

HENRY TOOLS

Industrial Airtools at Work

Models
660VL
660VS



General Safety and Maintenance Manual



SUPER HEAVY DUTY VERTICAL GRINDERS

4 Horsepower Vertical Grinders



4 HORSEPOWER

Model Number	Throttle Type	Power Output	Weight	Height over Spindle	Air Consumption	Rated Speed/Wheel Capacity
660VL	LEVER	4 H.P. (3000 W)	11.0 Lbs. (5.0 Kg)	7.7 Inches (196 cm)	50 cfm (23.6 L/s)	4500 RPM w/ 9 Inch T27 Wheel Guard 4500 RPM w/ 9 Inch T28 Wheel Guard 6000 RPM w/ 7 Inch T27 Wheel Guard 6000 RPM w/ 7 Inch T28 Wheel Guard 6000 RPM w/ 9 Inch T27 Wheel Guard 6000 RPM w/ 9 Inch T28 Wheel Guard 8000 RPM w/ 7 Inch T27 Wheel Guard 8000 RPM w/ 7 Inch T28 Wheel Guard (NOTE: Standard RPM is 6000RPM)
660VS	SAFETY LEVER					

THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS

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Ph: (216) 291-1011 or (800) 826-5257 • Fax: (216) 291-5949 or (800) 303-2800

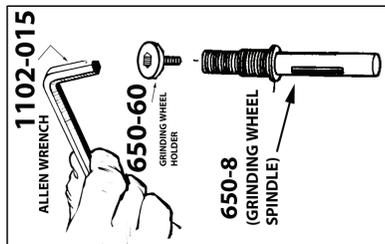
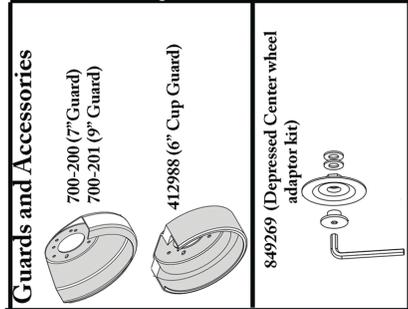
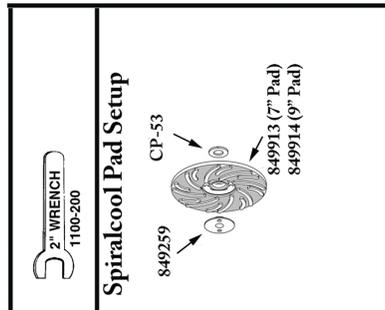
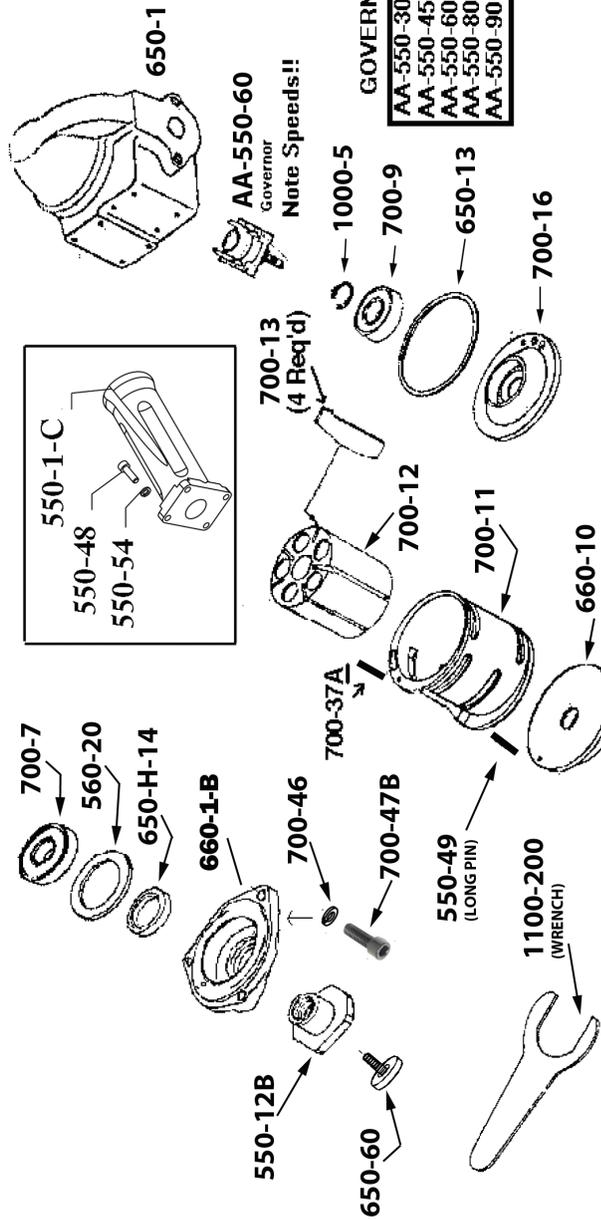
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General Operators Instructions and Service Manual

