

ORIGINAL INSTRUCTIONS



Instruction Manual 
Pass on to user to read and keep for reference

G84-LS

Lockbolt® Split Power Tool



CHERRY®
AEROSPACE

THE CHERRY® G84-LS SPLIT RIVETER

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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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For more information please contact our Technical Services Department at Tel. 714-850-6154

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LUBRRIPLATE® is a trademark of Fiske Brothers Refining Co.

DESCRIPTION

The G84-LS is a powerful, rugged and compact split riveter designed for ergonomic, high speed and reliable operation. Adaptors are available for mounting most Cherry pulling heads; it will install most popular sizes and types of aircraft pull type fasteners including lock-bolts, blind-bolts, etc. This tool may be configured for comfortable left hand, right hand, in-line or pistol-grip operation.

TECHNICAL SPECIFICATIONS

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 check our website at <http://cherryaerospace.com>, under "Technical / Tooling Manuals"

SPECIFICATIONS:

OPERATING AIR PRESSURE 90 to 110 psi (6,2 -7,6 bar)

AIR QUALITY Clean, Filtered

HOSE LENGTH 10 Ft. (3,05 m)

PISTON STROKE 0.530 inch (13,5 mm)

PULLING FORCE 5,700 lbs. @ 100 psi
(25,35 kN @ 6,9 bar)

RETURN FORCE 2000 Lbs @100 PSI (8,89 kN max @ 6,9 bar)

WEIGHT

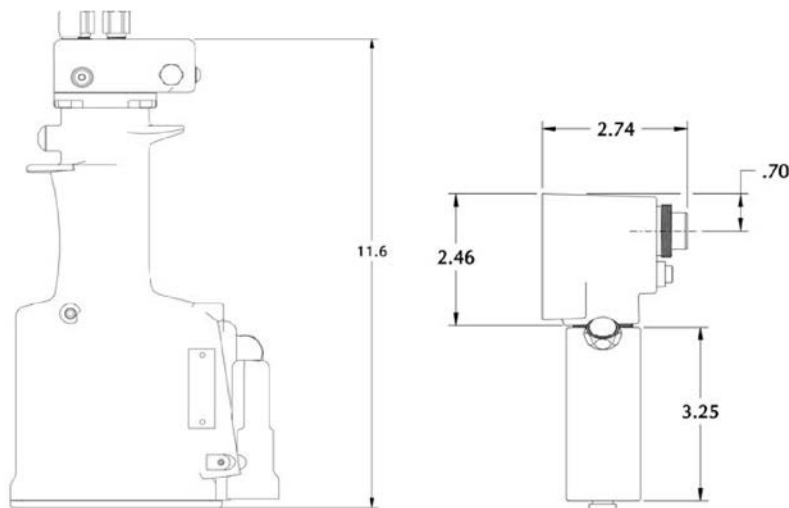
HAND HELD UNIT 3.0 lbs. (1,3 kg)

TOTAL 11.8 lbs. (5,3 kg)

NOISE LEVEL 66.5 dB (A)

VIBRATION 4.0 m/s²

AIR CONSUMPTION 0.34 SCF/cycle (9,63 L/cycle)



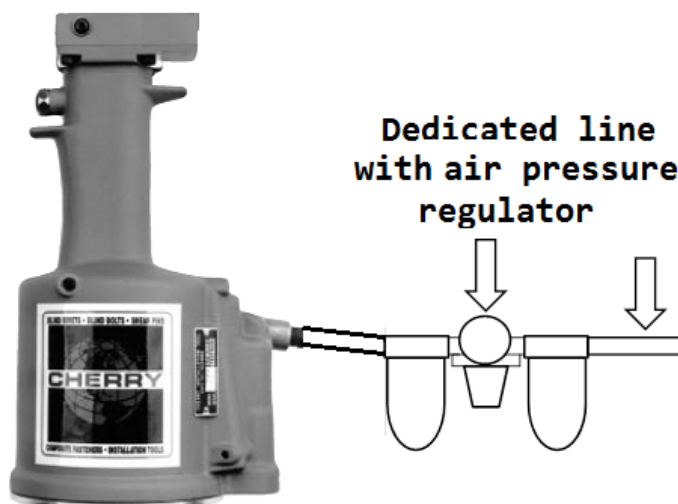
PUTTING THE TOOL IN SERVICE

The tool must be used with an air pressure regulator. Even if your shop air pressure is below the maximum recommended range, pressure spikes in your airlines could cause serious damage to the tool or cause safety concerns.

Tools with an integral Air Pressure Regulator (P1505), may be attached to any shop airline.



Tools without an integral Air Pressure Regulator (P1505), MUST be connected to a dedicated, regulated airline.



GENERAL SAFETY WARNINGS

General Safety Rules

- Read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on or working near this equipment. Failure to do so can result in serious bodily injury
- Only qualified and trained operators should install, adjust or use this tool and its accessories
- Do not modify this tool; modifications can reduce the effectiveness and compromise safety, increasing the risk to the operator
- Only use genuine Cherry components; use of unauthorized substitutions compromises the tool safety and void warranty. The consequences shall be at the customer's entire responsibility.
- Do not discard the safety instructions; distribute them to the operators using this equipment
- Inspect the tool periodically to verify that it is in good working condition and all the information is legibly marked. Contact Cherry Aerospace to obtain replacement new markings if necessary
- Do not use this equipment if it has been damaged.

