



# POWER PINNER CD HAND WELDER 7310 OPERATOR'S MANUAL



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## OPERATOR SAFETY

### ELECTRICAL AND PERSONAL SAFETY

Our first concern at Gripnail is the safety of the operators using our equipment. As with most types of welding equipment, there is always a potential for serious injury if the equipment is misused. Please familiarize yourself with the equipment before operating. Below is a list of a few safety precautions that should be observed.

1. Read this manual before you begin using the equipment.
2. Do not operate this welder in or near water or damp areas.
3. Do not look directly at the weld pin while welding. Arcing produced by the welding process could cause flash burns to your eyes and could cause blindness.
4. Wear protective clothing to prevent skin burns from weld slag.
5. Do not touch the weld pin or adjacent area after welding until sufficient time is allowed for cooling. Otherwise, serious burns may result.
6. Do not operate the welder unless all covers are in place.
7. Do not pull or move the welder by the attached cables or damage to the cables will result.
8. Contact the Gripnail Service Department for assistance with replacement parts, repairs, questions or diagnosing a problem with the welder.
9. Due to potential dangerous electrical input and output, the equipment must be disconnected from all incoming power when servicing.
10. **CAPACITORS STORE ELECTRICAL ENERGY.** Check for residual charge before performing any maintenance.
11. Do not use fluids to clean electrical components as these may penetrate the electrical system and cause shorts.
12. Loud noises from welding can damage hearing. Wear earplugs or other protective gear, if applicable.
13. Fumes and gases expelled during welding can be hazardous to your health. Make sure welding is done in a well-ventilated area.

Connection of the unit into service must be in accordance with the setup procedures as detailed in this manual. Operation of this equipment must be in accordance with all local, regional, and national safety codes.



## FIRE

During welding, small particles of hot metal can be expelled. Ensure that no combustible materials are near the welding area.



## MAINTENANCE

All cables must be inspected regularly to ensure that no danger exists from worn or damaged insulation or unsafe electrical connections. Take special note to the cables near the gun – this is where maximum wear occurs.

Worn cables not only produce inconsistent welds, but can overheat or spark.

## TRAINING

Use of this equipment must be limited to authorize personnel only. They must be adequately trained, and have read and understood everything in this manual. The manual must be available to operators at all times.



## INSTALLATION

Select a site for the equipment which is capable of supporting the weight of the equipment, which is clear from traffic routes where people may trip over cables, or they may be damaged by other equipment or vehicles.

Do not hang connecting cables over sharp edges or have near heat sources.



## PRODUCT FEATURES

The 7310 incorporates the latest solid state technology into a compact and rugged, portable CD Pin Welder. This system has the capacity to weld pins (including cupped head pins) up to 10 gauge.

### FEATURES

- Intuitive Touch Screen Interface with preset values for fast, accurate and repeatable weld settings.
- Cooling fans for increased efficiency.
- Set Point Discharge. The 7310 discharges directly to the new set point without needing to discharge completely.
- The 7310 can be connected to either 120V or 240V input voltage.
- Low input voltage capability enables operation with long extension cords.
- Contact and Trigger indicators for fast troubleshooting of hand tool and weld cable maintenance.
- Sheet metal is powder coated for greater durability, texture and appearance.
- The gun is ergonomically designed for better hand fit and comfort (reduces operator fatigue for increased weld repeatability).
- Thermal and Voltage protection indicators to protect the unit from damage due to overheating or poor input voltage.

## PRODUCT SPECIFICATIONS

SIZE	14.0"X10.5"X11.5"
WEIGHT	Approx. 18 lbs
WELD RANGE	Weld Pins—Up to 10 gauge
DUTY CYCLE	30 Pins Per Minute
POWER	85-250 VAC, 6.0-02.0 A, 50/60 Hz
CHARGE VOLTAGE	35-200 VDC
GUN CABLE LENGTH	21'
GND CABLE LENGTH	15'

