



# BestReach® Telescopic Boom Conveyor

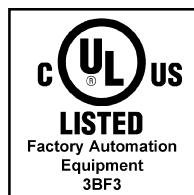
## Operation, Maintenance and Parts Manual

### Models:

BRTB42588 4-Stage

BRTB42580 4-Stage

BRTB32572 3-Stage



### **BEST Conveyors**

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Please visit our Web site and click on downloads for the latest updates to this manual.

Please read entire manual before operating unit.

# Thank You

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Thank you for purchasing our BESTREACH conveyor. We realize you had a choice and are pleased that you selected a conveyor from BEST Conveyors.

We are providing you with a toll-free number, **800-327-9209**, to put you directly in touch with our Customer Service Department. Call us for any reason. We realize it's not our opinion of our products and service that counts—it's **your** opinion we live by!

We are in business to serve our customers. From the factory or the field, we are eager to help. Our service technicians have the experience and expertise to ensure a smooth transition between your fixed conveyors and your BEST system. You will receive the same high level service from BEST before and after the sale.

Again, we appreciate your purchase and hope you will continue to select the BEST solution for your material handling needs.

Sincerely,

The Associates of BEST Conveyors  
Jonesboro, Arkansas



## Underwriters Laboratories Certification Statement

Best conveyors have been thoroughly tested by Underwriters Laboratories, and have been found to meet their strict standards for Factory Automation Equipment. Our conveyors are certified to UL508 Standards when shipped from our plant. Our UL file number is E230497. All standards can be found on-line at [www.ul.com](http://www.ul.com).

ANY MODIFICATION FROM ORIGINAL FACTORY CONDITION, OR REPAIRS NOT PERFORMED BY A BEST CONVEYORS TECHNICIAN OR CERTIFIED CONTRACTOR, MAY VOID UL CERTIFICATION.

For specific assistance regarding any UL issues, please contact your Best Conveyors sales representative at **800-327-9209**.

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# Warranty Statement

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Your Best conveyor is protected by our premier warranty. Best Conveyors will replace, free of charge, parts that are damaged during the course of normal operation due to material or workmanship defects. This warranty extends for a period of two (2) years on all mechanical components and one (1) year on all electrical components (measured from the date you took possession of your conveyor.)

This warranty does not cover damage due to accident, misuse, abuse, and negligence. This warranty does not cover damage due to improper operation or maintenance, connection to improper voltage supply, or attempted repair/modification by anyone other than an authorized Best Conveyors service personnel.

For specific warranty information or assistance, please contact your Best Conveyors sales representative at 1-800-327-9209.

# Safety Information

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- **The conveyor belt MUST be in motion before extending or retracting the conveyor.**
- Avoid wearing excessively loose clothing or hanging jewelry when working with moving machinery.
- Keep long hair pulled up to prevent it from becoming caught in moving parts.
- Remove any obstructions from the path of the conveyor.
- Make sure others move away from the conveyor before moving the unit or starting the conveyor bed.
- Best conveyors and their electrical systems must only be serviced by properly trained and qualified technicians.
- Never service the conveyor with power applied. Always disconnect power before servicing equipment.
- Never operate conveyor with any electrical enclosure open.
- Never operate conveyor with any guards removed.
- Check for correct operation of controls, E-stops and pushbar at each start-up.
- Never operate conveyor with any safety device deactivated.

# Specifications

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## **BRTB42588**

### **4-Stage Telescopic Boom**

Overall Length - Extended Max	87' 8"
Overall Length - Compacted	25' 4"
Maximum Travel	62' 4"

## **BRTB42580**

### **4-Stage Telescopic Boom**

Overall Length - Extended Max	80'
Overall Length - Compacted	25' 4"
Maximum Travel	55'

## **BRTB32572**

### **3-Stage Telescopic Boom**

Overall Length - Extended Max	72'
Overall Length - Compacted	25' 4"
Maximum Travel	47'

### **All Models:**

Minimum Base Bed Height	42"
Overall Width	47' 1/2"
Belt Width	24"
Travel Speed	60 ft./min.
Conveyor Bed Speed Standard	65 ft./min.
Conveyor Bed Speed Optional	75-135 ft./min.



## **Specifications (cont.)**

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### **230VAC 3 phase Standard Speed**

Full Load Current	7.0 Amp
Roller Full Load Amps	4.4 Amp

### **460VAC 3 phase Standard Speed**

Full Load Current	4 Amp
1 ½ HP Motor Full Load Amps	2.5 Amp

### **230VAC 3 phase Optional Speed**

Full Load Current	10.5 Amp
Roller Full Load Amps	8.6 Amp

### **460VAC 3 phase Optional Speed**

Full Load Current	5.75 Amp
Roller Full Load Amps	4.3 Amp

### **230VAC 3 phase Standard Speed Power Level**

Full Load Current	10 Amp
Roller Full Load Amps	4.4 Amp

### **460VAC 3 phase Standard Speed Power Level**

Full Load Current	5.5 Amp
1 ½ HP Motor Full Load Amps	2.5 Amp

### **230VAC 3 phase Optional Speed Power Level**

Full Load Current	14.25 Amp
Roller Full Load Amps	8.6 Amp

### **460VAC 3 phase Optional Speed Power Level**

Full Load Current	7.25 Amp
Roller Full Load Amps	4.3 Amp

# Installation

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**NOTE:** All installation work must be performed by qualified personnel and comply with the National Electrical Code (NFPA70) and all other national, state and local codes that apply.

Overcurrent protection, including a disconnect with proper LOCKOUT/TAGOUT provisions, must be provided for the branch circuit that feeds the conveyor. This disconnect should be mounted near the rear of the conveyor that it services.

**NOTE: Optional Power Disconnect** - A disconnect and mount stand is offered as an option with the BestReach conveyor. This disconnect and stand should be mounted to the floor near the rear of the conveyor in a position that provides protection and is convenient to the main electrical enclosure .

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## IMPORTANT WARNINGS:

- FIRST THING AFTER INSTALLATION, TURN ON POWER TO CONVEYOR, CHECK BELT TO MAKE SURE IT IS RUNNING IN THE CORRECT DIRECTION. DO NOT ACTIVATE ANY OTHER CONTROLS. IF BELT TRAVEL IS BACKWARD, IMMEDIATELY SHUT DOWN AND SWITCH TWO LEGS OF INCOMING POWER TO CORRECT. FAILURE TO DO SO COULD CAUSE SEVERE DAMAGE TO UNIT AND BELT.
  
  - THE CONVEYOR BELT MUST BE IN MOTION BEFORE EXTENDING OR RETRACTING THE CONVEYOR.
- 

The following is a list of instructions for the installation of a BestReach telescopic conveyor. Refer to the installation drawings and diagrams for clarification of instructions.

- 1) Move the unit into the desired mounting location.
- 2) The concrete is not always level. Make certain the unit is level side to side for proper function and belt tracking. Shims may be needed under the mounting pads.
- 3) Drill holes for anchors into the concrete using the holes in the mounting pads as guides. ½" - 13 x 4 ½" RedHead wedge anchors are provided. If using another anchor, be sure it will support a tension load of at least 6,000 lbs. in 4,000 psi concrete.
- 4) For proper embedment (3 ¼"), drill 3 ¾" deep with a ½" bit. Drive anchor into concrete and tighten to a torque of 60 ft./lbs.
- 5) Be sure there is an anchor in every mounting hole.
- 6) For customer interface signals, follow installation wiring diagram.
- 7) Strip an adequate length of cable and enter the main enclosure through the hole and strain relief supplied. Trim excess wire and make power connections to the L1, L2, L3 and Ground terminals.
- 8) **The conveyor belt MUST be in motion before extending or retracting the conveyor.**

## Installation (cont.)

### POWER TILT OPTION:

- 1) Reconnect rear pivot tilt stand to unit.
- 2) After placing unit into desired position, make sure rear tilt stand mount is flat on floor and unit is level side-to-side and square to the door.
- 3) Follow previously stated anchoring instructions.
- 4) Position front tilt stands with unit lowered down. Set unit on front tilt cross member.
- 5) With rear of unit anchored, slide front stands forward until gusset between upright and cross tube is touching upright guide tube with UHMW.
- 6) As unit pivots up, it will move away from the gusset.
- 7) For location of guards for power tilt option see Installation prints.
- 8) Reconnect power tilt pump motor and valve by matching numbers on wiring diagram 300631-2 and using wire nuts with electrical tape to secure them.

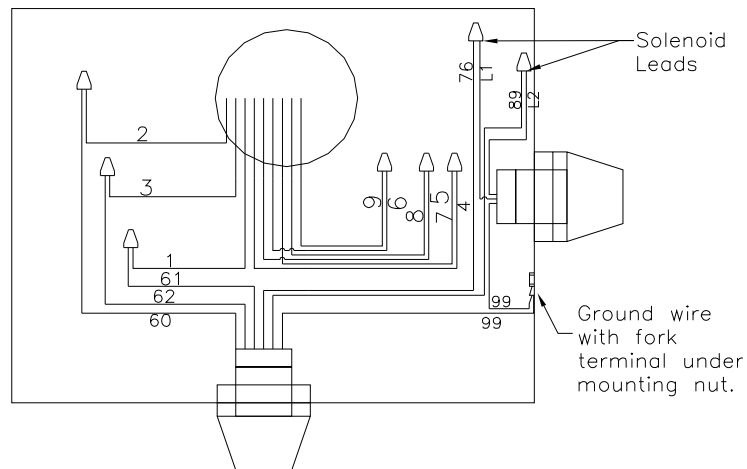
#### Wire Key

Color	Wire #
Red	60
White	62
Black	61
Green	99
Blue	76
Wht/Blk	89
Orange	Spare

Wire cap individually and tape motor wires 14, 15 and 16.

Wire nut and tape spare wire

All connections must be wrapped with electrical tape after assembly



**Drawing 300631-2**

When all the connections are completed and the work area is cleared, power up and test the unit to ensure that all functions are operational. Follow the steps in the Operation Instructions of the conveyor sections of this manual.

# Belt Installation and Tracking

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- 1) Unroll the belt, PVC coating side up, around the tail pulley and over the idler rollers.
- 2) Run belt over the snub roller and around the drive roller.
- 3) Align the seam near the center of the conveyor frame.
- 4) Pull the belt together to engage the lacing and install the pin.
- 5) Make two visible marks in the center of the belt width approximately 20 feet back from the lacing and 10 feet apart.
- 6) Find the marks made in step #5 and take an exact measurement between them.
- 7) Add .375" (3/8") to the measurement. Example (measured 119 9/16" + 3/8" = 119 15/16).
- 8) For proper tension, adjust the take up pulley located to the front of center of the base until the distance between the two marks is equal to the measured dimension + 3/8".
- 9) After tracking the belt, check the dimension between the marks to make sure proper tension is still in the belt.
- 10) If the dimension has changed, adjust accordingly and recheck for proper tracking.

## **With the belt installed, begin the tracking procedure.**

### Notes:

- The drive roller should be parallel to the snub roller.
- The snub roller should be locked into place.
- All idler rollers are square to their respective frames.

- 1) **The conveyor belt MUST be in motion before extending or retracting the conveyor.**
- 2) Start the belt.
- 3) Watch to see which side the belt wants to run to, and how quickly it does so.
- 4) Shut off the conveyor.
- 5) Begin belt tracking by adjusting the first idler from the tail.
- 6) Loosen the bolts on the idler bracket and angle the roller to correct the belt travel. The roller will steer the belt toward the uphill side of the roller ("uphill" refers to the belt travel direction).
- 7) If further correction is necessary, proceed to adjust the first idler from the front, then the two in the center of the conveyor, in that order.
- 8) If adjusting the idlers cannot solve the tracking problem, the drive assembly may have to be adjusted slightly.

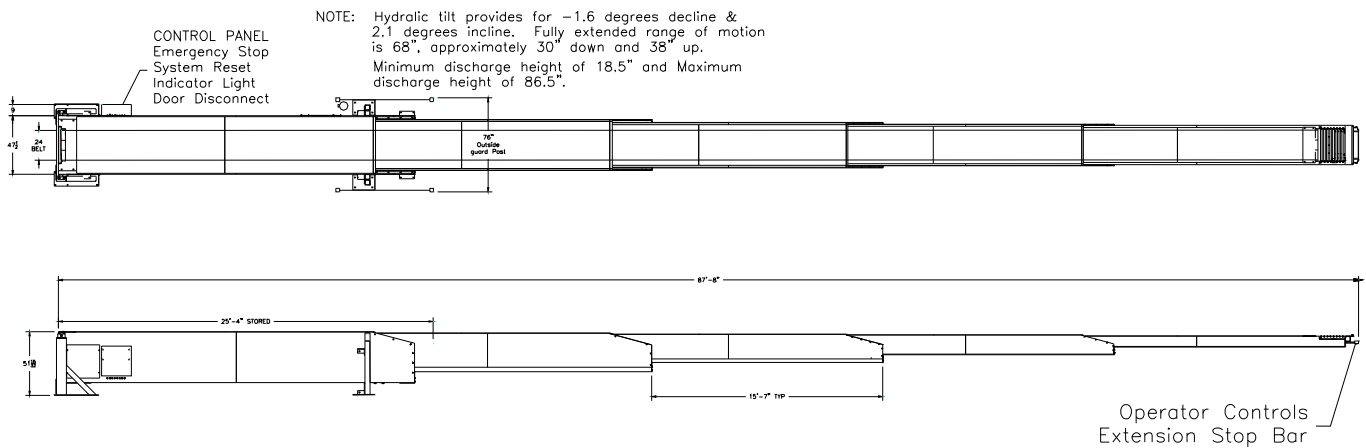
Adjusting the idler rollers will solve most of the belt tracking problems. The belt should run straight and on the center of the slider bed. Practice and experience will speed up the belt tracking process.

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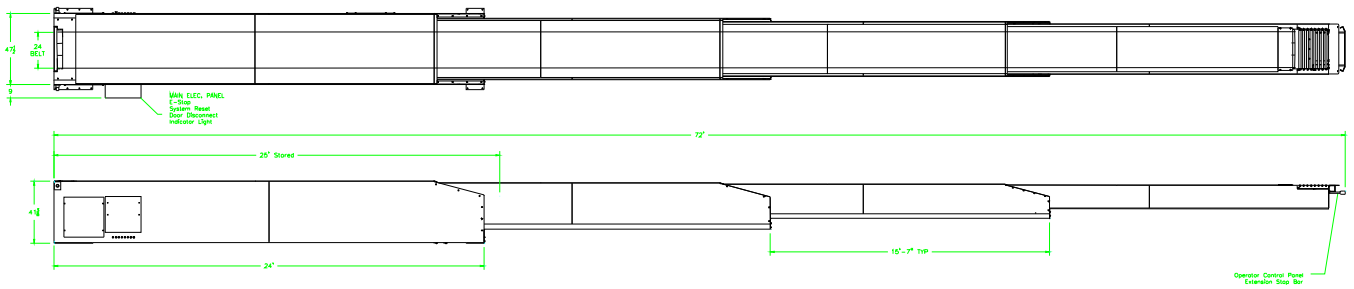
**Installation Prints**  
**for**  
**BestReach Telescopic Boom**  
**(Footprint and Electrical Connections)**

# BRTB Footprint Drawings



BESTREACH TELESCOPIC BOOM  
BRTB42588

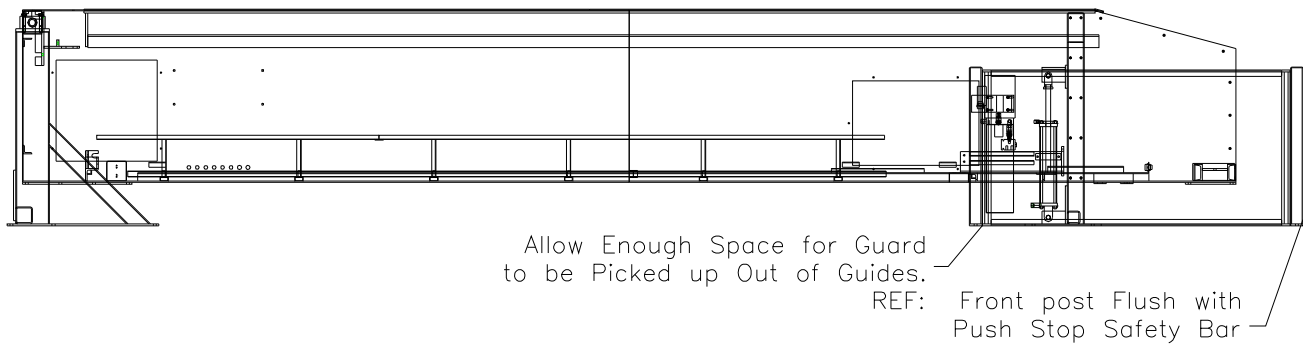
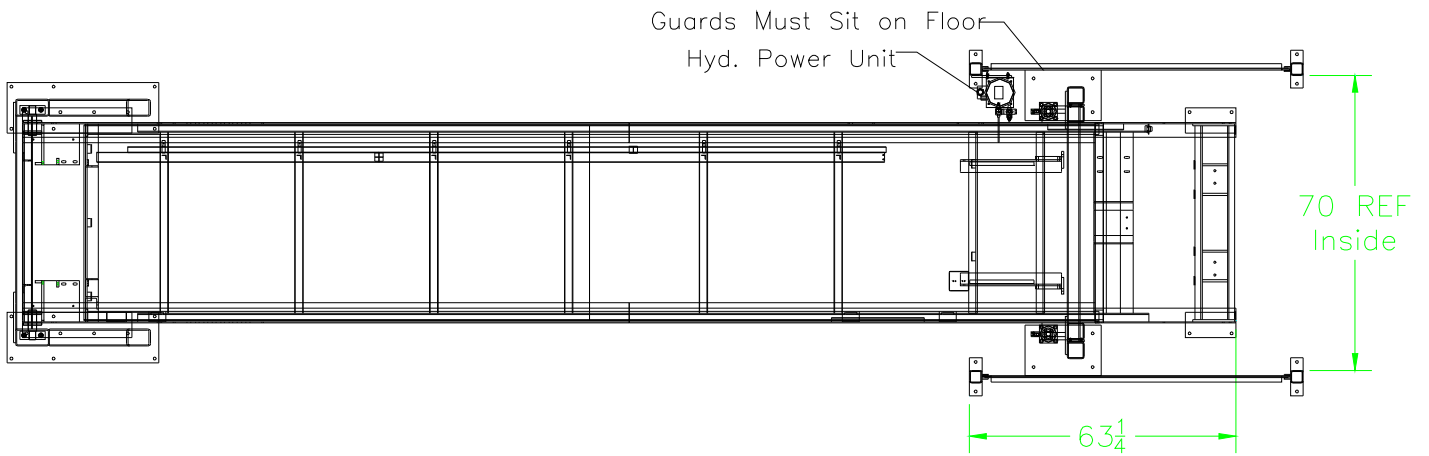
# BRTB Footprint Drawings



BESTREACH TELESCOPIC BELT

BRTB32572

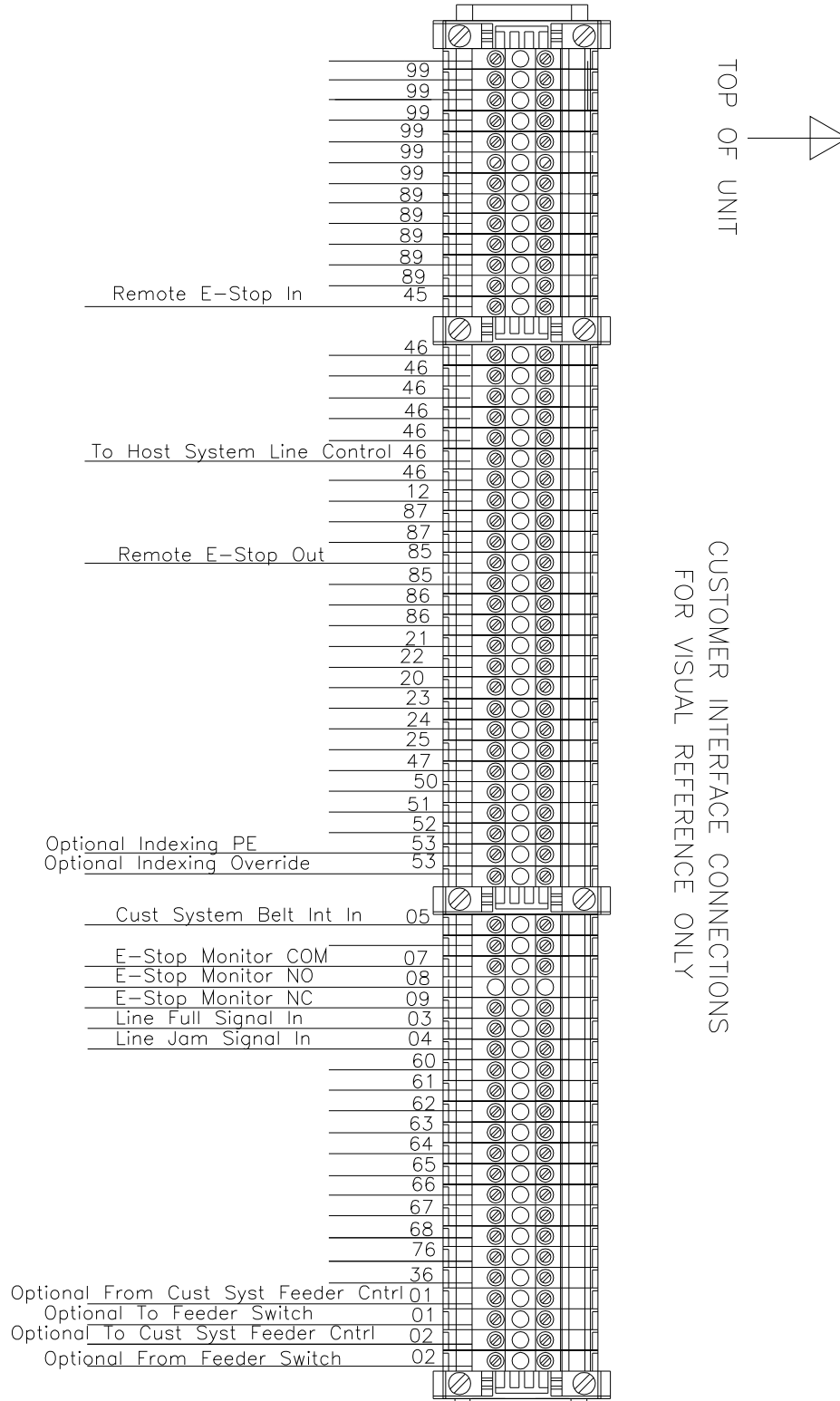
# Power Tilt Guard Installation Dim



BRTB POWER TILT INSTALLATION



# Main Electrical Panel, Customer Connection Diagram



# Operating Instructions

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An emergency stop circuit controls electrical power to all parts of the conveyor. When any one emergency stop switch is activated, power is removed from all motors and actuators stopping all movement of the conveyor frame and bed. All electrical power is also removed from the motors and actuators when the DOOR DISCONNECT HANDLE is in the OFF or OPEN positions.

**CAUTION: The incoming power is still energizing the supply side of the door disconnect even when in off position. The voltage of any customer interface signals may still be present in the panel. These connections should be made using yellow wire or marked with yellow electrical tape.**

## **ENERGIZE THE MASTER CONTROL CIRCUIT:**

- Make sure the door to the main electrical enclosure is closed and the DOOR DISCONNECT HANDLE is in the ON position.
- Both EMERGENCY STOP switches (one on the door of the MAIN CONTROL PANEL and one on the OPERATOR'S PANEL) must be in their out position. If depressed, twist the switch's knob to allow to return to out position.
- Press either RESET button (one on the door of the MAIN CONTROL PANEL and one on the OPERATOR'S PANEL) to energize the master control circuit. The CONTROL POWER INDICATOR light will be on when this circuit is energized.

## **TURN ON CONVEYOR BED:**

- **The conveyor belt MUST be in motion before extending or retracting the conveyor.**
- Check to make sure all personnel are away from the conveyor bed.
- Press the BED ON/OFF button on the OPERATOR'S PANEL. Pressing it once will start the bed after the beeper is sounded continuously for approximately 1 second.

**CAUTION: During reverse movement, the space between boom stages become pinch points. Keep personnel clear from these areas marked with black and yellow caution tape. Follow instructions and warnings on all decals.**

## **MOVE CONVEYOR INTO POSITION:**

- **The conveyor belt MUST be in motion before extending or retracting the conveyor.**
- Make sure the operator is the only person near the conveyor before moving it in any direction.
- Make sure there are no obstructions in the path of the conveyor.
- Moving the joystick to the RIGHT starts the traversing motor in the forward direction after the beeper is sounded for approximately 1.5 seconds, moving the unit toward the dock door. Releasing the joystick will return it to its centered position, stopping the motor. Moving the joystick LEFT starts the traversing motor in the opposite direction after the beeper is sounded. Pushing the joystick UP will raise the unit. Pushing the joystick DOWN will lower the conveyor. (Power Leveling Option Only.)

## Operating Instructions (cont.)

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### **MOVE CONVEYOR INTO POSITION (cont.):**

- For Auto Park function, pull joystick LEFT (retract) three times in one second. Unit will retract completely and level back to a home stored position. Unit will sound a warning while in motion. (be sure to keep other personnel and obstructions clear from path of conveyor.) To stop Auto Park function, move joystick momentarily in any position or depress the in or out push-button.
- Releasing the joystick will stop the conveyor's movement.
- The safety stop push bar on the front of the unit halts forward motion of the conveyor when depressed and the unit will automatically retract approximately 2 ft. (distance is a programmable feature)
- A feeder control switch provides dry contacts for a customer connection to control the feeder for the spur or any other function the customer requires. (if equipped)

### **TO STOP THE CONVEYOR BED:**

- When the bed is running , press the BED ON/OFF button.

