

# Operator's Manual



## 6" CUTOFF SAW

Model No.  
**351.268500**

**CAUTION:** Read and follow all Safety Rules and Operating Instructions before First Use of this Product.

**Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.**

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17682.02 Draft (09/20/02)

SAFETY

OPERATION

MAINTENANCE

PARTS LIST

ESPAÑOL

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## WARRANTY

### FULL ONE YEAR WARRANTY

If this product fails due to a defect in material or workmanship within one year from the date of purchase, Sears will at its option repair or replace it free of charge. Contact your nearest Sears Service Center (1-800-4-MY-HOME) to arrange for product repair, or return this product to place of purchase for replacement.

If this product is used for commercial or rental purposes, this warranty will apply for 90 days from the date of purchase.

This warranty applies only while this product is used in the United States.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

**Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179**

## SAFETY RULES

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

**CAUTION:** Always follow proper operating procedures as defined in this manual — even if you are familiar with 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.
- 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 replacement 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 abrasive wheel.
- 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. 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 abrasive wheel is unintentionally contacted.

- Know your tool. Learn the tool's operation, application and specific limitations.
- Handle workpiece correctly. Protect hands from possible injury.
- Turn machine off if it jams. Abrasive wheel 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 saw is turned off, unplugged and the wheel has stopped.

**WARNING:** 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 goggles complying with United States ANSI Z87.1 before commencing power tool operation. Safety goggles are available through your Sears catalog.

## UNPACKING

Refer to Figure 1.

Check for shipping damage. If damage has occurred, a claim must be filed with carrier. Check for completeness. Immediately report missing parts to dealer.

The cutoff saw comes assembled in a plastic storage case. Additional parts which should be located and accounted for:

- A Saw with line cord
- B 2-Prong wrench
- C Open end wrench
- D 20mm Wheel washer
- E 5mm Allen wrench
- F Abrasive wheel (2) (not shown)
- G Safety glasses (not shown)

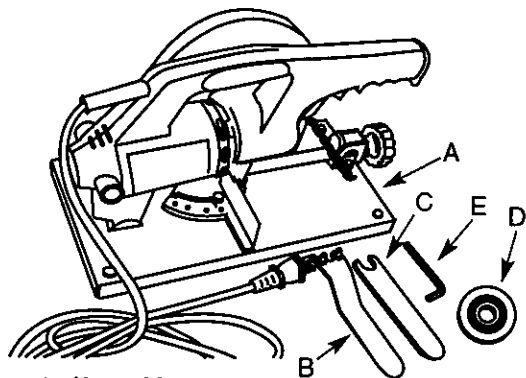


Figure 1 - Unpacking

## INSTALLATION

### MOTOR

The cutoff saw motor has the following specifications:

Horsepower (max developed) .....	1/2
Voltage .....	115
Amperes .....	3.5
Hertz .....	60
Phase .....	Single

## ELECTRICAL CONNECTIONS

**WARNING:** Make sure unit is off and disconnected from power source while motor is being mounted, connected, reconnected or any time wiring is inspected.

Cutoff saw is assembled with an approved line cord to use 115 volts.

Power supply to the motor is controlled by a trigger switch.

## 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.

## ELECTRICAL SAFETY

- Double insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.

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

- Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system. Before plugging in the tool, be certain the outlet voltage supplied is within the voltage marked on the nameplate.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded. If operating the power tool in damp locations is unavoidable, a Ground Fault Circuit Interrupter must be used to supply the power to your tool. Electrician's rubber gloves and footwear will further enhance your personal safety.
- Don't expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

## 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.
- 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

**NOTE:** Using extension cords over 25 ft. long is not recommended.

## OPERATION

Refer to Figures 2 and 3.

The 6" Cutoff saw is used for cutting hard and soft metals. The cutoff saw features a lightweight frame of plastic and aluminum construction and a stamped steel base to ensure durability.

Vise jaws can turn 0-45° for making angle cuts. Movable jaw has rapid approach and withdraw capability.

