Type: Floor-Mate 80E

Model:

Serial Number:

Floor-Mate 80E

Owner's Manual

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Preface

The Floor-Mate 80E machine by Strong Manufacturing Company, Inc. is specifically designed to convey, mix, and pump cementitious slurries.

We are confident that your Floor-Mate 80E will increase the efficiency of your work force. However, the service and life of the machine will depend greatly on the care and attention you give it during daily and routine use. This OPERATION & MAINTENANCE MANUAL has been provided to assist you in obtaining the utmost performance from your machine and to instruct you and your operating personnel in its SAFE and efficient use. This manual should be carefully read and its instructions followed by those who will be responsible for the operation, maintenance, transportation, and uses of the machine. You should remember that the nature of the business – that is, the mixing and pumping of gypsum or cement and sand aggregates, water and admixtures – creates the most severe conditions under which machinery can operate. It was with these conditions in mind that the components for the Floor-Mate 80E were selected and designed.

A section immediately following contains specific SAFETY INFORMATION. No one should be permitted to perform any function on the machine unless he or she has read and understands the safety section of this manual. The safety section is also available free of charge to owners of the Floor-Mate 80E machine as a separate pamphlet by writing the Strong Manufacturing Company, PO Box 8068, Pine Bluff, Arkansas, 71611. Or calling 870-535-4753.

Include the serial number(s) of your machine(s) with your request. Additional copies of the entire Operation and Maintenance Manual can be obtained at the above address for a minimal fee.

Important General Safety Information

The Floor-Mate 80E machine was primarily designed to mix and pump gypsum or cement, sand and water slurries. In addition to the usual hazards of machinery, several special hazards are involved in these operations. Please read and pay close attention to the following SAFETY INFORMATION.

Cleaning, Repairing, Servicing and Adjusting Prime Movers, Machinery and Equipment Section 3314 – General Industry Safety Orders

Machinery or equipment capable of movement shall be stopped and the power source deenergized or disengaged, and, if necessary, the movable parts shall be mechanically blocked or locked to prevent inadvertent movement during cleaning, servicing, or adjusting operations unless the machinery or equipment must be capable of movement during this period in order to perform the specific task. If so, the employer shall minimize the hazard of movement by providing and requiring the use of extension tools (E.G., extended swabs, brushes, scrapers) or other methods or means to protect employees from injury due to such movement. Employees shall be made familiar with the safe use and maintenance of such tools by thorough training.

A. Material Hose

<u>Caution</u>: ALWAYS WEAR SAFETY GOGGLES WHEN WORKING WITH THE MATERIAL HOSE. Do not disconnect material hose with hoses under pressure. Always run pump in reverse until pressure gauge reads "0" psi, or hoses become soft. Failure to do so could result in material blowing out under pressure and striking someone causing bruises, cuts, breaking of limbs or possible loss of sight if material enters eye.

<u>Caution</u>: ALTHOUGH THE PRESSURE GAUGE MAY READ (0) P.S.I. MATERIAL MAY EXIT UNDER FORCE WHEN THE HOSE IS DISCONNECTED.

Because of wear and weathering that occurs on material hose, the following test should be conducted at the beginning of each day to determine the conditions of the hose. The field test consists of the following:

Attach all the sections of hose that will be used in the day's operation together just as they will be used.

Pump water into the hose until it begins to discharge. Stop the pump and cap the discharge end securely with a quick coupler cap to fit hose size to be used.

After advising all personnel to stand clear of the hose, operate the pump. Starting in manual and low for initial break over then up to medium. Allow the hose to pressurize for 30 seconds.

Reverse the pump until 0 PSI pressure indicates on the gauge or the discharge hose becomes soft.

Remove the cap. Operate the pump until the water has been discharged and then proceed with the pumping of the slurry.

This field test should be repeated if any damage or accident befalls a section of the hose or if, for any reason, a section is suspect.

All replacement material hose and fittings should be rated for no less than 600 psi. Such hoses can be obtained from Strong Manufacturing Company.

Do not use other hoses unless specifically advised by the Strong Manufacturing Company.