Models
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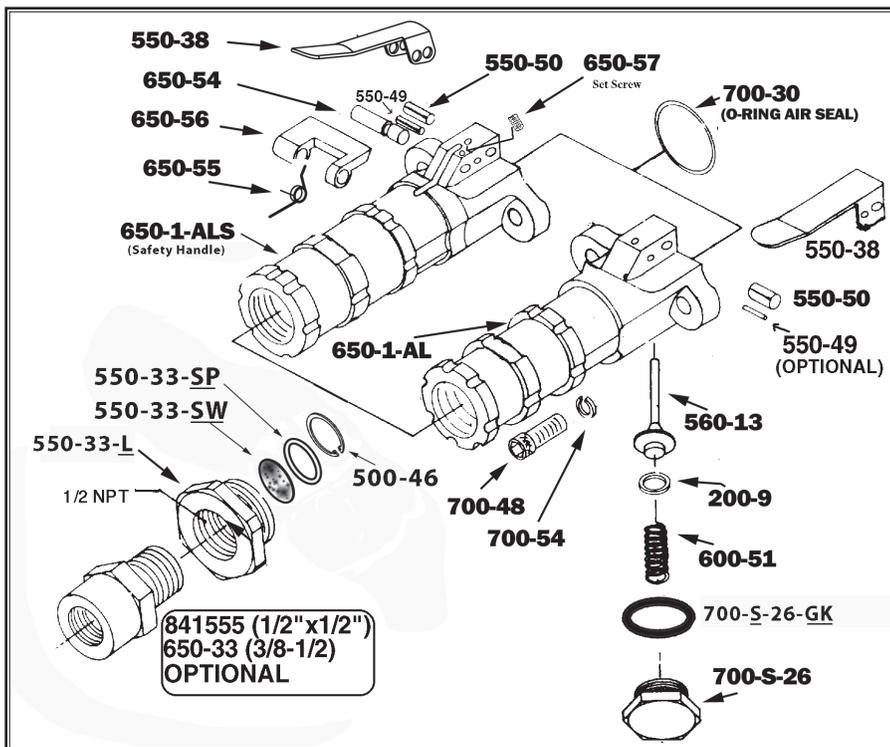


REPAIR KIT AVAILABLE: SEE CHART



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Part Number	Description
200-9	O-Ring
500-46	Snap Ring
550-33-L	Live Handle Adaptor bushing
550-33-SW	Screen Filter
550-33-SP	Spacer
550-38	Lever
550-50	Lever Pin
560-13	Throttle Valve Assembly with 200-9 O-ring installed
600-51	Plunger Spring
650-1-AL	Live Handle Body (Non-Lockout type)
650-1-ALS	Safety Lock Valve Body(Bare)

Part Number	Description
AA-650-1-AL	Handle Assembly (Complete)(Non-lockout handle)
AA-650-1-ALS	Safety Lock Handle Assembly (Complete)
650-33	Screen Bushing(1/2x3/8)
650-54	Safety Lock Pin
650-55	Safety Lock Spring
650-56	Safety Lock Lever
650-57	Set Screw
700-30	O-Ring
700-48	Cap Screw
700-54	Lock Washer
700-S-26	Plug
700-S-26-GK	Gasket
841555	Screen Bushing (1/2X1/2)

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PART NUMBER	DESCRIPTION
200-9	O-RING
841555	1/2x1/2 BUSHING
1000-5	SNAP RING
550-12A	WHEEL FLANGE
550-12B	WHEEL FLANGE
550-1-C	DEAD HANDLE
550-49	PIN
550-54	WASHER (4 REQ.)
560-20	WAVY SPRING SPACER
650-1	MOTOR CASE (BARE)with RPM tag
650-13	GASKET
650-1-BTG	GASKET (3 holed)
650-33	3/8-1/2 BUSHING
650-57	SET SCREW
650-58	SCREW
650-59	WASHER
650-60	WHEEL LOCK
650-8	SPINDLE
650-H-14	SEAL
660-10	FRONT BEARING PLATE
660-1-B	FRONT BEARING SUP-PORT
700-11	CYLINDER (WITH ROLL PINS)
700-12	ROTOR
700-13	BLADE (4 REQ.)
700-15	KEY
700-16	REAR ENDPLATE
700-30	O-RING
700-37	CYLINDER PIN
700-46	WASHER (4-8 REQ.)
700-47A	SCREW (4 REQ.)
700-48	SCREW
700-49	SCREW (Old Style)
700-7	BEARING
700-9	BEARING
GUARDS	
700-200	7" TYPE 27 GUARD
700-201	9" TYPE 27 GUARD

