Henrytools

Industrial Tools at Work

General Safety and Maintenance Manual

MODELS

48 RA
48 BRA2
48 BRA4
48 BRAD
48 RAS
48 RAZ
48 RAD
48 RAC

Model Number	Exhaust Direction	Throttle Type	Speed	Power Output	Weight		Overall Length	Housing Diam-eter	Working Air Consump-tion	Spindle Thread & Length/ Output	Wheel Capacity
					Alum. CASE	STEEL CASE					
48BRA	Front or Side	(L) Lever or (K) Safety Lever	9000 to 11000 R.P.M. (11000 is Stan-dard)	0.9 H.P. (675 W)	2.8 lb (1.3 Kg)	3.5 lb (1.6 Kg)	9.2 Inches (234 mm)	1.6 Inches (41 mm)	25 cfm (11.8 L/S)	3/8-24 x 0.98 Inch (25 mm)	2 Inch (50 mm), 3 Inch (75 mm), 4 inch (100 mm), 4 1/2 inch (114 mm), 5 inch (125 mm) or 6 Inch (150 mm) Type 1 Cutoff or Type 27 Wheels
48BRAZ										5/8-11 x 0.98 Inch (25 mm)	
48BRAC										1/4 Inch Built-In Collet	1/4 Inch Burrs/ Mounted Points
48BRAD										Changeable Insert Collet (ERICKSON TYPE)	Burrs/Mounted points Matching the Insert Size

THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS
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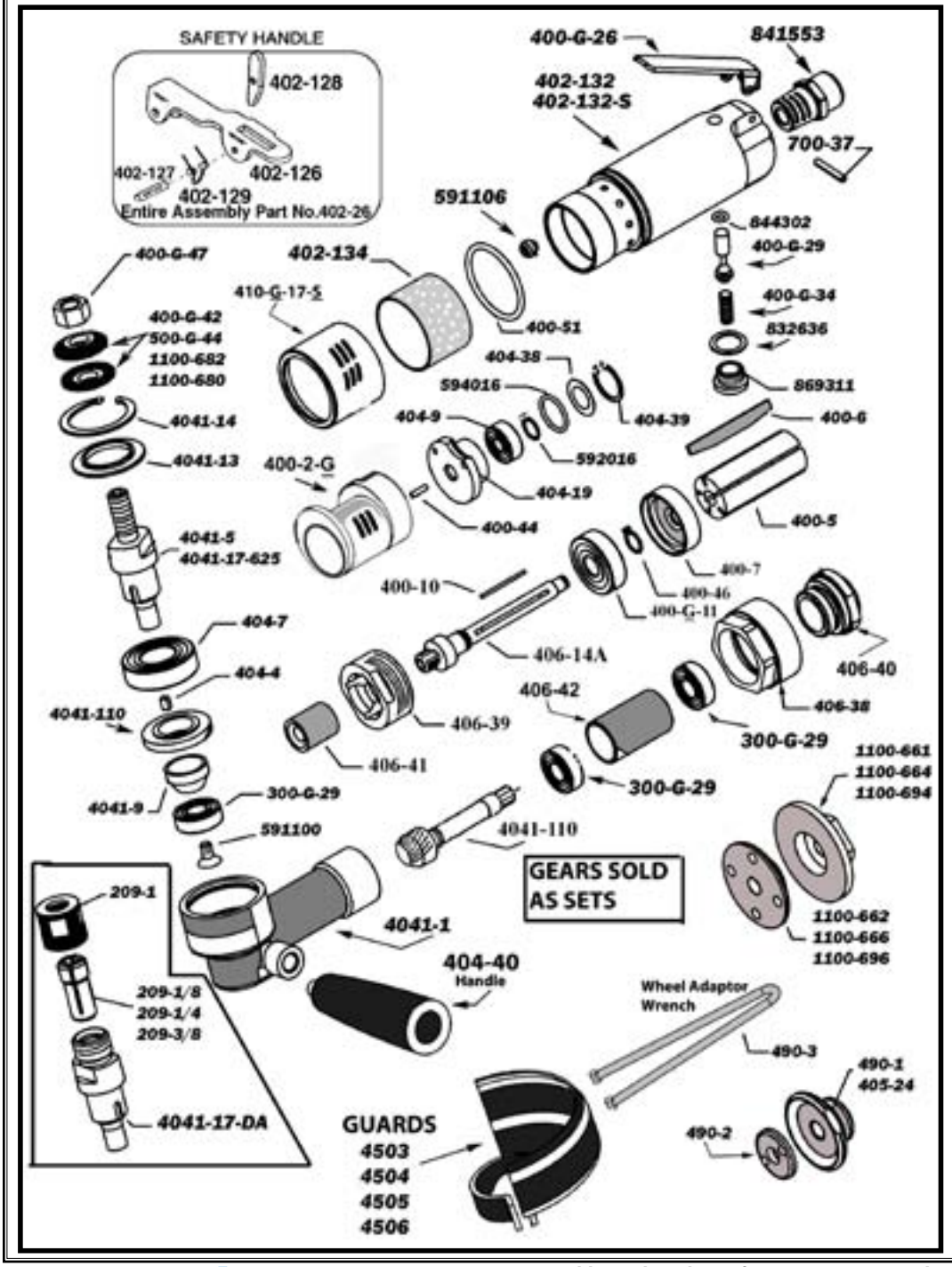

