



PR-3 AUTO

Instruction Manual

Version 2.0



■ About Pro Spot

Pro Spot International, Inc., based in Carlsbad, California, manufactures resistance spot welding equipment specializing in applications for the collision repair industry. The company began in 1986. The company owns and manages an on site machine shop, research & development department, a fabrication facility and production lines for the various welders

Pro Spot International exports its products worldwide, export sales are managed through our headquarter office. The company owns numerous patents for our ingenious application tools, machines, and procedures.

■ Pro Spot training and services

Pro Spot Distributors and Sub-Distributors are carefully selected and are well trained in the collision repair industry. We offer technical and service education at our world wide training facilities at regular intervals so your local distributor will always be up to date and able to pass on the latest in spot welding technology to our customers.

Customer service is an important part of any investment and our distributors and sub-distributors will be there to support your technical and service needs. We have a great customer service record, we tend to keep it that way.



Pro Spot is certified by CASE and a member of the ICAR Industry Training Alliance

■ Contact Information

Pro Spot International, Inc. U.S.A.
www.prospot.com

5932 Sea Otter Pl.
Carlsbad, CA 92010

Phone: +1 760-407-1414
Toll free (US only): 877- PRO SPOT
Fax: 760-407-1421
E-Mail: info@prospot.com



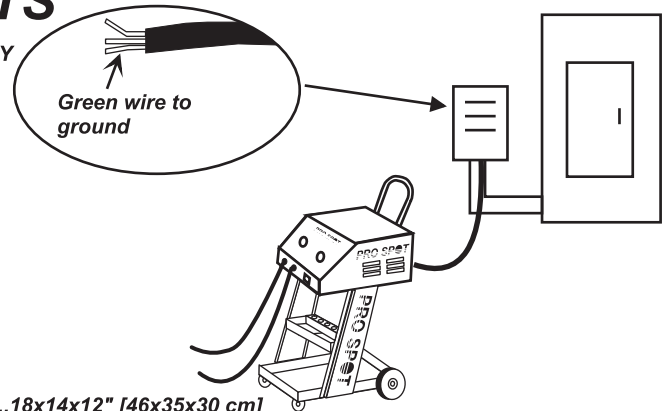
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INSTALLATION REQUIREMENTS

CONSULT A CERTIFIED ELECTRICIAN TO INSTALL THIS WELDER PROPERLY

- * This welder is designed to operate with 208-230V
- * Connect green wire to the ground
- * Install welder over an external breaker.
- * This welder does not come equipped with an electrical plug. Consult your electrician for selection of proper plug. The plug should be rated at 240 volt 30 amp(minimum), 1-phase



SPECIFICATIONS

Input voltage.....208/230, 50-60Hz
 Input amperage.....24A
 Output amperage.....2000A (at tips)
 Open circuit voltage.....5.5-7V
 Duty cycle.....2%
 Operating temperature...+5-40°C [41-104°F]
 Operating humidity.....35% to 85% RH
 Maximum altitude.....6562' [2000 m]

Dimensions.....18x14x12" [46x35x30 cm]
 Dimensions w/cart18x14x18" [46x35x46 cm]
 Weight.....69 Lbs [31 kg] (w/cart-92Lbs [42 kg])
 Timer, Output.....Adjustable 10-50 cycles
 Current control.....Variable 10-100%
 Welding cable.....8' [2.5 m] long AWG 3/0
 Ground cable.....6' [1.8 m] long
 Input cable.....3 wire 10 gauge x 30' [9 m] long



WARNING



Only qualified personnel
should install, use or service
this equipment

ELECTRICITY CAN KILL! Confirm proper installation before operating the welder. Do not use welder if your clothing, gloves or work area is damp.

HIGH VOLTAGE CAN KILL. Do not operate welder with covers removed. Always disconnect input power before removing any panels for servicing.

CONSULT CERTIFIED ELECTRICIAN FOR INSTALLATION. Make sure ground cable is connected at all times.

WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION. KEEP FLAMMABLE MATERIAL AWAY FROM THE WORK AREA. ALWAYS USE PROTECTIVE EYEWEAR AND GLOVES.

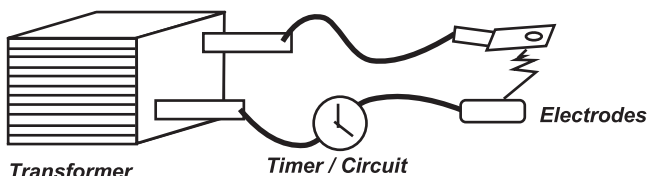
THE CABLES AND TOOLS USED WITH THIS WELDER CAN BE EXTREMELY HOT DURING OPERATION. Do not exceed welder's duty cycle.

