

Original Instructions

G686B-S

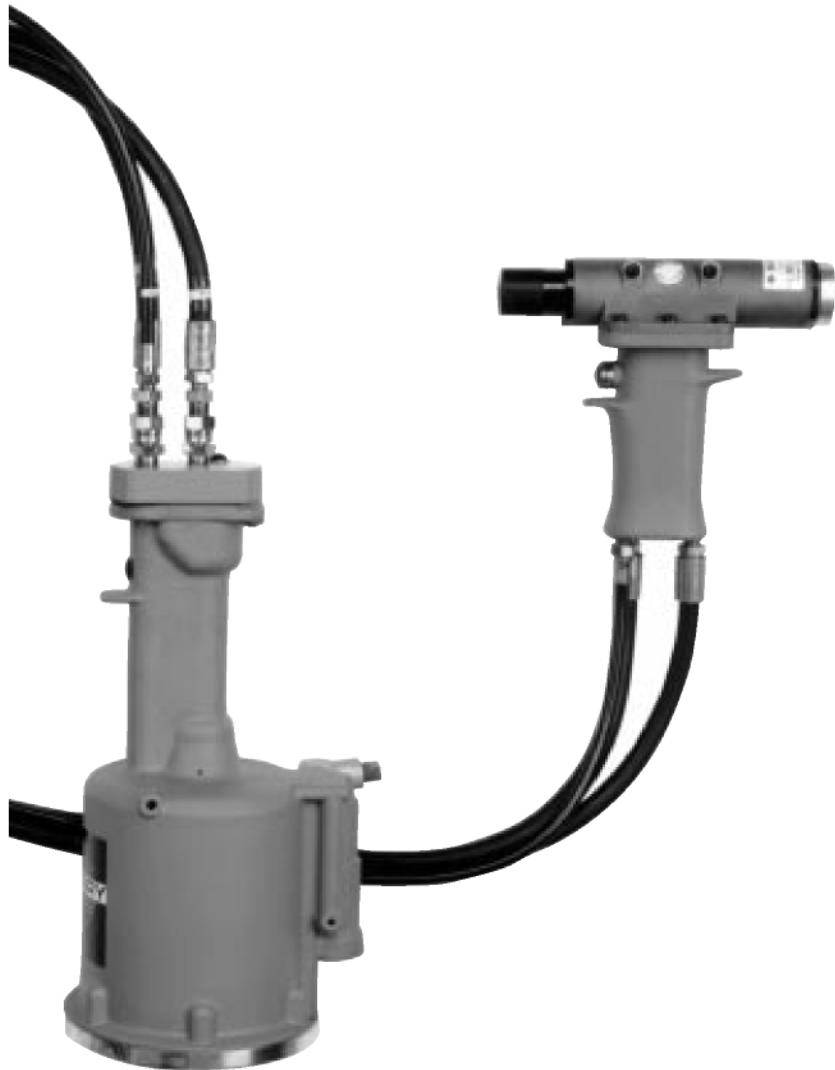
Split Hydro-Shift CherryLOCK® Riveter
N S N 3448-01-036-3402



Instruction Manual 

Pass on to user to read and keep for reference

MANUAL



CHERRY®
AEROSPACE

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THE G686B-S HYDRO-SHIFT RIVETER

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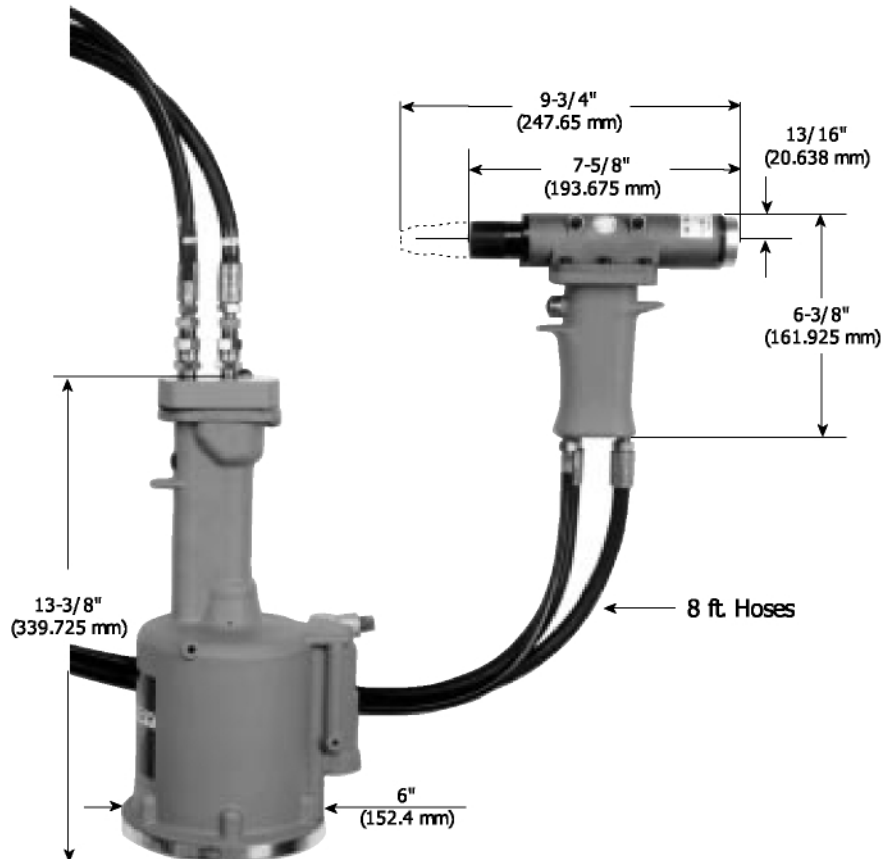
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THE G686B-S HYDRO-SHIFT RIVETER

DESCRIPTION

The Cherry G686B-S Split Hydro-Shift Riveter is a heavy duty pneumatic-hydraulic tool designed specifically for easy and fast installation of CherryLOCK® Rivets. In using this “split” tool, the power unit rests on the floor and transmits its power through eight feet of hose to a light-weight pistol grip handle. This facilitates rivet installation in many limited access areas and also greatly reduces operator fatigue. Its durable, all metal housing makes this tool very robust for use in a shop environment.

G686B-S can be used to install all diameters and lengths of fasteners as indicated on the charts. The H681 Series pulling heads fit directly on this tool to install both bulbed and standard NAS type 2000 Series CherryLOCK® Rivets. See the section on “Pulling Heads” for correct pulling head part number.



SPECIFICATIONS FOR G686B-S

Cherry's (CHERRY® AEROSPACE) 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® AEROSPACE.

