

Fabrication of Barshoes Using Long Heel Shoes

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The following step by step photos and directions illustrate two methods of making barshoes from the Kerckhaert long heel shoes. Using either method you should try to make your shoes in your shop ahead of time and finish your shaping on site. This will increase your efficiency and help

to avoid the problems that can often occur in the field. (Not enough amperage, concerns over sparking, etc.) Once you go through the steps you will see that it's relatively simple and doesn't take a lot of time. When you figure the initial cost of the shoes and minimal time involved in the process you will see that you can increase your barshoe profit by a significant margin. In many cases you are using the barshoe to treat a sore

or damaged hoof. You'll find that a creased barshoe allows you to remove the nails individually and avoid additional damage or undue pressure to the hoof.

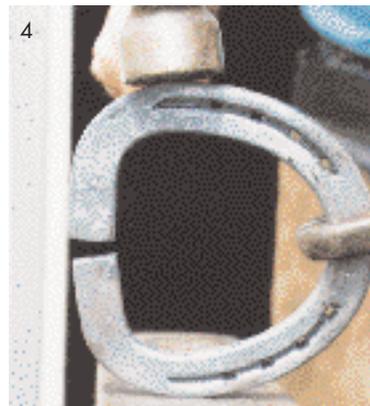
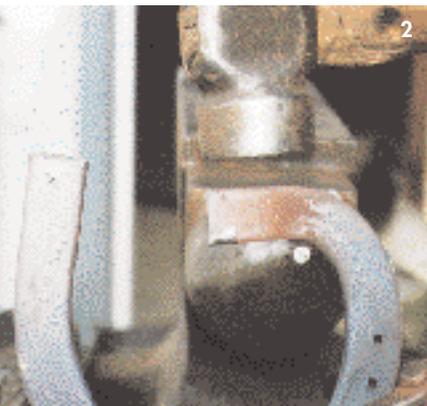
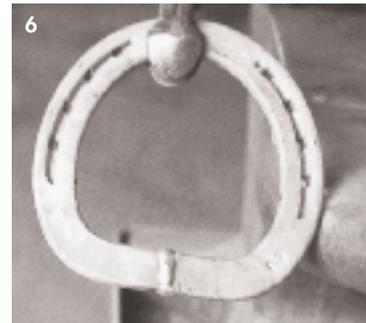
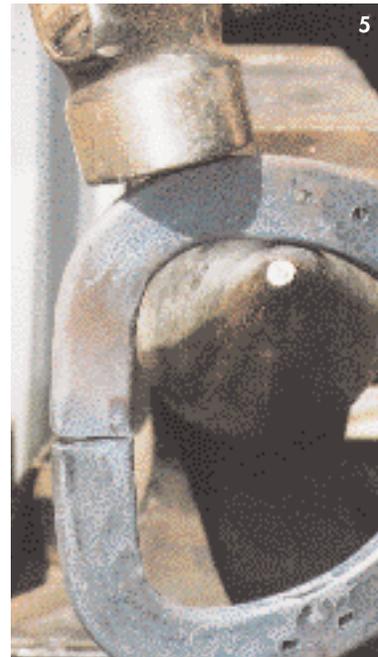
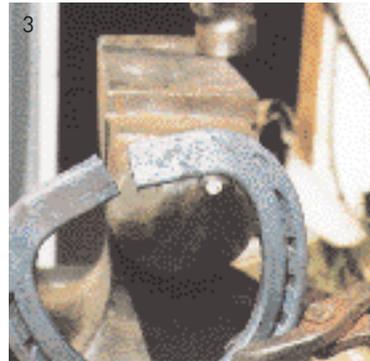
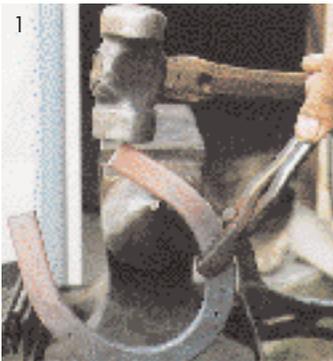
As a rule, you can use the Kerckhaert long heel shoe size that matches the open shoe size that you would use for the horse. You can make half sizes by simply cutting stock from the heels before beginning the process.

Welding with arc or mig welders or acetylene torch

Photos 1-5. As shown in the step by step photos, turn the heels in so the ends line up. Leave a slight gap between the ends, about 1/16". Leaving this gap makes it unnecessary to bevel the ends before welding. Other than flattening, most of the work is done over the horn.

Photo 6. Weld. Don't grind the weld, as it should be hammered flat in the final stage of the shaping process.

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Photos 1-6: When preparing shoes for mig, arc or torch welding, bringing the two ends together is the goal. Don't be concerned with the shape of the shoe at this point.

