

# CHUTE SOURCE

## EXTRUDER

APRIL 22 2021



## **SPECIFICATIONS**

The system is designed for a 208/220/480 volt 3 wire system with ground.

The hydraulic system is power by a 5 hp, air cooled – totally enclosed motor, with a 4 gallon GPM pump feeding a 5” bore by 27” stroke cylinder. The hoses are ½ inch JIC rated. The hydraulic tank has an 18 gallon capacity.

The control enclosed is polycarbonate, Nema 4x. (Watertight and corrosion resistant)

The Access door limit switch has an NEC safety rating.

The hydraulic direction control cables include an LED light which lights when the valve is energized. The cable also has MOV protection.

The system can identify a jam whether it occurs on the forward or return stroke and de-energize the motor to protect prolonged damage to the extruder.

All alarms are identified with lights. These include:

Red	Motor overload
Blue	Access door or Bag-a-Way switch
Yellow	Jam
Green	Power On (Emergency Stop)

The system includes two Emergency Stop pushbuttons, one at the controls and the second on the machine.

### **Options**

One or both Emergency Stop pushbutton can be replaced with a key lock Emergency Stop. This allows the power to be locked out during service.

To further protect the hydraulic system, a low oil level and high oil temperature switch with indicating lights, can be added.

## **SAFETY CONCERNS**

The Extruder is an efficient machine, well designed for the purpose intended.

### **HOWEVER - - -**

As with any device of this nature, improper practices in its use and inadequate maintenance once in operation can result in injury to personnel and/or damage to the equipment.

- 1) **Never try and service the compactor unless you have depressed the emergency stop pushbutton and opened the wall mounted disconnect.**
- 2) Never remove or modify any safety device.
- 3) Always disconnect and padlock power at the 30 amp wall disconnect. Do not rely strictly on the Emergency Stop pushbutton. This is a secondary safety device. It will stop the compactor from operating but there will still be high voltage power in the control cabinet.
- 4) Never climb into or on to the compactor
- 5) Never over fuse. A 220/208 volt unit should be fused at 20 amps. A 440 volt unit should be fused at 10 amps.

## **INSTALLATION**

*Only experienced personnel should attempt to install, service, or operate this equipment. Some of the procedures require the opening of the front cover on the control box. This exposes potentially lethal electrical voltage.*

The extruder must be anchored. Mounting holes are located in all legs of the extruder. The extruder must be installed on a level floor with the four legs on the same level plain. Use a level to check level. If necessary, place shims under the legs of the machine to level it to its final horizontal position.

NOTE: ½" expansion bolts can be used at each leg to anchor the machine with the bolts passing through the shims to prevent future slippage of the shims.

Leave adequate clearance around the unit for both service access and for ventilation.

All electrical work must be carried out in accordance with the National Electrical Code and all State and Local Electrical Codes. Electricians licensed in the area in which the installation is being made should perform the work. A 30 Amp, 3Ph/60Hz, 3-wire, fused disconnect is required for the extruder. This disconnect should be fused at 20 amps for a 208/220 volt connection and 10 amps for a 440 volt service. A 6 foot length of liquid tight is supplied with (4) 12 gage wire leads to be hooked up to the building power (three phases and a ground). The wall disconnect must be mounted within 6 feet of the hydraulic power pack.

The Power Pac provides the hydraulic power to the extruder. It includes motor, pump, valves and associated control. The system is self-contained and needs only a connection to incoming power, an adequate supply of a good grade, anti-wear hydraulic fluid, and the reconnection of the electrical umbilical cable that connects the control panel with the extruder.