### **PROGRAMMING PACKAGE STOP PHOTOEYES: (SHIPPING UNITS)**

- Switch located to the right of the PLC in the main enclosure at rear of unit should be in the down position for normal operation.
- To program, flip switch to up position. Cover photoeye for the desired shut off delay time required on the conveyor belt. There should be a continuous beep for the time the photoeye is covered during programming.
- Return switch to the down position for operation.
- To return to default settings, flip switch up and down three times in 2 sec. The default settings will be restored and the switch is in down position for operation.

### **INDEXING OPTION AND PHOTOEYE PROGRAMMING:**

- This conveyor can be equipped with an electronic package indexing option.
- The indexing option is switched on and off using the index override selector switch on the operator control panel. In the on position, the conveyor is in normal operating mode. When the switch is off, the conveyor will index packages a programmable distance after they pass through the indexing photoeye located on the transition. To clear the belt of indexed packages, switch override switch to on.
- Programming this distance follows the same procedure as the package stop photoeye except you will cover the indexing photoeye for the desired conveyor belt run time after a package is detected on the transition.

# Maintenance Schedule

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The BestReach Telescopic Boom Conveyor is designed to be virtually maintenance free. We do recommend that you regularly inspect the unit to ensure proper operation of mechanical and safety systems. The main access areas are through the two panels on either side of the rear of the conveyor. The belt tension is accessed through the panel on the left side of the unit towards the front. The belt drive pulley is reached by removing the top panel at the rear of the unit. To remove the drive pulley, loosen the belt tension and remove the idler pulleys in the drive assembly. After removing the bolts holding down the mount blocks, the pulley will lift straight out. All flanged support wheels can be accessed by removing the front panels on each stage. All belt pulleys can be reached from underneath the unit while extended or by entering the unit through a rear access panel.

## **DAILY**

- Keep the conveyor and conveyor paths clean of debris, dirt and grease accumulation.
- Inspect belt for wear and proper tracking.
- Make sure photoeyes are clean and unobstructed.
- Test all EMERGENCY STOP switches to verify proper operation.
- Check for leaks and proper operation of the power leveling system. (if equipped)
- Check Extension Stop Bar to be operational, stops conveyor forward movement, retracts unit upon activation.
- Check unit for dents or signs of overload or fatigue.
- Inspect all bearings, motors, and gearboxes for leaking seals or other early signs of failure. (Conveyor belt rollers and Chain Drive axle pillow blocks)

## **WEEKLY**

- Check conveyor belt and lacing for signs of wear or fraying from incorrect tracking.
- Check chain tension on the Unit Base drive.

## Maintenance Schedule (cont.)

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### WEEKLY (cont.)

- Check cable system to make sure all cables are equally tensioned so unit will extend and retract straight and properly, and inspect cable pulleys for unusual wear.
- Visually inspect the flexible cable carrier systems to ensure proper working order.
- Check booms for rubbing on tops or sides, which can be signs that the cables or rollers need adjusting.
- Check to make sure all guards and warning labels are in place.
- Check Hydraulic system and hoses for leaks, tighten if necessary. Refill reservoir if necessary. Reservoir capacity is 3 gallons.
- Listen to conveyor while extending and retracting for abnormal operations. Could be obstructed cam roller path, misaligned roller, damaged bearings, etc.

### QUARTERLY

- Electrical panel components checked for heat damage, burning or arcing.
- Check for dust and debris buildup in flexible cable carrier trays, motor cooling fins and under unit. Clean and vacuum as needed.
- Check electrical cables and flexible cable carriers for damage.
- Oil in the Motorized Head Pulley and Gearbox is to be monitored and changed per owner's manual specification.
- Check that belt pulleys and adjusters are tight and there are no signs of unusual wear.

# Sequence of Operations

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- 1) With interlocking door disconnect in the ON position and all Emergency Stop buttons out, the operator pushes either RESET button. The MASTER CONTACTOR is energized and the machine is ready to respond to the operator's inputs.
- 2) Moving the joystick to the RIGHT starts the traversing motor in the forward direction after the beeper is sounded for approximately 1.5 seconds, moving the unit toward the dock door. Releasing the joystick will return it to its centered position, stopping the motor. Moving the joystick LEFT starts the traversing motor in the opposite direction after the beeper is sounded.
- 3) The UP and DOWN positions of the joystick cause the power leveling to raise and lower the unit.
- 4) The conveyor bed is controlled by the OFF ON push-button. Pressing it once will start the bed after the beeper is sounded continuously for approximately 1 second. When the bed is running, pressing this push-buttons turns off the bed.
- 5) At any time either Emergency Stop switch may be pushed to de-energizing the MASTER contactor. This will remove power from all motors and actuators. To restart the machine, the Emergency Stop that was activated must be reset and either RESET push-button momentarily depressed. Any motor that was running prior to the Emergency Stop will have to be restarted through the Operator's Control Panel.
- 6) A feeder control switch provides dry contacts for a customer connection to control the feeder for the spur or any other function the customer requires.
- 7) Optional Electronic Indexing: Operator control box will contain a index override switch which will turn on the index option or bypass the indexing photoeyes to turn off the option.
- 8) The safety stop push bar on the front of the unit halts forward motion of the conveyor when depressed and the unit will automatically retract approximately 2 feet (the distance is a programmable feature)
- 9) To automatically retract unit to home position, move joystick in retract mode three times in one second. The conveyor will retract automatically unless interrupted by another input signal.

## **Mechanical Parts**

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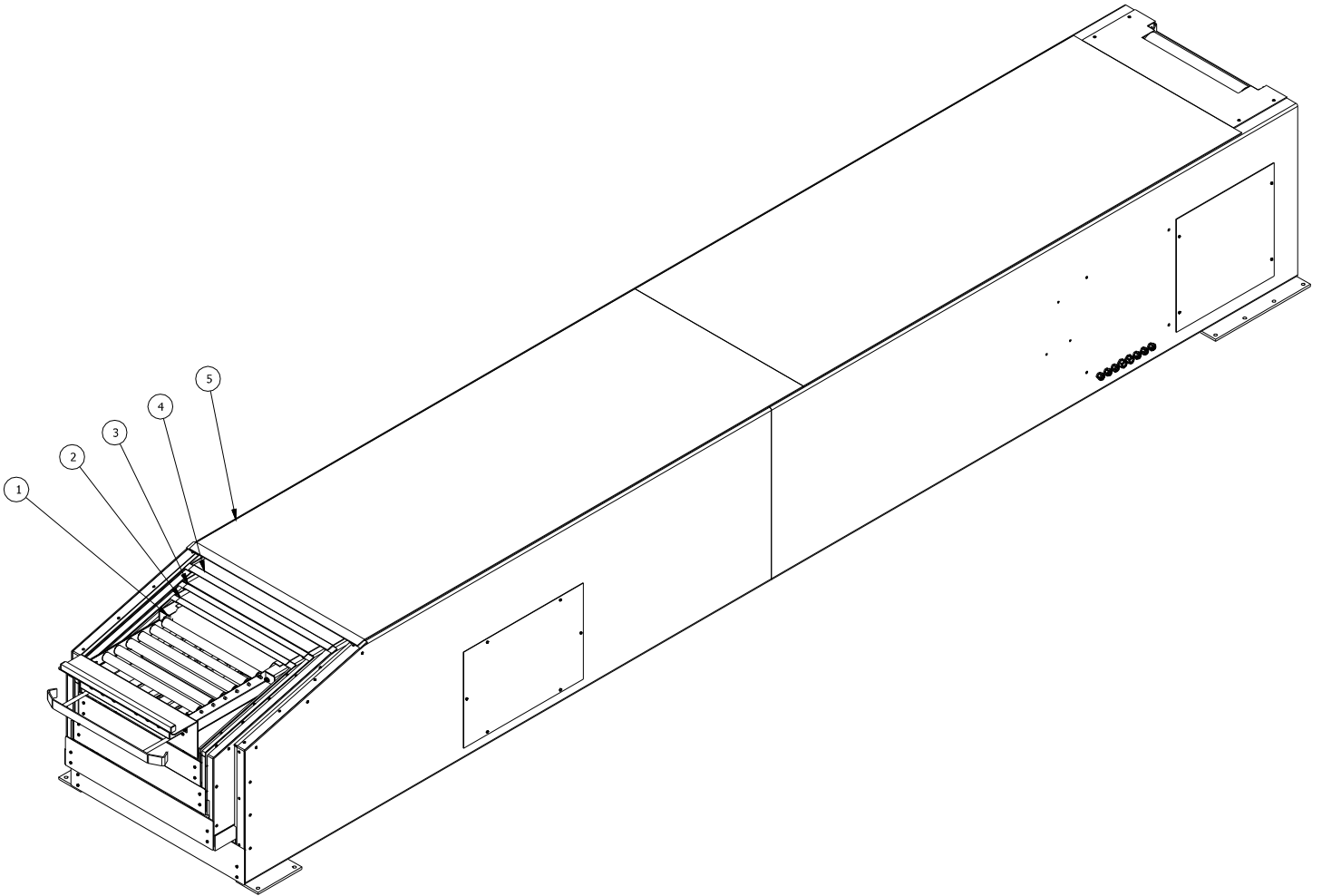
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# **Mechanical Parts Diagrams**

# Telescopic Boom, 4-Stage Conveyor

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ITEM	QTY	NAME	DESCRIPTION
1	1	800278	Main Case Mechanical Assembly
2	1	800104	Boom 1 Mechanical Assembly
3	1	800103	Boom 2 Mechanical Assembly
4	1	800102	Boom 3 Mechanical Assembly
5	1	800101	Boom 4 Mechanical Assembly

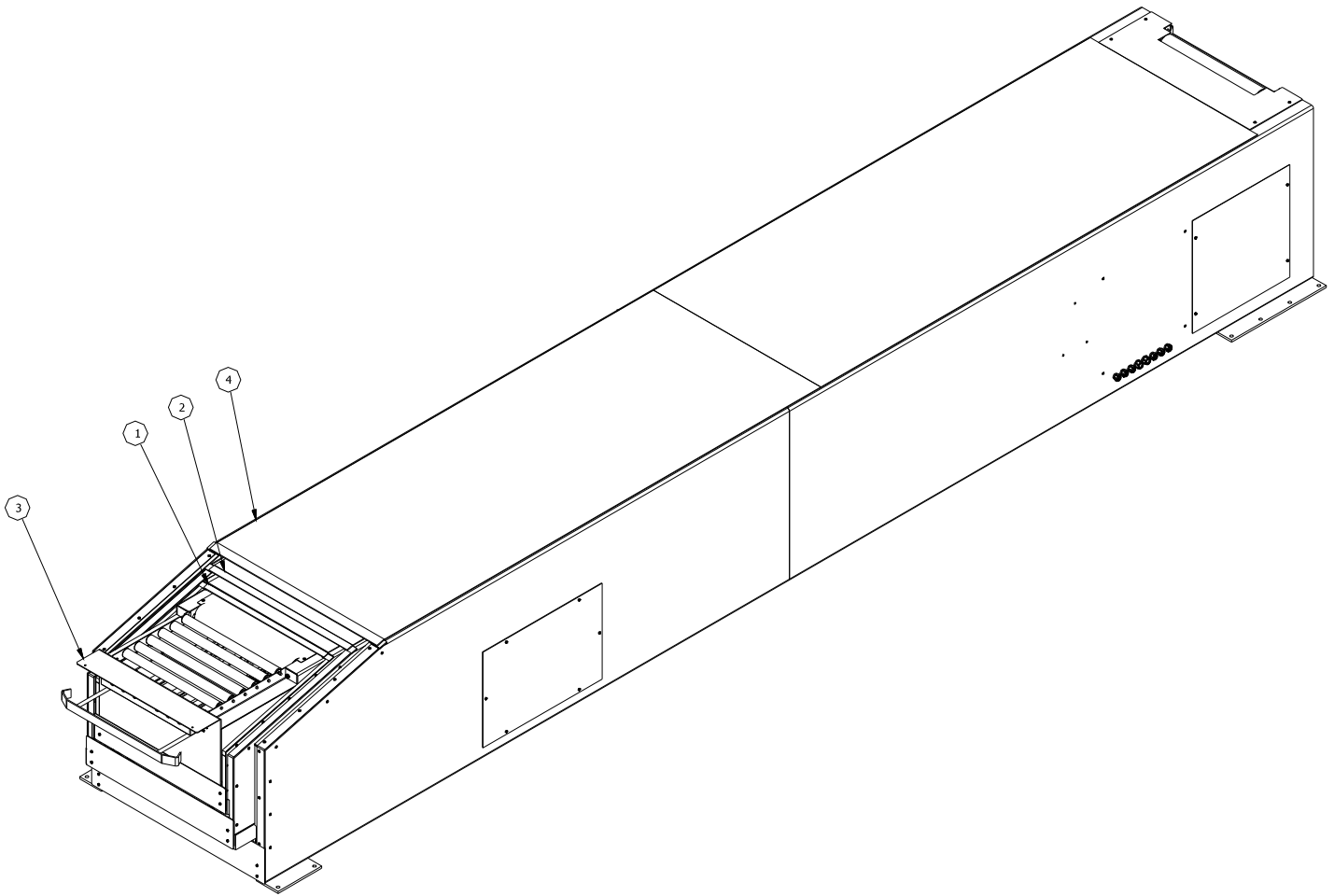
**Drawing BRTB42588**



# Telescopic Boom, 3-Stage Conveyor

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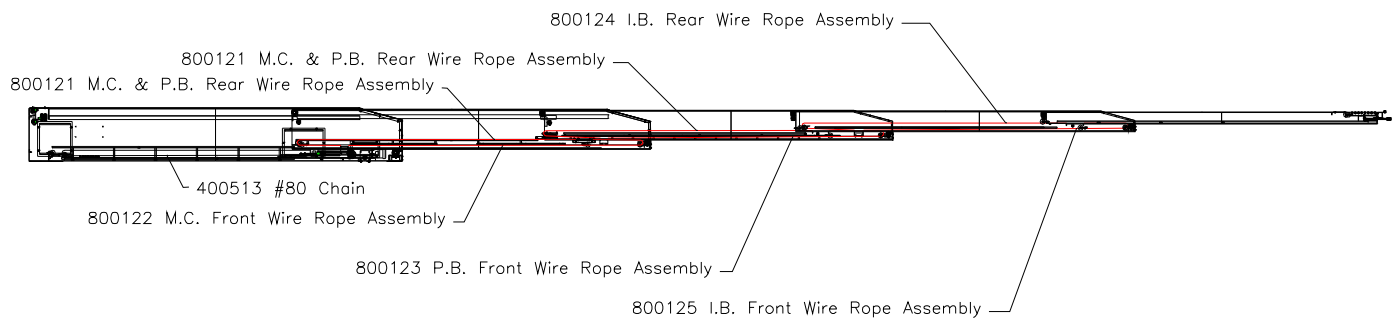
ITEM	QTY	NAME	DESCRIPTION
1	1	800278	Main Case Mechanical Assembly
2	1	800104	Boom 1 Mechanical Assembly
3	1	800103	Boom 2, Mechanical Assembly
4	1	800106	Boom 3, Mech Assembly

**Drawing BRTB32572**

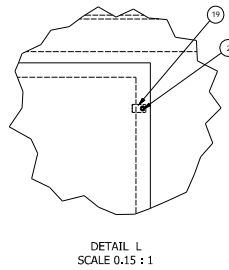
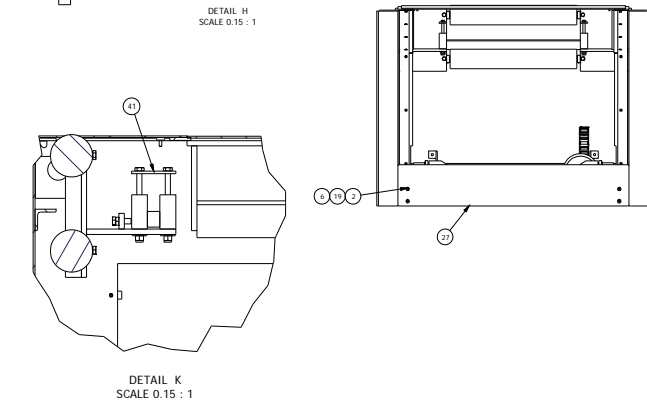
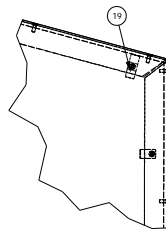
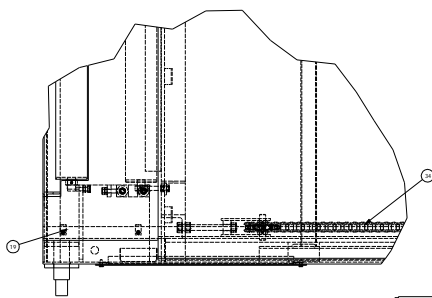
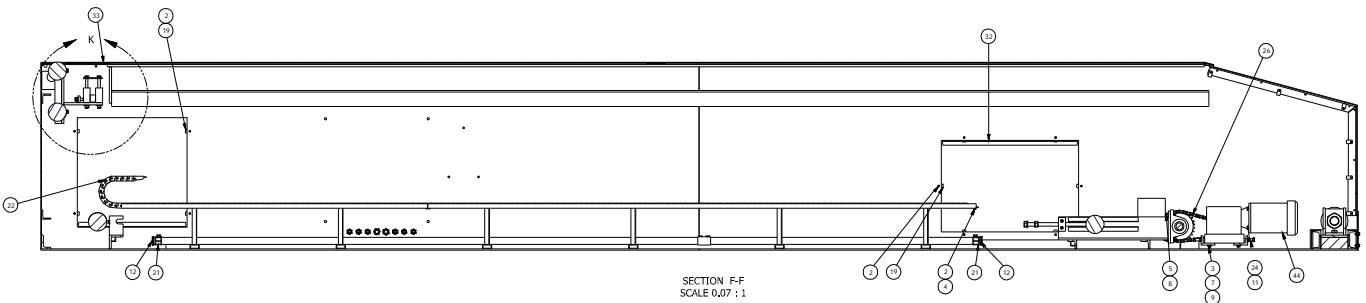
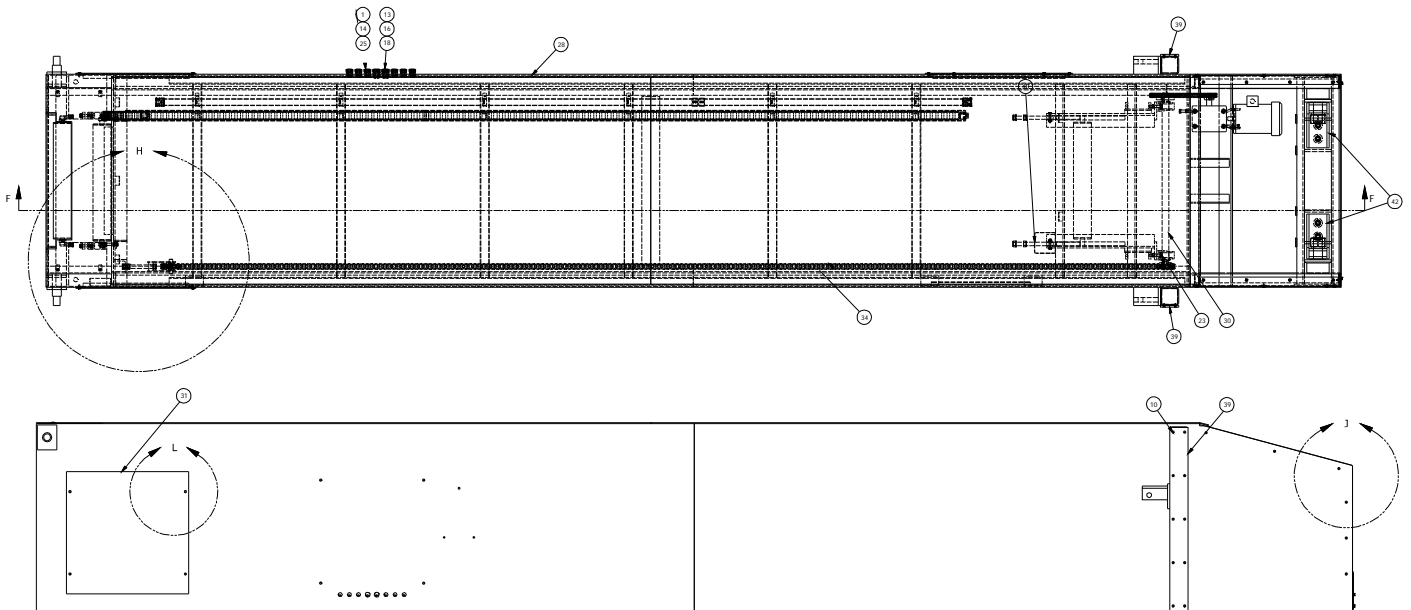
# Boom Cable Chain Path

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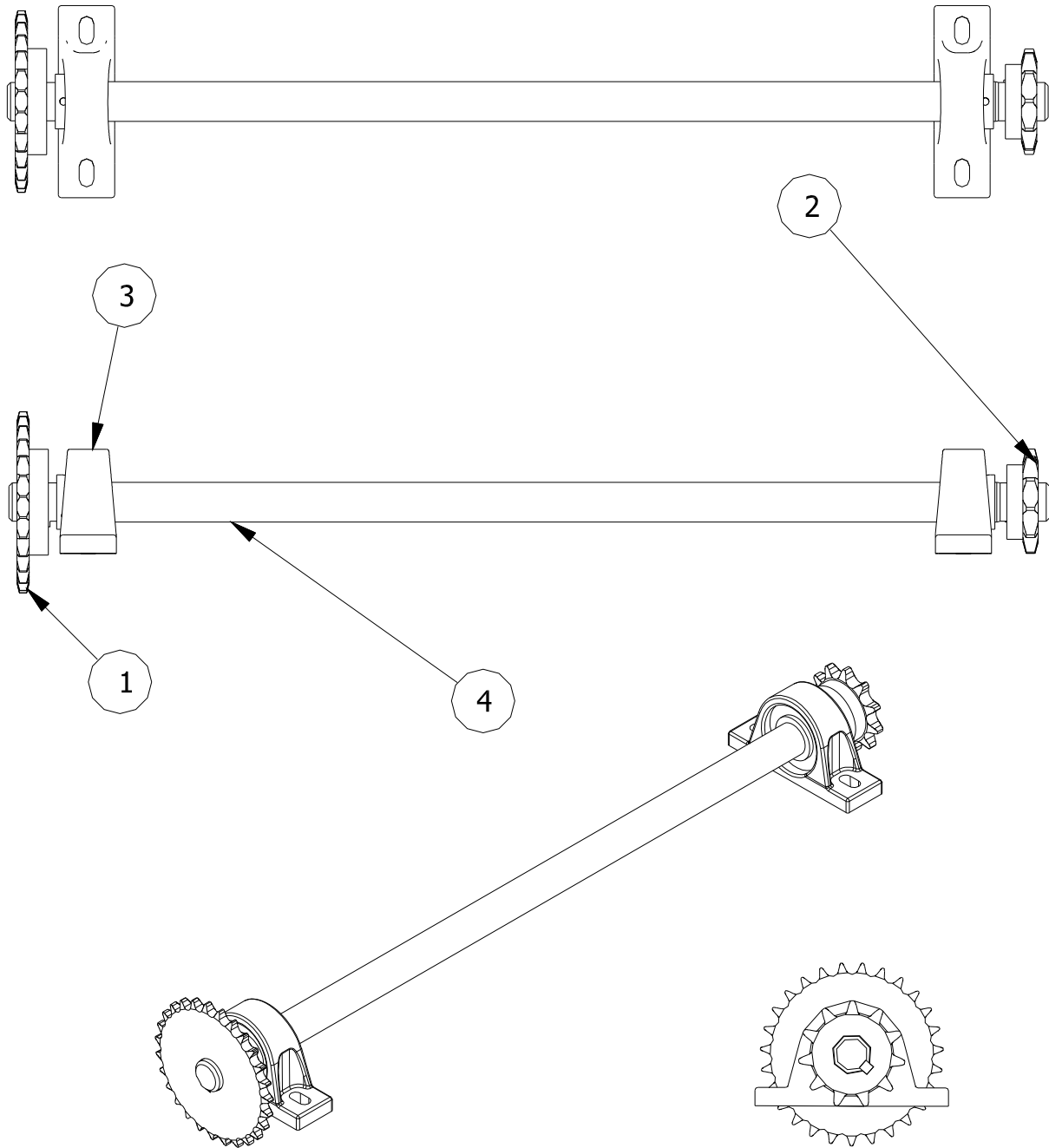
# Drive Unit Subassembly



ITEM	QTY	NAME	DESCRIPTION
1	1	400420	Base Weldment
2	1	400510	Drive Pulley Guard Weldment
3	2	400498	Base, Rear Access Panel
4	1	400505	Left Front Access Panel
5	1	400470	Sprocket, Take Up Assembly
6	2	800113	Base, Cam Roller Subassembly
7	1	800114	Belt Pulley Subassembly
8	34	300371	Clip Nut, 1/4-20
9	4	12030	Washer, Flat, 1/2
10	4	11142	Nut, Nylock, 1/2-13
11	20	10010	Bolt, Hex, 1/4-20 x 3/4
12	2	300111	Bushing, 1-1/4" Plastic
13	1	400361	Base Front Guard Plate
14	2	400718	Base Front Lower Filler
15	2	400719	Base Front Upper Filler
16	2	300429	Conduit Connector, 1.25", Set Screw
17	1	800111	Belt Take Up Assembly
18	1	300585	Cable Carrier, Base
19	1	800115	Gear Motor Assembly
20	2	11110	Nut, Nylock, 1/4-20
21	1	400497	Chain Drive, Shaft Assembly
22	46	100058	Bolt, CSK Allen, 1/4-20 x 3/4
23	1	400513	Chain, Base Drive #80
24	1	400094	Chain, #60 Roller
25	4	300830	Bolt, Hex, 1/2-13 x 2-1/2
26	1	400717	Base Right Front Guard
27	1	400716	Base Left Front Guard
28	1	800112	Drive Unit Subassembly
29	2	400741	Guide Post UHMW
30	4	300394	Bolt, CSK Allen, 1/4-20 x 1
31	4	12020	Washer, Flat, 3/8
32	4	12130	Washer, Lock, 3/8
33	4	10042	Bolt, Hex, 3/8-16 x 1
34	2	300069	Nut, Jam, 1/2-13
35	2	302201	Bolt, Hex, ALTD, 1/2-13 x 2-1/2"
36	4	12000	Washer, Flat, 1/4