AIR PRESSURE	90 PSI to 110 PSI (6,2 bar to 7,6 bar)
STROKE	1-7/16 inch (36.5 mm)
PULLING FORCE	2,600 lbs. (11.57 kN) @ 90 PSI (6.2 bar),
WEIGHT	Total: 17 lbs. (7,71 kg) Head Only: 5.0 lbs. (2,27 kg)
NOISE LEVEL	74.5 dB (A)
VIBRATION	less than 2.5 m/s ₂
AIR CONSUMPTION	0.5 SCF/cycle (14.2 L/cycle)

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 advice 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 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 and hydraulic 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 pulling head in place.
- Do not operate the tool unless the power unit base (56) is fully secured by the six flat head cap screws (57).
- All retaining rings, screwed end caps, hoses, hose fittings, 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 when bleeding the tool.

Do not release the trigger after installing a CherryLOCK® rivet until the tool is positioned away from the structure and personnel. Upon release of the trigger the stem will eject from the front of the pulling head with moderate force

HOW TO USE THE G686B-S

Select the proper pulling head and attach it securely to the G686B-S. For proper installation of the pulling head, see the pulling head tool sheet. Connect the air line to the tool.

Insert the rivet into the application. Place the pulling head over the rivet stem, pushing the tool until the pulling head is in contact with the rivet head. This will ensure full engagement between the jaws and the rivet stem. When pushing down on the rivet stem, make certain the tool is perpendicular to the application.

After activating the trigger, the tool will cycle, installing the rivet. After the stem breaks, point the tool toward an appropriate receptacle and release the trigger. The stem will eject from the front of the tool with a moderate force.

MAINTENANCE AND REPAIR

The G686B-S 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 air supply to prevent wear of air valve, air cylinder and air piston.
3. Tool should be routinely inspected for oil leaks. Oil leaking around screws (40) indicates that a screw is loose or a Stat-O-Seal (39) needs replacing. Oil leaking around the small by-pass hole near the base of the power unit indicates worn or damaged quad rings (61).
4. Make sure the pulling head is correctly and securely attached.
5. Keep hoses, hose fittings and hydraulic system plugs tightened snugly.

Use automatic transmission fluid Type "A" (no substitutes). Cherry® Aerospace recommends using Dexron® III ATF.

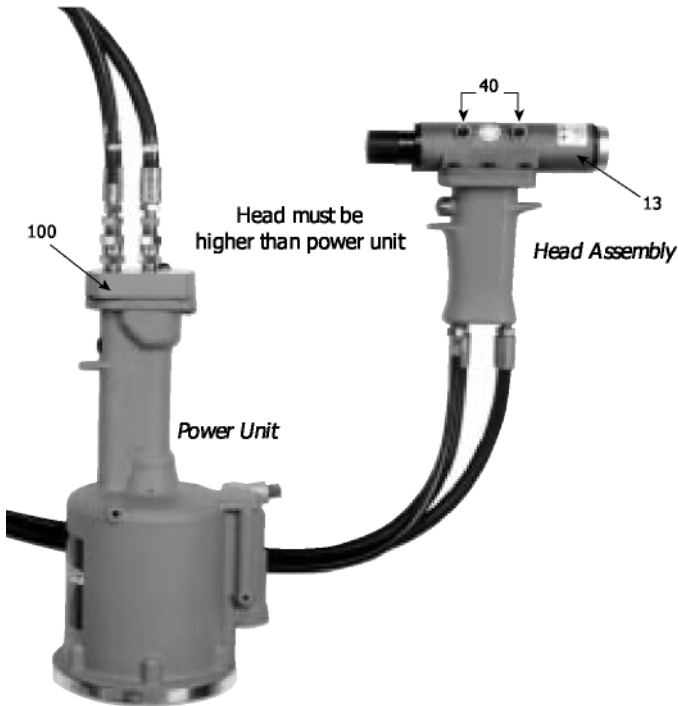
DEXRON III OIL SAFETY DATA	
FIRST AID	
<i>Skin:</i> Wash thoroughly with soap and water as soon as possible. Casual contact requires no immediate attention. If irritation develops, consult a physician.	
<i>Ingestion:</i> Seek medical attention immediately. DO NOT INDUCE VOMITING.	
<i>Eyes:</i> Flush with copious amounts of water. If irritation develops, consult a physician.	
<i>Inhalation:</i> No significant adverse health effects are expected to occur on short term exposure. Remove from contaminated area. Apply artificial respiration if needed. If unconscious, consult physician.	
FIRE	
<i>Suitable extinguishing media:</i> CO ₂ , dry powder, foam or water fog. DO NOT use water jets.	
ENVIRONMENT	
<i>Waste Disposal:</i> In accordance with local, state and federal regulations.	
<i>Spillage:</i> Prevent entry into drains, sewers and water courses. Soak up with diatomaceous earth or other inert material. Store in appropriate container for disposal.	
HANDLING	
Eye protection required. Protective gloves recommended. Chemically resistant boots and apron recommended. Use in well ventilated area.	
COMBUSTIBILITY	
Slightly combustible when heated above flash point. Will release flammable vapor which can burn in open or be explosive in confined spaces if exposed to source of ignition.	
STORAGE	
Avoid storage near open flame or other sources of ignition.	
PROPERTIES	
<i>Specific gravity</i>	0.863
<i>Weight per gallon</i>	7.18 lbs.
<i>Open flash point</i>	>200°C (392°F)

FILL AND BLEED INSTRUCTIONS

This process is useful to replace a small amount of oil in the tool, place head assembly higher than the power unit. Remove rear cap screw (40) located on the side of the head being sure NOT to cycle the tool. Attach the Cherry air bleeder (700A77), connect the tool to the air line and slowly cycle several times. This will ensure the removal of any air

from the hydraulic system and its replacement with fluid. Should it become necessary to completely refill the tool (such as would be required after the tool has been dismantled and re-assembled), take the following steps:

1. After removing the head sub-assembly, hoses and manifold sub-assembly (100), fill power unit sub-assembly with the recommended oil to within 1/8" (3 mm) from the top of the power unit casting (59).
2. Replace head sub-assembly, hoses (86, 87, 88) and manifold sub-assembly (100), being sure the gasket (95) and O-ring (41) are properly oriented. Tighten cap screws (96) uniformly to prevent leakage around gasket.
3. Connect tool to air line. With head and hoses higher than the power unit, remove both cap screws (40) from the side of the head sub-assembly.
4. Using a pressurized oil can filled with Dexron® III ATF (or equivalent), force the fluid into the front hole until it flows freely from the rear hole. Reverse the procedure until air bubbles cease appearing at both holes.
5. Replace both cap screws (40) and Stat-O-Seals (39). Cycle the trigger several times and then repeat steps 3 and 4 above.
6. To ensure the positive removal of all air from the hydraulic system, we recommend the use of Cherry air bleeder (700A77). Follow the instructions for the air bleeder above.



