

The heat weld gun has a two-pin polarized plug. One pin is wider than the other. To reduce the risk of electric shock, this plug is intended to be inserted into a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not modify the plug in any way.

Any extension cord to be used with this heat weld gun should be minimum 16 AWG.

The voltage rating stated on the heat weld gun must correspond to the supply voltage. The heat weld gun requires high amperage (approximately 13 AMPS). Be aware of the circuit breaker capacity of all outlets used.

We strongly recommend that the heat weld gun be connected to GFCI (ground fault circuit interrupter or residual current circuit breaker) type electrical outlet.

Keep the heat weld gun away from water, liquids or any damp and wet conditions, which can cause electrocution. Use only in dry, indoor areas. Store indoors in a dry place.

WARNING: the heat weld gun can produce extremely hot air (up to 1290°F). Incorrect use can present a fire and explosion hazard, especially when used near combustible materials and explosive gasses. When hot, do not touch the heat weld gun's element housing, any nozzle surfaces, or tips that may be attached, or any heated welding rod being used with the heat weld gun, as these all can cause severe burns. Allow all these to fully cool before touching.

WARNING: use caution to not overheat materials that are being heated using the heat weld gun. Heat can ignite materials, including hidden materials that are not in view.

Do not point the hot air flow of the heat weld gun, or the heated welding rod being used with the heat weld gun, in the direction of people or animals. Do not point the hot air flow at the same point for a long period of time.

The heat weld gun is not to be played with, operated, serviced, or maintained by children. The heat weld gun may only be used by qualified specialists or people working under the supervision of qualified specialists. The heat weld gun should not be left unattended. After use, cool the element by following the cooling procedure (see back).

In use, wear safety glasses and ear plugs.

Before changing the pencil-tip nozzle or welding tip, allow the gun to fully cool. To prevent burns, use pliers to grip the nozzle and tips.

Improper assembly may result in a hot nozzle or tip falling off. Follow nozzle and tip assembly instructions below.

Use caution setting the heat weld gun down after welding. Hot air blows until the heat weld gun is turned off. The element housing, nozzle and tip are hot long after the heat weld gun is turned off, and can burn the floor or skin. After cooling, unplug the heat weld gun if not in use.

JOBSITE PREPARATION:

Check that the groove meets the flooring manufacturer's specifications for depth and shape. Absent specifications, vinyl seams should be grooved between 1/2 to 2/3 of either a.) the thickness of the wear layer on materials with a backing, or b.) the thickness of the material in vinyl backed products. Linoleum seams are grooved down to, but not into, the jute backing. The groove must be centered on the original seamline and full at the bottom, or the bottom of the seam will be thin and weak. Check concrete subfloors for moisture and that adhesive is dry. Excess moisture compromises the weld. Clean the groove of all debris especially cuttings from the groover before welding. If a groove is left open too long on a jobsite, contamination can cause weld failure. Use only manufacturer approved welding rod.

NOZZLE ASSEMBLY:

Fully cool the heat weld gun. Place the pencil tip nozzle (No. 963) on the nozzle of the heat weld gun and press on firmly. For welding flat seam areas with the speed tip, the pencil tip nozzle points down, but for coved areas using the cove tip, the pencil tip nozzle points up. Tighten the screw securely, otherwise the hot nozzle can fall off during use. This can cause a severe burn, or damage the floor.

TIP ASSEMBLY:

Fully cool the heat weld gun. The heat weld gun comes with two tips. The speed tip (No. 962) has a flat trailing foot and forms a low ergonomic angle for welding flat seams on the floor. The cove tip (No. 964) has a "bent-up" trailing foot for welding coved areas. Both the speed tip and the round tip should be used with round welding rod only.

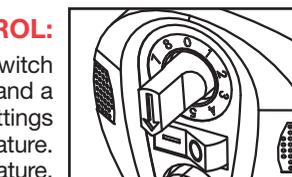
Insert the proper tip into the end of the pencil tip nozzle and press firmly into the nozzle. Failure to press into position may result in the hot tip falling off the nozzle during use. This can cause a severe burn or damage the floor.

TEMPERATURE CONTROL:

The heat weld gun has a switch to turn the power on or off, and a dial labeled with nine heat settings for setting the output temperature. Setting 0 is for lowest temperature, and 9 is for highest. The approxi-



PRESS ON NOZZLE AND TIGHTEN SCREW. INSERT TIPS FIRMLY.



mate temperature for each setting is shown on the chart (see back). Output temperature can vary based on the ambient air temperature and the type of nozzle and tips that are used.