Caution: ALL HOSES SHOULD BE FITTED WITH "FULL FLOW"

CONNECTIONS. Connectors, which reduce the hose i.d., will cause increased pressures and reduced flows. A material gauge registers pressure at the end of the rotor stator. A sudden rise in pressure indicates a blockage is about to occur and alerts the operator to stop pumping, reverse pump and remove blockage. While pumping material the rotor-stator pump can develop higher pressure than it does while pumping just water. Failure to stop the pump could cause the hose to rupture or uncouple possibly striking someone causing severe bodily injury such as cuts, bruises, broken limbs or possibly death.

<u>Caution:</u> NEVER USE WEATHERED, ROTTEN, DAMAGED HOSES OR HOSES WITH DAMAGED FITTINGS IN CONJUNCTION WITH PUMPING OPERATIONS. They represent a hazard to operators, bystanders, and persons handling the hoses. If a hose or a fitting should burst under pressure, persons could be injured.

B. Pump

- 1. When removing a section of hose, pressure must be relieved before undoing a fitting. This can be done by putting the pump in reverse and running it slowly until the discharge hose at the pump becomes soft. Failure to do this will result in the hose being under pressure when the fitting is undone, and material being blown out when disconnected, striking the face and eyes with the danger of injury or blindness. Also, the hose could whip about and cause an injury.
- 2. When pumping in reverse, be sure that material is flowing back into the hopper as evidenced by the materials level in the hopper rising. Watch the discharge hose to avoid collapsing it and causing the pump to run dry.
- 3. NEVER RUN THE MATERIALS PUMP DRY because just a few minutes of running dry will ruin the pump stator. Always have water or slurry in hopper when running pump.

C. <u>Electronics</u>

- 1. Read all instructions and safety literature for electrical components prior to connecting power.
- 2. Only a qualified electrician should be allowed to perform and service the electrical system on this machine.
- 3. Never remove any covers from the electrical components without first isolating and lockingout the source electricity to the machine.
- 4. While the machine is not in use and/or at the end of each day, the machine's red disconnect knob should be turned to the off position and locked.
- 5. Before unlocking the red disconnect knob or reconnecting power to the machine, always check to make sure that the pump and the mixer control switches are in off position and all guards are in place.

- 6. Use only the correct voltage that your particular machine is equipped for. Standard machine is 230 volts, Single Phase AC.
- 7. A charged fire extinguisher designed for use on electrical fires should be kept near the machine at all times. (Class BC, Dry Chemical)
- 8. Throw electrical disconnect and lockout before final wash-down of exterior or main electrical cabinet.
- 9. Always keep main electrical cabinet closed and tightly sealed. The cabinet is NEMA 4 but should never be cleaned with a pressure washer.

<u>Caution:</u> FAILURE TO OBSERVE THE ABOVE WARNINGS CAN RESULT IN SEVERE BODILY INJURY, INCLUDING EYE INJURY AND BURNS WITH LOSS OF SIGHT OR LIBS, CUTS, BRUISES OR POSSIBLE DEATH. EYE PROTECTORS SHOULD BE WORN AT ALL TIMES WHEN OPERATING OR WORKING ON THIS EQUIPMENT.

D. Guards

BE SURE ALL MACHINERY GUARDS ARE IN PLACE BEFORE OPERATING THE FLOOR-MATE 80E. THE GUARDS PROVIDED WITH THIS MACHINE CONSIST OF THE FOLLOWING:

- MIXER INLET GRATE
- WET MATERIALS HOPPER GRATE/SCREEN
- MIXER CHAIN GUARD
- MIXER OUTLET SPLASH GUARD
- MATERIAL PUMP DRIVE CHAIN GUARD
- ELECTRICAL PANEL DUST HOODS

Never operate the machine without **ALL** these guards in place. The machine should be kept as clean as possible. Material should not be allowed to build up on warning signs, instructions, gauges, etc. It is also possible that material buildup could interfere with operation of the machine, thus presenting hazards of a general nature.

<u>Danger</u>: KEEP HANDS AND LIMBS CLEAR OF MOVING COMPOENNTS AS THEY MAY BECOME TRAPPED OR CAUGHT CAUSING SEVERE INJURIES SUCH AS CUTS, BRUISES, BROKEN LIMBS OR EVEN DEATH.

