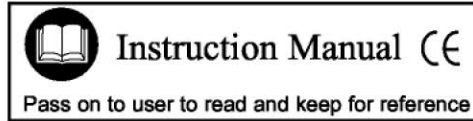




## Cherry Lightweight Nut-Plate Riveter



# MANUAL



# THE G902 / G902-15

## TABLE OF CONTENTS

Description .....	1
Specifications for G902 / G902-15 .....	1
Safety Warnings .....	2
How to use G902 / G902-15 .....	2
Maintenance and Repair .....	2
Troubleshooting .....	2
Overhaul .....	3
Air Valve .....	3
Handle Sub-Assembly .....	3
Pulling Heads .....	3
Installing Pulling Heads .....	3
Cross Section Drawing Of G902 .....	4
Parts List for G902/G902-15 Riveters .....	5
Exploded View of G902 / G902-15 .....	6
Declaration of Conformity .....	Back Cover

## DESCRIPTION

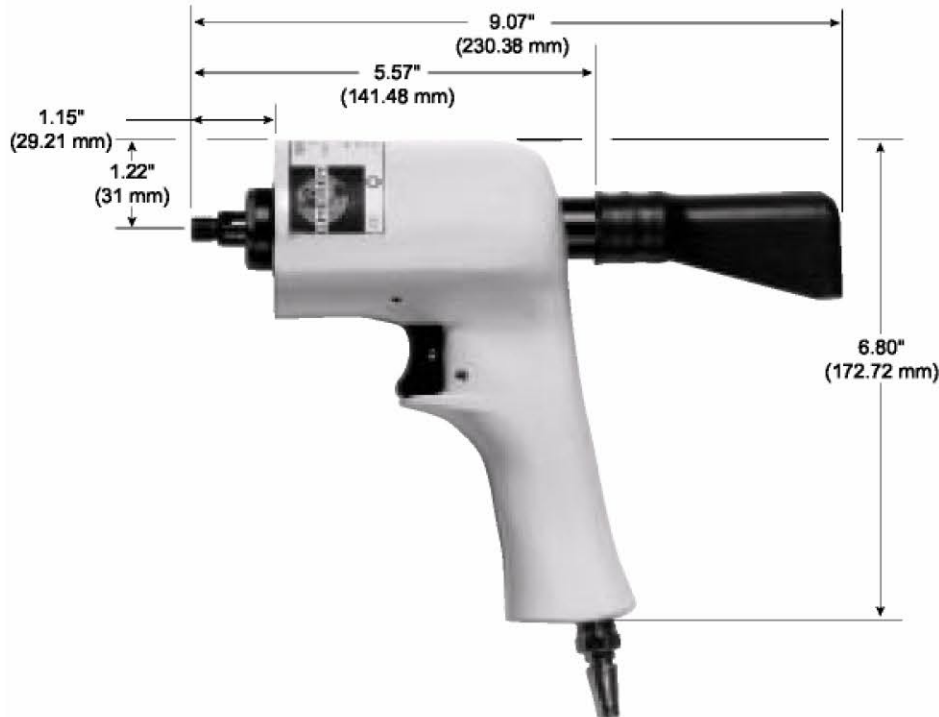
The G902 feed-through/G902-15 side-eject all pneumatic lightweight tools are designed specifically for the most efficient installation of blind rivets. Its durable, all metal housing makes this extremely robust tool ideal for use in rugged shop environments. This tool utilizes a straight pulling head which can install 3/32", 1/8" pull through type Nut-Plate and 3/32" CherryLock "A" rivets. Extensions are available for the G902 to allow the pulling heads to reach limited access areas.

See the section on pulling heads for the correct pulling head part number.

## SPECIFICATIONS FOR G902 / G902-15

Cherry® Aerospace (CHERRY) policy is one of continuous development. Specifications shown in this document may be subject to change which may be introduced after publication. For the latest information always consult CHERRY®.

