

OPERATING INSTRUCTIONS:

This Heat Weld Gun is designed for welding seams in solid vinyl or linoleum sheet goods only. It is not designed for stripping paint, or purposes not described in this manual.

SAFETY INSTRUCTIONS:

Wear safety glasses, ear plugs, and a dust mask when using this heat weld gun.

Do not operate this heat weld gun near flammable materials, liquids or gasses.

Do not operate this heat weld gun in wet areas. It is designed for indoor use, and should be stored indoors.

Do not leave this heat weld gun unattended at any time. Unplug when not in use.

When changing the pencil-tip nozzle or welding tip, allow the gun to fully cool.

Use only with 120VAC electricity.

Do not use this heat gun for stripping paint. See the back panel for additional warnings related to paint removal.

In use this gun becomes very hot. Keep out of contact with your body. Keep away from your body, and always direct the nozzle away from your body and other people.

Improper assembly may result in the nozzle or tip falling off the gun while hot. Keep the nozzle and tip away from your body at all times.

Use caution when setting the gun down after making a seam. Hot air continues blowing out of the gun until turned off. The tip is very hot long after the gun is turned off, and can burn the floor or skin.

Follow the flooring manufacturer's recommendations for the type of groove and depth of groove to be made in the seam, and use only manufacturer recommended welding rod. Absent recommendations, a good guideline for groove depth is to at least 1/2 to 2/3 of the material thickness.

A test seam is always advisable before welding the actual floor. Slower welding speeds on lower heat are advisable for beginners.

This heat gun has a motor with two layers of electrical insulation. It does not need to be grounded. As a result, it has only a two prong plug without a ground pole.

This heat gun is a high amperage device. Use only with heavy gauge power cord. Be aware of the breaker capacity of the plugs you are using.

JOBSITE PREPARATION:

Clean the seam area of all debris especially cuttings from the groover prior to seaming. Check that the groove meets manufacturer's specifications for proper depth and shape.

ASSEMBLY – NOZZLE:

Fully cool the heat gun. Place the pencil tip nozzle (No. 963) on the nozzle of the heat gun. Tighten the screw securely. Failure to tighten the screw may result in the hot nozzle falling off the gun during use. This can cause a severe burn or damage the floor.

ASSEMBLY – TIPS:

Fully cool the heat gun. This heat gun comes with two tips. The triangular tip (No. 961) has a triangular-shaped channel for feeding triangular or "half moon" ("half round") welding rod. When welding this type of rod, the triangular point must go down into the groove, and the flat must face up.

The round tip (No. 962) has a round channel round welding rod. This tip should be used on 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 out of the nozzle during use. This can cause a severe burn or damage the floor.

TEMPERATURE AND AIRFLOW CONTROLS:

The heat gun has two sliding controls, one for adjusting heat (red), and the other for adjusting airflow (blue). Each sliding control has numbers from zero to five, with zero being lowest and five being highest.

TEST SEAM, SEAM SPEED, NOZZLE POSITION:

Many factors affect the performance of the heat gun, including ambient air, flooring material, and subfloor temperature, flooring material and welding rod characteristics, extension cord length, wire gauge, 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 proper melting, it is easier to adjust for other factors with the test seam.

Under normal conditions, with ambient air about 70° F, for

beginners, a heat setting of about 2 and airflow setting about 2 is good to start.

For a complete weld of the seam area, the seam area must be pre-heated by the opening at the bottom of the tip, and the welding rod must be pre-heated while in the channel.

The hot air opening 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. If it is too far, it will not apply sufficient pre-heating to the groove. Keep the opening centered over the groove to ensure both sides of the groove are sufficiently pre-heated. Use the trailing foot to press the melting rod into the groove. 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:

Pre-cut the welding rod to an adequate length for the length of your seam including coves, then lay it out along the seamline. Make certain there is plenty of extension cord, and there's nothing in the way.

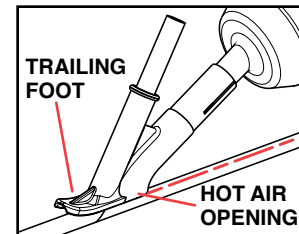
Start the weld as close to the wall as possible, but at least one inch from any cove area. Cove areas must be done separately AFTER the floor area is welded.

At the start of the weld, the seam must be quickly pre-heated with the open-end of the speed tip. Quickly thereafter, insert the welding rod into the channel such that extends out of the flat bottom of the tip. Follow the instructions above for seam speed and nozzle position. Pull the heat gun down the seam while constantly feeding the welding rod.

