

Henrytools

Industrial Tools at Work

MODELS
44 ARA
44 ARAC
44 RA4
44 RA2

General Safety and Maintenance Manual



Model 44ARA Angle Grinder with 4" guard.



Model 44ARAC Angle Grinder with built in 1/4" collet for use with carbide burrs.



Model 44ARAZ Angle Grinder with spiral cool pad and offset handle used for sanding.



Model Number	Exhaust Direction	Throttle Type	Speed	Power Output	Case Material	Weight		Length	Diameter	Air Consumption	Spindle Thread
						Aluminum	Steel				
44ARA	Side	(L) Lever or (K) Safety Lever	9000 to 11000 R.P.M. (11000 is Standard)	0.9 H.P. (675 W)	Steel or Aluminum	2.8 Lbs (1.3 Kg)	3.5 Lbs (1.6 Kg)	7.4 Inches (188 mm)	1.6 Inches (41 mm)	25 CFM (11.8 L/S)	3/8-24 x 0.98 Inch
44ARAZ											5/8-11 x 0.98 Inch
44RA4											3/8-24 x 0.98 Inch
44ARAC											1/4 Inch Built-In Collet

THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS

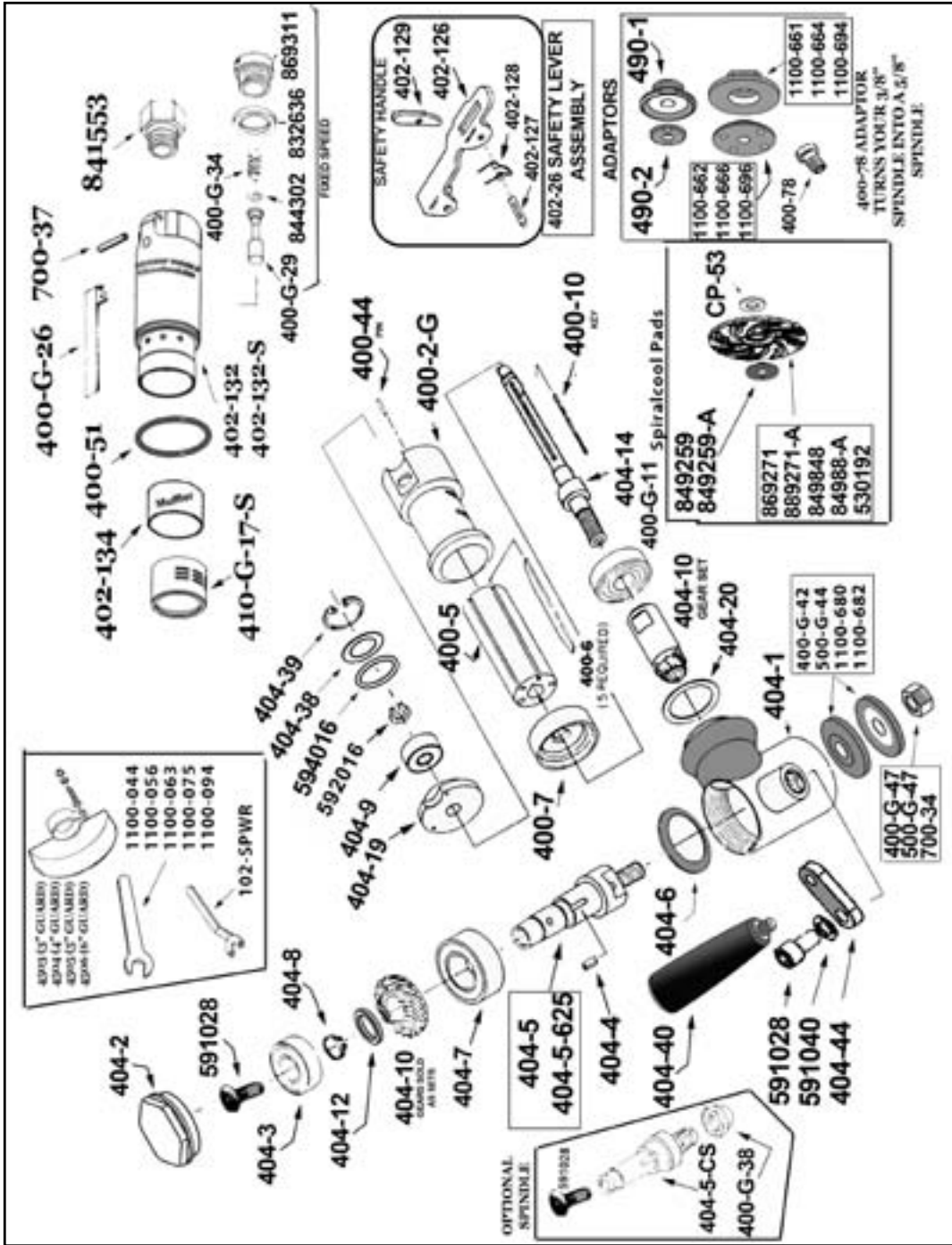
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PART NUMBER	DESCRIPTION
400-G-11	FRONT BEARING
400-G-26	LEVER
400-G-29	THROTTLE VALVE (INCLUDES 844302)
400-G-34	SPRING
400-G-38	COLLET NUT
400-G-42	3/8 I.D. FLANGE FOR USE WITH (2"-3" WHEELS)
400-G-47	3/8-24 NUT
400-10	KEY
400-44	PIN
400-2G	CYLINDER
400-5	ROTOR
400-6	BLADE (5 ARE REQ.)
400-7	FRONT THRUST PLATE
400-51	O-RING
402-126	SAFETY LEVER
402-127	SAFETY LEVER PIN
402-128	LOCKOUT LEVER
402-129	SAFETY LEVER SPRING
402-132	ALUMINUM CASE (SPECIFY SPEED)
402-132-S	STEEL CASE (SPECIFY SPEED)
402-132-S-FT	STEEL FLOW THRU CASE
402-134	MUFFLER
404-1	ANGLE HEAD HOUSING
404-2	BEARING CAP
404-3	BEARING
404-4	KEY
404-5	3/8-24 X .980 OUTPUT SPINDLE
404-5-CS	COLLET OUTPUT SPINDLE
404-5-625	5/8-11 X .980 OUTPUT SPINDLE
404-6	WAVY SPRING WASHER
404-7	LOWER OUTPUT SPINDLE BEARING
404-8	SNAP RING
404-9	REAR MOTOR BEARING
404-10	GEAR SET
404-12	SPACER RING
404-14A	SPINDLE
404-19	REAR ENDPLATE
404-20	MOTOR SPACER
404-38	BEARING COVER
404-39	SNAP RING
404-40	DEAD HANDLE
404-44	DEAD HANDLE OFFSET
410-G-17-S	SIDE EXHAUST SLEEVE
500-G-44	3/8 I.D. FLANGE (4"-5" WHEELS)
501-G-47	1/2-20 NUT

