

**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

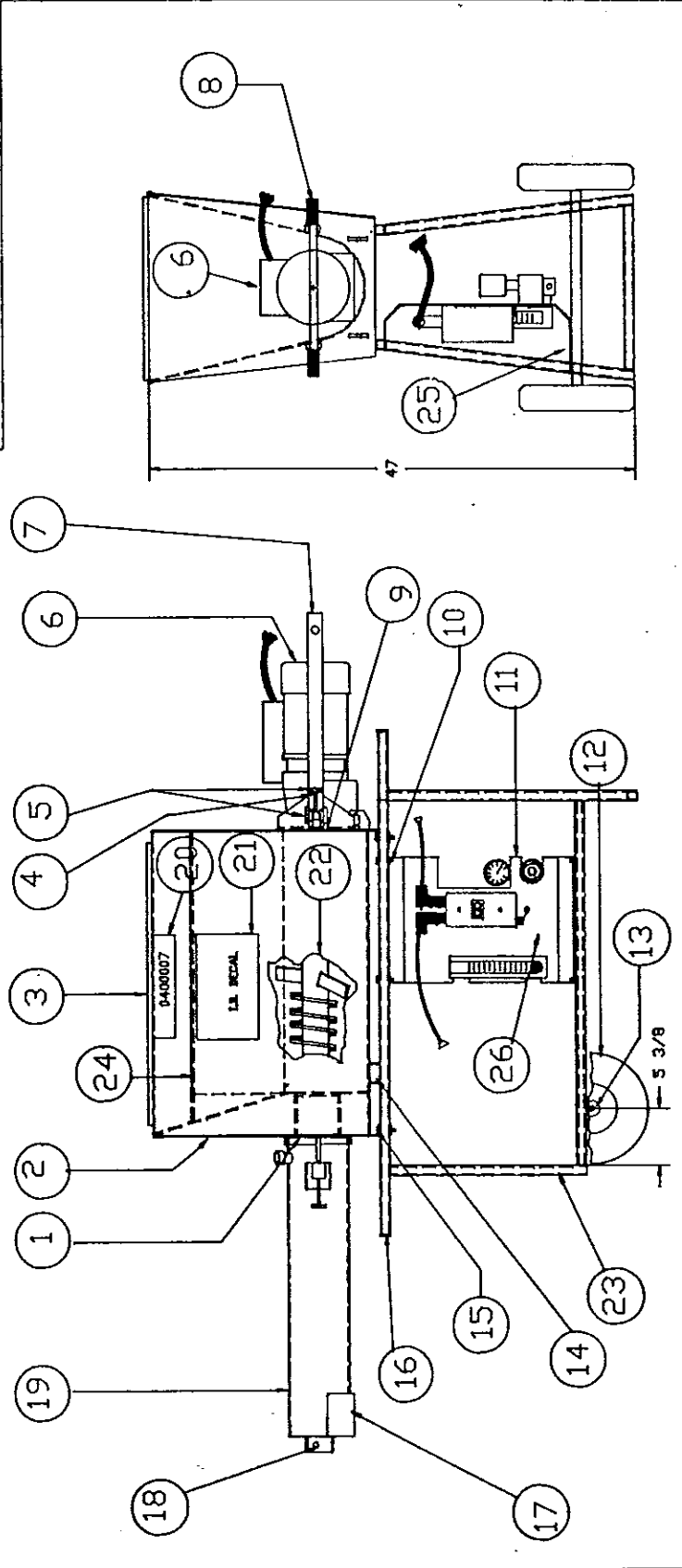
#### SECTION IV - TROUBLE SHOOTING

<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.