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This tool is designed to operate on 90 psig (6.2 bar) maximum air pressure with 1/4" (8 mm) hose. Do not use a grinder without recommended wheel guard. Do not use any wheel for which the operating speed listed is lower than the actual free speed of 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.
2. 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.
3. 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.
4. Model 48RAC grinders equipped with collets are intended for mounted

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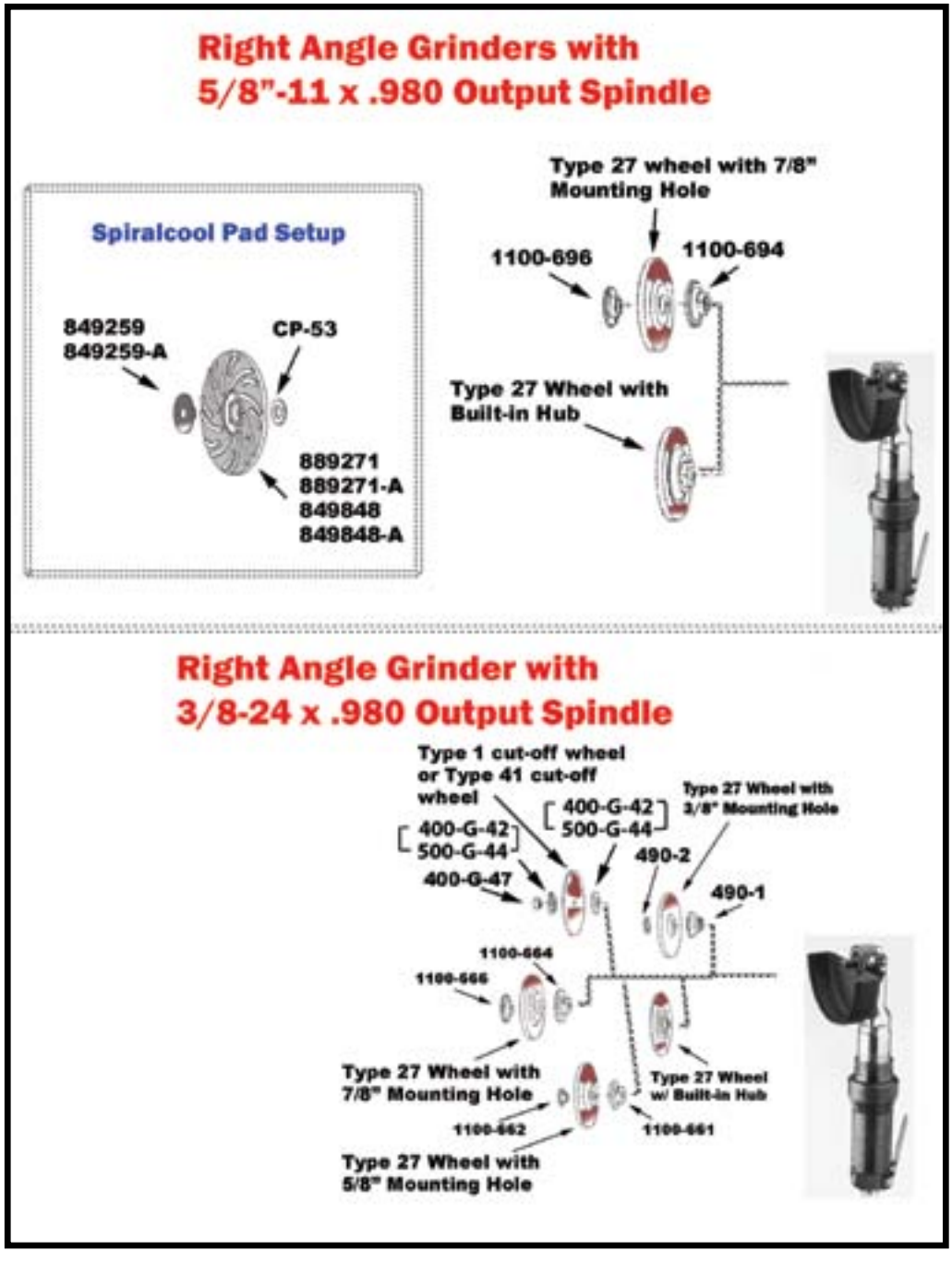