PRODUCT INFORMATION AND FUNCTION

RESISTANCE WELDING

This resistance type welder performs a variety of functions. It was designed for the body shop industry to enhance performance, speed and flexibility for light welding and dent pulling applications. This welder performs shrinking, single sided spot welding, attachment of threaded studs and nuts, attachment of moulding clip rivets for windshields, and such welding for patch work. The biggest advantage is that very little heat is used compared to other welding methods, yet it is also clean and easy to use. There is very little clean up to do afterwards.

PRINCIPAL OF RESISTANCE WELDING



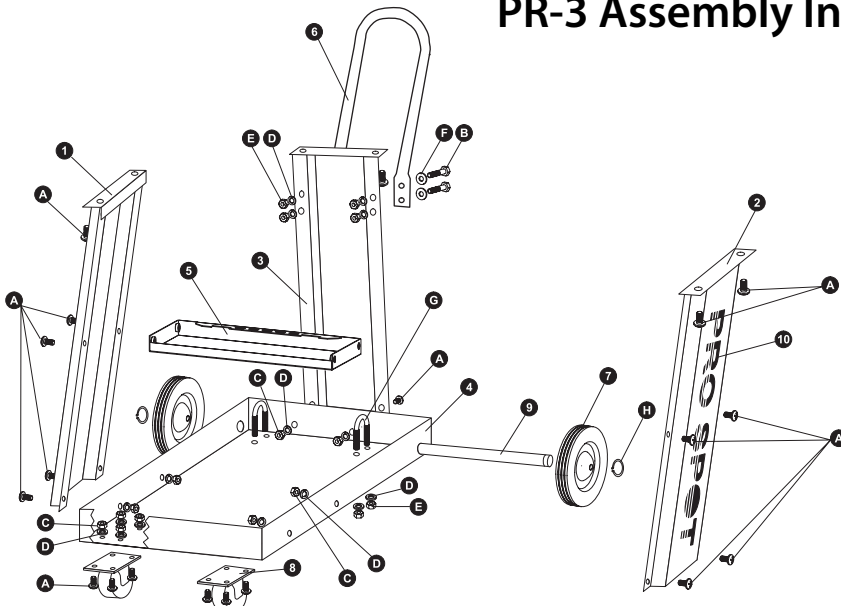
ELECTRICITY ONLY

This resistance welder uses electricity only to create the welds. No gas or wire is used. A large current with low voltage rushes through the welding cable and the copper adapter. The high resistance in the sheet metal heats quickly to melt the work pieces together. The current is controlled by a timing device on the welder that shuts the current off automatically. Both time and current are adjustable by turning the control knobs on the welder.

- *ALWAYS KEEP THE COPPER ELECTRODES CLEAN
- *ALWAYS GRIND THE CONTACT AREA FREE FROM PAINT

Welding results rely on a firm, solid connection. The ground attachment is very critical when using resistance welding. Always make sure the ground is attached firmly to a clean flat surface close to the work area. The closer the ground is attached to the work area, the better the results.

PR-3 Assembly Instructions

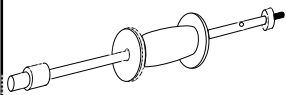


Item	Part #	Description	Qty.
1	P2-02	Stand Right Member	1
2	P2-03	Stand Left Member	1
3	P2-04	Stand Rear Member	1
4	P2-05	Stand Bottom Tray	1
5	P2-08	Stand Tool Tray	1
6	P2-17	Stand Handle	1
7	P-03	6" Solid Wheel	2
8	P2-09	2" Swivel Caster	2
9	P2-12	Wheel Axle	1
10	P2-50Y	Decal - 15" Pro Spot	2
11	P6-18	Cable Holder	1
A	S-43	M6x10 PPHS	22
B	S-50	1/4 - 20 x 1 1/4" HHCS	4
C	N-03	M6Nut	14
D	W-20	1/4" Lock Washer	22
E	N-06	1/4x20 Nut	8
F	W-15	1/4 x 5/8 SAE Flat Washer	4
G	P-05	1/4x20 U-Bolt	2
H	SR-07	1/2" External Snap Ring	2

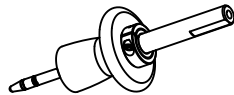
Install approved electrical plug, consult electrician. Attach green wire to earth. White & black wire to 208-240V 50-60 Hz.

PR-3 Parts List

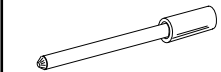
Spot Hammer



CLP-70



Carbon electrode



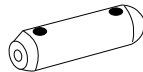
CLT-29

Contact shrinking electrode



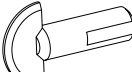
PS-860

Stud electrode holder 5mm / 6mm



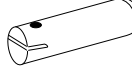
PS-830

Stitch welder electrode



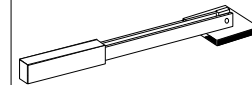
CLT-33

Washer adapter



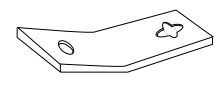
PS-840

Lever bar



CLP-73

Ground plate



CLT-34

Washer



CLT-47

Spot hammer replacement tip.



