

# HENRY TOOLS

Industrial Airtools at Work

Models  
4721-GL

SERIES

## General Safety and Maintenance Manual



**GOVERNED SPEED DIE GRINDER WITH ERICKSON COLLET  
FEATURING A SIDE EXHAUST**



Model Number	Exhaust Direction	Throttle Type	Speed	Power Output	Case Material	Weight		Length	Diameter	Air Consumption	Collet Size
						Aluminum	Steel				
4721GL	SIDE	(L) Lever or (K) Safety Lever	7000 to 15000 R.P.M	0.9 H.P. 675 W	Steel or Aluminum	1.6 lb (0.7 Kg)	2.1 lb (0.9 Kg)	7.7 inch (196 mm)	1.8 inches (46 mm)	25cfm 11.8 L/S	¼ 1/8" 3/4"
4721GLS											

The Henry Tool Co., Manufactured by Henry Tools  
498 So. Belvoir Blvd., South Euclid, OH 44121 U.S.A.

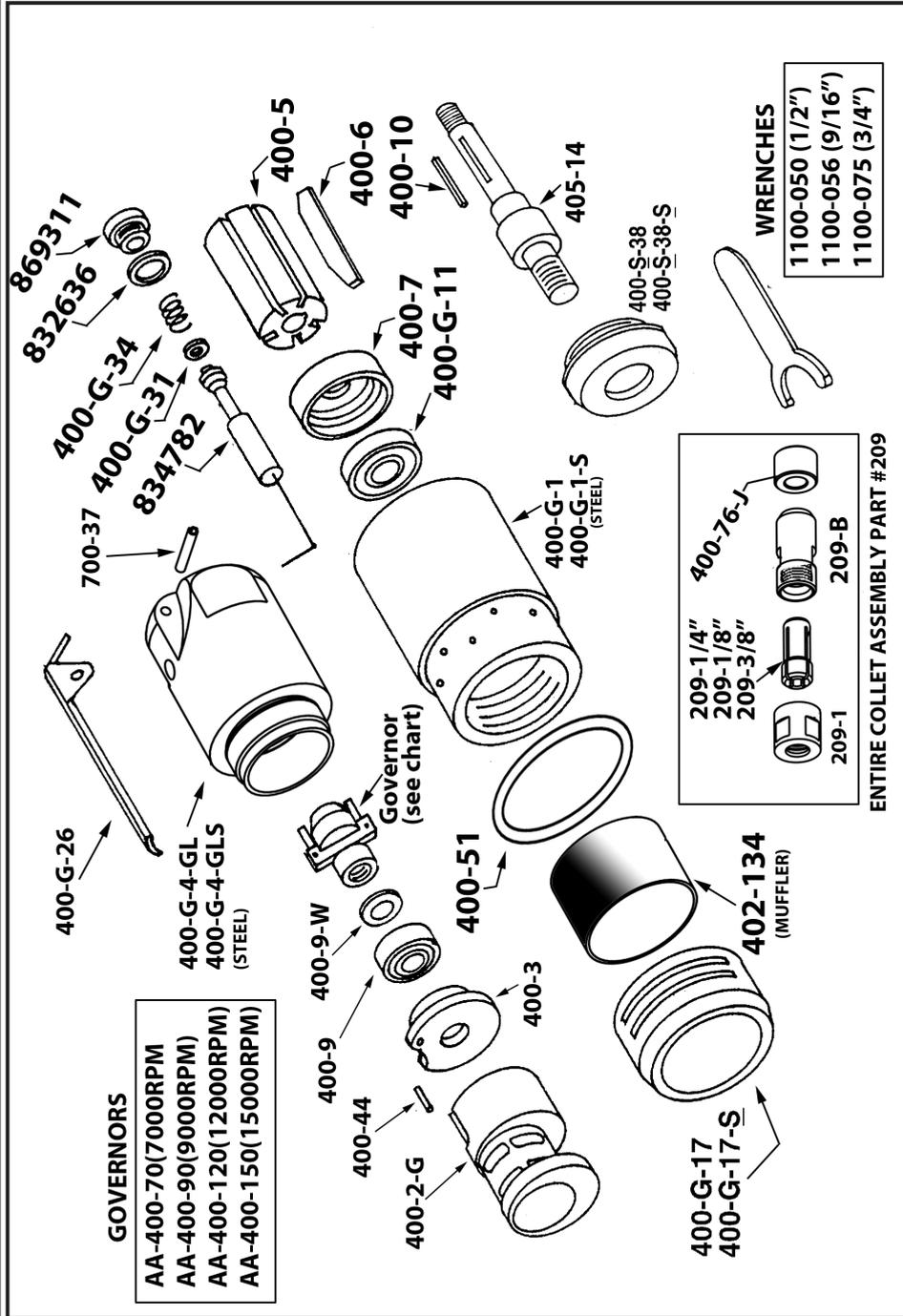
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Model 4721GLS governed speed die Grinder



