

HENRY TOOLS

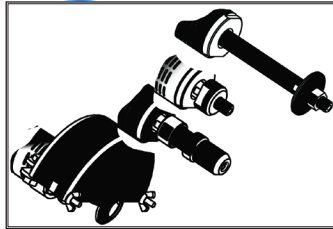
Industrial Airtools at Work

Models
41-GL
41-GLS
41-GL+3"
41-GL+6"

Old Style



General Safety and Maintenance Manual



Model Number	Exhaust Direction	Throttle Type	Speed	Power Output	Case Material	Weight		Length	Diameter	Air Consumption	Wheel Capacity
						Aluminum	Steel				
41-G	Side (Side exhaust is Standard)	(L) Lever	15000 to 22000 R.P.M. (18000RPM is Standard)	0.9 H.P. 675 W	Steel or Aluminum	1.5 lb/0.68 Kg	2.5 lb/1.13 Kg	6.9 inch 175 mm	1 3/4" inches 44 mm	1.6 inches 41 mm	2" (50mm), 3" (75mm), or 4" (100mm)
41-G+3		(K) Safety Lever				1.6 lb/0.7 Kg	2.5 lb/1.13Kg	9.3 inch 236 mm			
41-G+6						1.7 lb/0.8 Kg	2.5 lb/1.15 Kg	12.3 inch 312 mm			

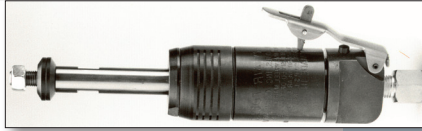
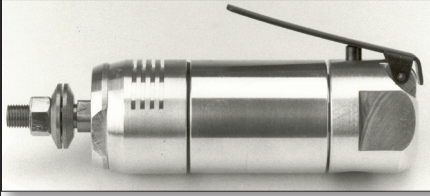
THE HENRY TOOL CO., MANUFACTURED BY HENRY TOOLS

498 So. Belvoir Blvd., South Euclid, OH 44121 U.S.A.

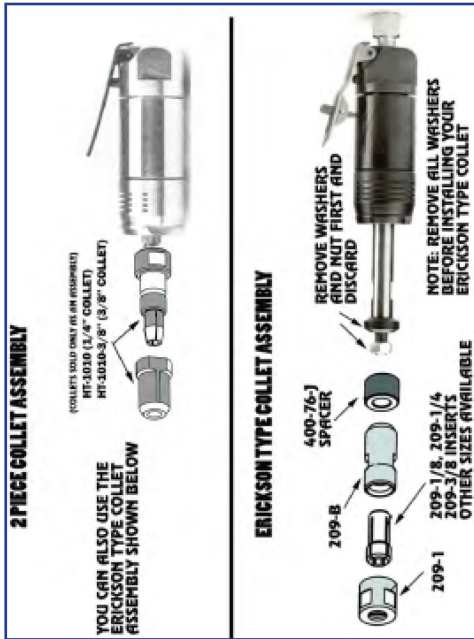
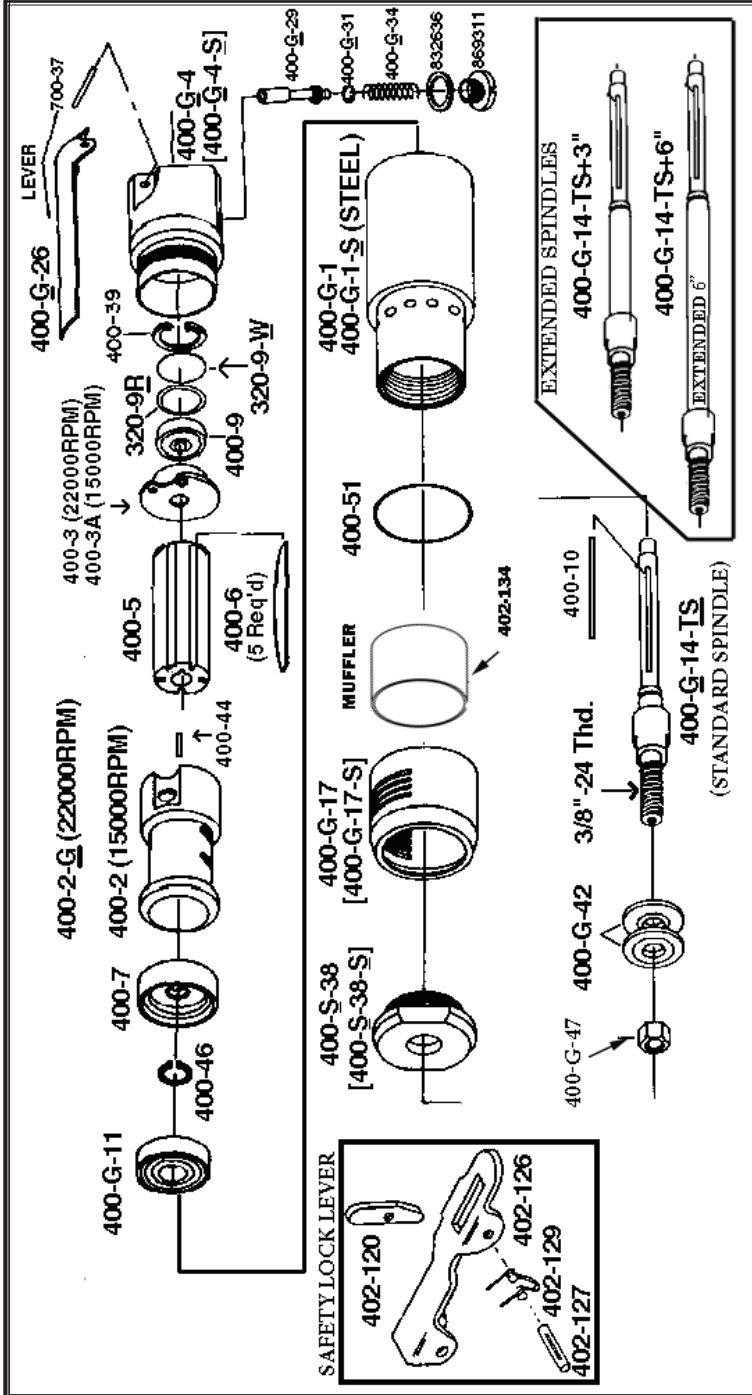
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General Operators Instructions and Service Manual