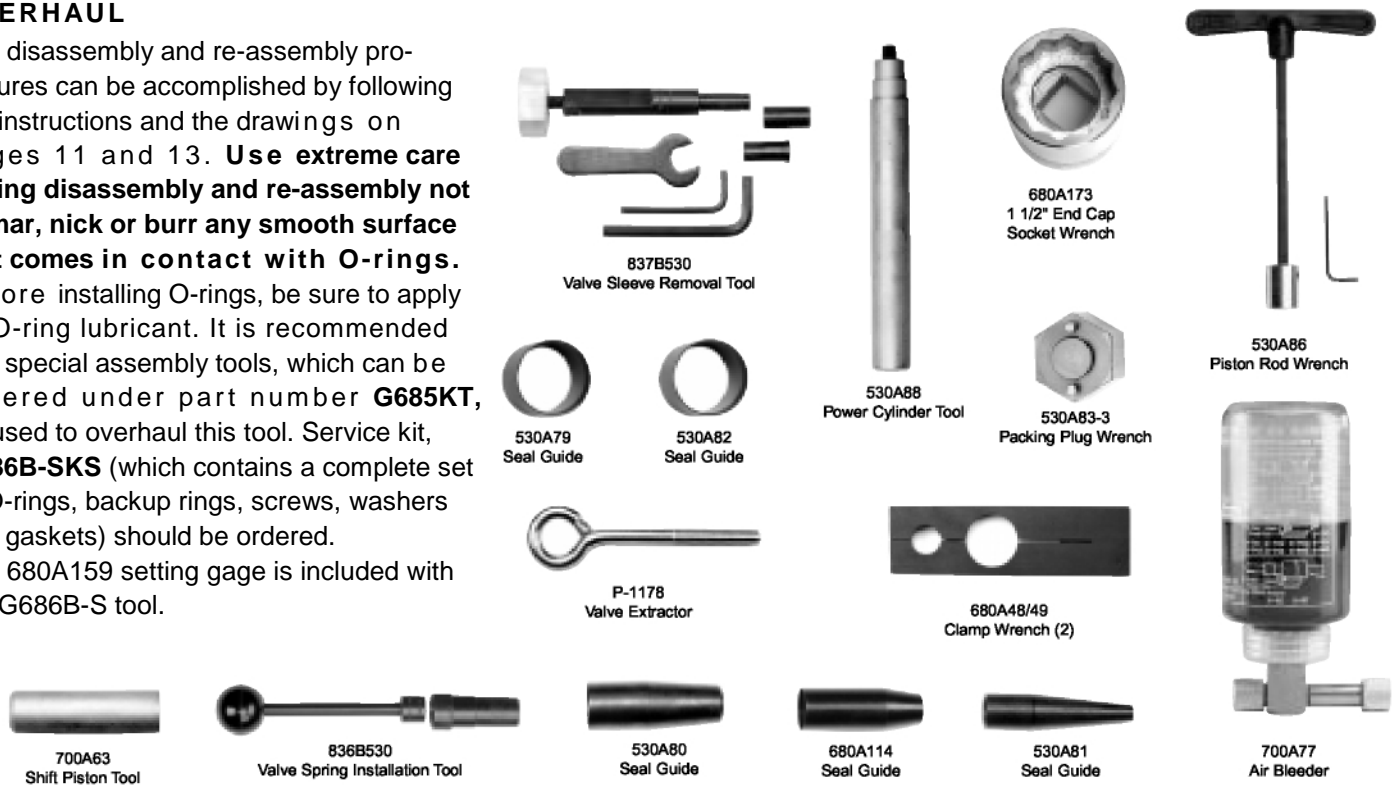
TROUBLESHOOTING

1. Check the air line for correct pressure at the tool. It must be 90 to 110 psi (6,2 to 7,6 bar).
2. Check for oil leakage:
 - Oil leaking around the cap screws (40) in the head indicates that a screw is loose or the Stat-O-Seals (39) need replacing.
 - Oil leaking through the by-pass hole at the base of the power unit (59) indicates that quad rings (61) are worn or damaged.
 - Oil leaking from the front of the head body (13) indicates that O-rings (5 and 11) are worn or damaged.
3. Check for excessive air leakage from the air valve:
 - If spring (70) is broken or dislodged, air will bleed directly through the bottom of the air valve and the head piston (14) retreats to its full stroke without returning. See air valve instructions on Page 5.
 - If O-ring (75) on valve plug (76) is worn or damaged, replace.
 - If O-rings (71) on valve spool sub-assembly (99) are worn or damaged, replace.
4. Check movement of the head piston (14). If it does not move freely or is slow in operation:
 - Valve stem (18) may be held off its seat (21) by contaminants, allowing oil to by-pass. Drain gun, flush thoroughly and refill with fresh oil.
 - Quad ring (63) or O-ring (15) may be damaged and require replacement.
5. Check movement of shift piston (24). If it does not move freely:
 - Small holes in screen in release piston sub-assembly (28) may be plugged preventing oil flow. Drain gun, flush thoroughly and refill with fresh oil. See Fill and Bleed Instructions
 - Hole through valve stem (18) may be plugged by contaminants. Drain gun, flush thoroughly and refill with fresh oil.
 - Pulling head components may need maintenance. Disassemble the pulling head, clean and replace worn parts. Re-assemble following instructions on page 10.
7. Head piston (14) may be mechanically locked due to damaged parts.
8. Muffler (77) or air filter (73) inside valve spool sub-assembly (99) may be plugged with dirt. Clean them thoroughly with normal solvent and back-blow with compressed air.
9. Hole in metering screw (74) in valve spool sub-assembly (99) may be blocked or damaged. Hole diameter should be .028" (0,711 mm). Clear and size or replace valve spool sub-assembly (99). Valve spool (72), metering screw (73) and filter (74) are not sold separately.

THE G685KT TOOL KIT

OVERHAUL

The disassembly and re-assembly procedures can be accomplished by following the instructions and the drawings on pages 11 and 13. **Use extreme care during disassembly and re-assembly 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 special assembly tools, which can be ordered under part number **G685KT**, be used to overhaul this tool. Service kit, **G686B-SKS** (which contains a complete set of O-rings, backup rings, screws, washers and gaskets) should be ordered. The 680A159 setting gage is included with the G686B-S tool.



AIR VALVE SUB-ASSEMBLY

- To disassemble, first disconnect tool from its air source.
- Remove retaining ring (78) and muffler (77). Insert a valve plug extractor (P-1178) or a 5/16-18 threaded rod or bolt into end of valve plug (76) and pull it out. Using the same procedures, pull out valve spool sub-assembly (99).

NOTE: It should never be necessary to remove valve sleeve (69) unless the ports in the sleeve have become plugged from contaminated air. The O-rings on this sleeve are static and hence do not wear.