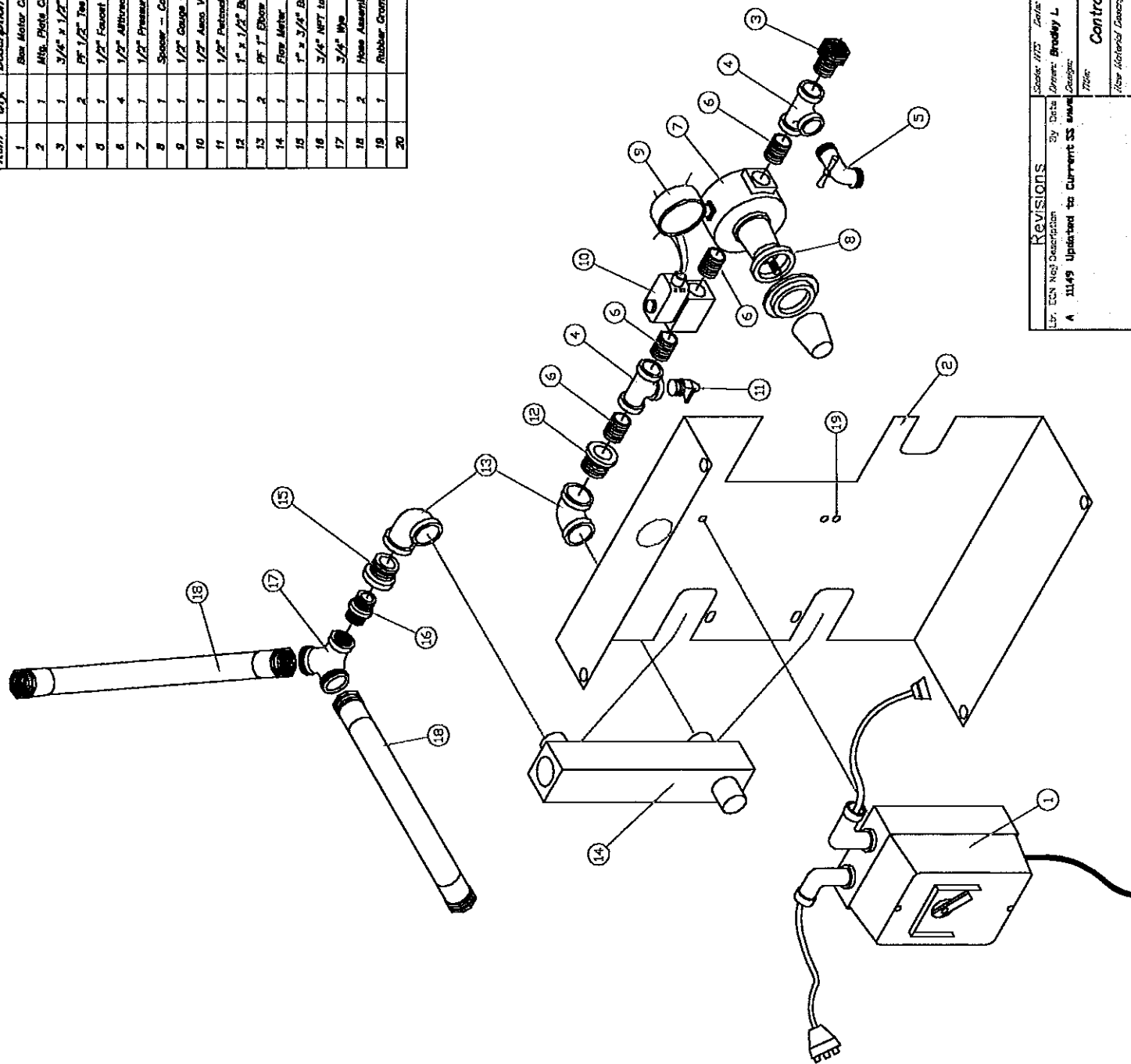
# STRONG MANUFACTURING

TITLE	ORDER-CONT. MASTER ASSY	DATE	10/30/90
SCALE	DRAWING NO. 86000549		
DRAWN BY	ARDESHER	DWG. I	07/11 DIR. I 08
APP'D		RAW	MAT'L NO. 1