E. Mixer

<u>Caution:</u> ALWAYS WEAR SAFETY GOGGLES WHEN OPERATING OR WORKING AROUND THE MIXER. NEVER WEAR LOOSE CLOTHING OR HAVE LOOSE ARTICLES AROUND THE MIXER. ALWAYS TEST THE SAFETY KILL SWITCH BEFORE MIXING BEGINS. KEEP HANDS AND CLOTHING CLEAR OF MIXER AREA. Mixer paddles can catch hands of clothing as they turn, causing severe bodily injury by being pinned between the mixer blade and mixer walls. A loose article of clothing, if caught in the mixer blades, can pull an operator into the mixer.

- 1. It is very important to keep the mixer inlet grate in place during operation and cleanup.
- 2. The safety kill switch stops the engine if the mixer inlet grate is removed. This switch is crucial to the safe operation of the machine. **Never** under any circumstances remove, dismantle, or hinder the use of this switch in any way.

WARNING: OPERATION OF THIS EQUIPMENT WITHOUT GUARDS IN PLACE MAY LEAD TO SEVERE BODILY INJURIES SUCH AS CUTS, BRUISES, BROKEN LIMBS OR EVEN DEATH.

F. Eye Protection

Always wear safety glasses, goggles or a face shield when operating machine as dust and sand particles become airborne and could get into the eyes causing severe irritation or even permanent loss of sight.

G. Machinery

- 1. Read all warning and caution signs before starting machine.
- 2. Do not remove any guards or grates while machine is running. Stop machine, engage the red E-stop, and disconnect power cable (or use Lock-out Tag-out) before removing a guard, or doing any work on machine.

- 3. Never operate machine with worn parts or loose parts that need adjustment.
- 4. Make sure all guards are in place before starting motor or engine.
- 5. Never operate equipment without having a BC dry chemical fire extinguisher available that is charged and in good operational condition.
- 6. Never operate equipment with excessive load.
- 7. Overloading the electrical system can be detrimental to electrical components as well as dangerous.
- 8. Inspect material hoses daily for wear or damage and replace with equal quality.
- 9. Keep empty bags out of area to prevent creating a tripping or fire hazard.
- 10. Loose clothing should not be worn by operator, or anyone working on, or around machine.

<u>Caution:</u> FAILURE TO OBSERVE THE ABOVE WARNINGS CAN RESULT IN SEVERE BODILY INJURY, INCLUDING LOSS OF EYES AND POSSIBLY DEATH.

H. Water

- 1. Never connect water to machine when line pressure is over 150 PSI.
- 2. Always flush water lines prior to connecting to machine as damage to the meter/solenoid may result from sand or other foreign particles getting into the system.
- 3. Always clean out/check strainer before and after operations.
- 4. Use only potable water that is suitable for drinking.
- 5. Disconnect water from machine at end of shift; drain tank and lines, if possibility of freezing exists.

<u>Caution:</u> FAILURE TO OBSERVE THE ABOVE WARNINGS CAN RESULT IN SEVERE BODILY INJURY, INCLUDING LOSS OF EYES AND POSSIBLY DEATH

Operation

Before operating this machine, be sure you have read and understand the operation and safety sections of this manual. Be sure all guards are in place and all services have been performed.

The Floor-Mate 80E is a multi-purpose machine when equipped with optional components. It may be used to mix, pump and spray cementitious slurries. The unit consist of a 7.5HP electric motor that powers the material pump, an electrically driven (1.5 HP) patented double drum counter-rotating paddle mixer, and 3 options of water system.

To engage the mixer, turn the mixer switch to on. To stop the mixer, turn the mixer switch to off. The speed of the pump is governed by the speed selector switch (Low, Medium, and High). The direction of the pump is controlled by the Forward/Reverse switch. To engage the pump, select speed and direction then press the green START button. To stop the pump press the red STOP button. If there is an emergency push the big red EMERGENCY STOP button. When the emergency is cleared up and everything is safe, twist to release the EMERGENCY BOTTON and press the reset button. When first starting start the pump on low and increase speed to desired output speed.

