

OPERATOR MANUAL



IMPORTANT: BEFORE STARTING THE EQUIPMENT, READ THE ENTIRE MANUAL.

THIS MANUAL MUST BE STORED IN A PLACE FAMILIAR TO ALL USERS FOR THE ENTIRE OPERATIVE LIFE-SPAN OF THE MACHINE. THIS EQUIPMENT MUST BE USED SOLELY FOR WELDING OPERATIONS BY SKILLED TECHNICIANS. ALL SAFETY PROCEDURES MUST BE FOLLOWED.

WARNING - WELDING CAN BE HARMFUL TO YOURSELF AND OTHERS.

1) ELECTRIC SHOCK - *May be fatal!*

Connect the welding machine to power lines according to applicable and NEMA regulations. Do not touch live electrical parts or electrodes with bare skin, gloves or wet clothing. Isolate yourself from exposed power, earth and the work piece bare metal. Make certain machine and work piece are grounded to earth per applicable regulations.

2) FUMES AND GASES - *May be hazardous to your health!* Work in the presence of adequate ventilation and/or with fume extraction system preventing fume build-up work area.

3) ARC RAYS - *May injure the eyes & burn skin! Eye & skin protection must be worn!* Protect your eyes with #5 DIN (min.) filtered lenses and protect your body with appropriate safety garments when spot welding. Protect others by installing adequate shields or curtains.

4) RISK OF FIRE AND BURNS - *Sparks may cause fires and burn the skin!* Be certain there are no flammable materials in the area and wear appropriate protective garments.

5) NOISE - This machine does not directly produce noise exceeding 80dB; however, Users must take all precautions required by local codes or laws in the event they are below this level.

6) PACEMAKERS - The magnetic fields created by high currents may affect the operation of pacemakers. Wearers of vital electronic equipment (pacemakers) should consult their physician before beginning any arc welding, cutting, gouging or spot welding operations.

7) EXPLOSIONS - Do not weld in the vicinity of containers under pressure, or in the presence of explosive dust, gases or fumes. . All cylinders and pressure regulators used in welding operations should be handled with care.

8) ELECTROMAGNETIC COMPATIBILITY - This machine is manufactured in compliance with the instructions contained in the harmonized standard, **and must be used solely for professional purposes in an industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in non- industrial environments.**

IN CASE OF MISUNDERSTANDING OR MALFUNCTIONS, REQUEST ASSISTANCE FROM QUALIFIED PERSONNEL OR CONTACT TECH SUPPORT @ 704-935-5242

1. GENERAL TECHNICAL DESCRIPTIONS

1.1 INITIAL INSPECTION

This manual has been prepared with the intent of instructing the operator on how to install, operate, and properly maintain this spot-welding machine. Upon receiving and unpacking the machine, make a careful inspection to ensure that there are no damaged parts.

Should there be a claim for shipping damages or loss, it must be made by the purchaser directly to the shipping carrier that delivered the goods to the customer.

1.2 DESCRIPTION OF TECHNICAL SPECIFICATIONS

NU-TEC SYSTEMS, LLC DBA H&S AUTOSHOT Model: UNI-SPOTTER PRO 597N5301 U _{in} : 230V~, 50/60Hz I _{1max} : 32A I _{1eff} :10A U ₂₀ : 1.6V DC to 10V DC I _{2cc} :3000A I _{2p} : 1200A	
Serial No.	Manufacturing date



U_{in}	Required supply LINE voltage [230VAC]
I_{1max}	Input Current 32A (max.)
I_{1eff}	Maximum effective input current
U₂₀	Rated AC no-load voltage and number of adjustable steps
I_{2cc}	Maximum short circuit output current corresponding to the minimum impedance
I_{2p}	Output welding current

2. ENVIRONMENT

The machine is designed for use in dry, well ventilated areas to insure operator safety and cooling. Dust, dirt, or any other foreign material that might enter the machine and build-up on internal components may restrict the ventilation cooling which could affect the machine's performance.