AIR PRESSURE:	90 PSI to 110 PSI (6.2 bar to 7.6 bar)
STROKE:	3/4 Inch (19 mm)
PULLING FORCE:	550 Pounds (2.45 kN) @ 90 PSI (6.2 bar)
CYCLE TIME:	One Second approx.
WEIGHT	2 Pounds (.91 kg)
NOISE LEVEL	60 dB (A)
VIBRATION:	less than 2.5 m/s <sup>2</sup>
AIR CONSUMPTION:	05 SCF/Cycle (1.42 L/cycle)



# SAFETY WARNINGS

- Operating this tool with a damaged or missing stem deflector, or using the deflector as a handle, may result in severe personal injury. Rotate the pin deflector until the aperture is facing away from the operator and other persons working in the vicinity.
- Approved eye protection should be worn when operating, repairing, or overhauling this tool.
- Do not use beyond the design intent.
- Do not use substitute components for repair. Any modification to the tool, pulling heads, accessories or any component supplied by CHERRY®, or their representatives, shall be at the customer's entire responsibility.  
**CHERRY® will be pleased to advise on any proposed modification.**
- The tool must be maintained in a safe working condition at all times and examined at regular intervals for damage.
- Before disassembling the tool for repair, refer to the maintenance instructions. All repairs shall be undertaken only by personnel trained by CHERRY®. **Contact us with your training requirement.**
- Always disconnect the air line from the tool inlet before attempting to service, adjust, fit or remove any accessory.
- Do not operate the tool when it is directed at any person.
- Make sure the vent holes do not become blocked or covered and that air line hoses are always in good condition.
- Do not operate the tool without the pulling head in place.
- All retaining rings, screwed end caps, air fittings, trigger valves and pulling heads should be attached securely and examined at the end of each working shift
- Do not pull rivet in the air.
- The precautions to be used when using this tool must be explained by the customer to all operators. **Any questions regarding the correct operation of the tool and operator safety should be directed to CHERRY®.**
- Do not pound on the rear of the tool head to force rivets into holes as this will damage the tool.

## HOW TO USE THE G902 / G902-15

After selecting the proper pulling head and attaching it securely to the G902 or G902-15, connect the air line to the tool. Insert the rivet stem into the pulling head until the head of the rivet is in contact with the pulling head nosepiece; this will ensure full engagement between the jaws and the rivet stem and will prevent slippage.

## MAINTENANCE AND REPAIR

The G902 or G902-15 has been manufactured to give maximum service with minimum care.

In order that this may be accomplished, the following recommendations should be followed:

1. Keep excessive moisture and dirt out of air supply to prevent wear of air valve, air cylinder and air piston.
2. Tool should be routinely inspected for damage or air leaks.
3. Periodically tighten the threaded connection between the rear piston sub-assembly (14) and the front piston (11) (see instructions on page 3). A loose connection will result in an air leak and a loss of pulling force.

## TROUBLESHOOTING (see Parts List, page 5)

1. Check for excessive air leakage from the air valve: If an O-ring on the valve stem (24) or on the valve sleeve (22) is worn or damaged, air will leak through the bottom of the handle at the exhaust port or at the front of the trigger valve.
  - If an O-ring (2) on valve sleeve (22) is worn or damaged, replace.
  - If an O-ring (23) on valve stem (24) is worn or damaged, replace.
2. Check movement of the head piston rod (11). If it does not move freely or it is slow in operation:
  - O-rings (19), (17), (16), (12), (9), (2), (6), (2) and O-ring (17) for G902-15 may be damaged and require replacement.
  - Front and rear piston sub-assemblies (15 and 8) may be seized due to damaged parts and need replacement.
  - The Ø.094" (2.388 mm) vent holes on the side of main cylinder may be blocked or damaged; clean as necessary.
3. Rivet stem sticks in the pulling head:
  - Pulling head needs maintenance. Disassemble the pulling head; clean and replace worn parts as needed.
  - Spent rivet stems are wedged inside the pistons. Disassemble the pulling head and remove jammed stems.

# OVERHAUL

The disassembly and reassembly procedures can be accomplished by following the instructions below and the drawings on pages 4 & 6. Use extreme care during disassembly and reassembly not to mar, nick or burr any smooth surface that comes in contact with O-rings. Before installing O-rings, be sure to apply an O-ring lubricant. It is recommended that a special assembly tool, which can be ordered under part number 902-027, be used to overhaul this tool.