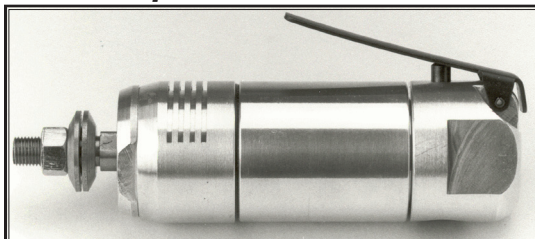


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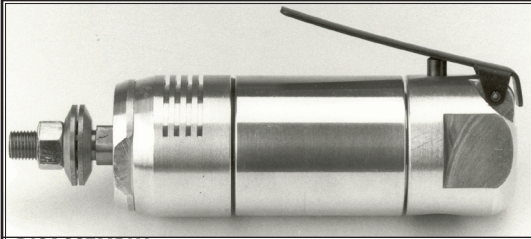
Old Style

PART NO.	DESCRIPTION
209-B	3/8-24 COLLET BODY (ERICKSON TYPE)
209-1	COLLET NUT (ERICKSON TYPE)
209-1/8"	1/8" INSERT
209-1/4"	1/4" INSERT
209-5/16"	5/16" INSERT
400-G-1	CASE (ALUMINUM)
400-G-1-S	CASE (STEEL)
400-G-11	FRONT BEARING
400-G-14-TS	SPINDLE
400-G 14-TS+3	3" EXTENDED SPINDLE
400-G 14-TS+6	6" EXTENDED SPINDLE
400-G-17	SIDE EXHAUST SLEEVE (ALUM)
400-G-17-S	SIDE EXHAUST SLEEVE (STEEL)
400-G-26	THROTTLE LEVER
400-G-29	THROTTLE VALVE-INCLUDES 844302
400-G-34	SPRING
400-G-42	FLANGE FOR 2"-3" WHEELS
400-G-47	3/8-24 NUT
400-S-38	RETAINING CAP (ALUM)
400-S-38-S	RETAINING CAP (STEEL)
400-2-G	CYLINDER
400-5	ROTOR
400-6	BLADE (5 REQ)
400-7	FRONT ENDPLATE
400-9	REAR BEARING
400-10	KEY
400-27	BUSHING 1/4" x 1/4"
400-44	ROLL PIN
400-46	SNAP RING
400-51	O-RING
402-126	SAFETY LEVER
402-127	SAFETY LEVER PIN
402-128	LOCKOUT LEVER
402-129	SAFETY LEVER SPRING
402-134	MUFFLER
400-3	REAR ENDPLATE
400-39	SNAP RING
500-G-44	FLANGE FOR 4"-5" WHEELS
700-37	THROTTLE LEVER PIN
591106	SET SCREW (SPECIFY SPEED)
592016	SNAP RING
832636	GASKET
841552	3/8 NPT TO 3/8 NPT BUSHING
841553	3/8 NPT TO 1/4 NPT BUSHING
844302	O-RING