SAFETY (continued)

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.

5. The Model 48RA Grinders are equipped with a guard from the manufacturer. A guard is not needed for :a.) mounted wheels two inches (50 mm) or smaller; b.) grinders used for internal work, while within the work being ground.

6. At least one-half of the mandrel length (i.e. mounted wheel, burr, etc.) must be inserted into the collet. Secure collet chuck tightly.

7. Safety levers that prevent accidental startup are available from the manufacturer. (402-26).

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

9. Wear safety goggles and other protective

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PART NUMBER	DESCRIPTION
209-1	COLLET NUT
209-1/8	1/8" INSERT
209-1/4	1/4" INSERT
209-3/8	3/8" INSERT
300-G-29	BEARING
400-G-11	FRONT BEARING
400-G-26	THROTTLE LEVER
400-G-29	THROTTLE VALVE-INCLUDES 844302
400-G-34	SPRING
400-G-42	3/8-24 FLANGE (2"-3" WHEELS)
400-G-47	3/8-24 JAM NUT
400-2G	CYLINDER
400-5	ROTOR
400-6	BLADE (5 REQ.)
400-7	FRONT ENDPLATE
400-10	KEY
400-44	ROLL PIN
400-46	SNAP RING
400-51	0-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)
402-134	MUFFLER
404-4	KEY
404-7	LOWER OUTPUT SPINDLE BEARING
404-9	REAR MOTOR BEARING
404-19	REAR ENDPLATE
404-38	BEARING COVER
GUARDS	
4503	3" TYPE 27 GUARD
4504	4" TYPE 27 GUARD
4505	5° TYPE 27 GUARD
4506	6" TYPE 41 GUARD
490-3	PIN SPANNER
102-SPWR	WRENCH FOR SANDING PAD NUT
1100-044	7/16' WRENCH
1100-056	9/16' WRENCH