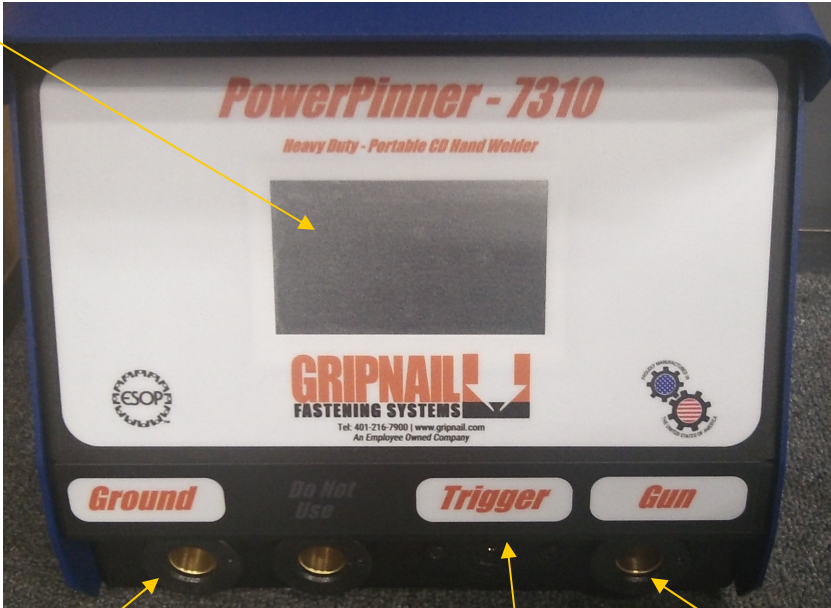
### OPERATIONAL AND SAFETY FEATURES

- Voltage Readout
- Safety Shutdown
- Cooling Fans
- Front Panel Attenuation
- Weld Voltage Adjustment

