



# DRUM TUMBLER CONTROL PANEL

Item #146621 / Item #146622 / Item #109879

## INSTRUCTION MANUAL



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## SAFETY SUMMARY

This manual uses the following signal words to call attention to the safety sign and to designate a degree or level of hazard seriousness

1. **DANGER:** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.
2. **WARNING:** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
3. **CAUTION:** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Also used to alert against unsafe practices or property damage only accidents.

The following are examples and types of general alerts that could apply to this machine.

### **DANGER**

LIVE ELECTRICAL PARTS could cause DEATH or SHOCK.

LOCK OUT AND TAG OUT power before working on any electrical wiring.

Only QUALIFIED ELECTRICIANS are to do electrical work.

DO NOT REMOVE or INSTALL any parts while housing is connected to power.

### **WARNING**

CHANGES made to the machine could cause DEATH, INJURY, or DAMAGE.

Do not modify machine without written approval from Industrial Molding Supplies.

### **WARNING**

ROTATING PARTS could cause DEATH or SEVERE INJURY.

LOCK OUT/TAG OUT POWER before opening Tumbler Cage.



## PRODUCT DESCRIPTION

The IMS Drum-Tumbler Control Panel is a control circuit for drum tumblers. It meets OSHA regulations for drum-tumbler controls if properly installed and if the control panel rating matches the horsepower of the drum tumbler.

It has a timer for controlling the amount of tumbling time and a horn to signal the end of tumbling. A light can also be installed to light either with or in place of the horn.

## INSTALLATION

**Mount control panel outside of tumbler safety cage, according to OSHA standards. Refer to IMS Drawing #523-C for safety cage design.**

1. Open control panel and compare transformer jumpers with wiring diagram included with this manual. Make sure jumpers are correct for the voltage at your installation.
2. Form two holes in control box – one for power wiring and one for tumbler and interlock-switch wiring to come into box. A sheet-metal punch works well. Make holes the right size for a sealing strain relief.
3. Install interlock switch on gate or door to safety cage.
4. Route wiring to interlock switch and motor. All wiring must be to national and local code. Use a sealing strain relief to bring wires into control box.
5. Connect control panel to tumbler. See wiring diagram included with this manual and connection drawing on motor nameplate. Terminals T1, T2 and T3 are marked on terminal block inside control panel housing.

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## INSTALLATION (continued)

6. **Optional:** To connect 120 volt light to control panel: install light where needed and plug 3-prong, grounded power cord from light into outlet on bottom of control panel box.
7. With power to circuit locked out and tagged out, connect control panel to plant circuit. Circuit must be 3-phase and must be correct voltage.

Terminals L1, L2 and L3 are marked on terminal block.

8. Close panel and tighten screws before powering up.

## OPERATION

### 1. To run manually:

A. Load tumbler. Follow procedure in tumbler manual.

1. First JOG machine to put holder(s) in correct position for loading.

a) Power up control panel.

b) Turn selector switch to JOG until holder is in correct position.

2. Lock out and tag out power to control panel while installing drum(s) in holder(s).

3. Power up control panel. Turn timer switch to HOLD. Turn selector switch to RUN. Press GREEN "ON" button.

4. Check ammeter to see current level. If current is too high, tumbler is overloaded, needs lubrication or needs service. Normal AMP range:  
55 and 30 gallon tumbler - 5.1 @ 208V, 4.8 @ 240V and 2.4 @ 480V  
Mini tumbler - 1.7 @ 208V, 1.3 @ 230V and .65 @ 460V

## **WARNING**

ROTATING PARTS could cause  
DEATH or SEVERE INJURY.

LOCK OUT/TAG OUT POWER  
before opening Tumbler Cage.



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## OPERATION (continued)

5. Press RED “STOP” button to stop tumbling.
6. JOG as required to get holder(s) in correct load/unload position.

### 2. To run Timed Loads:

Note the following:

- A. Load tumbler. Follow procedure in tumbler manual.
  1. First JOG machine to put holder(s) in correct position for loading.

