

TYPE STRONG PK-A CONTINUOUS MIXER

MODEL NUMBER

SERIAL NUMBER

STRONG MANUFACTURING CO., INC.

P.O.BOX 8068

PINE BLUFF, ARKANSAS 71611

870-535-4753

OWNERS MANUAL
AND
DESCRIPTION OF OPERATION
STRONG PK-A CONTINUOUS MIXER

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SECTION I - SAFETY

The Strong PK-A Continuous Mixer, like other equipment with rotating parts can be potentially dangerous if certain rules of precaution are not observed.

The feed shaft located in the bottom of the material hopper and the mixer shaft at the end of the discharge tube can be considered the most dangerous parts of the entire machine. These particular parts are driven by the main drive motor at 285 RPM and direct contact with these shafts should be avoided at all times.

CAUTION: Before attempting to dislodge obstructions or clean hopper, special care should be taken to insure that the main power supply is disconnected. NEVER REMOVE protective grate or baffle from hopper opening while machine is running or connected to Power Supply.

The PK-A is an electrically powered machine and as such, the potential for electrical shock should always be a consideration when operating this unit. Before cleaning the machine, the electrical power supply should be disconnected and moved away from the machine.

The electrical components are all water resistant, but direct spraying should be avoided as a precautionary measure.

WARNING: FAILURE TO OBSERVE THE PRECEDING INSTRUCTIONS CAN RESULT IN LOSS OF LIMBS, EYES OR IN EXTREME CASES DEATH.

SECTION II - DESCRIPTION OF OPERATION

The Strong Manufacturing PK-A Continuous Tube Mixer is designed to continually mix most premixed cementitious slurries and mortar mixes at a constant rate. The machine consists of four basic components:

- Material Hopper
- Mixing Chamber
- Drive Motor
- Control Panel

Material added to the material hopper is fed into the mixing chamber at a fixed rate determined by the feed shaft auger. This shaft in turn drives the mixing shaft located inside the mixing tube. This shaft mixes and blends the dry material with water that is injected into the mixing tube through two ports located on top of the tube and then discharges the mixed material at the opening in the end of the mixing chamber.

Both feed shaft and mixing shaft are driven by the main drive motor located at the end of the material hopper. This motor operates at a constant speed and is not adjustable.

The control panel located under the material hopper provides control of the drive motor, water flow and water pressure. The box located in the center of the panel is a combination on-off switch and circuit protection device for the drive motor and water solenoid valve located on the backside of the panel.

The water pressure regulator valve located to the far right controls the incoming water pressure and maintains a constant pressure setting, when properly set.

The flow control meter maintains a visual flow setting to the mixing chamber and can be varied from 0 to 10 GPM, depending on the mix requirements.

The PK-A Mixer maintains a consistent slurry, provided water intake is constant and the material hopper is kept full. Following the guidelines and technical specifications outlined in this manual should provide the operator with sufficient instructions to begin operating this machine immediately.

A. Set-Up

- Place unit on level ground
- Connect motor to hopper and tighten swing bolts securely
- Install feed shaft into hopper and connect to motor coupling
- Attach mixing shaft to end of feed shaft
- Slide mixing tube over mixing shaft and lock over center latches in place
- Attach hoses to mixing tube
- Install baffle in hopper
- Place protective grate over hopper opening
- Connect motor power plug to control box (not to main power supply)
- Attach water hose (standard garden hose connections)
- Turn water on and purge system with clean-up hose connection valve
- Check start/stop button to insure that it is in the off position
- Check water pressure on supply line. Set regulator to a point less than supply line pressure to compensate for any fluctuation in water pressure.
- Connect main power supply cord (20 Amp or larger circuit only)

- Start unit and allow to run; check for excessive noise or vibration. It may be necessary to adjust tension on mixing tube latches.

B. Mixing

- With hopper full and machine running, adjust water to desired material consistency (NOTE: Mix should be set at a higher level initially and lowered to the proper consistency)
- With machine running, visually check float in flow meter. If float level has tendency to vary, reduce water pressure regulator valve until float stabilizes.

NOTE: During mixing operation, care should be taken to maintain a constant level of dry material in hopper (approximately $\frac{3}{4}$ full). Failure to do so will result in an inconsistent mix.