CLT-53-8

Moulding clip rivet



PS-1204

6mm nut



CLT-44

Weld on bolt 5x12 course



PS-1201

Weld on bolt M6x12



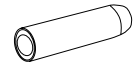
PS-1202

Nail and 4mm Stud electrode holder

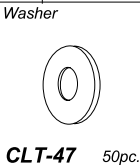


PS-820

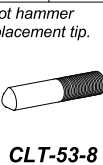
Moulding clip rivet holder



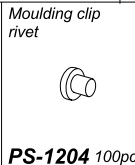
PS-800



CLT-47 50pc.



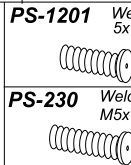
CLT-53-8



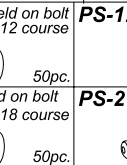
PS-1204 100pc.



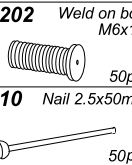
CLT-44 20pc.



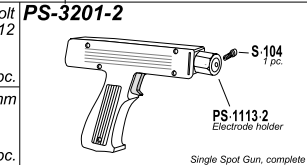
PS-1201 50pc.



PS-1202 50pc.

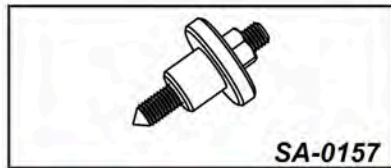


PS-820 50pc.



PS-800 50pc.

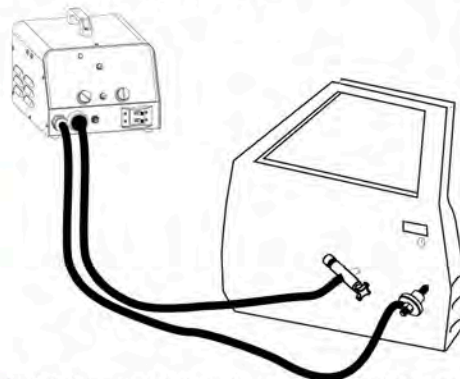
WELD-ON GROUND



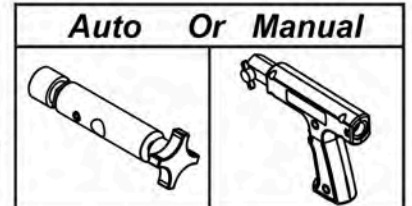
SA-0157



The weld-on ground allows you to attach the necessary ground cable in the middle of a panel. This is good for all repairs, but is especially good for small repairs in the middle of a panel where a typical ground plate would be clamped to the edge of a panel.