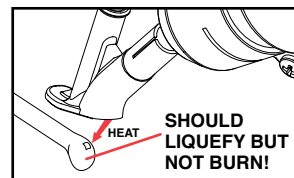
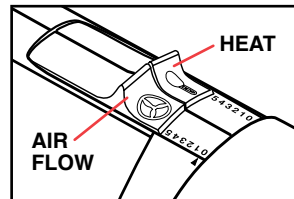
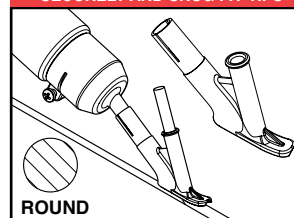
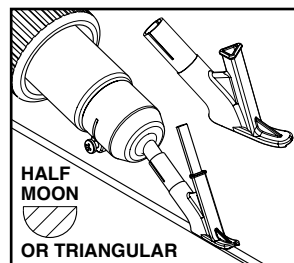
Stop the weld as close as possible to the wall, leaving at least one inch of the floor unwelded at any cove area. Leave the excess rod at the seam as you will need it to restart the weld in the cove procedure (below).

COVE PROCEDURE:

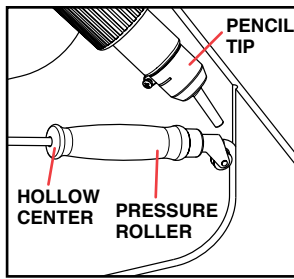
To weld coves, a separate pressure roller (Crain No. 987) is necessary. Allow the gun to fully cool, and then remove the welding tip.



KEEP OPENING PARALLEL WITH THE GROOVE BOTTOM AND TRAILING FOOT ON THE BACK OF THE ROD



Feed the excess end of the welding rod into the hollow center of the pressure roller. Press the roller onto the back of the welding rod. Use the open end of the pencil tip nozzle to heat the welding rod and the groove. Proceed with the roller all the way up the covered area.



SKIVING AND FINISHING:

Wait for the weld to cool completely, generally at least 20 minutes. Skiving too soon results in a severely concave seam area. Skiving is done with a Quarter Moon Knife. When using the Quarter Moon Knife, only the bottom side of the knife is sharpened and should always face down.

Use a trim guide (Crain No. 986) with a Quarter Moon Knife (Crain No. 985) for the first pass. See figure 7.

For the second pass, use only the Quarter Moon Knife. 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 the knife to dig into the floor. Use as smooth and continuous a motion as possible. Interruptions, starts and stops will result in a rough seam that will be more visible after the floor is polished.

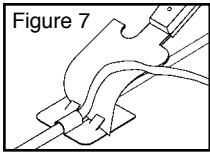


FIGURE 7
FIRST PASS WITH QUARTER MOON KNIFE AND A TRIM GUIDE

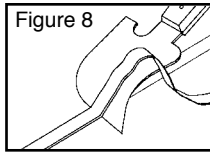


FIGURE 8
SECOND PASS WITH QUARTER MOON KNIFE ONLY

SPECIFICATIONS:

MODEL NO: 960 HEAT WELD GUN
VOLTAGE: 120 VOLTS AC 60 Hz
AMPERAGE: APPROX. 15 AMPS
WATTAGE: 1750 WATTS
TEMP. RANGE: variable 120 - 1250°F
AIRFLOW: variable
AIR PRESSURE: .438 psi / 300 Pa

GUARANTEE

This Crain No. 960 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 this 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 filter 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 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 (STP) 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.

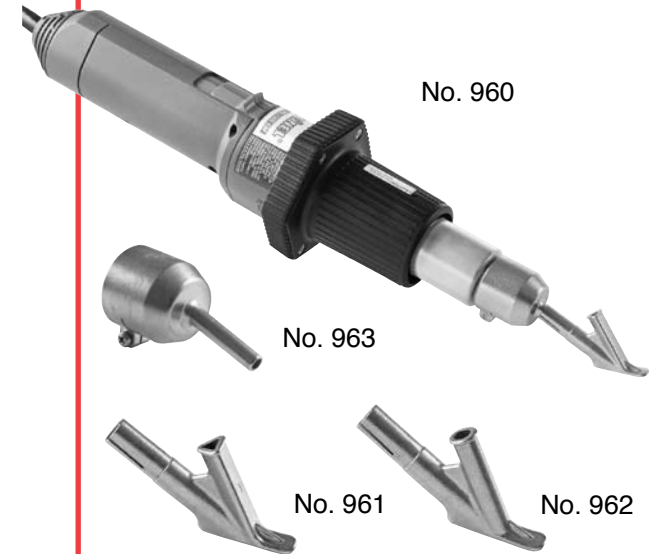
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www.craintools.com

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INSTRUCTION MANUAL FOR



No. 960 HEAT WELD GUN

⚠ WARNINGS:

- **THIS HEAT GUN CAN OPERATE UP TO 1250°F, WHICH CAN CAUSE SEVERE BURNS. DO NOT TOUCH HOT NOZZLES OR TIPS. NEVER POINT THE HOT AIR FLOW AT YOURSELF OR OTHER PEOPLE.**
- **ASSEMBLE NOZZLE TIGHTLY ON THE GUN AND SNUG FIT THE TIPS. OTHERWISE PARTS MAY FALL OFF CAUSING SEVERE BURNS.**
- **TEST SEAMS ARE ALWAYS ADVISABLE.**
- **WHEN DONE WELDING, TURN THE HEAT TO ZERO AND RUN FAN ON COLD TO PROPERLY COOL ELEMENT. FAILURE TO DO SO CAUSES ELEMENT FAILURE.**