WARNING: GUARD SHOULD BE KEPT IN PLACE WHILE POWER SUPPLY IS CONNECTED AND AT ALL TIMES DURING MIXING OPERATIONS. FAILURE TO OBSERVE THIS PRACTICE MAY RESULT IN PERSONAL INJURY OR IN EXTREME CASES, DEATH.

C Clean-up

- Run machine to empty hopper or until feed shaft is unable to pick up any more material
- Shut off motor and disconnect power supply
- Unlatch mixing chamber and remove from hopper. Remove mixing shaft from tube and clean both thoroughly
- Remove feed shaft from hopper and clean
- Remove 2" drain plug on bottom of hopper
- Rinse remaining material from hopper and rest of machine before turning water off

- Drain remaining water in system with drain petcock
- During freezing weather it will be necessary to engage solenoid to remove water from flow meter.

SECTION III - TECHNICAL SPECIFICATIONS

A. Hopper

- 4 cubic foot capacity
- Steel Constructed
- 2" drain plug provided for efficient clean out
- Sloped sides for improved feed

B. Feed Shaft - Standard feed shaft with 3" flightway

C. Mixing Shaft - Standard shaft with round mixing bars

D. Mixing Chamber

- 6 inch tube type
- 2 inlet ports
- UHMW thrust bearing
- Over center latches
-

E. Drive Motor Assembly Consists Of:

Motor Leroy Somer Part No. 1300248 Integral Gear Motor

- 1 ½ H.P.
- 110 V.A.C.
- 17.2 F.L. Amps
- 1800 Output RPM
- 285 Output
- 6.3:1 Ratio

F. Electrical Control

Telemecanique Manual Starter/Overload Relay

Part No. GV1-M2 1

With Enclosure GV 1-CEO 1

G. Water System

Consists of:

- ½" Solenoid Valve ASCO 8210G2
- Pressure Regulator, Wilkerson R26-04-H00
- Flow Meter, King K75-04 0142

