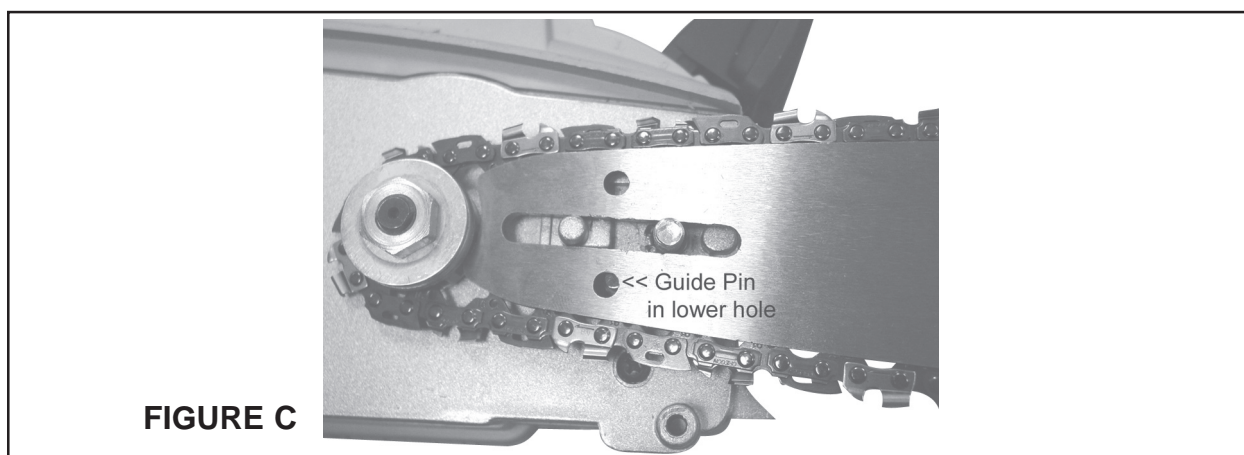
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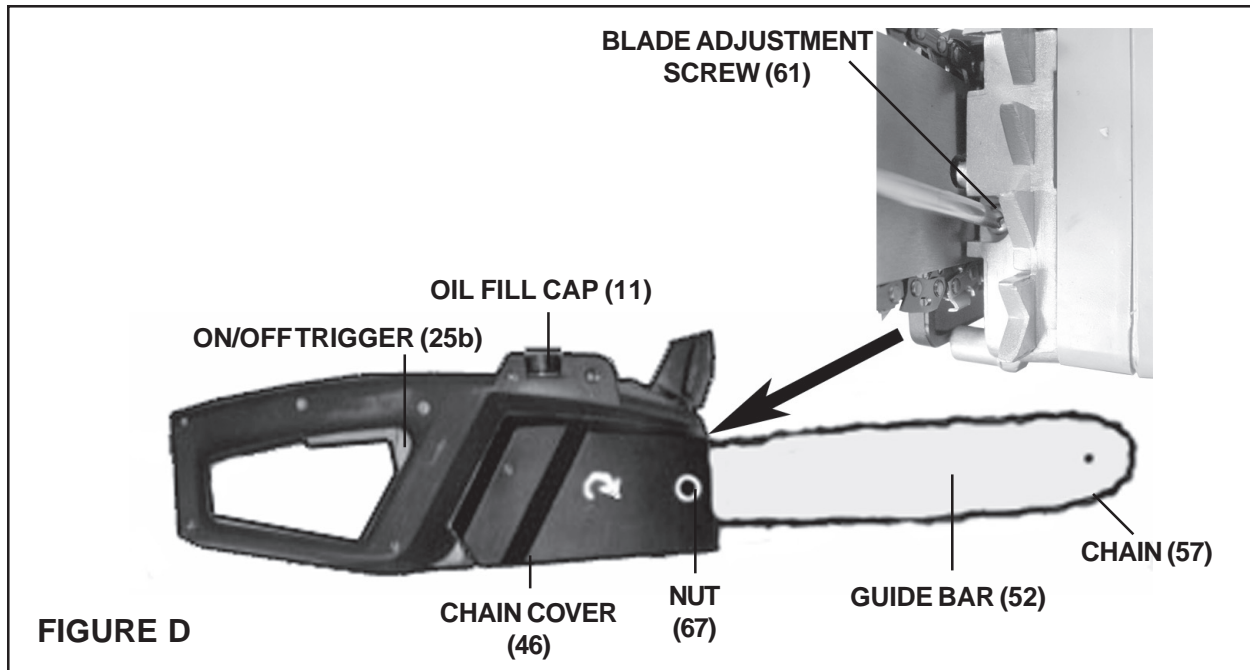
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5. Replace the Chain Cover (46), and tighten the Nylon Insert Nut (67) so that the Cover is snug, but not tight. **(See Figure D, next page.)**
6. Pull gently up on the tip of the Guide Bar (52), while turning the Blade Adjustment Screw (61) clockwise (photo 005.) Because the saw is light in weight, this is easier if someone holds the handle. Do not overtighten the Chain. There should only be about  $\frac{1}{4}$ " of space when the Chain is pulled upward at the center of the Guide Bar. Lightly oil the entire Chain (57). **(See Figure C.)**



