

HENRY TOOLS

Industrial Airtools at Work

Models
 46 RA
 46 RAS
 46 RAC
 46 RASC

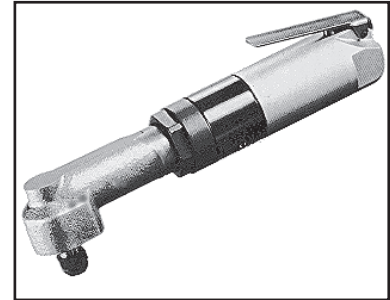


General Safety and Maintenance Manual

pre-year 2010 model



MODEL 46RAS shown with 4" Guard.



MODEL 46RAC with 1/4" Collet for use with mounted points or carbide burrs.



Model Number	Exhaust Direction	Throttle Type	Speed	Power Output	Case Material
46 RA	Front or Side	(L) Lever	13000 to 14000 R.P.M (13500rpm is standard)	0.9 H.P. (675 W)	Steel or Aluminum
46 RAS		or			
46 RAC		(K) Safety Lever			

Case Material	Weight		Length	Diameter	Air Consumption	Spindle Thread
	Aluminum	Steel				
Steel or Aluminum	2.8 Lbs (1.3 Kg)	3.5 Lbs (1.6 Kg)	9.1 Inches (231 mm)	1.6 Inches (41 mm)	25 CFM (11.8 L/S)	3/8-24 x 0.98 Inch (25mm) 1/4 Inch Burrs/Mounted Points

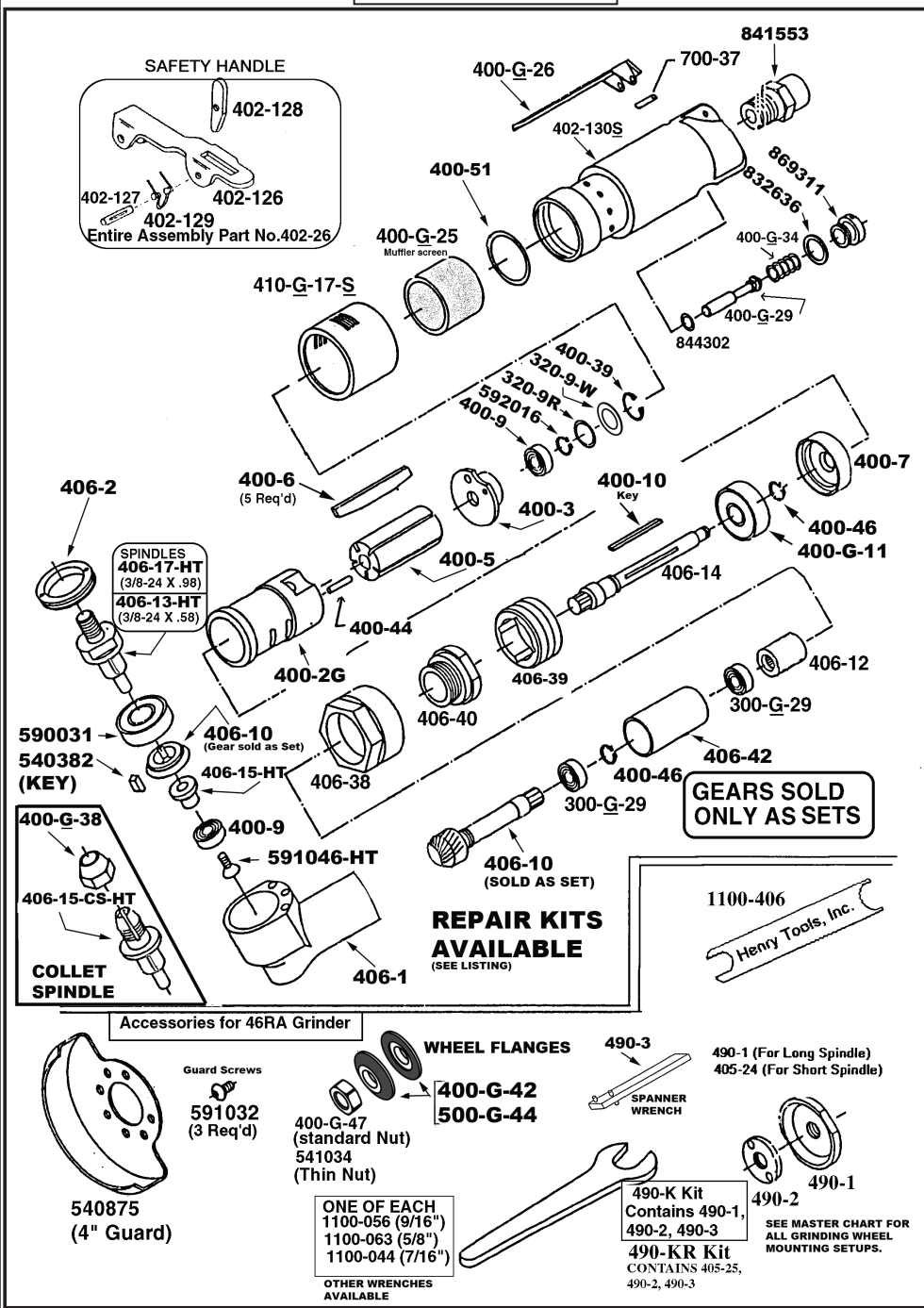
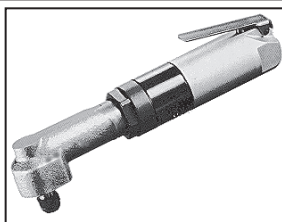
THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS