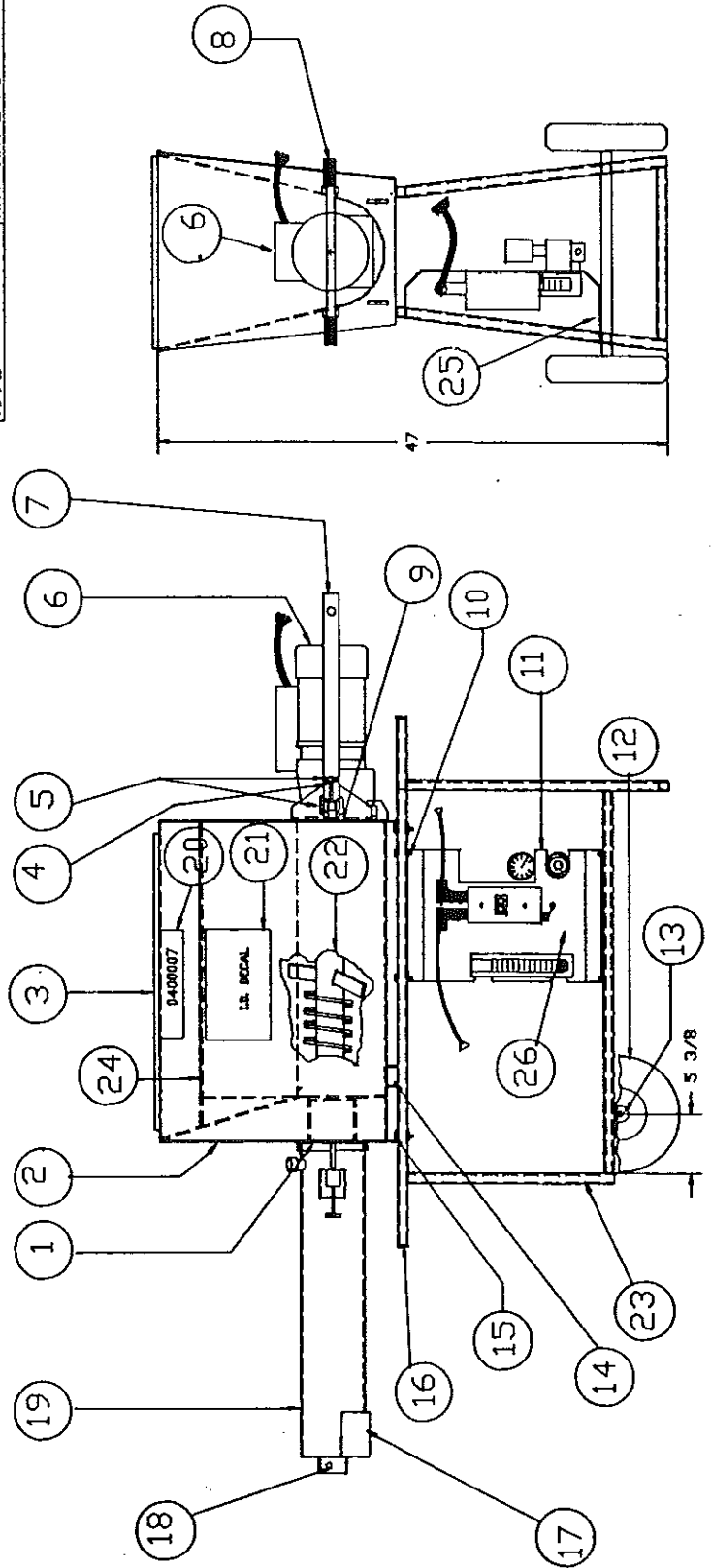
SECTION IV - TROUBLE SHOOTING

| <u>Problem</u> | <u>Probable Cause</u> | <u>Remedy</u> |
|---------------------------|---|---|
| Material Too Wet | Water flow too high; insufficient material in hopper | Reduce flow. Add material to hopper |
| Material Too Dry | Water flow too low | Increase flow |
| Shaft Will Not Turn | Material too dry; material set-up in mixer. Breaker tripped. Foreign object lodged in hopper or mixer | Increase water; *remove & clean mixing tube, reset breaker |
| Material Runs Wet and Dry | Fluctuating water pressure | Reduce water pressure regulator until float stabilizes in flow tube |

*WARNING: BEFORE CLEANING THE MACHINE, THE ELECTRICAL POWER SUPPLY SHOULD BE DISCONNECTED AND MOVED AWAY FROM THE MACHINE. FAILURE TO OBSERVE THIS PRACTICE MAY RESULT IN LOSS OF LIMBS OR IN EXTREME CASES DEATH.

