

### General Safety and Maintenance Manual



Model 45RAD Aluminum Right Angle Grinder Featuring an Erickson type collet



MODEL 45RADS with a Steel case. Featuring an Erickson type collet.

#### ERICKSON COLLET WITH INTERCHANGEABLE INSERT SIZES RIGHT ANGLE GRINDER

| Model Number | Exhaust Direction | Throttle Type                 | Speed                   | Power Output     | Weight          |                  | Overall Length      | Housing Diameter   | Working Air Consumption | Capacity   |
|--------------|-------------------|-------------------------------|-------------------------|------------------|-----------------|------------------|---------------------|--------------------|-------------------------|--|
|              |                   |                               |                         |                  | Alum. CASE      | STEEL CASE       |                     |                    |                         |  |
| 45ARAD       | Front or Side     | (L) Lever or (K) Safety Lever | 13500 R.P.M. (Standard) | 0.9 H.P. (675 W) | 2.8 lb (1.3 Kg) | 3.5 Lbs (1.6 Kg) | 9.2 Inches (234 mm) | 1.6 Inches (41 mm) | 25 cfm (11.8 L/S)       | Changeable Erickson Style Insert Collet<br>Burrs/Mounted Points Matching the Insert Size |

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

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# MODELS 45RAD

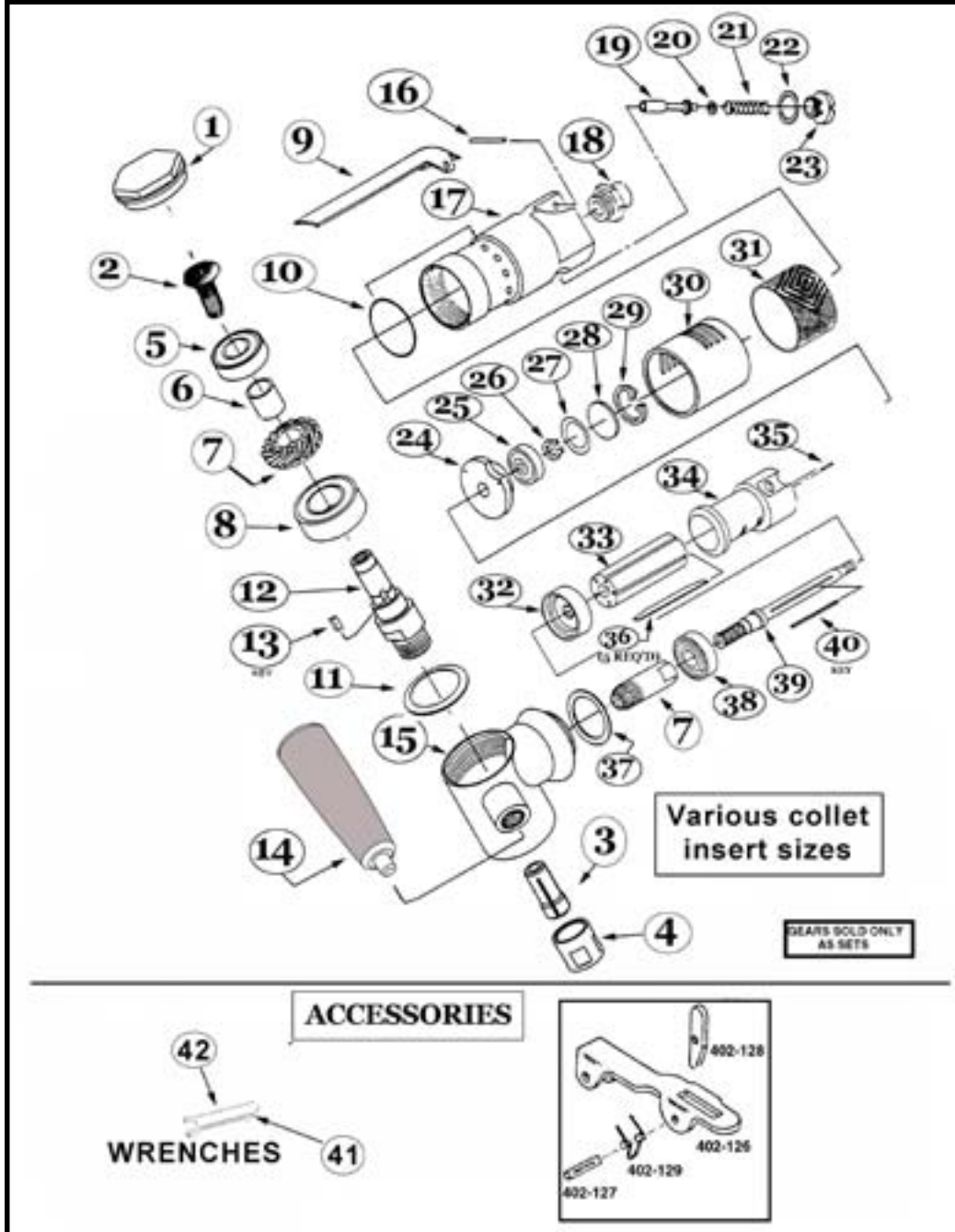


Model 45ARDS with Erickson style collet and STEEL case.



Model 45ARAD with Erickson style collet and Aluminum Case.

## Model 45ARAD Series featuring an Erickson Style collet.



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# MODELS 45RAD



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| ITEM No. | PART NO.   | DESCRIPTION             |
|----------|------------|-------------------------|
| 1        | 404-2      | CAP                     |
| 2        | 591028     | SCREW                   |
| 3        | 209-1      | COLLET NUT              |
| 4        | 209-1/4"   | COLLET INSERT 1/4"      |
| 4a       | 209-3/8"   | COLLET INSERT 3/8"      |
| 4b       | 209-1/8"   | COLLET INSERT 1/8"      |
| 5        | 404-3      | BEARING                 |
| 6        | 405-15     | GEAR SPACER             |
| 7        | 405-10     | GEAR (SOLD AS SET)      |
| 8        | 404-7      | BEARING                 |
| 9        | 400-G-26   | LEVER                   |