Projectile hazards

- Unless otherwise specified, disconnect the equipment from the power source when servicing or changing accessories
- Be aware that failure of the workpiece or of this equipment can generate high velocity projectiles. Always wear impact resistant eye protection when operating the tool. The grade of protection required should be assessed for each use.
 - o The risks to others should also be considered; never pull rivet in the air or directed at any person
- Ensure that the workpiece into which the fasteners are installed is securely fixed and properly aligned and prepared
- Check that the means of protection from ejection of spent stems is in place and it is in good operating condition.
- Warn against the possible forcible front ejection when pulling fasteners in the air or when using front ejecting attachments.

Operating Hazards

- Use of tools can expose the operator's hands to hazards including crushing, impacts, cuts abrasion and chemical exposure from the internal hydraulic fluid. Use caution when operating this equipment and wear suitable gloves.
- Make sure that the operators and maintenance personnel are physically able to handle the bulk, weight and operating forces of this equipment. Instruct the operator on how the tool is correctly held and operated; be read to counteract the normal or sudden movements of this equipment and have both hands available.
- Maintain a balanced body position and secure footing
- Release the trigger button in case of interruption of the energy supply.
- Use only the transmission fluid and lubricants recommended by Cherry
- Avoid uncomfortable postures as these positions will not allow properly counteracting the operating forces of this tool
- If this tool is operated in a fixed position, make sure that the fixation device is properly secured.
- Beware of the risk of pinching or crushing if pulling head or adaptors are not mounted on this equipment

Repetitive Motions Hazards

- When using this tool, the operator may experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
- While using this equipment the operator should adopt a comfortable posture whilst maintaining a secure footing and avoiding awkward or off-balance postures. Change posture frequently during extended tasks to help avoid discomfort and fatigue
- If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling or numbness, these symptoms should not be ignored. Make sure the proper safety measures are taken and the operator comfort is properly assessed during the operation of this equipment.

Accessory Hazards

- Unless otherwise specified, disconnect from the air source before changing accessories or otherwise servicing this equipment
- Use only the sizes and types of tools and accessories recommended by Cherry to work with this equipment.

Workplace Hazards

- Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces around the area this equipment is in operation, fallen spent stems, and trip hazards created by the connecting air supply hose.
- Proceed with caution when in unfamiliar surroundings; there can be hidden hazards such as electricity and other utility lines
- This equipment has not been tested for use in potentially flammable or explosive environments; use caution when contact with electric power is possible as this tool has a metallic construction that has not fully insulated and tested against electric contact.
- Ensure that there are not electric cables, gas pipes, etc. which can cause a hazard if damaged by the use of this equipment.

Noise Hazards

- This tool meets the regulatory requirements for noise hazards; however, long exposure to noise can cause permanent, disabling hearing loss or tinnitus (ringing, buzzing in the ears). Use proper ear protection to minimize exposure to noise
- Appropriate controls should be taken when fixturing the workpiece to reduce noise amplification by "ringing" or impact shock; such controls may involve vibration dampening materials and methods.
- Make sure that the equipment is in proper working condition to avoid unnecessary increase in noise.

Vibration Hazards

- This tool meets the regulatory requirements for vibration; however, long exposure to the tool operating forces and especially if used in an uncomfortable posture can cause permanent, disabling damage to nerves and blood supply to hands and arms.
- Wear warm clothing when working in cold conditions and keep your hands warm and dry
- If you experience numbness, tingling, pain or whitening of the skin on your fingers or hands tell your employer and consult a physician.

Additional safety instructions:

- Pressurized air can cause severe injury:
 - o Always shut-off or disconnect from the air supply when tool not in used or when servicing the equipment
 - o Never direct air exhaust or direct air jet to yourself or anyone else
- Whipping hoses can cause severe injury; always check for damaged or loose hoses, valves and fittings
- Cold pressurized air shall be directed away from anyone's hands or body
- Do not exceed the maximum operating air pressure stated in this manual; if a regulated airline is not available, use the pre-set air pressure regulator P/N P1505 to protect against pressure spikes.
- Never hold or carry this equipment by the hose;
- Avoid dropping this tool on hard surfaces; do not pound on the rear of the tool head to force rivets into holes.

RECOMMENDED USAGE

This Riveter is designed to install pull type fasteners in conjunction with compatible pulling heads. Pulling heads suitable for G84-LSR or comparable riveters will mount directly with no adaptation. Most Cherry® pulling heads may be used with appropriate adaptation (see table). Note: The unit may be used for other applications if it operates within the given parameters, and appropriate safety precautions have been taken. Contact Cherry® Technical Services for more information.

PULLING HEAD INSTALLATION

Connect air source prior to mounting any pulling head; mount per manufacturer instructions.

