



SPR-Pro HAND-HELD RIVETER



OPERATOR MANUAL

SPR-Pro Safety Instructions

1. WARNINGS



It is essential that operator must be fully trained in correct procedures and have thoroughly read this instruction manual before operation.



Untrained operators must not have access to the tool as a dangerous situation could result in harm to both the operator as well as the tool.



This instruction manual must be kept with the tool and attention must be paid to the **safety requirements** identified below.

2. Work environment

- a) Keep the work environment clean with adequate lighting. Tool and dies need to be aligned and accurately placed to prevent accidents.
- b) Tool should only be used in a work environment with people present who are directly related to its use.
- c) Do not use or store tool in the presence of strong acids, alkalis or other corrosive liquids, gas or in a high temperature environment.
- d) Do not charge batteries or use this device in the presence of flammable or explosive liquids, gases or dust.

3. Electrical safety


- a) The wall electrical socket must match the power plug of the charger. The plug must not be modified in any way.
- b) Do not use any batteries or battery charger other than those supplied with the tool. All replacement batteries and battery chargers must be sourced from **H&S Autoshot** and be specifically designed for use with the **SPR-Pro**.
- c) Do not expose, store, or use **SPR-Pro**, its chargers, rechargeable batteries, to rain or humid environments. If water enters the electrical system, it may cause electric shocks or damage the control system.
- d) Do not short-circuit or incinerate the battery due to the risk of explosion. Rechargeable batteries contain nickel and cadmium, which may be hazardous to the environment if disposed of in a landfill or incinerator; therefore, they must be disposed of at a hazardous waste collection site, a recycling facility, or a battery-recycling electronics retailer.

4. Personal safety

- a) Do not operate the **SPR-Pro** while fatigued, using medication, under the influence of alcohol or while receiving treatment that restricts body response or movement.
- b) Protection clothing and safety gear must be worn at all times when using the **SPR-Pro**. This includes the use of safety glasses, non-slip closed toe shoes, leather gloves and non-loose work clothing.
- c) At all times, no part of the body, such as fingers or hands should be placed within the working jaws of the tool due to the risk of injury through accidental activation of the machine or pinch points.
- d) At all times when not in use, the tool should be kept in the storage case and out of the reach of untrained personnel.

5. Tool safety

- a) Ensure that the trigger switch can operate effectively without becoming stuck. If any problems exist, stop using tool and repair.
- b) The stop-block and screw on the clamp head are designed to prevent detachment of the head during operation. Be sure it is secure and cannot be remove as it may cause a serious injury if not secure.
- c) Before use, remove any grease or dust on the handle and control components, to prevent slipping during operation that could damage tool and/or result in operator injury.
- d) The built-in safety valve has undergone strict pressure testing before leaving the factory and must not be modified. If insufficient pressure is encountered, return tool to the manufacturer for approved pressure test.

 **The tool must not be operated when there are no dies installed in the arm and cannot be operated in any case without material between dies. Running tool or dies “dry” will result in breakage!!**

 **Keep this manual secure and read it before operation.**

1. About SPR-Pro

Thank you for choosing **H&S Autoshot UNI-6800** rechargeable hydraulic riveting gun. This tool features a high-performance lithium battery, motor drive, MCU control, ultrahigh pressure hydraulic system and high precision integrated mechanical and electronic technology with a compact ergonomic design. The SPR-Pro is easy and convenient to operate, provides high output power and safe operation making it highly efficient and time saving for all riveting applications. The SPR-Pro is the perfect choice to join various sheet metals in different applications such as automotive repair, HVAC, aerospace, general manufacturing, electric power construction and many other assembly and construction applications.