3. INPUT POWER CONNECTIONS

All sections concerning the installation of this machine must be read carefully.

This machine must be installed and operated by skilled personnel in a safe work environment.

After initial inspection, the machine should be connected to the input supply voltage marked on the input power cord. **This machine has a NEMA 6-50P plug. Removal of plug voids warranty.**

4. SET-UP

- A. Input voltage is 208-240VAC, 1-phase. Please confirm the input voltage matches the electrical data on the back of machine.
- B. Turn power switch on back of machine to ON position. LEDs on front panel will illuminate.
- C. SET Welding Torch Control to "AUTO".
- D. SET Timer Setting to position #4.
- E. SET Power Setting to position #3
- F. Install BRASS BULLET tip into torch and secure in place with wing-nut.
- G. To attach ground pin, Place pin on surface as close to welding area as possible, place bullet-tip next to ground pin and pull trigger. This will weld the ground pin to the base surface. Do not use worn ground pin, grind if necessary.
- H. Install correct tip for spot welding operation and follow setting instructions below.

- I. Spot welding may cause welding arc and metal spatter, protect yourself with appropriate safety garments covering all exposed skin and wear eye protection.
- J. Turn switch to "OFF" position when not using the machine.
- K. Make sure turn to "OFF" position when connect or remove the cables of the machine.

5. CONFIRMING CONNECTIONS FOR SPOT WELDING

Spot welding requires very high current for a very short duration of time; therefore, all lead wires and contact points need to be of adequate size and installed securely to maintain current flow without over-heating. Be careful not to damage cable leads, cross cable leads or install tips or accessories "loosely". Any breaks or gaps in the circuit will cause increased temperatures that can damage the torch, leads and power supply. **Do not modify cables in any manner as failure may result!**

6. DESCRIPTION OF CONTROLS

A. Welding Control:

Manual (trigger, timed),
Pulse (trigger ON),
Auto (torch tip to ground, timed)

B. Welding Time Control:

2T: Continuous welding mode when trigger is depressed (non-timed).

Warning:

Continuous welding mode (2T) only for carbon electrode heat shrinking or stress relieving at 15 second max. Excessive time can damage machine!

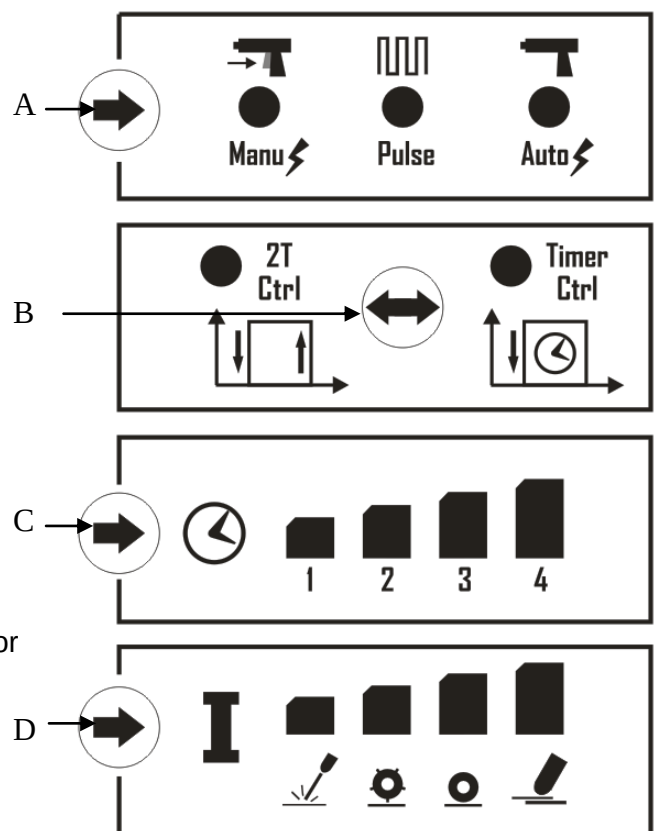
TIMER CTRL: This is the standard setting for welding timer to control output duration.