If it is suspected that the ports are plugged, use needle nose pliers to grasp end of spring (70), turn clockwise and pull to dislodge from groove in power unit.

With spring removed, the valve sleeve (69) can be pulled out using the valve sleeve removal tool (837B530).

To re-assemble, reverse the above procedures being certain that all O-rings are properly lubricated. To avoid damaging the O-rings (71), carefully install valve sleeve (69) with your fingers. Gently push and wiggle sleeve to allow O-rings to slip past inner ports. Spring (70) is best installed using a valve spring installation tool (836B530) to push the large diameter coil into the groove. This requires care as the G686B-S will not operate if this spring (70) is not anchored firmly.

HEAD SUB-ASSEMBLY

- Always remove the complete pulling head from the tool before attempting to disassemble the head assembly. Disconnect tool from air source.
- Remove the six socket head cap screws (82). Lift head assembly from the pistol grip (83). Remove O-rings (41). Empty the oil into a container by draining from head, hoses and power unit. Dispose of oil according to environmental regulations.
- Select a work table with a good vise. Place head cylinder (13) in the vise with the front end cap (3) of the head cylinder (13) up. Tighten the vise securely.

- Use the end cap socket wrench (680A173) and improvise a handle extension to 26"-28". The end caps on the head cylinder have thin hex flats and a standard socket will slip over the hex corners. The end caps (3 and 30) on the head cylinder (13) are factory tightened with a torque wrench from 150 to 180 ft.-lbs. (203 to 244 N-m). The break away torque will be high - approximately 180 ft.-lbs. (244 N-m) or slightly higher.
- Remove the front end cap (3) from the head cylinder (13). Remove the four piston stops (7).
- Place the head cylinder (13) in the vise so that the rear end cap (30) can be removed from the head cylinder (13).
- Remove the plastic adjuster knob (37) by first removing the socket head cap screw (35) using a 3/32" hex key.
- Remove the adjuster ring (36) by removing the other socket head cap screw (35).
- Remove the rear end cap (30) from the head cylinder (13). The following parts will come out with it: button head cap screw (34), index washer (33), release piston sub-assembly (28), shift screw (26), shift stop (22), and retaining ring (25). The screen on the release piston sub-assembly (28) may need cleaning.
- Push on the head piston (14). This will allow the shift piston sub-assembly to be removed from the rear of the head cylinder (13). The shift piston sub-assembly includes the following parts: piston cap (8), O-ring (9), backup ring (10), O-ring (11), head piston (14), O-ring (15), back-up ring (16), valve spring (17), valve stem (18), O-rings (19 and 20), valve seat (21), shift stop (22), piston spring (23), and shift piston (24).

NOTE: Valve parts (18), (21) and (22) are matched parts and must be kept together or replaced as a complete unit by purchasing valve sub-assembly (680A80).

To disassemble the Shift Piston Sub-Assembly:

- Insert the shift piston sub-assembly into the large hole of clamp wrench (680A48/49), locating on a polished surface. Tighten the wrench's cap screws securely so that the shift piston sub-assembly cannot turn in the clamp.
- Place the clamp wrench (680A48/49) in a vise with the shift piston sub-assembly upward.
- Use the second clamp wrench (680A48/49) on the piston cap (8). Place the small hole of the clamp wrench over the piston cap (8) and tighten the cap screws on the wrench to prevent slipping.
- Place shift piston tool (700A63) over threads and against the shoulder of the head piston (14).
- When removing the piston cap (8), push firmly on the shift piston tool (700A63) to depress the head piston (14) and overcome the tension created by the piston spring (23). **Caution should be used as spring will pop out if precautionary measures are not taken.**
- Remove the valve seat (21) with an 11/16" wrench. Remove the valve stem (18) by pushing from front of the valve seat (21). Remove the valve spring (17).

To disassemble the End Cap Sub-Assembly

- Using a 5/32" hex key, turn the button head cap screw (34) counterclockwise until it stops.
- Remove retaining ring (25) inside of release piston sub-assembly (28) with a sharp or pointed instrument.
- After retaining ring (25) is removed, use a 5/32 hex key in the same button head cap screw (34). Turn clockwise until the shift stop (22) can be removed from the release piston sub-assembly (28).
- Place a 3/16 hex key in the end of the shift screw (26) and a 5/32" hex key in the button head cap screw (34).
- Apply a force on both hex keys until you loosen the button head cap screw (34) which is threaded into the end of the shift screw (26).
- Remove the button head cap screw (34) and the index washer (33).
- Push the shift screw (26) out of the release piston sub-assembly (28). It may be held slightly by an O-ring (27).
- Remove the release piston sub-assembly (28) from the rear cap (30) and check the filter in the release piston subassembly for debris. If the filter is clogged, back-blow with compressed air.

- To re-assemble, reverse the above procedures. Be sure to install O-rings and back-up rings using seal guides, where appropriate, to avoid cutting them. Always lubricate all O-rings. Just before placing the head sub-assembly onto the pistol grip, see Fill and Bleed Instructions.
- Insert release piston sub-assembly (28) into rear cap (30), making sure index pin in release piston sub-assembly (28) drops into recess in rear cap (30).
- Insert shift screw (26) into the release piston sub-assembly (28). Slip index washer (33) onto button head cap screw (34). Engage threads of button head cap screw (34) with shift screw (26) and firmly tighten. Then turn button head cap screw (34) counterclockwise to retract shift stop (22) fully into release piston (28). Ensure that the hex of the shift stop (22) is aligned with the hex of the release piston sub-assembly (28).
- Install piston cap (8) onto piston (14), threading seal guide (680A114) on head piston (14) to avoid damaging the O-rings as cap (8) is threaded into place.
- Hold shift piston (24) using the large hole in clamp wrench (680A48/49), being careful not to mar the smoothly ground surfaces of the piston. Insert piston spring (23), and while compressing it, turn piston cap sub-assembly (8 and 14) into place with clamp wrench (680A48/49) and firmly tighten.
- Insert shift piston sub-assembly (24) into front of head cylinder (13) and thread on rear cap (30). Insert the four piston stops (7), choosing every other hole. Thread on front end cap (3). Place head assembly in smooth jawed vise, clamping on hex of rear cap (30), with front end cap (3) upward. Using the end cap socket wrench (680A173) and a handle extension, tighten front end cap (3) to 150-180 ft.-lbs. (203-244 N-m) torque.
- Replace adjuster ring (36), socket head cap screw (35), adjuster knob (37), and then the other socket head cap screw (35) onto the back of the rear cap (30).
- Replace the head sub-assembly onto the top of the pistol grip (83) being sure that O-rings (41) are properly oriented.
- Tighten the six socket-head cap screws (82) uniformly to prevent leakage.
- Purge system of air using Cherry air bleeder (700A77) according to Fill and Bleed instructions.