PART NUMBER	DESCRIPTION
1100-063	5/8" WRENCH
1100-068	11/16" WRENCH
1100-075	3/4" WRENCH
1100-094	15/16" WRENCH
ASSEMBLIES	
510240	MOTOR REPAIR KIT
510230	ANGLE HEAD REPAIR KIT
402-26	SAFETY LEVER ASSY.
AA-402-132	ALUMINUM CASE ASSY.
AA-402-132-K	CASE ASSY. ALUMINUM SAFETY CASE ASSY.
AA-402-132-S	STEEL CASE ASSY.
AA-402-132-SK	STEEL SAFETY CASE ASSY.
AA-408-1;D	(SPECIFY SPEED FOR CASE ASSY.) ERICKSON 48RAANGLE HEAD ASSY. (SPECIFY INSERT SIZE)
404-39	SNAP RING
404-40	DEAD HANDLE
406-14A	MOTOR SPINDLE
406-38	LOCKNUT
406-39	MOTOR RETAINER
406-40	HEAD RETAINER
406-41	COUPLING
406-42	SPACER
408-1	Gear Head {same as part #4041-1}
410-G-17-S	STEEL SIDE EXHAUST SLEEVE
500-G-44	3/8 ID FLANGE (4"-5" WHEELS)
700-34	5/8-11 JAM NUT
700-37	Throttle Lever Pin
1100-680	5/8 I.D. FLANGE (6" OR SMALLER WHEELS)
1100-682	3/8 I.D. FLANGE (5"-6" WHEELS) OUTPUT HOUSING
`	
4041-5	3/8-24 X .980 OUTPUT SPINDLE
4041-9	GEAR SPACER
4041-10	GEAR SET
4041-13	BEARING COVER
4041-14	SNAP RING
4041-17-625	5/8-11 X .980 OUTPUT SPINDLE
4041-17-DA	ERICKSON COLLET SPINDLE

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For additional product information visit our website.
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PART NUMBER	DESCRIPTION
591100	SCREW
591106	SET SCREW (SPECIFY SPEED)
592016	SNAP RING
594016	0-RING
832636	GASKET
841552	3/8 NPT TO 3/8 NPT BUSHING
841553	3/8 NPT TO 1/4 NPT BUSHING
844302	0-RING
869311	THROTTLE VALVE CAP
ACCESSORIES	
PART NUMBER	DESCRIPTION
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.
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 5/81.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)
849913	5/8-11 7" SANDING PAD
	(MAX 8500 RPM)

SAFETY (continued)

clothing. Continuous exposure to vibration may cause injury to your hands and arms.(See regulations.)
10. Properly maintained air tools are less likely to fail or cause accidents. If tool produces an unusual sound or vibrations repair immediately.
11. NEVER MODIFY ANY PART OF THE TOOL OR ACCESSORIES!!

Disassembly First Steps
1. Disconnect tool from air supply and remove all wheels and accessories.
2. Secure the tool in an aluminum jawed vise vertically with angle head toward the upward direction. Clamp onto flats of the motor housing (402-132).
3. Unscrew lock nut (406-38) with a wrench. The angle head assembly will disconnect from motor housing. Set angle head assembly aside.
4. Remove coupling (406-41), exhaust sleeve (410-G-17S), o-ring (400-51) and exhaust screen (402-134).
5. Unscrew and remove motor retainer (406-39) carefully on flats with wrench.
6. Pull motor assembly out of motor housing. Remove from vise.

The Motor Disassembly
7. Remove snap ring (404-39) if present from rear of motor assembly with use of snap ring pliers.
8. Lift out bearing cover (404-38) and o-ring (594016) if present.
9. Remove snap ring (592016) out of spindle groove with use of snap ring pliers.
10. Secure the motor assembly vertically in the vise with the geared end toward the downward direction. Lightly clamp onto the outside diameter of cylinder (400-2G) and rear endplate (404-19).
11. Lightly tap the spindle (406-14) out of rear bearing (404-9) with use of a 3/16" punch. Be sure not to drop the front motor assembly when it becomes free. Remove from vise.
12. Push or tap the rear bearing out of the read endplate with use of a small punch or screwdriver.
13. Remove rotor (400-5), blades (400-6), key (400-10) and front endplate (400-7) from the front motor assembly.