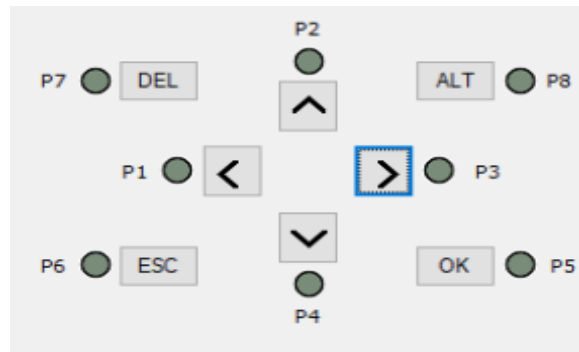
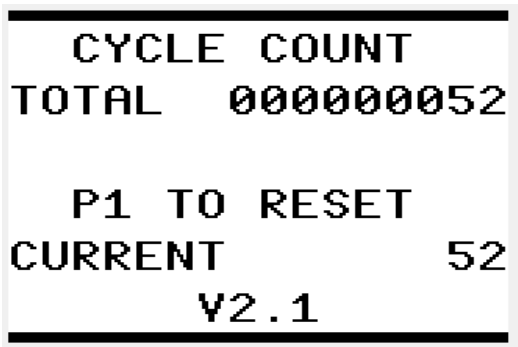
The hydraulic approach was chosen because it permits greater pressure to be exerted by the ram with more positive control using smaller power components.

## STARTUP

When the system is shipped, it is normally shipped with the motor starter in the tripped position. Reset the motor starter. Top off the hydraulic oil revivor with AW 32 oil. Place the system in MANUAL and pulse the travel selector switch. The motor should rotate in the clockwise direction when looking at the motor from the fan end. If not, turn off power from the main disconnect and exchange any two wires attached to the bottom of the motor starter.

## OPERATION

When power is applied to the control, the screen inside the control box, will light up and display the version of software, the total number of cycles, and the number of cycles since the last service.



To begin an automatic cycle, the photo eye must be blocked for more than 5 seconds. This is to prevent false activation caused by falling trash. Once an automatic cycle begins, the extruder will cycle until the photo eye clears.

When power is applied, and the extruder is not in the home position it will:

- 1) If in MANUAL, the extruder will remain in its present position.
- 2) If in AUTO, the extruder will return to its home position.
- 3) If in AUTO and the trash photo eye is blocked, the extruder will begin a normal cycle after it has first returned home.

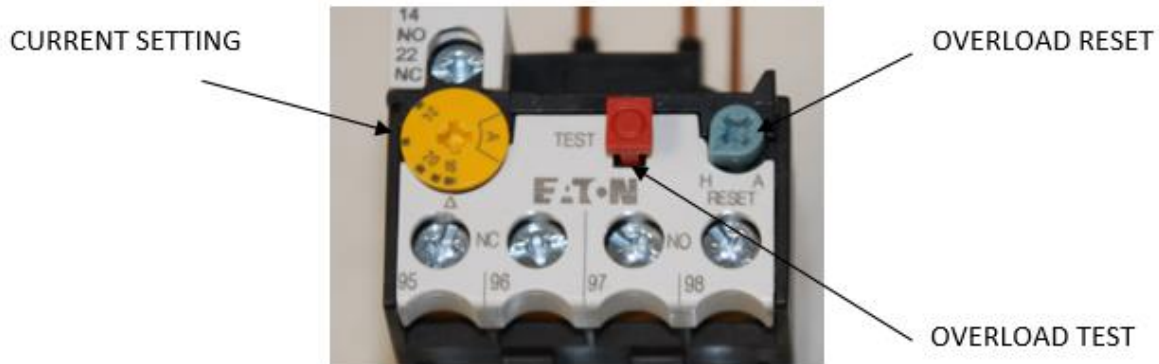
In MANUAL a spring return to center selector switch allows the operator to manually jog the ram either forward or back. When the switch is released, the ram will stop at its present position. This is important when trying to clear a jam. When switching from MANUAL to AUTO, if there are no alarms present, the extruder will immediately return home.

