

G700

HYDRO-SHIFT CHERRYLOCK® RIVETER

MANUAL



CHERRY®
AEROSPACE



G700 HYDRO-SHIFT INSTRUCTIONS

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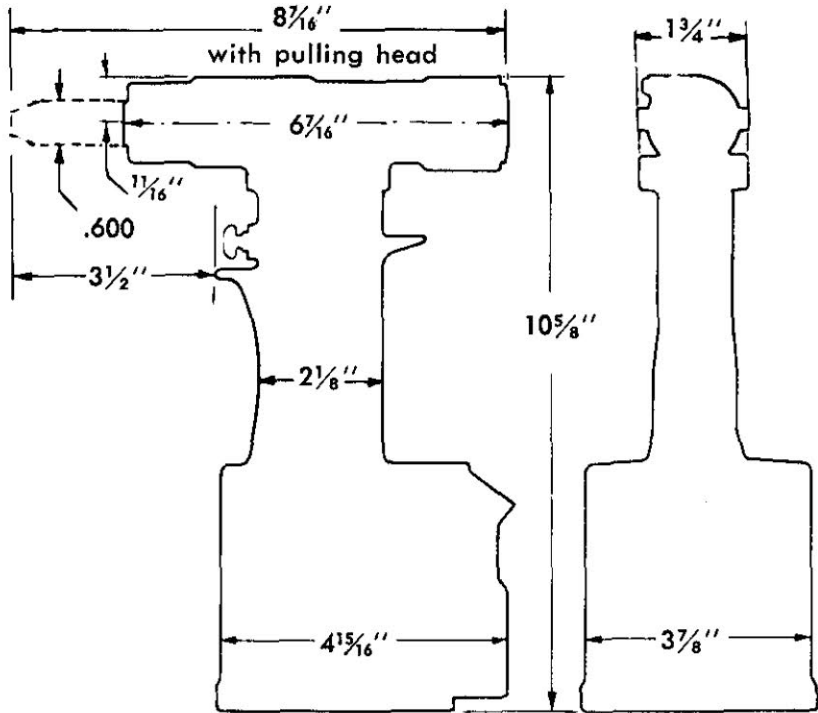
DESCRIPTION

The Cherry G-700 Hydro-Shift Riveter is a pneumatic-hydraulic tool designed specifically for the most efficient installation of Cherry-lock Rivets. It weighs only 5 3/4 lbs. and can be operated in any position with one hand.

The G-700 is 10 5/8" high, has a 29/32" stroke and will install all the rivets shown below on 90 to 120 psi of air pressure at the tool.

Pulling heads are not furnished with this tool but must be ordered separately. In ordering heads be sure to specify the shank diameter and head style (universal or countersunk) of the rivets to be installed.

H681 Series pulling heads fit directly on this tool to install both bulbed and standard NAS type 2000 Series Cherrylock Rivets.



TOOL CAPACITY CHART

The numbers shown in the rivet columns below are the maximum grip length that can be installed with this tool. Dashes indicate those rivet sizes which cannot be installed in any grip length.

PULLING HEAD	DIAMETER	ALUMINUM		MONEL		ST STEEL	
		2163	2162	2563	2562	2643	2642
		2263	2262			2653	2652
		UNI V.	CTSK .	UNIV. HEAD	CTSK. HEAD	UNIV. HEAD	CTSK .
H681	-4	8	9	8	9	8	9
	-5	8	9	8	9	8*	9*
	-6	8	9	-	-	-	-
	-8	-	-	-	-	-	-