**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. The 40GL die grinders are intended for use with 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 wheel guard or another tool if that tool won't accommodate a guard.
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 manufacturer. (Wheel flanges should be at least 1/3 the diameter of the grinding wheel.)
10. Properly maintained air tools are less likely to fail or cause accidents. If 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.
3. **OIL TOOLS DAILY.** Exxon's Spi-nesstic 10, Atlantic Richfield's Duro 55, Gulf's Gulfspin 10 or an equivalent is recommended. Pour about 1 tablespoon in air inlet and run tool to allow oil to be carried to the interior.

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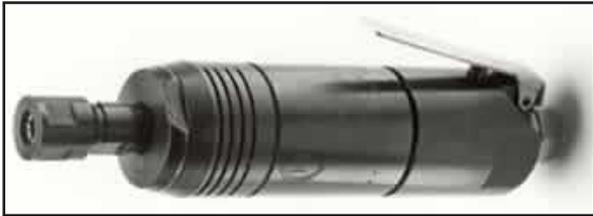


Model 4721GLS governed speed die Grinder

PART NUMBER	DESCRIPTION
209	ERICKSON COLLET ASSEMBLY COMPLETE
209-1	ERICKSON NUT
209-B	ERICKSON COLLET BODY
209-1/4	1/4" Insert
209-1/8	1/8" Insert
209-3/8	3/8" Insert
400-G-1	Case (aluminum)
400-G-1-S	Case (Steel)
400-G-4-GL	Backhead (Alum)
400-G-4-GLS	Backhead (Steel)
400-S-38	Cap
400-S-38-S	Cap (Steel)
832636	T.V. Cap Gasket
834782	Throttle Valve
841553	SCREENED BUSHING
869311	T. Valve Cap
320-9R	O-Ring(Optional)
320-9-W	Rear Wafer(Optional)
400-10	Key
400-2	Cylinder with pin(w/400-44)15000RPM
400-2-G	Cylinder with pin(w/400-44)
400-3	Rear End Plate
400-3A	Rear END Plate (15000RPM)
400-44	Pin
400-46	Snap Ring
400-5	Rotor
400-51	O-Ring
400-6	Blade(5 req'd)
400-7	Front Thrust
400-9	Rear Bearing
400-9-W	Spacer Ring
400-G-11	Bearing
400-G-17	Alum.Exhst Sleeve
400-G-17-S	Steel Exhst Sleeve
400-G-26	Valve Lever
400-G-31	O-Ring
400-G-34	Spring

PART NUMBER	DESCRIPTION
400-G-4-GL	Aluminum Backhead
400-G-4-GLS	Steel Backhead
402-126	Lever (Bare)
402-127	Pin
402-128	Latch
402-129	Spring
402-134	Muffler screen
405-14	SPINDLE (GOVERNED)
700-37	Roll Pin
Assemblies	
402-26	Safety Lever Assembly
AA-400-120	12000RPM GOVERNOR
AA-400-150	15000RPM GOVERNOR
AA-400-70	7000RPM Governor
AA-400-90	9000RPM GOVERNOR
	Assembly
ACCESSORIES	
1100-063	5/8 Wrench
1100-044	7/16" Wrench
1100-075	3/4" Wrench
510075	Repair Kit(See 5000-40G Kit below)
4503	3" Guard
4504	4" Guard
209	ERICKSON Collet Assembly Complete
REPAIR KIT	
510075	Includes
1	400-G-11 Bearing
1	400-46 Snap Ring
1	400-9 Bearing
1	400-39 Snap Ring
1	832636 Gasket
5	400-6 Rotor Blades

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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.