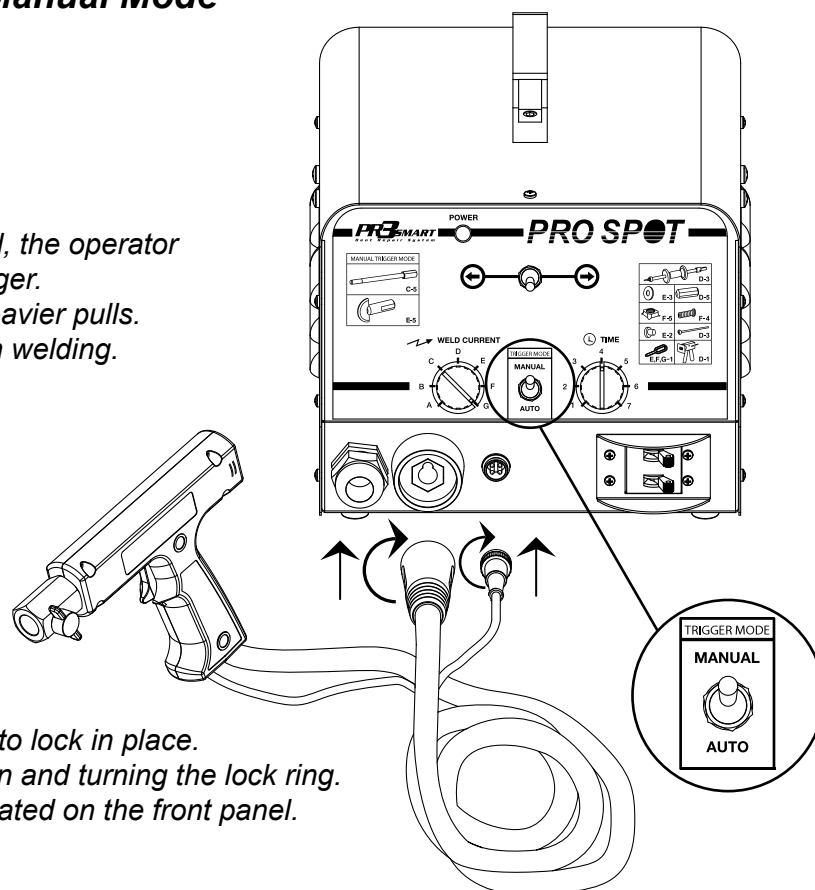


1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired.
2. Install electrode (PS-860) into the Auto or Manual gun with the larger face outwards.
3. On a clean metal surface, hold the copper electrode and the steel stud of the ground (SA-0157) and either push the trigger or let the auto function weld the ground stud to the panel.
4. Screw the large knurled nut until it comes in contact with the panel. The knurled nut will help keep the ground attached to the panel.



Manual Mode

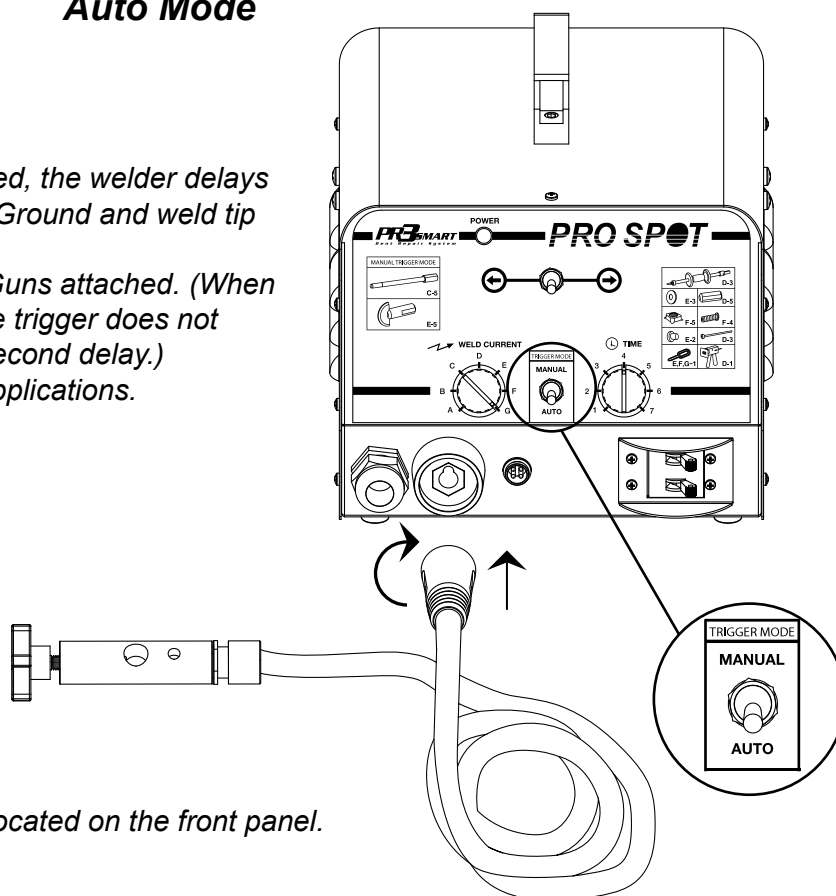
- When the Manual Mode gun assembly is used, the operator has control of when to weld by pulling the trigger.
- Typically used with large slide hammer and heavier pulls.
- Used when stretching with carbon rod or stitch welding.



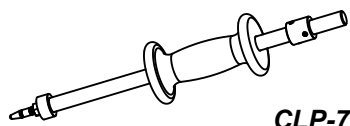
1. Push in and twist main weld cable clockwise to lock in place.
2. Connect command/trigger cable by pushing in and turning the lock ring.
3. Move the Trigger Mode switch to Manual, located on the front panel.

Auto Mode

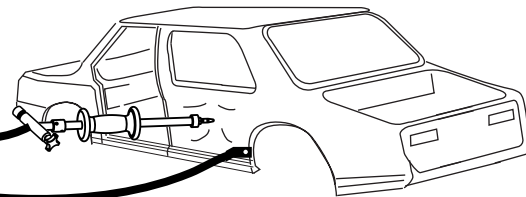
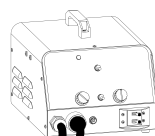
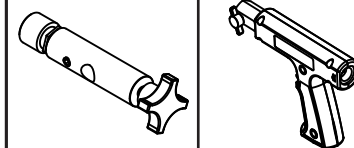
- When the Auto Mode gun assembly is used, the welder delays for one second and welds automatically. Ground and weld tip needs to be on clean/bare metal.
- Can be used with either Auto or Manual Guns attached. (When the manual gun is used in Auto Mode, the trigger does not function and machine welds after the 1 second delay.)
- Typically used for small or quick pulling applications.