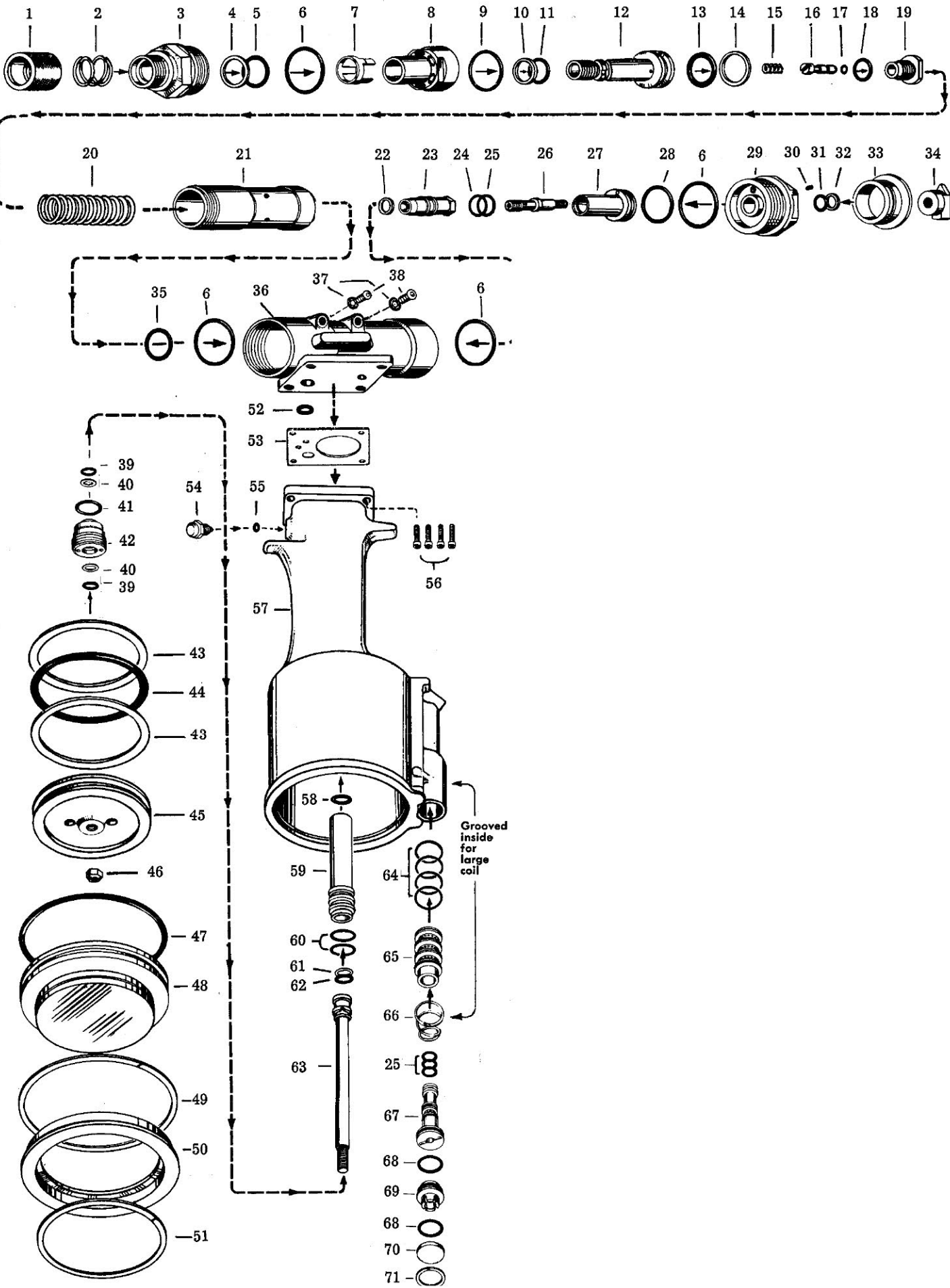
BULBED CHERRYLOCK (NAS 1738 & 1739)					
PULLING HEAD	RIVET DIAM.	ALUMINUM		MONEL	
		2239	2238	2539	2538
		2249	2248		
		UNIV. HEAD	CTSK. HEAD	UNIV. HEAD	CTSK. HEAD
H681	-4	ALL	ALL	ALL	ALL
	-5	-	-	-	-
	-6	-	-	-	-

*May require 95 lbs. psi air pressure at tool.

SAFETY WARNINGS

- 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 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 in CHERRY[®] installation tools.
Contact CHERRY[®] 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.
- Ensure that the vent holes do not become blocked or covered and that air line hoses are always in good condition.
- Excessive contact with the hydraulic oil should be avoided to minimize the possibility of rashes. Care should be taken to wash thoroughly.
- Operating air pressure should not exceed 110 psi (7,6 bar).
- Do not operate the tool without the pulling head in place.
- Do not operate the tool unless the handle base (48) is fully secured by the retaining ring (49).
- 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 question 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.
- Do not depress the trigger while disconnecting the air bleeder and replacing the cap screws (38) when bleeding the tool.
- Do not release the trigger after installing a CherryLOCK[®] rivet until the tool is positioned away from the structure or personnel. Upon release of the trigger the stem will eject from the front of the pulling head with moderate force.