## SPECIFICATIONS

Jaw opening .....	3 <sup>3</sup> / <sub>4</sub> "
Jaw height .....	1 <sup>3</sup> / <sub>8</sub> "
Abrasive wheel diameter .....	150mm
Abrasive wheel inner diameter .....	22mm
Abrasive wheel thickness .....	2mm
Abrasive wheel speed (no load) .....	7500 RPM
Overall dimensions .....	6 <sup>1</sup> / <sub>4</sub> x 13 <sup>3</sup> / <sub>4</sub> x 8"
Weight .....	12 lbs
Capacity at 90°: .....	Round = 2" Diameter Rectangular = 2 <sup>3</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>8</sub> " Square = 1 <sup>1</sup> / <sub>2</sub> "
Capacity at 45°: .....	Round = 1 <sup>1</sup> / <sub>2</sub> " Diameter Rectangular = 1 <sup>5</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>8</sub> " Square = 1 <sup>1</sup> / <sub>2</sub> "

## SAFETY PRECAUTIONS

**WARNING:** Always observe the following safety precautions.

- Whenever adjusting or replacing any parts on the cutoff saw, remove plug from power source.
- Use a clean abrasive wheel. Replace chipped or clogged wheels.
- Use abrasive wheels rated for saw speed
- Secure the workpiece in a stable position.
- Check that all guards are attached.
- Check that there is no debris on wheel or inside blade guard.

- Keep hands away from the abrasive wheel and all moving parts.
- Always wear eye protection or face shield.

## CLAMPING WORKPIECE

Refer to Figure 3.

The vise is designed to keep the workpiece steady while it is being cut. The proper position will help produce a safe and accurate cut.

- The entire length of long work should be supported. Do not balance work on base. Use supports to prevent the work from falling off after the cut.
- Vise jaw with protractor (Key No. 36) can be adjusted from 0° to 45°. To change the angle of cut loosen two socket head bolts (Key No. 45), adjust vise jaw to desired angle and tighten socket head bolts.
- Raise lead nut (Key No. 39) off lead screw (Key No. 41). Pull lead screw out to open vise.
- Set workpiece between vise jaws. Push lead screw in to clamp vise jaws onto workpiece. Lower lead nut to engage lead screw. Tighten lead screw. Make sure workpiece is securely clamped.
- Check workpiece position by lowering abrasive wheel.

## CUTTING

- To cut, grip handle of housing, squeeze and maintain trigger. Let saw come to full speed, then press down on handle to lower the abrasive wheel onto workpiece.
- Do not force the tool during operation. Apply steady but not heavy hand pressure. Heavy hand pressure will reduce the life of the abrasive wheel.
- If the saw chatters or slows, reduce pressure. If abrasive wheel stalls, release trigger to avoid burning out the motor.
- **Note:** When cutting large solid pieces (e.g. 2" dia. round), do not overload motor — use light to moderate hand pressure.
- If feed pressure is too low, the abrasive wheel will not dig into material properly.
- Do not use to cut wood or plastic materials with abrasive wheel. Do not use to cut flammable materials.
- Do not use cutting fluids. This tool uses the high RPM of its abrasive wheel to cut through metal workpieces.
- Do not block or cover vent slots in housing; free air flow is needed to keep the motor cool.

## MAINTENANCE

Refer to Figure 3.

**WARNING:** Make certain that the saw is disconnected from the power source before attempting to service or remove any component.

For proper maintenance:

- Keep saw clean. Sweep off spots where dust has collected.
- Clean the lead screw (Key No. 41), lead nut (Key No. 39) and pivot (Key No. 40) if vise action becomes difficult.
- Replace clogged and chipped abrasive wheels. A clean saw with a clean abrasive wheel will yield the best cut.

**WARNING:** Any attempt to repair the motor may create a hazard unless repair is done by qualified service technician.

- If motor becomes hot or sparks are seen through the vent slots, unscrew brush cap and check brushes (Key Nos. 4 and 5) for wear and dirt. Clean or replace when worn to 1/4" long. Reinstall by aligning brush with slot. Secure with cap.

### REPLACING ABRASIVE WHEEL

Refer to Figures 2 and 3.

- Prop movable wheel guard using a punch or other small tool.

- Insert open end wrench over flats of shaft (Fig. 3, Key No. 26) and hold shaft steady.
- Insert two-prong wrench into holes in wheel nut (Fig. 3, Key No. 56) and remove the wheel nut by turning counterclockwise.
- Cutoff saw comes with 22mm bore abrasive wheel installed. If replacement abrasive wheel has 20mm bore, replace 22mm wheel washer with 20mm wheel washer (Fig. 3, Key No. 15). Make sure wheel washer engages with flats on shaft.
- Place abrasive wheel onto shoulder of wheel washer (Fig. 3, Key No. 55). Securely tighten wheel nut.
- Remove open end wrench and release movable wheel guard.