The following sequence should be adhered to when mixing and pumping the first batch. Arrange material in the area where it will be convenient to add to the mixer. Connect power source; standard for this machine is 230V single Phase 30A (if mixer is separate from panel, mixer will require 120V 20A). Connect material hose to pump and water hose to water supply. Bring water into the mixer. Run mixer to ensure proper rotation (up in the middle) and to wet the mixer. Open mixer door and allow water into the hopper. Set pump to LOW and Forward, with water in hopper, push start button to engage pump. Once rotor is spinning pump out the remaining water. Disconnect the hose and walk the water out of the lines. It may be advantageous to pump a preliminary batch through the pump before pumping the specified materials. A slurry of cement or gypsum and water can be used. It can be mixed in the mixer or in a bucket by hand (one bag is sufficient). Pump the slurry into the hose and follow with the material to be pumped. If the gypsum is used, it must be of a type that will not flash set.

Add the amount of water required for the size batch to be mixed. Add the aggregate slowly to prevent the possibility of locking up the mixer.

After all the aggregate has been added, allow the mixer to mix for 1 to 3 minutes depending on the type of product. After thoroughly mixing, open the mixer door allowing the material to flow into the pump hopper. Close the mixer door. Start the pump. Watch for material hose plugging on the first batch. An indication of a plug would be a rise in pump pressure if equipped with an inline material pressure gauge or the stiffening of the material hose. After material begins to exit the end of the hose, another batch of material can be prepared.

In the event the material will not pump through the hose, reverse the pump. This is done by stopping the pump (push the red STOP button), turning direction switch to REVERSE, slow pump to LOW, and press the START button. Continue running the pump in reverse until the optional material pressure read 0 PSI and the hose becomes soft or easy to compress when stepped on or squeezed by hand. Disconnect the hose from the pump. Locate the blockage and remove the blockage by flushing the hose with water. Reconnect the hose to the pump and try again.

If the line is properly primed before a material with heavy aggregate is introduced into the hose the likelihood of a plug at start up is greatly reduced.

The speed of the material pump should be adjusted to match the speed of the mixer. At no time should the pump be allowed to run dry (without material in the pump hopper). If allowed to run dry, severe damage will occur to the material pump.

After completion of the job or day, water should be added to the mixer while the last batch is being pumped. When the material holding hopper is almost empty, open the mixer door and allow the water to flow into the pump hopper. Signal the man at the end of the hose that water is coming. The hose man can signal the pump operator when the water arrives. The operator should immediately reverse the pump to prevent additional water from being discharged in a undesirable area. Having a container to catch the water would be advisable.

Move the hose to an area where it can be flushed out. With a wash down hose and nozzle, clean the inside of the mixer. Do not remove the mixer grate or stick anything through the mixer grate without disconnecting the power supply. After the mixer is clean, close the door and fill with water. Open the clean-out door or plug on the pump hopper and wash out all remaining material.

Close the door or replace the plug. Open the mixer door and allow the water to flow into the pump hopper. Engage the pump. After running the pump for several seconds disengage the pump and reverse to relieve hose pressure. Disconnect the hose. Wet a rag or sponge and place into the hose. Reconnect the hose. Engage the pump. Watch for the rag or sponge to discharge. Disengage the pump and relieve the hose pressure. Repeat the process until clean water exits the hose.

Clean off all remaining contaminates from the material hose and machine. Shut off power supply. Grease all fittings according to the maintenance schedule. It is essential that greasing be done at the end of the day or job to flush out any cement or gypsum that may have entered the bearings or packing.