Drawing 800105

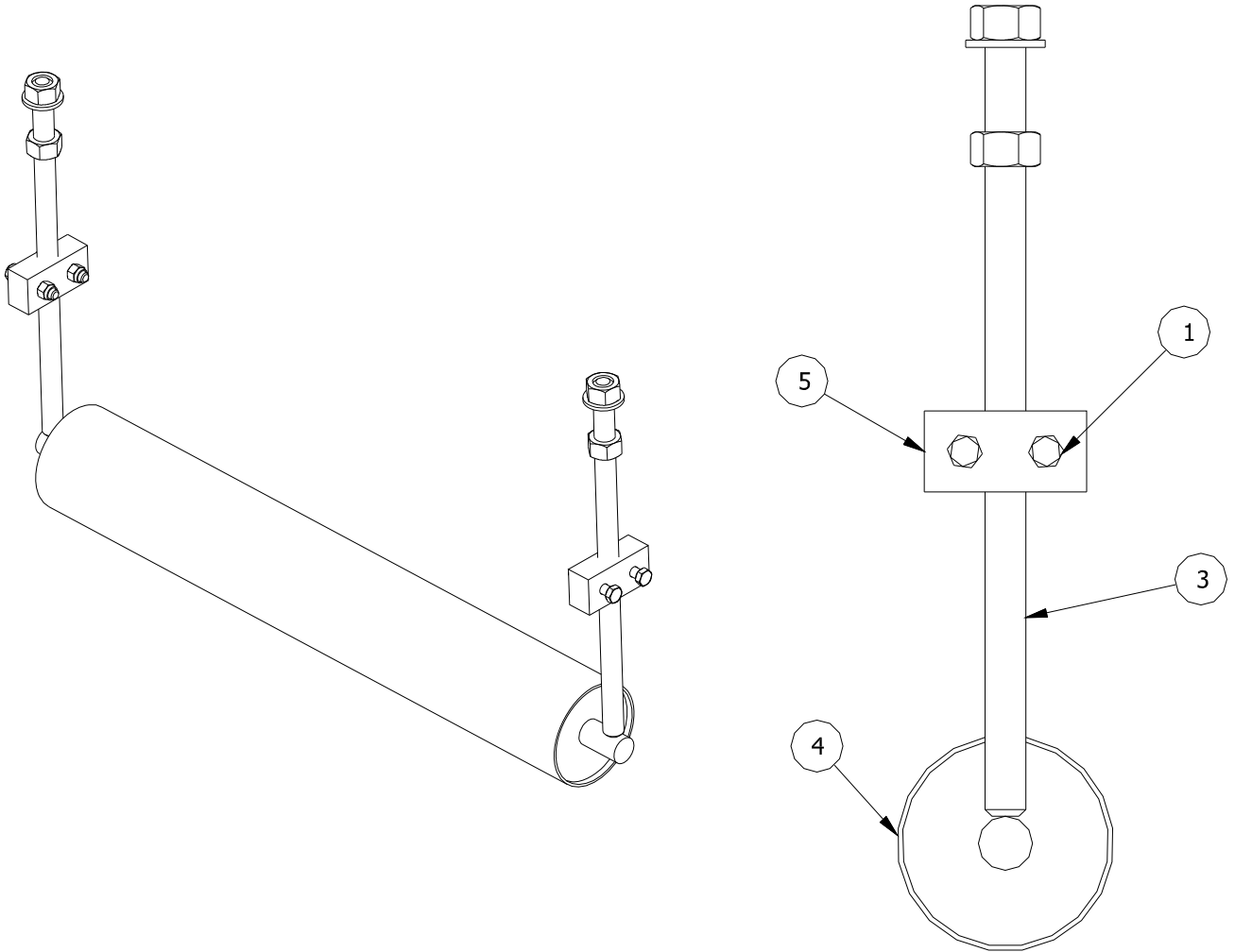
# Chain Drive Shaft Assembly



ITEM	QTY	NAME	DESCRIPTION
1	1	400229	Sprocket, #60 27T 1-1/2" Bore
2	1	400260	Sprocket, #80 11T 1-1/2" Bore
3	2	400369	Bearing, Pillow Block, 1-1/2
4	1	400482	Shaft, 1-1/2" Chain Drive
5	2	400484	Key, 3/8 x 3/8 x 3/4

**Drawing 400497**

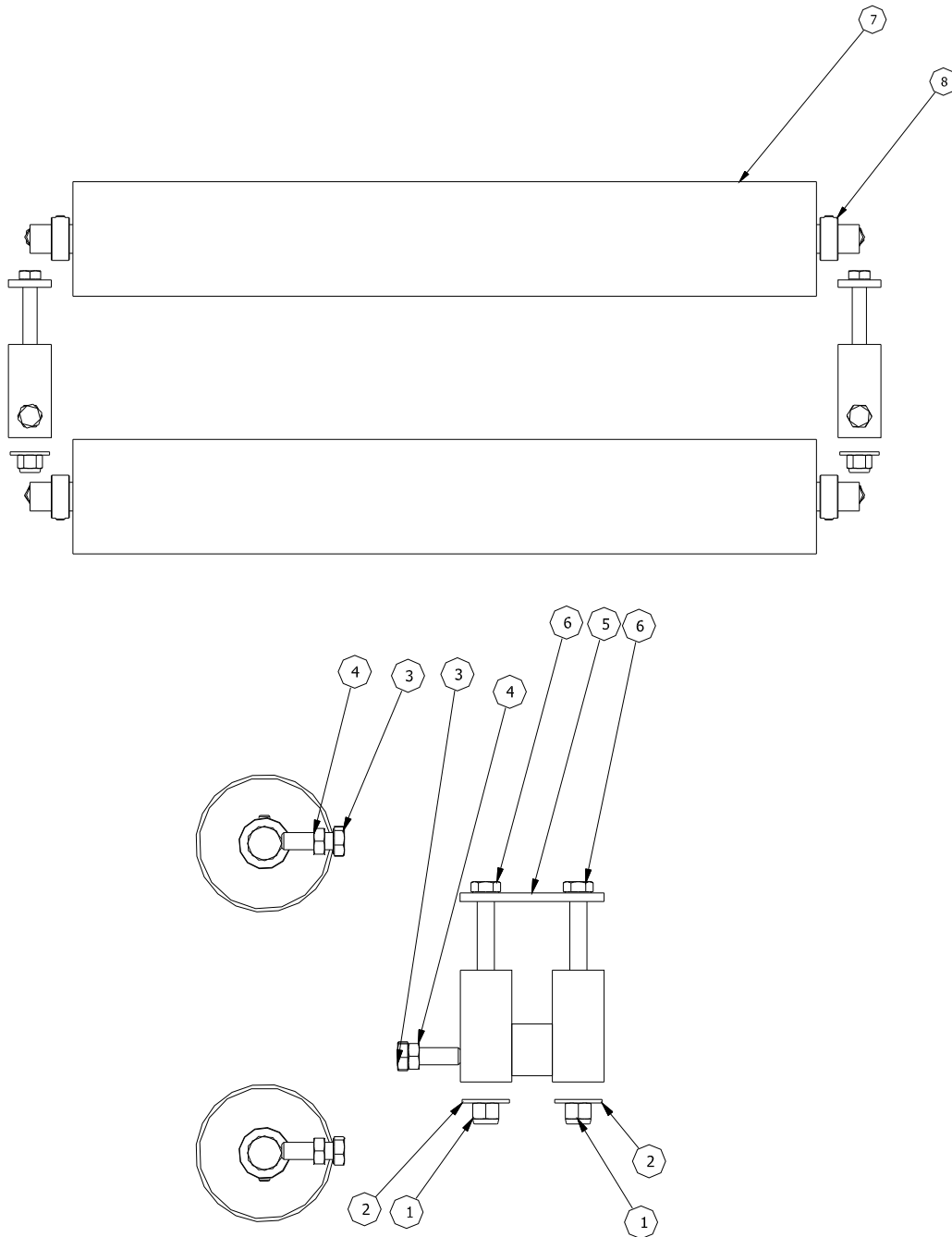
# Belt Take Up Assembly



ITEM	QTY	NAME	DESCRIPTION
1	4	10052	Bolt, Hex, 3/8-16 x 2
2	4	11140	Nut, Nylock, 3/8-16
3	2	300344	Rigid Belt, Tail Pulley, Take Up Bolt Assembly
4	1	400224	Roller, 4" Crown, 1-7/16" Shaft
5	2	400355	Tension Block

**Drawing 800111**

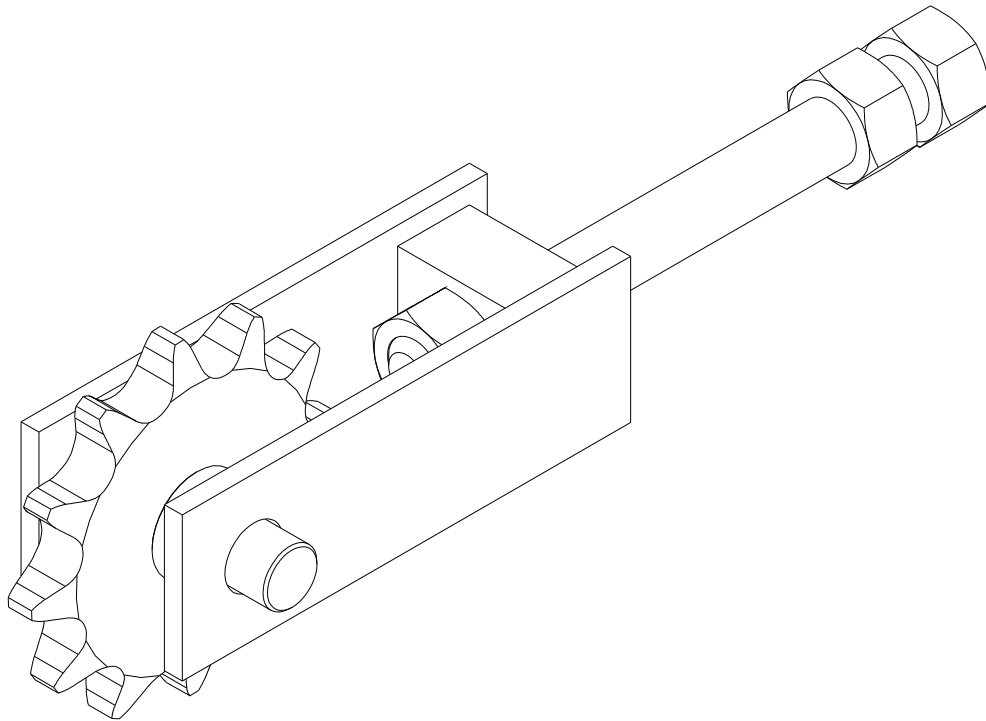
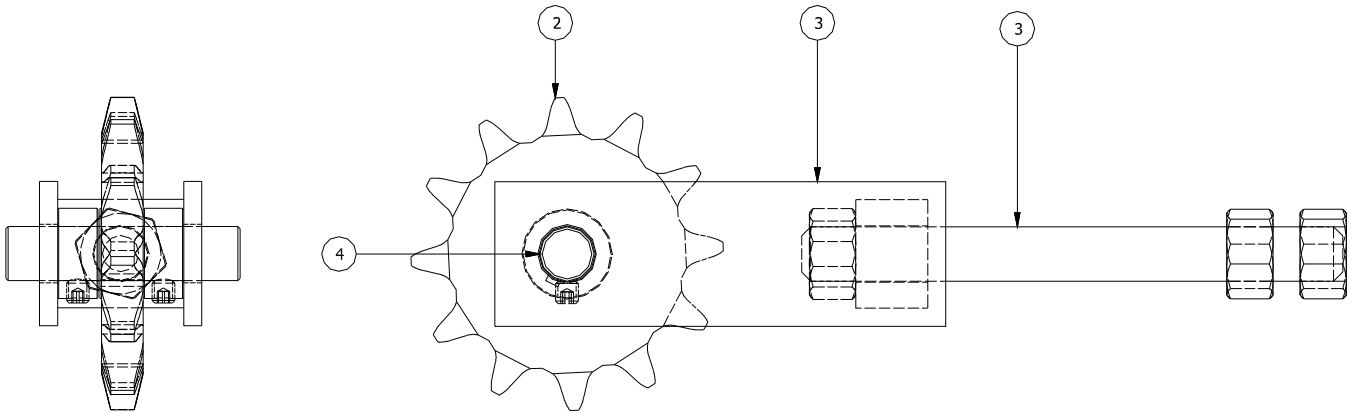
# Drive Unit Subassembly



ITEM	QTY	NAME	DESCRIPTION
1	4	11142	Nut, Nylock, 1/2-13
2	4	12030	Washer, Flat, 1/2
3	6	300007	Bolt, Hex, 1/2-13 x 1-1/2
4	6	300069	Nut, 1/3-13 Jam
5	2	300333	Rigid Belt, Head Pulley Mount Block
6	4	300398	Bolt, Hex 1/2-13 x 5
7	2	400224	Roller, 4" Crown, 1-7/16" Shaft
8	4	400225	1" Set Collar

**Drawing 800112**

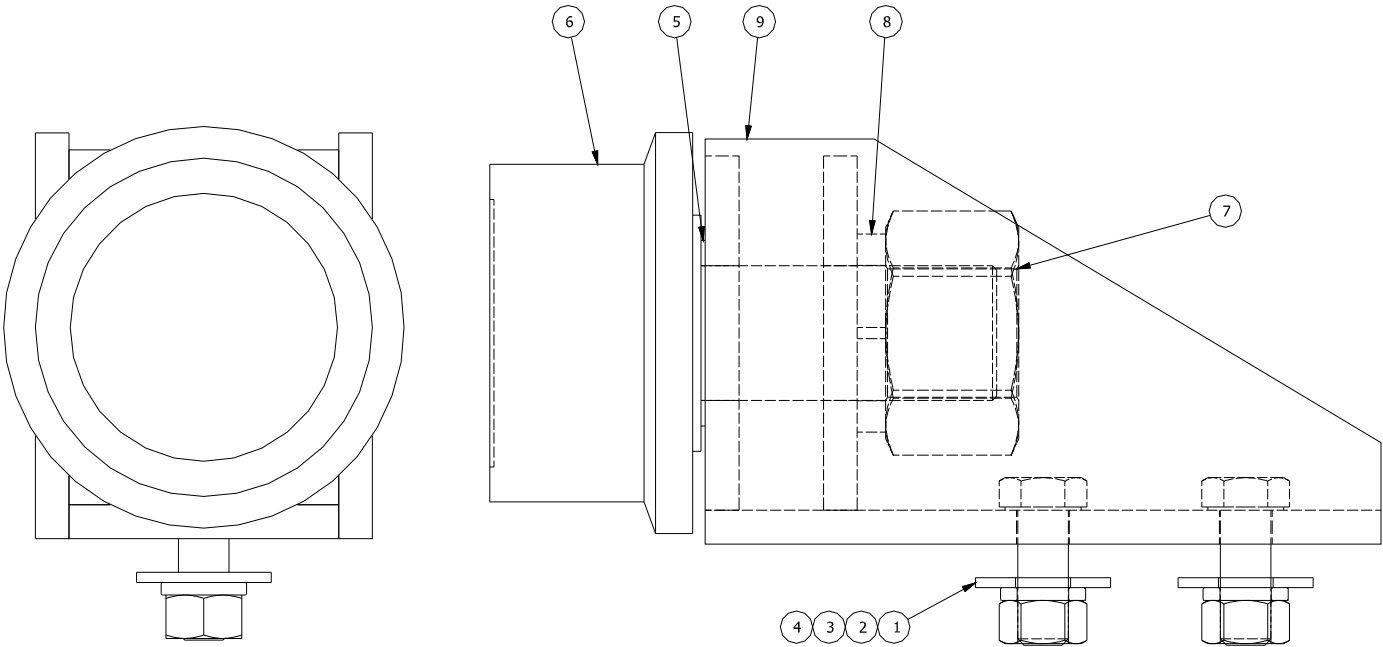
# Sprocket Take Up Assembly



ITEM	QTY	NAME	DESCRIPTION
6	2	11390	Nut, Hex, 3/4-10
2	1	400261	Sprocket, Idler, #80 12T 3/4 Bore
3	1	400460	Base, Sprocket Take Up Weldment
4	1	400469	Dowel Pin, 0.750" x 3-1/4"

**Drawing 400470**

# Base Cam Roller Subassembly

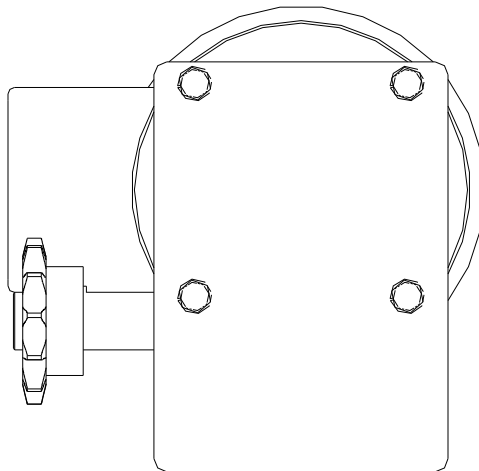
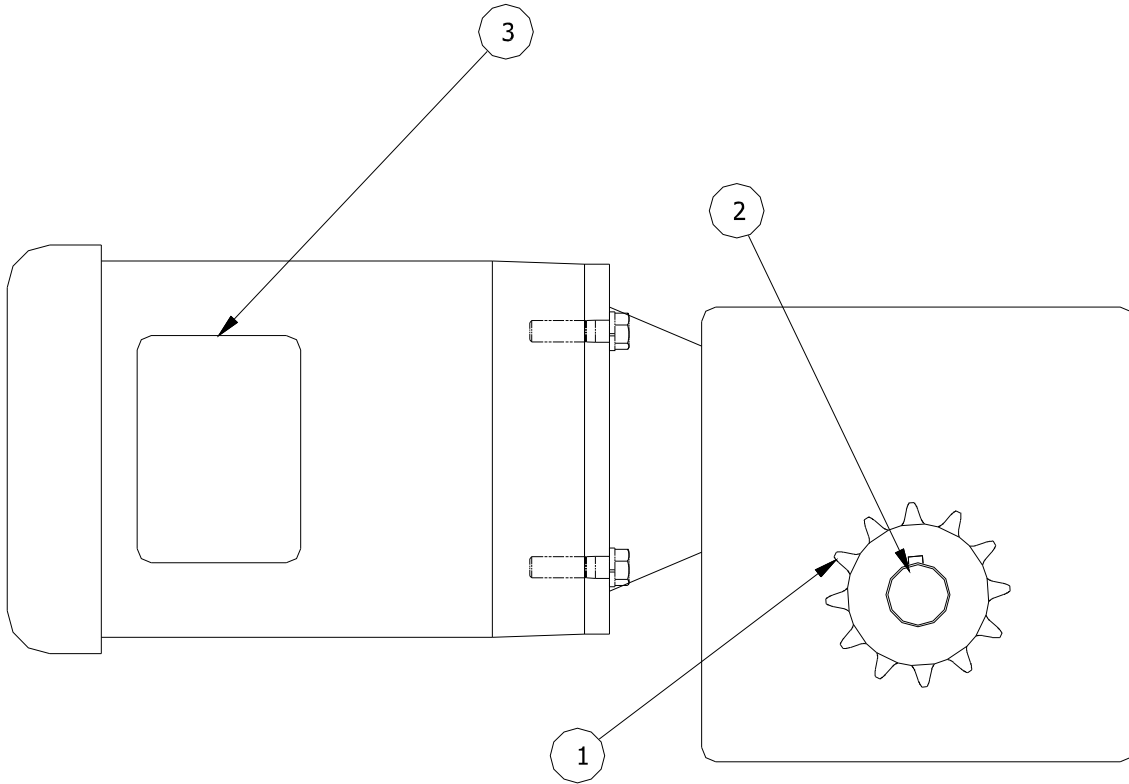


ITEM	QTY	NAME	DESCRIPTION
1	2	300434	Washer, Flat, Grade 8, 3/4
2	2	300443	Washer, Lock, Grade 8, 3/4
3	2	300444	Bolt, Hex, Grade 8, 3/4-16 x 2
4	2	300445	Nut, Hex, Grade 8, 3/4-16
5	1	300589	Washer, Shim, 2 x 2-3/4 x .0625
6	1	400367	5" Stud Mount Flanged Camroller
7	1	400413	Hex Nut, 2"-12
8	1	400414	Lockwasher, 2"
9	1	400449	Base, Cam Mount Weldment

**Drawing 800113**



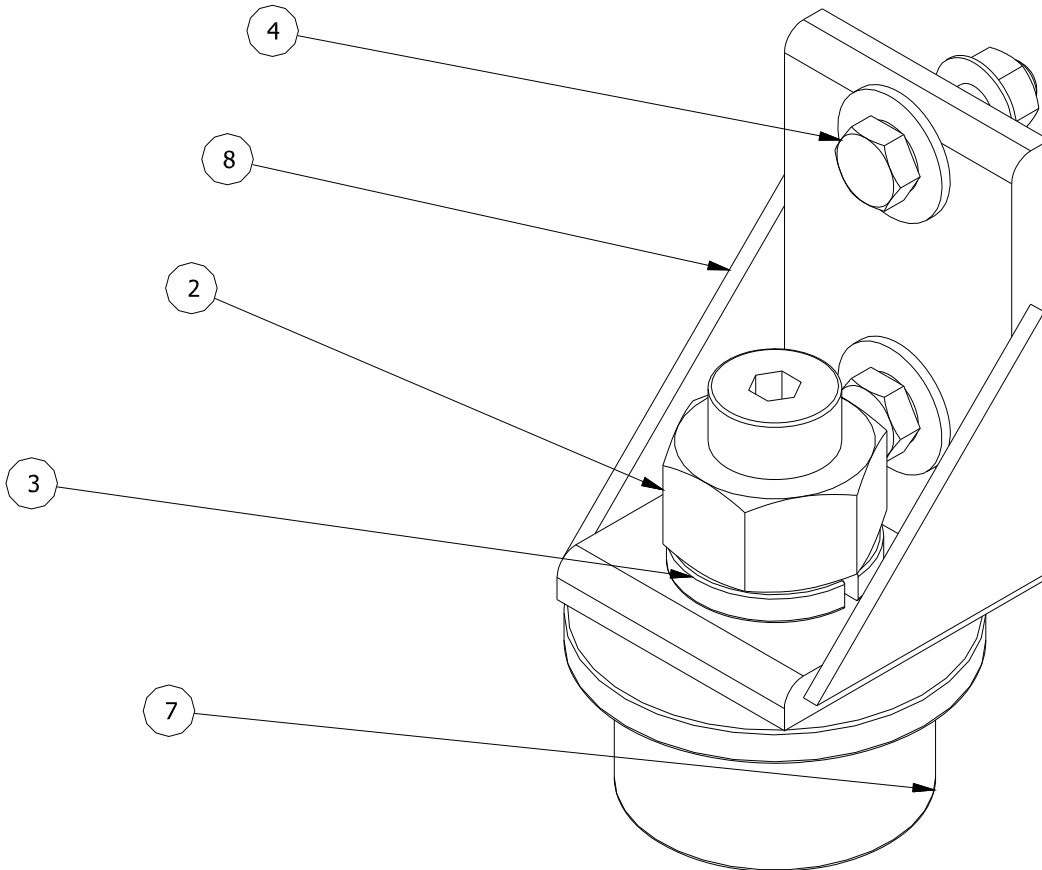
# Base Motor/Gearbox Subassembly



ITEM	QTY	NAME	DESCRIPTION
1	1	400259	Sprocket, #60 12T 1-1/8" Bore
2	1	300468	Key, 1/4 x 1/4 x 1.25
3	1	300268	Motor 1-1/2HP, Gearbox 50:1 Assembly