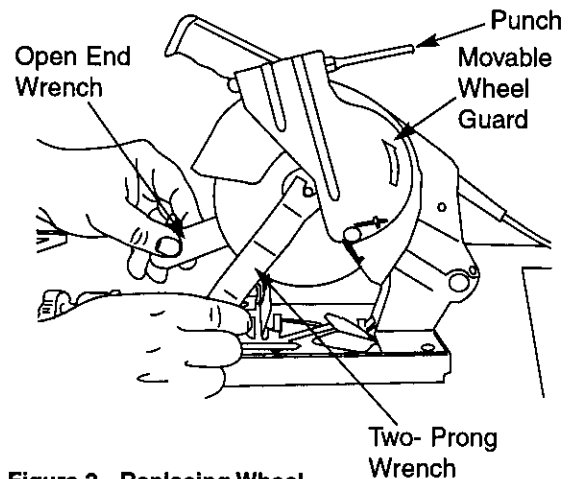


Figure 2 - Replacing Wheel

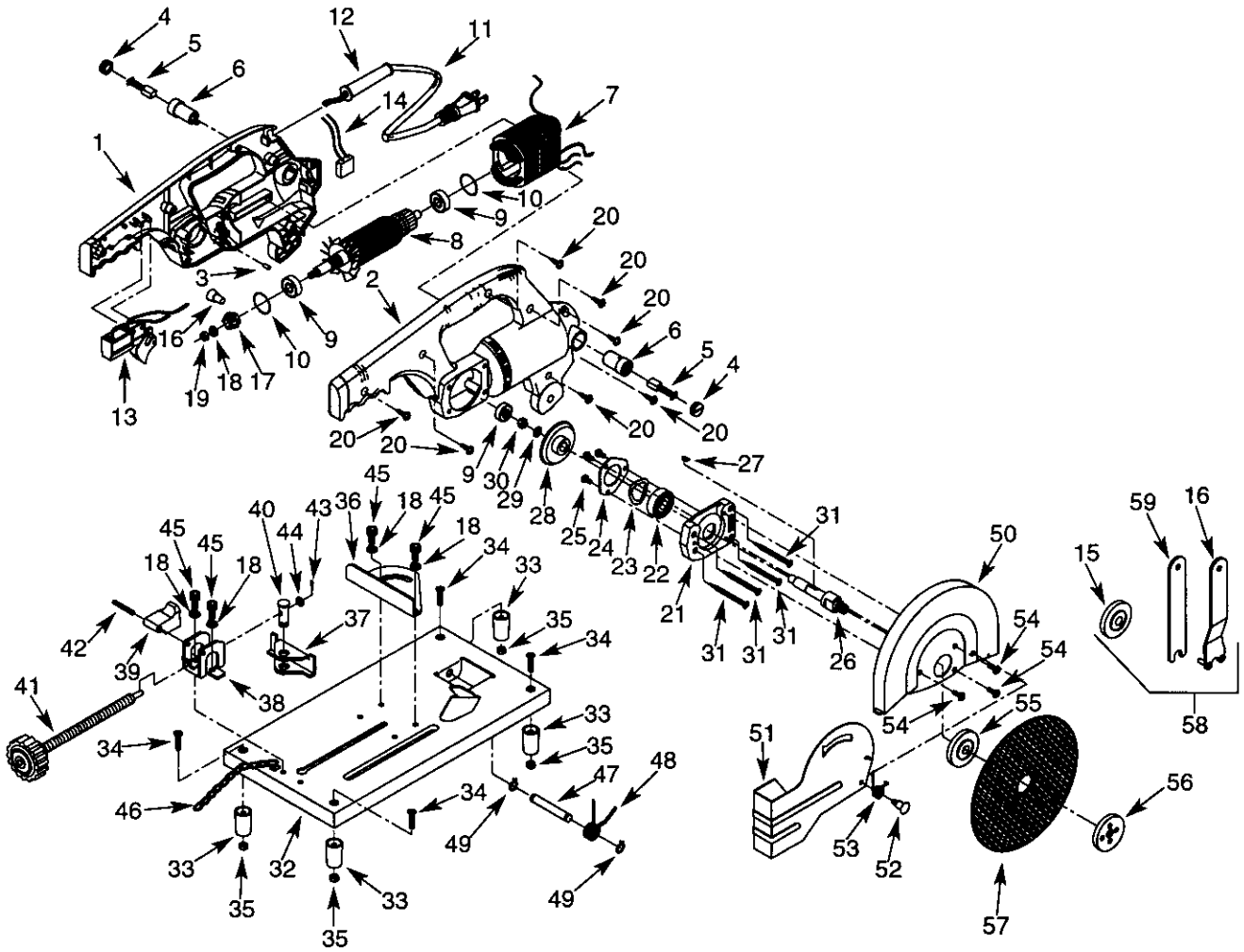
## TROUBLESHOOTING

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
Wheel cuts (crooked)	<ol style="list-style-type: none"> <li>1. Work not positioned</li> <li>2. Hand pressure too great</li> <li>3. Work not secure</li> <li>4. Loose abrasive wheel</li> <li>5. Dull or clogged abrasive wheel</li> <li>6. Wheel washer loose or worn</li> <li>7. Abrasive wheel worn or chipped</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust vise angle</li> <li>2. Reduce pressure</li> <li>3. Tighten vise</li> <li>4. Reinstall wheel according to instructions under "Replacing Abrasive Wheel", page 5</li> <li>5. Replace abrasive wheel</li> <li>6. Tighten or replace</li> <li>7. Replace abrasive wheel</li> </ol>
Bad cuts (rough)	<ol style="list-style-type: none"> <li>1. Too much hand pressure</li> <li>2. Wheel clogged or damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce hand pressure</li> <li>2. Replace abrasive wheel</li> </ol>
Wheel is twisting/chatters.	<ol style="list-style-type: none"> <li>1. Cut is binding wheel</li> <li>2. Wheel washer loose or worn</li> <li>3. Work not secure</li> <li>4. Hand pressure too great</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease hand pressure</li> <li>2. Tighten or replace</li> <li>3. Tighten vise</li> <li>4. Reduce hand pressure</li> </ol>
Motor will not start	<ol style="list-style-type: none"> <li>1. No electrical power to motor</li> <li>2. Low voltage</li> <li>3. Defective trigger switch; defective line cord</li> <li>4. Open circuit in motor or loose connections</li> <li>5. Burned out motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Check electrical wiring to motor for continuity</li> <li>2. Check power line for proper voltage</li> <li>3. Replace defective parts before using cutoff saw again</li> <li>4. Inspect lead terminals on motor for loose or open connections</li> <li>5. Any attempt to repair this motor may create a hazard unless repair is done by an authorized Sears Service Center.</li> </ol>