2. Specification and configuration



Output force	40-80KN Operator adjustable
Pressure accuracy :	±3%
Work stroke :	35~40mm
Work period :	3-5s/time
Motor voltage :	18V DC
Battery :	DC 18V 4.0AH lithium battery
Charger :	AC 100V-240V 50-60HZ
Charging time :	Approx. 1 hour
Work temperature :	-10°C-40°C
Hydraulic oil :	15# Low condensation anti-wear hydraulic oil 100ml
Work time/full charge :	130~350times (varies according to work pressure)
Noise :	75dB

3. Precautions before use

- a) Battery life under normal use is approximately 600 charging and discharging cycles. The battery should be replaced when there is a significant reduction in the number of rivets that may be installed between recharging cycles. When installed correctly it tones once.
- b) When the tool is left unused for a long time, self-discharge of the battery will occur; therefore, battery should be fully charged once every three months.
- c) In operation, the battery will provide an audible warning when it requires recharging or replacement with an alarm sounding three times and a visual alarm with a red-light flashing.
- d) The machine is equipped with over-temperature sensor to protect the motor. Long time consistent usage may cause the red light and audible alarm to activate. alarm. Which indicates that the machine is in normal circuit protect mode. In this situation, let the machine rest for 3-minutes after alarm resets.

4. Setting of pressure

- a) **Remove the battery from the tool to ensure no possibility of operation when installing dies.**
- b) Install UNI-6881 Flattening Dies (N7B) by loosening set screws with T-handle Allen wrench in extension arm and piston plunger. Insert die posts with flat facing the set screw and lightly tighten set screws to hold in place.



Insert dies against step collar before tightening set screw. If not completely inserted, die pressure may damage or break dies!!

- c) Reinstall battery (“da” beep) and press the trigger once to observe “WELCOME” on the LCD screen confirming it is in start-up mode.



Do not press the trigger or any button on LCD screen when the machine is in start-up process.

- d) Review LCD screen to confirm maintenance icon is not illuminated, battery is not less than 25%, usage is less than 450cycles and pressure setting aligns with application.

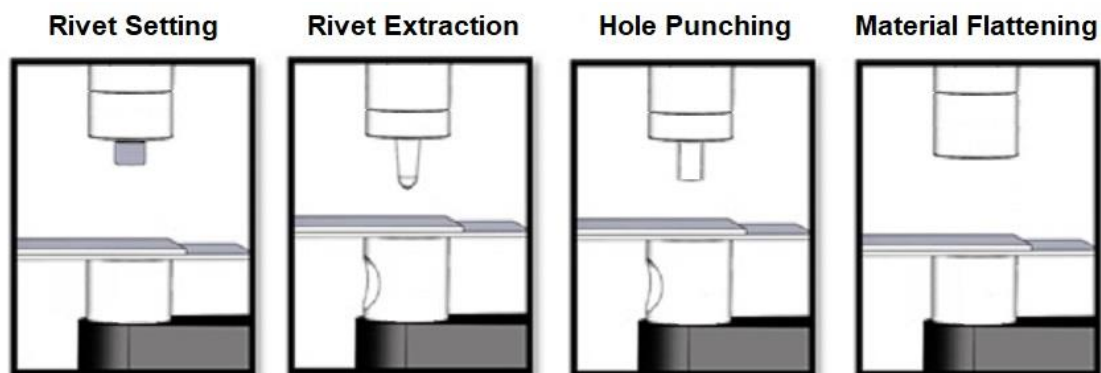
5. Operation

- a) Once set-up has been completed, desired pressure setting is shown and correct dies for the application are installed, SPR-Pro is ready for operation.
- b) Align tool perpendicular to the material surface and press and HOLD the trigger to start the process. When set pressure is achieved, the internal pressure relief valve opens and the piston rod retracts to the initial position. At this time, LCD screen displays the peak pressure and waits for the next operation.
- c) In the event the pressure value is abnormally high or exceeding the limit set point, the device will automatically cut off the pressure and retract to prevent damage to machine or panel.
- d) In operation, if it is necessary to stop the process for any reason, operator may press the manual release button as shown below.

