



## General Safety and Maintenance Manual



**1.5 H.P VERTICAL GRINDER/SANDER**

Model Number	Throttle Type	Power Output	Weight	Height to bottom of flange	Air Consumption	Rated Speed/Wheel Capacity
51VL	LEVER	1.5 H.P.	6 lbs. 2.72 kg	5 5/8" 142.9MM	35 cfm 16.5 L/S	<b>4000 RPM</b>

**THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS**

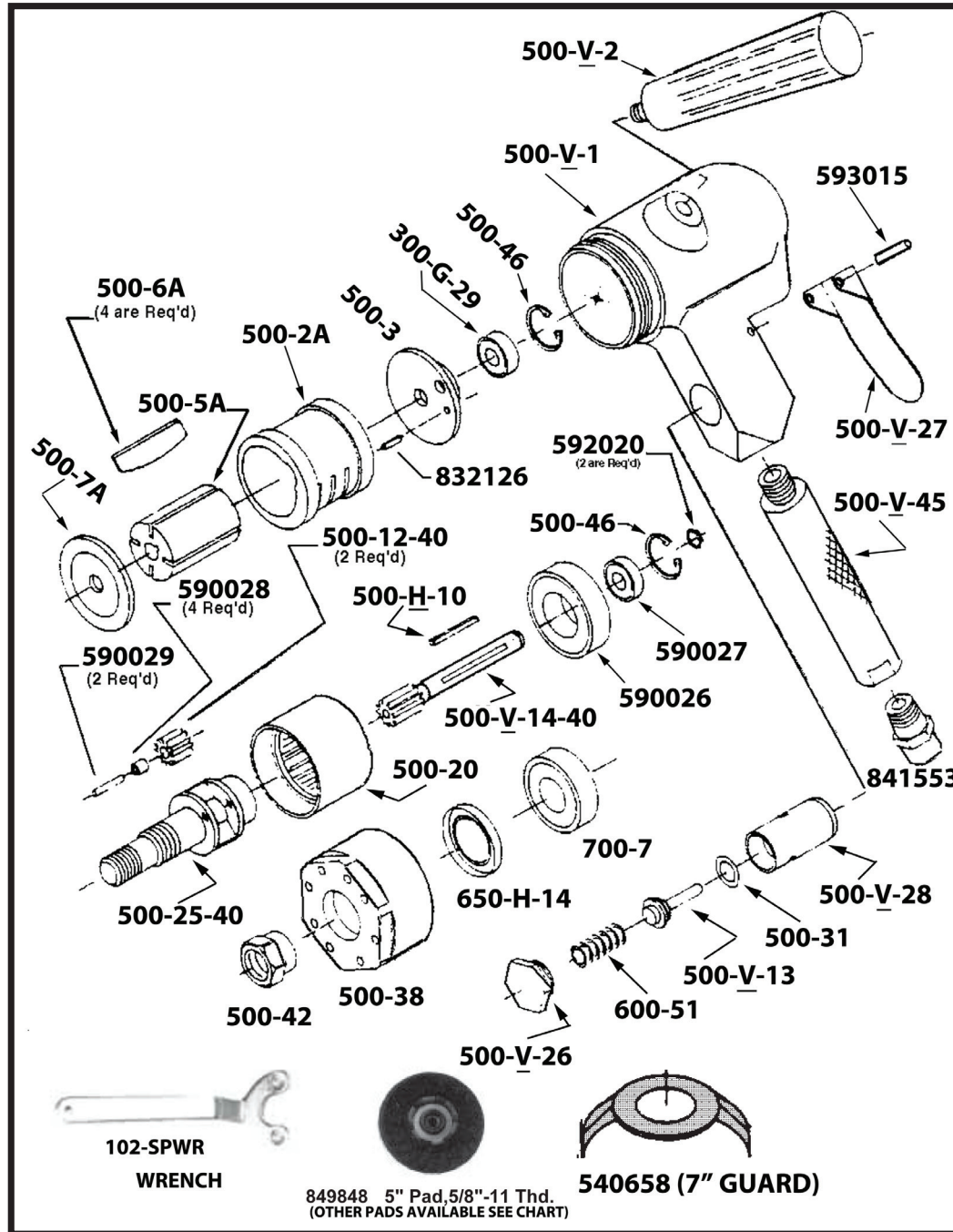
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**General Operators Instructions and Service Manual**