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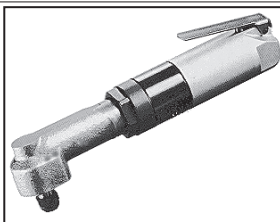
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This tool is designed to operate on 90 psig (6.2 bar) maximum air pressure with 1/4" (8 mm) hose. Do not use a grinder without recommended wheel guard. Do not use any wheel for which the operating speed listed is lower than the actual free speed of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

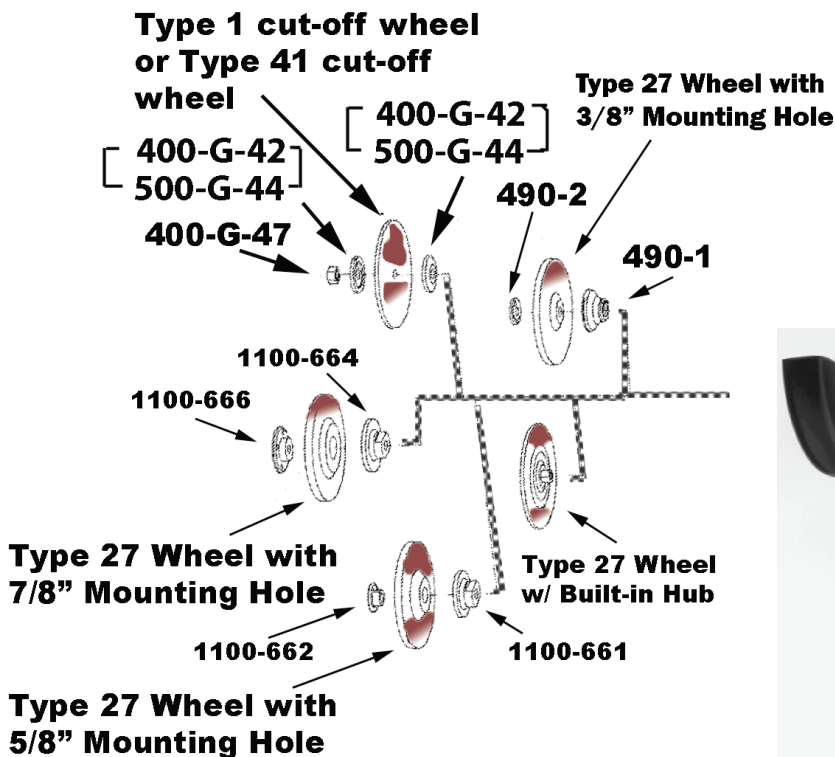
SAFETY

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 46RAC grinders equipped with collets are 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 (540875).
5. The Model 46RA 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.