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14. Remove retaining ring (400-46) wih snap ring pliers.
15. Support the front spindle assembly vertically on a suitable drill block. Press spindle through front bearing (400-G-11) with an arbor press. (*Using a hammer can destroy the spindle).*

Angle Head Disassembly
16. Secure right angle head assembly in vise so that the angle head neck is vertical. Clamp onto the dead handle bosses.
17. Remove head retainer (406-40) using a wrench on the wrench flats.
18. Lift off lock nut. Remove angle head from vise.
19. Grasp end of pinion gear (406-112) and pull pinion gear assembly from angle head.
20. Secure the pinion gear assembly in vise vertically with gear head (4041-110) in downward direction. Clamp onto the side of gear spacer (406-42) and rear most bearing (300-G-29).
21. Tap the pinion gear stem through the rear bearing with use of a 3/16”punch. Remove from vise.
22. Secure the pinion gear stem with a wrench on the wrench flats.
23. Unscrew and remove the pinion gear head with use of a wrench on the wrench flats.
24. Support the pinion gear stem assembly vertically on a suitable drill block. Press the pinion gear stem off of bearing (300-G-29) with use of an arbor press.
25. Remove retaining ring (4041-14) with snap ring pliers.
26. Lift out the bearing cover (4041-13).
27. Grasp spindle (4041-5) and pull assembly free from right angle head (4041-1).
28. Secure the output spindle assembly in a vise vertically with output toward downward direction. Clamp onto the flats of the spindle.
29. Remove screw (591100) from end of spindle assembly. Remove from vise.
30. Support the spindle assembly vertically on a suitable drill block. Press spindle through bearings (300-G-29) & (404-7), spacer (4041-9), ring gear (4041-10), and key (404-4).

Reassembly of Motor
1. Be sure all parts are clean and free from abrasives before assembly.
2. Support bearing (400-G-11) on a suitable drill block.
3. Press spindle (406-14A) through bearing until it bottoms on shoulder.
4. Place retaining ring (400-46) into groove in spindle.
5. Slide front endplate (400-7) over spindle and onto front bearing.
6. Place key (400-10) into keyway in spindle.
7. Slide rotor (400-5) over spindle.
8. Place 5 blades (400-6) into slots.
9. Slip cylinder (400-2G) over rotor so pin is facing upwards.
10. Install rear endplate (404-19) locating cylinder pin in smaller hole of the rear endplate.
11. Place bearing (404-9) in rear endplate. Tap in place with suitable bearing driver.
12. Place snap ring (592016) in spindle groove.
13. Place o-ring (594016)if present, washer (404-38) if present and snap ring (404-39) if present into rear of end plate. *STEP THIRTEEN IS OPTIONAL*. The snap ring (592016) is mandatory.
14. Secure case (402-132) in vise vertically. Slip motor assembly into case.
15. Install o-ring (400-51), exhaust screen (402-134), and exhaust deflector (410-G-17S).
16. Screw motor retainer (406-39) into case and tighten. (Flats are provided for a wrench).

Angle Head Assembly
17. Press bearing (300-G-29) on gear stem (406-112) with an arbor press.
18. Hold the gear stem firmly in a vise. Screw on and tighten gear pinion head (4041-110). Remove from vise.
19. Press spacer (406-42) and bearing (300-G-29) onto end of gear stem with arbor press.
20. Press bearing (404-7) onto spindle (4041-5).
21. Place key (404-4) in slot of spindle.
22. Align keyway in ring gear (4041-10) with key in spindle and press together with an arbor press. (DO NOT damage the teeth of the gear.)
23. Place spacer (4041-9) and bearing (300-G-29) over end of spindle. Press in place with arbor press.
24. Thread screw (591100) in end of spindle and tighten.
25. Apply grease to gear teeth generously. Place spindle assembly into housing (4041-1). Place pinion gear assembly in housing.
26. Replace bearing cover (4041-13) over spindle in front of tool.
27. Place retaining ring (4041-14) into groove in front of angle head.
28. Slide lock nut (406-38) over end of housing and tighten retainer (406-40).
29. Place coupling (406-41) on spline on end of motor spindle. Place angle head onto end of motor housing. Align splined adaptor (406-41) inside coupler. Tighten lock nut on motor case and run tool.
30. Replace guard on tool.
31. Check Speed of tool with a reliable tachometer.