## AIR VALVE

- Remove spring pin (21) by tapping it gently with a punch.
- Remove the valve sub-assembly by pressing on trigger (27) from behind with both thumbs using the handle (20) for leverage, or pull and wiggle the trigger from the front.
- Remove the set screw (28) from the trigger (27).
- Disassemble the trigger (27) from valve stem (24).
- Remove retaining ring (26).
- Remove washer (25) from the counter bore of valve sleeve (22).
- Pull valve stem (24) out from valve sleeve (22).

## HANDLE SUB-ASSEMBLY (see parts list)

- Always remove the complete pulling head from the tool before attempting to disassemble the head assembly. Remove front cap sub-assembly (3) by unscrewing counterclockwise.
- Remove deflector pin (31) and deflector fitting (30) (G902-15 model does not use these components). Insert a 3/16 hex wrench through the back of the tool into the rear piston sub-assembly (14).
- With hex wrench in place, locate the flats on the front piston rod (11). Use a 7/16 wrench, (for G902-15 model insert a pin in the crossed drill hole of front piston rod (11)), to unscrew the front piston rod (11) by turning it counterclockwise.  
Note: Do not use Loctite™ when reassembling the front piston rod (11) to the rear piston sub-assembly (14); it would block the air passage. Instead, torque to about 90 in-lbs.
- With the front piston rod (11) and front piston sub-assembly (3) out of the main housing, remove retaining ring (7) then push off the front air piston sub-assembly (3) off of piston rod (11).
- Remove retaining ring (10) from the main handle bore.
- Use a 3/16 hex wrench to push out the rear piston sub-assembly (14) and bulk head (13).
- Use plug wrench 902-027 and locate the two holes on the rear plug (18) inside the main handle bore. Unscrew the rear plug by turning the plug wrench counterclockwise.

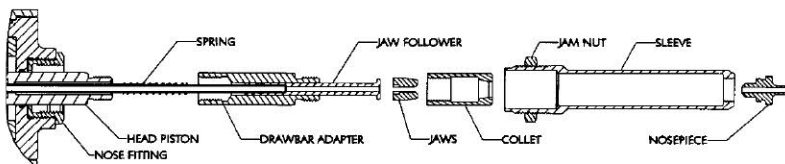
## G902 / G902-15 PULLING HEADS

Riveter Model	Pulling Head	Rivet	Rivet Diameters	Maximum Grip
G902	H902-3NPR	Nut-Plate SPR®	3/32, 2.5 mm, 3 mm 3/32	-8 , -8 ,
	H902-4NPR H701B-456	Nut-Plate	1/8	-8 ,
	H955	CherryLock® A	3/32	-8 ,
G902-15	H9015-3C	Nut-Plate SPR®	3/32, 2.5 mm, 3 mm 3/32	-9 , -9 ,
	H9055-3	CherryLock® A	3/32	-9 ,
	H9015-4C	Nut-Plate	1/8	-9 ,
				-9 ,

Pulling Heads are not furnished with riveter and must be ordered separately.