Adapter	To Adapt to Tool Mounting System
744-500	Cherry® G744 mount
744-600	Cherry® G704B/747/746A
744-700	Cherry® G83A/G84 Bayonet
700-800	To adapt to H84B-568

RIVETER OPERATION

Hold the handle firmly and depress the trigger. Once the operation is completed, release trigger.

The tool may be re-configured for Pistol Grip or In-Line; see below for instructions.



Pistol Grip



In-line

RECONFIGURING TOOL GRIP FOR ACCESSIBILITY

Pistol Grip, In-line as well as Left/Right Handed configuration are possible. The standard factory configuration is for pistol grip, right hand operation.

Reconfiguring the tool (refer to Parts List on page 9):

- Remove the air source and place head cylinder higher than the power unit, over a pan to contain fluid spills.
- Remove some of the hose wrap from under the handle grip (figure 3)
- Slide hand grip (80) away from the head (figure 4).
- Mark which hose goes to "P" and "R" ports and unthread the hose fittings.

For in-line configuration

- Remove plugs the air hose, remove and rotate the Trigger Manifold
- Re-assemble the Trigger Manifold connecting the air hose

For in-line configuration

- Remove the pipe plugs (69) from the back ports;
- Thread the plugs (69) into the vacated holes and tighten them securely.

After reconfiguring the tool

- Thread and tighten the hose fittings in their place making sure to match the P and R ports with the right hoses.
- Bleed the hydraulic system.



TOOL SERVICE

Note: Minor fluid loss over time at the piston rod is normal, and does not indicate seal damage.

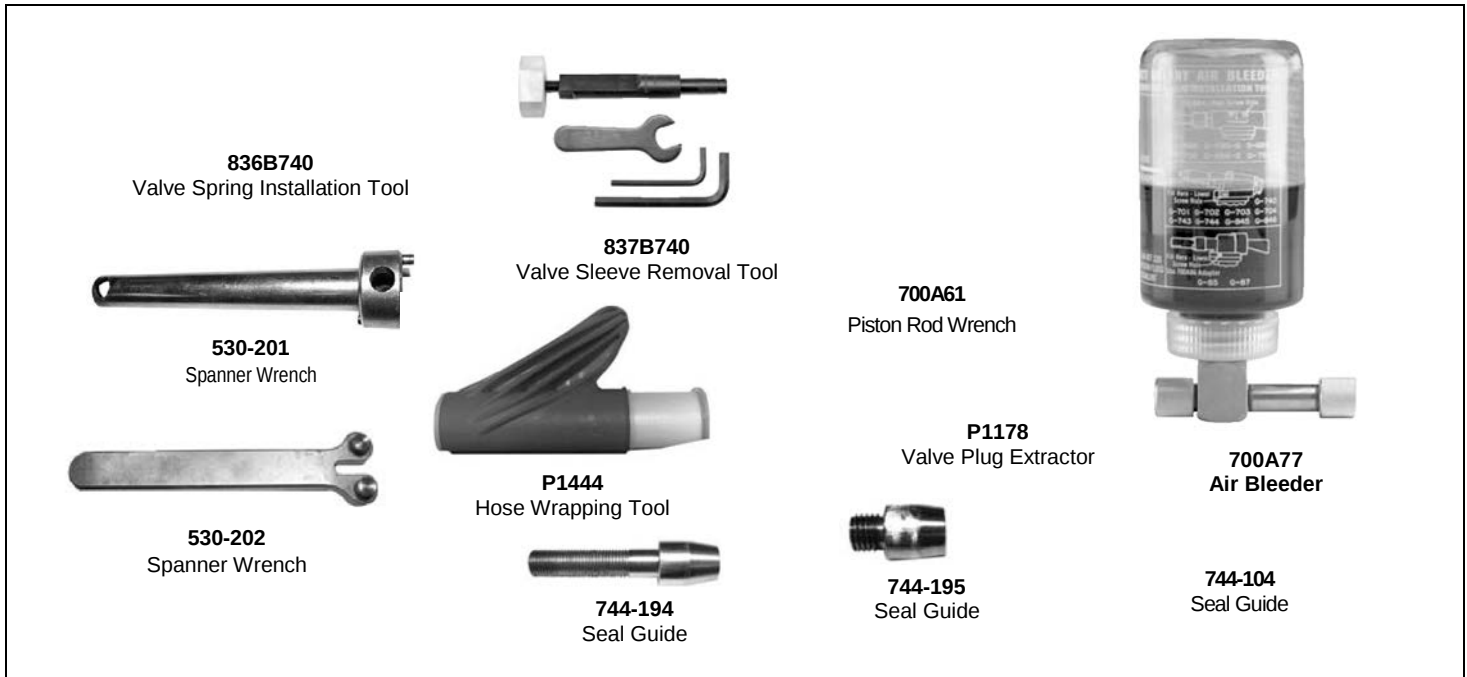
See troubleshooting guide (page 8) for simple tips on when tool maintenance or repair is necessary.

- Always remove the air source from the tools prior to performing any maintenance work.
- Establish a maintenance schedule according to your production needs to ensure optimum riveter operation
- Inspect routinely for fluid leaks around plugs, screws and fittings, moving parts.