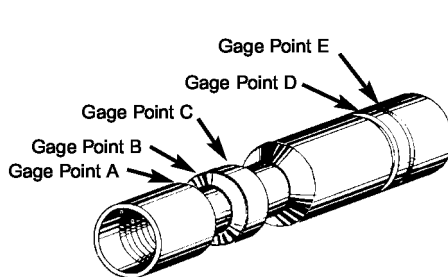
POWER UNIT SUB-ASSEMBLY

To completely disassemble the power unit, disconnect tool from air line then use the following procedures.

- Remove the six cap screws (96). As manifold assembly (100) is removed, hold upper portion of tool over a pan to catch oil that will run out. Drain oil from head, hoses and inside of power unit. Dispose of oil according to environmental regulations.
- Remove gasket (95) and O-ring (41).
- Remove six flat head screws (57) on base using a 3/16 hex key, and, using a screwdriver, carefully pry power unit base (56) out of power unit.
- Use piston rod wrench (530A86) to push the power piston and rod sub-assembly (98) down.
- Remove cotter pin (52). Engage and hold top of power piston and rod sub-assembly (98) with piston rod wrench (530A86) and remove slotted nut (51) using 9/16" socket wrench. Then unscrew power piston and rod sub-assembly (98) until it disengages from air piston (50).
- Insert threaded end of power cylinder tool (530A88) into bottom of air piston (50). Using this as a handle, pull the air piston out of the bottom of the tool.
- Thread seal guide (530A81) onto end of power piston and rod sub-assembly (98) and push out through top.
- Using packing plug wrench (530A83-3) together with a 1-1/4" socket wrench, remove packing plug (47) and lift out the exposed O-ring (46).
- Insert power cylinder tool (530A88) into top end of power cylinder (60) and force power cylinder with quad rings (61) out of the bottom of the tool.

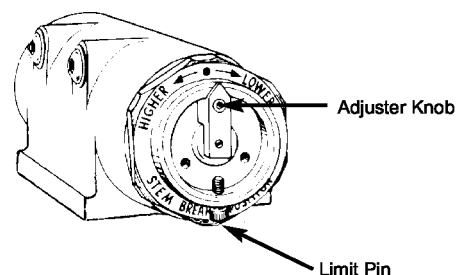
To re-assemble the power unit, reverse the above procedure, being certain that all the O-rings are properly lubricated before installation. Take particular care to see that the O-rings, quad rings, and back-up rings are not pinched or damaged in the assembly process.

- Place seal guide (530A82), with tapered bore facing down, over quad ring (61) until the tapered end of the seal guide is adjacent to the uppermost flange of the power cylinder (60). This will hold quad ring snugly in its groove and prevent its being pinched against the edge of the power unit bore as the power cylinder is pushed into position. With power cylinder tool (530A88), insert power cylinder (60) with one quad ring (61) into bottom of power unit.
- Insert second quad ring (61) and O-ring (46) into position. Install quad rings (45), back-up rings (44), washers (46) and retaining rings (42) onto the packing plug (47). Seat packing plug sub-assembly into position with the packing plug shoulder against the bottom of the power cylinder (60) and tighten securely using packing plug wrench (530A83-3).
- Thread the seal guide (530A81) onto the small end of the power piston and rod sub-assembly (98). Slip seal guide (530A79), with tapered end down, over quad ring (63) and back-up rings (62) on power piston. Feed this assembly into the top of the power cylinder (60), forcing the small end through the packing plug (47). Remove seal guide (530A81) from the end of the power piston and rod sub-assembly (98).
- Using power cylinder tool (530A88), push air piston (50) together with quad ring (49) and back-up rings (48) into the bottom of the air cylinder and force part way up the cylinder until it engages threaded end of power piston and rod sub-assembly (98).
- Using piston rod wrench (530A86), tighten power piston and rod sub-assembly (98) into air piston (50) securely. Install and tighten slotted nut (51) and set cotter pin (52).
- Insert power unit base (56) with lubricated O-ring (55) and tap it into its proper seat. Insert and tighten six flat head cap screws (57) evenly.
- Using piston rod wrench (530A86), push power piston and rod sub-assembly (98) and air piston (56) to bottom of tool. Fill power unit with oil to about 1/8" above top of power cylinder (60).
- Install manifold assembly (100) onto power unit after placing gasket (95) and O-ring (41) with proper orientation between the two parts. Secure manifold with six socket head cap screws (96) and tighten evenly.



680A159 Setting Gauge

ADJUSTMENT INSTRUCTIONS

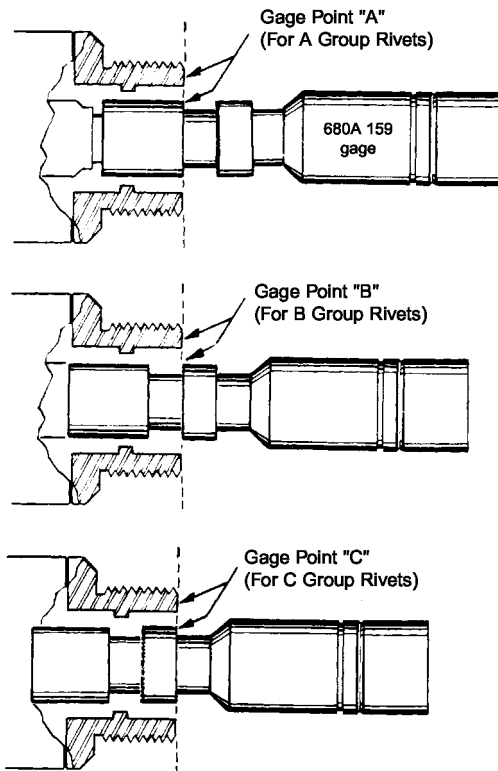


G686B-S Head Assembly

SHIFT POINT SETTING

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:



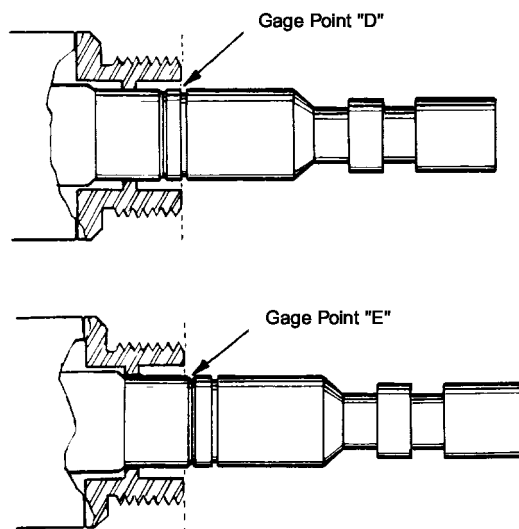
1. Connect tool to air hose with a minimum of 90 psi and remove pulling head and sleeve cap (1).
2. Screw small end of 680A159 gage onto head piston (14) until hand-tight.
3. Cycle tool and hold trigger so that the gage is pulled into the tool head. Gage point "A" should be flush with the front of tool head as shown in the sketch.
4. Release the trigger and turn the adjuster knob (37) clockwise to increase gage protrusion or counterclockwise to decrease gage protrusion. Cycle the tool after each adjustment and check the gage point until it lines up flush with the tool head. A limit pin (35) restricts adjustment to one-half turn of the knob in either direction from the factory setting.