1. Push in and twist main weld cable.
2. Move the Trigger Mode switch to Auto, located on the front panel.


CLP-70

SPOT HAMMER WELDING For Quick Dent Pulling

Auto Or Manual


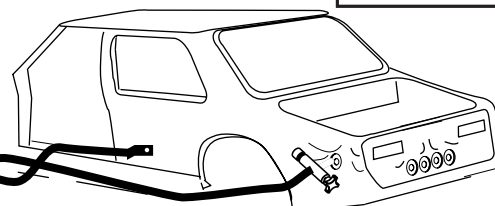
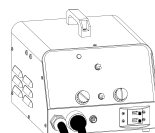
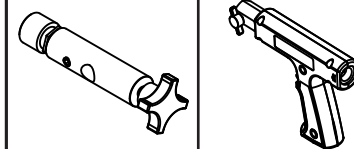
This easy-to-use dent pulling system is much faster than any other method on the market.

Simply weld on the slide hammer to the area to be pulled, immediately start to hammer the dent out and twist clockwise to release the hammer from the sheet metal. Each welding tip lasts for more than 1000 welds, then simply replace it.

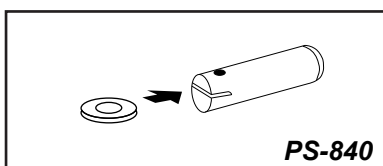


1. Attach the Spot hammer (CLP-70) to the cable adapter.
2. Set the welder controls according to the menu.
This is an average setting. If more or less heat is required, adjust accordingly.

WASHER WELDING For Dent Pulling

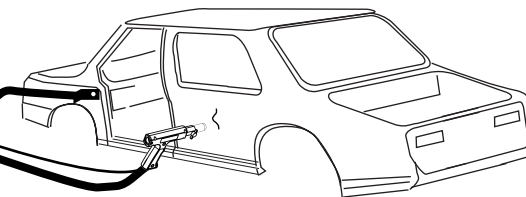
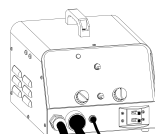
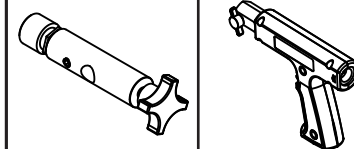
Auto Or Manual


1. Set the welder controls according to the menu. *This is an average setting, adjust the current knob if more or less heat is desired.*
2. Attach the adapter electrode (PS-840) to the cable adapter.
3. Grind the sheet metal clean where the washer is to be welded.
4. Insert a washer into the slot or hold in the adapter, and place it against the metal. Push the trigger.
5. Use slide hammer with hook (CLP-72) to pull, twist the washer to release.

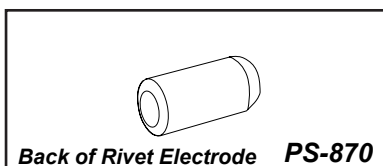

PS-840


This feature, using washers for dent pulling, increases flexibility and speed. Since the washers can be used over again, it will also save you material costs.

SHRINKING With Copper Tip

Auto Or Manual


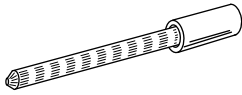
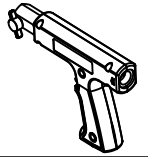
1. Set the welder controls according to the menu. *This is an average setting, adjust the current knob if more or less heat is desired.*
2. Attach the shrinking electrode (PS-860) to the cable adapter.
3. Grind the sheet metal clean where you will be shrinking.
4. Place and push the electrode to the sheet metal. Push the trigger.
5. Compressed air can be applied to the work area to cool the metal, and to enhance shrinking performance.


Back of Rivet Electrode PS-870


This function is excellent for shrinking any kind of high spot and can be used with a wet rag or compressed air to enhance the shrinking performance.

STRETCHING of Sheet Metal With Carbon Rod

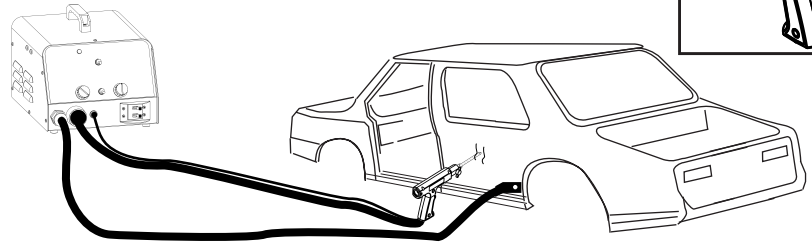
Manual



CLT-29



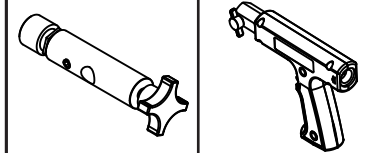
This function is excellent for stretching sheet metal. Here you can control the heat very accurately. Use a wet rag or compressed air to enhance the stretching performance.