Tool service is needed in case of tool malfunction, massive fluid loss or as part of your routine maintenance program.

TOOLS NEEDED: G84-LSKT – tool kit, needle-nose pliers,

G84-LSKS – service kit: complete seal and fastener set for tool service



SERVICE PROCEDURE



Maintenance and repair to be conducted only by trained personnel.

- Prior to attempting any repair or maintenance work, make sure the air is disconnected.
- Use special care handling sealing surfaces to avoid damage.
- Replace all seals; before re-assembly, apply an O-ring lubricant (Parker® silicone lube or equivalent) on all O-rings
- Apply a small amount of Loctite® 242 on the threaded components; curing time about 30 to 60 minutes.
- After service, the riveter must be primed with hydraulic fluid

AIR VALVE SUB-ASSEMBLY

Disassembly Instructions:

- Remove retaining ring (56) and muffler (55).
- Insert the valve plug extractor P1178 into the end of valve plug (54) and pull it out.
- Pull out the valve spool subassembly (86) the same way.

Note: In the unlikely event the valve sleeve (47) is irreversibly clogged, remove it as follows:

- Grab one end of spring (49) with needle-nose pliers and turn/pull to dislodge it from its groove
- After spring removal, pull out the valve sleeve (47) by using the removal tool 837B740.

Assembly Instructions: Reverse the above procedures; install valve sleeve (47) carefully with your fingers: gently push and wiggle it to allow O-rings to slip in. Install spring (49); use tool 836B740 to push it firmly into the groove

HEAD CYLINDER SUB-ASSEMBLY (744-202)

Caution: Remove Pulling Heads or other attachments before attempting to disassemble.

Disassembly instructions:

- Remove screw (57) and unscrew lock ring (58) with spanner wrench 530-202.
- Drain the fluid over an oil pan; dispose according to environmental regulations.
- Remove rear stop (59) and piston (63) by pressing them out of the rear of the subassembly.
- Remove seals (60, 61, 62, 63, 65, 66, 67 & 68) carefully using a bent hook tool.

Assembly instructions:

- Inspect all components to make sure all surfaces are clean and free of burrs or debris.
- Install O-ring and back-up ring (67 & 68) into groove of head cylinder (70).
- Thread seal guides 744-194 & 744-195 on both sides of the piston (64).
- Mount O-ring and back-up ring (65 & 66) onto the piston (64).
- Carefully push/twist piston (64) into the head cylinder (70) bore, pressing it all the way in.
- Assemble O-ring, backup ring (60 & 61) and O-ring, Back-up ring (62&63) onto rear stop (59) and carefully press it into the head cylinder.
- Thread-in lock ring (58) using spanner wrench 530-202 and secure it with screw (57); use Loctite® 242 on threads. Remove seal guides.

Swivel Assembly Instructions:

- Apply Loctite 545 on the male threads of swivel (75).
- Thread swivel (75) into head cylinder (70) and thread until hand tight.
- Using a 7/16 wrench, tighten threads by rotating one full turn from initial thread seating to secure in place; **do not over tighten**.
- Allow Loctite to cure for 24 hours for full strength.

HANDLE SUB-ASSEMBLY (744-189)

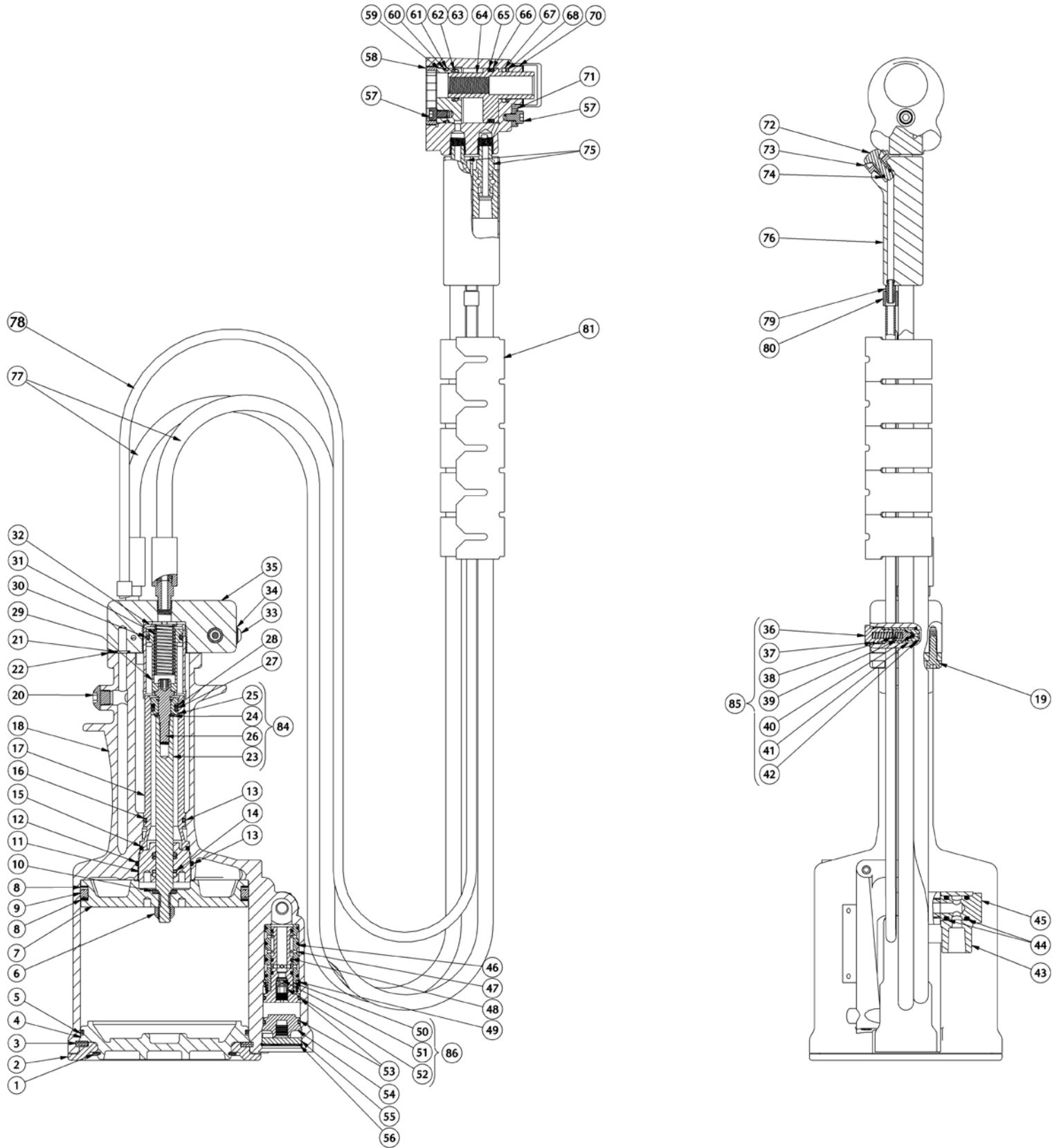
Disassembly Instructions: Make sure that the air supply is disconnected before proceeding.