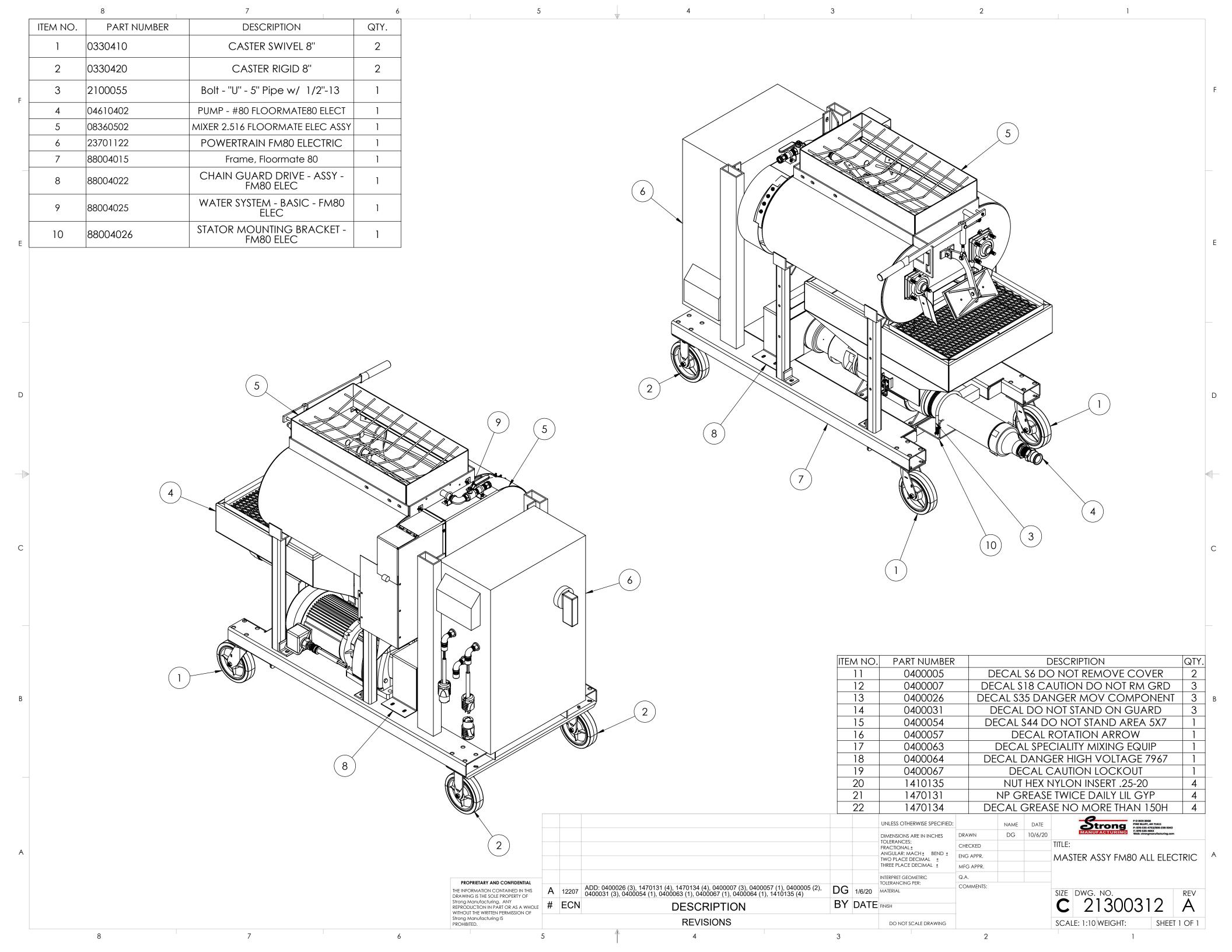
After mixer and pump cleanup, disconnect the power supply and lock it out. At this time, the mixer grate may be removed and thoroughly cleaned. Upon completion of mixer grate cleanup, replace the grate insuring proper installation and location so the safety switch operates properly. If the safely switch on the mixer is operating properly, the engine will be shut off it the mixer grate is removed.