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

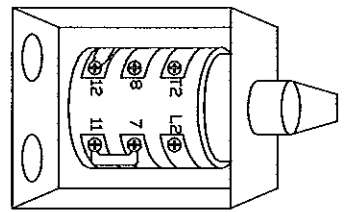
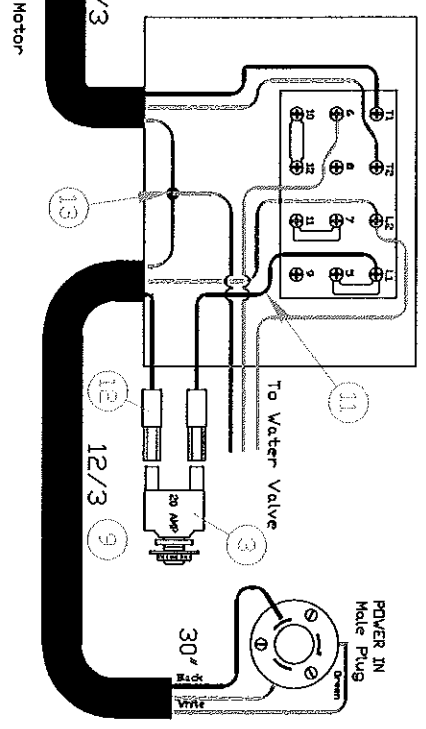
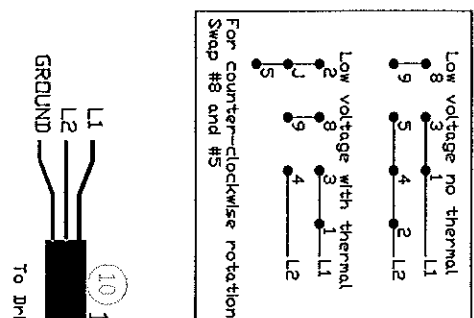
Item	Qty	Description	Part No.
1	1	Flow Meter Control Assy.	88002540
2	1	Mfg. Plate Control Box	88007303
3	1	3/4" x 1/2" Meter Hose to NPT Adapter	0130203
4	2	PF 1/2" Tee	1600340
5	1	1/2" Elbow	0600040
6	4	1/2" Adaptor	1600612
7	1	1/2" Pressure Regulator	1800145
8	1	Spacer - Continuous Mixer	88010009
9	1	1/2" Gauge (0-160)	07002000
10	1	1/2" Auto Valve	2200265
11	1	1/2" Peltcock	1600575
12	1	1" x 1/2" Bushing	1600265
13	2	PF 1" Elbow 90°	1601841
14	1	Flow Meter	1300150
15	1	1" x 3/4" Bushing	1600830
16	1	3/4" NPT to Meter Hose Adapter	0130202
17	1	3/4" Wye	2330000
18	2	Hose Assembly (3/8 ID x 36 with 3/8 FN)	06002641
19	1	Rubber Grommet 3/8 x 5/8	0710064
20			



Revisions		Scale: 1/2" = 1'-0"	Date: 3/14/04
REV: EEN NED Description	Qty	Drawn: Bradley L	Checked: [Signature]
A	1149	Updated to Current SS	Design: [Signature]
New Material Description		Control Panel Assy. Cont. Mixer	
New Material Description		Flow Metered Hoff Gravelly Mfg	
		88002540C	