- Unscrew cap screws (19) and remove manifold (35);
- Drain the fluid completely into a pan and dispose according to environmental regulations.
- Remove gasket (22) and O-rings (21)
- Remove retaining ring (1) and the base cover (2) from the bottom of the unit.
- Remove retaining ring (3) and carefully pry handle base (4) from the bottom of the unit, using a screwdriver.
- Engage wrench 700A61 into the hex socket of the piston rod cap (26).
- Remove locknut (6) with a ½ inch (13 mm) socket, while holding with the wrench; unscrew air piston (7) by using wrench 530-201 and a 1 inch (26 mm) socket.
- Pull the air piston (7) out through the bottom of the unit with the help of the tool P1178.
- Remove power piston subassembly (84) through the top of the handle (18) using the guide tool 744-104.
- Remove the packing plug (11) with the help of wrench 530-201 and a 1 ¼ inch (32 mm) Socket.
- Note: To loosen it, hold the handle upside down in a vise, if necessary.
- Remove the O-rings (12 and 13) and back-up rings (14) with a thin, bent hook.
- Place an 1 inch (25,4 mm) rod on top of power cylinder (17) and tap it out carefully through the bottom of the unit with a mallet.

Assembly Instructions: Lubricate O-rings with Parker® silicone O-ring lube or equivalent and handle all seals with care.

- Make sure the gaskets and seals are in good condition and are placed correctly.
- Insert the power cylinder (17) with O-rings (15 & 16) into the handle (18) bore through the bottom of handle. To properly seat it, place an 1 inch (26 mm) bar against its bottom surface, and carefully tap into place with a mallet.
- Insert O-rings (13) and back-up rings (14) in packing plug (11).
- Thread packing plug in tightly against the power cylinder (17) using wrench 530-201 and a 1 ¼ inch (32 mm) socket.
- Thread seal guide tool 744-104 into the end of the power piston (25) then push into the bore of the power cylinder (17) through the top of handle (18). Tap it through the packing plug (11) with a mallet; remove the seal guide.
- Using wrench 530-201 insert air piston (7) with quad ring (9) and back-up rings (8) into the main bore of the handle (18) until it engages the threaded end of the power piston (25); tighten them together wrench 700A61.
- Thread and tighten locknut (6) onto power piston (25) with a ½" socket (13 mm) at 50 to 59 in-lbs (5,65 to 6,67 N-m).
- Insert handle base (4) with lubricated O-ring (5) into the bottom of the handle (18) and tap it into its seat.
- Place retaining ring (3), base cover (2), and retaining ring (1).
- Push the piston downwards with the help of wrench 700A61.
- Fill the handle subassembly with fluid to about 1/8 inch (3 mm) above the top of the power piston (17).
- Place new gasket & O-rings (21, 22) on top of handle (18); mount the manifold (35) tightening screws (19) evenly.