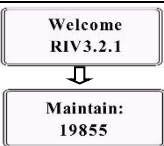
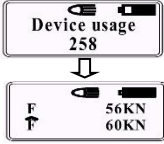

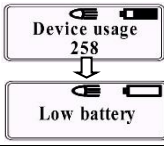


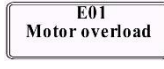
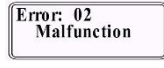
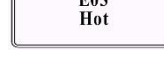
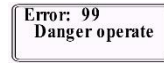
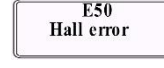

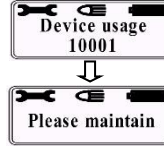
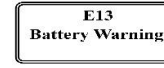


All pressing operation will stop and piston rod will retract to full open position.

- e) Rivet setting & extraction, hole punching & flattening die set-ups:



6. Common faults on LCD screen display

No.	OPERATION	RED LED	WHT LED	BEEP	LCD SCREEN	MEANING
1	Power ON & Self-check	□□ (2Hz)				Self-check, system is normal and in standby state
2	Press on start button		Last 20s Light off			Activate device, ready to work
3	Lighting		Last 20s Light off			Start to work, battery level
4	Battery charging reminder	□□□□ (2Hz)				Low battery, must charge in time
		□ (5s)		○○○○○ (2Hz)		Low battery, must charge immediately
		□ (100ms)				Empty screen, low battery, charge immediately
5	Motor overloaded	□□□□ (2Hz)		○○○ (2Hz)		Reason: ①Motor Overload, ②The Pump jam, ③The gear box jam. Reinstall the battery and test again. If still not working, motor replacement may be required. Contact factory.
6	Hydraulic system failure	□ (5s)		○ (5s)		If the pressure doesn't build after the hydraulic system runs for 120 seconds, try reinstalling the battery and test it again. If it's still not working, pump replacement may be required. Contact factory.
7	Over-temperature warning	□□□□ (2Hz)		○○○○ (2Hz)		Motor is over heating due to operation beyond duty-cycle(> 160F). Let unit cool for 10-minutes.
8	Hazardous operation protection	□□□□ □ (2Hz)		○○○○○ (2Hz)		Pressing trigger continuously or too quickly will cause over cycle protection circuit to engage. Reinstall the battery and do not press trigger with high frequency.
9	Hall signal is abnormal	□ (3s)				Reinstall battery. Check if hall signal cable and motor power cable are connected.
10	Abnormal pressure	□ (10s)		○ (10s)		Reinstall battery, if fault can not be cleared contact manufacturer.
11	Maintenance reminder			○ (0.5s)		Device needs maintenance
12	Battery over-temperature	□□ (2Hz)				Swap battery and let the previous one cool down before using or charging it again.

7. Trouble shooting

Item	Failure	Cause analysis	Troubleshooting
1	Device won't start	Discharged battery	Charge the battery
		There is problem with circuit	Contact distributor or manufacturer for repair
		Dead battery	Replace battery
2	During operation, output pressure cannot reach set point pressure	Low level hydraulic oil	Add or change hydraulic oil
		Contaminated hydraulic oil	Change hydraulic oil
		Internal hydraulic oil leakage	Contact distributor or manufacturer for repair
3	Start the machine but no pressure output	Low level hydraulic oil	Add or change hydraulic oil
		There is air in hydraulic system	Contact distributor or manufacturer for repair
		Hydraulic oil temperature is too low	Machine ambient temperature: 10°C ~ 40°C (50°F ~ 104°F)
4	Oil leakage on piston plunger and pressure valve	Damage of oil sealing components	Contact distributor or manufacturer for repair
5	Significant oil leakage in gun body	Oil reservoir plug loose or failure	Replace plug & add hydraulic oil. Contact distributor or manufacturer for repair
6	ST clinching point is too thick, clinch is not qualified	Machine does not reach the set pressure	Refer to item 2 above
		Use the wrong dies	Change to the correct dies
7	ST clinching point thickness is ok, but clinch is not qualified	Use the wrong dies	Change dies according to sheet materials and thickness
8	Male die post is difficult to remove	Pressure is too high	Adjust pressure lower
		Die post damaged or exceeded service life	Replace die
9	Inaccurate pressure	Pressure adjustment valve is damaged	Contact distributor or manufacturer for repair