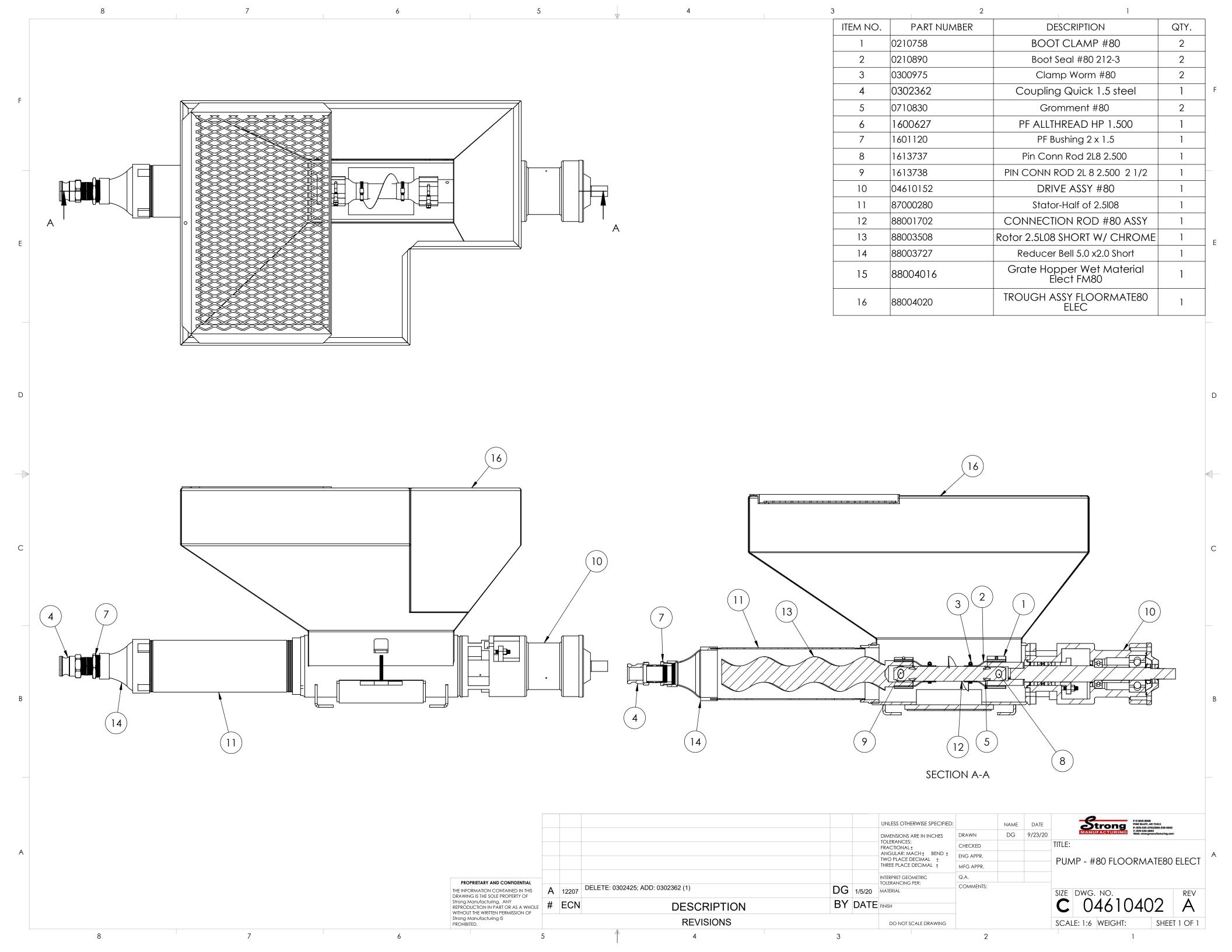
Drain the water from the hoses, especially during freezing temperatures. Drain all water from tank and water hoses or fittings. Secure all guards to prevent loss during transport. The machine should now be ready for transporting.