G84-LS CROSS SECTIONAL VIEW



PART LIST FOR THE G84-LS SPLIT RIVETER (744-190)

ITEM NO.	PART NO.	DESCRIPTION	QTY
744-189		Sub-Assembly, Handle	1
1	P884	Ring, Retaining	1
2	740B5	Cover, Base	1
3	P886	Ring, Retaining	1
4	740C4	Base, Handle	1
5	P890	O-Ring	1
6	P1392	Nut, Conelok	1
7	744-094	Piston, Air	1
8	P909	Ring, Back-Up	2
9	P887	Ring, Quad	1
10	744-095	Washer, Air Piston	1
11	744-165	Plug, Packing	1
12	P889	O-Ring	1
13	P1405**	O-Ring	2
14	P1410	Ring, Back-Up	2
15	P892**	O-Ring	1
16	P833**	O-Ring	1
17	744-161	Power Cylinder	1
18	743A11	Handle	1
19	P73	Cap Screw, Soc. Head	4
20	530A113	Cap Screw, Button Head.	1
21	P832**	O-Ring	2
22	744-171	Gasket, Manifold	1
84	744-122	Sub-Assembly, Power Piston And Rod	1
	23	744-164*	Rod, Power Piston
	24	740A12*	Stop, Piston
	25	744-163*	Piston, Power
	26	744-087*	Piston Rod Cap
27	P1406	O-Ring	1
28	P213	Back-Up Ring	1
29	744-160	Piston, Return	1
30	P104	O-Ring	1
31	P1414	Spring, Compression	1
32	744-175	Cylinder, Return	1
33	P573	Screw, Button Hd. Cap	2
34	P572	Stat-O-Seal	2
35	744-188	Manifold, Handle	1*
85	700-214	Sub-Assembly, Relief Valve	1
	36	700-218	Seat, Spring
	37	P383	O-Ring
	38	P1366	Spring
	39	700-217	Valve Piston
	40	P688	Ball
	41	700-215	Ball Seat
	42	P111	O-Ring
43	530A34	Swivel	1
44	P195	O-Ring	2
45	530A35	Swivel Bolt	1

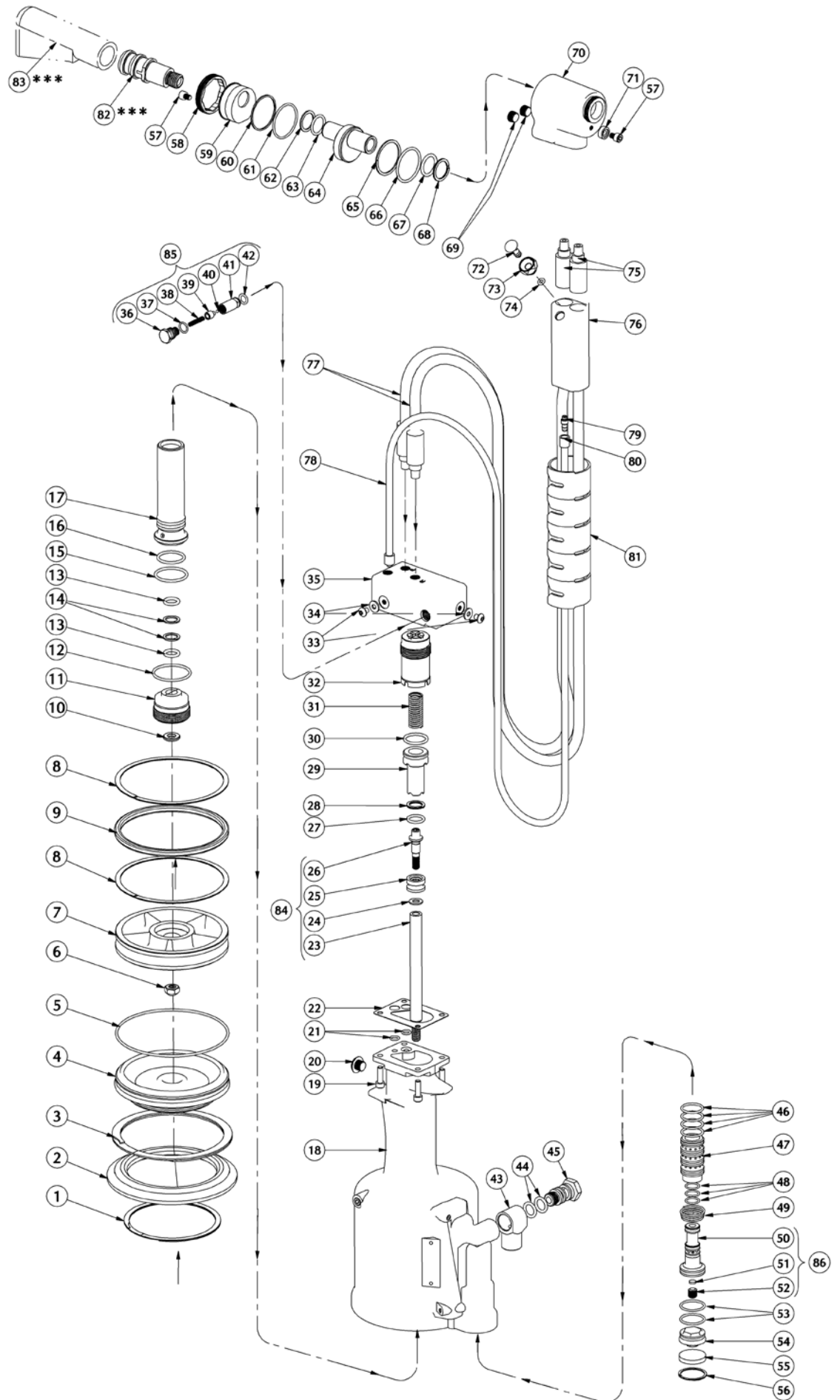
ITEM NO.	PART NO.	DESCRIPTION	QTY
	46	P268	O-Ring
	47	740B14	Sleeve, Valve
	48	P891**	O-Ring
	49	740A18	Spring
	86	740A15	Sub-Assembly, Valve Spool
	50	740B15-1*	Valve Spool
		700A18*	Filter
		700A69*	Metering Screw
	53	P848	O-Ring
	54	740B16	Valve Plug
	55	740A17	Muffler
	56	P321	Ring, Retaining
	744-202	Sub-Assembly, Head Cylinder	1
	57	P85	Screw, Soc. Hd. Cap
	58	744-144	Lock, Ring, Power
	59	744-142	Stop, Rear
	60	P1419	Ring, Back-Up
	61	P1420	O-Ring
	62	P1411	Ring, Back-up
	63	P1407	O-Ring
	64	744-140	Piston, Head
	65	P1412	Back-up Ring
	66	P1409**	O-Ring
	67	P1408**	O-Ring
	68	P209**	Ring, Back-up
	69	P698	Pipe plug, Level Seal
	70	744-168	Cylinder, Head
	71	744-145	Stop, Pulling Head
703A33	Sub-Assembly, Trigger		1
	72	530A38	Trigger
	73	703A32	Trigger Sleeve
	74	P223	O-Ring
75	744-150		Swivel
76	744-185		Trigger
77	P1415		Hose Assembly
78	744-186		Air Tubing
79	P1453		Barbed Air Fitting
80	P1452		Tubing Clamp
81	744-193		Cable Wrap
82	744-503***		Pin Deflector Fitting (sold separately)
83	530A16***		Pin Deflector (sold separately)
84	435-092		CE CERTIFICATION LABEL
85	435A60		WARNING LABEL