1 Installed On First Stroke.

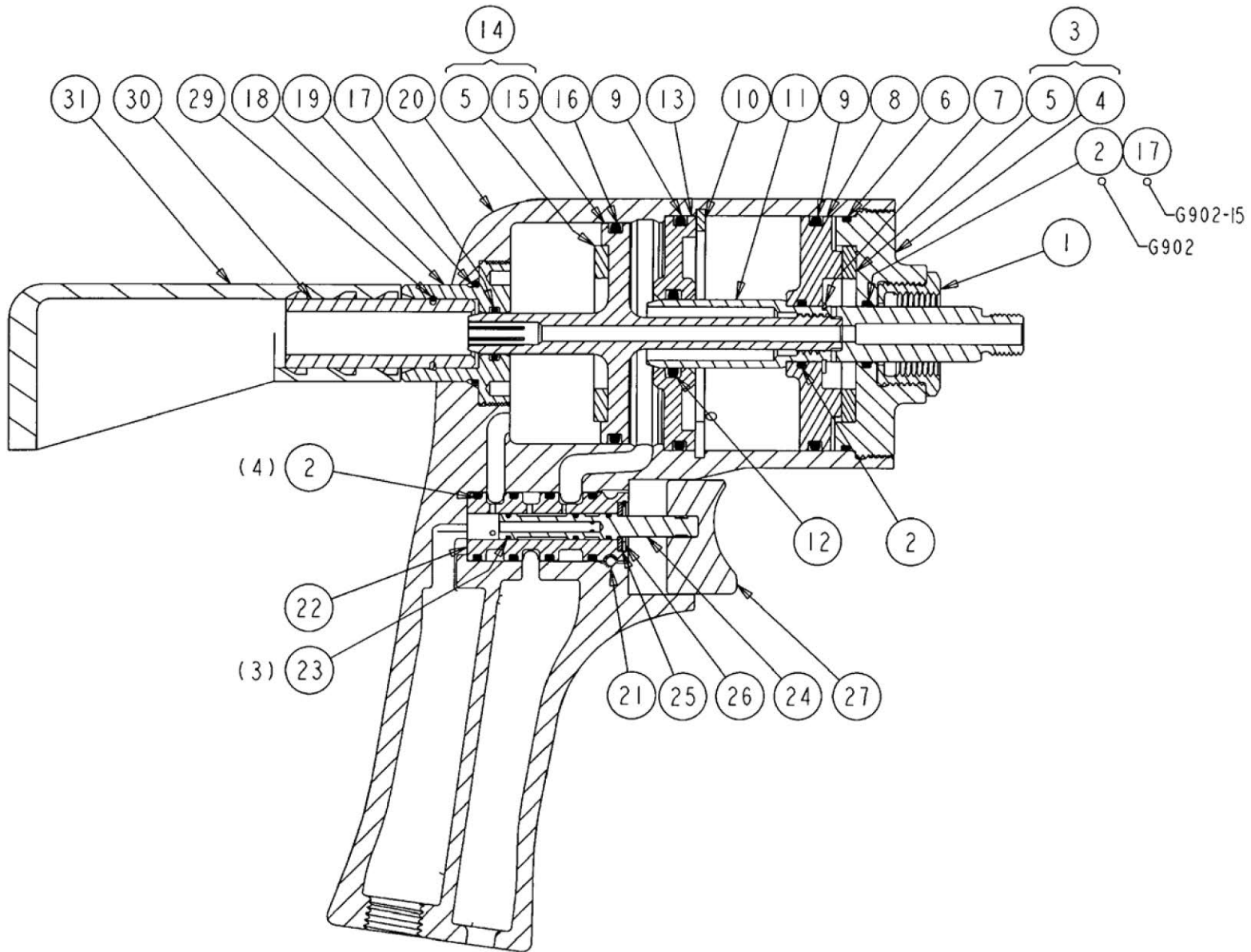
## INSTALLING H902-3NPR PULLING HEAD ON RIVETER



1. Place jaws inside collet and place jaw follower in the collet against jaws. Then screw drawbar adapter onto the collet and tighten securely using wrenches on flats provided.
2. Insert spring into head piston. Screw collet sub-assembly onto head piston and tighten securely using wrenches on flats provided.

3. Thread tightly the proper nosepiece onto sleeve.
4. Thread sleeve into nose fitting, then tighten the jam nut to secure it against loosening.

# CROSS SECTION OF G902



# PARTS LIST FOR THE G902 (902-15) NUT-PLATE RIVETER ASSEMBLY

<b>G902 BILL OF MATERIALS (902-001)</b>				
<b>ITEM</b>	<b>PART NO.</b>		<b>DESCRIPTION</b>	<b>QTY.</b>
1	704B2-2		FITTING, NOSE	1
2	P-701		O-RING	6
3	902-014		SUB-ASSEMBLY, FRONT CAP	
	4	902-003**	CAP, FRONT	1
	5	902-011**	BUMPER, RUBBER	1
6	P-1400		O-RING	1
7	P-207		RING, RETAINING (INT. fl .500)	1
8	902-012		PISTON, FRONT	1
9	P-1401		O-RING	2
10	P-1398		RING, RETAINING (INT. fl 2.125)	1
11	902-004		ROD, PISTON	1
12	P-568		O-RING	1
13	902-005		HEAD, BULK	1
14	902-013		SUB-ASSEMBLY, REAR PISTON	
	15	902-006**	PISTON, REAR	1
	5	902-011**	BUMPER, RUBBER	1
16	P-1399		O-RING	1
17	P-112		O-RING	1
18	902-007		PLUG, REAR	1
19	P-654		O-RING	1
20	902-002		HANDLE, MACHINED	1
21	P-1396		PIN SPRING, fl 1/8 X 1 LG	1
22	902-010		SLEEVE, VALVE	1
23	P-1402		O-RING	3
24	902-009		STEM, VALVE	1
25	P-1403		WASHER, RETAINING	1
26	P-600		RING, RETAINING (INT. fl .437)	1
27	902-016		TRIGGER, MACHINED	1
28	P-1397		SET-SCREW	1
29	P-880		RING, RETAINING (NON-STANDARD)	1
30	703A13		FITTING, DEFLECTOR	1
31	530A16		DEFLECTOR, PIN	1
32	670A20*		BAG, MANDREL COLLECTOR	1

\* SOLD SEPARATELY.