Note: The above procedure will adjust the tool to install "A" group rivets properly. When "B" group rivets are to be installed, adjust the head as above, and then turn the adjuster knob (37) six turns counterclockwise. (To turn the shift point adjusting screw more than one turn, remove the limit pin (35) and then replace it approximately diametrically opposite the adjuster knob.) Gage point "B" should be flush with the front of tool head as shown in sketch. When "C" group rivets are to be installed, again follow the outlined procedure and turn the adjuster knob (37) twelve turns counterclockwise. Gage point "C" should now be flush with the front of tool head as shown in sketch.

CAUTION: Always release the tool trigger before turning adjuster knob. Never back off more than 12 turns or the shift screw (26) may become disengaged from the shift stop (22) requiring a complete disassembly of the head to replace.

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 the tool to an air hose with a minimum of 90 psi and remove the pulling head and sleeve cap (1).
2. Insert the large (unthreaded) end of 680A159 gage over the head piston (14) 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 "D", as shown in the sketch.
3. Cycle the 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 "E", must be visible or forward of the front of the tool head as shown in the sketch. The tool may be cycled while holding the gage in position.
4. If the gage points do not align, try bleeding the tool. No other 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 CHERRY® Service Department for correction.

PULLING HEADS

Pulling heads are not furnished and must be ordered separately. Make certain the pulling head is kept clean, especially around the riveting end, as adhesives, chips, sealants, etc., will clog up the serrations of the jaws and may cause slippage of the stem. Please refer to the pulling head charts below for the proper selection.

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.

STANDARD CHERRYLOCKS (NAS 1398 & 1399)

PULLING HEAD	RIVET DIA.	RIVET TYPE					
		ALUMINUM		MONEL		ST. STEEL	
		CR2163		CR2563	CR2562		CR2642
			CR2162			CR2643	CR2652
		CR2263	CR2164		CR2564	CR2653	CR2662
			CR2262			CR2663	CR2664
		PULLING HEAD TYPE					
UNIV.	CTSK.	UNIV.	CTSK.	UNIV.	CTSK.		
H681-3C	-3	-	-	-	-	ALL	ALL
H681-4C	-4	ALL	ALL	ALL	ALL	ALL	ALL
H681-5C	-5	ALL	ALL	ALL	ALL	ALL	ALL
H681-6C	-6	ALL	ALL	ALL	ALL	ALL	ALL
H681-8C	-8	16	17	16	17	-	-

BULBED CHERRYLOCKS (NAS 1738 & 1739)

PULLING HEAD	RIVET DIA.	RIVET TYPE					
		ALUMINUM		MONEL		INCONEL	
		CR2235	CR2238	CR2539	CR2538	CR2839	CR2838
		CR2239					
		CR2245	CR2248	CR2545	CR2540	CR2845	CR2840
		CR2249					
		PULLING HEAD TYPE					
UNIV.	CTSK.	UNIV.	CTSK.	UNIV.	CTSK.		
H681-4C	-4	ALL	ALL	ALL	ALL	ALL	ALL
H681-5C	-5	ALL	ALL	ALL	ALL	ALL	ALL
H681-6C	-6	ALL	ALL	ALL	ALL	ALL	ALL

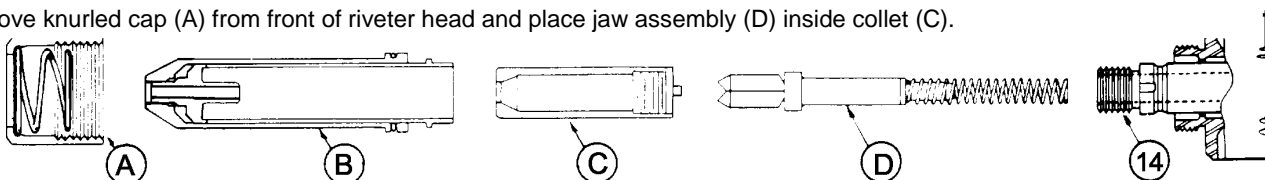
OTHER PULLING HEADS THAT WILL FIT THIS TOOL ARE SHOWN ON THE CHART BELOW

PULLING HEAD	TYPE	ADAPTER	RIVET	RIVET DIA.	MAX. GRIP
H9055-3	Straight	680B46	CherryLOCK® "A"	3/32	ALL
H9055-4				1/8	8, 9"
H9055-5				5/32	8, 9"
H9055-6				3/16	8, 9"
H9015-3C	Straight	680B46	MS	3/32	ALL
H9015-4C				1/8	ALL
H9015-5C				5/32	ALL
H9015-6C				3/16	ALL
H9040-4C	Straight	680B57	MS	1/8	ALL
H9040-5C				5/32	ALL
H9040-6C				3/16	ALL
H9040-8C				1/4	ALL
H680B200A	Straight	-	CherryMAX®	1/8, 5/32, 3/16	ALL
H781-456	Offset	680B205	CherryMAX®	1/8, 5/32, 3/16	ALL
H753A-456	Rt. Angle	680B205	CherryMAX®	1/8, 5/32, 3/16	ALL

*8 grip for protruding head, 9 grip for countersunk head.