1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired.
2. Attach the carbon rod (CLT-29) to the cable adapter.
3. Grind the sheet metal clean where you will be stretching.
4. Place and push the electrode to the sheet metal. Push the trigger.
5. Compressed air can be applied to the work area to cool the metal, and to enhance stretching performance.

WELDING OF MOULDING CLIP RIVETS

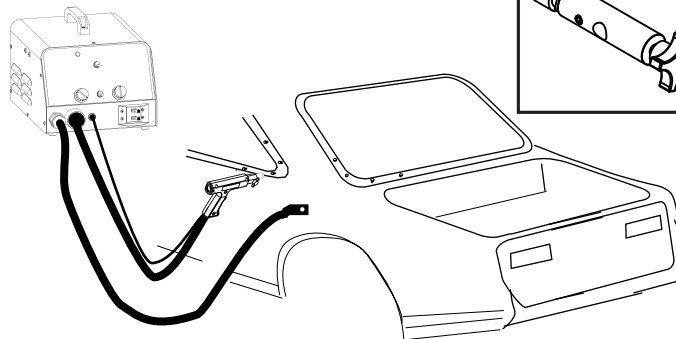
Auto Or Manual



PS-870



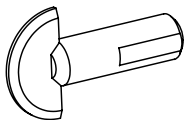
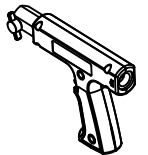
This function will weld on factory type clips for the window moulding. The clips that hold the moulding do not come on the replacement parts. Simply insert the rivet into the adapter and weld it in place. Quick and easy.



1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired.
2. Attach an adapter electrode (PS-800) to the cable adapter.
3. Grind the sheet metal clean at the welding area.
4. Insert a rivet (PS-1204) into the adapter electrode, place it against the sheet metal and push the trigger.

STITCH WELDING

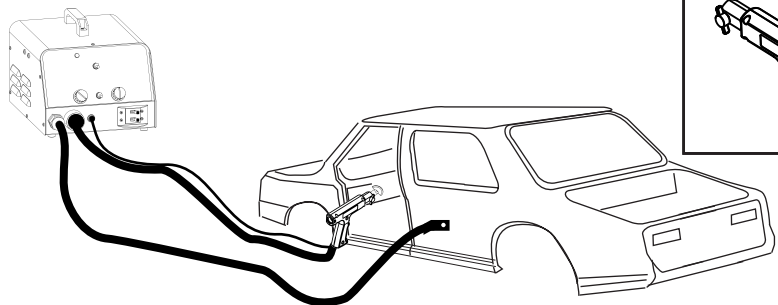
Manual



CLT-33



Stitch Welding makes it possible to perform a seam type weld by simply rolling the blade on top of the edge of sheet metal. The welder will send an intermittent current output. Excellent for patching holes, rust repair, etc.



1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired.
2. TURN THE INTERMITTENT SWITCH ON THE FRONT PANEL TO "ON" (to engage intermittent output).
3. Attach the stitch electrode (CLT-33) to the cable adapter.
4. Grind the sheet metal clean at the welding area. 3 sides must be clean.
5. Place and push electrode to the sheet metal edge. Push the trigger. As the current starts pulsating begin rolling the blade. The intermittent speed can be adjusted by turning the timer knob. (For best results use 24 gauge stainless sheet metal.)

NOT RECOMMENDED FOR STRUCTURAL REPAIR

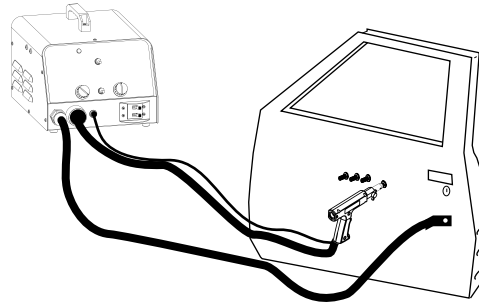
WELDING OF THREADED STUDS AND NUTS



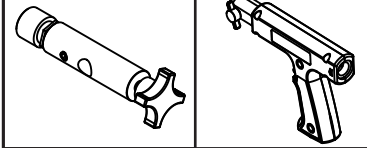
CLT-820, CLT-830



This function will weld threaded studs and nuts M6x20 and M5x12 on to sheet metal. Many of today's vehicles come with studs and nuts to hold interior panels, tail lights, door mouldings, etc., although they are not attached to the replacement parts.



Auto Or Manual



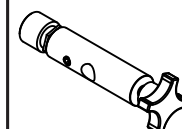
1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired.
2. Attach the stud adapter electrode (PS-830) to the cable adapter.
3. Grind the sheet metal clean at the welding area.
4. Insert a desired stud into the adapter electrode, place it against the sheet metal and push the trigger.