## 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.

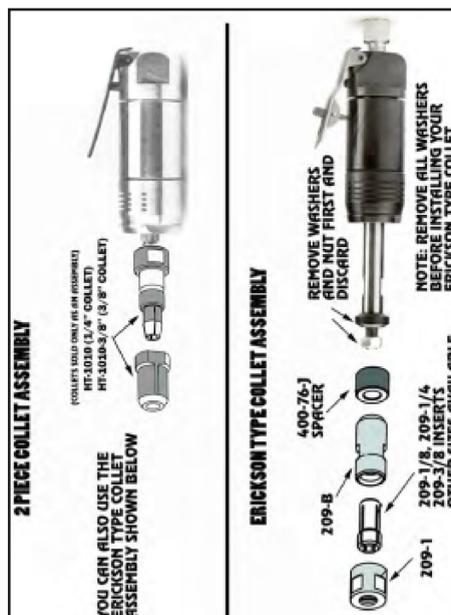
The following list details specific items one should inspect and be aware of when mounting abrasives.

- 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



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## REPAIR INSTRUCTIONS

### Disassemble

1. Disconnect air and remove all burrs, wheels and accessories.
2. Secure tool in vise vertically with output of tool oriented toward upward direction. Clamp onto the flats toward the rear of the backhead.
3. Unscrew motor retainer (400-S-38-S) from motor housing (400-G-1{S}). Lift off exhaust deflector (400-G-17-S), exhaust screen (402-134) and o-ring (400-51) from motor housing. Remove motor from housing. Remove from vise.
4. Secure motor assembly into vise vertically with output in the downward direction. Clamp onto flats of Collet (209) .
5. Remove governor (AA-400-XX) carefully. NOTE: (Left-Hand Thread).
6. Remove washer (400-9W).
7. Install brass jaws on vise. Secure motor assembly into vise vertically with output toward downward direction. Clamp lightly the outside diameter of the cylinder (400-2G) and endplate (400-3).
8. Use a 3/16" punch to tap spindle out of rear bearing (400-9). Be careful not to drop the motor assembly when it is free. Remove from vise.
9. Use a small punch to press the rear bearing from the rear endplate.
10. Remove 5 blades (400-6) and the rotor (400-5)
11. Remove key (400-10) and front endplate (400-7) from spindle.
12. Remove retaining ring (400-46)(if Present) with snap ring pliers.
13. Remove collet (209) by placing spindle into a suitable spindle holder and unscrewing. Support spindle assembly vertically on a suitable drill block. Press bearing (400-G-11) off of spindle with an arbor press.
14. (OPTIONAL): Unscrew and remove the throttle valve cap (869311). Lift out throttle valve spring (400-G-34) and throttle valve (400-G-29). Replace o-ring (844302) if worn or torn.

### Assembly

1. Clean all parts.
2. Support front bearing (400-G-11) on a suitable drill block. Press the motor spindle (405-14) through bearing (400-G-11) until it bottoms on the shoulder of spindle with an arbor press.
3. Put spindle in a suitable spindle holder and screw on collet (209). Tighten firmly.
4. Place retaining ring (400-46) into groove in spindle with the use of snap ring pliers.
5. Slide front endplate (400-7) over spindle and onto front bearing (400-G-11).
6. Secure motor assembly into vise vertically with output in the downward direction. Clamp onto flats on the spindle.
7. Place key (400-10) in keyway of spindle.
8. Slide rotor (400-5) over spindle and align slot of rotor with key.
9. Place 5 blades (400-6) into rotor slots.
10. Slip cylinder (400-2G) over rotor. The small pin on face of cylinder should face upwards.
11. Install rear endplate (400-3) onto top of cylinder. Make sure cylinder pin is lined up inside smallest hole of rear endplate (400-3).
12. Place bearing (400-9) in rear endplate and tap in place with a suitable bearing driver.
13. Prior to reassemble inspect governor for gouges, nicks or dents. Oil the inside of motor. Place washer (400-9W) on spindle. Screw governor (AA-400-

XX) into end of spindle and tighten. NOTE: (Left Hand Thread).

14. Secure backhead (400-G-4-GL{S}) in vise vertically with output of tool toward upward direction. Clamp onto the flats toward the rear of the backhead. Place motor housing (400-G-1{S}) onto backhead.
15. Place o-ring (400-51), exhaust screen (402-134) and exhaust deflector (400-G-17-S) onto motor housing.
16. Slide front motor assembly into motor housing. Install motor retainer (400-S-38-S). Tighten assemblies together.
17. Check the operating speed with a reliable tachometer. The speed must be at or below the stamped speed on the tool.
18. Install all required safety devices before returning tool to service.