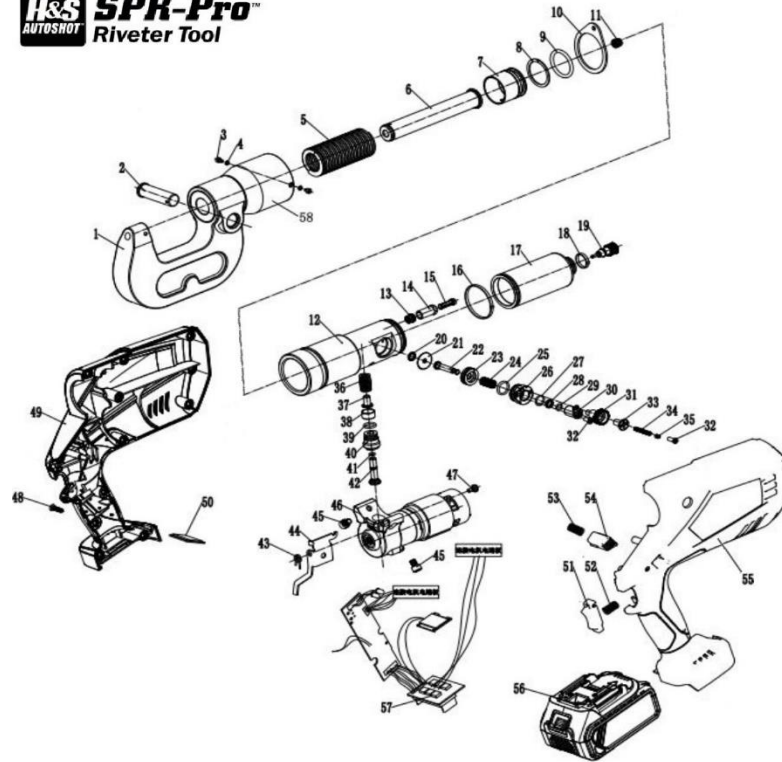
8. Maintenance

- a) This is a precision high-pressure electro-hydraulic tool. Do not disassemble or remove internal parts. Failures caused by unauthorized disassembly or damage caused by improper use will void the warranty.
- b) Keep the device and spare parts dry. Rain, humidity, liquid or moisture may corrode the cover, metal surfaces and electronic circuits. If the device gets wet, take out the battery and wait until the device is completely dry before reinstalling and testing unit.
- c) Do not store the device in a place that is too cold or too hot. This may deform the plastic parts of the device, shorten the life of electronic components, and damage the battery.
- d) Avoid dropping the tool or subjecting it to rough usage to avoid irreversible damage to electrical or hydraulic components.
- e) Do not use strong chemical agents or strong detergents to the clean tools. A soft dry cloth should be used for wiping and cleaning.
- f) When the tool is stored or unused for a long period of time:
 - i. Please reset the piston rod to the full retract position.
 - i. Turn the pressure knob to minimum (counterclockwise) position.
 - ii. Wipe the surface of the device clean and evenly apply anti-rust grease on the metal surface of the device and spare parts.
 - iii. Remove the battery and store it in the carrying case, recharge batteries every three months.
 - iv. Store the dies properly for future use with a light anti-rust oil applied.
- g) The sealing element is a single use part and a non-owner replaceable unit. If hydraulic oil leaks out, contact the dealer or the manufacturer to have an approved professional repairer to replace the sealing element.