Models  
51V



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PART NUMBER	DESCRIPTION
540658	GUARD (51V)
841553	SCREEN BUSHING 3/8M x 1/4"F
849848	5" SPIRAL COOL PAD
300-G-29	BEARING
500-12-40	PLANET GEAR (51V)
500-20	RING GEAR (51V)
500-25-40	GEAR SPIDER (51V)
500-2A	CYLINDER (with pin)
500-3	REAR THRUST PLATE
500-31	O-RING (51V)
500-38	FRONT CAP (51V)
500-42	HEX NUT (51V)
500-46	LOCK RING
500-5A	ROTOR
500-6A	ROTOR BLADE (4 are Req'd)
500-7A	FRONT PLATE ( U CUT)(51V)
500-H-10	KEY
500-V-1	CASE (51V)
500-V-13	THROTTLE VALVE (with O-RING) (51V)
500-V-14-40	MOTOR SHAFT (51V)
500-V-2	DEAD HANDLE (51V)
500-V-26	THROTTLE VALVE CAP (51V)
500-V-27	LEVER (51V)
500-V-28	VALVE TUBE (51V)
500-V-45	LIVE HANDLE (51V)
590026	BEARING (51V)
590027	BEARING (51V)
590028	NEEDLE BEARING (51V)
590029	PIN (51V)1/8"X3/4"
592020	SNAP RING (51V)
593015	LEVER PIN (51V)
600-51	SPRING
650-H-14	SEAL
700-7	BEARING
832126	PIN
849848	5" Pad, 5/8"-11 Thread Spiral cool pad
849913	7" Pad, 5/8"-11 Thread Spiral cool pad
849259	5/8-11 Spiral cool pad lock nut

PART NUMBER	DESCRIPTION
102-SPWR	Wrench for Spiralcool pads 5/8"-11 Nut

### SAFETY FIRST!!

This tool is designed to operate on 90 psi (6.2 bar)max air pressure with 1/2"(12.mm) hose. Do not use grinder without recommended wheel guard. Do not use any wheel for which the operating speed listed is lower than actual free speed stamped on the grinder.

**NEVER MODIFY ANY PART OF THIS TOOL!!!! DO NOT** modify the tool, safety devices, or accessories.

1. Safety goggles, ear muffs, safety gloves, dust masks and, if grinding conditions are severe, additional face protection, leather aprons and safety shoes must be worn. Keep others a safe distance from your work area, or ensure they use appropriate Personal Protective Equipment.
2. Before operation check spindles speed with a tachometer. If RPM exceeds speed stamped on tool, servicing is required.
3. Inspect grinding wheels for bends, chips, nicks, cracks or severe wear. If wheel has any of these, or has been-soaked in liquid do not use. On brushes check for loose wires that may fly off in operation.
4. Start new grinding wheels under at steel bench. Run at full throttle for one minute. Defective wheels usually come apart immediately. When starting a cold wheel apply to work slowly, allow wheel to warm up slowly.
5. Before mounting or removing a wheel disconnect grinder from air supply. The wheel should fit properly on arbor; do not use bushings or wheel flanges to adapt

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a wheel to any arbor unless recommended by Henry Tools. (Wheel flanges should be at least 1/3 diameter of grinding wheel.)

6. Wear safety goggles and wear protective clothing. Continuous exposure to vibration may cause injury to your hands and arms. (See regulations.)
7. Properly maintained air tools are less likely to fail or cause accidents. If tool vibrates weirdly or produces an unusual sound, repair immediately.