\*\* NOT SOLD SEPARATELY.

<b>G902-15 BILL OF MATERIALS (902-020) - DIFFERENCE FROM G902</b>				
<b>ITEM</b>	<b>PART NO.</b>		<b>DESCRIPTION</b>	<b>QTY.</b>
1	902-022		FITTING, NOSE	1
2	P-701		O-RING	5
3	902-024		SUB-ASSEMBLY, FRONT CAP	
	4	902-023**	CAP, FRONT	1
	5	902-011**	BUMPER, RUBBER	1
11	902-021		ROD, PISTON	1
17	P-112		O-RING	2

NOTE: ITEMS 29 TO 32 (P-880, 703A13, 530A16 AND 670A20) ARE NOT USED IN G902-15 TOOL.

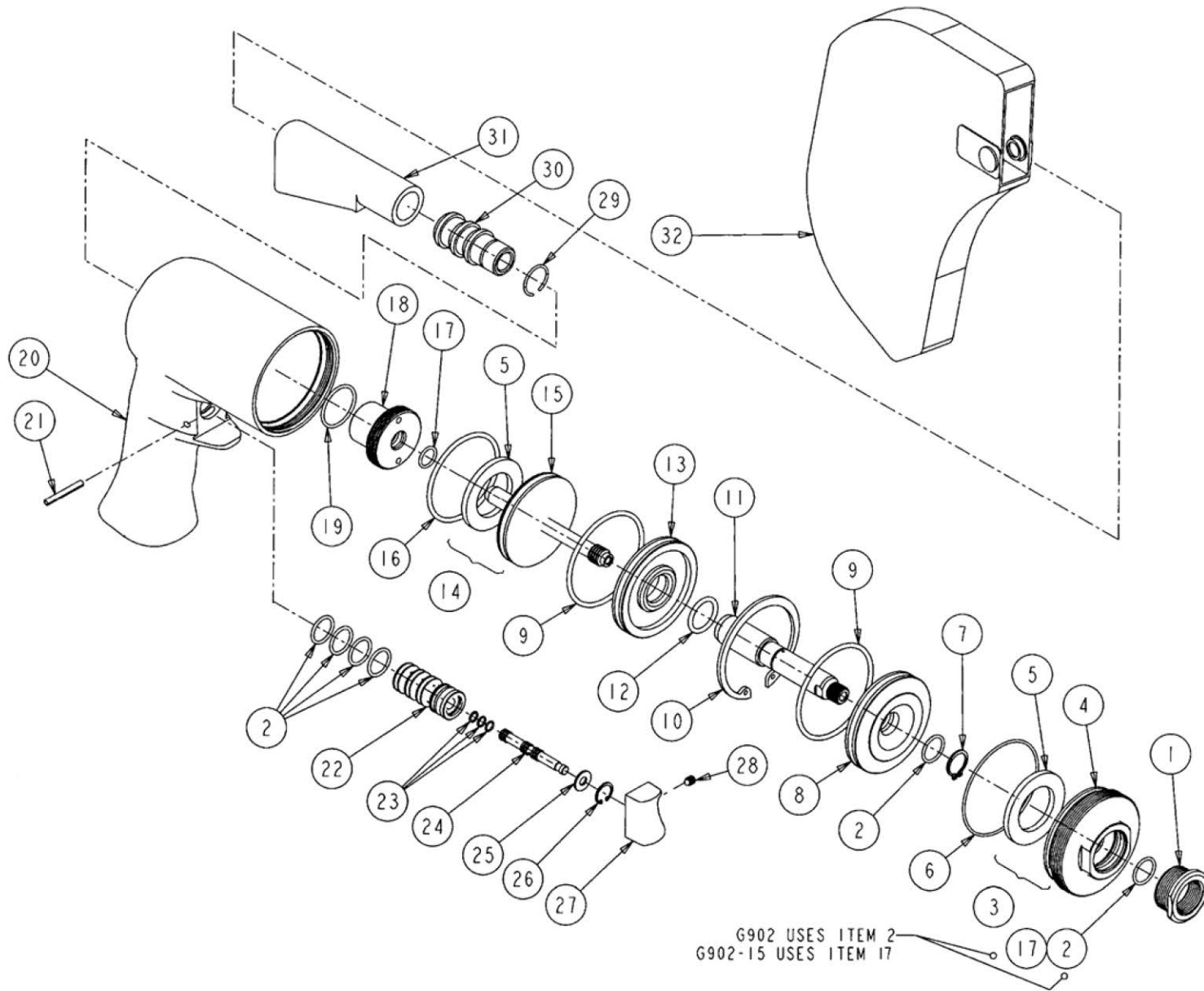
USATCO U.S. Air Tool Company, Inc.