Motor will not start or stalls; fuses or circuit breakers blow	<ol style="list-style-type: none"> <li>1. Short circuit in line cord or plug</li> <li>2. Short circuit in motor or loose connection</li> <li>3. Incorrect fuses or circuit breakers in power line</li> <li>4. Motor overloaded</li> <li>5. Low voltage</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect line cord or plug for damaged insulation and shorted wires</li> <li>2. Inspect all lead terminals on motor for loose or worn insulation on wires</li> <li>3. Install correct fuses or circuit breakers</li> <li>4. Reduce load on motor</li> <li>5. Correct the low voltage conditions</li> </ol>
Motor fails to develop full power (power output of motor decreases) with decreased voltage at motor terminals	<ol style="list-style-type: none"> <li>1. Power line overloaded</li> <li>2. Undersized wires or cords too long</li> <li>3. General overloading of power company's facilities</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce the load on the power line</li> <li>2. Increase wire sizes or reduce length of cords</li> <li>3. Request a voltage check from the power company</li> </ol>
Motor hot or overheats	<ol style="list-style-type: none"> <li>1. Motor overloaded</li> <li>2. Air circulation around motor restricted</li> <li>3. Gears need lubrication</li> <li>4. Worn or dirty brushes</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce load on motor</li> <li>2. Unblock air vents to provide normal air circulation around motor</li> <li>3. Check grease</li> <li>4. Replace or clean brushes</li> </ol>
Wheel chipping	<ol style="list-style-type: none"> <li>1. Too heavy hand pressure</li> <li>2. Narrow workpiece</li> <li>3. Vibrating workpiece</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease hand pressure</li> <li>2. Decrease hand pressure</li> <li>3. Clamp work securely</li> </ol>
Excessive wheel breakage	<ol style="list-style-type: none"> <li>1. Abrasive wheel not rated for saw speed</li> <li>2. Misaligned abrasive wheel</li> </ol>	<ol style="list-style-type: none"> <li>1. Use abrasive wheels rated for saw speed</li> <li>2. Adjust wheel washer and nut</li> </ol>
Premature wheel dulling	<ol style="list-style-type: none"> <li>1. Inadequate hand pressure</li> <li>2. Hard spots or scale in/on material</li> <li>3. Work hardening of material (especially stainless steel)</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase hand pressure</li> <li>2. Increase hand pressure</li> <li>3. Increase hand pressure</li> </ol>