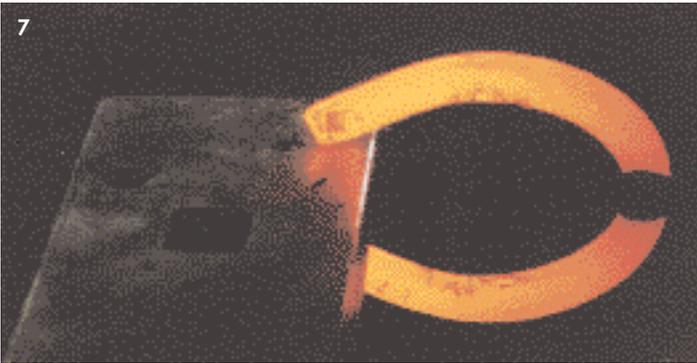
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Forge Welding (coal or gas)

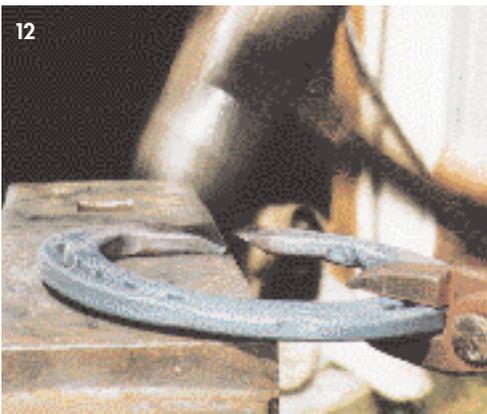
Forge welding is often viewed as being very difficult. However, working through and practicing a few basic steps you will see that it can be easier to forge weld a long heel shoe than to cut bars and arc or mig weld them to a keg shoe.

1. Get your fire ready to weld. When using gas make sure to turn the regulator pressure to the manufacturer's suggested welding pressure. If you are using coal be sure to build a clean, clinker free, slow heating fire. Don't wait until your final step in the process to prepare the fire.

2. Photos 7 through 12. Pencil the heels (narrow the width). This will keep your weld area from becoming too wide (shaped like a fish tail). Bend and scarf each side of the bars. Do as much work as you can in each heat. With practice you will find it possible to pencil, bend and scarf both heels in one heat.

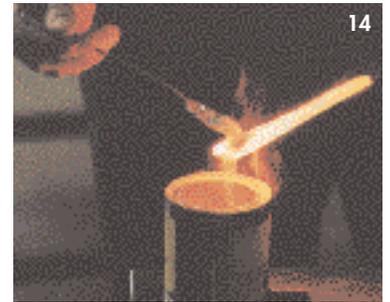


Photos 7-12: Your hammer control is a key to efficiency in forge welding. Practice with old shoes to develop your proficiency. Practice welding on these shoes as well.

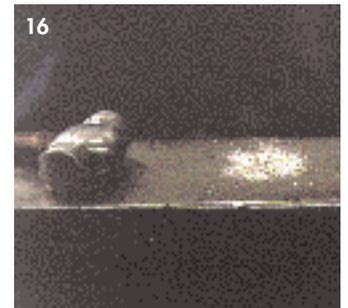
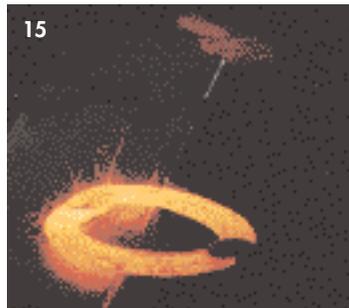


3. Photo 13. Overlap the scarfs. As you do this try to be aware of the final shape you want and work the shoe toward that shape as much as possible.

4. Photo 14. Once you have overlapped the scarfs, place the shoe in the fire without flux. Bring the shoe up to a bright lemon color, pull from the fire and brush the scale off with a stiff butcher block brush. Immediately apply the flux (StableWeld or SureWeld) and return the shoe to the fire. This should be done as quickly as possible to maintain the heat and reduce the time required to bring it to a welding heat. The flux is designed to minimize scale buildup and to lower the melting point of existing scale. The colder the shoe gets the longer it will take to bring it to welding heat and the more scale it will build.



5. Photos 15-16. While the shoe is heating to welding temperature prepare the anvil and yourself for the weld. If the anvil is cold, sprinkle some welding flux on the spot you will place the shoe to hammer weld it. This provides a measure of insulation for the shoe. When the shoe reaches welding temperature, a white heat, pull it and use light quick hammer blows on both sides of the shoe to make the weld. If you need to take a second welding heat do so right away. Brush, reflux and put it back in the forge before the color is below an orange heat.