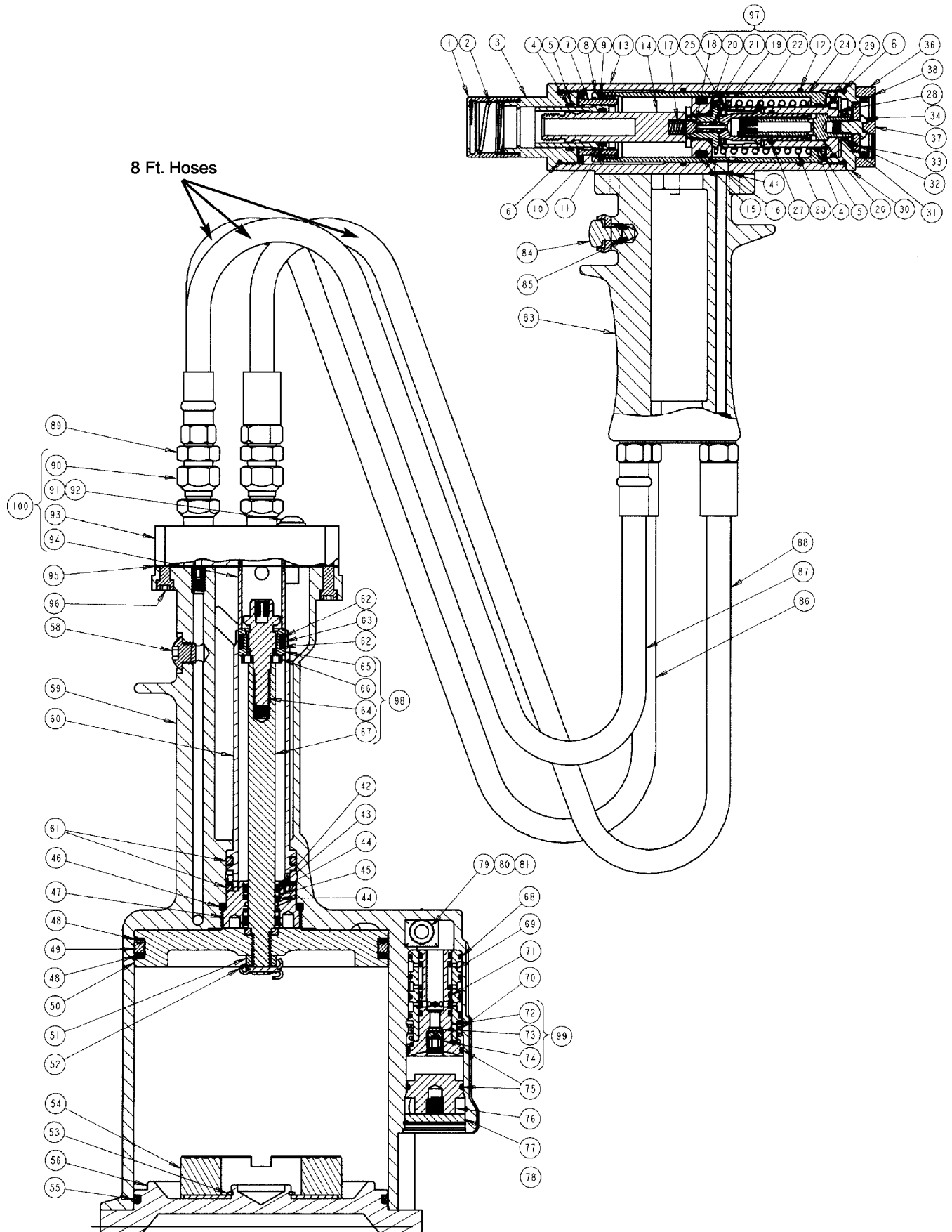
INSTALLING H681 SERIES PULLING HEADS ON RIVETER

1. Remove knurled cap (A) from front of riveter head and place jaw assembly (D) inside collet (C).



2. Insert spring end of jaw assembly into hole in head piston (14). Apply enough pressure to engage collet threads. Turn until collet bottoms on shoulder of piston and collet lock snaps into slot in piston. Tighten by hand.
NOTE: To remove collet, push collet lock back into collet using a blunt tool while turning collet counterclockwise.
3. Place sleeve assembly (B) over 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".

CROSS SECTION DRAWING OF G686B-S



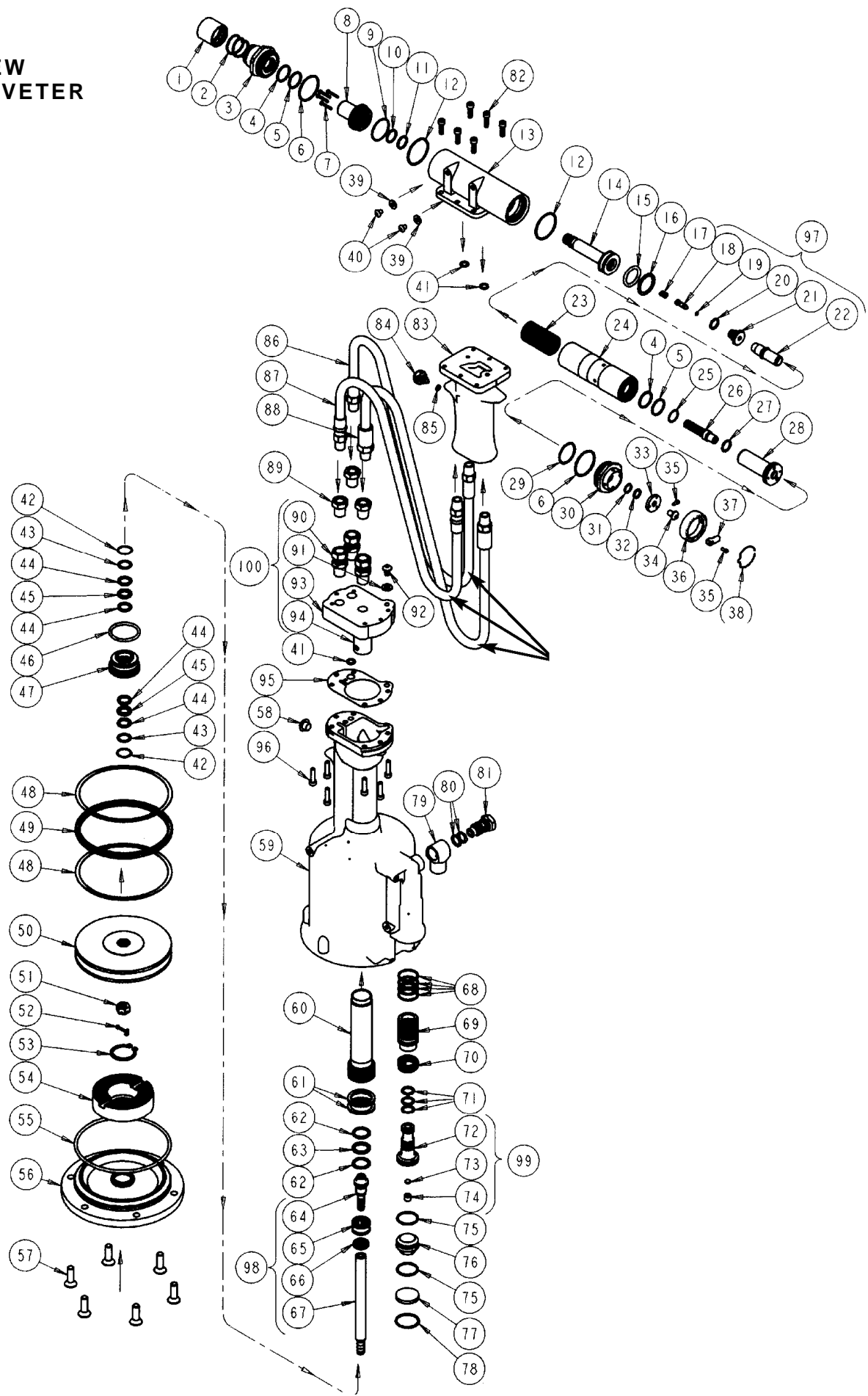
PART LIST FOR THE G686B-S (685-003) RIVETER