G700 - EXPLODED VIEW



PARTS LIST FOR THE G-700 RIVETER

REF	PART NUMBER	DESCRIPTION	QTY
1	680A103	Sleeve Cap	1
2	680A105	Spring	1
3	700B32	Front Cap	1
4	P652	Back-Up Ring	1
5	P826	O-Ring, Disogrin (No Subs.)	1
6	P837	O-Ring, Disogrin (No Subs.)	4
7	700A38	Piston Stop	1
8	700B37	Shift Piston Cap	1
9	P724	O-Ring	1
10	P651	Back-Up Ring	1
11	P828	O-Ring, Disogrin (No Subs.)	1
12	700B34	Head Piston	1
13	P216	Quad Ring	1
14	P676	Back-Up Ring	1
15	680A111	Valve Spring	1
16	*700A41	Valve Stem	1
17	P706	O-Ring	1
18	P194	O-Ring	1
19	*700A40	Valve Seat	1
20	700A35	Spring, Head Piston	1
21	700B36	Shift Piston	1
22	P814	Retaining Ring,	1
23	*700A57	Stroke Adjuster	1
24	P650	Back-Up Ring,	1
25	P829	O-Ring, Disogrin	4
26	700A58	Adjuster Pin	1
27	700A72	Release Assembly	1
28	P723	O-Ring	1
29	700B33	Rear Cap	1
30	P841	Set Screw	1
31	P728	O-Ring	1
32	P732	Back-Up Ring	1
33	700A48	Adjuster Ring	1
34	700A49	Adjuster Knob	1
35	P831	O-Ring, Disogrin (No Subs.)	1
36	700C2	Head Cylinder	1

* These three parts cannot be purchased separately but must be ordered as a set, part number 700A56 Valve Assembly (which also includes P829, P194, P650 & P706).

REF	PART NUMBER	DESCRIPTION	QTY
37	P572	Stat-O-Seal	2
38	P573	Button Head Screw	2
39	P838	O-Ring, Disogrin (No Subs.)	2
40	P115	Back-Up Ring	2
41	P727	O-Ring	1
42	700B93	Packing Plug	1
43	P731	Back-Up Ring	2
44	P730	Quad Ring	1
45	700B6	Air Piston	1
46	P737	Conelok Nut, 1/8-20	1
47	P725	O-Ring	1
48	70084	Handle Base	1
49	P735	Retaining Ring, Spir-O-Lox	1
50	70085	Base Cover	1
51	P736	Retaining Ring, Spir-O-Lox	1
52	P832	O-Ring, Disogrin (No Subs.)	1
53	700A22	Gasket	1
54	703A33	Trigger Assembly (Includes P223)	1
55	P223	O-Ring	1
56	P27	Soc. Hd. Cap Screw	4
57	700D3	Handle	1
58	P734	Retaining Ring, Spir-O-Lox	1
59	700B7	Power Cylinder	1
60	P833	O-Ring, Disogrin (No Subs.)	2
61	P739	Back-Up Ring	1
62	P294	O-Ring	1
63	700A8	Power Piston & Rod	1
64	P653	O-Ring	4
65	700873	Valve Sleeve	1
66	700A67	Spring	1
67	700A15	Valve Spool	1
68	P834	O-Ring, Disogrin	2
69	700A16	Valve Plug	1
70	700A17	Muffler	1
71	P279	Retaining Ring, Spir-O-Lox	1

USATCO U.S. Air Tool Company, Inc.

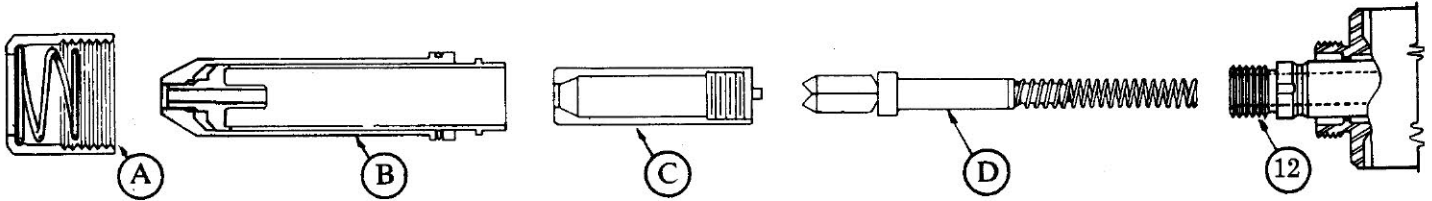
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OPERATING INSTRUCTIONS

INSTALLING H681 PULLING HEAD ON RIVETER

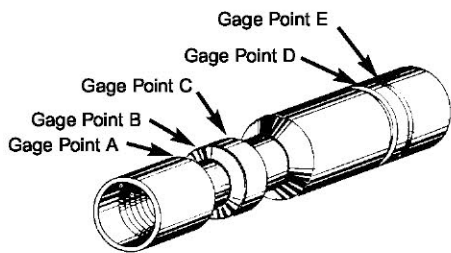


1. Remove knurled cap (A) from front of riveter head.
2. Place jaw assembly (D) inside collet (C).
3. Insert spring end of jaw assembly into hole in head piston (12). Apply enough pressure to engage collet threads. Turn until the collet bottoms on shoulder of piston and the "collet lock" snaps into the slot in piston. Hand tightening is sufficient.