- a) Power up control panel.

- b) Turn selector switch to JOG until holder is in correct position.

2. Lock out and tag out power to control panel while installing drum(s) in holder(s).
3. Power up control panel. Turn timer switch to select desired tumbling time. Turn selector switch to RUN. Press GREEN “ON” button.
4. Check ammeter to see current level. If current is too high, tumbler is overloaded, needs lubrication or needs service. Normal AMP range:  
55 and 30 gallon tumbler - 5.1 @ 208V, 4.8 @ 240V and 2.4 @ 480V  
Mini tumbler - 1.7 @ 208V, 1.3 @ 230V and .65 @ 460V
5. If you need to stop tumbler before it times out, press RED STOP button.
  - a. Alarm will pulse horn and light on and off.

## **DANGER**

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## TROUBLESHOOTING

1. Ammeter shows high current

- Is tumbler overloaded?
- Is input voltage low?
- Check for tight motor or tight bearings in tumbler.

2. No power to safety control panel

- Check AC line disconnect and circuit breaker.
- Check transformer fuses in control panel. Remove fuses to check them; when in place, they will show continuity even if blown.

3. Tumbler won't move

- Is safety interlock closed?
- Is unit timed out in TIMER mode?
- Check overload element in motor starter.
- Check connections between power source and control panel and between control panel and tumbler.