Once you're satisfied with the weld, you're ready to start working toward the final shape. Take advantage of the heat still in the shoe after welding.

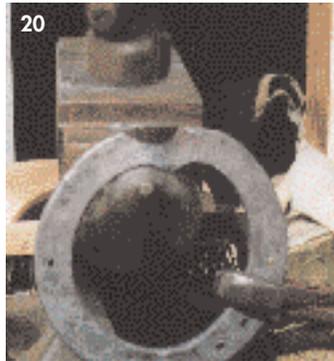
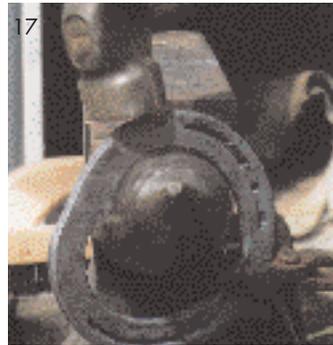
Summary: a. Pencil, bend, scarf and overlap bars in first heat (after practicing the steps). b. Bring shoe to bright lemon heat, brush and apply flux (welding compound). c. Bring shoe to welding temperature, a white heat, and use light, quick hammer blows to weld. (Brush, flux and repeat this step if necessary)

THE NATURAL ANGLE

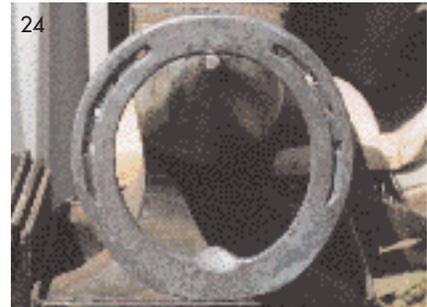
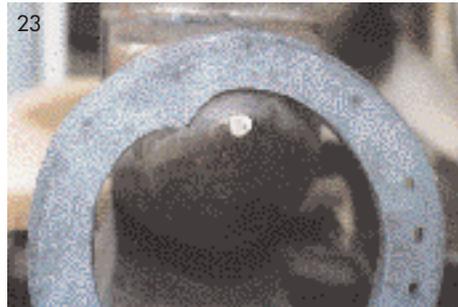
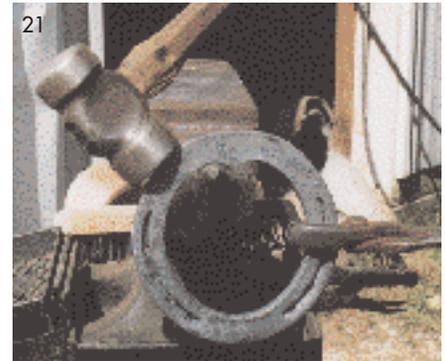
Shaping the welded barshoe

Photos 17 through 24. Shape over the horn to reach desired shape. An anvil with a flatter horn speeds up the shaping process. As you can see in the photos, most of your blows to make your bar shape (straight or egg) are directed to the area from the end of the crease back. Shaping the forward area of the shoe is basically the same as shaping open shoes. Take your time as you practice, look at the result of each blow to understand where the shoe moves.

Flatten weld (on arc or mig welded shoe) and level shoe. ■



Photos 17-24: You can see from the end of the horn the positioning of the shoe before making the hammer blows. Take a look at your shoes from this angle as you work through the shaping process.



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How's The Shoe Punched?

This is one of the most common questions asked about horseshoes. The target for most manufacturers of riding horse shoes made for the North American market is to crease and punch for a city head nail, normally the 5 City. The head design of the Capewell 5 City, by far the most common nail, is similar to that of the Capewell 5 Slim, 5 Classic and Cooper 5 Lite so the nails are usually interchangeable.

In today's mass market there are two distinctly different shoe manufacturing processes;

a. **"Drop forged"**

Shoes that are made on forging presses or drop forge hammers, generally starting with low carbon round steel.

b. **"Manufactured"**

Shoes that are made from higher carbon flat bar stock, using presses and hydraulics.

The majority of riding

horse shoes are made with a crease. Looking closely at the shoes you'll see the resulting creases of the two shoe manufacturing processes are noticeably different.

When you look at the drop forged shoe you will see that the crease is generally U shaped, with the bottom of the crease slightly flattened (photo 1). This type of crease is much easier on forging dies than the V type crease you find on the manufactured shoe. While it is an economic advantage to drop forge the shoe with the U shape crease, the punching of the shoe often ends up less than ideal. The minimal countersink for the head often only allows contact with a small portion of the head, usually right at the base of the head. In order to get tight nailing the pritcheling must be very tight, with the base of the nail head forced into the pritchel hole. This tight

pritcheling restricts the ability to angle the nail to get the best height and pitch (photo 2). Unless you back-punch, this often leads to low nails and weaker, damaged hoof walls.