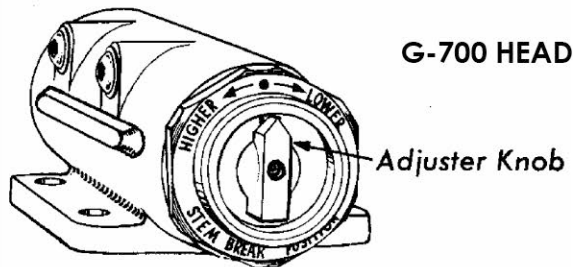
Note: To remove the collet, push the lock back into collet (using a blunt pointed tool) while turning the collet counterclockwise.

4. Place sleeve assembly (B) over the collet and head piston. Slip knurled cap (A) over the sleeve assembly and hand tighten onto end of riveter head. Extensions for the H681 pulling heads can be ordered in lengths of 2", 6", 12" and 24".

SHIFT POINT SETTING



680A159 Setting Gauge

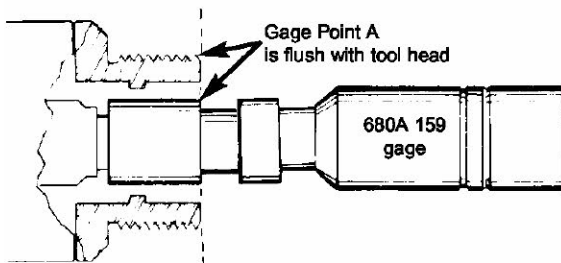


G-700 HEAD

Adjuster Knob

This adjustment determines the flushness of break of the rivet stem. The setting controls the point at which the reaction load is transferred from the rivet head to the lock ring of the rivet. After the lock ring is inserted the rivet stem will break flush. The setting gage (680A159) is included with the tool. To adjust setting:

ADJUSTMENT INSTRUCTIONS

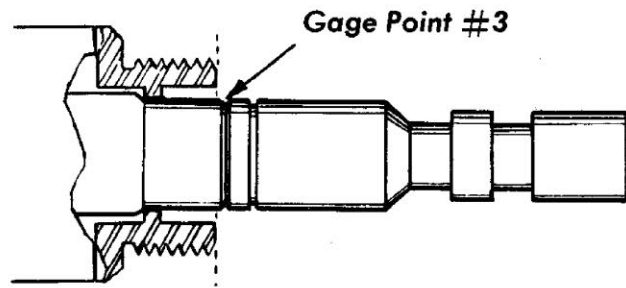
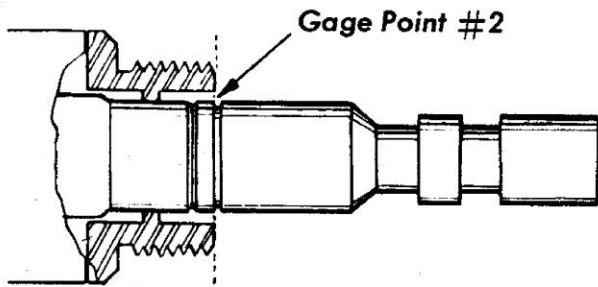


1. Connect tool to air hose with a minimum of 90 psi and remove pulling head and sleeve cap.
2. Screw small end of 680A159 gage onto head piston (12) until hand-tight.
3. Cycle tool and hold trigger so that the gage is pulled into the tool head. Gage Point #1 should be flush with the front of tool head as shown in the sketch.
4. Release trigger and turn adjuster knob (34) clockwise to increase gage protrusion or counter-clockwise to decrease gage protrusion. Cycle the tool after each adjustment and check the gage point until it lines up flush with tool head. A limit pin restricts adjustment to one-half turn of knob in either direction from factory setting.

CAUTION: Always release the tool trigger before turning knob.

SHIFT PISTON CHECK

The shift piston check is made to ascertain that the movement of the piston is not restricted in any manner. It must be free to move the amount indicated below in order to obtain proper installation.