7. When finished, tighten the Nylon Insert Nut (67) securely, and replace Screw (7). Check the Chain tension after initial operation of the saw. It may need adjustment.



**To Check For Proper Chain Tension:**

1. The Chain (57) tension is proper when the Chain snaps back after being pulled 1/4" away from the Guide Bar (52) with light force. There should be no sagging between the Chain and Guide Bar underneath. When necessary, use a screwdriver to turn the Adjustment Screw (61) clockwise to tighten, or counterclockwise to loosen, the Chain (57). **(See Figure D.)**
2. **NOTE:** A Chain (57) which is too taut leads to premature Chain and Guide Bar (52) wear. A Chain which is too loose may jump out of the Guide Bar groove and damage the tool or cause personal injury. New chains typically lose tension initially during use. When necessary, readjust the Chain tension by following the directions in Step # 1 of this section.

**To Refill The Automatic Chain Lubrication System:**

1. The Chain Saw features an *automatic* Chain Lubrication System with a built-in Oil Reservoir. Lubrication of the Chain (57) is carried out automatically while the Chain Saw is running. The oil level should be checked before each use of the Chain Saw.
2. To refill the Oil Reservoir, unscrew the Oil Fill Cap (11). Fill the Oil Reservoir with a quality grade chain saw Chain Oil (SAE 30). When filling, avoid introducing dirt or other foreign material into the Oil Reservoir. Then, retighten the Oil Fill Cap onto the Oil Reservoir. **(See Figure D.)**

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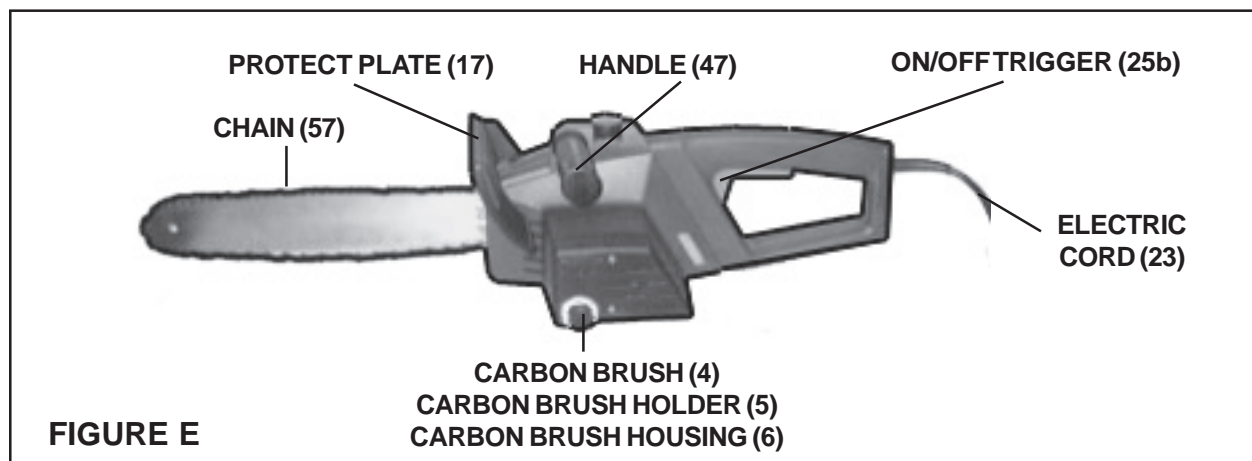
## OPERATING INSTRUCTIONS

### The Safety Brake:

1. The Safety Brake is activated when the back of the operator's hand pushes against the back of the Protect Plate (17). When activated, the Chain Saw will stop automatically, and the On/Off Trigger (25b) should be manually released. Next, pull the Protect Plate (17) back to its initial position in order to restart the Chain Saw.

**NOTE:** If the Protect Plate (17) is *not* pulled back to its initial position, the Chain Saw will not operate. **(See Figure E.)**

2. To check for proper operation of the Safety Brake, disconnect the Chain Saw from its electrical power outlet and push the Protect Plate (17) forward. Pull on the Chain (57) with your hand protected by heavy work gloves. The Chain Saw should be automatically locked in its "OFF" mode.