PART NO.	DESCRIPTION
869311	THROTTLE VALVE CAP
ASSEMBLIES	
510075	REPAIR KIT
402-26	SAFETY LEVER ASSEMBLY
WRENCHES	
490-3	PIN SPANNER
1100-050	1/2" WRENCH
1100-056	9/16" WRENCH
1100-075	3/4" WRENCH
GUARDS	
4503-27	3" TYPE 27 GUARD
4504-27	4" TYPE 27 GUARD
ACCESSORIES	
400-76J	9/16" UNTHREADED SPACER
400-78	3/8-24 to 5/8-11 THREADED SPACER
HT-1010	3/8-24 to 1/4" I.D. HEAVY DUTY COLLET (2 PIECE)
HT-1010-3/8"	3/8-24 to 3/8" COLLET ASSEMBLY (HEAVY DUTY) (2 PIECE)

COLLET ASSEMBLIES	
PART	DESCRIPTION
AA-209-1/8	3/8-24 ERICKSON 3 PIECE--1/8" INSERT
AA-209-1/4	3/8-24 ERICKSON 3 PIECE--1/4" INSERT
AA-209-3/8	3/8-24 ERICKSON 3 PIECE--3/8" INSERT
HT-1010	3/8-24 TO 1/4" I.D.- 2 PIECE HEAVY DUTY
HT-1010-3/8	3/8-24 TO 1/4" I.D.- 2 PIECE HEAVY DUTY
ERICKSON COLLET PARTS	
209-B	3/8-24 COLLET BODY
209-1	COLLET NUT
209-1/8	1/8" INSERT
209-3/16	3/16" INSERT
209-1/4	1/4" INSERT
209-5/16	5/16" INSERT
209-3/8	3/8" INSERT
SPACERS	
400-76J	9/16 UNTHREADED SPACER
400-76J-3/8	3/8 UNTHREADED SPACER
400-77	3/8-24 THREADED 9/16 SPACER (FOR CONE WHEEL)
400-77J	3/8-24 THREADED 3/8 SPACER
400-78	3/8-24 TO 5/8-11 ADAPTER

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DISASSEMBLY

1. Model 41GL with 3/8 threaded spindle- remove nut (400-G47) and wheel flanges (400-G-42).
2. Clamp backhead [400-G-4(S)] in a vise. Using a strap wrench, unscrew case (400-G-1). Tap lightly on threaded end of spindle, this will allow the motor to drop out.
3. Remove snap ring(400-39) with type 01 pliers. Lift out wafer (320-9W) and o-ring (If Present)(320-9R). Remove snap ring (592016) (If Present).
4. With brass or aluminum jawed vise, grasp the O.D. of the cylinder and end plate (400-3) firmly. Use a 3/16" punch and tap spindle out of rear bearing (400-9), being careful not to drop spindle assembly when it is free.
5. Remove the rotor (400-5), blades (400-6), key (400-10) and front thrust plate(400-7) .
6. Remove snap ring (400-46) with type 02 pliers. Place bearing and spindle assembly (threaded end down) on suitable drill block. Press spindle through the bearing with an arbor press.
7. To check throttle valve. unscrew plug (869311) and lift out valve spring (400-G-34) and plunger (400-G-29). Remove o-ring (400-G-31) and replace if cracked or worn.

REASSEMBLY

1. Support front bearing (400-G-II) on suitable drill block. Press spindle [400-G-14-(TS)] through bearing until it bottoms on shoulder.
2. With type 02 pliers place the snap ring (400-46) into the groove. Slide on front thrust (400-7) over the arbor and on the front bearing.
3. Place the key (400-10) into the slot in the spindle. Slide rotor (400-5) over spindle, aligning the keyway in the rotor with the key in spindle.
4. Place five blades (400-6) in slots of rotor. Slip cylinder [400-2(G)] over rotor. Install rear thrust[400-3(A)]. (locate cylinder in the smaller hole of the rear thrust plate.)
5. Place bearing in rear thrust and tap bearing in with suitable bearing driver.
6. Place snap ring (592016) on spindle groove. If desired, drop oring(320-9R) and washer (320-9W) in rear thrust. Place snap ring(400-39) into groove.
7. Slide Ring(400-G-1) on case(400-G-1). Place exhaust (400-G-17) on case. Screw on cap(400-S-38), hand tighten till snug. Slip motor assembly in case (400-G-1). Screw on backhead. Put backhead in vise on flats. Tighten backhead onto case(400-G-1) with a strap wrench.