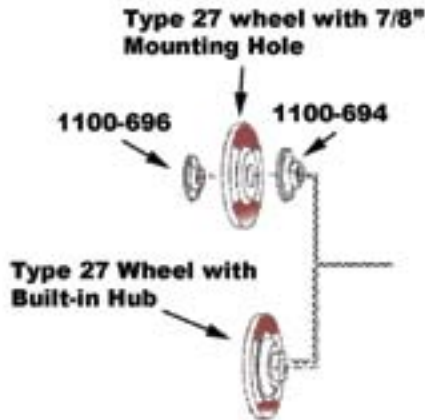
PART NUMBER	DESCRIPTION
700-34	5/8-11 NUT
700-37	Throttle Lever Pin
1100-680	5/8 I.D. FLANGE (6" OR SMALLER WHEELS)
1100-682	3/8 I.D. FLANGE (FOR 5"-6" WHEELS)
591028	SCREW
591040	WASHER
591048	SCREW
592016	SNAP RING
594016	O-RING
832636	GASKET
841552	3/8 NPT TO 3/8 NPT BUSHING
841553	3/8 NPT TO 1/4 NPT BUSHING
844302	O-RING
869311	THROTTLE VALVE CAP
GUARDS	
4503	3" GUARD
4504	4" GUARD
4505	5" GUARD
4506	6" GUARD
WRENCHES	
490-3	SPANNER WRENCH (PIN TYPE)
102-SPWR	WRENCH FOR SANDING PADS
1100-044	7/16" WRENCH
1100-056	9/16" WRENCH
1100-075	3/4" WRENCH
1100-094	15/16" WRENCH
REPAIR KITS	
510120	REPAIR KIT WITH GEAR SET
510121	REPAIR KIT WITHOUT GEAR SET
ASSEMBLIES	
PART	DESCRIPTION
510120	REPAIR KIT
402-26	SAFETY LEVER ASSY.
AA-402-132	ALUMINUM CASE ASSY.
AA-402-132-K	ALUMINUM SAFETY CASE ASSY.
AA-402-132-S	STEEL CASE ASSY.
AA-402-132-SK	STEEL SAFETY CASE ASSY.
ACCESSORIES	
CP-53	WASHER
300-16	1/8" COLLET ADAPTER
400-78	3/8-24 TO 5/8-11 ADAPTER
405-24	BACKING PLATE FOR 490-KR
490-K	3/8-24 X .980 TYPE 27 ADAPTER ASSY.