PART NUMBER	DESCRIPTION
412988	6" CUP GUARD
WRENCHES	
1102-015	WHEEL LOCK WRENCH
1100-094	15/16" WRENCH
1100-200	2" WRENCH
102-SPWR	SANDING PAD NUT WRENCH
ASSEMBLIES	
510088	REPAIR KIT: Includes (1)700-7 Bearing, (1)700-9 Bearing, (1) 1000-5 Ring, (1) 560-20 Washer, (4)700-13 Blades, (1) 650-13 Gasket
650-60	WHEEL LOCK ASSY.
AA-660-1	CASE ASSY.(Comes with all screws)Specify the speed
AA-650-1-AL	LEVER LIVE HANDLE AS-SEMBLY COMPLETE with screwsNON lockout Style
AA-650-1-ALS	LOCKOUT LEVER LIVE HANDLE ASSEMBLY COM-LETE with screws
GOVERNORS	
AA-550-45	GOV.ASSY. (4500 RPM)
AA-550-60	GOV.ASSY. (6000 RPM)
AA-550-72	GOV.ASSY.(7200 RPM)
AA-550-80	GOV.ASSY. (8000 RPM)
• OTHER SPEEDS AVAILABLE	
ACCESSORIES	
849259	5/8-11 SANDING PAD NUT
849913	7" SANDING PAD (MAX 8500 RPM)
849914	9" SANDING PAD (MAX 6500RPM)
849269	DEPRESSED CENTER WHL ADAPT KIT

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SAFETY FIRST!!!!

ALWAYS COMPLY WITH:

1. General Industry Safety & Health Regulations, Part 1910, OSHA 2206, available from: Sup't of Documents; Government Printing Office; Washington DC 20402.
2. Safety Code for Portable Air Tools, ANSI B186.1 available from: American National Standards Institute, Inc.; 1430 Broadway; New York, NY 10018
3. State and Local regulations. Portions of the above codes and regulations are listed below for quick reference.

THESE EXCERPTS ARE NOT INTENDED TO BE ALL INCLUSIVE - STUDY AND COMPLY WITH ALL REGULATIONS!

1. **TOOL INTENT** - Tools shall be used only for purposes intended in their design (refer to product catalog).
2. **AIR SUPPLY** - Test and operate tools at 90 PSIG maximum unless tool is marked otherwise. Use recommended airline filters-regulators-lubricators.
3. **UNUSUAL SOUND or VIBRATION** - If tool vibrates or produces an unusual sound, repair immediately for correction.
4. **OPERATOR PROTECTIVE EQUIPMENT** - 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. SEE REGULATIONS.
5. **SAFETY MAINTENANCE PROGRAM** - Employ a safety program to provide inspection and maintenance of all phases of tool operation and air supply equipment in accordance with "Safety Code for Portable Air Tools."

WARNING: The signal word "Warning" identifies all notes on safe work practices in this operating instruction, alerting to hazards for life and health of people. Observe these notes and proceed with special care in the cases described. Pass all safety instructions on to

other operators. In addition to the safety instructions in this operating instruction, the general local safety and accident prevention rules must be observed.

WARNING: NEVER MODIFY ANY PART OF THIS TOOL!!!! DO NOT modify the tool, safety devices, or accessories. DO NOT tamper with any internal parts of this air grinder. DO NOT modify the tool handle, safety guard devices, or accessories.

6. If there is a problem with your tool, return it to an authorized Henrytool service center or our factory. Our certified parts ensure your tool performs as it was originally designed. When you use Henrytool repair, you know your tool has been repaired and tested

to meet our exacting standards.

A recommended spare part (or set) for every five (5) tools. Small, low cost or easily lost parts should be stocked as 3-4 per 10 tools.

WARNING' Disconnect the air supply hose before servicing the tool.

INSTALLATION

For most efficient operation, 90 psig (620 kPa) of clean dry air is required at the tool with the tool running, with-out extreme fluctuation. Minimum recommended hose size is 3/8" I.D. when the length of the hose is eight feet or less. An air line filter and lubricator, should be used. Hose should be blown out before attaching to the tool.