C. Timer Setting:

Allows adjustment of the welding time. The larger the number: the longer welding time.

D. Power Setting

Allows adjustment of the output power. The larger number the higher output power.



7. WELDING TORCH CONTROL SETTINGS

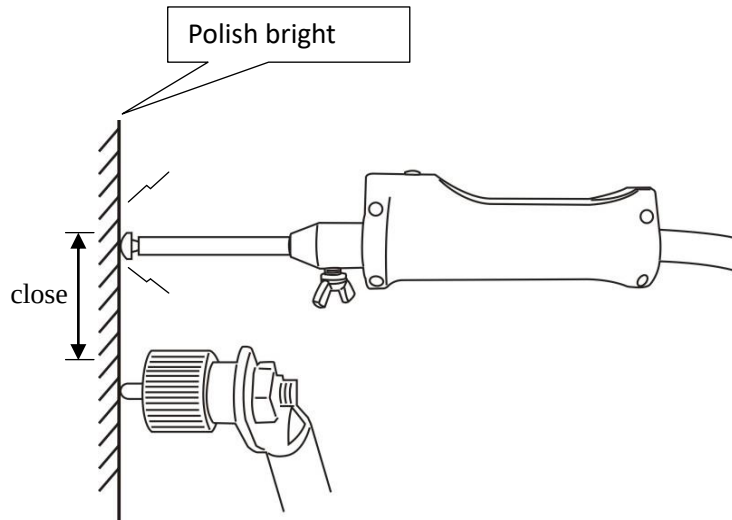
A. Manual mode - Contact the torch to the work piece and press the trigger, the machine will output power. If the user selected welding timer, the machine will stop output when the welding time up. If the user selects continuous welding, the machine will output power until trigger is released.

B. Pulse mode - Contact the torch to the work piece and press the trigger, the machine will output power until trigger is released.

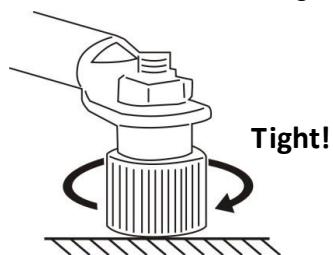
C. Auto mode - When setting auto mode, the machine can weld without using the torch trigger switch. Contact the torch to the work piece and welding begins on contact until timer stops welding. This mode is designed for quick setting of puller pins and/or washers.

8. INSTALLING EARTH WELD-TIP COLLAR

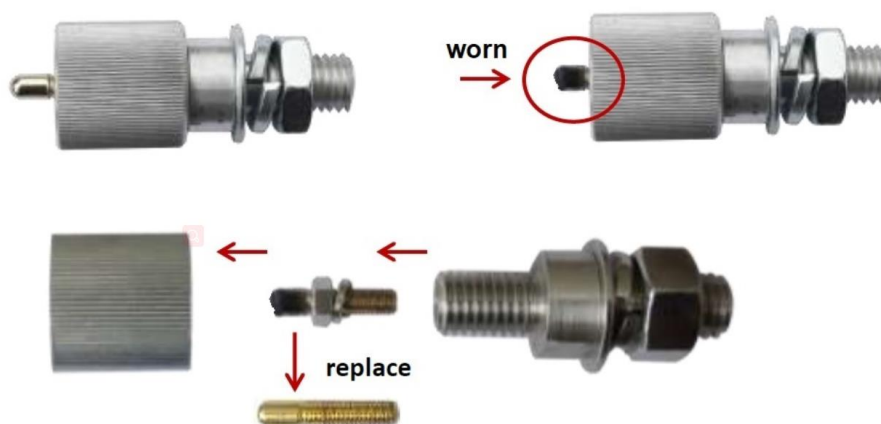
- A. Clean surface area for earth lead connection
- B. Place torch, with shrink tip installed, close to weld-tip collar electrode
- C. Press tip into panel and depress trigger.