8. Re-attach guard on the 41 case.
9. Additional information on safety is available in the "American National Safety Code for Portable Air Tools" (ANSI B186.1). This bulletin is available from the American Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018. 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 the 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's exceed 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 the work slowly, and allow wheel to warm up gradually.
4. The 41G L die grinders can be used for mounted wheels, points and carbide burrs only if a collet is purchased from the manufacturer.
5. If you have a type 1 wheel application please purchase a wheel guard (4503,4504).
6. The 41GL die grinders are not 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. c.) the addition of a collet for the use of carbide burrs/mounted points.
7. If a collet is purchased (HT-1010), at least one-half of the mandrel length (i.e. mounted wheel, burr, etc.) must be inserted into the collet. Secure collet chuck tightly.
8. Safety lock levers are available from the manufacturer. The part number is (402-26).
9. 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 manufacturer.(Wheel flanges should be at least 1/3 the diameter of the Grinding wheel.)
10. Wear safety goggles and other protective clothing.
11. Properly maintained air tools are less likely to fail or cause accidents. If a tool vibrates or produces an unusual sound, repair immediately.

LUBRICATION

1. An air line filter-regulator-lubricator should be located as closely as possible to the tool.
2. Clean out dirt and moisture from air hoses daily. Keep screen handle bushing in tool.
3. OIL TOOLS DAILY. Pour about 1 tablespoon of airtool oil in air inlet and run tool to allow oil to be carried to the interior.

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GRINDER SAFETY

The safety procedures for operating air tools are everyone's responsibility. The following lists several aspects of air tool safety that should be considered during operation. Please be aware of these aspects and report any unsafe practice you see to a supervisor or safety officer immediately.

- 1) Start any new inserted tooling under a bench and away from bystanders. (Run for a minimum of one minute.)
- 2) When starting a cold/new mounted stone, apply to the work slowly, allowing the mounted stone to warm gradually.
- 3) Support the work piece properly.
- 4) When grinding, support the work piece so that a jamming of the wheel does not occur. (A slot shall remain constant or become wider during operation.)
- 5) If a jamming of the inserted tooling does occur during a grinding operation, shut the air supply off to the tool and ease the mounted stone/burr free. (Inspect the mounted stone/burr for damage before continuing operation.)
- 6) Ensure that sparks from the process do not create a hazard to the eyes or will ignite the environment.
- 7) Grinders shall not be used in potentially explosive atmospheres.
- 8) Pneumatically driven tools are not generally insulated from coming in contact with electrical sources. Be sure to avoid contact with wires or other possible current carrying sources.
- 9) The operator must check that no bystanders are in the vicinity.
- 10) Remember that there is a running on after the throttle has been released.
- 11) If a grinder fitted with a mounted stone/burr is dropped, the mounted stone/burr must be thoroughly examined before re-use.
- 12) Disconnect the tool from the air source before servicing and changing mounted stones/burrs.
- 13) Release the control device in case of interruption of air supply.
- 14) Always keep the tool in a clean, dry place when not in use.
- 15) Beware of loose hair and clothing so as not to become tangled or trapped during operation.
- 16) Unexpected tool movement or breakage of inserted tooling may cause injuries to lower limbs.
- 17) Unsuitable postures may not allow counteracting of normal or unexpected movement of a power tool. (A working position shall be adopted which remains stable in the event of a break up of inserted tooling.)

- 18) Do not hold the tool near the body when operating.
- 19) Keep a firm grip on the tool body during operation.

Old Style

Mounting Abrasives

The mounting of the abrasive used with the tool is very important to ensure safety for the operator and proper functioning of the tool. There are strict rules for mounting wheels that are outlined in ANSI B7.1-2000. The following diagrams briefly describe the methods and equipment for mounting most abrasives.

Each wheel/mounted stone is labeled with a maximum operating speed. It is extremely important to compare this rating with the maximum operating speed of the tool. Never mount a wheel/carbide burr on a tool where the maximum operating speed of the tool is higher than the maximum operating speed of the wheel. This can cause an over speed situation and can result in injury.

The following list details specific items one should inspect and be aware of when mounting abrasives.

- The maximum operating speed marked on the wheel must be equal to or higher than the rated spindle speed (free speed) of the tool.
- Check the wheel dimensions so that it fits within the guard properly.
- Do not use any wheel that shows cracks, chips or evidence it has been soaked in fluids.
- Wheel flanges should have flat contact surfaces and be without cracks or burrs.

For more information:

- 1) General Industry Safety & Health Regulations 29 CFR, Part 1910 and where applicable Construction Industry Safety & Health Regulations 29 CFR, Part 1926 available from Superintendent of Documents, Gov't. Printing Office, Washington, D.C. 20402.
- 2) Safety Code For Portable Air Tools, ANSI B186.1, B7.1 and Z87.1, available from American National Standards Institute, Inc. 1430 Broadway, New York, NY 10018