### To Start The Chain Saw:

1. **Make sure the On/Off Trigger (25b) is in its "OFF" position. (See Figure E.)**
2. Plug the Electric Cord (23) into a grounded, 120 volt, electrical outlet. **(See Figure E.)**
3. Use both hands to **firmly** grasp the handle portion of the Motor Housing Handle (1) and Handle (47). **(See Figure E.)**
4. Before starting the Chain Saw, make sure nothing is in contact with the Chain (57). **(See Figure E.)**
5. Make sure the Protect Plate (17) is pulled back towards your body until it "clicks" and locks in place. **(See Figure E.)**
6. To start the Chain Saw, push the Safety Switch on the On/Off Trigger (25b) and squeeze the On/Off Trigger. **(See Figure E.)**
7. Release the On/Off Trigger (25b) to stop the Chain Saw. **WARNING:** Firmly hold the Chain Saw with both hands until the Chain Saw completely stops. (See Figure E.)

## INSPECTION, MAINTENANCE, AND CLEANING

1. **WARNING:** Always turn the On/Off Trigger (25b) to its “OFF” position and unplug the Electric Cord (23) from its electrical outlet before performing any inspection, maintenance, or cleaning. (See Figure E.)
2. **BEFORE EACH USE**, inspect the general condition of the Chain Saw. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts (i.e., Chain, 57), damaged electrical wiring, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use. **Do not use damaged equipment.**
3. **UPON EVERY THREE HOURS OF USE**, make sure the Chain (57) is adequately lubricated and taut. If necessary, remove the Guide Bar (52) and Chain. Clean the groove in the Guide Bar thoroughly and clean the Oil Port in the Front Cover (42) to ensure that it is not blocked or obstructed, **see Figure B**. To maximize the life of the Guide Bar, turn the Guide Bar over and then reinstall. (See Figures C and D.)
4. **PERIODICALLY**, remove the Carbon Brush Housing (6) to inspect the condition of the Carbon Brush (4). If the Carbon Brush is simply dirty, you may carefully clean it with a pencil eraser. The Carbon Brush has a wear limit marking on it. You may safely use the Carbon Brush up to the wear limit. When it has worn up to the wear limit, the Carbon Brush must be replaced. When replacing the Carbon Brush make sure it fits neatly into its Carbon Brush Holder (5) and that the spring on the Carbon Brush operates freely. Make sure the carbon portion of the Carbon Brush contacts the Motor Armature (24). After inspection or replacement, replace the Carbon Brush Housing. (See Figure E.)
5. **TO CLEAN:** Clean with a soft brush, cloth, or vacuum to remove debris from the Cold Saw. If necessary, use a mild detergent or mild solvent. Then, use a premium quality, lightweight machine oil to lubricate all moving parts.
6. If cutting efficiency diminishes, the included round file may be used to sharpen the teeth of the chain. The chain should also be sharpened professionally at least once a year, depending on use.