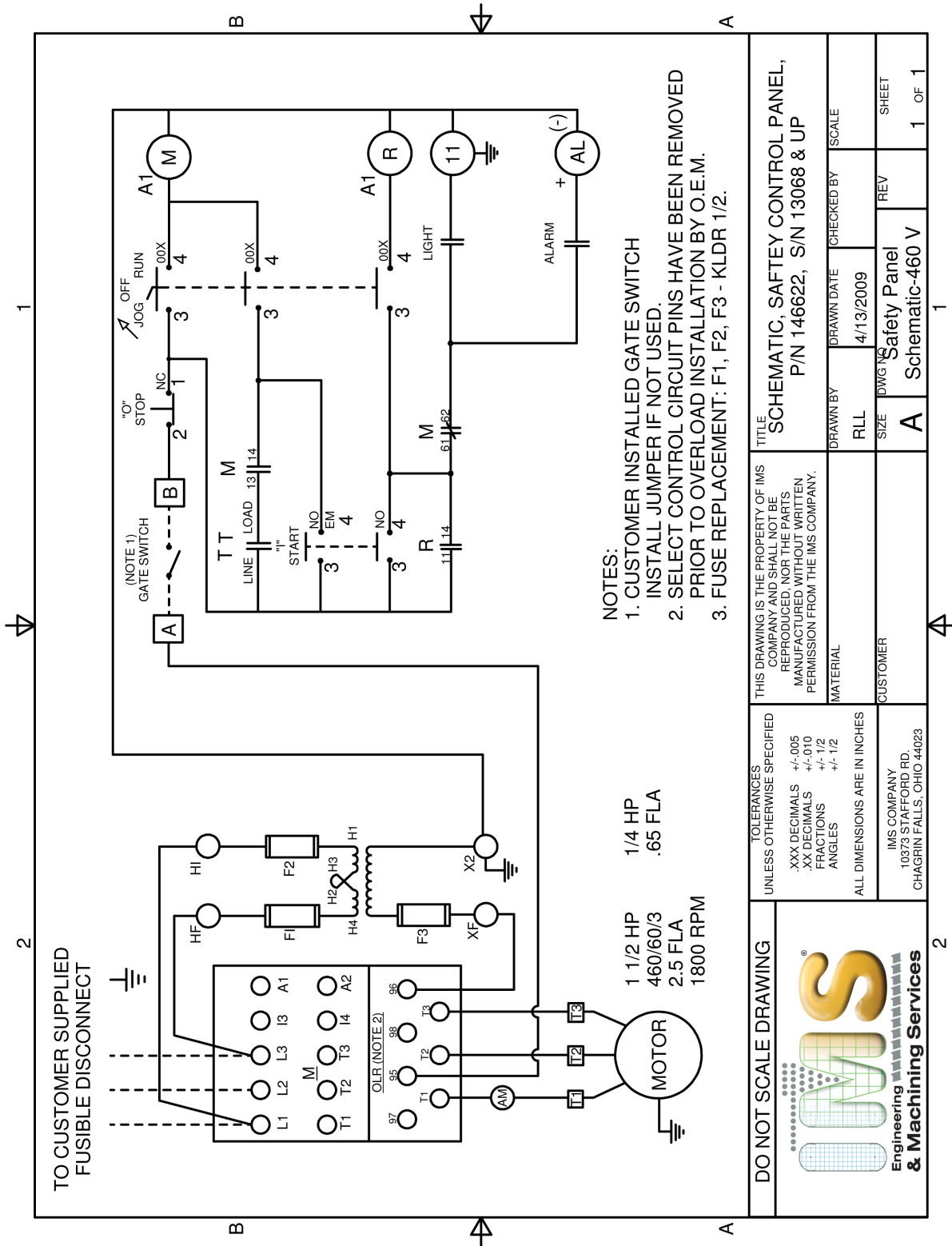
### **DANGER**

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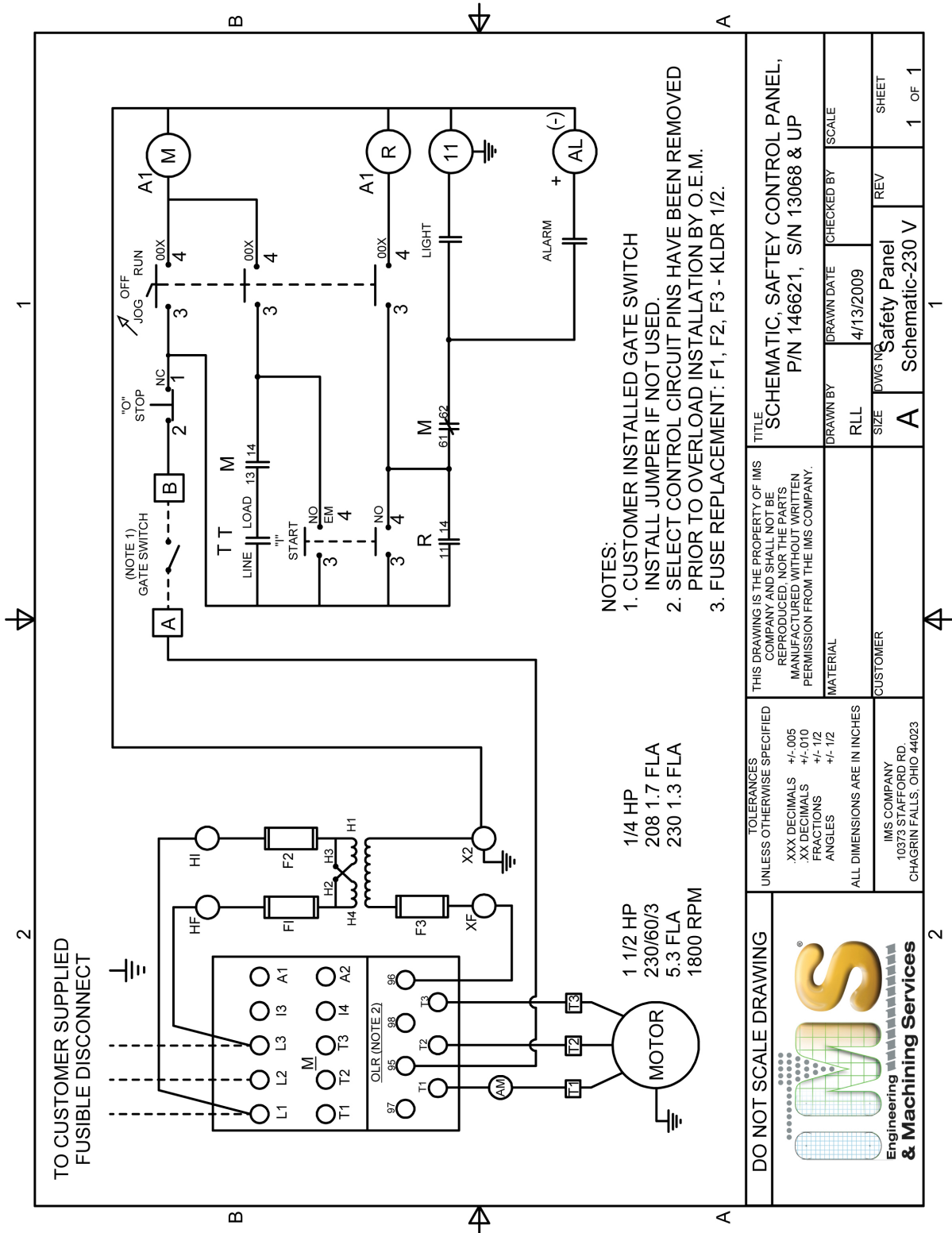
480 V