ITEM NO	PART NO.	DESCRIPTION	QTY
689C50A SUB-ASSEMBLY, HEAD			
1	680A103	CAP, SLEEVE	1
2	680A105	SPRING	1
3	680B107	CAP, FRONT	1
4	P-652	RING, BACK-UP (.874, .768, .053)	2
5	P-826**	O-RING, DISOGRIN (.879, .739, .070)	2
6	P-691**	O-RING, DISOGRIN (1.254, 1.114, .070)	2
7	680A21	STOP, PISTON	4
8	680B110	CAP, PISTON	1
9	P-266	O-RING (1.191, 1.051, .070)	1
10	P-651	RING, BACK-UP (.686, .580, .053)	1
11	P-828**	O-RING, DISOGRIN (.691, .551, .070)	1
12	P-904**	O-RING, DISOGRIN (1.441, 1.301, .070)	2
13	680C71	BODY, HEAD	1
14	680B153	PISTON, HEAD	1
15	P-483	O-RING (1.137, .859, .139)	1
16	P-657	RING, BACK-UP (1.127, .891, .118)	1
17	680A111	SPRING, VALVE	1
97	680A80	SUB-ASSEMBLY, VALVE	
	18	680A20*	STEM, VALVE
	19	P-706	O-RING (.192, .116, .038)
	20	P-298	O-RING (.566, .426, .070)
	21	680A18*	SEAT, VALVE
	22	680A77*	STOP, SHIFT
23	680A79	SPRING, PISTON	1
24	680C72	PISTON, SHIFT	1
25	P-768	RING, RETAINING (INT. 0.625)	1
26	680A109	SCREW, SHIFT	1
27	P-830**	O-RING, DISOGRIN (.629, .489, .070)	1
28	689A108	SUB-ASSEMBLY, RELEASE PISTON	1
29	P-690	O-RING, (1.129, .989, .070)	1
30	680B93	CAP, REAR	1
31	P-112	O-RING (.504, .364, .070)	1
32	P-650	RING, BACK-UP (.496, .390, .049)	1
33	680A92	WASHER, INDEX	1
34	P-554	SCREW, BUTTON HD. CAP, 1/4-28 X 3/8	1
35	P-356	SCREW, SOC. HD. CAP, 4.40 X 1/4	2
36	680A112	RING, ADJUSTER (INDLUDES 680A112-2)	1
37	680A113	KNOB, ADJUSTER	1
38	680A112-2	SPRING, FRICTION	1
39	P-572	STAT-O-SEAL (.430, .180, .125)	2
40	P-573	SCREW, BUTTON HD. SOC., 10-32 X 1/4	2
41	P-194	O-RING (.441, .301, .070)	2
530D149 SUB-ASSEMBLY, POWER UNIT			
42	P-204	RING, RETAINING (INT. 0.687)	2
43	530A21-3	WASHER	2
44	P-213	RING, BACK-UP, (.676, .500, .088)	4
45	P-215	RING, QUAD (.693, .487, .103)	2
46	P-196	O-RING (1.574 1.296, .139)	1
47	530B14	PLUG, PACKING	1
48	P-214	RING, BACK-UP, (4.745, 4.375, .185)	2
49	P-222	RING, QUAD (4.770, 4.350, .210)	1
50	530B15	PISTON, AIR	1
51	P-302	NUT, SLOTTED	1

ITEM NO.	PART NO.	DESCRIP TION	QTY.
52	P-301	PIN, COTTER, 3/32 DIA. X 3/4	1
53	P-537	RING, RETAINING (EXT. Ø 1.125)	1
54	530B92	CUSHION, BONDED	1
55	P-197	O-RING (4.762, 4.484, .139)	1
56	530C141	BASE, POWER UNIT	1
57	P-700	SCREW, FLAT HD. CAP, 5/16-18 X 1	6
58	530A113	SCREW, BUTTON HD. CAP, 3/8-24 X1/4	1
59	530A146	HANDLE, POWER UNIT	1
60	530A13B	CYLINDER, POWER	1
61	P-218	RING, QUAD (1.324, 1.046, .139)	2
62	P-209	RING, BACK-UP (.864 .688, .088)	2
63	P-216	RING, QUAD (.880, .674, .103)	1
98	530A60	SUB-ASSEMBLY, POWER PISTON AND ROD	
	64	530A62	CAP, PISTON ROD
	65	530A11	PISTON, POWER
	66	560A63	STOP, PISTON
	67	560A61	ROD, POWER PISTON
68	P-848	O-RING (.941, .801, .070)	4
69	530B179	SLEEVE, VALVE	1
70	530A178	SPRING	1
71	P-701	O-RING (.629, .489, .070)	3
99	530B143	SUB-ASSEMBLY, VALVE SPOOL	
	72	560B143-1*	SPOOL, VALVE
	73	700A18*	FILTER
	74	700A69*	SCREW, METERING
75	P-244	O-RING, (1.066, 926, .070)	2
76	530A144	PLUG, VALVE	1
77	530A145	MUFFLER	1
78	P-699	RING, RETINING (.INT. 0, .1.125)	1
79	530A34	SWIVEL	1
80	P-195	O-RING (.630, .424, .103)	2
81	530A35	BOLT, SWIVEL	1
82	P-73	SCREW, SOC. HD. CAP. 10-24 X .625	6
83	680C28	GRIP, PISTOL	1
84	703A33	SUB-ASSEMBLY, TRIGGER (INCLUDES P223)	1
85	P-223	O-RING (.285, .145, .070)	1
86	530A123-8	HOSE, HIGH PRESSURE	1
87	530A119-8	HOSE, AIR	1
88	530A122-8	HOSE, LOW PRESSURE	1
89	P-579	BUSHING, STEEL	3
100	680A37-1	SUB-ASSEMBLY, MANIFOLD	
90	P-456	FITTING, HOSE	3
91	P-670	SLAT-O-SEAL (.505, .240, .133)	1
92	P-225	SCREW, BUTTON HD. CAP. 1/4-20 X .375	1
93	680B34	BLOCK	1
94	680A41	STOP	1
41	P-194	O-RING (.441, .301, .070)	1
95	530B8	GASKET	1
96	P-64	SCREW, SOC. HD. CAP, 10-24 X .750	6

These parts cannot be purchased separately, but must be ordered as a sub-assembly.
** No Substitutions.

**EXPLODED VIEW
OF G686B-S RIVETER**



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Declaration of Conformity

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

declare under our sole responsibility that the product

type **G686B-S**

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

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