### MAINTENANCE

1. An air line filter regulator-lubricator should be located as closely as possible to the tool.
2. Clean out dirt and moisture from air hoses daily. Keep screen handle bushing in tool.
3. OIL TOOLS DAILY. Exxon's Spinesstic 10, etc. or an equivalent airtool oil is recommended. Pour about 1/2oz. in air inlet and run tool to allow oil to be carried to the interior.

Additional safety information is available for the American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018 (ANSI B186.1)

### DISASSEMBLY

1. Disconnect air and remove all accessories from the tool.
2. Clamp vise on flats of the front cap (500-38) and unscrew body. (Note: left hand thread)
3. The motor should now pull out of case (500-V-1).
4. Remove the rear snap rings (500-46 and 592020).
5. With brass jaws placed on vise, grasp O.D. of cylinder (500-2A) and end plate (500-3). Use a 3/16" punch and tap spindle (500-V-14-40) from gear assembly.
6. Remove snap ring (592020) from spindle with an arbor press.
7. Place gear assembly in vise threaded end up. Clamp on flats of gear spider.
8. Loosen hex nut (500-42) and remove.
9. Press gear assembly out of front cap (500-38) with an arbor press.
10. Place gear assembly on suitable block (threaded end down) and press gear spider (500-25-40) out of ring

gear (500-20) and bearing (500-20) and bearing (500-20) with an arbor press.

11. Press bearing (700-7) off gear spider with a block and arbor press.
12. Tap pins (590029) out of gear spider from non-threaded end of gear spider. Gear (500-12-40) should now fall out.
13. Remove the needle bearings (590028) from gears with a block and arbor press.
14. To check throttle valve, unscrew plug (500-V-26) and lift out valve spring (600-51) & plunger (500-V-13). Remove o-ring (500-31) and replace if worn.

### ASSEMBLY

1. Reverse previous steps. Reassemble through holes and gears from threaded end of the gear spider. Be sure to tap pin flush with a hammer on threaded side of gear spider.
2. Press bearing (700-7) over threaded end of gear spider and press up to shoulder with gearing driver and arbor press.
3. Press seal (650-H-14) into front cap (500-38) with a driver and an arbor press.
4. Press gear spider assembly into front cap with driver and arbor.
5. Place the assembly into vise threaded end up. Clamp on flats of gear spider. Screw hex nut (500-38) on threads and tighten.
6. Place ring gear (500-20) over gear spider and press rear bearing (590026) inside ring gear and



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### REASSEMBLE (continued)

over gear spider until it bottoms out.

7. Support bearing(590027) on suitable block and press spindle(500-V-14-40) through bearing up to the gear shoulder with an arbor press.

8. Place snap ring(592020) into groove of spindle.

9. Press spindle assy. in rear of gear assembly. Tap with hammer if necessary. Place snap ring(500-46)in groove in gear spider.

10. Place front end plate(500-7A)over spindle and press until end plate

11. bottoms on ring gear.

12. Place key(500-H-10)in slot of spindle.

Install rotor(500-5A) over spindle and key. Insert 4 blades(500-6A) in slots of rotor.

13. Place cylinder over rotor making sure that pin side of cylinder is facing upwards.

14. Place rear end plate(500-3)over end of spindle.Be sure to line up pin of cylinder with smallest hole of end plate.

15. Support Gear spider end of assy.Drive bearing(300-G-29) onto bearing end with a bearing driver and a hammer.

16. Place snap ring(592020)in groove on spindle.place snap ring(500-46) in groove in end plate.

17. Lightly tap the motor assembly into case(500-V-1).

18. Screw front cap(500-38)onto the front of the case.Tighten by clamping the vise onto the flats of the front cap and turning.

19. CAUTION:Check tool speed with a reliable Tachometer.The speed stamped on case must be at or below actual speed of tool.