Loss of Power

A loss of power may not be related to the tool. First, check the air line pressure. It should be 90 psi at the tool while operating.

LUBRICATION

Lubricate the motor with an air line lubricator, using a light air motor oil. Adjust the lubricator to dispense one drop per cycle or three drops per minute.

CAUTION Do not use substitutes for oil and grease. This could result in damage to the tool.

MAINTENANCE

1. Proper and continuous lubrication.
2. Blow out air hose to assure a clean air supply.
3. Be sure the air filter and line lubricator are clean.
4. Fill the line lubricator before operation.
5. Place a few drops of oil into the air inlet of the tool before attaching the air line.
6. Use moisture separators to remove water from the air line.
7. **CAUTION** Do not use solvent on bearings or on any parts made of a synthetic material.
8. Do not remove bearings unless replacement is necessary; bearings are press fit.

DISASSEMBLY

1. Disconnect air and remove all wheels and accessories from grinder.

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660VS



DISSASSEMBLY (continued)

2. Secure the dead handle (550-1-C) of the grinder in a vise. Remove the three socket head screws (700-47A) and remove wheel guard.
3. Grasp the wheel flange (550-12A) and pull the complete motor assembly from the case. If the case is too tight, put 5/8-11 hex nut on shaft and grip firmly in vise; using soft hammer, remove case assembly by tapping alternately at live and dead handle joints.
4. Put the flats of the wheel flange in the vise and remove governor. (NOTE:LEFT HAND THREAD)
5. Remove lock ring (1000-5). Holding the cylinder (700-11) in the left hand, place a long pin type tool into the hole left by the removal of the governor. With a small hammer, tap lightly on the end of this pin, which separates the spindle (650-8) from the rear bearing (700-9) and the rear thrust (700-16).
6. Remove cylinder (700-11), rotor blades (700-13) and rotor (700-12). Do not remove key (660-10) at this time.
7. Clamp spindle holder in vise vertically. Line up the keyway in the holder and slide the spindle assembly through. Remove wheel flange (right hand thread) with a suitable wrench.
8. Lift off bearing support (660-1B) and Belleville wavy washer (560-20). Remove seal (650-H-14) by tapping with a small punch.
9. Remove spindle assembly from holder. Remove key and press spindle out of end plate (660-10). Support bearing (700-7) and press spindle through.
10. OPTIONAL: To check throttle valve, unscrew plug (700-S-26) and lift out valve spring (600-51) and plunger (560-13). Remove the "o" ring (200-9) with a sharp tool and replace with a new ring.

REASSEMBLY

1. Press new seal (650-H-14) into bearing support (660-1-B).
2. Press bearing (700-7) onto spindle (650-8).
3. Press bearing and spindle assembly into front thrust (660-10). Place key (700-15) into spindle keyway.
4. Clamp spindle holder in vise vertically. Line up the keyway in the holder and slide the assembly through.
5. Place and center belleville washer (560-20) on top of bearing.
6. Place the bearing support over the washer and front thrust plate.
7. Lightly grease the small outside diameter of the wheel flange (550-12A). Thread wheel flange clockwise by hand

- while rotating the bearing support counter-clockwise until wheel flange bottoms on bearing. Tighten down with suitable wrench. Remove assembly from spindle holder.
8. Line up cylinder pin holes in the bearing support (660-1-B) and the front thrust (660-10). Clamp wheel flange in vise.
9. Put key (700-15) in spindle keyway slide rotor (700-12)down and insert blades (700-13). Put cylinder (700-11) into place with long dowel pin down. This dowel pin must go through hole in front thrust plate and through front bearing support.
10. Slip rear bearing (700-9) in rear thrust (700-16) and press on spindle.(Press on inner race of bearing.) Be sure that short dowel pin in cylinder goes into hole in rear thrust plate.
11. Put lock ring (1000-5) on spindle. (Thereis no groove.)
12. Prior to reassembly inspect governor for gouges,nicks or dents. Screw governor tight in rear spindle.(NOTE:THIS IS LEFT HAND THREAD) Oil governor and inside of motor.
13. Assemble live handle; add live and dead handles to case; place gasket (650-13) in rear face of case.
14. Drop motor assembly package in case and line up the three holes in front bearing support with those in front of case.
15. Line up guard with motor holes. Install the three bolts (700-47A) and lockwashers (700-46). Tighten bolts down until snug then backoff 1/2 turn.
16. Connect tool to air supply and apply air in several short bursts tightening the motor screws (700-47A) till tool runs smoothly.
17. Check speed of tool with a reliable tachometer.