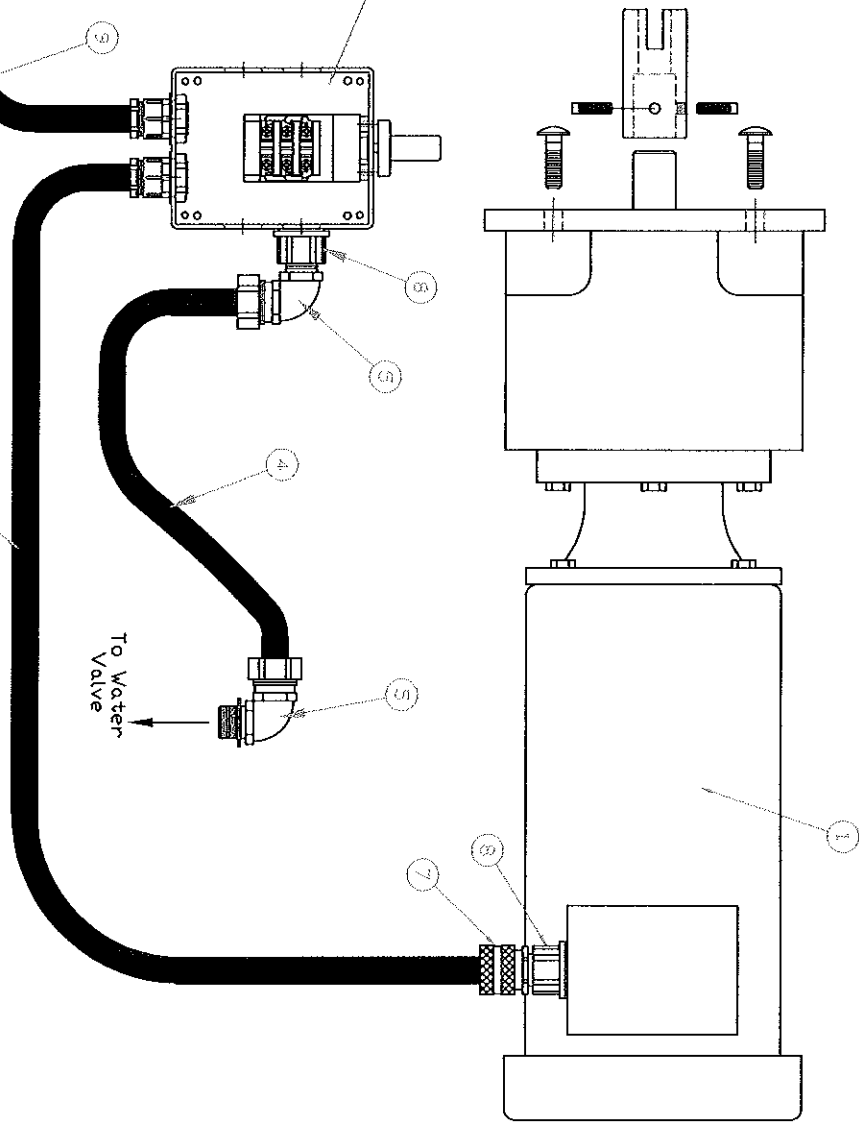
88002239C

<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			



Drum Switch  
Must Be  
Placed in Box  
as Shown

Item	Qty	Description	Part No.
1	1	Electric Gear Motor	87000278
2	1	Drum Switch, Modified	8201001
3	1	Circuit Breaker 1/4"	8301150
4	10"	1/2" Switch Connector	8301380
5	2	Switch Connector ST-9050	1504400
6	1	Plug, Elect. 28V/08 (Male)	8301335
7	3	Connector 1/2" ST	8301335
8		Wire 12/3 Ga. SJ	2300408
9	18"	Wire 12/3 Ga. SJ	2300408
10	32"	Wire 12 GA THHN Black Stranded	8301323
11	9"	Wire 12 GA THHN Black Stranded	8301323
12	2	Solder Connector	8301323
13	1	Wire Nut, Yellow	8301323
14			
15			
16			
17			
18			
19			
20			



Rev	ECN	Mod/Description	By	Date	Rev	ECN	Mod/Description	By	Date
1	11962	Box Motor Control Assy	JF	11/24/75	A		Box Motor Control Assy	JF	11/24/75
2		Box Motor Control Assy	JF	11/24/75	B		Box Motor Control Assy	JF	11/24/75
3		Box Motor Control Assy	JF	11/24/75	C		Box Motor Control Assy	JF	11/24/75
4		Box Motor Control Assy	JF	11/24/75	D		Box Motor Control Assy	JF	11/24/75



Box Motor Control Assy