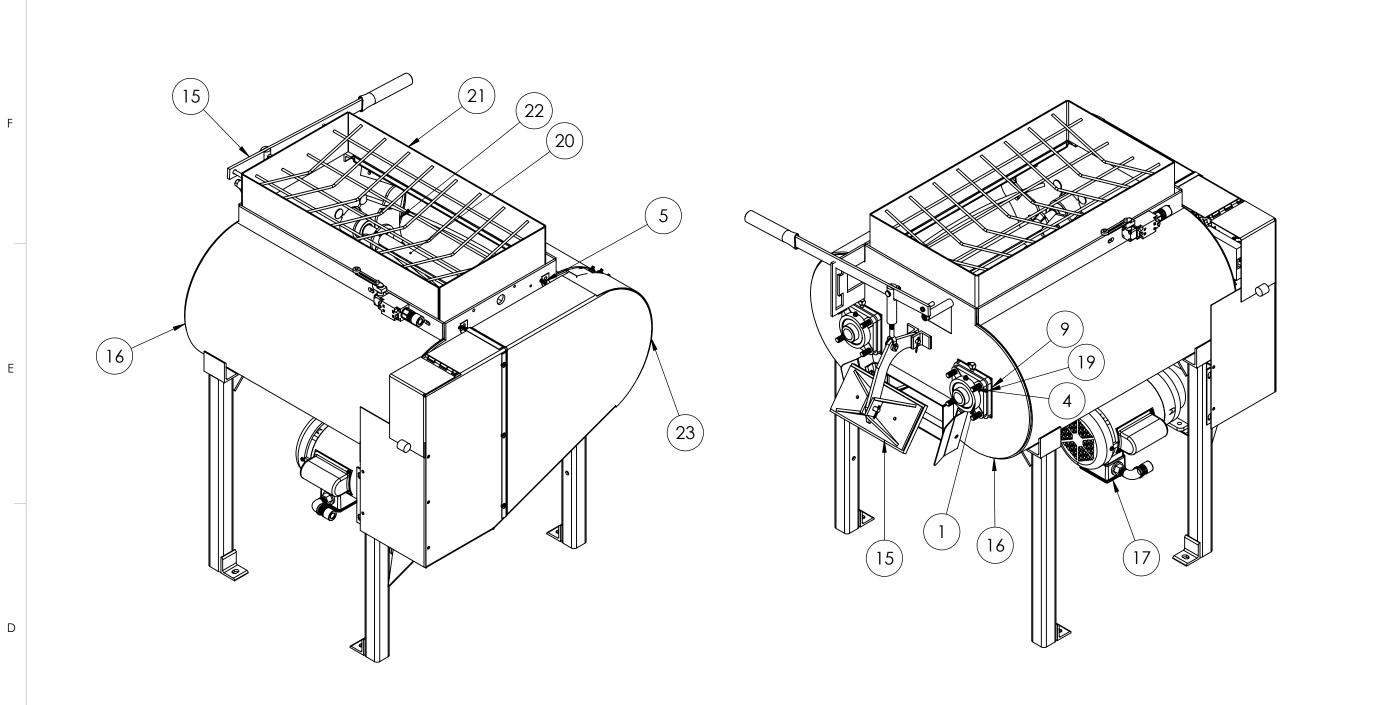
Caution:

- AT NO TIME SHOUD ANY CLEAN UP OR SERVICE, WHERE ONE WOULD BE EXPOSED TO MOVING COMPONENTS, BE PERFORMED ON THIS EQUIPEMNT WITHOUT SHUTTING IT OUT.
- DO NOT OPERATE THIS EQUIPMENT FROM ANY LOCATION EXCEPT THE OPERATOR'S STATION.
- DO NOT REMOVE ANY GUARDS WITHOUT DISENGAGING THE POWER SUPPLY AND LOCKING IT OUT.
- DO NOT STAND OR SIT ON ANY GUARD OR GRATE.

FAILURE TO OBSERVE THE ABOVE CAUTIONS COULD CAUSE SEVERE BODILY INJURY SUCH AS CUTS, BRUISES, BROKEN LIMBS OR POSSIBLY DEATH.







	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	1	0201751	BRG FLNG 4 BOLT 1.25	4
	2	0202370	1" Tapered Bushing	1
	3	0202720	Bushing TLB 2012 1-1/4 Dodge	2
	4	0240910	Bolt - Carriage .500-13 x 2.25"	16
	5	5 0240915 BOLT CARRIAGE .3125 X 1"		2
	6	0300570	CHAIN #50 RIVITED	98.5"
	7	7 0601980 Grease Hose End		4
	8	0602001	Fitting Grease 9262	8
	9	0700145	GASKET MIXER BEARING 5" SQ	4
	10	0800838	Hose .125 Grease Line	220''
	11	1200316	LINK CONNECTION #50 CHAIN	1
	12	1901780	Sprocket TLB - 515	1
•	13	1901820	Sprocket TLB 548 Martin	2
	14	2300419	WIRE 14/2 GA SJ	150"
	15	08123402	Small Swing Style Mixer Door	1
	16	08360512	BODY MIXER 2.516 RL FM80E	1
	17	15008312	MIXER ELECTRICAL SYSTEM - FM80E	1
	18	29050102 Idler #50 Assy		1
	19	88000316	Packing chamber for 1-1/4" Shaft	4
	20 88001549 SHAFT PADDLE ASSY 2.516/2.52 21 88002685 Mixer Guard Assy (35C&D) 22 88003551 FLOORMATE PADDLE ASSY RL 23 88004017 GUARD 2 PIECE CHAIN MIXER 2.516 ASSY		2	
			1	
			2	
			1	
	24 89008242 Guard - Splash Mixer 35CT & 35DT		2	
	25	89011404	KEYSTOCK 1/4" X 2"	2

Strong PO BOX 8068 PINE BLUFF, AR 71611 P: 870-535-4753/800-7 F: 870-535-4443

SIZE DWG. NO. 08360502

SCALE: 1:10 WEIGHT:

MIXER 2.516 FLOORMATE ELEC ASSY

TITLE:

MFG APPR.