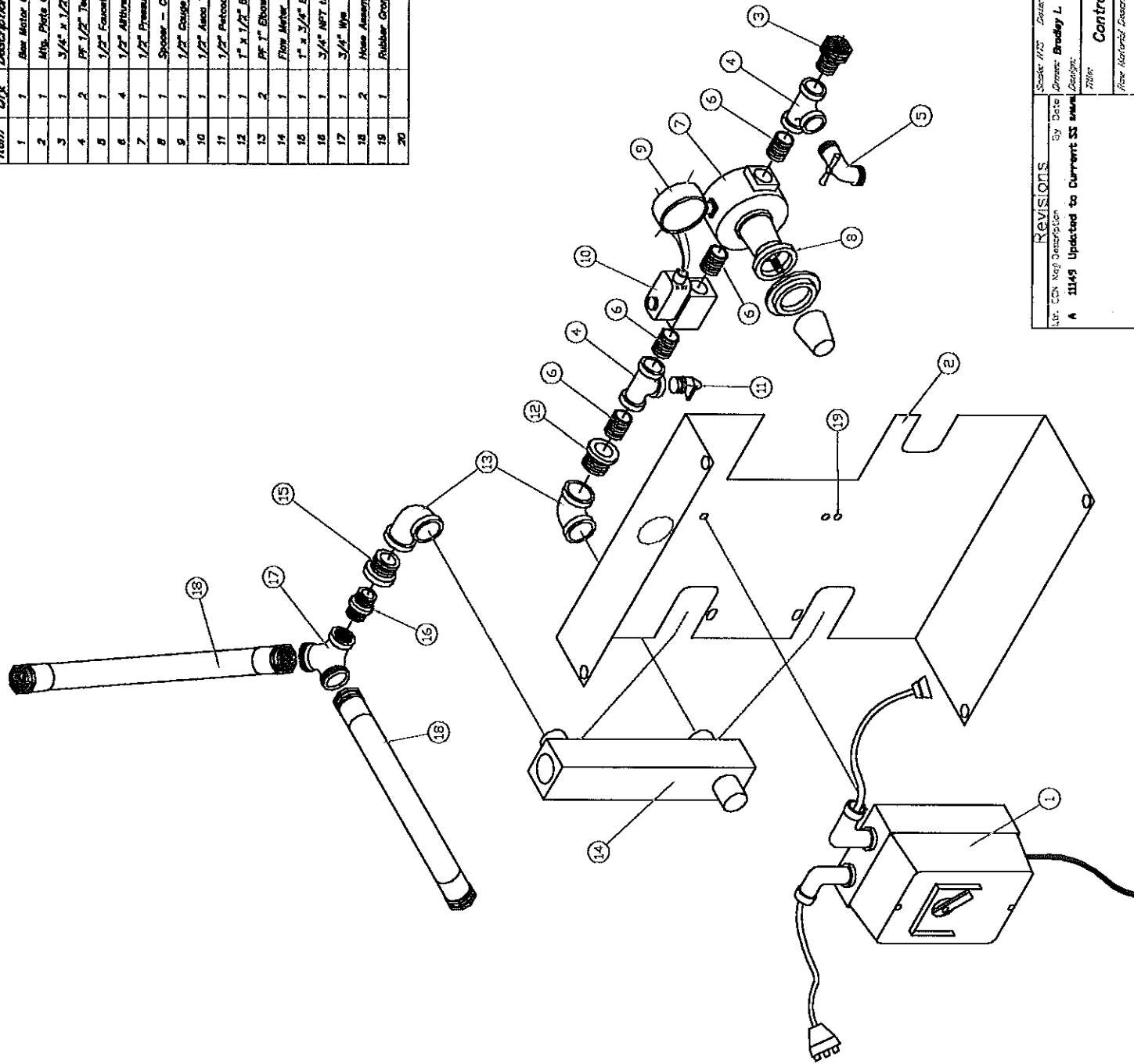
STRONG MANUFACTURING

| | | | |
|----------|-------------------------|-----------|----------|
| TITLE | INDEX-CONT. MASTER ASST | DATE | 10/30/90 |
| SCALE | DRAWING NO. 86000549 | | |
| DRAWN BY | ARDESHER DWG | DIR | 08 |
| APPROV | RAW | MAT'L NO. | |



| ITEM | QTY. | DESCRIPTION | PART NO |
|------|------|----------------------------------|-----------|
| 1 | 1 | GASKET RED RUBBER 1/8X6X4-1/2 | 0700131 |
| 2 | 1 | MIXER BODY ASSY | 08000702 |
| 3 | 1 | GRATE CONT-MIXER | 88002210 |
| 4 | 2 | SWING BOLT CL-3-SB 5/8-11 2 LONG | 0240800 |
| 5 | 2 | BOLT HEX GR5 5/8-11X2 | 88002298 |
| | 4 | 5/8 NUT | |
| | 4 | 5/8 LOCK WASHER | |
| | 4 | 5/8 FLAT WASHER | |
| 6 | 1 | ROTATION DECAL | 0400057 |
| 7 | 1 | DRIVE MOTOR ASSY | 88002241 |
| 8 | 2 | GRIP HANDLE | 0710790 |
| 9 | 1 | GASKET DRIVER END | 0700126 |
| 10 | 4 | 5/16-18 1-1/2 LG | 88002299 |
| | 4 | 5/16 HEX NUT | |
| | 4 | 5/16 LOCK WASHER | |
| 11 | 1 | CONTROL PANEL ASSY | 88002239C |
| 12 | 2 | TIRE | 2030396 |
| 13 | 2 | 1/8 COTTER PIN | 1603685 |
| 14 | 11 | 2" STD. PF PLUG | 1603160 |
| 15 | 4 | BOLT 3/8-16X2 LONG | 88002297 |
| | 4 | 3/8 HEX NUT | |
| | 4 | 3/8 FLAT WASHER | |
| | 4 | 3/8 LOCK WASHER | |
| 16 | 4 | CAP FP161 | 0300374 |
| 17 | 11 | DANGER-MOVING COMPONENT | 0400026 |
| 18 | 2 | HEX SCREW | 1410136 |
| 19 | 1 | MIXING CHAMFER-ASSY | 08000022 |
| 20 | 2 | WARNING DECAL S18 | 0400007 |
| 21 | 2 | DECAL I.D POOL CRETE S 20 | 0400055 |
| 22 | 1 | SHAFT-ASSY | 88002157 |
| 23 | 1 | FRAME -ASSY | 05400101 |
| 24 | 1 | BAFFLE-CONT MIX | 88002296 |
| 25 | 1 | NAME PLATE | 1470003 |
| 26 | 2 | DECAL WARNING (20 AMP) | 0400060 |
| | | | |

