

# **Napoleonic Artillery Train Casting & Assembly Instructions**

## **Introduction**

Silicone rubber molds will produce beautifully detailed metal figures of exceptional high quality.

The mold cavities containing small parts and spoke wheels are difficult to fill and may require that you do the following to improve your results:

1. Heat casting metal to a temperature of 615 deg. F. If our small stove is used you can reach this temperature by allowing the metal to heat for 10 minutes or so after it has melted in the pot. The stove will not raise the metal to a higher temperature which is important as you could burn the molds if the metal is raised to 680 deg. F or more. To ensure correct pouring temperatures, use 750 deg. F Thermometer, #90011
2. Liberal venting of the mold to the outside and from one channel to the other wherever needed. A safety razor blade is the best tool for cutting the necessary V-groove vents. The venting process is described on your silicone mold instruction sheet.
3. Use of a high content tin or pure tin casting metal which has excellent flow properties. We sell pure tin bars (.25 lb.) for \$2.25 each.

## **Casting Instructions**

Prepare the rubber molds for casting as indicated on the silicone rubber mold instruction sheet.

Open the molds shortly after the metal has frozen and break off the sprue. If you wait until the casting has cooled you will have to saw the sprue off which is hard work and time consuming.

Partially filled spokes in the wheel cavity can usually be corrected or considerably improved by venting the molds properly and casting with a high tin content metal. If small gaps in the cannon or limber wheel still persist they can be filled with a thickening mixture of 5-minute epoxy or "Green Stuff". Fill in the spoke gaps with the partially hardened material and when dry sand to shape.

The wheel cavities will fill much easier with a high tin (Or pure tin) content casting metal (as is the case with all hard to fill molds).

Sink holes or small pits on the horses or figures can easily be filled with Das Pronto air drying clay or FastSteel Epoxy Putty. Allow the filler to harden and then sand smooth.

## **Assembly of Cannon Carriage**

Clean all flashing off the parts cast in molds SR#51, 52, and 53.

Parts from SR51. Using a rat tail (round) file or small pin vise drill open all the holes in the linstocks, limber carriage, limber pole, and hubs. Drill open the 2 pintle mount holes on the limber carriage.

Parts from SR52. Drill open the 4 trunnion cannon carriage pivot holes. File down the cannon pivot so it can be driven through the cannon and pivot holes. Drill open the pivot hole in the cannon barrel. Drill 2 small holes in the cannon barrel and glue in place the loose gun handle.

Parts from SR53. Drill open the cannon wheels, limber wheels, and linstock holes.

Clean the hubs and bucket of excess flashing. (The hubs which are positioned on the limber and cannon wheels were used to pull the carriage forward or in retreat by ropes attached to them and pulled by the foot soldiers.)

Assemble the parts shown in figure #5. A light weight chain for connecting the limber pole and linstocks as shown in illustration may be obtained from a hobby or jewelry store.

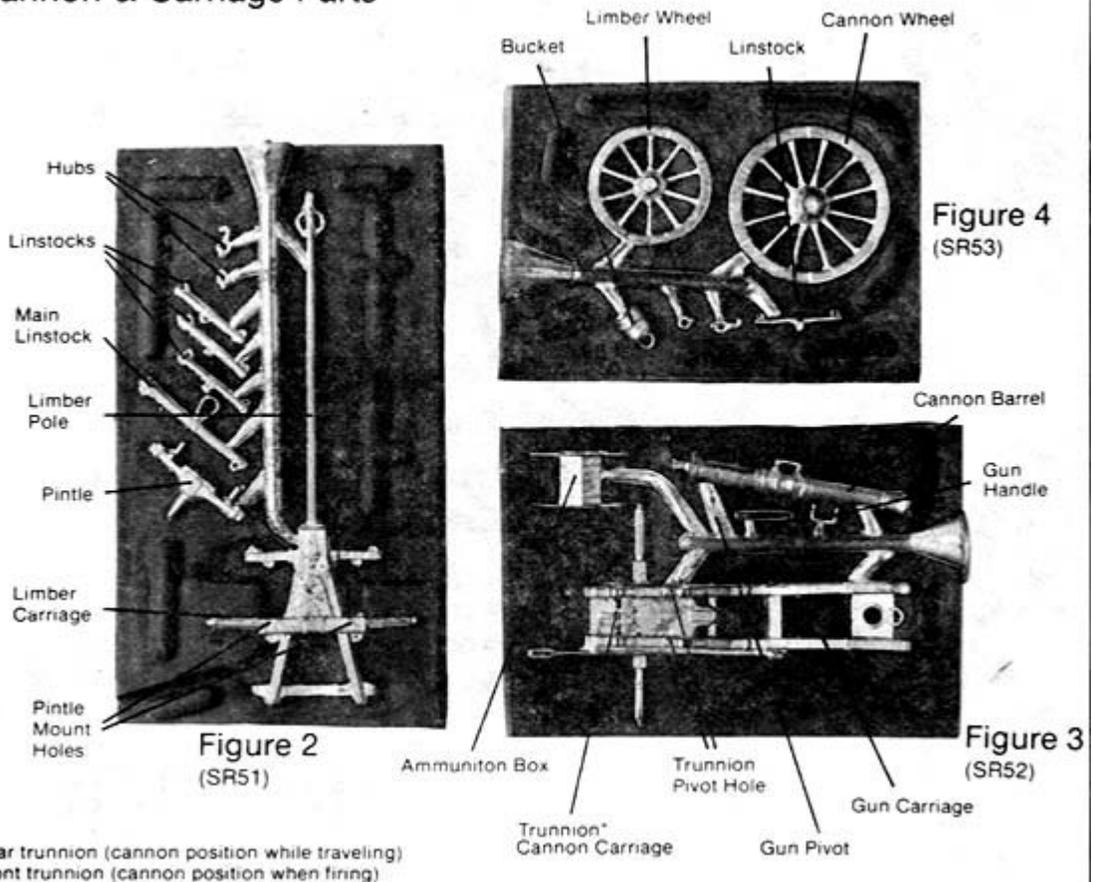
Horse & Limber Connection. Refer to figure #6 which will indicate how the horses are connected to linstocks. The horse ropes can be made by twisting a fine gauge wire and pressed into small holes drilled in the horse harness and horse body.