Info@usatco.com

Eastern Division .....60 Fleetwood Ct., Ronkonkoma, NY 11779-6907 tel: (631) 471-3300 fax: (631) 471-3308

Western Division .....1219 W. Mahalo Place, Rancho Dominguez, CA 90220-5446 tel: (310) 632-5400 fax: (310) 632-3900

# EXPLODED VIEW OF G902 / G902-15



# Declaration of Conformity

We, Cherry® Aerospace, 1224 E. Warner Ave., Santa Ana, CA 92705

declare under our sole responsibility that the product

type **G902**

Serial No.-

to which this declaration relates is in conformity with the following standards

EN292 part 1 and part 2  
ISO 8662 Part 1  
ISO 3744

following the provisions of the Machine Directive 89/392/EEC  
(as amended by Directive 91/368/EEC) and 93/68/EEC

Santa Ana, CA -  
date of issue

Original certification and signatures on file

## WARRANTY

Seller warrants the goods conform to applicable specifications and drawings and will be manufactured and inspected according to generally accepted practices of companies manufacturing industrial or aerospace fasteners. In the event of any breach of the foregoing warranty, Buyer's sole remedy shall be to return defective goods (after receiving authorization from Seller) for replacement or refund of the purchase price, at the Seller's option. Seller agrees to any freight costs in connection with the return of any defective goods, but any costs relating to removal of the defective or nonconforming goods or installation of replacement goods shall be Buyer's responsibility. SELLER'S WARRANTY DOES NOT APPLY WHEN ANY PHYSICAL OR CHEMICAL CHANGE IN THE FORM OF THE PRODUCT IS MADE BY BUYER.

THE FOREGOING EXPRESS WARRANTY AND REMEDY ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES; ANY IMPLIED WARRANTY AS TO QUALITY, FITNESS FOR PURPOSE, OR MERCHANTABILITY IS HEREBY SPECIFICALLY DISCLAIMED AND EXCLUDED BY SELLER. THIS WARRANTY IS VOID IF SELLER IS NOT NOTIFIED IN WRITING OF ANY REJECTION OF THE GOODS WITHIN ONE (1) YEAR AFTER INITIAL USE BY BUYER OF ANY POWER RIVETER OR NINETY (90) DAYS AFTER INITIAL USE OF ANY OTHER PRODUCT.

Seller shall not be liable under any circumstances for incidental, special or consequential damages arising in whole or in part from any breach by Seller, AND SUCH INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES ARE HEREBY EXPRESSLY EXCLUDED.

For more information please contact our Technical Services Department at Tel. 714-850-6022

LOCTITE® is a registered trademark of Henkel Corporation  
DEXRON® is a registered trademark of GM corporation.  
PARKER® is a trademark of Parker Hannifin Corporation  
LUBRRIPLATE® is a trademark of Fiske Brothers Refining Co.

**USATCO U.S. Air Tool Company, Inc.**

**Info@usatco.com**

Eastern Division .....60 Fleetwood Ct., Ronkonkoma, NY 11779-6907 tel: (631) 471-3300 fax: (631) 471-3308

Western Division .....1219 W. Mahalo Place, Rancho Dominguez, CA 90220-5446 tel: (310) 632-5400 fax: (310) 632-3900