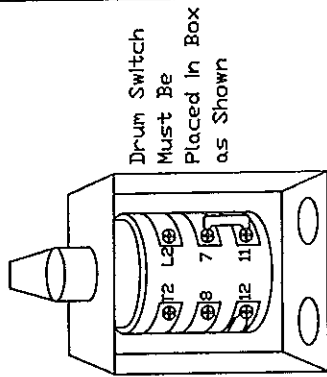
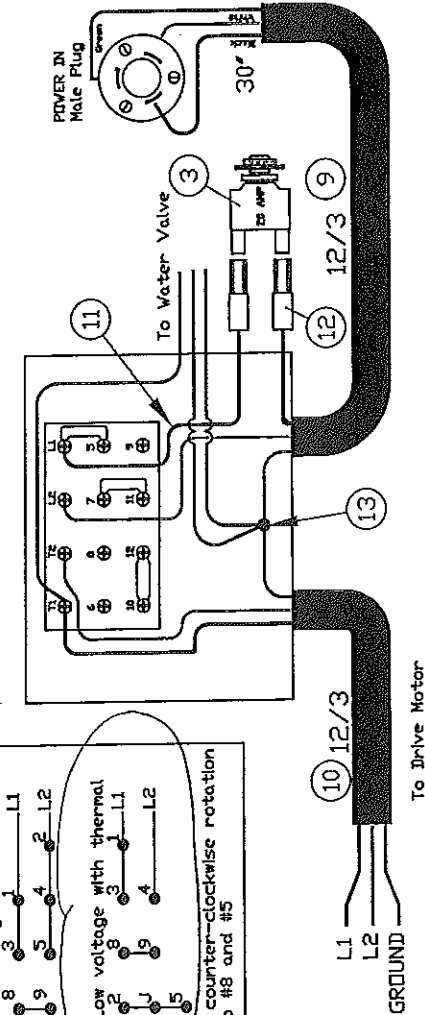
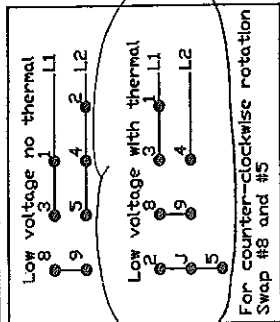
| Item | Qty | Description | Part No/ |
|------|-----|---|----------|
| 1 | 1 | Blw Motor Control Assy. | 88002240 |
| 2 | 1 | Mfg. Plate Control Box | 88007300 |
| 3 | 1 | 3/4" x 1/2" Meter Hose to NPT Adapter | 0130255 |
| 4 | 2 | PF 1/2" Tee | 1603340 |
| 5 | 1 | 1/2" Faucet | 8800840 |
| 6 | 4 | 1/2" Adinrad | 1600812 |
| 7 | 1 | 1/2" Pressure Regulator | 1800145 |
| 8 | 1 | Spacer - Continuous Mixer | 88010009 |
| 9 | 1 | 1/2" Couge (C-180) | 0700260 |
| 10 | 1 | 1/2" Aero Valve | 2200265 |
| 11 | 1 | 1/2" Petcock | 1600575 |
| 12 | 1 | 1" x 1/2" Bushing | 1600825 |
| 13 | 2 | PF 1" Elbow 90° | 1601641 |
| 14 | 1 | Flow Meter | 1300720 |
| 15 | 1 | 1" x 3/4" Bushing | 1600830 |
| 16 | 1 | 3/4" NPT to Meter Hose Adapter | 0130202 |
| 17 | 1 | 3/4" NPS | 2300800 |
| 18 | 2 | Hose Assembly (3/8 ID x 38 with 5/8 FS) | 0900841 |
| 19 | 1 | Rubber Grommet 3/8 x 5/8 | 0710904 |
| 20 | | | |