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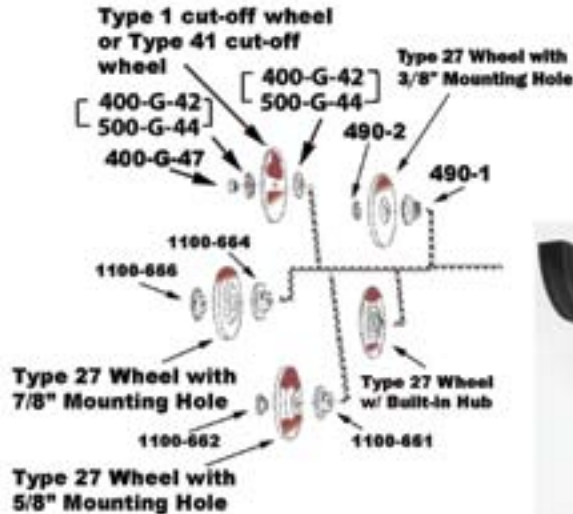
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**Right Angle Grinders with
 5/8"-11 x .980 Output Spindle**



**Right Angle Grinder with
 3/8"-24 x .980 Output Spindle**



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PART NUMBER	DESCRIPTION
490-KR	3/8-24 X .580 TYPE 27 ADAPTER ASSY.
490-1	BACKING PLATE FOR 490-K
490-2	NUT FOR 490-K & 490-KR
1100-660	3/8-24 TO 5/8 I.D. TYPE 27 ADAPTER ASSY.
1100-661	3/8-24 TO 5/8 I.D. BACKING PLATE
1100-662	3/8-24 TO 5/8 I.D. ADAPTER NUT
1100-664	3/8-24 TO 7/8 I.D. BACKING PLATE
1100-666	3/8-24 TO 7/8 I.D. ADAPTER NUT
1100-668	3/8-24 TO 7/8 I.D. TYPE 27 ADAPTER ASSY.
1100-692	5/8-11 TO 7/8 I.D. TYPE 27 ADAPTER ASSY.
1100-694	5/8-11 TO 7/8 I.D. BACKING PLATE
1100-696	5/8-11 TO 7/8 I.D. ADAPTER NUT
849259	5/8-11 SANDING PAD NUT
849259-A	3/8-24 SANDING PAD NUT
889271	5/8-11 4" SANDING PAD (MAX 12000 RPM)
889271-A	3/8-24 4" SANDING PAD (MAX 12000 RPM)
849848	5/8-11 5" SANDING PAD (MAX 10000 RPM)
849848-A	3/8-24 5" SANDING PAD (MAX 10000 RPM)

GRINDER SAFETY

ALWAYS COMPLY WITH:

- General Industry Safety & Health Regulations, Part 1910, OSHA 2206, available from: Sup't of Documents; Government Printing Office; Washington DC 20402
- Safety Code for Portable Air Tools, ANSI B186.1 available from: American National Standards Institute, Inc.; 1430 Broadway; New York, NY 10018
- 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!

- Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool.
- After mounting a wheel or other abrasive accessory, the Grinder shall be run in a protected enclosure, at gradually increasing speed, for at least 60 seconds. When starting work with a cold wheel, apply it gradually to the workpiece until it becomes warm. Do not continue to use a grinder if:
 - The speed rating of the accessory is less than the speed of the grinder
 - If tool vibrates repair immediately.
 - You sense changes in tool speed or an unusual increase in noise that would indicate tool is running at excessive speed.
 - You notice excessive end play in spindle
 - You hear any unusual sound from grinder

RETURN THE TOOL TO THE TOOL CRIB FOR SERVICE IMMEDIATELY.