**Drawing 800115**

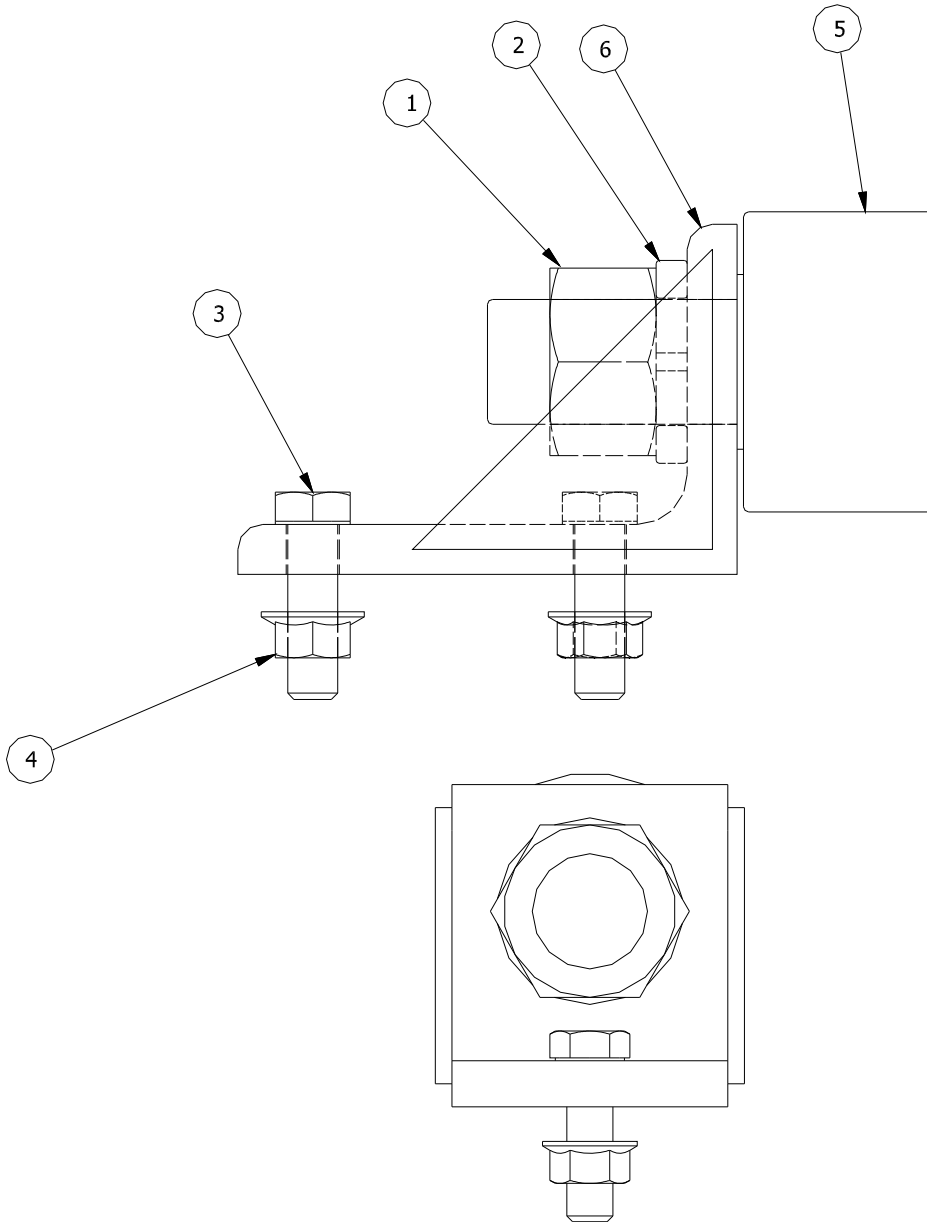
# 3" Flange Cam Mount Subassembly



ITEM	QTY	NAME	DESCRIPTION
1	2	12030	Washer, Flat, 1/2
2	1	100054	Nut, Hex, 1-1/4-12
3	1	100057	Washer, Lock, 1-1/4
4	2	300048	Bolt, Hex, 1/2-13 x 1-3/4
5	2	300556	Nut, Whiz, 1/2-13
6	1	300639	Shim, 1-1/4" x 1-3/4" x .0625
7	1	400222	3" Stud Mount Flanged Camroller
8	1	400416	3" Cam Mount Weldment

**Drawing 800117**

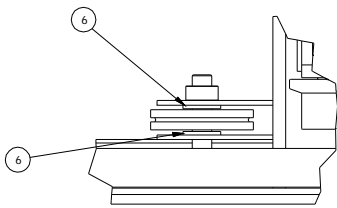
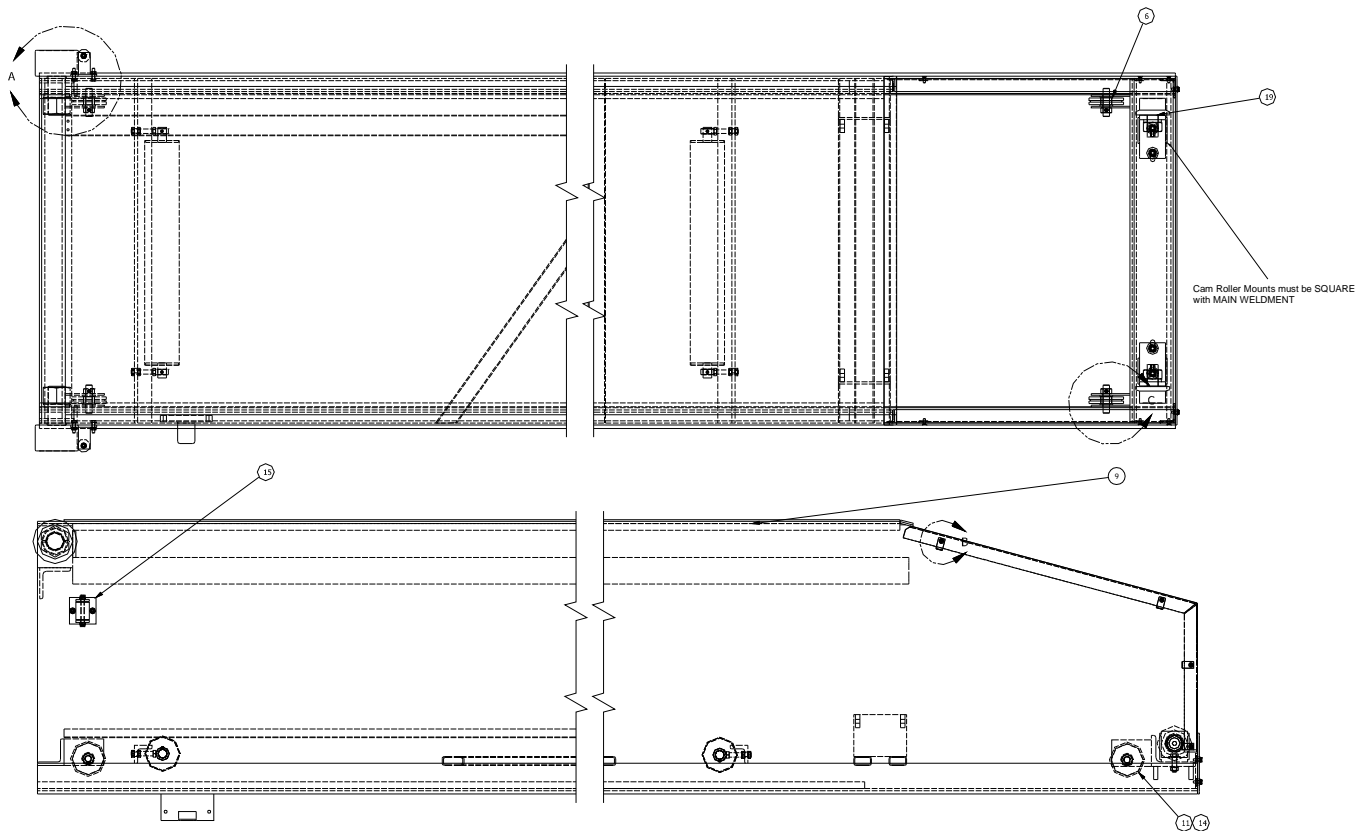
# 3" Flat Cam Mount Subassembly



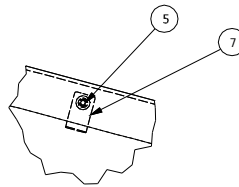
ITEM	QTY	NAME	DESCRIPTION
1	1	100054	Nut, Hex, 1-1/4-12
2	1	100057	Washer, Lock, 1-1/4
3	2	300048	Bolt, Hex, 1/2-13 x 1-3/4
4	2	300556	Nut, Whiz, 1/2-13
5	1	400221	3" Stud Mount Flat Camroller
6	1	400416	3" Cam Mount Weldment

**Drawing 800116**

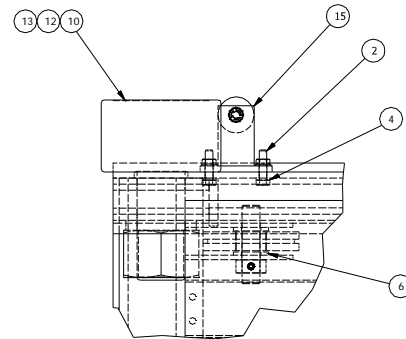
# Main Case Mechanical Assembly



DETAIL C  
SCALE 1 / 4

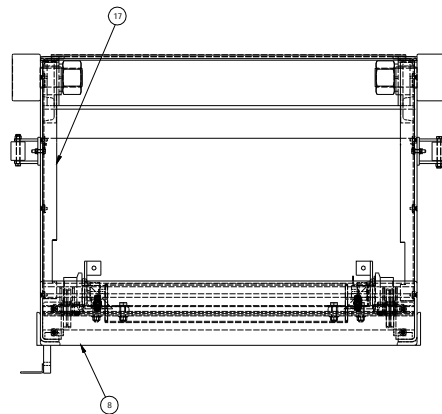


DETAIL B  
SCALE 1 / 4



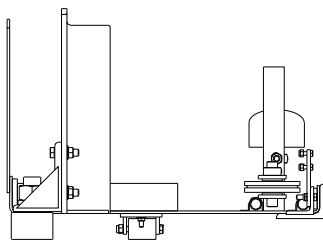
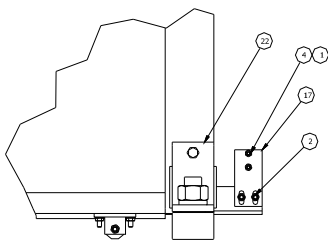
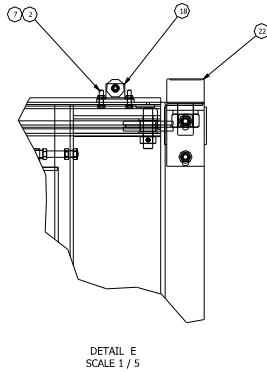
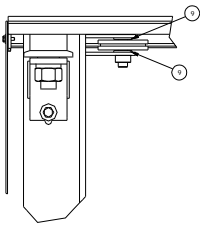
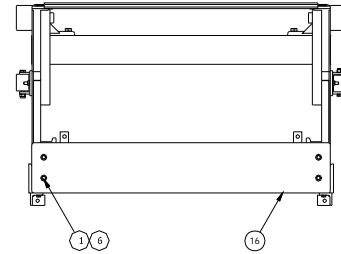
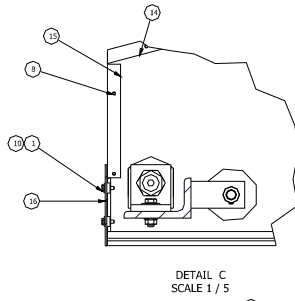
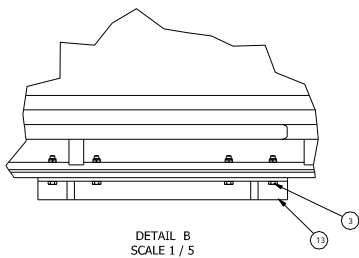
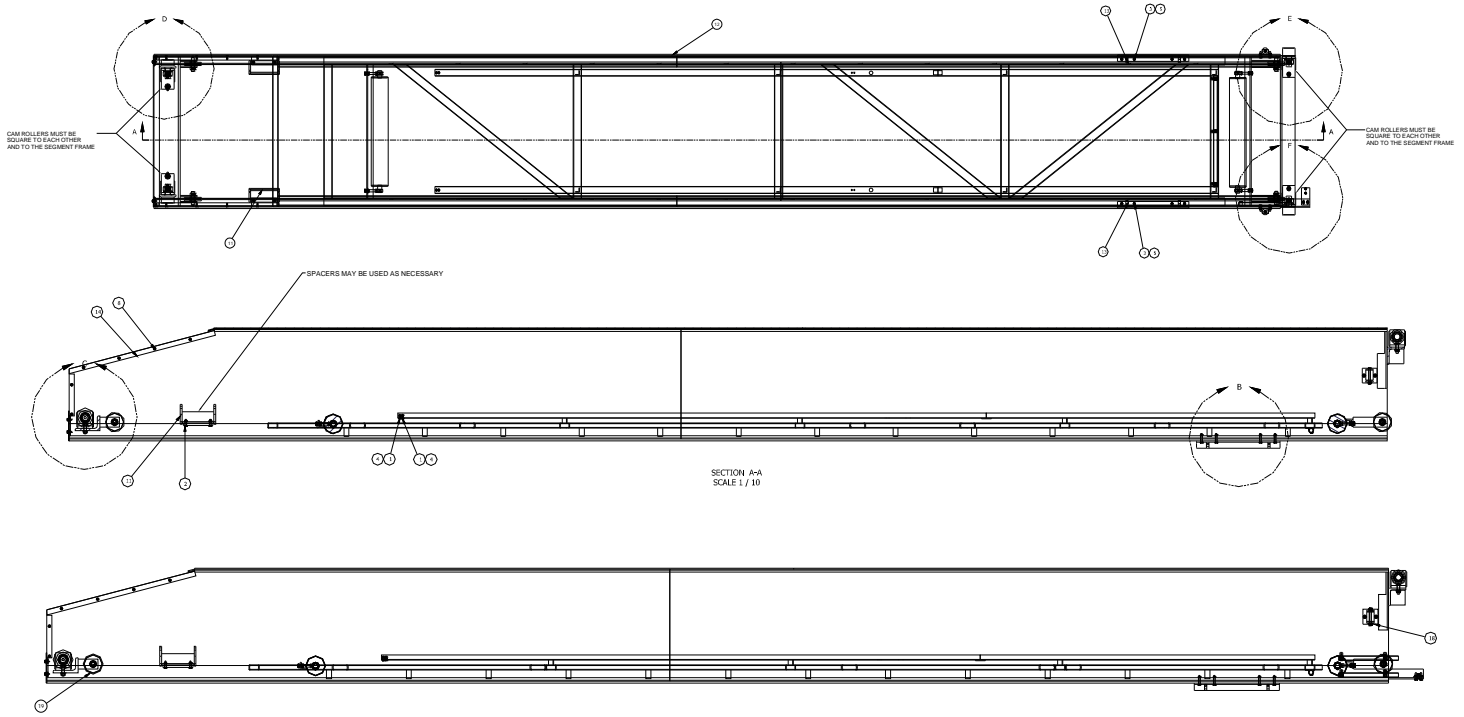
DETAIL A  
SCALE 1 / 4

ITEM	QTY	NAME	DESCRIPTION
1	4	10010	Bolt, Hex, 1/4-20 x 3/4
2	4	10023	Bolt, Hex, 5/16-18 x 1-1/4
3	4	12000	Washer, Flat, 1/4
4	4	12125	Washer, Lock, 5/16
5	8	100058	Bolt, CSK Allen, 1/4-20 x 3/4
6	8	300324	Washer, Flat, SAE, 3/4
7	12	300371	Clip Nut, 1/4-20
8	1	400319	Main Case Front Guard Plate
9	1	400320	Main Case Weldment
10	2	400366	5" Stud Mount Flat Cam Roller
11	4	400408	Sheave, 4" OD For BRTB Wire Rope
12	2	400413	Hex Nut, 2"-12
13	2	400414	Lockwasher, 2"
14	4	400469	Dowel Pin, 0.750" x 3-1/4"
15	2	400490	Main, Guide Roller Assembly
16	1	400714	Main Case Left Front Guard
17	1	400715	Main Case Right Front Guard
18	2	800114	Belt Pulley Assembly
19	2	800117	3" Flanged Cam Mount Subweldment



Drawing 800104

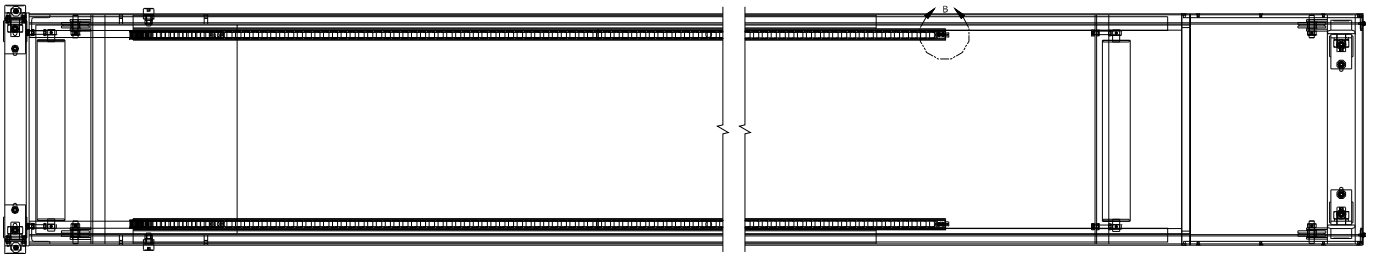
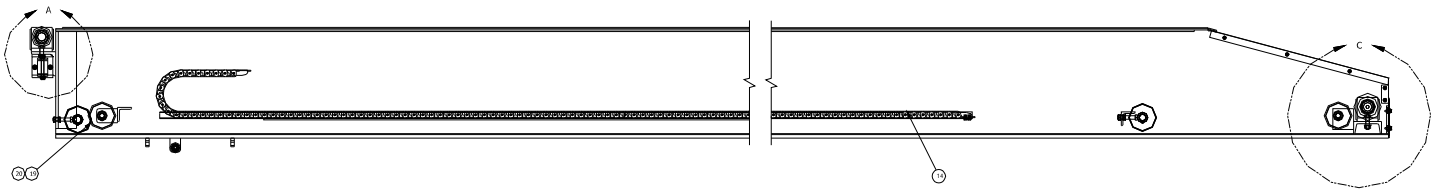
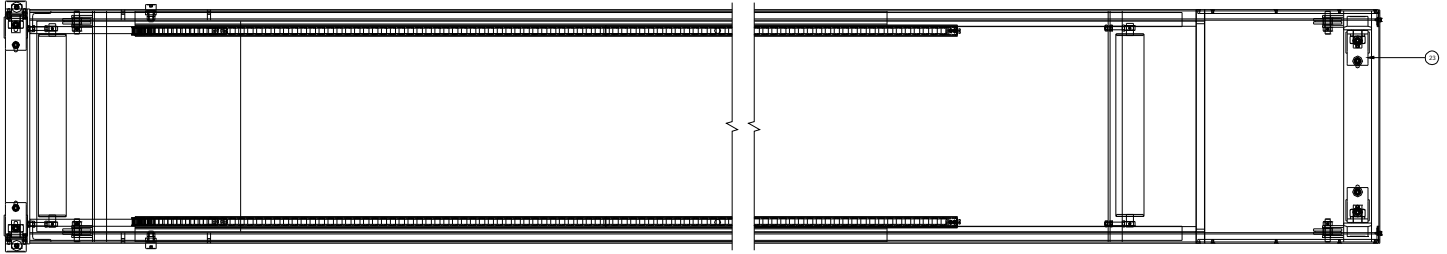
# Power Boom Mechanical Assembly



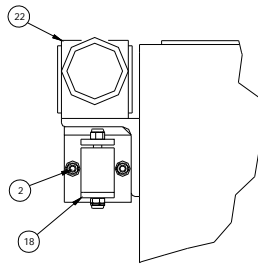
ITEM	QTY	NAME	DESCRIPTION
1	10	10010	Bolt, Hex, 1/4-20 x 3/4
2	10	10023	Bolt, Hex, 5/16-18 x 1-1/4
3	8	10028	Bolt, Hex, 5/16-18 x 1-3/4
4	6	11110	Nut, Nylock, 1/4-20
5	14	11122	Nut, Nylock Jam, 5/16-18
6	4	12000	Washer, Flat, 1/4
7	4	12125	Washer, Lock, 5/16
8	12	100058	Bolt, CSK Allen, 1/4-20 x 3/4
9	8	300324	Washer, Flat, SAE, 3/4
10	4	300371	Clip Nut, 1/4-20
11	2	400240	Power Boom Wire Rope Mount Weldment
12	1	400243	Power Boom Weldment
13	2	400266	Power Boom Anchor Bracket Wire Rope
14	2	400315	Power Boom Front Upper Filler
15	2	400316	Power Boom Front Lower Filler
16	1	400318	Power Boom Front Guard Plate
17	1	400373	Power Boom Wide Cable Carrier Bracket
18	2	400403	Guide Roller Assembly
19	4	400408	Sheave, 4" OD For BRTB Wire Rope
20	4	400469	Dowel Pin, 0.750" x 3-1/4"
21	2	800114	Belt Pulley Assembly
22	2	800116	3" Flat Cam Mount Subassembly
23	2	800117	3" Flanged Cam Mount Subweldment

Drawing 800103

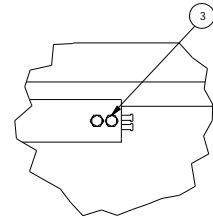
# Intermediate Boom Mechanical Assembly



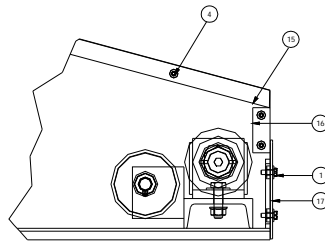
ITEM	QTY	NAME	DESCRIPTION
1	4	10010	Bolt, Hex, 1/4-20 x 3/4
2	4	10023	Bolt, Hex, 5/16-18 x 1-1/4
3	4	10534	Bolt, Hex, 1/4-20 x 1/2
4	10	10744	Bolt, CSK Allen, 1/4-20 x 1/2
5	4	11110	Nut, Nylock, 1/4-20
6	2	11355	Nut, Hex, 5/8-18
7	4	12000	Washer, Flat, 1/4
8	4	12125	Washer, Lock, 5/16
9	2	300022	Washer, Lock, 5/8
10	8	300324	Washer, Flat SAE, 3/4
11	4	300371	Clip Nut, 1/4-20
12	2	300586	Cable Carrier, Power Boom
13	2	400223	1-1/2" Stud Mount Flat Camroller
14	1	400280	Intermediate Boom Weldment
15	2	400313	Intermediate Boom Upper Front Filler
16	2	400314	Intermediate Boom Lower Front Filler
17	1	400317	Intermediate Boom Front Guard Plate
18	2	400403	Guide Roller Assembly
19	4	400408	Sheave, 4" OD For BRTB Wire Rope
20	4	400469	Dowel Pin, 0.750" x 3-1/4"
21	2	800114	Belt Pulley Assembly
22	2	800116	3" Flat Cam Mount Subassembly
23	2	800117	3" Flanged Cam Mount Subweldment