### PLEASE READ THE FOLLOWING CAREFULLY

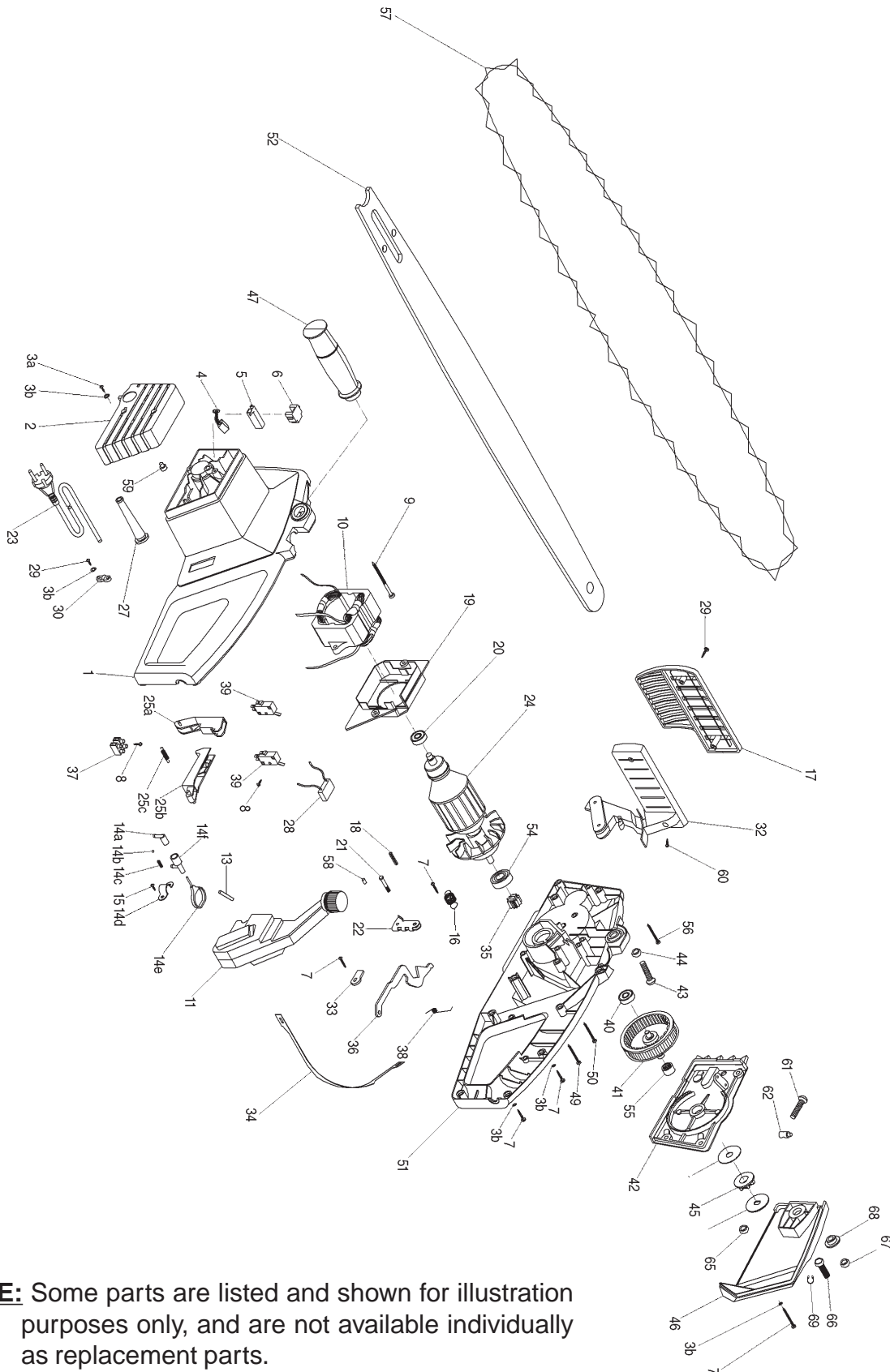
THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED 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.

## PARTS LIST

Part	Description	Q'ty
1	Motor housing	1
2	Rear cover	1
3a	Screw ST4.2*18	10
3b	Flat washer	11
4	Carbon brush	1
5	Carbon brush holder	1
6	Carbon brush housing	1
7	Screw ST5*20	5
8	Screw ST3*16	4
9	Screw ST5*30	2
10	Stator	1
11	Oil bottle	1
13	Oil pipe	1
14a	Oil pump 1	1
14b	Steel ball dia.3.5	1
14c	Oil pump spring	1
14d	Oil pump pressure plate	1
14e	Oil pump pull rod	1
14f	Oil pump 2	1
15	Screw M4*10	2
16	Stop spring	1
17	Protect plate	1
18	Pin 5*25	1
19	Winding Cover	1
20	Bearing 608	1
21	Brake anchor pin	1
22	Brake lock	1
23	Electric cord	1
24	Armature	1
25a	Trigger stop rod	1
25b	Trigger	1
25c	Trigger spring	1
27	Cord guard	1
28	Capacitor	1
29	Screw ST4.2*14	3
30	Cord anchorage	1

Part	Description	Q'ty
32	Brake plate	1
33	Brake block	1
34	Brake belt	1
35	Pinion gear	1
36	Connection rod	1
37	Terminal	1
38	Torsion spring	1
39	Switch	2
40	Bearing 608	1
41	Big gear	1
42	Front cover	1
43	Screw M6*35	1
44	Nut M6	1
45	Chain gear	1
46	Chain cover	1
47	Side handle	1
49	Screw ST5*35	1
50	Screw ST5*22	1
51	Housing	1
52	Guide bar	1
54	Bearing 609	1
55	Bearing	1
56	Screw ST5*22	1
57	Chain	1
58	Pin 4*7	1
59	Rubber terminal	2
60	Screw ST4*16	1
61	Blade adjustment screw M5*30	1
62	Blade guide pin	1
63	Spring washer	3
64	Flat washer	2
65	Nut M10	1
66	Hex bolt M8*25	1
67	Nylon insert nut M8	1
68	Side cover	1
69	Retaining Ring	1

# ASSEMBLY DIAGRAM



**NOTE:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

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