WELD-ON PULL ASSEMBLY For Use With Pro Pull

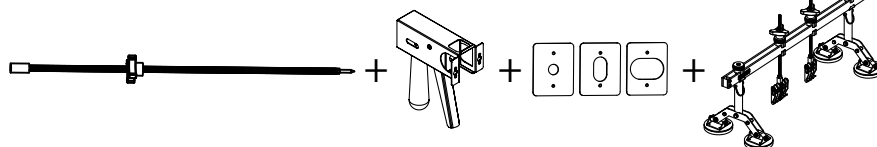
The Quick Pull weld-on shafts are typically used for small and quick pulls. The three different length shafts and options give the user flexibility based on the type of repair.

Auto

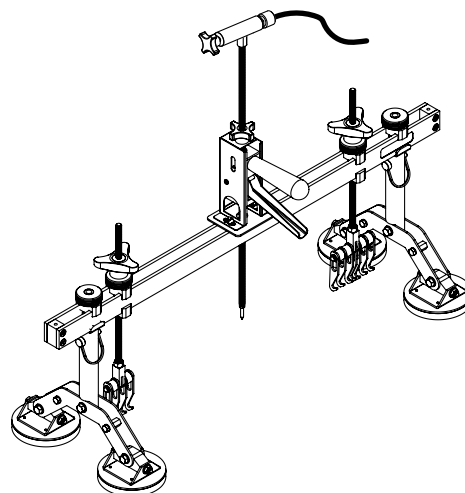


1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired.
2. Attach the desired quick pull shaft to the Auto gun.
3. Attach the appropriate adapter (1 of 3 plates, or single pull legs).
4. Slide shaft through the Pro Pull.
5. Contact tip will weld to the panel after one second delay.
6. Pull the handle on the Pro Pull to remove the dent.
7. Twist the handle to remove the tip from the panel.

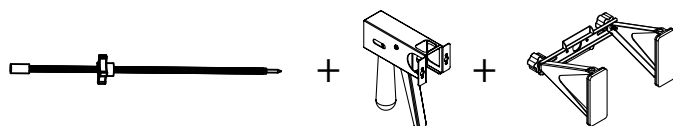
SA-0153 : 21" Weld-on Shaft



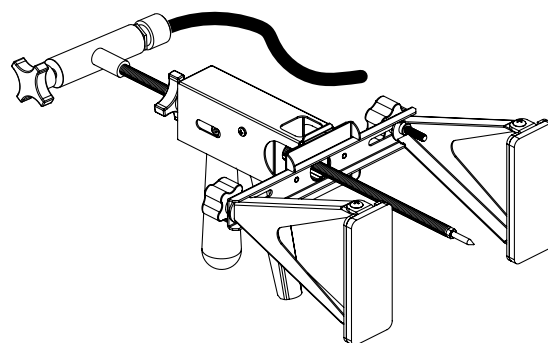
Use the 21" Weld-on shaft with the pull bar for pulling a crease or a larger repair. The pull bar provides stability when moving in a line. Open area is good to hold pressure on the pull and using a hammer to work the area.



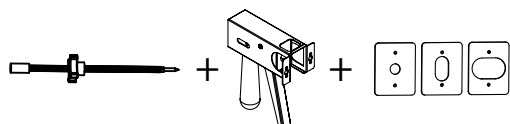
SA-0152 : 16" Weld-on Shaft



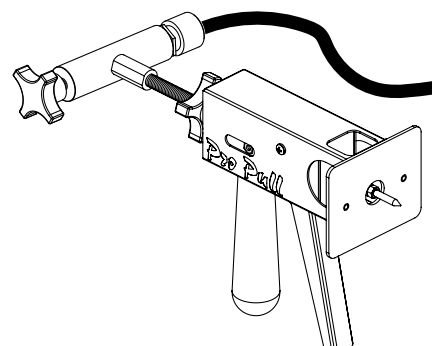
Use the 16" Weld-on shaft with the single pull stand on medium sized repairs. Adjustable legs on the stand will allow for hammer access to work the area, or to close in to isolate the repair area.



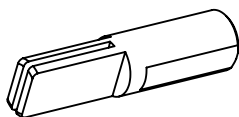
SA-0151 : 9" Weld-on Shaft



Use the 9" Weld-on shaft with the Pro Pull for small repairs. The three different sized plates are easily changed to isolate the size of the dent being pulled.



