

# Instructions for Finishing Twist Barrels

## Using Mark Lee Express Brown #2

When finishing twist barrels the object is to create a vivid contrast in the pattern. Rust bluing or browning will be one solid color unless you follow special procedures. This method works by stripping or loosening the color produced by bluing or browning using an etchant (ferric chloride solution). The rust is removed or loosened easier on the harder steel used in the twist pattern with a process called carding.

Wear safety glasses when performing the following operations.

### **Metal Preparation Tools Required:**

- Abrasive paper preferably cloth backed, initial 120-140 grit with final 320-400 grit
- Selection of files

Remove pitting with files and or abrasive paper. Your metal preparation will probably begin with a coarse 120-140 grit abrasive paper, but should be completed by using 320-400 grit.

### **Degreasing Tools Required:**

- Detergent, Simple Green® recommended
- Scrub brush
- Tongs or wire hooks
- Air compressor or paper towels
- Clean cotton gloves
- Rubber stoppers for plugging barrel
- Threaded brass rod, nuts, and washers for securing rubber stoppers

Degreasing is essential for getting fine results. Parts should be soaked in hot soapy water using a cleaner such as Simple Green®. Scrub parts with a brush during the cleaning process. Remove parts from the cleaning solution with tongs or hooks. Rinse thoroughly with hot water, and dry with compressed air or blot with paper towels. Do not touch cleaned parts with bare hands, the oils from your body can contaminate the metal. Wear clean cotton gloves while handling degreased metal parts.

Rubber stoppers are needed to keep the etchant used during the next process from getting inside the barrels. Chemical stoppers with a hole work well for double barrels, select a size that will fit securely in the bore. Select a brass rod that will tightly fit inside the hole in the stopper and is long enough to extend the length of the bore plus the length of the stoppers with at least 1” extra. Thread the ends of the brass rod, with any common male thread. Secure the stoppers on the threaded rod in the bore with using washers and nuts. These will not blow out in boiling water. Leaving excess length on the rod also makes a good handle during the next procedure. Check for leaks in clean water before starting the next procedure. Bores can be oiled before installing plugs, but you must not contaminate the outside of the barrel or you must repeat the degreasing process.

### **Application Tools Required:**

- Vinyl or latex gloves
- Cotton gloves
- Natural sea sponge, cellulose sponge, or cotton swabs
- Small glass or plastic container with graduations
- Oil free steel wool
- Distilled water

- Container for diluted Express Brown #2
- Container for etchant (Ferric Chloride Solution)
- Container for boiling distilled or deionized water (tap water can be used in many parts of the country but it depends on the mineral content in your area)
- Etchant (Ferric Chloride Solution) available from Radio Shack

The Radio Shack Ferric Chloride Solution is 35%. Dilute this solution 8 parts of distilled water to 1 part Radio Shack Ferric Chloride Solution. If this solution removes color too easily during the dipping process it can be diluted further.

Mix the Mark Lee Express Brown #2 diluted one part of distilled water to one part Express Brown #2. Warm barrels to about 150 degrees Fahrenheit. Apply the diluted brown as evenly as possible to the barrel using a sponge cut into a one inch square. Let the barrel cool to room temperature and dip in the Ferric Chloride etchant for 5 seconds. Remove the barrel from the etchant and dip in room temperature water and rub with oil free steel wool under water. Dry the barrel and repeat the sequence of warming the barrel, coating with diluted Express Brown #2, dipping in Ferric Chloride etchant, rinsing in water and rubbing with steel wool. It may take 10-15 repetitions. If a darker plumb brown is desired, barrel can be boiled in water and removed when desired darkness is achieved.

### **Neutralizing Tools Required:**

- Baking soda
- Glass or plastic container large enough to accept the part

After you are satisfied with the pattern soak for 5 minutes in baking soda and water to neutralize any acid residue (concentration is not important). Rinse in clean water and dry and apply Rig® gun grease and set aside for 24 hours to cure. Some finishers also apply a coating of wax or lacquer to the finished barrels.

### **Notes on Black and White Pattern:**

If a black and white pattern is desired use Express Blue #1 undiluted and boil in water after every rusting operation. Rinse in clean water, dry, and apply Rig® gun grease then set aside for 24 hours to cure. Some finishers also apply a coating of wax or lacquer to the finished barrels.

### **Tips from Mark Lee:**

During the whole bluing or browning operation don't touch the metal with your bare hands as you can leave contamination spots in the finish.

If you use steel wool for carding make sure to buy oil free steel wool. It is available at fine woodworking stores. Start off using the finest grade available but have medium on hand as you might prefer it.

If you don't have a boiling tank and are only going to do a few guns you can buy a piece of PVC pipe, glue a cap on one end, hang your barrel in the pipe on a piece of degreased wire and fill the pipe with boiling water each cycle. The PVC pipe will also work well for the Ferric Chloride etchant. A plastic wall papering tray can also be used.

After initial cleaning, a light scrub down with a scotch pad while in the water rinse is often helpful to insure that all cleaner residue is removed.

The Mark Lee Express Brown #2 and RIG® Gun Grease are both available at:

[www.trackofthewolf.com](http://www.trackofthewolf.com)

#ML-XBROWN2-4 Express Brown 4 fl. oz. bottle

#RIG-1 Rust Inhibiting Grease 1.5 oz.

**Track of the Wolf, Co. Inc.**  
**18308 Joplin Street N. W.**  
**Elk River, MN 55330-1773**

[www.trackofthewolf.com](http://www.trackofthewolf.com) Copyright © 2015