| 10       | 400-51     | O-RING                  |
| 11       | 404-6      | WAVY WASHER             |
| 12       | 405-17DA   | ERICKSON COLLET SPINDLE |
| 13       | 404-4      | KEY                     |
| 14       | 404-40     | DEAD HANDLE             |
| 15       | 404-1      | GEAR HEAD HOUSING       |
| 16       | 700-37     | PIN                     |
| 17       | 402-132-S  | MOTOR HOUSING           |
| 18       | 841553     | BUSHING                 |
| 19       | 400-G-29   | THROTTLE VALVE          |
| 20       | 844302     | O-RING                  |
| 21       | 400-G-34   | SPRING                  |
| 22       | 832636     | GASKET                  |
| 23       | 869311     | CAP                     |
| 24       | 404-19     | REAR END PLATE          |
| 25       | 404-9      | REAR BEARING            |
| 26       | 592016     | SNAP RING               |
| 27       | 594016     | O-RING                  |
| 28       | 404-38     | COVER                   |
| 29       | 404-39     | SNAP RING               |
| 30       | 410-G-17-S | EXHAUST SLEEVE          |

| ITEM No. | PART NO. | DESCRIPTION        |
|----------|----------|--------------------|
| 31       | 402-134  | MUFFLER SCREEN     |
| 32       | 400-7    | FRONT END PLATE    |
| 33       | 400-5    | ROTOR              |
| 34       | 400-2-G  | CYLINDER with PIN  |
| 35       | 400-44   | PIN                |
| 36       | 400-6    | VANE (5 are req'd) |
| 37       | 404-20   | GEAR SPACER        |
| 38       | 400-G-11 | BEARING            |
| 39       | 404-14   | SPINDLE            |
| 40       | 400-10   | KEY                |

| PART NO.           | DESCRIPTION                    |
|--------------------|--------------------------------|
| <b>REPAIR KITS</b> |                                |
| 510076             | REPAIR KIT WITH GEARS          |
| 510078             | REPAIR KIT WITHOUT GEARS       |
| 402-26             | COMPLETE SAFETY LEVER ASSEMBLY |

| ITEM NO.        | PART NO. | DESCRIPTION |
|-----------------|----------|-------------|
| <b>WRENCHES</b> |          |             |
| 41              | 1100-063 | 5/8" WRENCH |
| 42              | 1100-075 | 3/4" WRENCH |

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# MODELS 45RAD



Model 45ARDS with Erickson style collet and STEEL case.



Model 45ARAD with Erickson style collet and Aluminum Case.