**PRODUCT COMPONENTS**

**FRONT PANEL**

Touch Screen Interface 51414



Weld Ground Connector

Control Cable Connector

Weld Cable Connector

**REAR VIEW**

OFF?/ON Switch

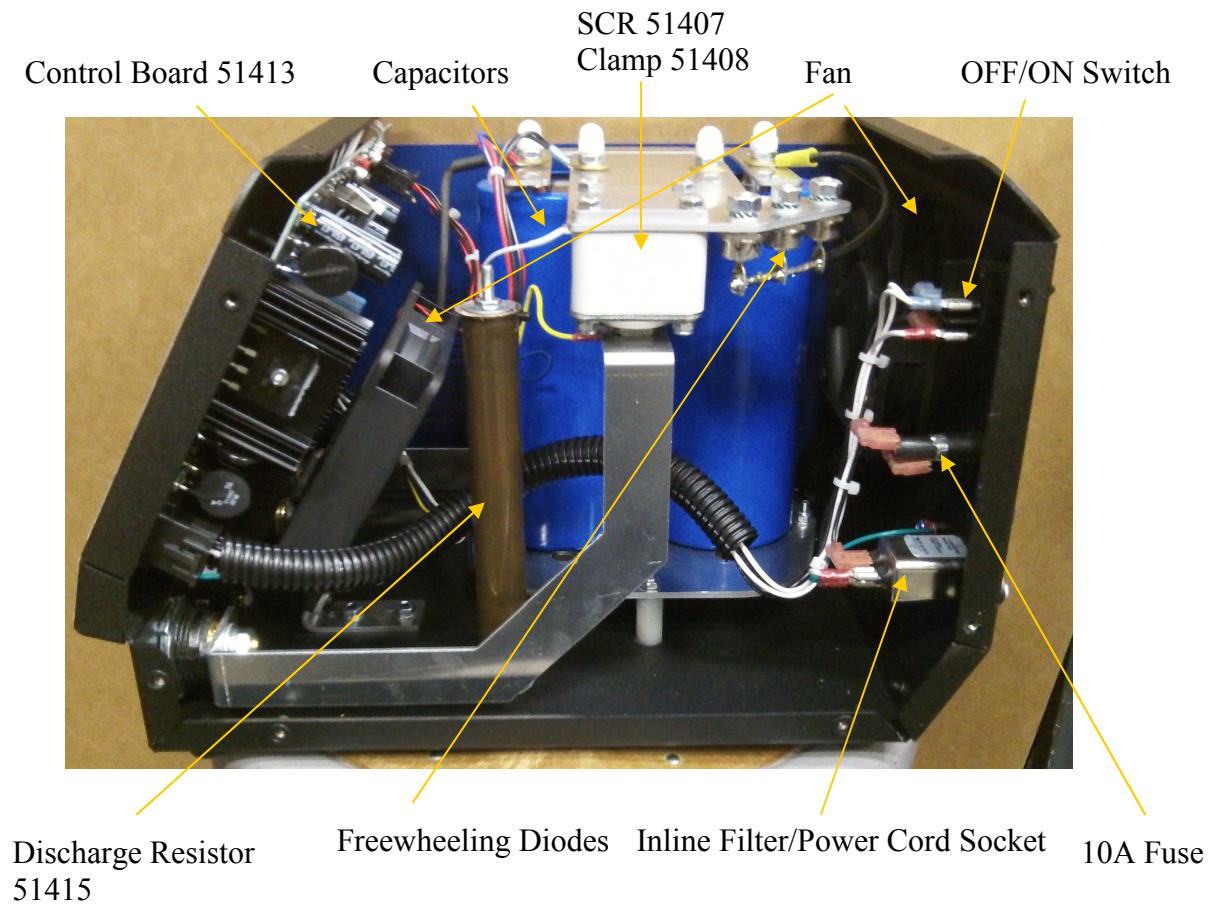
10A Fuse

Power Cord Socket



Model 7310 Power Pinner CD Hand Welder

OPEN VIEW



## SET-UP AND WELDING

Connect the Ground, Gun Control and Gun Weld Cables to the front of the Weld Unit. (See page 6.)

### CONNECT THE GROUND CLAMP

Attach the welding ground lead to the work piece. Select an area where the clamp will not interfere with the insulation. There are several different grounding devices that could be used, depending on the work piece surface.

For bare metal surfaces, make certain that the area is free of paint, rust, grease or any other impurities to ensure a good ground connection.

- 'C' clamp grounding device (GN P/N 40291). Turn the C clamp screw to tight the clamp to the work piece
- Squeeze tool assembly (GN P/N 20524). With the rubber spindle (P/N 42599) assembled on the tool (P/N 40286), close the tool. Screw the spindle down until the clamp and spindle is in contact with both the top and bottom of the work piece. Open the tool. Screw the spindle down an additional turn to turn and a half. Lock the spindle in position with the locking nut.

For painted metal surfaces, a hole must be selected to attach the ground clamp.

-Squeeze tool assembly (GN P/N 20523). With the ground burr (P/N 40287) and rubber spindle (P/N 40288) assembled on the tool (P/N 40286), close the tool with the burr in contact with the inside diameter of the grounding hole. Screw the spindle down until the burr and spindle is in contact with the work piece. Open the tool. Screw the spindle down an additional turn to turn and a half. Lock the spindle in position with the locking nut.