# Model 351.268500

## Figure 3 - Replacement Parts Illustration for 6" Cutoff Saw





## REPLACEMENT PARTS LIST FOR 6" CUTOFF SAW

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	17635.00	Housing, Left side	1
2	17636.00	Housing, Right side	1
3	17637.00	Pin	1
4	17638.00	Brush Cap	2
5	17639.00	Carbon Brush	2
6	17640.00	Brush Holder	2
7	17641.00	Stator	1
8	17642.00	Armature	1
9	STD315485	608ZZ Bearing*	3
10	06133.00	19.5 x 1.5mm O-Ring	2
11	17644.00	Line Cord	1
12	17645.00	Rubber Strain Relief	1
13	17646.00	Switch	1
14	17647.00	Capacitor	1
15	20001.00	20mm Wheel Washer †	1
16	17686.00	2-Prong Wrench †	1
17	17650.00	12T Gear	1
18	STD852006	6mm Lock Washer*	5
19	STD840610	6-1.0mm Hex Nut*	1
20	17651.00	4-1.6 x 16mm Threadforming Screw	7
21	17652.00	Gear Box Cover	1
22	STD315205	6200ZZ Bearing*	1
23	02858.00	20mm Wavy Washer	1
24	17653.00	Bearing Retainer	1
25	17654.00	4-0.8 x 6mm Washer Head Screw	3
26	17655.00	Shaft	1
27	17656.00	Gear Key	1
28	17657.00	37T Gear	1
29	09052.00	10mm Wavy Washer	1
30	17658.00	10-1.25mm LH Hex Jam Nut	2
31	17659.00	4-1.6 x 50mm Threadforming Screw	4

† Included in hardware bag

\* Standard hardware item available locally

Δ Not shown

KEY NO.	PART NO.	DESCRIPTION	QTY.
32	17660.00	Base	1
33	17661.00	Rubber Foot	4
34	08504.00	5-0.8 x 20mm Flat Head Screw	4
35	STD840508	5-0.8mm Hex Nut*	4
36	17664.00	Vise Jaw with Protractor	1
37	17663.00	Moving Jaw	1
38	17662.00	Guide Plate	1
39	17665.00	Lead Nut	1
40	17666.00	Pivot	1
41	17667.00	Lead Screw	1
42	06851.00	4 x 22mm Spring Pin	1
43	17668.00	1.6 x 8mm Cotter Pin	1
44	STD851006	6mm Flat Washer*	1
45	01505.00	6-1.0 x 12mm Socket Head Bolt	4
46	17669.00	Chain	1
47	17670.00	Head Pivot	1
48	17671.00	Head Spring	1
49	05148.00	3AMI-8 Retaining Ring	2
50	17672.00	Wheel Guard, Fixed	1
51	17673.00	Wheel Guard, Moveable	1
52	17674.00	Rivet	1
53	17675.00	Spring	1
54	17676.00	4-0.8 x 10mm Washer Head Screw	3
55	17677.00	22mm Wheel Washer	1
56	17678.00	Wheel Nut	1
57	17679.00	Abrasive Wheel	3
58	17680.00	Hardware Bag (Includes Key. Nos. 15, 16 and 59)	1
59	17685.00	Open End Wrench †	1
Δ	17681.00	Case	1
Δ	17682.02	Operator's Manual	1

PARTS LIST

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