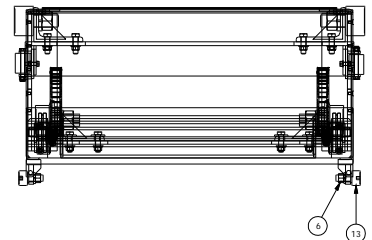
DETAIL A  
SCALE 1 / 4



DETAIL B  
SCALE 1 / 4

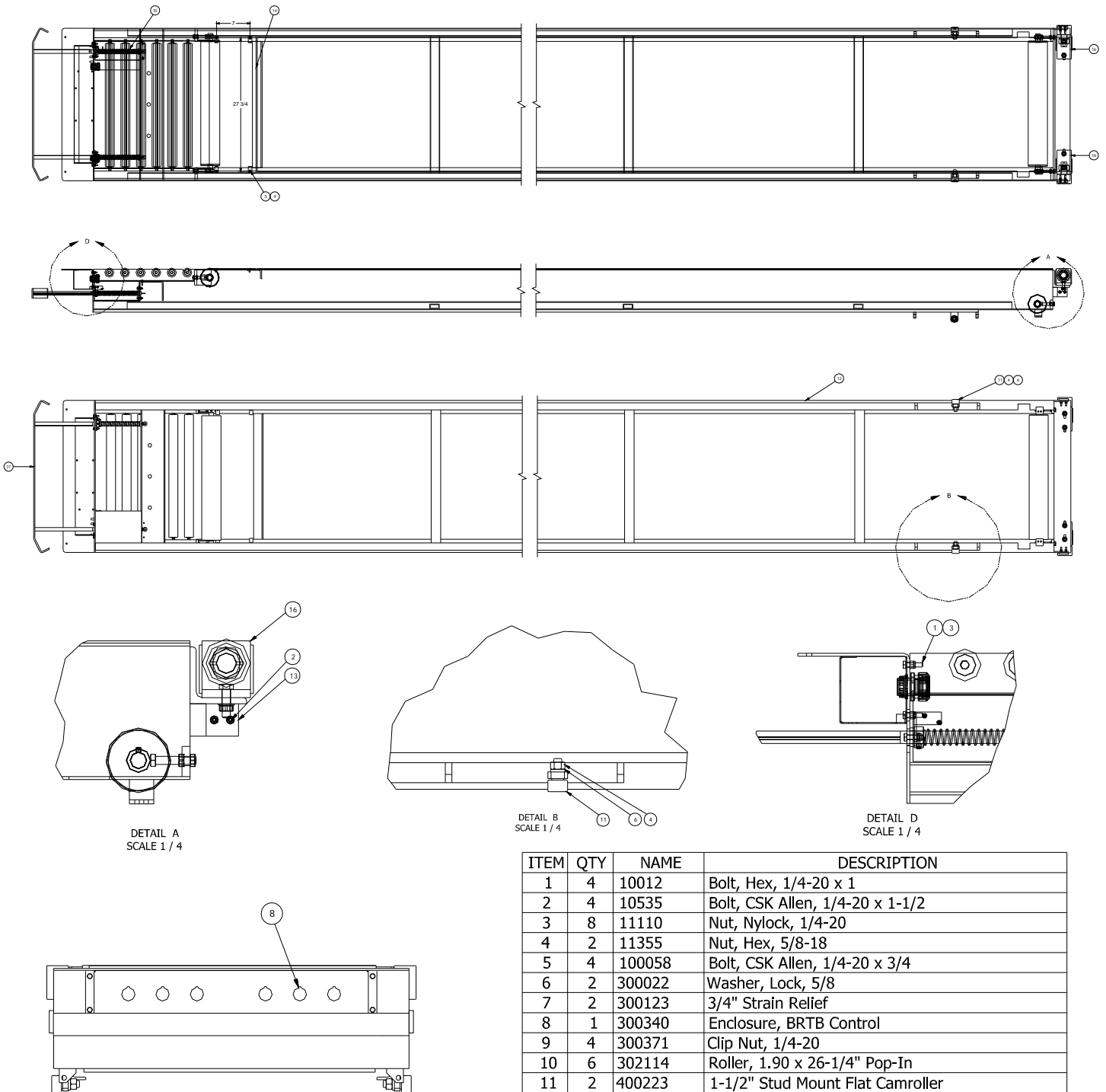


DETAIL C  
SCALE 1 / 4



Drawing 800102

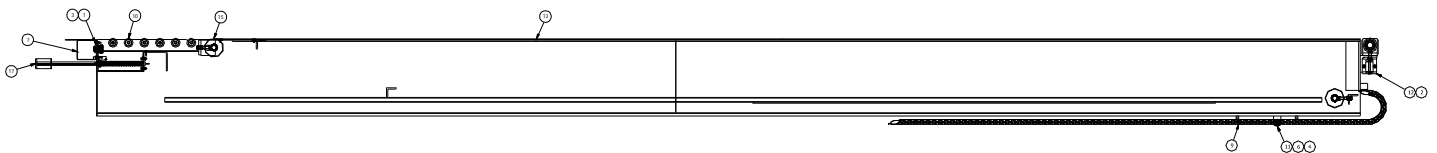
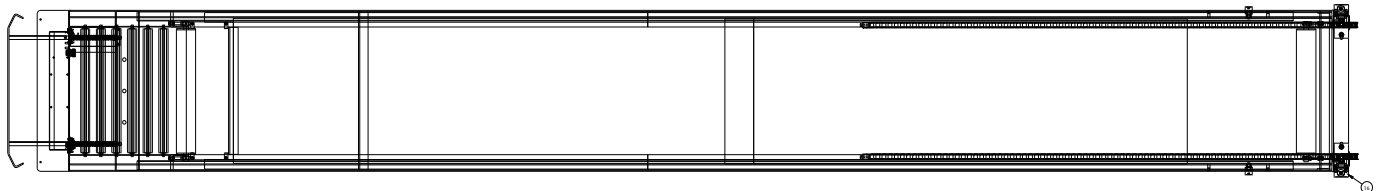
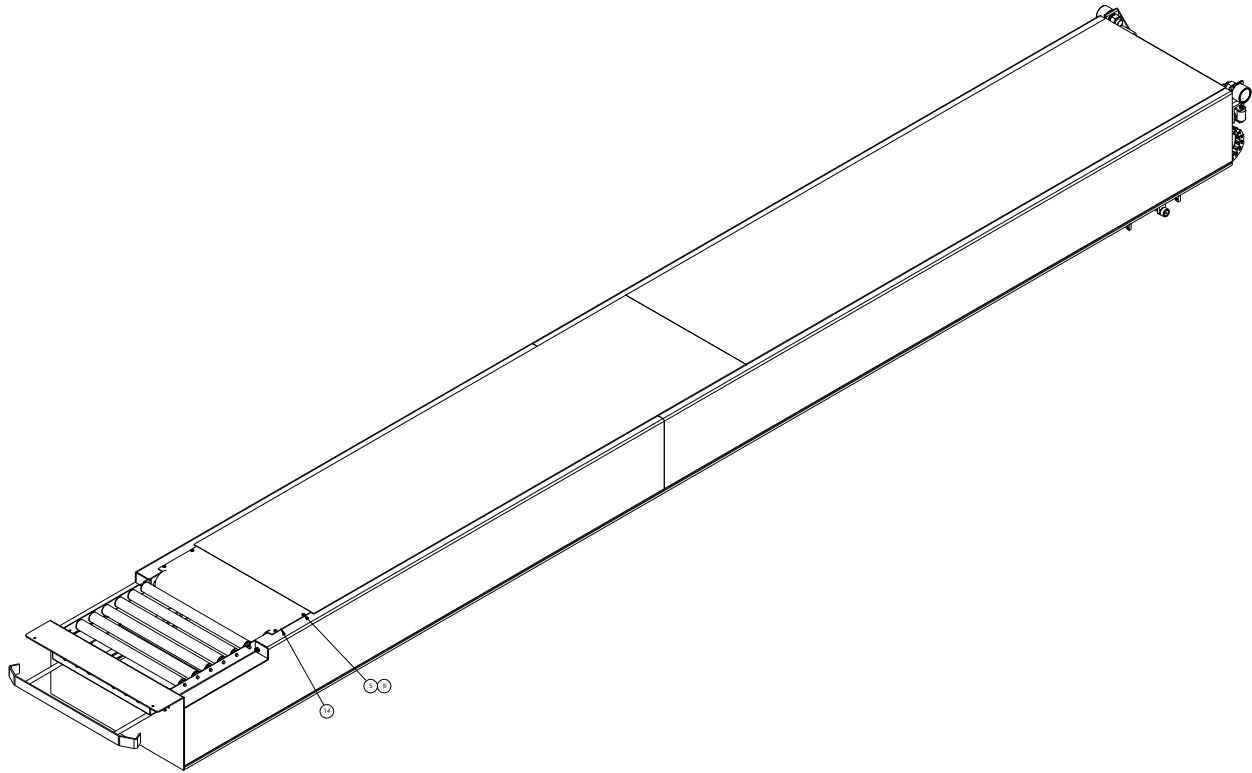
# Front Boom Mechanical Assembly



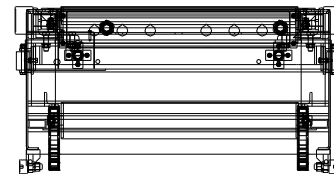
ITEM	QTY	NAME	DESCRIPTION
1	4	10012	Bolt, Hex, 1/4-20 x 1
2	4	10535	Bolt, CSK Allen, 1/4-20 x 1-1/2
3	8	11110	Nut, Nylock, 1/4-20
4	2	11355	Nut, Hex, 5/8-18
5	4	100058	Bolt, CSK Allen, 1/4-20 x 3/4
6	2	300022	Washer, Lock, 5/8
7	2	300123	3/4" Strain Relief
8	1	300340	Enclosure, BRTB Control
9	4	300371	Clip Nut, 1/4-20
10	6	302114	Roller, 1.90 x 26-1/4" Pop-In
11	2	400223	1-1/2" Stud Mount Flat Camroller
12	1	400380	Front Boom Weldment
13	2	400402	Front Boom Thrust Pads
14	1	400711	Front Boom Pulley Guard
15	2	800114	Belt Pulley Assembly
16	2	800116	3" Flat Cam Mount Subassembly
17	1	800118	Boom, Safety Stop Push Bar Assembly

Drawing 800101

# Intermediate Boom 3 Stage HD Assembly



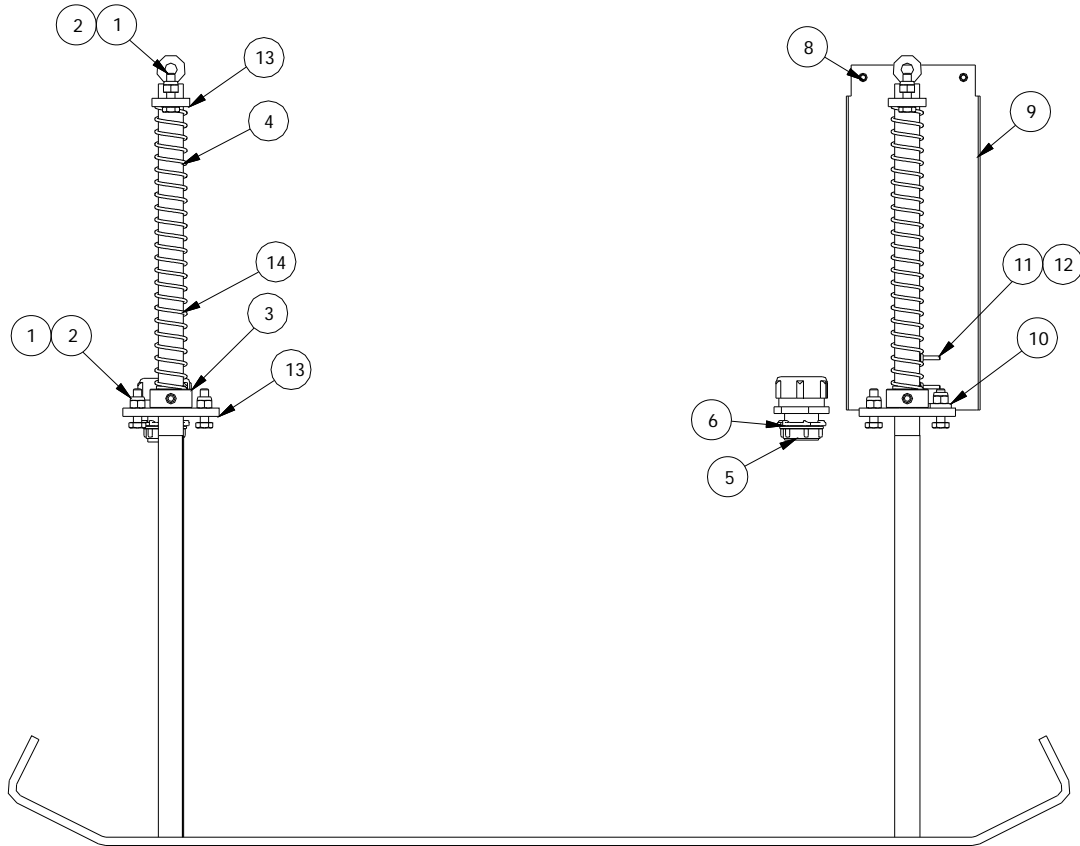
ITEM	QTY	NAME	DESCRIPTION
1	4	10012	Bolt, Hex, 1/4-20 x 1
2	4	10023	Bolt, Hex, 5/16-18 x 1-1/4
3	4	11110	Nut, Nylock, 1/4-20
4	2	11355	Nut, Hex, 5/8-18
5	4	100058	Bolt, CSK Allen, 1/4-20 x 3/4
6	2	300022	Washer, Lock, 5/8
7	1	300340	Enclosure, BRTB Control
8	4	300371	Clip Nut, 1/4-20
9	2	300638	Cable Carrier IB 3 Stg
10	6	302114	Roller, 1.90 x 26-1/4" Pop-In
11	2	400223	1-1/2" Stud Mount Flat Camroller
12	2	400403	Guide Roller Assembly
13	1	400518	Boom 3 Weldment (3 St)
14	1	400711	F.B. Pulley Guard
15	2	800114	Belt Pulley Assembly
16	2	800116	3" Flat Cam Mount Subassembly
17	1	800118	Boom, Safety Stop Push Bar Assembly



Drawing 800106



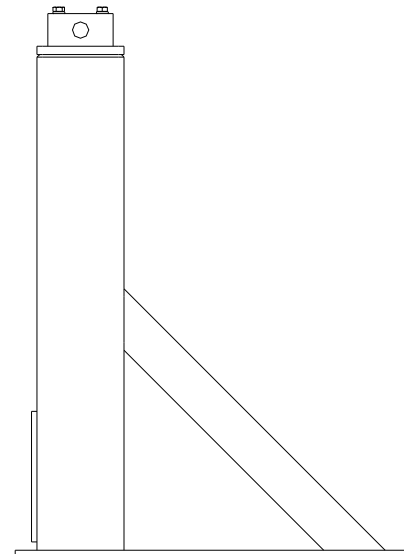
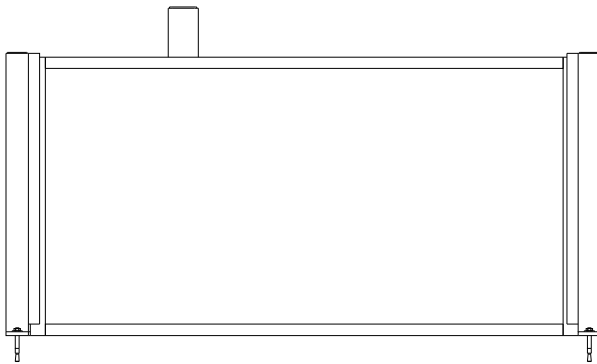
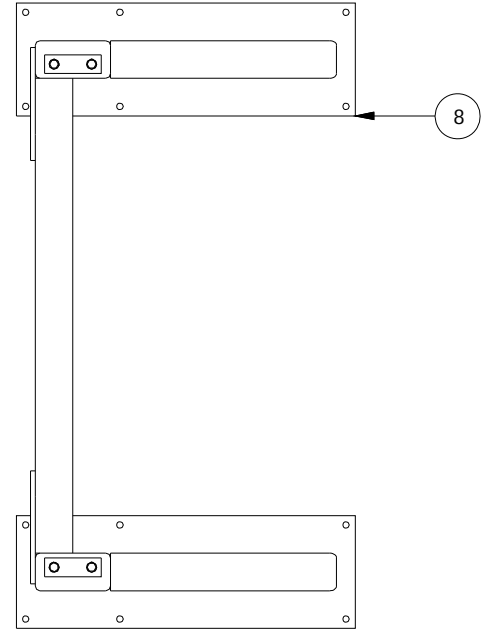
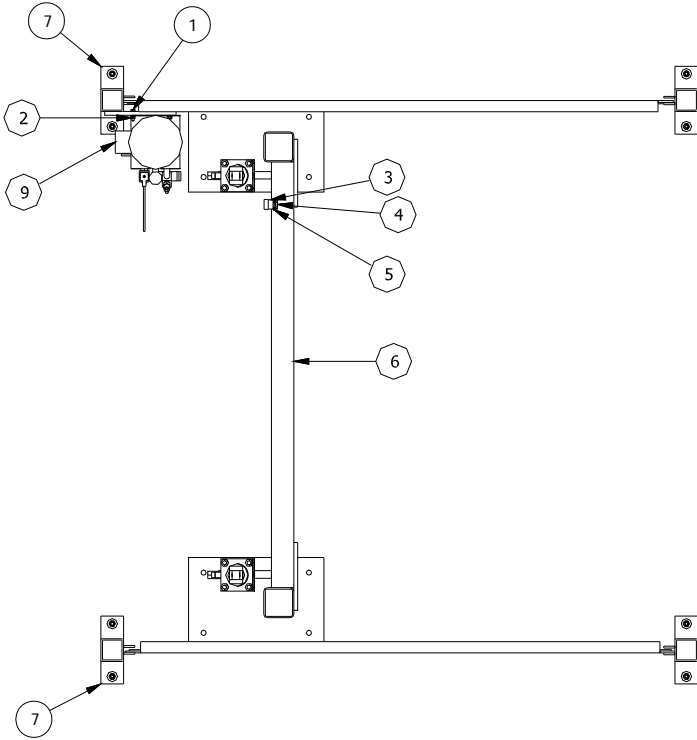
# Safety Stop, Push Bar Subassembly



ITEM	QTY	NAME	DESCRIPTION
1	8	10012	Bolt, Hex, 1/4-20 x 1
2	8	11110	Nut, Nylock, 1/4-20
3	2	12767	3/4" Set Collar
4	2	300062	Spring, 11/32 x 0.096
5	2	300112	Bushing, 3/4" Plastic
6	2	300119	Locknut, 3/4" Conduit
7	2	300134	Strain Rel-3/4-750-885-S
8	2	300372	Screw, #10 x 1" Tek
9	1	300386	Box, Push Stop Microswitch
10	1	300388	Push Bar Microswitch Mount Bracket
11	2	300774	Screw, RH, 4-40 x 1 1/4
12	2	300776	Nut, Nylock, #4-40
13	4	400047	Insert, Channel, Support, Stop Bar
14	1	400516	Safety Stop, Push Bar Weld

Drawing 800118

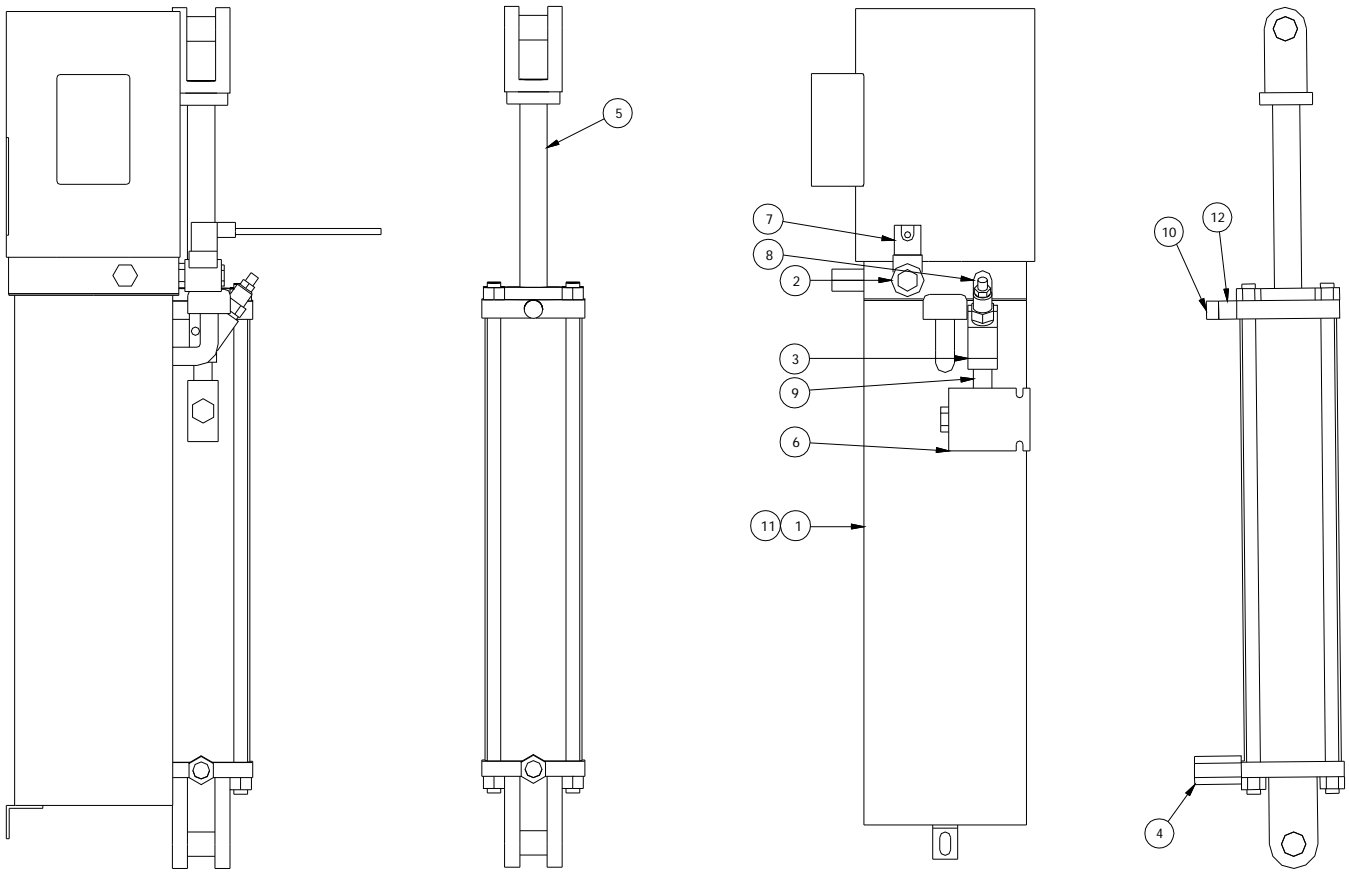
# Power Leveling Mechanical Assembly



ITEM	QTY	NAME	DESCRIPTION
1	4	10023	Bolt, Hex, 5/16-18 x 1-1/4
2	4	11489	Nut, Whiz, 5/16-18
3	2	300086	Conduit, 3/4 Flex Stralt Connector
4	2	300112	Bushing, 3/4" Plastic
5	2	300119	Locknut, 3/4" Conduit
6	1	400445	Front Tilt Anchor Weldment
7	1	800158	Guarding, Power Tilt Option
8	1	800159	Tilt Stand Sub Assembly
9	1	800160	Hydraulic System Sub Assembly

**Drawing 800108**

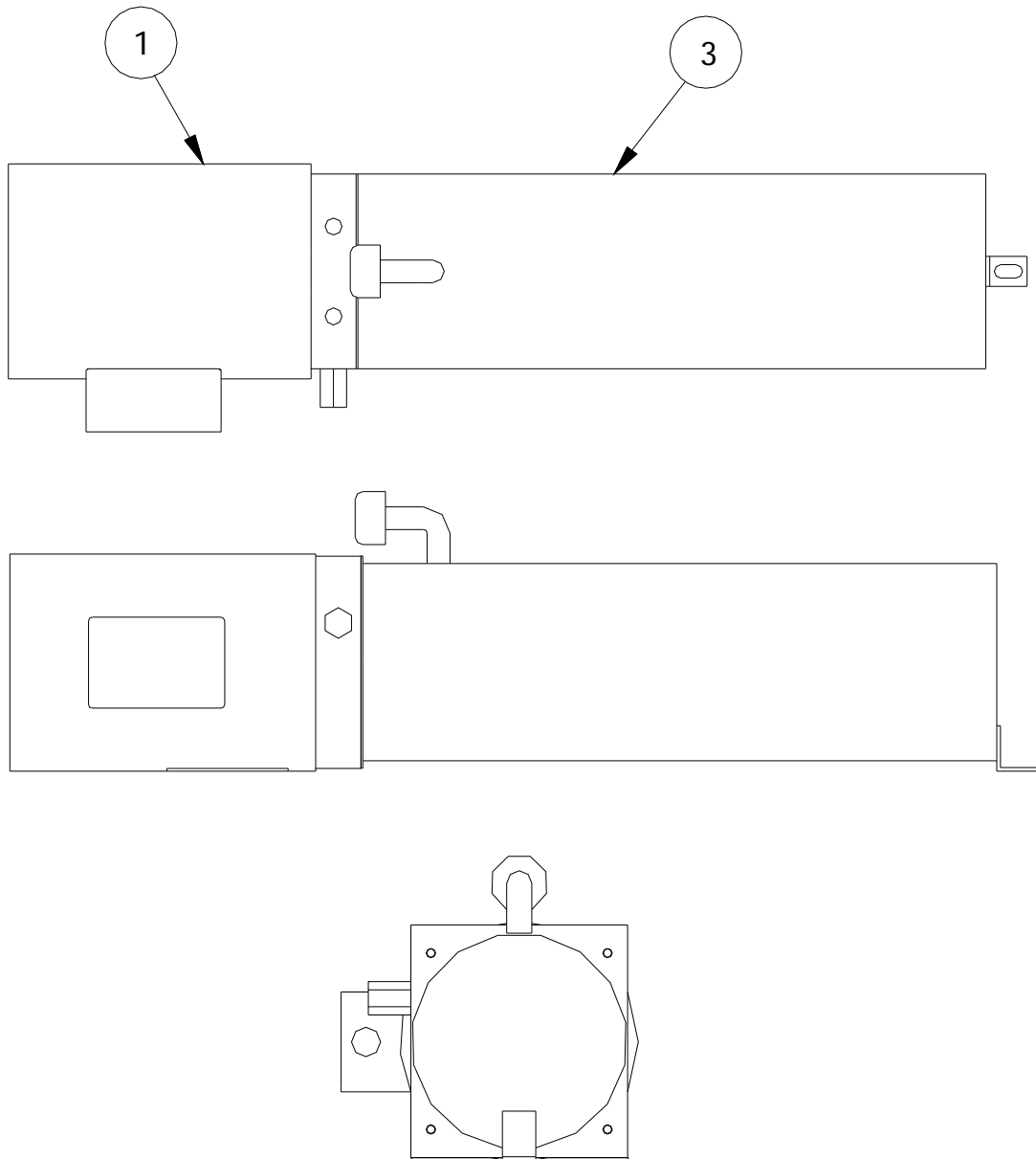
# Hydraulic System Sub Assembly



ITEM	QTY	NAME	DESCRIPTION
1	1	300640	Hydraulic Power Unit, 2 HP, 3 Gal
2	1	300644	Hydraulic Valve, Directional
3	1	300645	Flow Control Valve
4	2	300646	Velocity Fuse, Power Tilt
5	2	300647	Cylinder, 3" x 16" Stroke
6	1	300648	Flow Divider, Power Tilt
7	1	300649	Connector, Directional Valve
8	1	300655	Hydraulic Elbow, 9/16-18 SAE
9	1	300656	Hydraulic 9/16-18 SAE Straight Coupling
10	2	300659	Vent Plug, 1/2 NPT
11	3	300660	Hydraulic Fluid, Gallon
12	2	300661	Hydraulic 3/4 SAE to 1/2 NPT Adapter