- Make certain no one is in front of or in line with the wheel or other abrasive accessory. Be aware that it may fail at this time if it is defective, improperly mounted or the wrong size and speed. Stop immediately if considerable vibration or other defects are detected. Shut off the air supply and determine the cause.
- OPERATOR PROTECTIVE EQUIPMENT** - Wear goggles or face shield at all times tool is in operation. Other protective clothing shall be worn, if necessary. SEE REGULATIONS.
- Keep hands, loose clothing and long hair away from rotating end of tool.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.
- Keep body stance balanced and firm. Do not overreach when operating this tool. High reaction torques can occur at or below the recommended air pressure.
- Tool accessories may continue to rotate briefly after throttle is released.
- Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
- This tool is not designed for working in explosive atmospheres.
- This tool is not insulated against electric shock.
- Product Safety information - When Placing the Tool in Service
 - NEVER MODIFY ANY PART OF THIS TOOL!!!!** Always install, operate, inspect and maintain this product in accordance with all applicable standards and regula-

tions (local, state, country, federal, etc.).

- Always use clean, dry air at 90 psig (6.2 bar/620 kPa) maximum air pressure at the inlet. Higher pressure may result in hazardous situations including excessive speed, rupture, or incorrect output torque or force.
- Be sure all hoses and fittings are the correct size and are tightly secured.
- Install a properly sized Safety Air Fuse upstream of hose and use an anti-whip.
- Always turn off the air supply, bleed the air pressure and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool or any accessory.
- Ensure that the grinding wheel or other abrasive accessory is correctly mounted and tightened before use.
- Always replace a damaged, bent or severely worn wheel guard. Do not use a wheel guard that has been subjected to wheel failure.
- Guard opening must face away from the operator. Bottom of wheel must not project beyond guard.

DISASSEMBLY

PLEASE NOTE: The brass spacers that were installed by the factory are necessary for this tool to operate efficiently. When disassembling this tool examine how spacers are arranged. They must be installed exactly the same way. Failure to do this will cause improper gear spacing, which causes pre-mature tool failure.