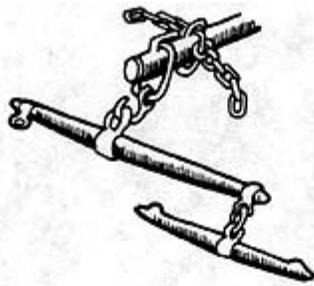
Figure 6 is an actual reproduction of the draught horse's harness although these exact details could not be copied exactly in metal casting. They are being presented for your observation.

Details of draught horse harness. (A) Rear horse of team left side, driven. (B) Bridle of right hand, rear horse. Otherwise identical with A. (C) Bridle of driven horse. Lead rope could be replaced by a leather rein and attached at a ring on the side of the halter. (D) Front view of halter. (E) Harness for lead horse.

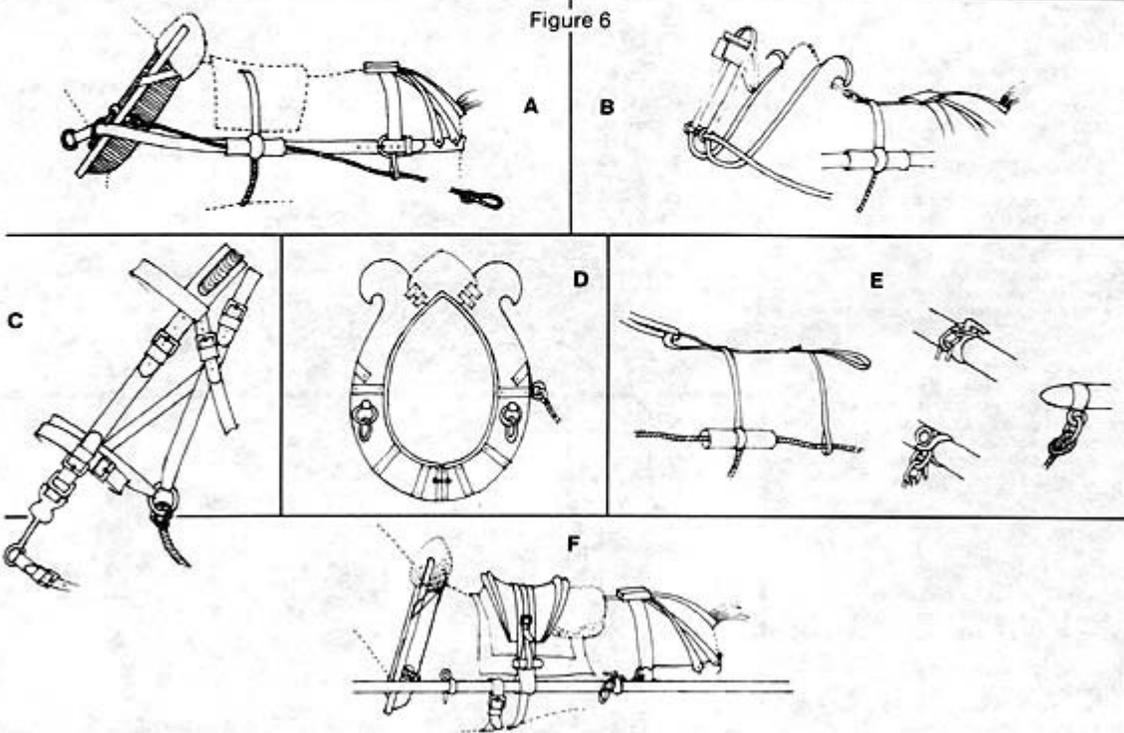
Identical each side except that the left hand horse was driven and carried a saddle. (F) Details of harness for shaft horse (eg. on wagon or light ambulance). Rear horse shown, lead horse harness as E.

## Cannon & Carriage Parts





**Figure 5**  
Front end of limber pole; the chains on each side hooked to the halters of the rear pair of horses.



**Figure 6**