**Drawing 800160**

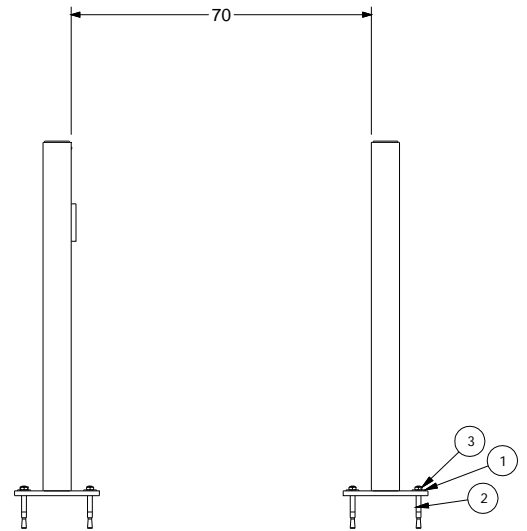
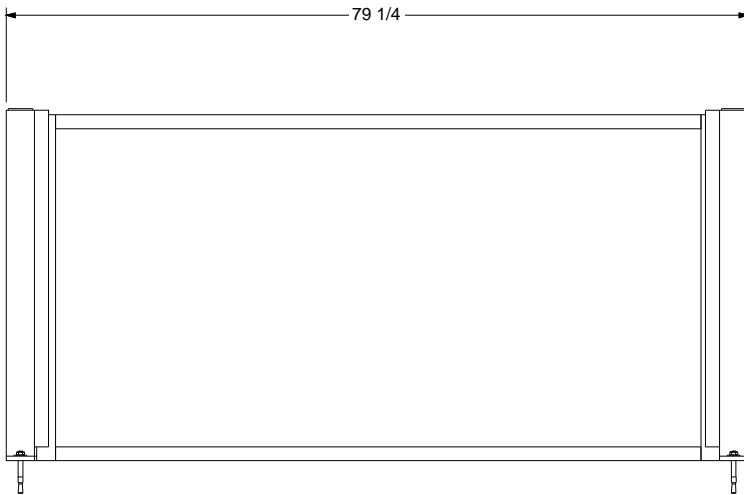
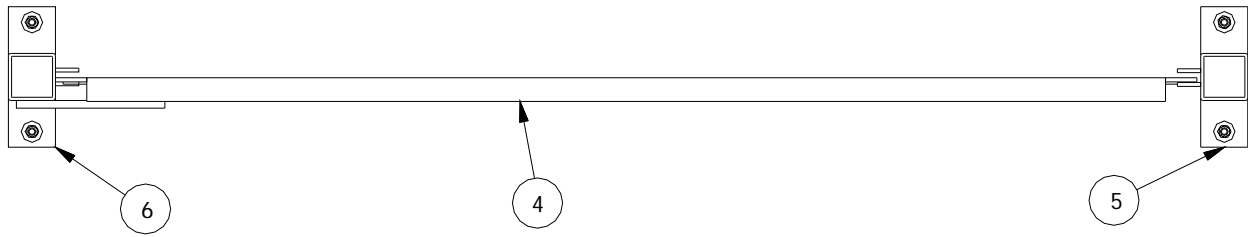
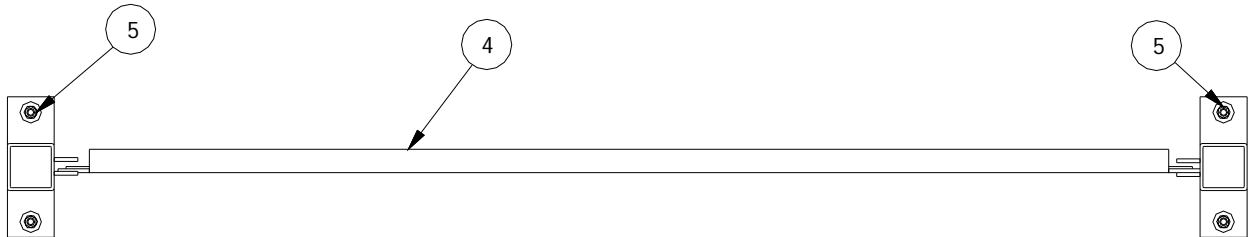
# Hydraulic Power Unit, 2 HP, 3 Gallon



3	1	300643	Hydraulic Power Unit Reservoir 3 Gal.
2	1	300642	Hydraulic Power Unit Pump
1	1	300641	Hydraulic Power Unit Motor 2 HP
ITEM	QTY	NAME	DESCRIPTION

**Drawing 300640**

# Guarding, Power Tilt Option



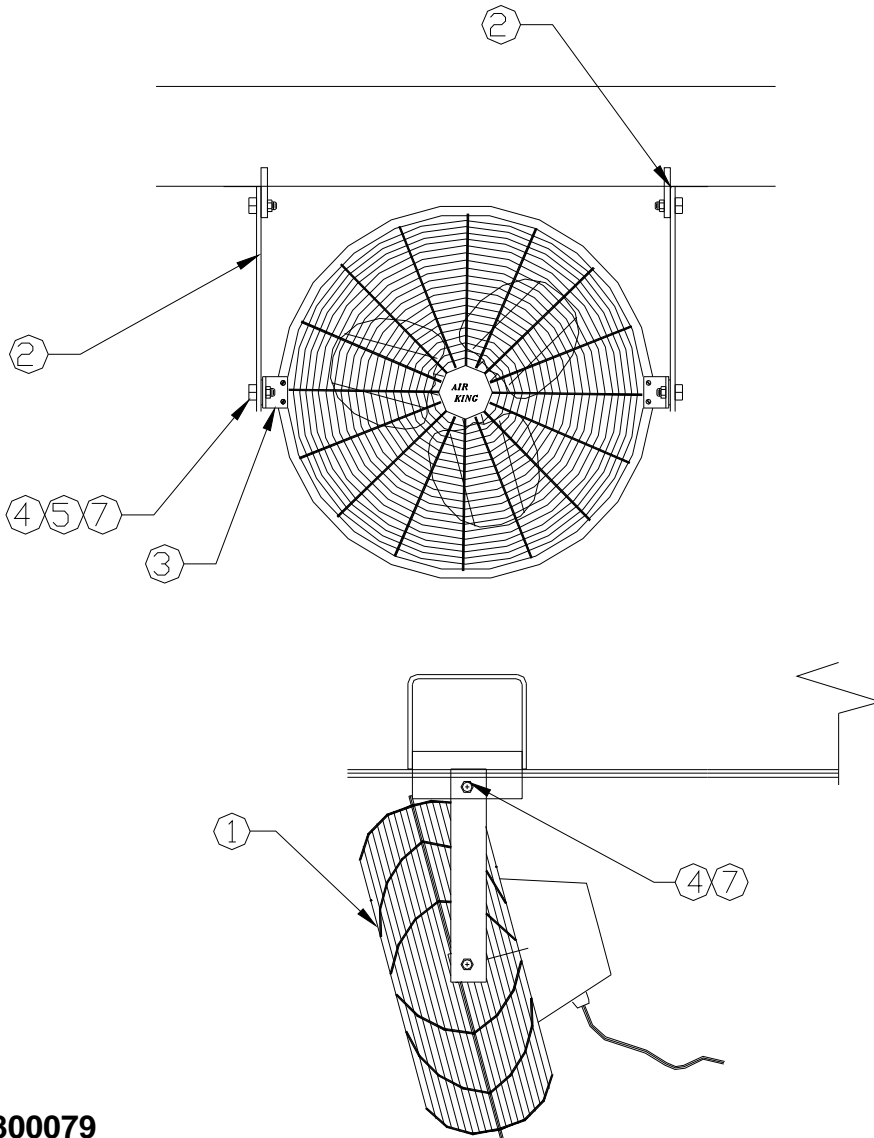
ITEM	QTY	NAME	DESCRIPTION
1	8	12030	Washer, Flat, 1/2
2	8	100059	Bolt, Anchor, 1/2-13 x 4-1/2
3	8	300069	Nut, Jam, 1/2-13
4	2	400749	Guard Power Tilt Weldment
5	3	400750	Guard Post Weldment
6	1	400752	Guard L.H. Post Weldment

**Drawing 800158**

# Fan Option Kit

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	300229	1	12" ELECTRIC FAN
2	300553	2	Rigid Belt, Mounting Leg, Fan
3	450017	2	SWIVEL BRACKETS, FAN
4	11140	4	LOCKNUT, 3/8-16 NYLON
5	12187	2	WASHER, NYL. 1" o.d. x 13/32" I.D. x 1/16
6	15016	1	RING CONNECTOR, CRIMP-ON
7	10042	4	BOLT, HHC 3/8-16 X 1"
8	15026	2	NUT, WIRE YELLOW
9			

## OPTIONAL EQUIPMENT

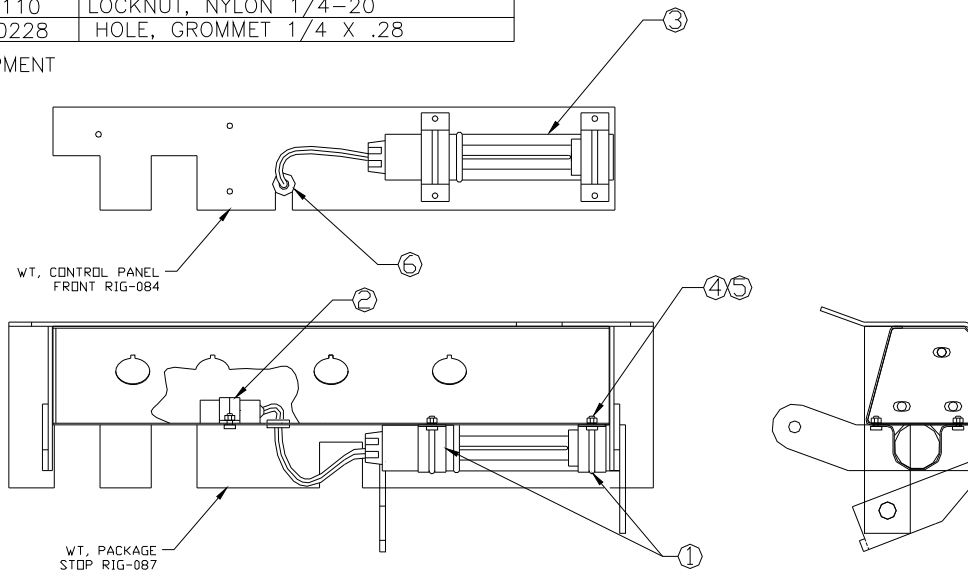


**Drawing 800079**

# Light Option Kit

ITEM	QTY	PART NO	DESCRIPTION
1	2	300226	CONDUIT HANGER, 1 1/2" 2 HOLE
2	1	450014	BRACKET, BALLAST
3	1	300227	LIGHT, FLORESCENT
4	6	300142	BOLT, HHC 1/4-20 X 1/2"
5	6	11110	LOCKNUT, NYLON 1/4-20
6	1	300228	HOLE, GROMMET 1/4 X .28

OPTIONAL EQUIPMENT

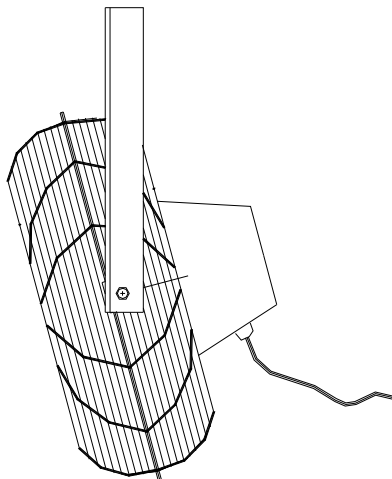
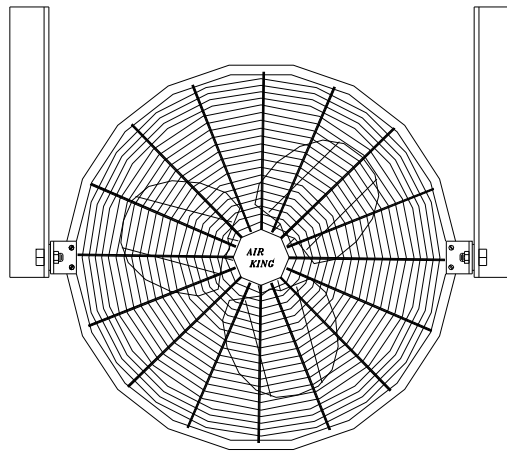


Drawing 800013

# Fan Option Assembly

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	300229	1	12" Electric Fan
2	400415	2	Fan Bracket Boom
3	11140	6	LOCKNUT, 3/8-16 NYLON
4	10042	6	BOLT, HHC 3/8-16 X 1"
5	300553	2	Rigid Belt Mounting Leg Fan
6	450017	2	Swivel Brackets Fan
7	12187	2	Washer Nylon 1" O.D. x 13/32"
8	15016	1	Ring Connector, Crimp On
9	15026	2	Nut, Wire Yellow

## OPTIONAL EQUIPMENT

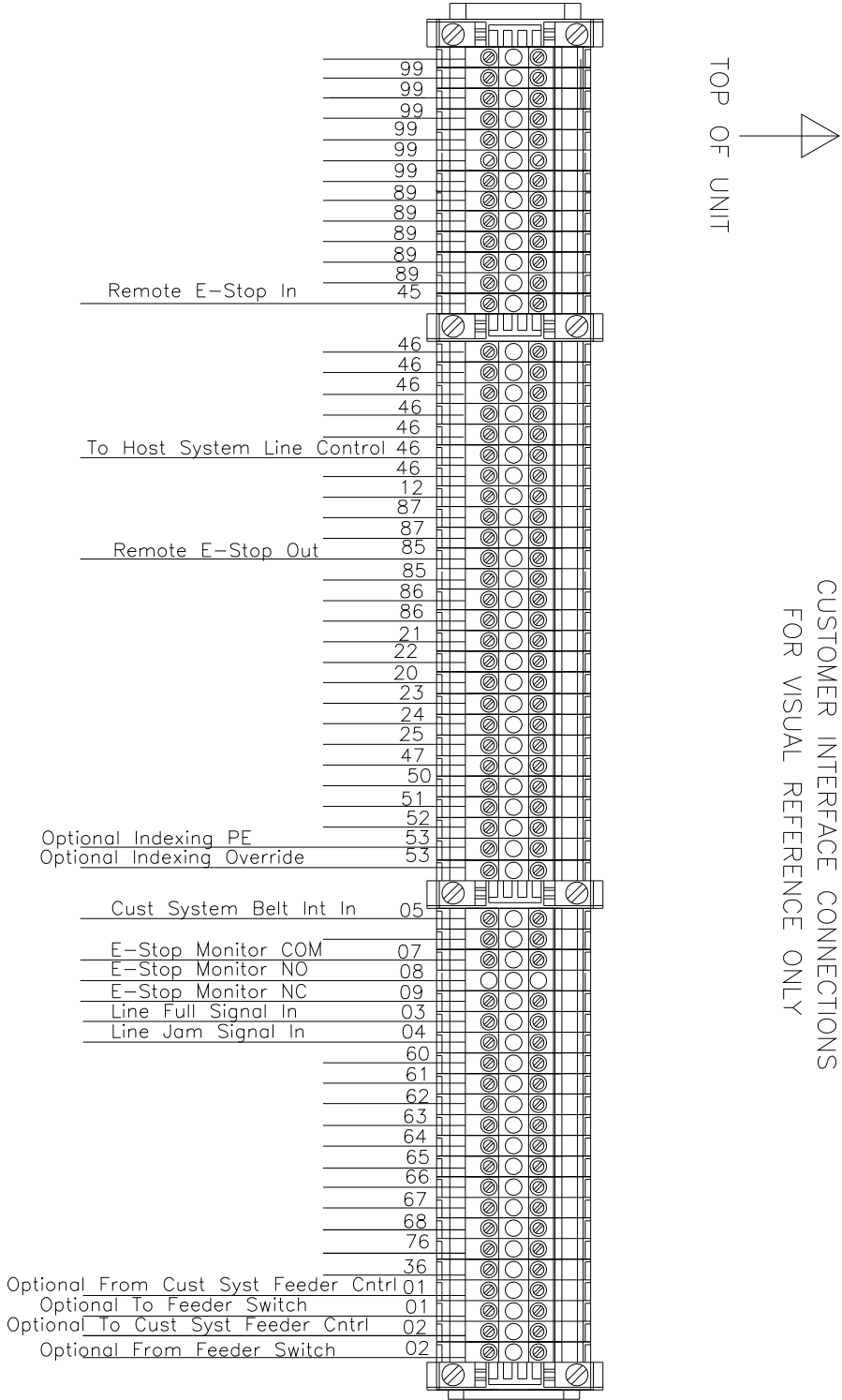


**Drawing 300625**



**Electrical Schematics, Diagrams  
and Parts Lists**

# Main Electrical Panel Customer Connections



Drawing 302155-6

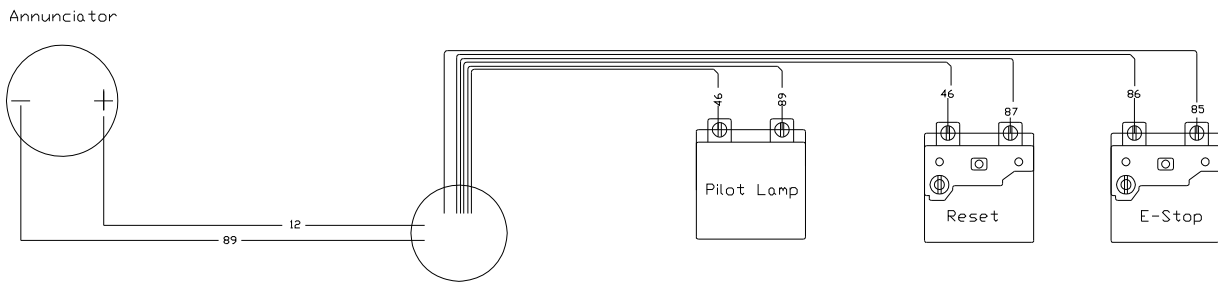
# Main Panel Door Connections

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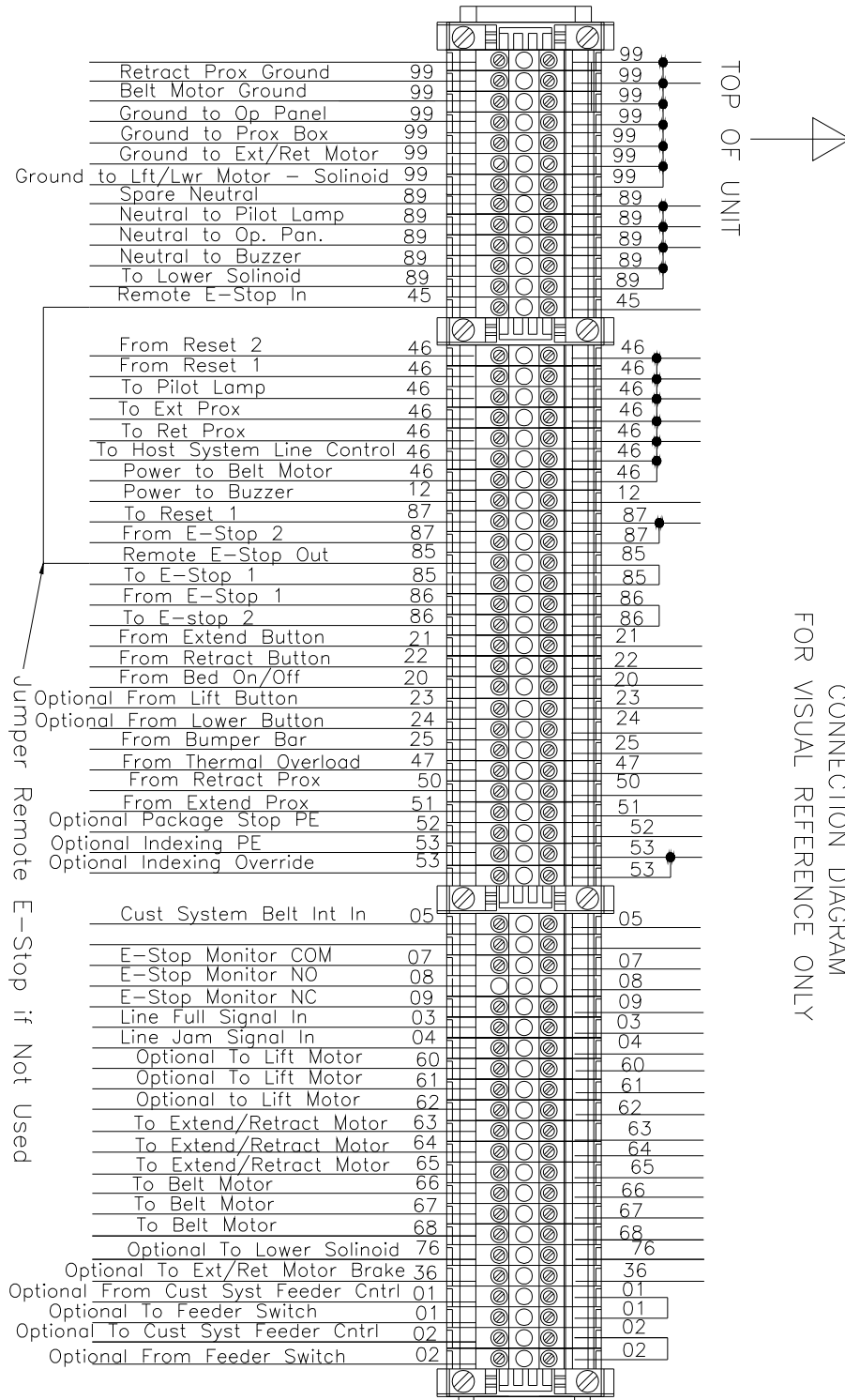
## MAIN PANEL DOOR/ANNUNCIATOR (viewed from rear)

Spiral wrap all wires and attach to Panel door.  
All wires numbered 89 are to be WHITE  
All wire is to be 16GA or larger



A grounding connection must be made attaching the Grounding Stud inside the panel below the buzzer to the door using a dedicated lug. The connecting wire must be green and labeled #99.

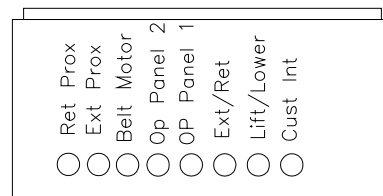
# Main Electrical Terminal Connections



# SO Cable Numbering for Main Electrical Panel

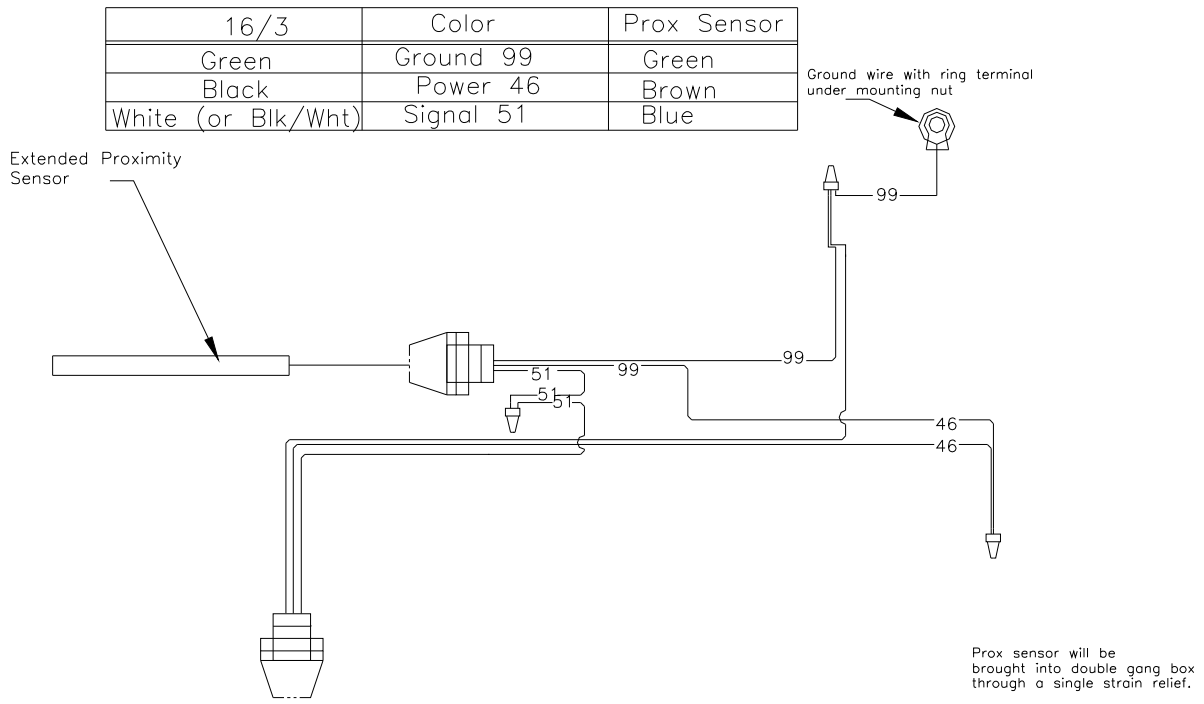
SO Cable	Color	Wire Number	Wire Notes
Ext/Ret	Green	99	
Ext/Ret	Black	65	
Ext/Ret	White	63	
Ext/Ret	Red	64	
Ext/Ret	Blue	36	Optional Brake
Ext/Ret	White w/ Black	89	Optional Brake
Ext/Ret	Orange	Spare	Optional Brake
Leveling	Green	99	Optional
Leveling	Black	61	Optional
Leveling	White	62	Optional
Leveling	Red	60	Optional
Leveling	Orange	Spare	Optional
Leveling	White/Black	89	Optional
Leveling	Blue	76	Optional
Power	Green	99	Optional
Power	Red	L1	
Power	White	L2	
Power	Black	L3	
Ext Prox	Green	99	
Ext Prox	Black	46	
Ext Prox	White (or Blk/Wte)	51	
Ret Prox	Green	99	
Ret Prox	Black	46	
Ret Prox	White (or Blk/Wte)	50	
OP PAN 1	Green	99	
OP PAN 1	Green w/ Black	52	Optional
OP PAN 1	Red	46	
OP PAN 1	Red w/ Black	20	
OP PAN 1	Black	86	
OP PAN 1	Blue	25	
OP PAN 1	White	89	Optional
OP PAN 1	White w/ Black	87	
OP PAN 1	Orange	21	
OP PAN 1	Orange w/ Black	22	