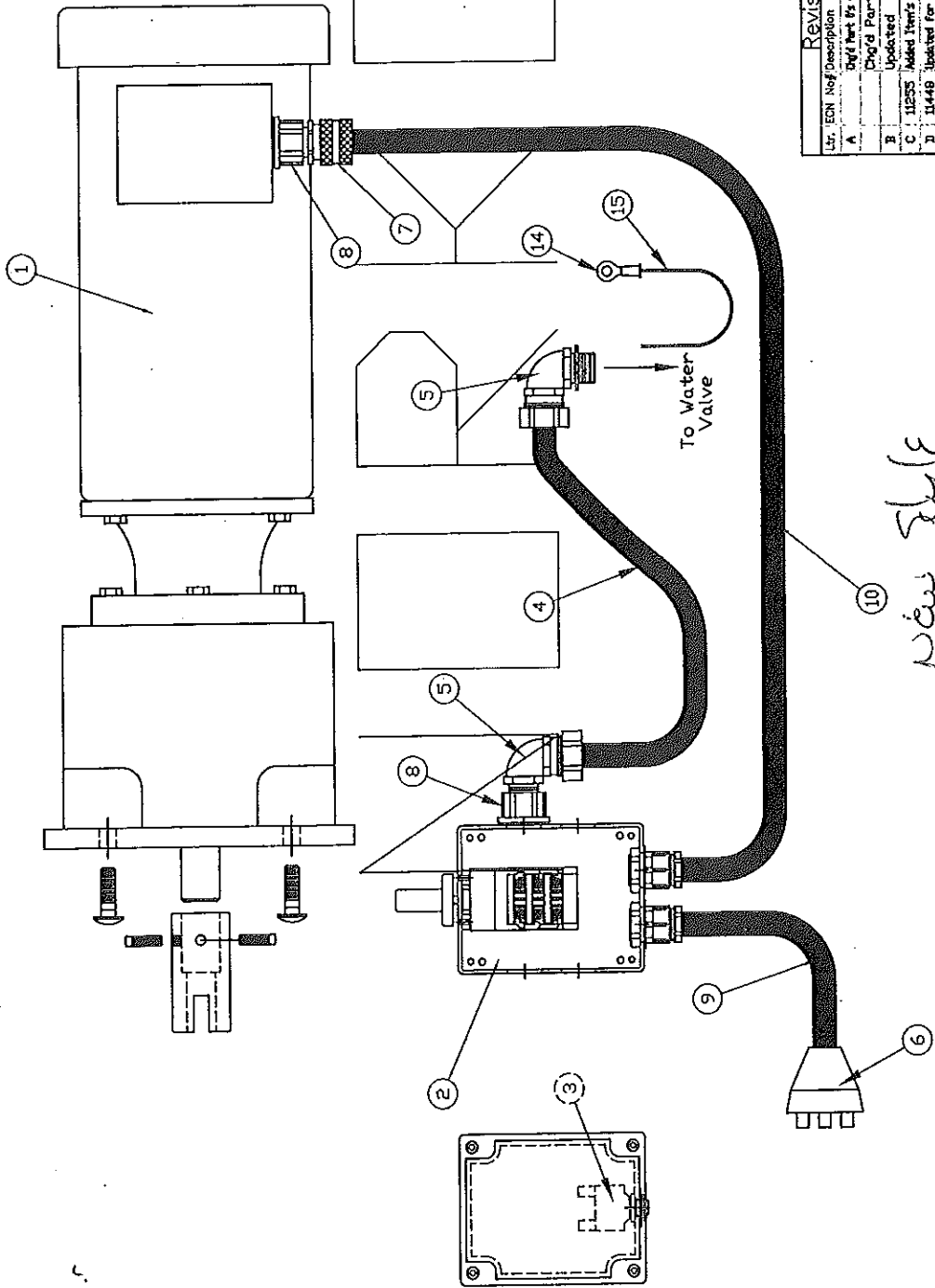
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|--|-----------------------------|---------------------|----------------|-----------------|
| Revisions | By Date | Scale: 1/2" = 1'-0" | Drawn: 3/14/74 | Design: 3/14/74 |
| A | 11/15 Updated to Current SS | | Brady L. | Strong |
| Control Panel Assy. Cont. Mixer | | | | |
| New Material Description: New Material Ref: Drawing Ref: 88002239C | | | | |