1. Connect tool to air hose with a minimum of 90 psi and remove pulling head and sleeve cap.
2. Insert large (unthreaded) end of 680A159 gage over tool piston until it seats in the tool head. With trigger released, the front of the tool head must be within the gage groove recess, Gage Point #2, as shown in sketch.
3. Cycle tool and hold the trigger. The gage should move forward at the completion of the cycle and in this position the single gage line, Gage Point #3, must be visible or forward of the front of the tool head as shown in sketch. The tool may be cycled while holding the gage in position.
4. No outside adjustments can be made to correct any deviations from the above gage positions. Failure of the tool to comply with these gage relationships indicates incorrect tool performance and it should be sent to the Service Department for correction.

ANVIL SETTING —The anvil setting on the G-700 tool is factory set and does not require adjusting.

MAINTENANCE AND REPAIR

The G-700 Riveter has been manufactured to give maximum service with minimum care. In order that this may be accomplished, the following recommendations should be followed.

1. The hydraulic system should be full of oil and free from air at all times.
2. Keep excessive moisture and dirt out of the air supply to prevent wear of the air valve.
3. Do not pound on the rear of the tool head to force rivets into holes as this will damage the adjusting mechanism.
4. Make sure the pulling head is correctly and securely attached.

TO FILL RIVETER WITH OIL

1. Connect the tool to an air line and remove two cap screws (38) located on the side of the head.
2. Using a pressure oil can filled with Automatic Transmission Fluid, Type A (no substitute), force the fluid into the top hole until it flows freely from the bottom hole. Reverse the procedure until air bubbles cease appearing at either hole.
3. Replace both cap screws, cycle the trigger several times and then repeat steps 1 and 2 above. (Do not pull the trigger with the cap screws removed as you may be sprayed with oil).
4. To insure the positive removal of all air from the hydraulic system; use Cherry Air Bleeder No. 700A77.

TROUBLE SHOOTING

1. Check air line for correct pressure at the tool. It must be 90 to 110 psi.
2. Check tool for lack of hydraulic fluid. (See above.)
3. Check for oil leakage.
 - a. Oil leaking around the cap screws (38) in the head indicates that the screws are loose or the washer gaskets (37) need replacing.
 - b. If oil should leak through the by-pass hole at the base of the handle (57) the O-Rings (40) are worn or damaged.
 - c. Oil leaking from the front of the head (36) indicates that O-Rings (5) are worn or damaged.
 - d. If head is taken apart for repair exercise caution in removing piston cap (8) since it contains the piston spring (20) which may be ejected forcefully. Check all O-Rings and carefully clean all parts before reassembling.

Be sure to make any replacements with the exact O-Rings shown in the parts list to insure that the correct material and hardness is used.

4. Tighten the end caps (3&29) securely at 150/ 180 ft –lbs.

CAUTION: Valve parts (16, 19 & 23) are matched parts and must be kept together or replaced as a complete unit.

Check air valve for leakage. If air is escaping, remove retaining ring (71) and muffler (70) Insert a 5/16"-18 threaded rod or bolt into end of valve plug (69) and pull it out. Using the same procedure pull out spool (67). Replace O-Rings (25) & 68) and reassemble.

Note: It should never be necessary to remove the valve sleeve (65) unless the air supply has become so badly contaminated that the ports in the sleeve are plugged up. If this unlikelihood should occur, carefully remove spring (66) from its groove, using extreme caution not to distort the coils of the spring. Remove sleeve (65), clean thoroughly, replace O-Rings (64) and reassemble, making sure that spring (66) is seated in its groove correctly, otherwise valve will not function.

5. Check movement of piston (12). If it does not move freely or is slow in operation:

- a. Valve (16) may be held off its seat (19) by contaminants, allowing oil to by-pass. Drain gun, flush thoroughly and refill with fresh oil.
- b. O-Rings (13) or (62) may be damaged and require replacement.
- c. Piston (12) may be mechanically locked due to damaged parts.
- d. Power piston may - be held off its seat on rod (63) allowing oil to by-pass; see above for cleaning (paragraph a)
- e. Muffler (70) or air filter inside spool (67) may be plugged with dirt.
Clean them thoroughly with normal solvent and back-blow with compressed air.

6. Check movement of shift piston (21).

If it does not move freely:

- a. Small holes in screen in piston (27) may be plugged preventing oil flow; see above (5a).
- b. Hole through valve (16) may be plugged; see above (5a).

NOTE: We recommend the purchase of a G-700KS Service Kit which contains various gaskets, O-Rings, washers and similar parts likely to need replacing in time.

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.

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