In contrast, the V shaped crease of the manufactured shoe allows a countersink which maximizes contact with the nail head (photo 3). If you were to measure the amount of surface area of the nail (head and shank) making good contact with this shoe you would see that more head contact is possible. This proves stronger than having contact only with the base of the head and the top of the nail shank. (You will find that most hand made shoes that are creased or fullered have this V shape)

The V crease with the countersink for the head facilitates nail head contact with the shoe, lessening the dependency on the

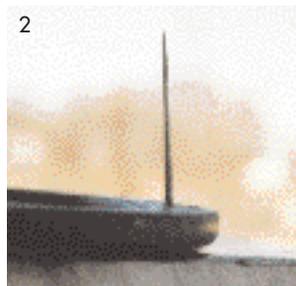
pritcheling to be so tight. This allows the nail to be angled or pitched to suit the hoof angle (photo 4). The result is a secure shoe with a minimum amount of hoof wall damage. With a V creased shoe you should be able to use slimmer shank nails with good results. There is also much less effort involved in shoe preparation - less back-punching!

Ask a nail manufacturer what design feature they think will do the most to hold a shoe on. They will probably indicate good head fit with a maximum amount of contact with the crease. Look at the shoes you're using and check the nail head for contact in the crease. ■

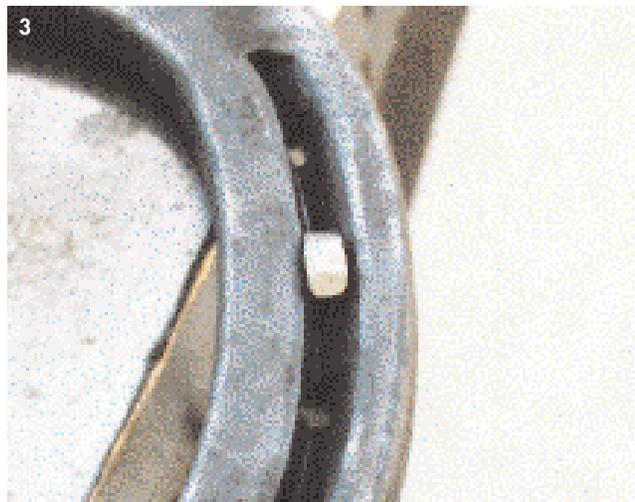


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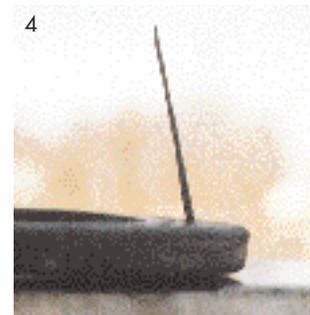
Photos 1-4: As a shoe wears, the V shape crease tends to provide a more stable nail fit. When you look closely at hoof wall angles you will understand the importance of the nail pitch.



2



3



4

Insurance Needs for Small Business

Every small business is different. That's no secret. Neither is the fact that insurance needs for small business is very different from the type of insurance you need for your personal needs.

For the most part insurance companies have set plans that cover the basics including health, car and property damage for small businesses. However, as a business owner, you must consider liability in-

surance: protection for you from accidents that can occur on your property or to something on which you worked.

Liability coverage should include bodily injury and property damage, along with coverage for your employees. You also have to consider your legal liability to others for accidents, personal injury, advertising injury and medical payment. A major cost of doing business includes liability coverage.

For small business owners

jury protection, medical payments, uninsured motorists coverage, collision coverage and comprehensive coverage. Remember to consider the age and condition of your vehicle when evaluating the limits and premiums you are going to pay. At some point, it may be more feasible, if your vehicle is damaged in accident, to replace it instead of going through the expense of repair.

Many insurance companies will customize a small business insurance package. This means insurance coverage for property, vehicles, personal (possibly including health), life and liability are packaged together to reduce your total costs.

Some plans are already pre-packaged together. However, coupling those plans with additional coverage may be costly. You should ask your agent to price packaged coverage both ways, using pre-packaged plans with additional plans and with individual plans customized to suit your needs. Also be certain to ask about special discounts if you pay your premiums in full, credits and any coverage options that may be available. ■

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who have company vehicles, there are additional factors to consider. Most business auto policies include a number of specific coverages — each with its own coverage limit. Some coverages will specify a deductible amount. Your insurance agent can help you select the coverages, limits and deductibles you need.

Your company vehicle insurance needs can include: liability coverage, personal in-