9. Dies & Accessories

UNI-6805	SPR-Pro Rivet Gun	UNI-6875	3.3mm Extractor-M A1
UNI-6806	Ext. Arm 42 X 82	UNI-6876	3.3mm Extractor-F N1B
UNI-6807	Ext. Arm 128 X 85	UNI-6877	5.3mm Extractor-M A2
UNI-6808	Ext. Arm 222 x 81	UNI-6878	5.3mm Extractor-F N2N
UNI-6809	Blind Rivet Adapter	UNI-6879	Flow Form-F Die N6B
UNI-6810	Battery 4.0 Ah Li-on	UNI-6880	Extender Die 32mm
UNI-6815	Blind Ferrule 3/32" N2	UNI-6881	Flattening Die N7B
UNI-6816	Blind Ferrule 1/8" N3	UNI-6882	Solid Rivet Die N12B
UNI-6817	Blind Ferrule 5/32" N4	UNI-6883	6.5mm M-Punch A30B
UNI-6818	Blind Ferrule 3/16" N5	UNI-6884	6.5mm F-Punch N14B
UNI-6870	Die Kit Standard 16 Pc.	UNI-6891	Allen Wrench 2mm
UNI-6871	3.3mm Setting-M A7	UNI-6892	Die Storage Case
UNI-6872	3.3mm Forming-F N5B	UNI-9893	Gun Storage Case
UNI-6873	5.3mm Setting-M A8		
UNI-6874	5.3mm Forming-F N13B		