- D. Rotate collar to surface making 100% surface contact.



- E. Replace weld-tip when worn to insure strong contact to panel

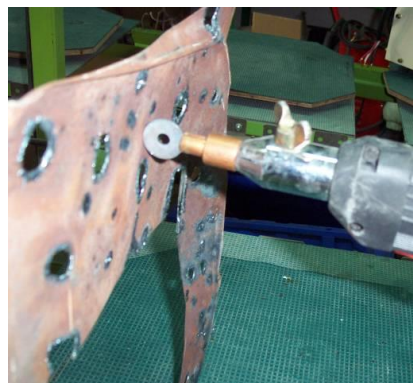


9. INSTRUCTION FOR CAR REPAIR WORK

Spot Welding

- ① Confirm ground weld-pin is set (See above)
- ② Select Manual (timed) or Auto (timed)
- ③ Adjust the spot-welding timer 1-4.
- ④ Adjust the power setting 1-4.
- ④ Place pin or washer on surface and press trigger

Attention: Ground lead must be as close to welding Area as possible to insure strong weld.



Stress Relieving – Shrink Tip

- ① Confirm ground weld-pin is set (See above)
- ② Select Manual or Pulse torch control
- ③ Adjust the power setting to #4.
- ④ Place bullet-tip on surface, press trigger



Stress Relieving – Carbon Rod

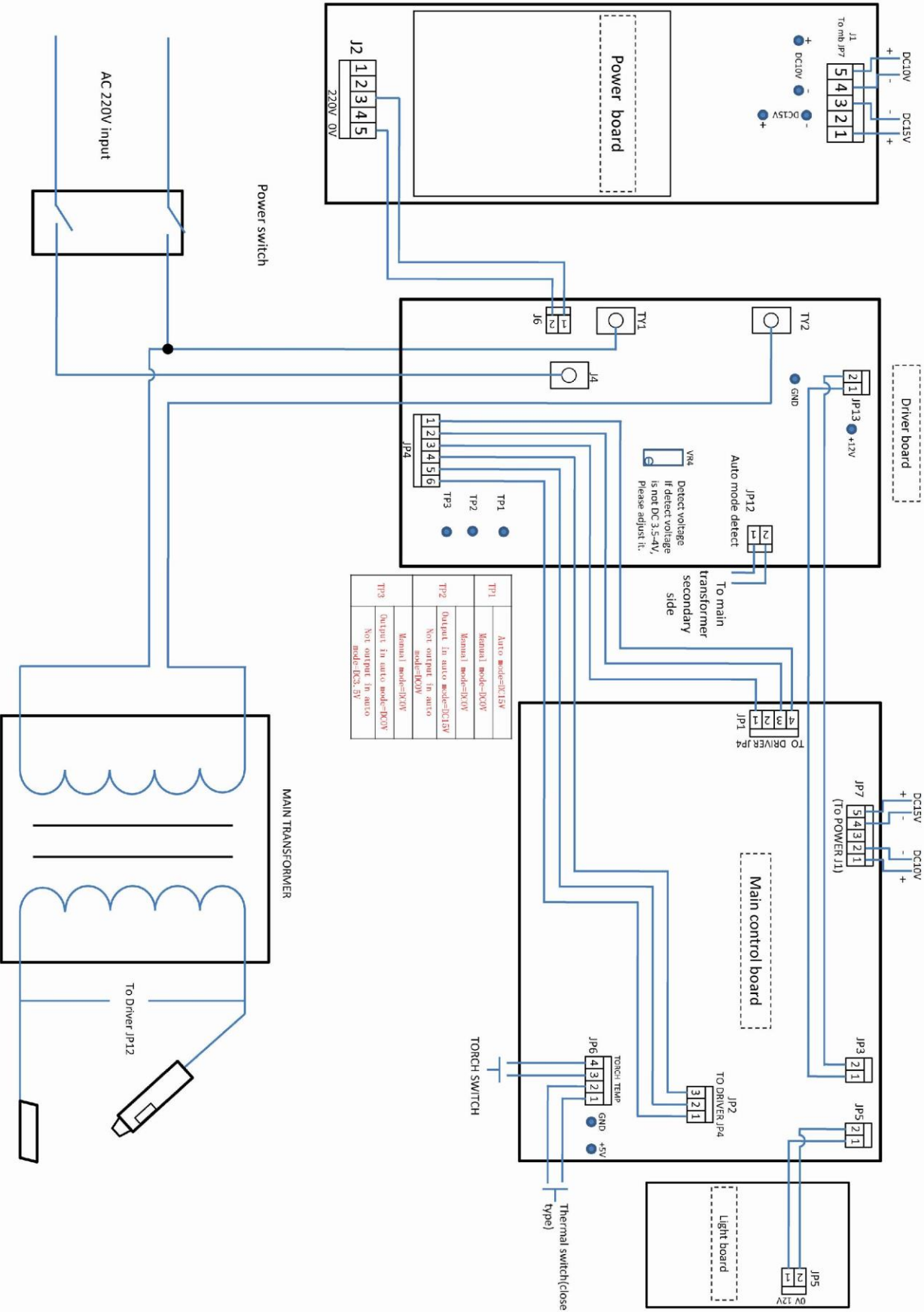
- ① Confirm ground weld-pin is set (See above)
- ② Select Pulse torch control @ 2T time
- ③ Setting output current #1 (low current)
- ④ Place carbon rod on surface, press trigger