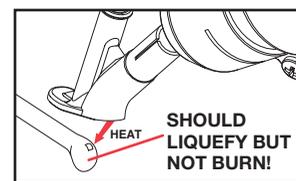
Under normal conditions, with ambient air about 70°F, for beginning users, a heat setting of about 5 is good to start. Switch on power and turn the dial to the desired setting to begin heating. Allow the heat weld gun to preheat for at least 3 minutes before beginning any weld.

When finished welding, cool the element by following the cooling procedure (see back).

TEST SEAM, SEAM SPEED, AND TIP CONTROL:

Many factors affect the performance of the heat weld gun, including ambient air, subfloor temperature, flooring material, welding rod characteristics, extension cord gauge and length, and supply amperage. A test seam before each job is the only way to ensure proper performance.

Before making a test seam, proper temperature can be estimated by putting the welding rod in front of the speed tip and watching the results. The rod should start to liquefy but should not burn. Once you adjust for the proper temperature for melting, it is easier to adjust for other factors with the test seam.

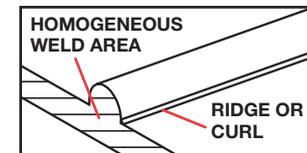


For a complete weld of the seam, the groove must be preheated by hot air from the preheat slot at the bottom of the tip, and the welding rod must be preheated inside the tip.

The preheat slot towards the back of the tip should be kept parallel with the floor. This is pre-heating the groove. If the opening is too close, it may burn the floor. If the opening is too far from the groove, it will not sufficiently preheat the groove. Also keep the preheat slot centered over the groove to ensure both sides are sufficiently pre-heated. Holding it more towards one side than the other results in weakness on the other side. Use the trailing foot to press the melted rod into the groove. Too much pressure on the trailing foot will overstretch the rod, causing shrinkage. Keep the trailing foot constantly on the back of the welding rod.

The correct combination of temperature, welding speed, and pressure will create a weld that forms a tiny ridge or curl on both sides of the seam, caused by slight rod material flow. Look for this at all times while seaming.

Cut a cross section of the test seam with a knife. If the section is welded into a homogeneous single piece, with no cracks, will withstand bending, and will not easily pull apart, the weld is successful.



SEAM WELDING PROCEDURE:

Many materials must be "first pass skived" while the rod is still warm. Welding shorter sections allows time before the rod cools. See instructions for skiving section below.

If there are coves at the seam that require welding, then plan to start the weld about six inches in front of the cove on one end, and to stop the weld about six inches in front of any cove on the other end, as appropriate. Weld a flat section of the seam first, and then any cove afterwards.

Pre-cut the welding rod for a flat section of the seam and lay out alongside. Check for enough extension cord, and that there is nothing in the way.

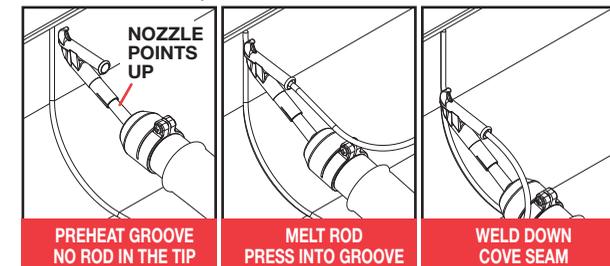
Using the speed tip, weld a flat section of the seam. At the start of the weld, the open groove must be quickly pre-heated without any welding rod in the tip. Quickly thereafter, insert the welding rod in the nozzle until it extends out beneath the trailing foot. Ensure the rod is melted, then press it into the groove with the trailing foot. Begin moving down the seam. Follow instructions above for speed and nozzle position. Constantly feed rod.

Where a weld must be stopped, such as in front of cove, create a splice by forming a "ramp" at the end. Weld towards and then up the ramp to form the splice.



COVE PROCEDURE:

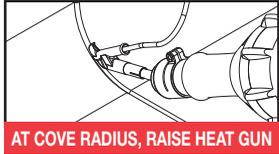
Using the cove tip, start the weld at the top of the cove. Preheat the open groove with the preheat slot of the tip, with no welding rod in the tip. Afterwards, quickly feed rod until the end extends beyond the trailing foot of the tip. Preheat the end of the rod momentarily until it begins to melt, then quickly press it into the seam with the trailing foot. This takes practice.



Continue down the seam until you reach the cove radius. Keep the rear preheat slot centered over the seam, and the trailing foot on the rod to produce slight pressure.

Reaching the cove radius, raise the heat gun to keep the preheat slot about 1/8" above the seam, and to keep the trailing foot on the rod to produce slight pressure.