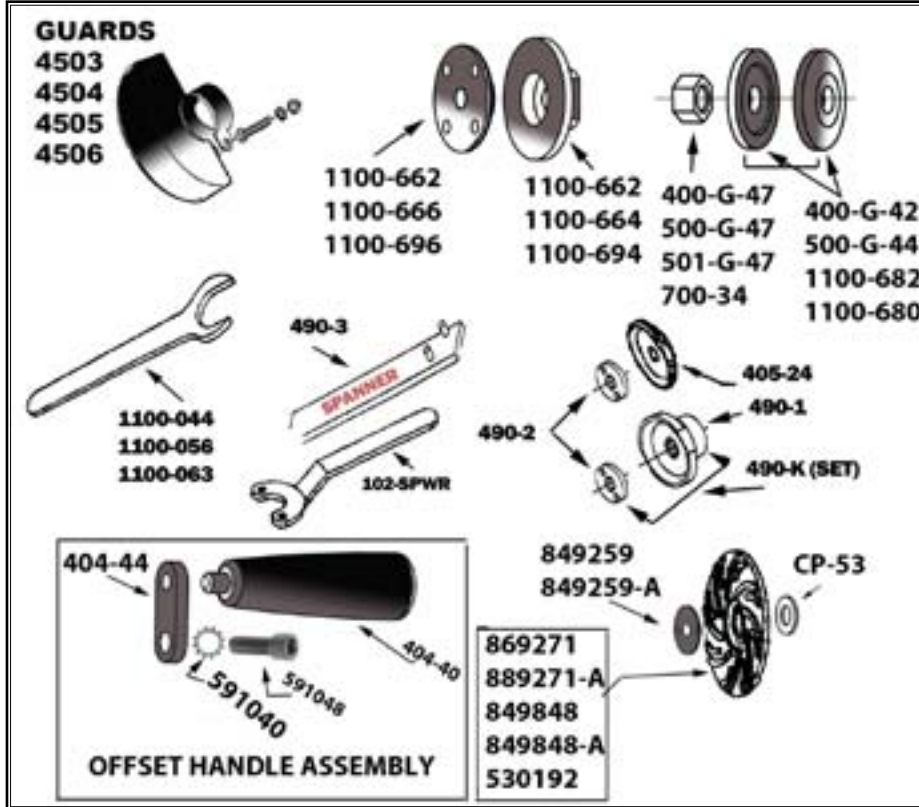
- Disconnect air supply & remove all wheels and accessories.
- Remove handle (404-40). Secure anglehead (404-1)(Do not crush the head) in vise on dead handle boss. Unscrew and remove case(402-132) Never squeeze anglehead (404-1) in vise. This will distort bearings and ruin gear alignment.
- Remove exhaust deflector (410-G-17-S).
- Pull motor from right angle head. Be careful to note location of shims.
- Remove snap ring (404-39),wafer(404-38),O-ring(594016), and snap ring (592016).
- Install brass or aluminum jaws in vise. Grasp the O.D. of cylinder(400-2G)and end plate (404-19) in vise. Using a 3/16" punch, tap spindle out rear bearing (404-9)
- Remove cylinder, blades(400-6).
- With rotor (400-5) still on spindle (404-14), grasp the rotor in vise snugly and remove pinion gear(404-10).
- Remove rotor(400-5) Remove key and front thrust plate (400-7).
- Press bearing (400-G-11) off of spindle.
- Secure angle head SOFTLY in vise and secure on Dead handle boss. Unscrew cap (404-2).
- Remove from vise and tap on spindle with a plastic hammer. The spindle assembly and spring washers (404-6) will slide out.
- Remove screw (591028). Remove Snap ring(404-8). Remove spacer(404-120)and gear(405-10) as well as (404-4) key. Press or tap out spindle(404-5-625) from bearing (404-7) of bearing cap until free of bearing (404-3). Note position of shims. Using a 9/64" T-Handle hex wrench unscrew (591028) screw. [(NOTE:Some older models have a snap ring(405-16) to be removed instead of a screw)]
- Press bearing (404-3) off spindle.
- Remove snap ring (404-8).Support bearing (404-7) and press spindle through with 1/4" punch. This will remove gear (404-10) and bearing(404-7). Remove key (404-4).

ASSEMBLY

- Support front bearing(400-G-11) on drill block. Press spindle(404-14)through bearing until it bottoms on shoulder.
- Slide front thrust(400-7)over the spindle and onto front bearing. Place key(400-10) into keyway in spindle. Slide rotor down over shaft (404-14).
- Grasp rotor in vise snugly and replace pinion gear(404-10) and wrench firmly.
- Support bearing and pinion gear in downward position. Place five blades (400-6) in slots. Slip cylinder(400-2-G) over rotor.

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5. Install rear thrust(404-19) locating cylinder pin in small hole of rear thrust plate(404-19).
6. Place bearing (404-9) in rear thrust and tap into place with a suitable bearing driver. Using pliers place snap ring (592016) in spindle groove. Place o-ring (594016) and bearing cover (404-38) into rear endplate. Install snap ring (404-39) into groove of rear endplate.
7. Support bearing(404-7) on inner race of (404-5-625). Press spindle (404-5-625) through bearing until it bottoms on shoulder.
8. Install key (404-4) and line up with keyway of ring gear(404-10). Support gear on inner diameter and press spindle through. Replace gear spacer ring (404-12) on spindle and replace snap ring (404-8).
9. Support threaded end of spindle and press on bearing(404-3). Replace and tighten screw (591028) into end of spindle. Press spindle assembly into cap(404-2) Grease gear.
10. Install spring washers(404-6) into angle head(404-1).
11. Install spindle assembly into angle head housing, secure in vise and tighten cap (404-2).
12. Re-Locate angle head in vise-so that the motor can be installed vertically.
13. Replace shim(404-20) exactly as it was originally installed.
14. Jiggle greased pinion assembly into angle head while turning spindle(404-5-625)-so that gears mesh. Tap lightly on rear of motor to insure that is fully seated.
15. Install exhaust deflector (410-G-17-S). Place O-ring(400-51) on motor case(402-132) and screw onto angle head. The deflector should be snug, but can be turned. Place a few drops of oil into motor inlet.
16. Replace guard on tool.
17. Check RPM with a reliable tachometer. Tool must run at or below speed stamped on tool.

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