Do not heat for long time (>20 sec) as it may damage the transformer.

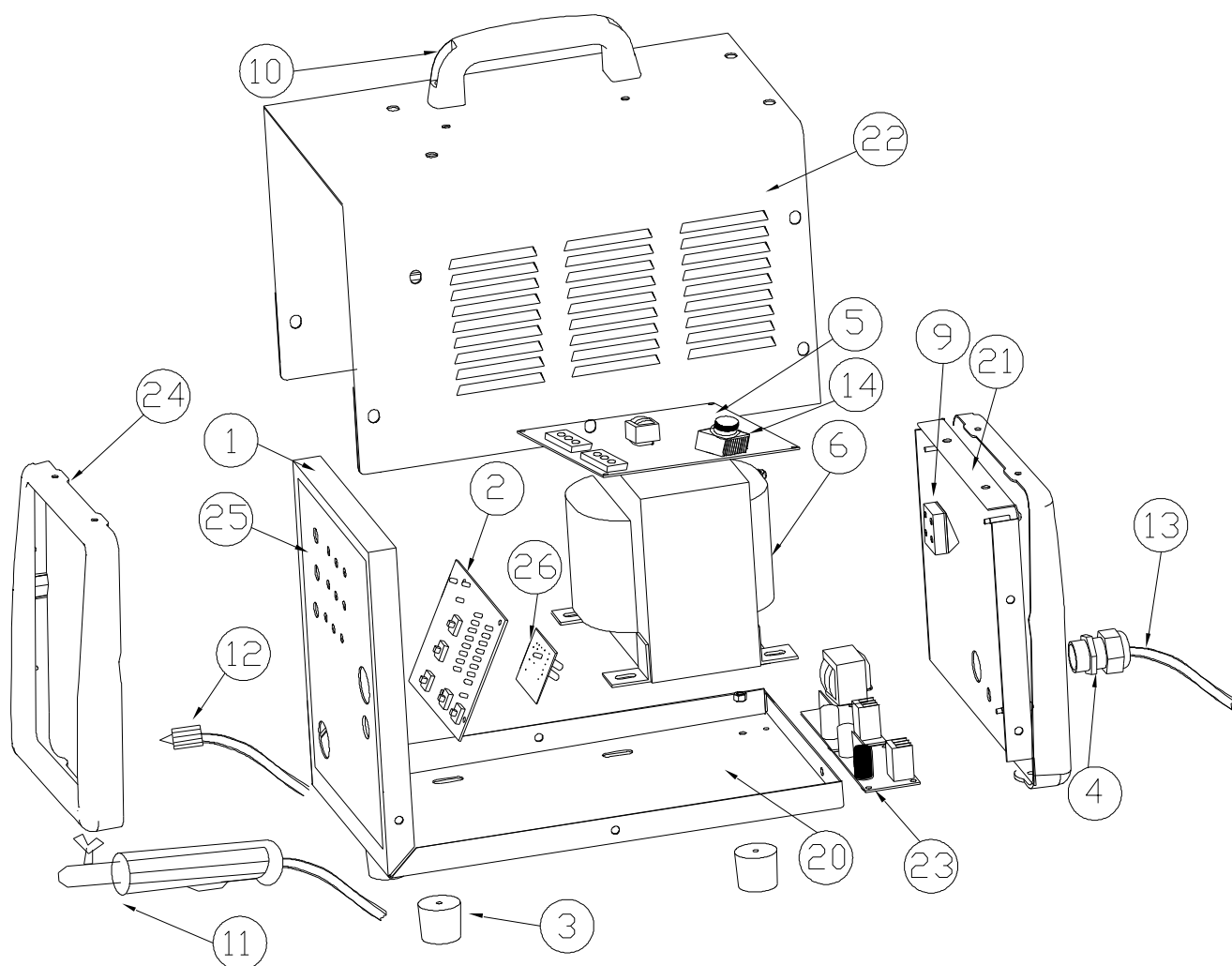


10. ILLUSTRATION OF WORKING PRINCIPLE

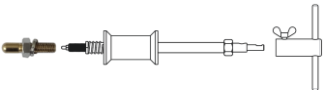


11. PARTS ILLUSTRATION (Uni-Spotter Pro 597N5301)

NO	Code	Description	NO.	Code	Description
1	EY1118CQ0101B1	front panel	12-1	DTK-8004	weld-tip M5
2	597.5316	control board	13	707.0134	power cord 230V
3	530.0025	rubber foot	14	597.5318	Triac
4	707.0178	cable holder	20	EY1118CX0101R1	bottom panel
5	597.5314	driver board	21	EY1118CH0101B1	back panel
6	VM055022-15E-C	main transformer	22	EY1118CS0101R1	top cover
9	530.0020	main switch (UL)	23	597.5315	power board
10	530.0018	handle	25	597.5319	front panel decal
11	597.5311	trigger switch	24	597.5312	plastic frame
12	UNI-9506	Weld-tip clamp	26	597.5320	back light (opt)



ACCESSORIES LIST (Uni-Spotter Pro 597N5301)

POS.	PART NO.	DESCRIPTION	QTY	PICTURE
1	UNI-9516	Slide Hammer w /T-Handle	1	
2	UNI-9521	Claw 4-Finger w/M14 Mount	1	
3	DTK-8004	Slide Hammer Weld-tip M5	1	
4	UNI-2101	Wiggle wire 13mm height	5	
5	UNI-2110	Wiggle wire tip with groove	1	
6	UNI-1004	Stud tip tapered	1	
7	UNI-1007	Spot shrink tip	1	
8	UNI-9524	Tip holder tapered 8mm	1	
11	UNI-1001	Flexpert 2.2mm stud w/ dimple	25	
13	UNI-1061	Uni-Tab Straight (Copper coated)	25	
14	UNI-9523	Tab holder extended shaft 60mm	1	
15	UNI-2210	Carbon heating rod	3	