

Serial # \_\_\_\_\_

Phase \_\_\_\_\_ Volts \_\_\_\_\_ Amps \_\_\_\_\_

***To our customers:***

Our real concern is to satisfy our customers and to make our products as easy to maintain as possible. We want our equipment to last, so we use high-quality parts of rugged size and we also over-build our equipment. Because we are confident of our products, we make this warranty:

## **PURCHASER'S LIMITED WARRANTY**

Muddy Elbow Manufacturing warrants all of our equipment to be free from defects in workmanship and materials for a period of one (1) year from the date of retail purchase. Muddy Elbow Manufacturing warrants the concrete tub to be free from defects in workmanship and materials for a period of two (2) years from the date of retail purchase. Warranty for the electrical parts is one year as specified by the electrical suppliers from whom we buy.

Our obligation assumed under this Warranty is limited to the supplying of new parts to replace defective parts, which have not been misused, carelessly handled, or altered by repairs made or attempted. Shipping and installation of replacement parts not included.

### **THIS WARRANTY IS VOID UNLESS YOU:**

- A. Read the Instruction Manual provided with each piece of equipment.
- B. Operate the unit as prescribed in the Instruction Manual.
- C. Contact your dealer or the Soldner factory for repair procedures concerning equipment problems.
- D. If instructed to return your equipment to the factory, ship prepaid to:

Soldner Clay Mixers  
by Mammoth Clay Company  
4221 N. Walnut Ave.  
Oklahoma City, OK 73105  
405-510-0076  
Michael@mammothclay.com

This Warranty applies only to the original owner and gives you specific legal rights. There may be other rights which vary from state to state.



# **INSTRUCTION MANUAL**

**FOR PROFESSIONAL MODEL  
SOLDNER CLAY MIXERS**

# SETTING UP

## YOUR SOLDNER PROFESSIONAL CLAY MIXER

### UNCRATING AND MOVING THE MIXER

Moving the mixer will be easier if all the crating is removed, **except the pallet underneath the mixer legs.**

If the doorway is large enough to permit passage of the mixer, move it into position on **pipe rollers**, placed under the pallet. When in place, remove from pallet and anchor to floor if desired.

### ELECTRICAL WIRING

This mixer motor was pre-wired to the switch at the factory. It was wired to operate on the phase and voltage specified by you in your Purchase Order as follows:

Phase \_\_\_\_\_ Volts \_\_\_\_\_ Amps \_\_\_\_\_

We recommend that it be hard-wired to an electrical junction box. Because incorrect wiring of the motor could void the Warranty, we urge that you employ a professional electrician to make the final connection to your electrical supply.

The wiring diagram will be found either on a placard on the motor or inside the cover of the wiring box.

**NOTE:** *The mixer **must** rotate clockwise!*

### SAFETY SWITCH

For your safety, an automatic disconnect switch has been added to the mixer. It will shut down the motor completely whenever the top grill guard is opened, and will not re-start until the guard is closed and the starting switch is activated manually.

**NOTE:** *The mixer lid must be in the **closed position** before the unit will run.*

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## CLEANING THE MIXER

It is not ordinarily necessary to completely clean the mixer. However, if clay is allowed to dry in the mixer, it should be knocked off the walls and blades so it will soften when water is added.

If there are large chunks of dry clay in the tub, delay adding other dry material for a few minutes until the mixture has softened. Then proceed as with a normal batch.

When you are finished with the clay mixing, it is a good idea to leave the lid open to allow the tub to dry.

If it is desirable to completely clean the mixer because a different clay formula is to follow, such as porcelain, simply scrub the tub and mixer bars with a medium-bristle brush or sponge. Remove the water and wet clay with a wet-dry vacuum or a sponge and bucket.



# MIXING CLAY FROM SCRAP

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## THREE METHODS FOR RECLAIMING CLAY

### METHOD #1

Slake (soften) dry clay in a bucket of water overnight or longer. Add about 5 to 8 gallons of this wet scrap to the mixer. Then, while it is mixing, add the usual dry ingredients. However, if you use your mixer primarily for mixing scraps, just keep water in it and throw the scraps in to slake down and then add dry materials until the batch is plastic. This can be determined by noting the point at which the clay peels off the walls as the mixer turns.

### METHOD #2

Put about 5 gallons of water into the empty mixer. With the mixer still off, add dry scrap clay in small chunks of about one or two inches in diameter. Let the dry clay soak in the mixer overnight. The next day, or later, complete the drying of the soft clay as in the Method #1 instructions.

### METHOD #3


Add 5 gallons of water to the empty mixer. With the mixer off, add your dry scrap and trimmings whenever convenient. As they accumulate and soak up the water, turn the mixer on occasionally to mix this scrap clay. Finally, dry it up as you would in the above Method #1, in order to make a plastic clay body.

**NOTE:** *If the mix becomes too dry, add small amounts of water to the clay as it mixes. If too much water is added, the mixture will slip in the tub and will not go through the blades. It will tend to pile up against the fixed blades and no mixing action will take place until the excess water has been absorbed. The water will be absorbed if the mixer is allowed to run long enough, or if small amounts of dry clay are added. The correct amount of water and dry materials will speed up the entire process. If correctly measured, each batch should not take more than around 10 minutes to be completed.*

## CLAY STORAGE

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If clay is to be stored in the mixer, place plastic directly on the clay down inside the tub, not over the whole machine.