88002239C

| <i>Item</i> | <i>Qty.</i> | <i>Description</i> | <i>Part No#</i> |
|-------------|-------------|---|-----------------|
| 1 | 1 | Box Motor Control Assy. | 88002240 |
| 2 | 1 | Mtg. Plate Control Box | 89007393 |
| 3 | 1 | 3/4" x 1/2" Water Hose to NPT Adapter | 0130205 |
| 4 | 2 | PF 1/2" Tee | 1603340 |
| 5 | 1 | 1/2" Faucet | 0600040 |
| 6 | 4 | 1/2" Allthread | 1600612 |
| 7 | 1 | 1/2" Pressure Regulator | 1800145 |
| 8 | 1 | Spacer – Continuous Mixer | 89010609 |
| 9 | 1 | 1/2" Gauge (0–160) | 0700280 |
| 10 | 1 | 1/2" Asco Valve | 2220295 |
| 11 | 1 | 1/2" Petcock | 1600575 |
| 12 | 1 | 1" x 1/2" Bushing | 1600825 |
| 13 | 2 | PF 1" Elbow 90° | 1601641 |
| 14 | 1 | Flow Meter | 1300120 |
| 15 | 1 | 1" x 3/4" Bushing | 1600830 |
| 16 | 1 | 3/4" NPT to Water Hose Adapter | 0130202 |
| 17 | 1 | 3/4" Wye | 2330900 |
| 18 | 2 | Hose Assembly (5/8 ID x 36 with 5/8 FM) | 0800841 |
| 19 | 1 | Rubber Gromment 3/8 x 5/8 | 0710904 |
| 20 | | | |



| Item | Qty | Description | Part No. |
|------|-----|--------------------------------------|----------|
| 1 | 1 | Electric Gear Motor | 87000278 |
| 2 | 1 | Drum Switch, Modified | 0207001 |
| 3 | 1 | Circuit Breaker 1/4" | 0301150 |
| 4 | 10" | 1/2" Sealrite Conduit | 0301380 |
| 5 | 2 | Sealrite Connector ST-9050 | 1604400 |
| 6 | 1 | Plug, Elect. 20W08 (Male) | 0301330 |
| 7 | 1 | Card Connector 36-50 | 0500140 |
| 8 | 2 | Waterline Hub 500 | 2300408 |
| 9 | 18" | Wire 12/3 Ga. SJ | 2300408 |
| 10 | 36" | Wire 12/3 Ga. SJ | 2300408 |
| 11 | 9" | Wire 1/4 Ga. Black (Stranded Single) | 0301323 |
| 12 | 2 | Solder Connector | 2000250 |
| 13 | 1 | Wire Nut, Yellow | 2300421 |
| 14 | 1 | 1/4" Ring Terminal | 2000250 |
| 15 | 8" | Wire 1/4 Ga. Green (Stranded Single) | 2300421 |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |



| Revisions | Series | Part | Date |
|--|--------|------|------|
| 1. E.D. No. Description | By | Date | |
| A. Dvd Part 85 for New 1 & 6 SS 2/2/94 | | | |
| B. Dvd Part 80 | | | |
| C. 11253 Added Item's 80, 11 & 12 SS 10/2/94 | | | |
| D. 11448 Updated for Drum Switch SS 10/2/94 | | | |

Strong Manufacturing Company, Inc.

Box Motor Control Assy. NORKOTE

New style