COMMENTS:

2

Q.A.

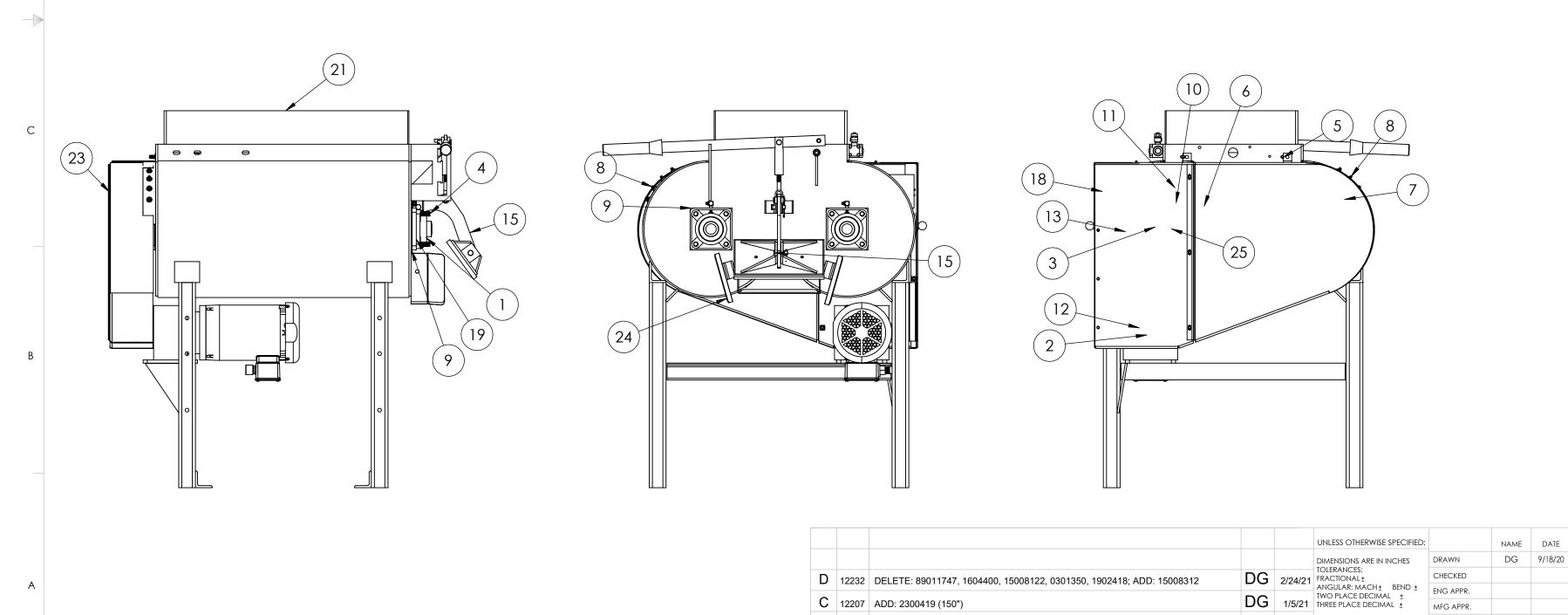
DG 12/17/20 INTERPRET GEOMETRIC TOLERANCING PER:

DG 11/20/20 MATERIAL

DO NOT SCALE DRAWING

BY DATE FINISH

3



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Strong Manufacturing. ANY
REPRODUCTION IN PART OR AS A WHOLE
WITHOUT THE WRITTEN PERMISSION OF
Strong Manufacturing IS
PROHIBITED.

ECN

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF

6

7

C 12207 ADD: 2300419 (150")

B 12204 ADD: 88003551 (2); REMOVE: 88003506 (2)

DESCRIPTION

REVISIONS

A 12195 ADD: 08360512; REMOVE: 08360452