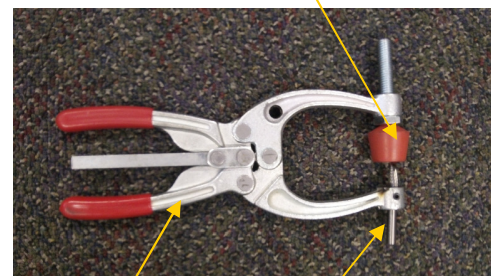
40291



42599

40286

20523



40286

42600

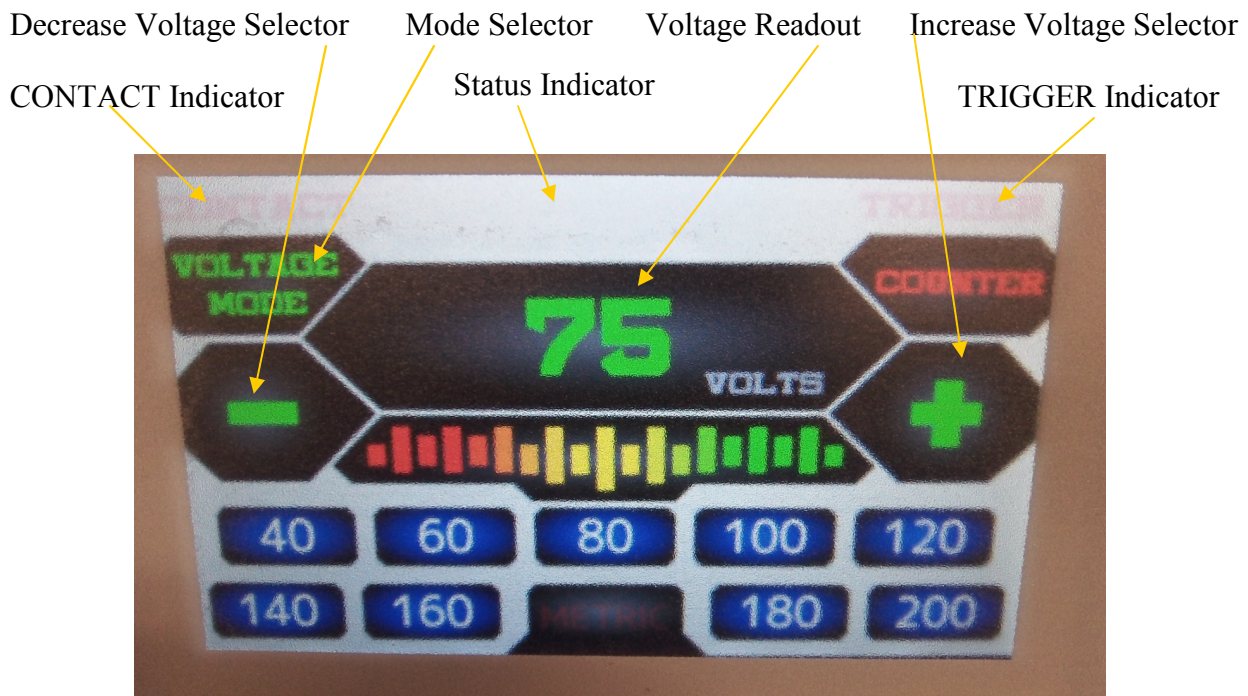


## READY FOR WELDING

When you have completed all of the previous steps to prepare for welding, attach the ground cable to the work area, you can now power on the welder.

## VOLTAGE SELECTION

- Be sure the Weld unit is in the “VOLTAGE MODE”
- Selecting the required weld voltage is achieved by pressing the “-” or “+” on the Front Panel Touch Screen. The voltage range is from 35VDC to 100VDC.
- The voltage is determined by the diameter of the stud and the base material. A starting point for the voltage setting is: .080 dia nail (14 Ga)-75; .106 dia nail (12 Ga)-85; .133 dia (10 Ga)-90.
- Fine tuning the voltage to meet your requirement for the specific application is recommended.



## WELDING

With the Ground Clamp in place, place a Weld Pin on the Guns Weld Tip. The magnetic tip will hold the Weld Pin to the Weld Tip. Push the Weld Pin thru the insulation so the Nail tip comes in contact with the sheet metal. The Weld Gun is equipped with a spring feature to apply the correct amount of force to apply the Weld Pin. Push down on the Gun, making sure the Weld Pin is perpendicular to the sheet metal, to compress the spring approximately 75% of the spring travel. The “CONTACT” indicator will illuminate when the nail is ready to be welded. Squeeze the Trigger to start the weld process. The “TRIGGER” indicator will illuminate when the Trigger is depressed.

## TESTING WELD SETTINGS

### INSPECT THE WELD

Visually inspect the weld. A good weld will result in an all-around weld, with a small visible amount of weld surrounding base of the weld pin. Too much splatter and the weld is too hot, lower the voltage. No splatter and the weld is too cold, increase the voltage.

If you get weld flash to one side of the weld pin as opposed to an even amount around the base, this is called “arc blow”, and can be solved by repositioning the ground clamp.

Proper welding can be tested by either torquing or bending the weld pin. The welded pin should stay in place using either method. If the base material is very thin, the diameter of the weld pin will pull from the base metal for a properly welded pin.

### TESTING WELD SETTINGS

When you have performed all of the presets as discussed in the manual, it is recommended that you perform several test welds with the same diameter weld pin and base material that you will be using. This will verify that all of the settings are correct to the results you desire.

### SCREEN STATUS INDICATORS

Status Indicator	Description	Solution
OVERTEMP	Unit has exceeded temperature threshold	Unit needs to cool down before more welds can be made. Allow the unit to cool down clear the OVERTEMP warning.
UNDER VOLTAGE	Insufficient input power	Unit has detected insufficient supply power. Connect the unit to a more stable power supply.
DC LIMIT ON	Duty cycle limiter activated	Protects capacitor from overheating by limiting the user to a maximum average duty cycle. <b><u>This protection only activates when the set point of the welder is above 85V. Below 85V there is no limitation to the duty cycle of the unit.</u></b>
ERR: CHRG TIME	Max charge time exceeded	Unit has taken too long to charge and there may be an issue with the capacitor. With unit powered down ensure that all connectors and connections are tight.
ERR: OUTPUT	Capacitor short detection	Capacitor is not charging properly and the outputs may be shorted. Check the unit for damage.