At the floor, the heat gun must be raised to a higher angle off the floor to keep the preheat slot parallel above the seam, and the trailing foot on the rod. Continue welding on the flat floor towards the ramp to form the splice.



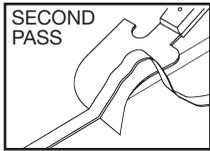
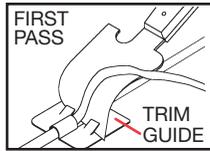
AT COVE RADIUS, RAISE HEAT GUN



AT FLAT FLOOR, RAISE HIGHER

SKIVING:

Skiving excess welding rod is generally done in two passes with a quarter moon knife. Follow the flooring manufacturer recommendations. In many cases, the first pass is done while the welding rod is still warm, and the second pass is done after the weld is cooled completely.



Only the bottom side of the quarter moon knife is sharpened, and it should always face down. Put the trim guide on the quarter moon knife for the first pass. For the second pass, remove the trim guide to trim more closely. This takes practice on a test seam. Too low an angle causes the knife to climb out of the rod, and too high an angle causes it to dig into the floor. Use a smooth and continuous motion. Too many starts and stops cause a more visible seam after the floor is polished.

COOLING PROCEDURE:

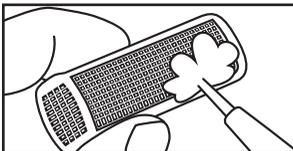
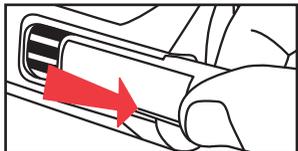
When finished welding, turn the dial to setting zero and allow the fan to cool the element for at least 5 minutes, then switch off and unplug from power.



POWER ON & HEAT SETTING 0 RUNS FAN TO COOL ELEMENT

CLEANING FILTERS:

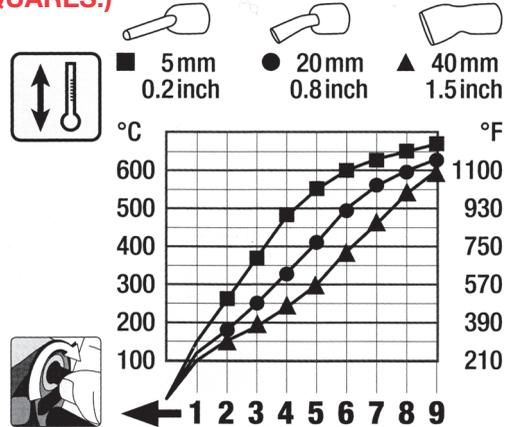
The heat weld gun has removable air filters at the back of the motor housing. Remove a filter by pushing it out from the back. Clean filters by blowing out with compressed air.



SPECIFICATIONS:

MODEL NO: 969 HEAT WELD GUN
 VOLTAGE: 120 VOLTS AC 60 Hz
 AMPERAGE: APPROX. 13 AMPS
 WATTAGE: 1600 WATTS
 TEMP. RANGE: variable 104 - 1290°F
 AIR FLOW: Maximum 8.48 CFM

**APPROXIMATE TEMPERATURE SETTINGS:
 (THESE VARY BY NOZZLE TYPE. CRAIN
 NO. 963 PENCIL TIP NOZZLE DENOTED BY
 SQUARES.)**



REPAIRS MUST ONLY BE CARRIED OUT BY AN AUTHORIZED SERVICE CENTER, USING APPROVED AND GENUINE MANUFACTURER REPLACEMENT PARTS.

GUARANTEE

This Crain No. 969 Heat Weld Gun is guaranteed to be free of defects in workmanship and quality of materials for a period of 1 year. Any parts of the Heat Weld Gun found defective subject to the guarantee will be replaced at no charge. Credit in full or part cannot be extended by the distributor, nor will a new Heat Weld Gun be given as a replacement or loaner. Heat Weld Guns subject to this warranty must be accompanied by same, returned freight PREPAID to Milpitas, CA, and must be in assembled condition. Heat gun elements are not covered by this guarantee.

DATE OF MFG. _____

IMPORTANT SAFETY INSTRUCTIONS READ THESE INSTRUCTIONS!

WARNING: Extreme care should be taken when stripping paint. The peeling, residue and vapors of paint may contain lead, which is poisonous. Any pre-1977 paint may contain lead and paint applied to homes prior to 1950 is likely to contain lead. Once deposited on surfaces, hand to mouth contact can result in the ingestion of lead. Exposure to even low levels of lead can cause irreversible brain and nervous system damage; young and unborn children are particularly vulnerable.