SO Cable	Color	Wire Number	Wire Notes
OP PAN 2	Green	Spare	Optional
OP PAN 2	Green w/ Black	Spare	Optional
OP PAN 2	Red	23	Optional
OP PAN 2	Red w/ Black	24	Optional
OP PAN 2	Black	53	Optional
OP PAN 2	Blue	Spare	Optional
OP PAN 2	White	Spare	Optional
OP PAN 2	White w/ Black	Spare	Optional
OP PAN 2	Orange	01	Optional
OP PAN 2	Orange w/ Black	02	Optional
Cust Int	White	09	Optional
Cust Int	White w/ Black	03	Optional
Cust Int	Red w/ Black	04	Optional
Cust Int	Blue	07	Optional
Cust Int	Green	99	Optional
Cust Int	Green w/ Black	05	Optional
Cust Int	Black	08	Optional
Cust Int	Orange w/ Black	02	Optional
Cust Int	Orange	01	Optional
Cust Int	Red	46	Optional



(View From Bottom of Panel)  
Larger Holes May Be Drilled/Pulled As Necessary

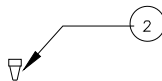
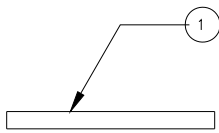
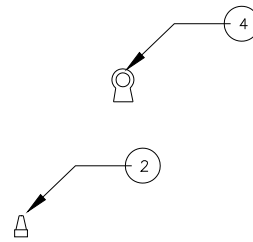
# Extend Proximity Sensor BOM



# Extend Proximity Sensor Connections

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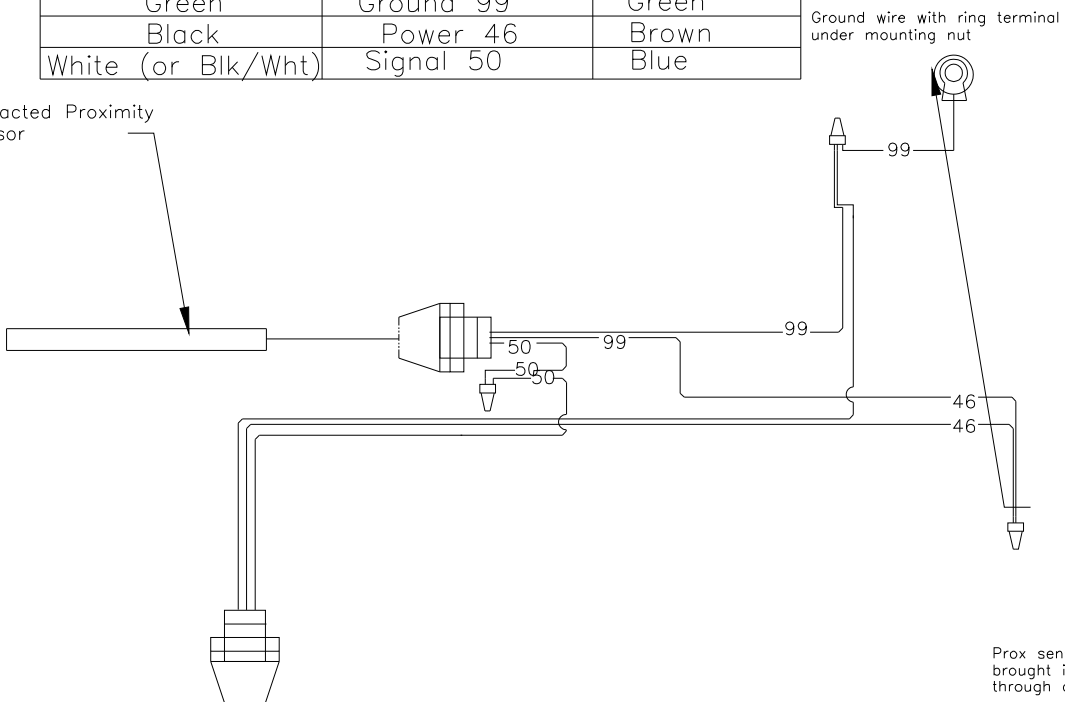
ITEM	QTY	PART NO	DESCRIPTION
1	REF	300588	PROX SWITCH - AC 8MM
2	3	15026-2	WIRE NUT, BLUE
3	2	15010-N	1/2" Locknut
4	1	15016	RING TERMINAL
5	1	302165	STRAIN RELIEF .125-.250 Dia
6	2	300113	Bushing
7	1	300115	STRAIN RELIEF .375-.50 Dia
REF	As Needed		ATTACHMENT PAD
REF	As Needed		WIRE TIE



# Retract Proximity Sensor BOM

16/3	Color	Wire Number
Green	Ground 99	Green
Black	Power 46	Brown
White (or Blk/Wht)	Signal 50	Blue

Retracted Proximity Sensor

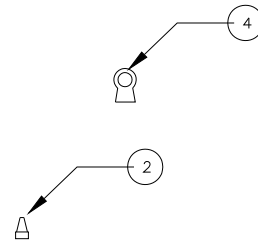
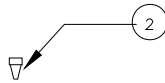
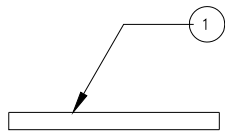




# Retract Proximity Sensor Connections

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ITEM	QTY	PART NO	DESCRIPTION
1	REF	300588	PROX SWITCH - AC 8MM
2	3	15026-2	WIRE NUT, BLUE
3	2	15010-N	1/2" Locknut
4	1	15016	RING TERMINAL
5	1	302165	STRAIN RELIEF .125-.250 Dia
6	2	300113	Bushing
7	1	300115	STRAIN RELIEF .375-.50 Dia
REF	As Needed		ATTACHMENT PAD
REF	As Needed		WIRE TIE

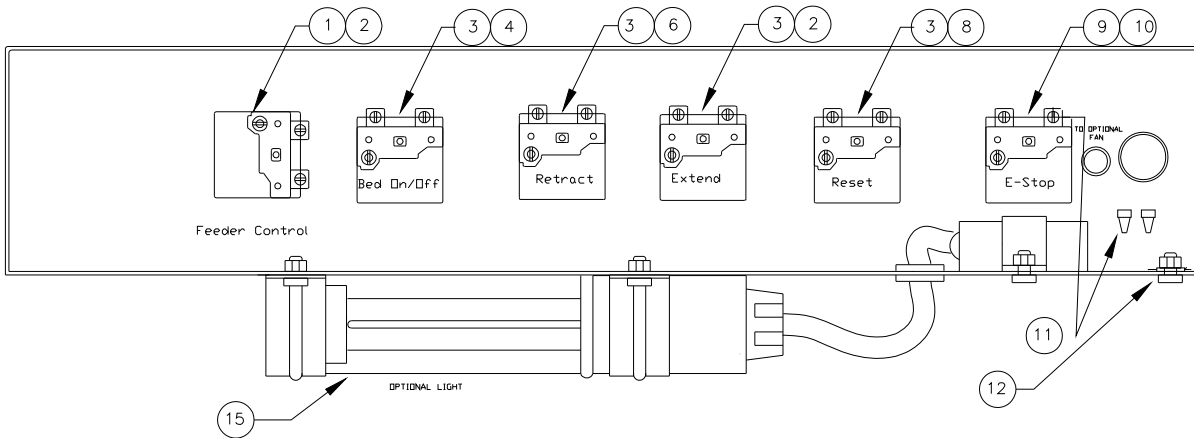
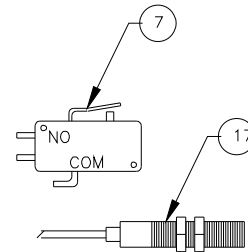


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# **Operator Panel Drawings**

# Operator Enclosure BOM

ITEM	QTY	PART NO	DESCRIPTION
2	1	302122	Nameplate, Extend
3	4	300099	Push Button
4	1	300133	Nameplate, ON/OFF
6	1	302123	Nameplate, Retract
7	1	300775	Microswitch
8	1	300138	Nameplate, Reset
9	1	300100	E-Stop Switch
10	1	300927	Nameplate, E-Stop
11	6	15026	Wire Nut, Yellow
12	1	15016	Ring Terminal
13	REF	15087	Selector Switch (optional)
14	REF	15088	Nameplate, Feeder
15	REF	800013	Light Kit (optional)
17	3	8-15502	Photoeye - AC Diffused (Optional)

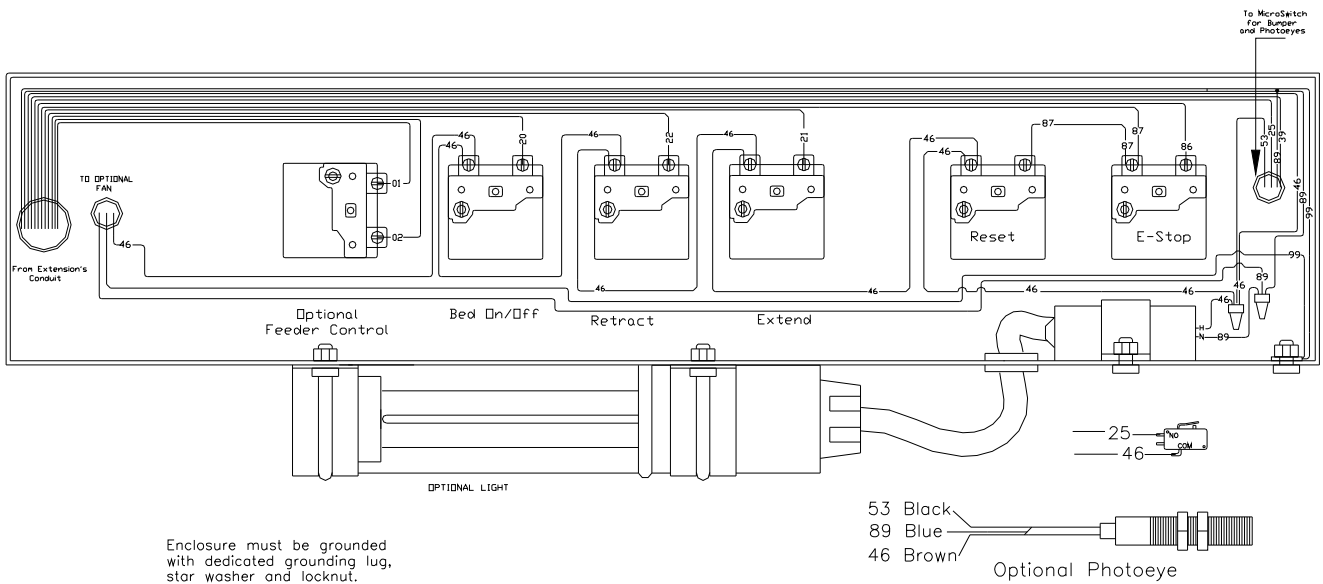


# Operator Enclosure, Wiring

## OPERATOR'S PANEL (viewed from rear)

Spare wires will be terminated with a wire nut

Requires:  
 8 - #15026-2 wire nuts  
 1 - #15016 ring terminal



# Operator Enclosure, SO Cable Designators

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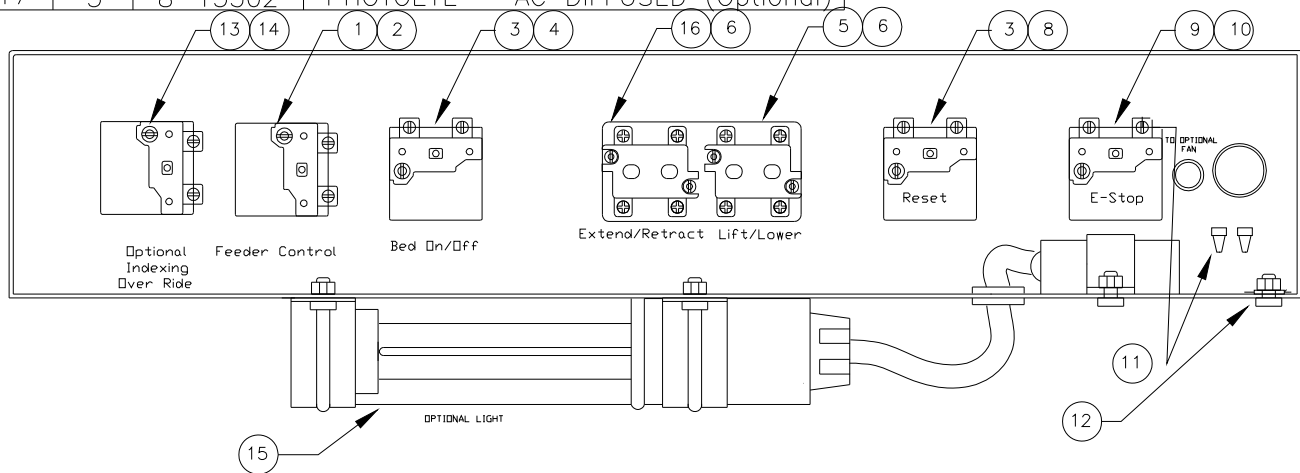
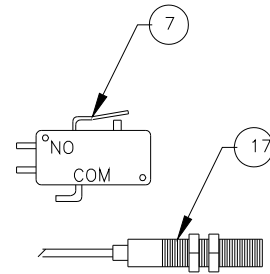
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## Operator's Panel

SO Cable	Color	Wire Number
1	Green	99
1	Green w/ Black	52
1	Red	46
1	Red w/ Black	20
1	Black	86
1	Blue	25
1	White	89
1	White w/ Black	87
1	Orange	21
1	Orange w/ Black	22

# Operator Enclosure, Power Leveling, BOM

ITEM	QTY	PART NO	DESCRIPTION
1	REF	15087	Selector Switch
2	REF	15088	Nameplate, Feeder
3	2	300099	Push Button
4	1	300133	Nameplate, ON/OFF
5	1	300145	8 Position Joystick
6	1	300147	Nameplate, Arrows
7	1	300775	Microswitch
8	1	300138	Nameplate, Reset
9	1	300100	E-Stop Switch
10	1	300927	Nameplate, E-Stop
11	6	15026	Wire Nut, Yellow
12	1	15016	Ring Terminal
13	REF	15087	Selector Switch (optional)
14	REF	300399	Nameplate, Index Override (optional)
15	REF	800013	Light Kit (optional)
16	2	300146	(2) Normally Open Contacts
17	3	8-15502	PHOTOEYE - AC DIFFUSED (Optional)



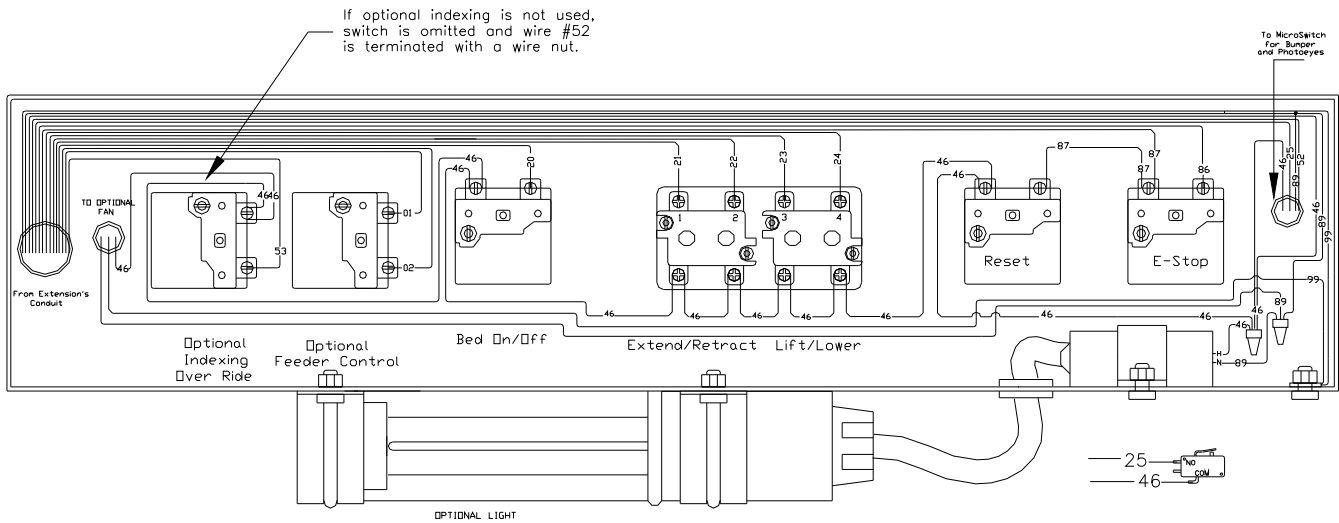
Drawing 300627-2

# Operator Enclosure, Power Leveling, Wiring

## OPERATOR'S PANEL (viewed from rear)

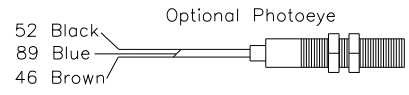
Requires:  
 8 - #15026-2 wire nuts  
 1 - #15016 ring terminal

Spare wires will be terminated with a wire nut



If optional indexing is not used, switch is omitted and wire #52 is terminated with a wire nut.

Enclosure must be grounded with dedicated grounding lug, star washer and locknut.



# Operator Enclosure, Power Leveling, SO Cable Designators

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## OPERATOR'S PANEL

SO Cable	Color	Wire Number	SO Cable	Color	Wire Number
1	Green	99	2	Green	Spare
1	Green w/ Black	52	2	Green w/ Black	Spare
1	Red	46	2	Red	23
1	Red w/ Black	20	2	Red w/ Black	24
1	Black	86	2	Black	53
1	Blue	25	2	Blue	Spare
1	White	89	2	White	Spare
1	White w/ Black	87	2	White w/ Black	Spare
1	Orange	21	2	Orange	01
1	Orange w/ Black	22	2	Orange w/ Black	02

All Spare wires are to be terminated with appropriate wire nut and taped.



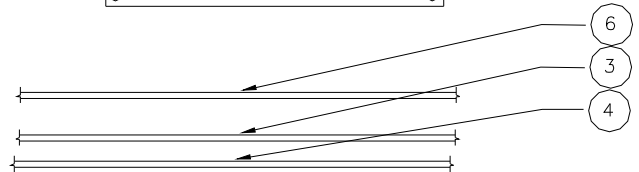
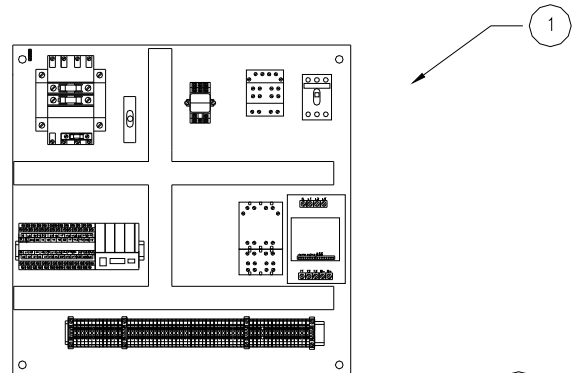
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# **Drawings for 480V AC Model**

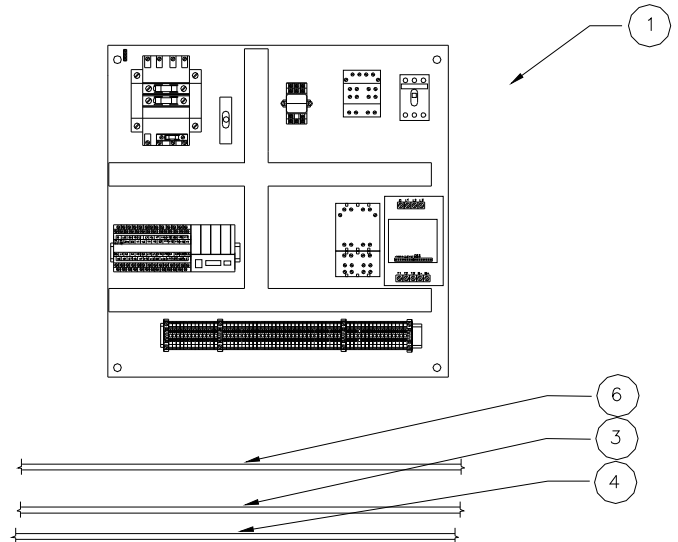
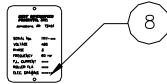
# Assembly: 4-Stage, 480V, Single Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300593	Panel, 480V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300605	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing



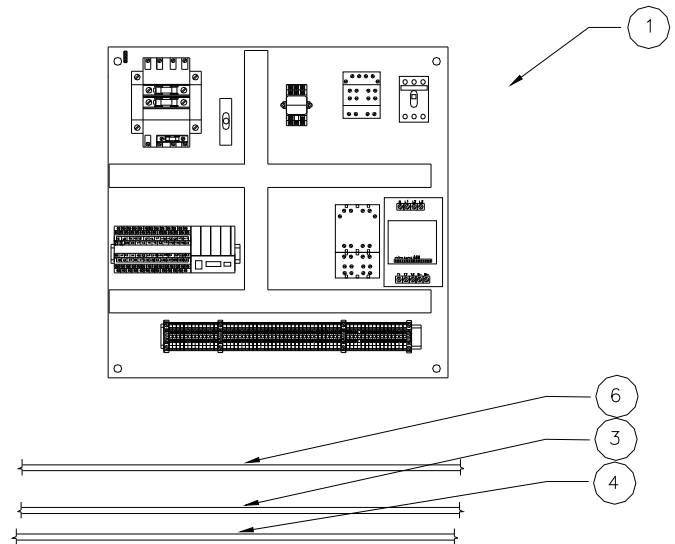
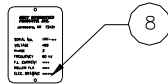
# Assembly: 4-Stage, 480V, Single Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300593	Panel, 480V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300605	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



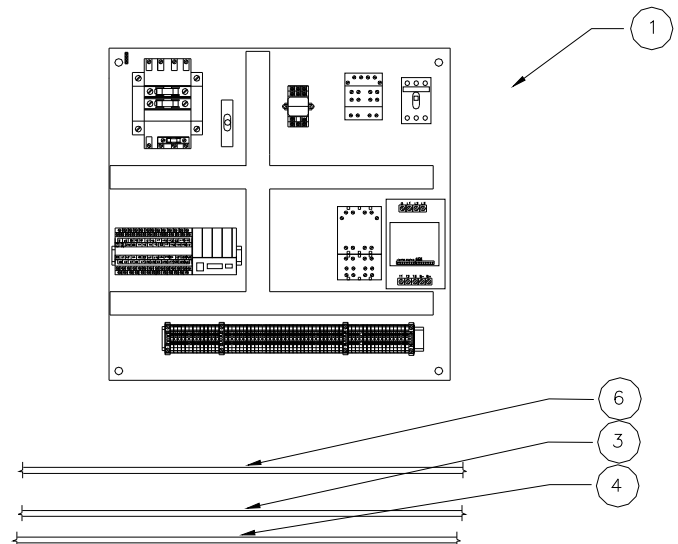
# Assembly: 3-Stage, 480V, Single Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300593	Panel, 480V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300605	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing

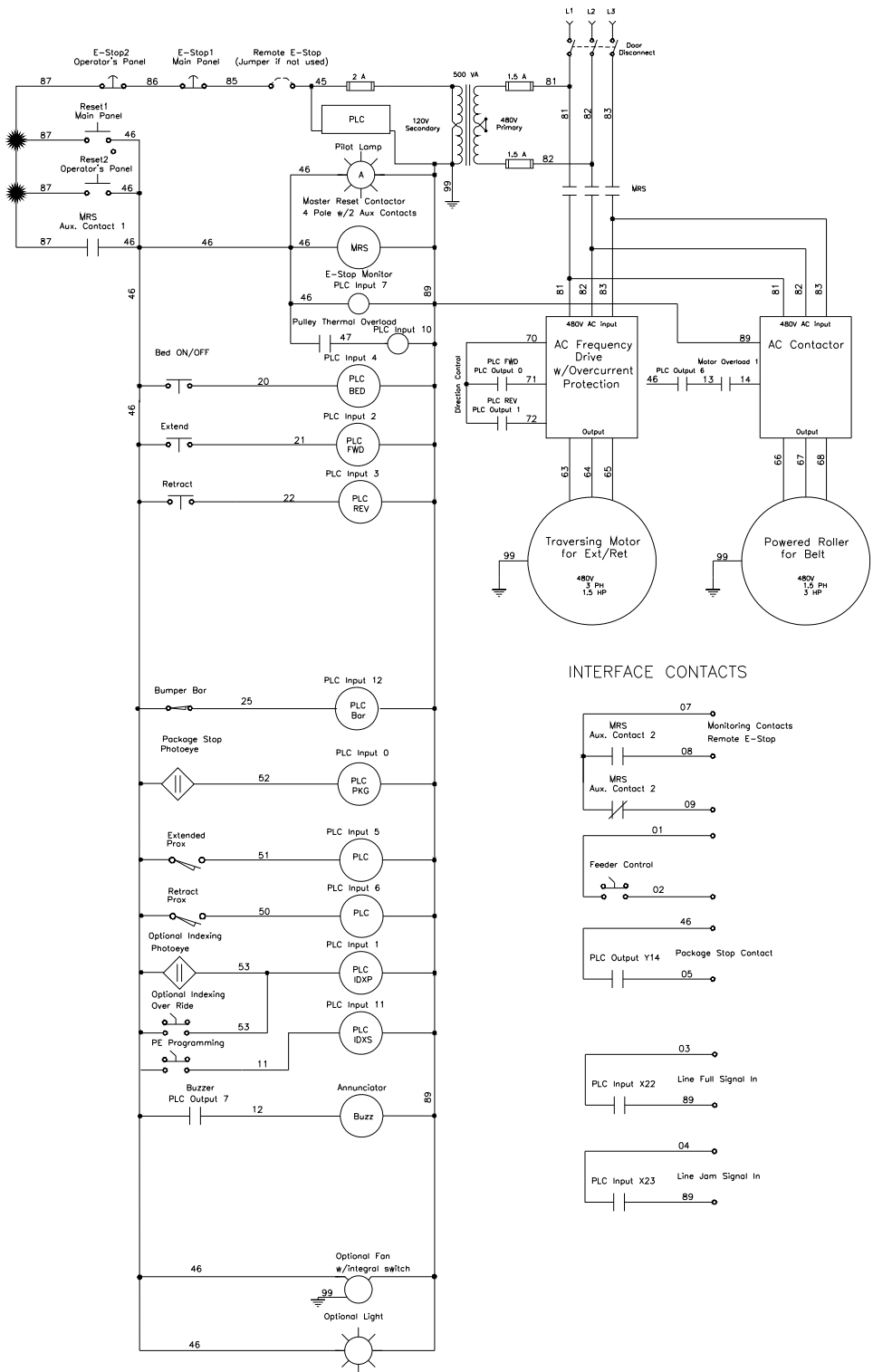


# Assembly: 3-Stage, 480V, Single Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300593	Panel, 480V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300605	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