## Extruder Jam

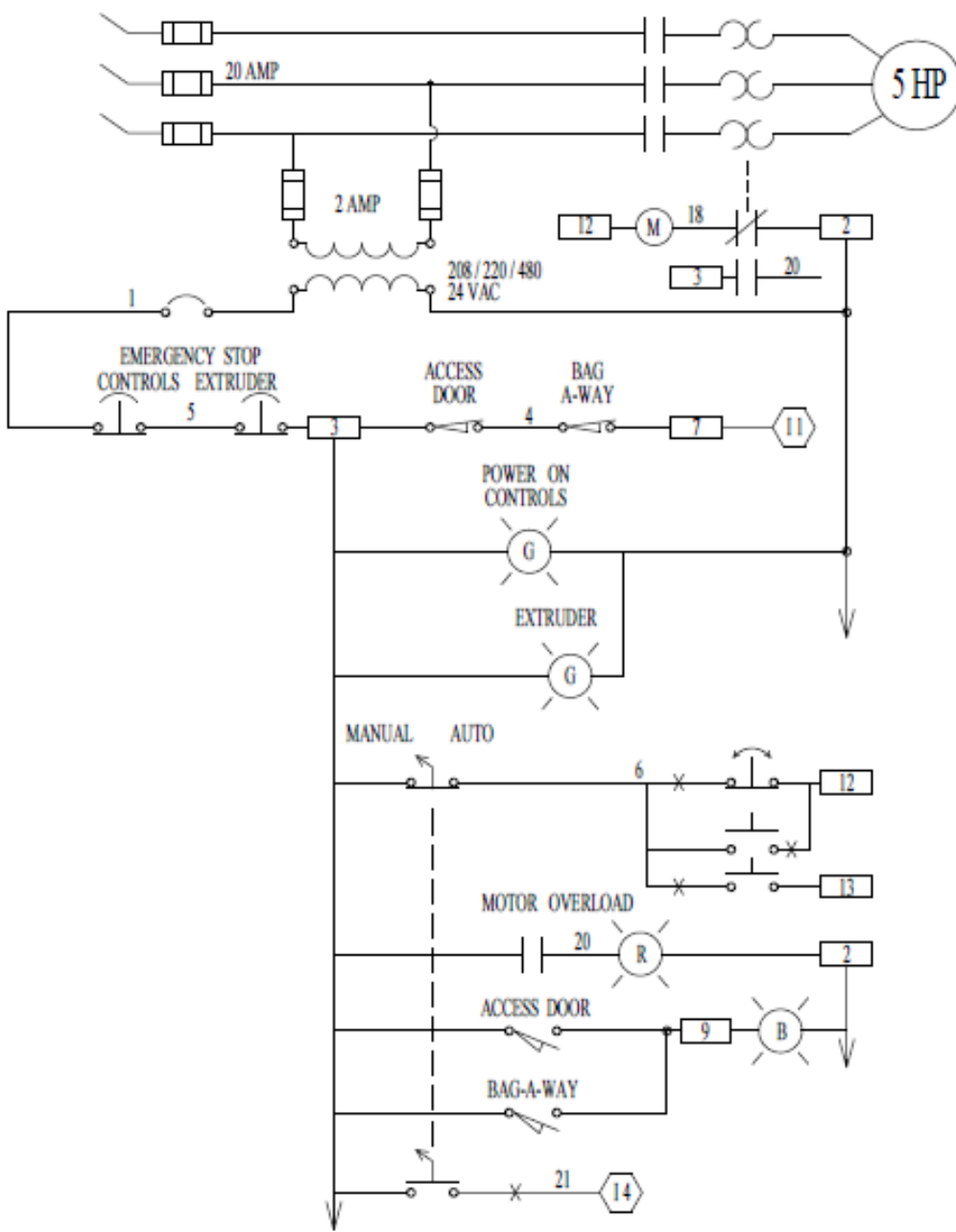
The controls include two jam timers and a yellow JAM alarm light. The travel forward and return to home are each monitored. Because the Forward and Return travel time will be different, two timers are required. These setpoints are set at the factory and exceed the expected travel time by about 10 seconds. If either timer times out the motor will be shutdown to prevent damage to the hydraulic system and the yellow JAM light will illuminate. Switching the control to MANUAL will reset the timers and allow the operator to clear the obstruction with the Jog selector switch.