Before beginning any paint removal process you should determine whether the paint you are removing contains lead. This can be done by your local health department or by a professional who uses a paint analyzer to check the lead content of the paint to be removed. **LEAD-BASED PAINT SHOULD ONLY BE REMOVED BY A PROFESSIONAL AND SHOULD NOT BE REMOVED USING A HEAT GUN.**

Persons removing paint should follow these guidelines:

1. Move the work outdoors. If this is not possible, keep the work area well ventilated. Open the windows and put an exhaust fan in one of them. Be sure the fan is moving the air from inside to outside.
2. Remove or cover any carpets, rugs, furniture, clothing, cooking utensils and air ducts.
3. Place drop cloths in the work area to catch any paint chips or peelings. Wear protective clothing such as extra work shirts, overalls and hats.
4. Work in one room at a time. Furnishings should be removed or placed in the center of the room and covered. Work areas should be sealed off from the rest of the dwelling by sealing doorways with drop cloths.
5. Children, pregnant or potentially pregnant women, and nursing mothers should not be present in the work area until the work is done and all clean-up is complete.
6. Wear a dust respirator mask or a dual filter (dust and fume) respirator mask which has been approved by the Occupational Safety and Health Administration (OSHA), the National Institute of Safety and Health (NIOSH), or the United States Bureau of Mines. These masks and replaceable filters are readily available at major hardware stores. Be sure the mask fits. Beards and facial hair may keep masks from sealing properly. Change filters often. **DISPOSABLE PAPER MASKS ARE NOT ADEQUATE.**
7. Use caution when operating the heat gun. Keep the heat gun moving, as excessive heat will generate fumes which can be inhaled by the operator.
8. Keep food and drink out of the work area. Wash hands, arms and face and rinse mouth before eating or drinking. Do not smoke, or chew gum or tobacco in the work area.
9. Clean-up all removed paint and dust by wet-mopping the floors. Use a wet cloth to clean all walls, sills, and other surface where paint or dust is clinging. **DO NOT SWEEP, DRY DUST OR VACUUM.** Use a high phosphate detergent or trisodium phosphate (TSP) to wash and mop areas.
10. At the end of each work session put the paint chips and debris in a double plastic bag, close it with tape or twist ties, and dispose of properly.
11. Remove protective clothing and work shoes in the work area to avoid carrying dust in to the rest of the dwelling. Wash work clothes separately. Wipe shoes off with wet rag that is then washed with the work clothes. Wash hair and body thoroughly with soap and water.

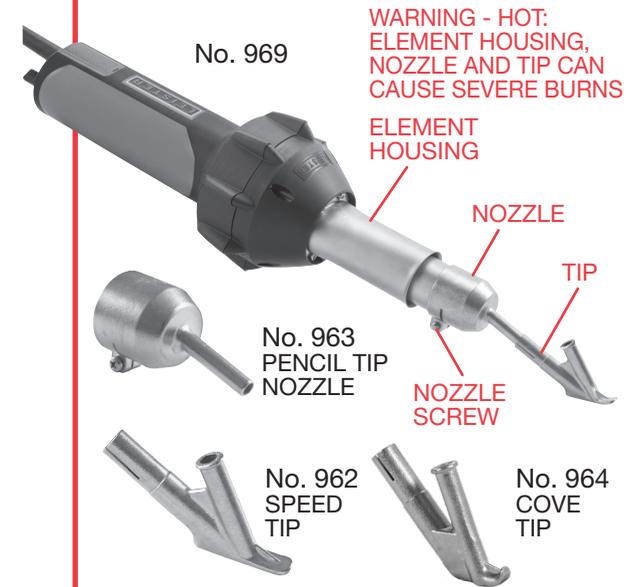
SAVE THESE INSTRUCTIONS!

CRAIN CUTTER CO., INC.

Milpitas, CA 95035 TEL: (408) 946-6100

www.craintools.com

INSTRUCTION MANUAL



No. 969 HEAT WELD GUN

SAFETY FIRST:

Please read these instructions carefully before use and keep for future reference. The heat weld gun is designed for welding seams in solid vinyl or linoleum sheet goods only. Do not use the heat weld gun for stripping paint, or any purposes not described in this manual. See the back side for additional warnings related to paint removal.

WARNING: when heating plastic, varnish, and other materials, toxic vapors may be produced. Check materials can be safely heated. Avoid breathing vapors. Use ventilation and protective respirator for any vapors produced.

WARNING: when opening the heat weld gun's housing, electrically live components and connections are exposed. For this reason, before opening it, unplug the heat weld gun to ensure that it is disconnected from power.

Before use, check the heat weld gun's power supply cord and plug as well as any extension cord to be used for electrical and mechanical damage.