

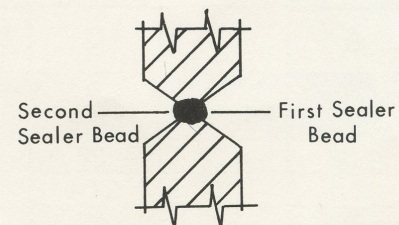
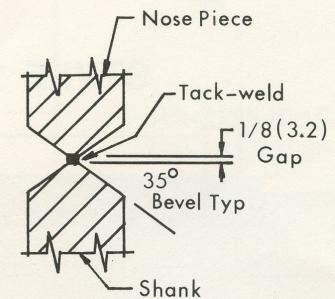
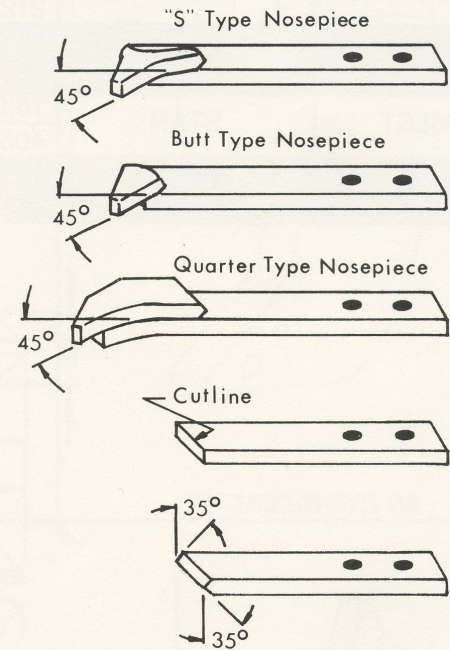
# TYPICAL RIPPER WELDING INSTRUCTIONS

ALL PERSONS PERFORMING MAINTENANCE WORK SHOULD WEAR OSHA APPROVED HARD HAT, SAFETY GLASSES, SAFETY SHOES AND WORK GLOVES!

## IMPORTANT

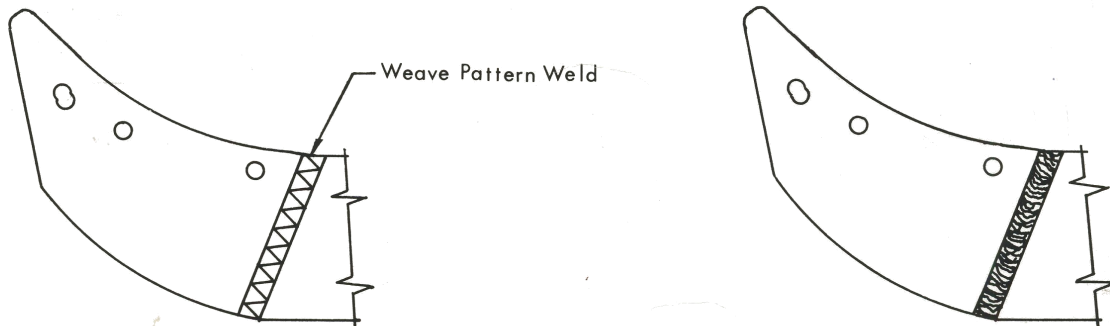
COMPLETELY READ INSTRUCTIONS BEFORE STARTING INSTALLATION

1. Establish the burn-line of the repairable ripper shank by placing H & L conversion nose piece at the desired penetration angle, usually 45 degree of attack.
2. Pre-heat the problem ripper shank at the scribe burn-line to approximate 300 degree F. Chamfer the new flame cut 30-35 degree bevel.
3. Clean and remove all materials from ripper shank and nose piece repair from weld zone prior to pre-heating process.
4. Position H & L's nose piece to the new penetration angle established reference in step one. A gap of  $\frac{1}{8}$ " between the weld joint is desirable, tack weld in place.
5. Pre-heat the H & L nose piece and the ripper shank for proper weld connections. All weld zone areas must be pre-heated to a minimum of 400 degree F. It is a must for the welding operator to use a temp stick for meeting heat requirements.
6. Apply sealer (root) bead the length of the two weld bevels, proceed with sealer (root) bead on the opposite side as the first. Clean both passes.
7. Prior to build-up passes—Check nose piece squareness and straightness.
8. Weld two (2) to three (3) beads on one side, remove slag and peen after each bead. Repeat procedure on opposite side, repeat until weld job is complete. Proper nose piece to ripper shank alignment is of great concern. Weave not more than three (3) times the electrode diameter. **DO NOT USE WIDE WASH BEADS.**
9. Remove porous metal that has accumulated at either end of the weld by burning or grinding to solid metal. Remove all pockets or notches in the metal.
10. Rebuild the cleaned up area, using the outlined procedure. Burn or grind off the rebuilt area as stated, until smooth transition from shank to nose piece has been obtained. The finish surface should be smooth, since stresses tend to concentrate at any depressions or irregularities.



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11. Dye check all exposed welds to detect cracks. All cracks must be ground to remove weld imperfections. Reweld, using outlined procedures.
12. Torch heat weld and weld areas adjacent to weld on both sides of shank to 350-400 Degrees F<sup>0</sup> after step 10. Allow to air cool slowly.
13. The entire welded area must be ground to a smooth finish.



## WELDING INSTRUCTIONS, Disclaimer and general comments:

1. Not all H & L products are produced for weld connections. Teeth, Uni-Forged and Cast alike are not manufactured for repair, resurfacing and / or hardfacing. The welding of these "Wear Parts" can destroy the Heat Treat integrity and may cause irregular wear patterns or possible product failure. H & L does not warranty any Tooth, Adapter and / or any other Wear Part when repair or hardfacing of product has been introduced.

2. The patented H & L Flexpin, in general is not heat resistant. In all weld pre-heating applications of Adapters, please make sure Flexpins are not installed as complete assemblies. H & L recommends Flexpin installation only on attached to bucket and cooled Adapters.

3. The general data in these welding instructions are based on the performance and reliability of H & L Teeth.

NOTE. . . . . because of the various welding conditions, and the existance of many weld electrode types and suppliers, H & L does not guarantee and the user should not assume that the data be exactly as stated. H & L recommends your local weld electrode supplier or Welding Engineer be consulted when specialized welding specifications are required.