PULL KEY WELDING

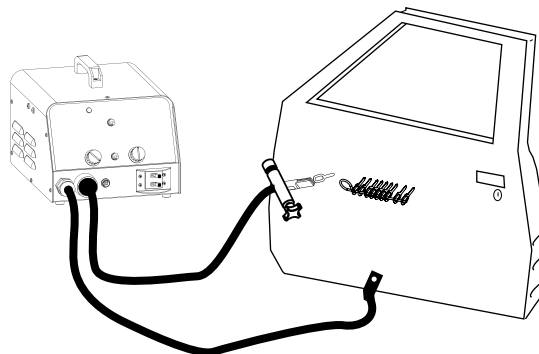
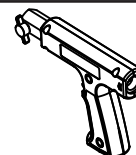
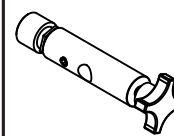


PS-880

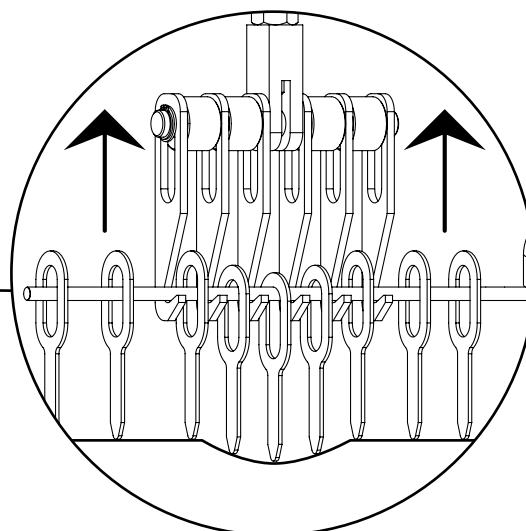
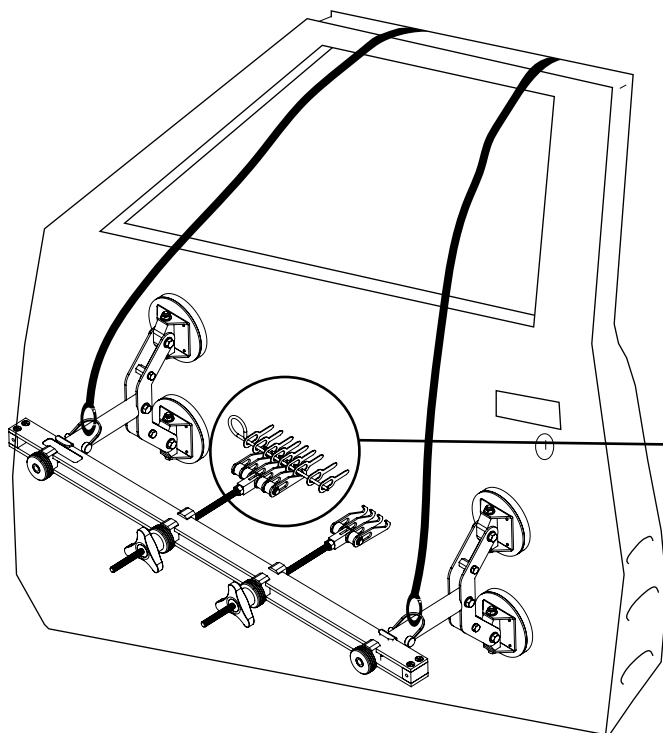


By using weld keys, you are able to pull a larger area at one time. It is also good for pulling out creases. When the keys are welded in a crease and the metal rod is inserted through the group of keys, the low portion of the crease will be pulled first and the entire crease pulled evenly flat. Used with the Pro Pull Single Pull or Pull Bar.

Auto Or Manual



1. Set the welder controls according to the menu. This is an average setting, adjust the current knob if more or less heat is desired (Using the least amount of time and welding current is best to protect the paint/e-coat on the back side of the panel).
2. Insert the PS-880 Key Electrode into the Auto or Manual gun.
3. Hold the key in the position required and weld into place.



Low area will be pulled first.

1. Secure Pull Bar to the work area using the provided straps if needed.
2. Insert pulling rod through the keys.
3. Use the pulling claws from the Pull Bar to grab the pulling rod.
4. Use the black knob to increase tension on the pulling claws.
5. Use a hammer/dolly to work the metal while under pressure.



TROUBLE SHOOTING GUIDE

PROBLEM

Nothing happens while pushing the trigger

Welding a hole through the sheet metal when using single sided welding.

Weak welds.

SOLUTION

Check circuit breakers. Check voltage supply in the shop. Check switch cable for damage.

*Make sure there is contact between work pieces.
Make sure sheet metal is ground on 3 sides.
Clear copper tip of metal residue.
Adjust current and/or time down.*

*Make sure ground is connected firmly on cleaned sheet metal close to work area.
Clean copper electrodes, tighten connectors.
Too thick sheet metal is being used.*

Make sure spot hammer tip is ground ball shaped





Pro Spot International, Inc.
5932 Sea Otter Place
Carlsbad, CA 92010

Toll Free: (877) PRO SPOT
Phone: (760) 407-1414
Fax: (760) 407-1421

E-mail: info@prospot.com
Web: www.prospot.com