## ALARMS

- Green light ----- If this light, located in the center of the MANUAL/AUTO selector switch, is not on, it indicates that an EMERGENCY STOP pushbutton has been depressed. Twist to release. If this does not clear the problem check the incoming fuses protecting the transformer and the Main fuses at the wall disconnect, protecting the control panel. This should only be done with the wall disconnect in the OFF position.
- Yellow light ---- The extruder is jammed. See **EXTRUDER JAM**
- Red light ----- The motor overload is tripped. Press the small blue pushbutton on the Front of the overload relay to reset. (Machines are normally shipped with the overload in the tripped position).



- Blue light ---- The access door or Bag-A-Way switch is in the tripped position.



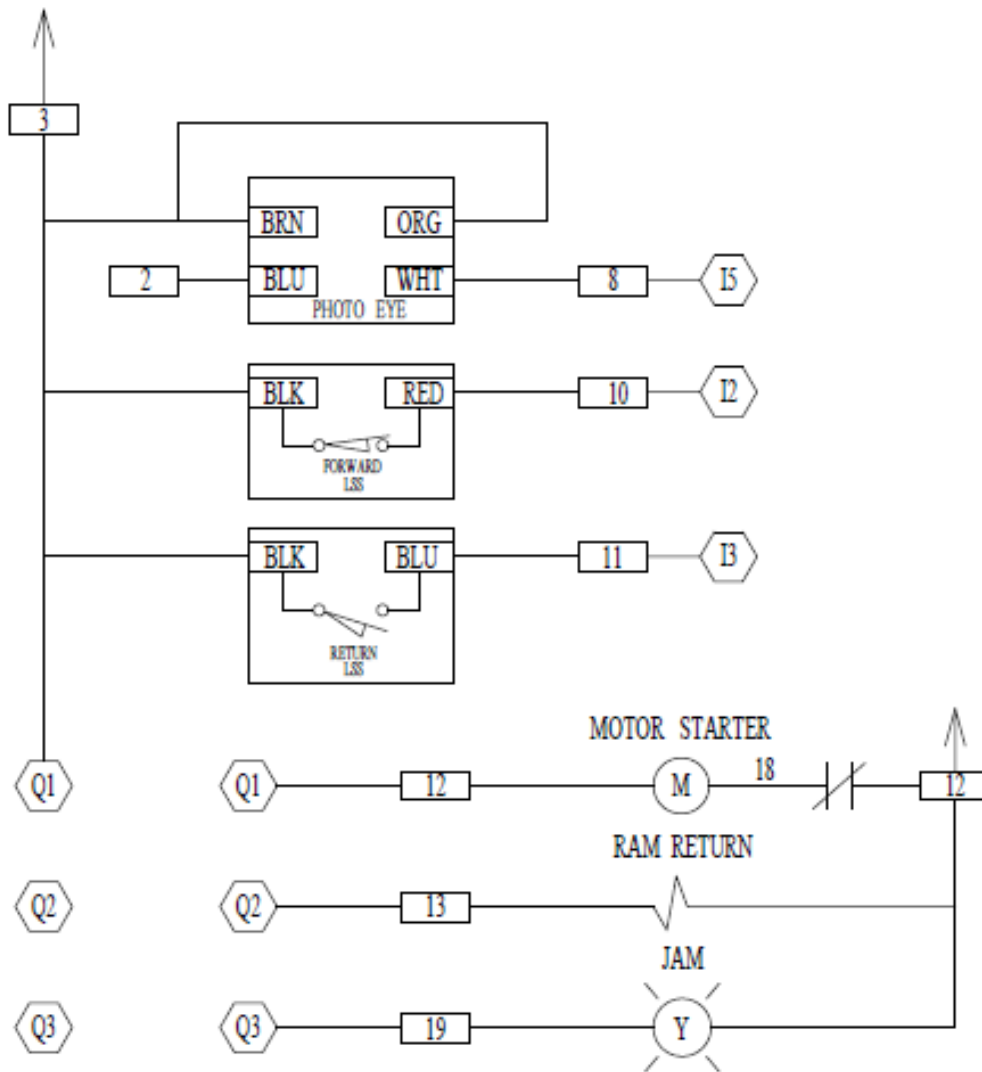
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FOR SHOP FABRICATION				
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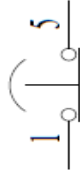
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DWG: 03R060R v2.0	BY: PA	