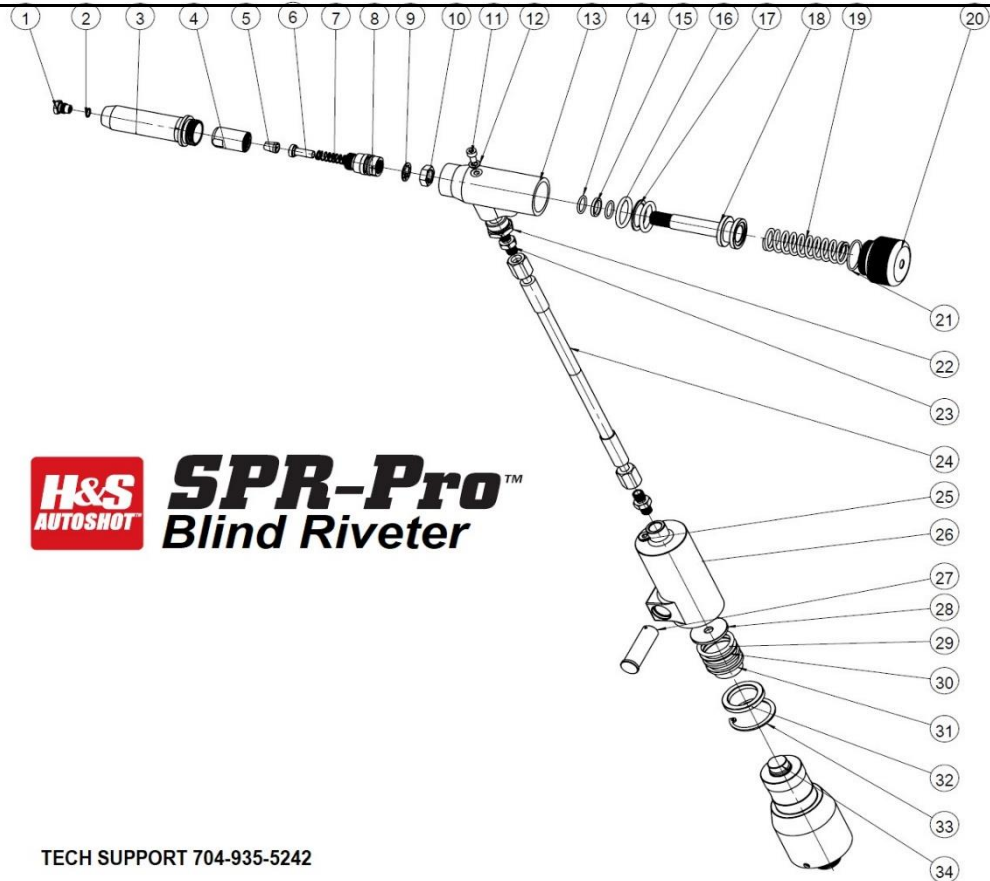
10. Parts



			Replacement Parts List		
S. No	Name	Qty	S. No	Name	Qty
1	Extension arm	1	30	Pressure adjusting piston	1
2	Lock pin	1	31	Pressure adjust knob	1
3	Hex socket head cap screw M3*5mm	2	32	Pressure adjusting screw	2
4	Spring washer	2	33	Dial indicator	1
5	Piston reset spring	1	34	Hex Socket Flat Point screw M4*25mm	1
6	Piston rod	1	35	Hex Socket Flat Point screw M4*6mm	1
7	Piston	1	36	Plunger spring	1
8	Plastic Piston ring	1	37	Spring column	1
9	Sealing Piston ring	1	38	Low pressure piston	1
10	Ring for sling	1	39	Sealing O-ring	1
11	Oil outlet one-way valve	1	40	Plunger liner	1
12	Cylinder Body	1	41	Sealing O-ring	1
13	Oil inlet one-way valve	1	42	Plunger	1
14	Filter holder	1	43	Torsion spring	1
15	Filter	1	44	Pressure relief lever	1
16	Cable tie 4*200mm	1	45	Hex socket head cap screw M6*8mm	2
17	Oil Tank	1	46	Motor gearbox assembly	1
18	Cable tie 4*150mm	1	47	Fulcrum screw	1
19	Oil Plug	1	48	Self-tapping screw 3.9*19mm	13
20	Combination washer 10*6.7*1mm	1	49	Housing --left	1
21	Pressure relief valve base	1	50	LCD Screen cover	1
22	Pressure relief valve core	1	51	Start button	1
23	Pressure relief valve piston	1	52	Spring	1
24	Pressure relief valve spring	1	53	Spring	1
25	Sealing O-ring	1	54	Pressure relief button	1
26	Pressure relief valve spring base	1	55	Housing --right	1
27	Sealing O-ring	1	56	Battery 4.0Ah	1
28	Flat washer 6*12*1.5mm	1	57	Circuit board assembly with LCD Screen	1
29	Sealing O-ring	1	58	Connection shaft	1

Tech Service 704-935-5242

11. Parts UNI-6809 Blind Riveter



Item	Part No.	Description	Item	Part No.	Description
1	See Pg. 10	Ferrules (4 Sizes)	18	UNI-6809-17	Spindle
2	UNI-6809-01	Ferrule O-ring	19	UNI-6809-18	Reset spring
3	UNI-6809-02	Outer sleeve	20	UNI-6809-19	Spring base
4	UNI-6809-03	Jaw sleeve (9.5 or 9.9)	21	UNI-6809-20	Sealing O-ring
5	UNI-6809-04	Jaw 3-pcs. (3 Sizes)	22	UNI-6809-21	Reducer M20 x 1/4G
6	UNI-6809-05	Push Pin (4.4 or 5.3x165)	23	UNI-6809-22	Hose fitting 1/4G X 1/8G
7	UNI-6809-06	Jaw spring (9 x 128)	24	UNI-6809-23	High pressure hose
8	UNI-6809-07	Jaw's upper sleeve	25	UNI-6809-24	Oil plug 1/8G
9	UNI-6809-08	Inner washer	26	UNI-6809-25	Main cylinder
10	UNI-6809-09	Position nut (M13)	27	UNI-6809-26	Mounting pin
11	UNI-6809-10	Hex socket screw (M5)	28	UNI-6809-27	Thrust washer
12	UNI-6809-11	Gasket 5mm	29	UNI-6809-28	Sealing O-ring 28 X 3.55
13	UNI-6809-12	Blind rivet cylinder	30	UNI-6809-29	O-ring retainer
14	UNI-6809-13	Sealing O-ring	31	UNI-6809-30	Piston main cylinder
15	UNI-6809-14	Teflon ring	32	UNI-6809-31	Spacer
16	UNI-6809-15	Sealing O-ring	33	UNI-6809-32	Retaining ring 40mm
17	UNI-6809-16	Teflon ring	34	UNI-6881	Flattening die (On gun)