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



SAFETY (continued)

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 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 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!!**

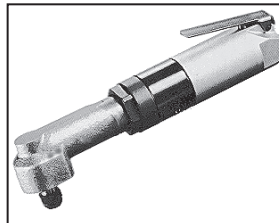
PART NUMBER	DESCRIPTION
300-G-29	BEARING
320-9R	O-RING CUSHION FOR BEARING COVER
320-9-W	REAR BEARING COVER
400-G-11	FRONT BEARING
400-G-25	MUFFLER SCREEN
400-G-26	THROTTLE LEVER
400-G-29	THROTTLE VALVE-INCLUDES 844302
400-G-34	SPRING
400-G-38	COLLET NUT
400-G-42	3/8-24 FLANGE (2"-3" WHEELS)
400-G-47	3/8-24 JAM NUT

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HENRY TOOLS, INC.

General Operators Instructions and Service Manual

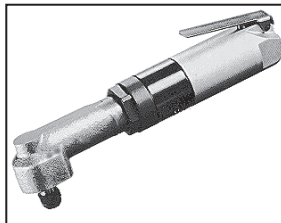
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PART NUMBER	DESCRIPTION
400-2G	CYLINDER
400-3	REAR ENDPLATE
400-5	ROTOR
400-6	BLADE (5 ARE REQ.)
400-7	FRONT ENDPLATE
400-9	REAR OUTPUT BEARING
400-10	KEY
400-39	SNAP RING
400-44	CYLINDER ROLL PIN
400-46	SNAP RING
400-51	O-RING
402-126	SAFETY LEVER BARE
402-127	SAFETY LEVER PIN
402-128	LOCKOUT LEVER FOR SAFETY LEVER
402-129	SAFETY LEVER SPRING
402-130	ALUMINUM CASE (SPECIFY SPEED)
402-130-S	STEEL CASE (SPECIFY SPEED)
406-1	(MAIN HEAD UNIT)BARE
406-2	LOCK RING
406-4	KEY
406-10	GEAR SET (SOLD AS SET)
406-13-HT	3/8-24 X .580 OUTPUT SPINDLE
406-14A	MOTOR SPINDLE
406-15-HT	GEAR SPACER
406-15-CS-HT	COLLET OUTPUT SPINDLE
406-17-HT	3/8-24 X .980 OUTPUT SPINDLE
406-38	LOCKNUT
406-39	MOTOR RETAINER
406-40	HEAD RETAINER NUT
406-41	COUPLING
406-45	SNAP RING
406-61	MOTOR SPACER (THIN)
410-G-17F-S	STEEL FRONT EXHAUST SLEEVE
410-G-17-S	STEEL SIDE EXHAUST SLEEVE (STANDARD)
500-G-44	3/8 ID FLANGE (4"-5" WHEELS)
700-37	THROTTLE LEVER PIN
1100-682	3/8 I.D. FLANGE FOR 5"-6" WHEELS
541034	THIN SPINDLE JAM NUT
590031	BEARING
591046-HT	SCREW

PART NUMBER	DESCRIPTION
592016	SNAP RING
832636	GASKET
841552	3/8 NPT TO 3/8 NPT BUSHING
841553	3/8 NPT TO 1/4 NPT BUSHING(STANDARD)
844302	O-RING
869311	THROTTLE VALVE CAP
GUARDS	
540875	4" TYPE 27 GUARD
TOOLS / WRENCHES	
490-3	PIN SPANNER
1100-044	7/16" WRENCH
1100-063	5/8" WRENCH
1100-068	WRENCH 11/16"
1100-075	WRENCH 3/4"
1100-094	15/16" WRENCH
ASSEMBLIES	
PART NUMBER	DESCRIPTION
510118	REPAIR KIT WITHOUT GEAR SET(INCLUDES BEARING,BLADES, ETC)
510119	REPAIR KIT WITH GEAR SET(INCLUDES BEARING,BLADES, ETC)
402-26	SAFETY LOCKOUT LEVER ASSY. (COMPLETE)
AA-402-130	ALUMINUM CASE ASSY. SPECIFY SPEED FOR CASE ASSY.
AA-402-130-K	ALUMINUM SAFETY CASE ASSY. SPECIFY SPEED FOR CASE ASSY.
AA-402-130-S	STEEL CASE ASSY. SPECIFY SPEED FOR CASE ASSY.
AA-402-130-SK	STEEL SAFETY CASE ASSY. SPECIFY SPEED FOR CASE ASSY.
ACCESSORIES	
PART NUMBER	DESCRIPTION
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 ADAPT. ASSY.
490-KR	3/8-24 X .580 TYPE 27 ADAPT. 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 ADAPTOR ASSEMBLY