## SERVICE INSTRUCTIONS

This tool is designed to operate on 90 psig (6.2 bar) maximum air pressure with 1/4" (8 mm) hose. Do not use a grinder without recommended wheel guard. Do not use any wheel for which the operating speed listed is lower than the actual free speed of the Grinder.

### SAFETY

1. Before operation check spindle speed with a tachometer. If the RPM exceeds the rated speed stamped on tool, servicing is required. Inspect grinding wheels for bends, chips, nicks, cracks or severe wear. If the wheel has any of these, or has been soaked in liquids do not use. On brushes check for loose wires that may fly off in operation.
2. Start new grinding wheels under a 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 gradually.
3. Model 45ARAD grinders equipped with erickson collets intended for mounted wheels, points and carbide burrs. They are not guarded for type 1 wheels. If you have a type 1 wheel application, please purchase a guard (4504,4505, etc.)
4. Safety levers are available from the manufacturer.(402-26). Before mounting or removing a carbide burr or mounted point, disconnect grinder from air supply. Wear safety goggles and other protective clothing. Continuous exposure to vibration may cause injury to your hands and arms.(See regulations.)
5. Properly maintained air tools are less likely to fail or cause accidents. If tool produces an unusual sound or vibrations repair immediately.

### 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.**

1. Disconnect air & remove all wheels and accessories. Softly secure anglehead 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.
2. Remove deflector (410-G-17-S).
3. 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).(Some of these may not be present).
4. Install brass or aluminum jaws in vise. Grasp the O.D. of cylinder(400-2-G)and end plate(404-19). Using a 3/16" punch, tap spindle out rear bearing (404-9)
5. Remove cylinder, blades(400-6).
6. With rotor (400-5) still on spindle (404-14), grasp the rotor in vise snugly and remove pinion gear(405-10).
7. Remove rotor(400-5) Remove key and front thrust plate(400-7). 9. Press bearing (400-G-11) off of spindle.
8. Secure angle head in vise and unscrew cap (404-2). Remove from vise. DO NOT remove collet nut (209-1) during the repair process. (We are trying to protect the spindle threads from damage). Tap on spindle with a plastic hammer The spindle assembly and spring washer (404-6) will slide out.

9. Clamp flats of spindle(405-17DA) in vise. Using a plastic hammer, tap evenly on O.D. of bearing cap until free of bearing (404-3). Note position of shims. Using a 9/64" T-Handle hex wrench unscrew (591028) screw.
10. Press bearing (404-3) off spindle. Support bearing (404-7) and press spindle through with 1/4" punch. This will remove gear (405-10) and bearing(404-7).
11. Remove key (404-4).

### ASSEMBLY

1. Support front bearing(400-G-11) on drill block. Press spindle(404-14)through bearing until it bottoms on shoulder.
  2. 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.
  3. Grasp rotor in vise snugly and replace pinion gear(405-10) and wrench firmly.
  4. Support bearing and pinion gear in downward position. Place five blades(400-6) in slots.
  5. Slip cylinder(400-2-G) over rotor. Install rear thrust(404-19) locating cylinder pin in small hole of rear thrust plate (404-19). Place bearing (404-9) in rear thrust and tap into place with suitable bearing driver. Using pliers place snap ring(592016) in spindle groove.[(May be snap ring (404-39)]
  6. Support bearing(404-7) on inner race. (Make sure nut 209-1 is installed on spindle). Press spindle (405-17DA) through bearing (404-7) until it bottoms on shoulder of spindle.
  7. Install key (404-4) and line up with keyway of ring gear(405-10). Support gear on inner diameter and press spindle through.
  8. Replace gear spacer ring (405-15) on spindle.
  9. Support threaded end of spindle and press on bearing(404-3). 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). Install spindle assembly into angle head housing, secure in vise and tighten cap (404-2).
  11. Re-Locate angle head in vise-so that the motor can be installed vertically.
  12. Replace shim(404-20) exactly as it was originally installed. Jiggle greased pinion assembly into angle head while turning spindle(404-5)-so that gears mesh. Tap lightly on rear of motor to insure that is fully seated.
  13. 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.
  14. Place a few drops of oil into motor inlet.
  15. To check throttle valve, unscrew plug(869311) and lift out spring and valve.
  16. Replace O-ring if worn.
  17. Replace guard on tool.
- 18. CHECK RPM WITH TACHOMETER. TOOL MUST RUN AT OR BELOW SPEED THAT IS STAMPED ON TOOL.**