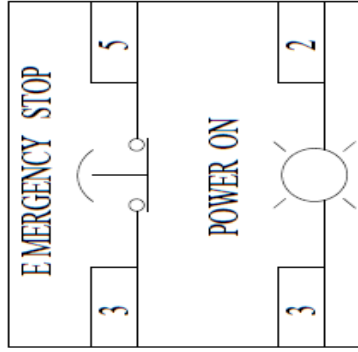
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# DOOR REAR VIEW

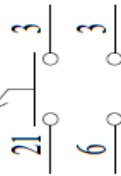
E STOP



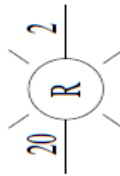
EXTRUDER



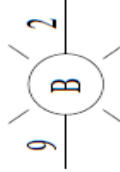
MANUAL AUTO



MOTOR OVERLOAD



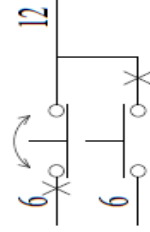
ACCESS DOOR  
BAG-A-WAY



JAM



JOG



## FOR SHOP FABRICATION

EXTRUDER V2.0 **3 of 3**

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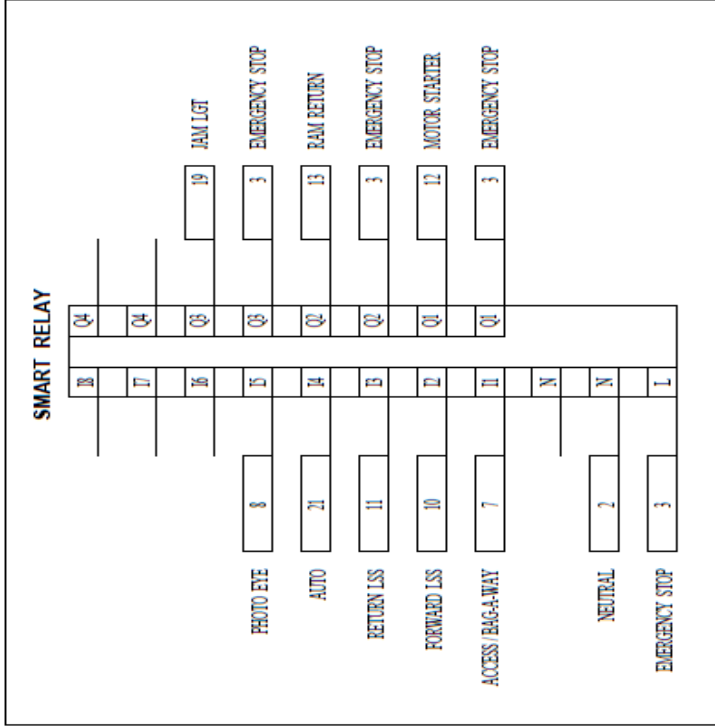
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OPEN CONTACT	3	4/30/21	PA
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DOOR	1	TRANS	
EXTRUDER	2	SMART RELAY	TRANS
RETURN SOL	2	STARTER	DOOR
EXTRUDER	3	SMART RELAY	
MOTOR STARTER	3	DOOR	
EXTRUDER	5	DOOR	
EXTRUDER	7	SMART RELAY	
EXTRUDER	8	SMART RELAY	
EXTRUDER	9	DOOR	
EXTRUDER	10	SMART RELAY	
EXTRUDER	11	SMART RELAY	DOOR
STARTER	12	SMART RELAY	DOOR
RETURN SOL	13	SMART RELAY	DOOR
MOTOR	GROUND	INCOMING	
RET SOL	GROUND	EXTRUDER	



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