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# MAINTAINING AND REPAIRING YOUR SOLDNER PROFESSIONAL CLAY MIXER

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## CHAIN TENSION AND REPLACEMENT

The tension and proper alignment of the chain was set at the factory. Under normal conditions, further adjustments should not be necessary for some time.

The chain should have some “slap” in it when the mixer is working under a load. It will seem tight when the mix is soft. It will appear loose when the mix is of throwing consistency.

If the chain becomes excessively loose, (if it tends to run off the sprocket), tighten the tension as follows: Tighten the chain by turning the tensioning bolt clockwise. The tensioning bolt is located on the gearbox. You may need to loosen the gearbox mounting bolts to tighten the chain. Note that chain tension may increase as the bolts are re-tightened. **DO NOT OVERTIGHTEN CHAIN. This will put added stress on many parts of the mixer.**

**NOTE:** *If the chain needs to be tightened more than twice, it should be replaced, as it has stretched out of shape and could damage the sprockets if use continues.*

## LUBRICATION – BEARING, GEARBOX, CHAIN

### BEARING LUBRICATION

The tub bearings may need to be lightly greased from time to time. There are two of these, at the top and bottom of the tub shaft. They have standard grease zerk fittings. Only a **hand-pressure** grease gun should be used. Do not over-grease. Several squirts every year or so should be all they will need.

### GEARBOX LUBRICATION

Oil level in the gearbox should be checked once a year or more often with very heavy use. Proper oil level is up to the bottom of the fill hole, which is half way up the side of the gearbox opposite motor. If the oil is low and requires some to be added, make sure to add the same type of oil which is already in the gearbox. **Caution: DO NOT MIX TYPES OF OIL.** The gearbox will have a tag on it which will indicate the type of oil the unit is filled with.

**Important: Only add oil until oil is visible in the side hole. DO NOT OVERFILL.** Oil will expand as the unit heats up with use. If it is overfilled you will ruin the seals on your gearbox.

### CHAIN LUBRICATION

The chain should be lubricated periodically. We recommend a spray industrial chain lubricant which can be purchased at any hardware store. Lubricate more often with heavier use.

## PLOUGH BAR ASSEMBLY REPLACEMENT

The Plough Bar Assembly can be obtained by contacting us for our stainless steel replacement, which comes with installation instructions. Or it can be rebuilt, using the old assembly as a pattern. This can be done by a competent welding shop using 304 stainless steel and stainless welding rod. Your mixer should be as good as new after replacing this worn part.

# MIXING CLAY

## 1. Always begin by putting water into the empty mixer.

The correct amount of water is about 25% by weight, of the total dry materials (i.e. **25 pounds of water for every 100 pounds of dry materials**). Of course, this is just an estimate. After several batches have been mixed, it will become evident if too much or too little water was used. Adjustment can then be made so that water and dry materials are exactly right for each batch.

**NOTE:** *The concrete tub may leak a little when it is new and before any clay has been added.*

## 2. After water is in the mixer, wet the sides of the mixer with a sponge.

This is important because it will help the clay release from the tub. Wet clay will not tend to stick to the wet concrete tub. The wetter the tub, the better the releasing action.

## 3. Start the mixer running, then add the finest particle-size materials first. This is usually the clay. Next, add the remaining materials.

Add all of these dry materials continuously, but slowly. **Avoid adding everything all at once.**

If the mixer slips or slides without mixing, (if the clay does not move through the bars but the tub revolves) add more dry material to increase the necessary mixing friction.

During the adding process, the weight of the sack or bucket can be rested on the top of the mixer. Open a corner of the sack and let the materials run out into the revolving mixer through the grill guard.

In the beginning, when the clay is still too wet, it will tend to stick to the side walls and to the bottom of the mixer. As this mix dries up (from added dry materials and from the absorption of the water into the clay), it will begin to peel off the walls.

**WARNING:** Never exceed 240 pounds of **dry** materials in the Soldner Professional Mixer.

## 4. When the mix is “right” the mixer will tend to clean itself, beginning at the top of the tub.

When this point has been reached, stop the mixer and remove about a third of the batch. Start the mixer again. More clay will now peel off the sides and bottom. Stop the mixer and remove more clay.

## 5. Continue this system of running the mixer, then unloading the loose clay...

...and then running the mixer again, until all but the most stubborn clay has been removed. This last small amount of clay can be removed with the help of a small mason’s pointing trowel.

If another batch of clay is to be mixed immediately, do not bother to remove all of the clay. Just add the water and start over again.

**NOTE:** *It is not necessary that all clay be cleaned from the mixer. If a residue dries in the tub between mixing times, just scrape it down into the tub before adding water. Once the water is added, it will quickly slake (soften). The mixer can be left either wet or dry.*

## TROUBLE SHOOTING

**Make sure you use enough water.** Generally, it is better to have a little too much water in the beginning. The batch can then be dried up to working consistency. If too little water is used, the batch will have a tendency to “set up” into a stiff mix that is impossible for the mixer to move.

**If your clay is too dry and “sets up,”** remove half or more of the mix and add water until the mixture is right.

**If the motor stalls,** it will be because the mix is too dry or because a foreign object has become stuck between the mixing blades. Stop the mixer and determine the cause before proceeding. *Failure to do so may result in damage to the motor or to the mixer.*