* Only within subassembly; component not sold separately.

** No Substitutions

*** Not provided in standard configuration - to be purchased as needed.

**G84-LS
EXPLODED
VIEW**



FILL AND BLEED



Figure 15

Figure 12

Figure 13

Figure 14



Figure 16



Figure 17



Figure 18



Figure 19



Figure 20

Required tools: Pressurized oil source with correct fitting (#10-32)

A. Replenishing the fluid (refer to page 9 for Component List)

This operation is necessary when a major fluid loss occurred.

- Connect to an air source
- Depress and hold the trigger; disconnect from the air source while holding the trigger depressed.
- Make sure the piston is fully retracted; if not, press it manually.
- Figure 12: Remove the screws (33) from the side and back of manifold (35)
- Figure 13: Thread a pressurized fluid source into the side hole; pump fluid until it flows out smoothly, without any bubbles.
- Figure 14: Thread and tighten the cap screw.
- Figure 15: Remove "R" plug (69) from the head cylinder
- Figure 16: Pump fluid until it flows smoothly, without air bubbles
- Figure 17: Thread in and tighten "R" plug (69) and remove "P" plug (69).
- Figure 18: Place a cloth over the head cylinder to contain the air and fluid that will squirt out of the "R" port
- Figure 19: Connect riveter to an air source and then remove cloth
- Figure 20: Pump fluid until it flows smoothly with no air bubbles
- Thread-in and tighten the "P" plug (69); bleed per instructions given below.

PRIMING THE HYDRAULIC SYSTEM

RECOMMENDED HYDRAULIC FLUID

The riveter is supplied with **Dexron® III ATF type “A”**.

Specific gravity:	0.863
Weight per gallon:	7.18 lbs.
Open flash point:	>200°C (392°F)

COMPATIBLE ALTERNATE FLUIDS*

- **Automatic Transmission Fluids:** DEXRON IV, DEXRON VI, MERCON, Allison C4 or equivalent.
 - **Hydraulic Fluids:** Hyspin® VG32, Aeroshell fluid 4
- *If just topping off the fluid, make sure to test the compatibility of the selected fluid with fluid inside of the tool.

⚠ CAUTION ⚠

- **DO NOT MIX DIFFERENT TYPES OF HYDRAULIC OILS AND TRANSMISSION; HYDRAULIC AND TRANSMISSION FLUIDS ARE NOT COMPATIBLE DIFFERENT TYPES OF FLUIDS MAY NOT BE COMPATIBLE WITH EACH OTHER.**
- **PHYSICAL PROPERTIES AND MATERIAL SAFETY DATA SHEETS FOR DIFFERENT FLUIDS MAY DIFFER FROM THE ONE GIVEN BELOW, BUT THE SAFETY INFORMATION STILL APPLIES; CHECK WITH THE FLUID MANUFACTURER FOR ADDITIONAL MSDS AND SPECIFIC PROPERTIES.**