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PART NUMBER	DESCRIPTION
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 //ADAPT. ASSY.
530196	1/8" ROUNDED TAPER BURR
530198	1/8" TAPER BURR
530200	1/8" FLAME BURR
530202	1/8" BALL BURR
530204	1/8" CYLINDRICAL BURR
530208	1/4" BALL BURR
530210	1/4" CYLINDRICAL BURR

ASSEMBLY

1. Clean all parts before assembly.
2. Support bearing (400-G-11) on drill block. Press spindle (406-14) through bearing until it bottoms on shoulder.
3. Place retaining ring (400-46) into groove in spindle. Slide front thrust(400-7 over spindle and onto front bearing.
4. Place key (400-10) into keyway in spindle.
5. Slide rotor (400-5) over spindle. Place (400-6) blades in 6. slots.
7. Slip cylinder (400-2G) over rotor. Install rear thrust (400-3) locating cylinder pin in smaller hole of the rear thrust plate.(400-3)
8. Place bearing (400-9) in rear thrust & tap in place with a suitable bearing driver. Using pliers place snap ring (592016) in spindle groove. Replace bearing cover if present. Replace snap rings (400-39).
9. Secure case(402-130) in vise vertically. Slip motor assembly into case. Install O-ring (400-51), exhaust screen (400-G-25), and exhaust deflector (410-G-17-S).
10. Screw motor retainer (406-39) into end of case and tighten.
11. Press bearing (300-G-29) on gear spindle (406-10) with arbor press. Replace retaining ring (400-46) in groove of spindle.
12. Press spacer (406-42) and bearing (300-G-29) onto gear spindle with arbor press.
13. Press bearing (590031) onto spindle (406-17) or (406-13).
14. Place key (540382) in slot of spindle.
15. Align keyway in ring gear (406-10) with key in spindle and press together with an arbor press.
16. Place spacer (406-15) and bearing (400-9) over end of spindle. Press in place with arbor press. Thread screw (591046) in end of spindle.
17. Place this angle assembly into housing (406-1). Replace lock ring (406-2) with lock ring tool.
18. Place (406-38) over end of housing. Replace bearing (300-G-29) on gear. Place (406-2) over Gear spindle. Replace the other (300-G-29) bearing onto end of gear spindle. Slide this assembly into head (406-1). Thread on retainer (406-40) and tighten.
19. Place coupling (406-12) on spline on end of motor spindle.
20. Place angle head onto end of motor housing. Align splines inside coupler. Tighten lock nut on motor case and run tool.
21. Replace guard on tool.
22. Check RPM with a reliable tachometer. Tool must run at or below speed stamped or marked on tool.

DISASSEMBLY

1. Disconnect air & remove all wheels and accessories.
2. Secure tool vertically in vise. Clamp onto flats on back part of backhead(402-130(S)).
3. Unscrew lock nut (406-38). Angle head will disconnect from motor case. Being careful not to damage (406-1) head, remove coupling (406-12), exhaust sleeve (410-G-17S), and exhaust screen (400-G-25).
4. Unscrew and remove motor retainer (406-39). Pull motor out of case.
5. Remove snap ring (400-39) and (592016).
6. Install brass jaws in vise, firmly grasp O.D. of cylinder (400-2G) and end plate (400-3) in vise. Using a 3/16" punch tap spindle out of rear bearing (400-9).
7. Remove cylinder, end plate, rotor (400-5), blades (400-6), key (400-10) and front thrust (400-7).
8. Remove retaining ring (400-46). Press spindle (406-14) out of bearing (400-G-11) with an arbor press or drill block.
9. Secure angle head in vise. Clamp on sides of output end. Remove head retainer (406-40) using flats. Remove lock nut.
10. Remove lock ring (406-2) with lock ring tool. Remove angle head assembly from vise.
11. Tap sides of angle housing to remove both spindle assemblies.
12. Remove screw (591046) from end of ring gear assembly.
13. Press bearing (400-9), (590031), spacer (406-5), ring gear (406-10), and key (406-4) off spindle (406-17).
14. With pinion spindle (406-10) in hand-GEAR UP, tap end of gear with plastic hammer until bearing (300-G-29) and spacer (406-42) become free.
15. Remove retaining ring (400-46). Press gear spindle off of rear bearing (300-G-29) with use of arbor press or drill block.

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