LITTLE GIANT BABBITT INSTRUCTIONS

POURING BABBITT BEARINGS IS INHERENTLY DANGEROUS; CAUTION MUST BE EXERCISED TO AVOID INJURY.

SAFETY REMINDERS:

- Always wear long sleeves, pants, boots, gloves and safety glasses when pouring babbitt.
- Use an approved damming compound that does not have a moisture content. Hot babbitt hitting moisture will cause an eruption that will spit the babbitt back out at you.
- Always pour babbitt in a well ventilated area.
- Always babbitt with a buddy; it makes the job easier and safer.

LOWER BEARINGS:

Remove shaft assembly from machine.

Melt out the existing bearings.

Clean all bearing surfaces with a wire brush.

Roll Babbittrite damming compound to pencil size, approximately 3/8" x 10".

Press Babbittrite on the face and corner of the outer edge of the collars.

Assemble two inner collars on the babbitting mandrel.

Place brass spacers in bearing cavities to center the mandrel.

Place mandrel (with two inner collars) onto brass spacers (5/16” for 25 LB, 3/8” for 50 LB)

Adjust left-to-right alignment of mandrel.

Use chain and bungee cords to hold mandrel in place by pulling downward.

Slide inner collars against the bearing journals, pressing Babbittrite to form a seal.

Install the end collars, pressing Babbittrite against the journals to form a seal.

Install another ring of Babbittrite on each collar to ensure a good seal.

Using a torch, preheat the frame and mandrel to approximately 300-350 degrees. Do not aim the flame directly at the Babbittrite. This will cause it to shrink away, allowing babbitt to leak. Extinguish flames on the Babbittrite to prevent this.

Heat babbitt while preheating hammer and mandrel. Test babbitt temperature by dipping a pine stick (paint stirrer) in the babbitt for 3 or 4 seconds. If the stick is scorched light brown, the

babbitt is ready to pour. If the stick is scorched black, the babbitt is too hot. AVOID EXCESSIVE HEATING.

Use a ladle that can hold enough babbitt to complete the bearing in one pour. Preheat the ladle by placing it in the pot of hot babbitt.

If reusing old babbitt, use beeswax for flux. After adding an approximately 3/8" ball of beeswax, use the ladle to skim impurities from the surface of the hot babbitt.

Filling the ladle with hot babbitt, pour it into the lower half of each bearing, one at a time. Pour as fast as possible.

Allow babbitt to cool for at least 10 minutes.

Remove mandrel and collars from the machine.

Small folds and lines in the bearing surface are acceptable.

Dress parting surfaces with a flat file. The fresh babbitt should be flush with the cast iron.

UPPER BEARINGS:

Roll out more Babbittrite. Press onto faces and corners of collars.

Assemble the two center collars onto the mandrel; set mandrel into bottom bearing halves.

Install metal spacers to allow space for shims (3/16" for 25 and 50 LB).

Place bearing caps on top of the spacers.

Install bolts and snug them lightly.

Check the ends of the bearing surfaces to make sure enough Babbittrite has been used to seal the metal spacers.

Tighten all of the bolts.

Install the end collars; press all four collars against frame tightly to seal with Babbittrite.

Use additional Babbittrite to seal collars.

Preheat bearing caps and babbitting mandrel to approximately 300-350 degrees.

Have babbitt and ladle heating while preheating the caps and mandrel.

Pour babbitt in the top half of the bearings through the oil holes in the caps. Pour as rapidly as

possible, with enough babbitt to complete in one pour.

Allow to cool for at least 15 minutes.

Remove mandrel and collars.

Dress parting surface with a flat file, flush with the casting.

Dress the bearing end on the front of the machine ONLY, flush with the casting.

Set each bearing cap on end. Using a torch, melt excess babbitt out of the oil reservoir. Melt until oil hole in casting is visible.

Drill oil holes through babbitt in the bearing caps. Drill a 3/8" hole in 25 LB caps, 7/16" in 50 LB caps.

If desired, cut oil grooves in the babbitt in the bearing caps.

Dress the parting surfaces with a flat file. File the front of the front bearing flush with the casting.

On center clutch models: Trial fit the shaft assembly. Establish where clearance is needed to allow for proper alignment. The inner ends of the bearings will probably need to be trimmed to allow the shaft assembly to set into the bearings. Trim to achieve the necessary 10-30 thousandths clearance.

On rear clutch models: The front of the front bearing is trimmed flush. The rear of the rear bearing is trimmed flush, or very near. Leaving a small amount of babbitt can be beneficial as a thrust surface. Control of end play (10-30 thousandths) is achieved by positioning the clutch spider and pulley assembly. It is secured in position by the tapered spider key being driven in.

Slightly chamfer all babbitt edges. Clean and burnish the new bearing surface with a Scotchbrite pad.

Oil the bearings and assemble the shaft assembly.

Adjust bearings with shims so the assembly turns with a slight drag. There should be no up and down play in the shaft.

Check the bearings after 3 or 4 hours of operation. Readjust if necessary.

Periodically check the adjustment of the bearings to ensure there is no up and down play.