- NOTES:
1. CUSTOMER INSTALLED GATE SWITCH  
INSTALL JUMPER IF NOT USED.
  2. SELECT CONTROL CIRCUIT PINS HAVE BEEN REMOVED  
PRIOR TO OVERLOAD INSTALLATION BY O.E.M.
  3. FUSE REPLACEMENT: F1, F2, F3 - KLCDR 1/2.

<b>DO NOT SCALE DRAWING</b> 	TOLERANCES UNLESS OTHERWISE SPECIFIED .XXX DECIMALS +/- .005 .XX DECIMALS +/- .010 FRACTIONS +/- 1/2 ANGLES +/- 1/2 ALL DIMENSIONS ARE IN INCHES	THIS DRAWING IS THE PROPERTY OF IMS COMPANY AND SHALL NOT BE REPRODUCED, NOR THE PARTS MANUFACTURED WITHOUT WRITTEN PERMISSION FROM THE IMS COMPANY. MATERIAL:	TITLE <b>SCHEMATIC, SAFETY CONTROL PANEL,                  P/N 146622, S/N 13068 &amp; UP</b>
	IMS COMPANY 10373 STAFFORD RD CHAGRIN FALLS, OHIO 44023	DRAWN BY RLL	CHECKED BY SCALE
TO CUSTOMER SUPPLIED FUSIBLE DISCONNECT		DRAWN DATE 4/13/2009	REV Safety Panel
1 1/2 HP 460/60/3 2.5 FLA 1800 RPM		CUSTOMER	SHEET 1 OF 1





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	IMS COMPANY 10373 STAFFORD RD. CHAGRIN FALLS, OHIO 44023		DRAWN BY RLL	CHECKED BY SCALE	DRAWN DATE 4/13/2009	SHEET 1 OF 1



## REPLACEMENT PARTS

<u>DESCRIPTION</u>	<u>MFG. PART #</u>	<u>IMS PART #</u>
TRANSFORMER	9070TF50D1	
TRANSFORMER PRIMARY AND SECONDARY FUSE	KLDR 1/2	
HORN/BUZZER	SC110NJ-UL	
AMMETER	ST70U-10AAC	
MOTOR CONTACTOR	LC1K0910G7	
STANDARD MOTOR OVERLOAD- 460V	LR2K0310	
STANDARD MOTOR OVERLOAD- 230V	LR2K0314	133423
MINI MOTOR OVERLOAD- 460V	LR2K0305	
MINI MOTOR OVERLOAD- 230V	LR2K0307	
START PUSH BUTTON	ZB4BL8434	
CONTACT BLOCK (NO)	ZBE101	123088
CONTACT BLOCK (NC)	ZBE102	
CONTACT BLOCK (NO-EM)	ZBE201	
TIMER (ROTARY TYPE)	C560MH	
JOG SELECTOR SWITCH	ZB4BD7	
TOGGLE SWITCH	2X464	
RELAY	RSB1A120F7	