**GUN COMPONENTS**

42602 Gun RH

51308 Trigger Switch



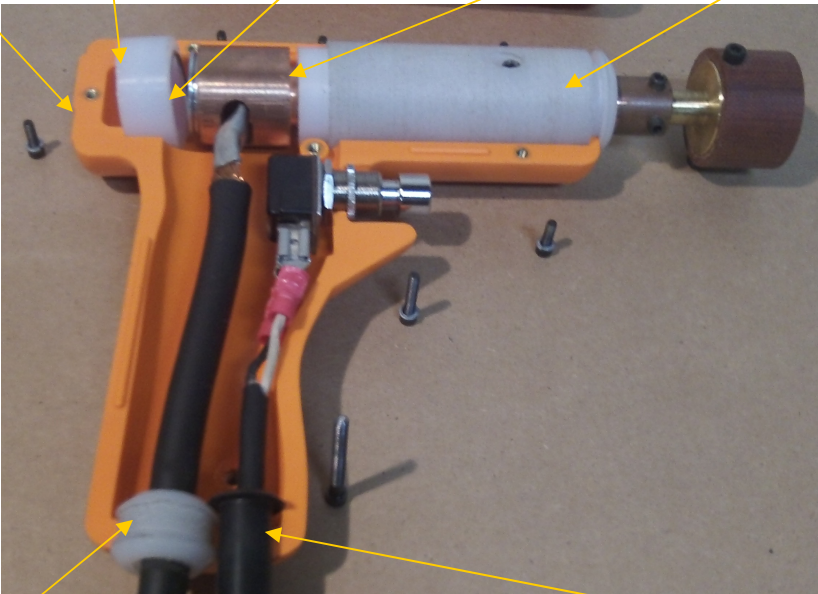
42603 Gun LH

31600 Spring Back

64105 Spring

31603 Electrode

31602 Slide

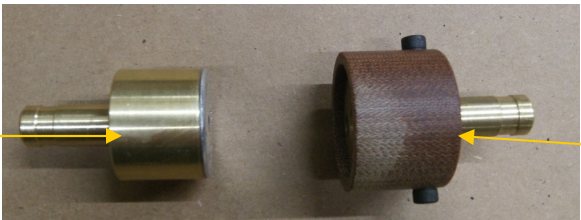


31601 Grommet

50033 Sleeve

20519 Tip  
Without  
Guide

20518 Tip  
With Guide



20526 Ground Cable Assembly (Less ground clamp)  
20527 Gun and Cable Assembly (Less tip)

## **SERVICE POLICY**

Proper operation of your machine is a top priority with the Gripnail Corporation. We will assist you to the best of our abilities to see it is kept in peak operating condition.

In many cases, service needs can be made simply by calling Gripnail Customer Service Department. If it becomes necessary for a service technician to visit your plant, we can make the arrangements.

All Gripnail machines are covered under a one year New Machine Warranty (see Warranty next page). Replacement parts covered by the warranty are supplied free of charge, provided the original parts are returned to Gripnail and do not show signs of abuse.

All warranties on Gripnail machines are good only if Gripnail fasteners are used. If it is determined that fasteners other than those manufactured by Gripnail have been used, the warranty is voided. At Gripnail, we believe in servicing what we sell for the lifetime of the equipment. If you are having difficulty with your machine or if you have any questions regarding service and warranty policy, please call, fax, or write:

**Gripnail Customer Service Department**  
**Gripnail Corporation**  
97 Dexter Road  
East Providence, Rhode Island 02914  
Phone: (401) 216-7900  
Fax (401) 438-8520  
Email: [gripnail@gripnail.com](mailto:gripnail@gripnail.com)  
Website: [www.gripnail.com](http://www.gripnail.com)



## **WARRANTY**

All Gripnail Fastening Equipment is thoroughly inspected and tested before leaving the factory. Gripnail Corporation warrants its equipment to be free from defects in workmanship and materials under normal and proper use for a period of one (1) years from date of sale to original end purchaser.

The warranty does not apply when repairs or attempted repairs have been made by persons other than Gripnail Corporation's authorized service personnel, or where it is determined by our service personnel that the equipment has been subjected to misuse, negligence or accident. If it is determined that any fasteners other than those manufactured by Gripnail have been used in this machine or tool, the warranty is terminated.

This warranty is not effective unless equipment is properly registered with the factory through the use of warranty information card prior to use. Gripnail Corporation shall not be liable for contingent damages or delays caused by defective materials or any other means beyond our control.

### **Gripnail Customer Service Department**

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