FLUID HANDLING SAFETY

 ENVIRONMENTAL		• Waste Disposal in accordance with the applicable regulations
		• Soak up spills with diatomaceous earth or other inert materials. • Keep from drains, sewers and water courses. • Filter and recycle used fluid; otherwise store and dispose of according to the applicable regulations.
 HANDLING		• Eye protection is required. • Protective gloves, chemically resistant boots and apron are recommended.
 FIRST AID		• Flush eyes thoroughly with water. • If irritation develops, consult a physician.
		• To prevent inhalation, use in well-ventilated area. • Short term exposure should pose no adverse health effects. • If inhalation occurs, remove the affected person from the contaminated area and apply artificial respiration if needed.
		• DO NOT INDUCE VOMITING. • Seek medical attention immediately.
		In case of skin contamination: • Wash thoroughly with soap and water as soon as possible. • Brief skin contact requires no immediate attention. • If irritation develops, consult a physician.
 COMBUSTIBILITY		• It is slightly combustible when heated above flash point. • It will release flammable vapors which can burn in open or be explosive in confined spaces if exposed to source of ignition. • Do not store near open flames or other sources of ignition.
		• In case of fire, use only suitable extinguishing media: CO2, dry powder, foam or water fog. • CAUTION: DO NOT USE WATER JETS.

FILL AND BLEED INSTRUCTIONS



- Required tools: Air Bleeder P/N 700A77.
- Procedure:



- Remove screw (33) and attach the air bleeder (700A77)
- Connect riveter to an air source
- Place the handle subassembly (744-189) sideways in a vise, with the head casting (744-202) placed below it; make sure that the air bleeder is upside down (see picture on the right).
- Push and release trigger several times, observing the fluid inside the Bleeder bottle; repeat until no air bubbles are observed in the bottle during operation



- Disconnect the air bleeder and seal by tightening screw (33)

Caution: Do not depress the trigger before the screw (33) is tightened.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE REASONS / SOLUTIONS
Piston does not move after depressing Trigger	- No air supply is connected: Connect to a clean, filtered air source at 90 to 110 psi (6,2 to 7,6 bar).
	- Faulty trigger: Remove and replace trigger assembly.
	- Broken power piston: Service the Handle Subassembly
Short stroke or low pull force	- Significant fluid loss: Bleed the system. If performance doesn't improve, or excessive leakage continues, see below.
Head Cylinder Fluid leakage	- Leaks around the plugs (69) or fittings indicate that they are not tightened to seal properly: Tighten until no more leaks are observed.
	- Leaks at the front or back of head cylinder (70) indicate worn or damaged seals:
	Service the head cylinder
Air leakage at the valve	- Broken or dislodged spring (49).
	- Worn or damaged valve spool seals: Disassemble and service air valve
Head piston (64) is slow or seizes	- Piston or seal damage: Service head cylinder
	- Oil bypassing due to power piston (25) displacement of its seat in subassembly (84): Service Handle Subassembly
	- Clogged muffler (55) or air filter (51): Clean thoroughly with solvent and back-blow with compressed air.
	- Lock ring (item 58) is not secured due to loose cap screw (57): Tighten lock-ring, and then secure it by tightening cap screw. Use Loctite® removable thread locker to secure it.
Head Piston (64) does not return fully forward even after system bleeding	- Pressure relief valve (85) malfunction: Remove valve then O-ring (42) from the manifold (35). Clean and dry thoroughly components. Replace O-Ring (use Parker® silicone O-ring lube or equivalent). Re-assemble valve; make sure the O-ring (42) is seated concentrically inside of the valve cavity before installing the Ball-seat (41) into the manifold (35).
	- Compression spring (31) is damaged or broken: Remove handle manifold (35) and replace the damaged spring. Re-assemble, fill and bleed

Parker Hannifin Corporation

**CHERRY[®] AEROSPACE**
SPS Fastener Division, a PCC Company

Declaration of Conformity

We, *Cherry Aerospace*

Located at 1224 East Warner Avenue, Santa Ana, CA 92705-0157, USA,

In accordance with the provisions of

Machine Directive 2006/42/EC

Hereby declare under our sole responsibility that:

Equipment: Pneumatic Hydraulic Hand Riveter

Model Number: G84-LS

Serial Number: _____ Date of Issue: _____

Is in conformity with the applicable requirements of the following standards:

EN ISO 12100:2010	Safety of Machinery; General Principles; Risk Assessment and Reduction
ISO/TR 14121-1&2:2012	Safety of Machinery, Risk assessment
ISO11148-1:2011	Hand Held Non-electric Power Tools- Safety Requirements
ISO 8662-11:1999	Hand-held portable power tools -- Measurement of vibrations at the handle
ISO 3744:2010	Acoustics – Determination of sound power levels of noise sources
ISO 4413:2010.	Hydraulic fluid power - General Rules of safety
ISO 4414:2010.	Pneumatic fluid power - General Rules of safety

Signed by:

Cris Cobzaru,

Master of Science in Mechanical Engineering

Sr. Technical Services / Installation Tooling Engineer

The Technical documentation for the machinery is available from:

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CE Representative and Tech Services Engineer

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