# Schematic: 480V, Single Speed

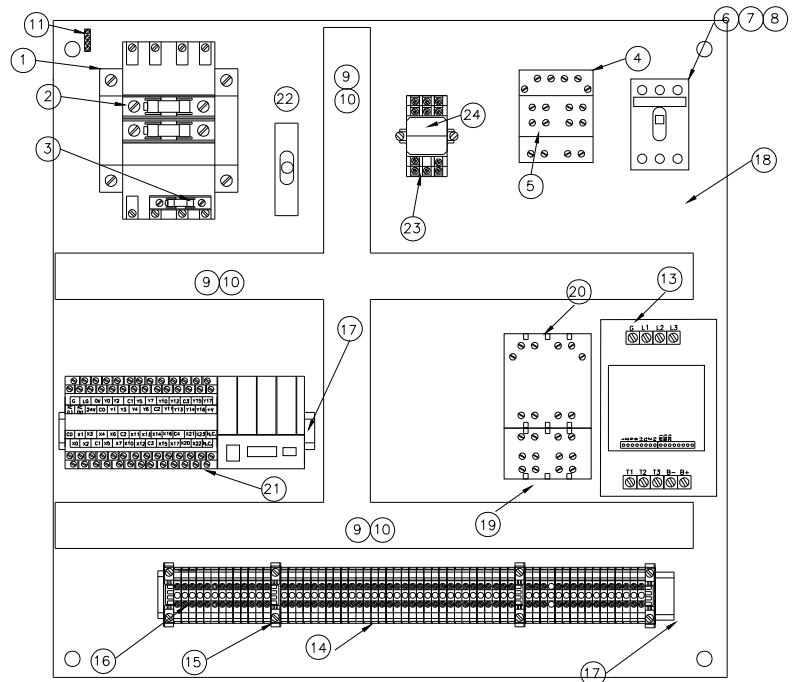


Drawing 300604

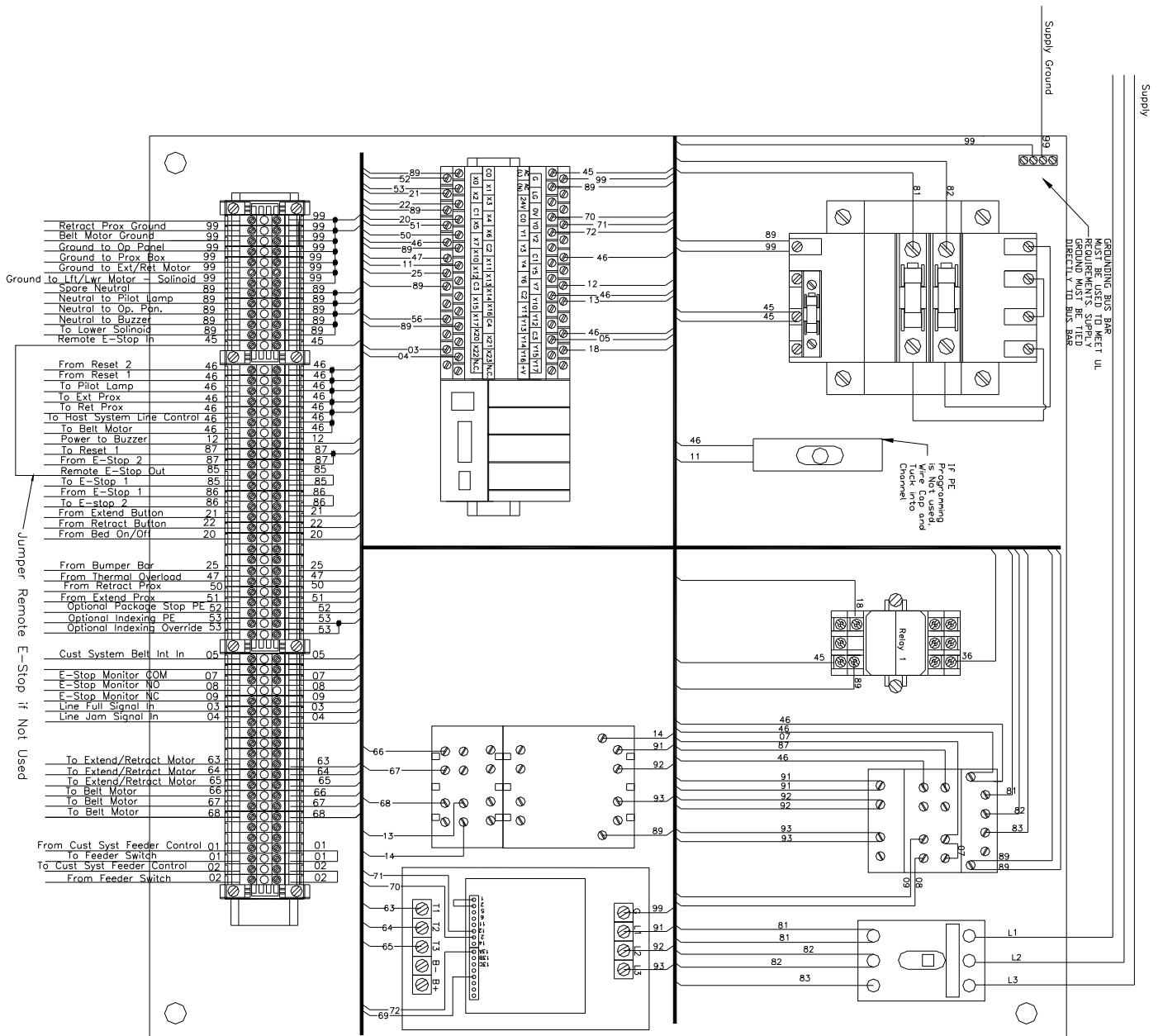
# Panel: 480V, Single Speed, BOM

Parts List			
Item	Qty	Part Number	Description
1	1	300350	Control Transformer, 500VA
2	2	300360	Fuse, 1.5A, 600V
3	1	302363	Fuse, 2.0A, 250V
4	1	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
12	-	-----	Not Used
13	1	300271	2HP AC Frequency Drive, 480V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	1	302156	1.8 - 2.7A Motor Overload
20	1	300273	4 Pole Contactor
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY



# Panel: 480V Wiring Schematic

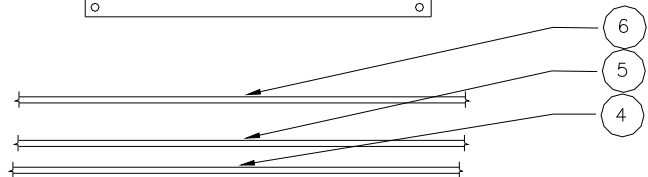
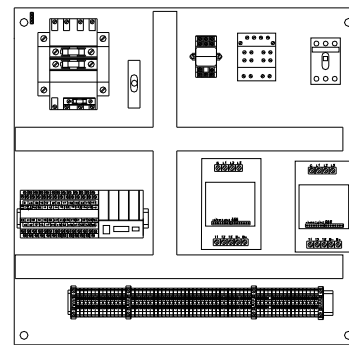


Drawing 300593-2



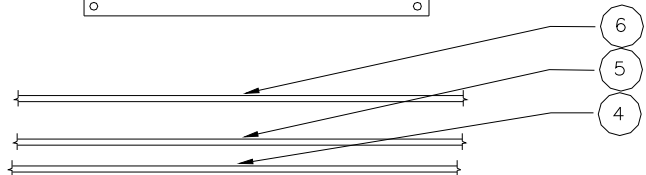
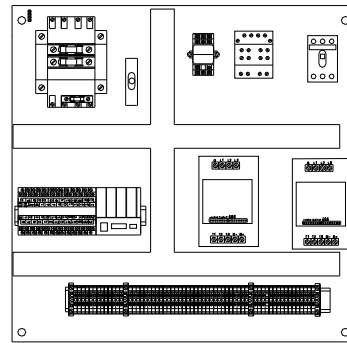
# Assembly: 4-Stage, 480V, Variable Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300594	Panel, 480V VS TB
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	31	15037-14	Cord Elect, 16/3 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	8	15037-14	Cord Elect, 16/3 SO 600 V
8	1	300607	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	2	300112	3/4" Bushing



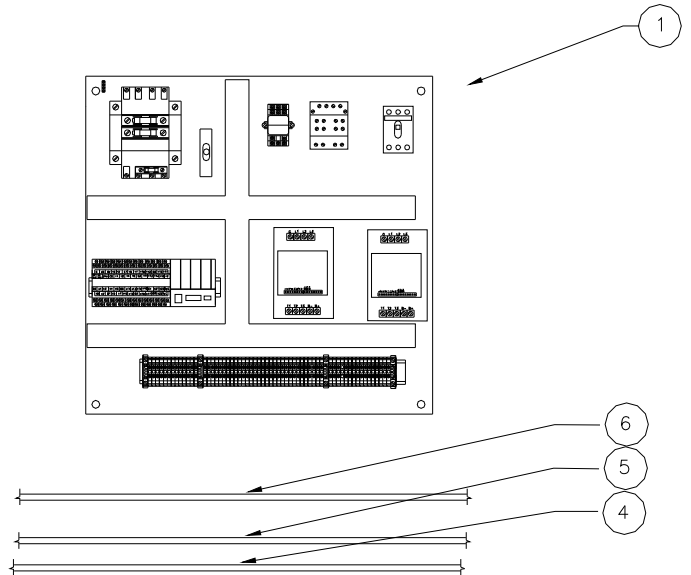
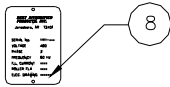
# Assembly: 4 Stage, 480V, Variable Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300594	Panel, 480V VS TB
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	31	15037-14	Cord Elect, 16/3 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	8	15037-14	Cord Elect, 16/3 SO 600 V
8	1	300607	Nameplate
9	1	300334	Head Pully - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



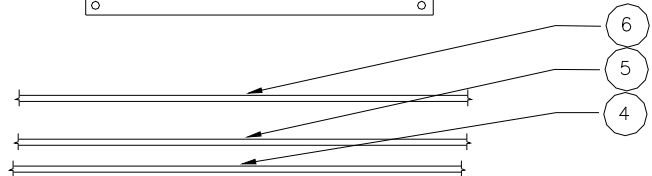
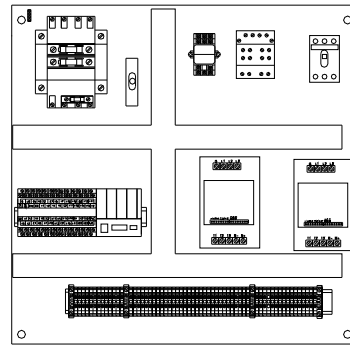
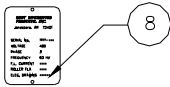
# Assembly: 3-Stage, 480V, Variable Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300594	Panel, 480V VS TB
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	31	15037-14	Cord Elect, 16/3 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	8	15037-14	Cord Elect, 16/3 SO 600 V
8	1	300607	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	2	300112	3/4" Bushing

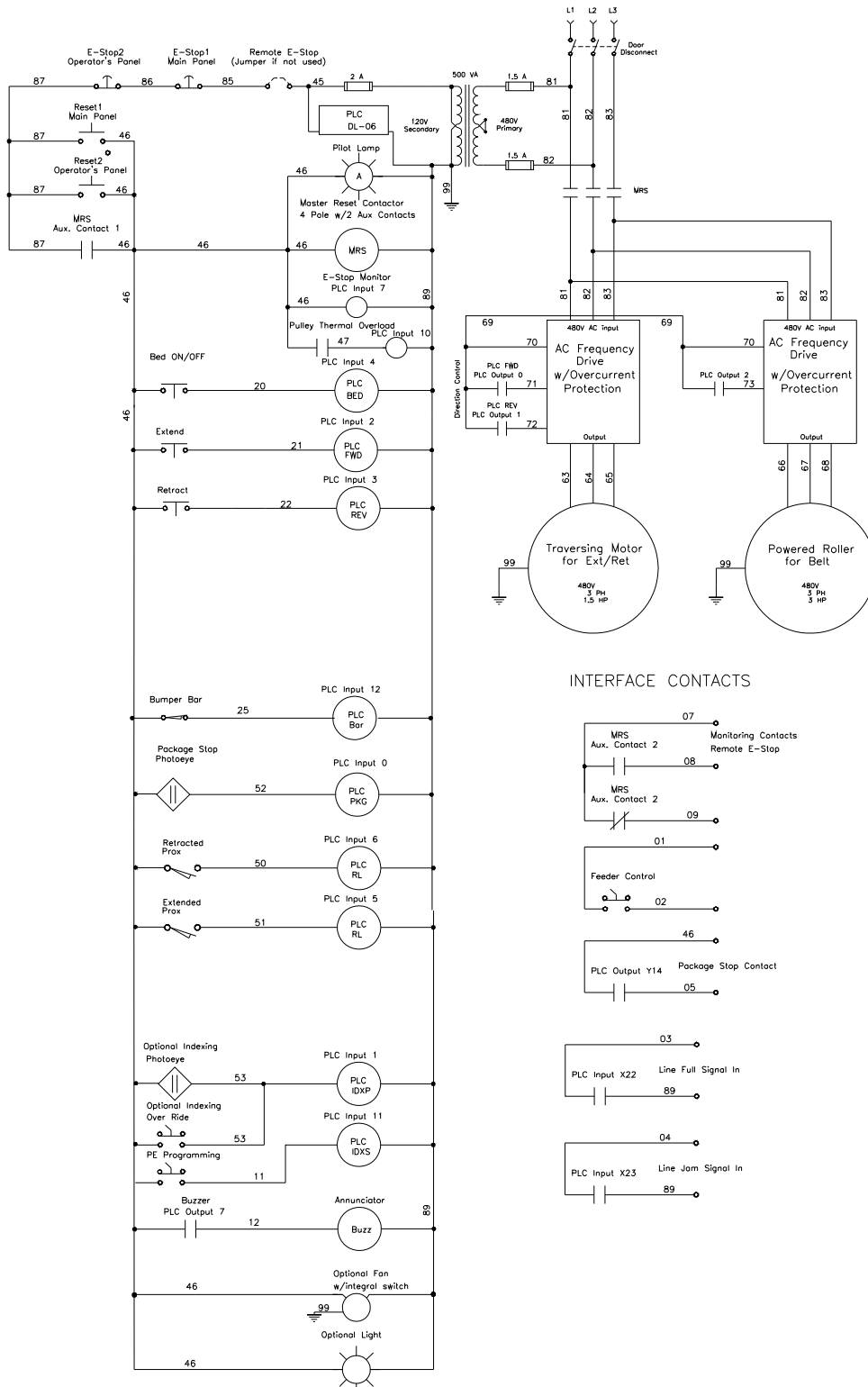


# Assembly: 3-Stage, 480V, Variable Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300594	Panel, 480V VS TB
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	31	15037-14	Cord Elect, 16/3 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	8	15037-14	Cord Elect, 16/3 SO 600 V
8	1	300607	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



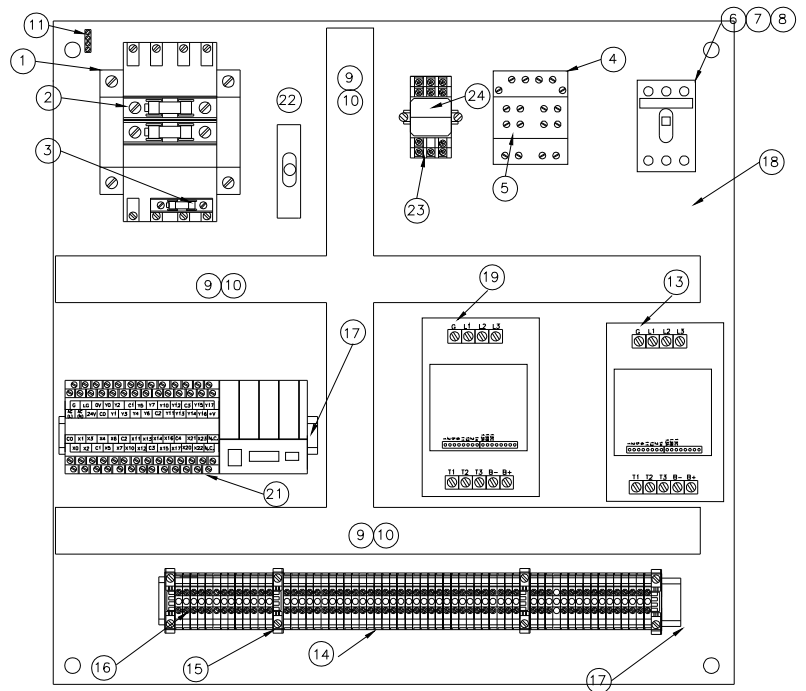
# Schematic: 480V Variable Speed



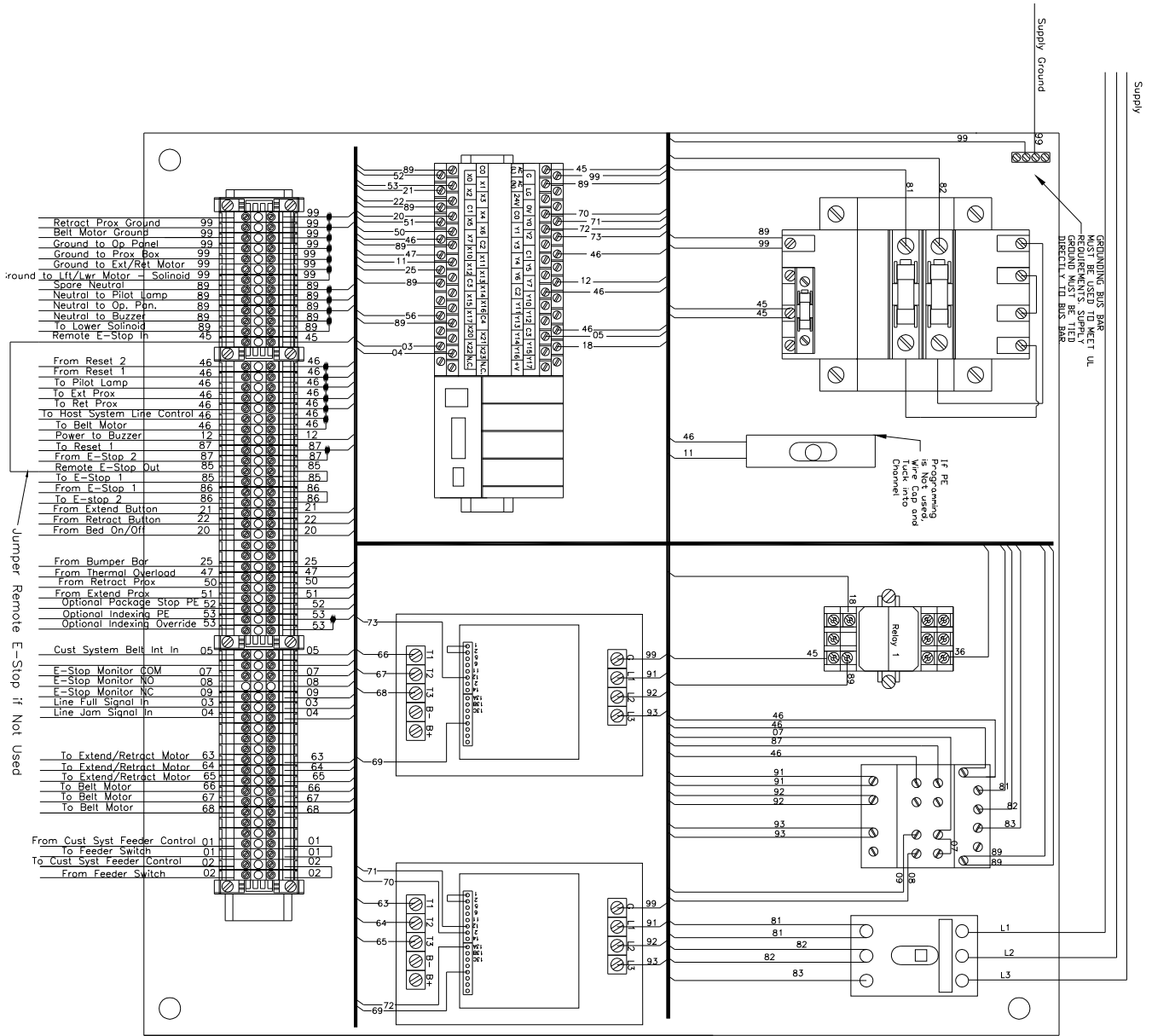
# Panel: 480V, Variable Speed, BOM

REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
13	1	300271	2HP AC Freq. Drive, 480V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	1	300509	3 HP AC Freq. Drive, 480V
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY

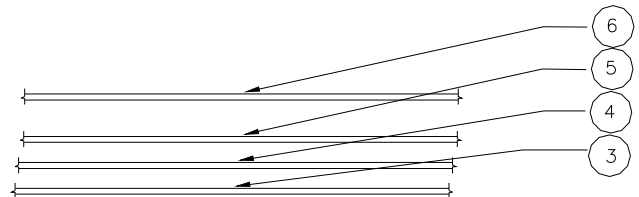
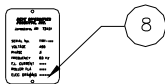
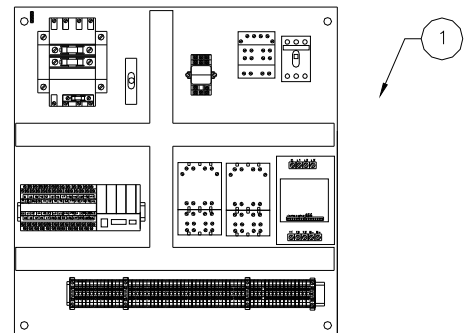


# Panel: 480V, Variable Speed, Wiring Schematic



# Assembly: 4-Stage, 480V, Single Speed, Power Leveling, Receiving

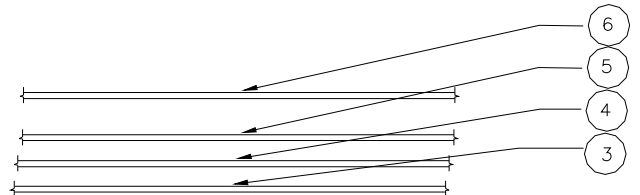
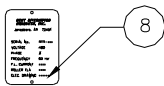
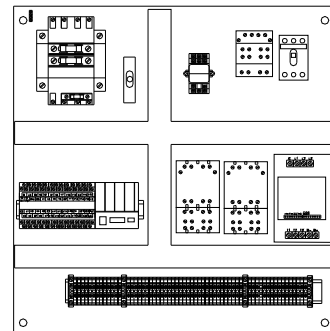
REF.	QTY.	PART #	DESCRIPTION
1	1	302155	Panel, 480V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300601	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing





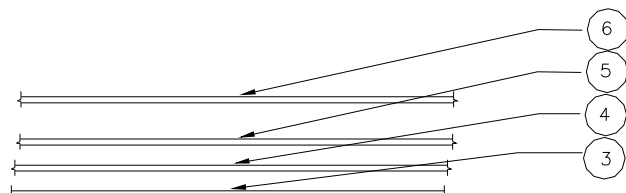
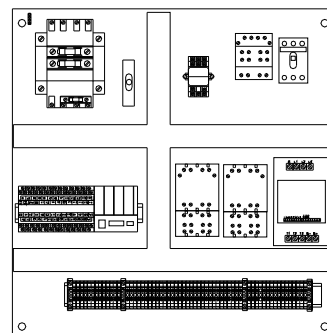
# Assembly: 4-Stage, 480V, Single Speed, Power Leveling, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	302155	Panel, 480V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300601	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



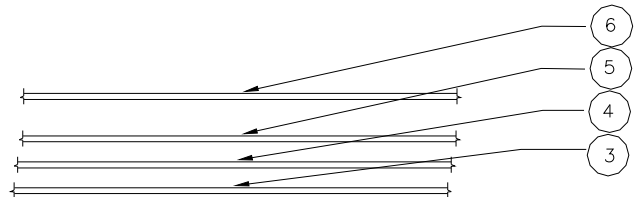
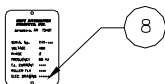
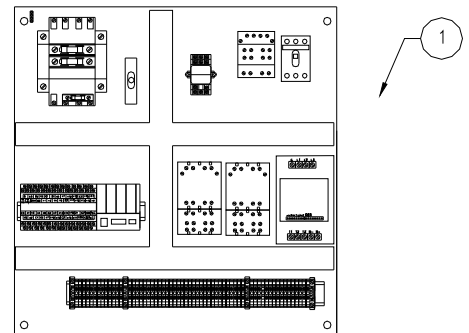
# Assembly: 3-Stage, 480V, Single Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	302155	Panel, 480V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300601	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing

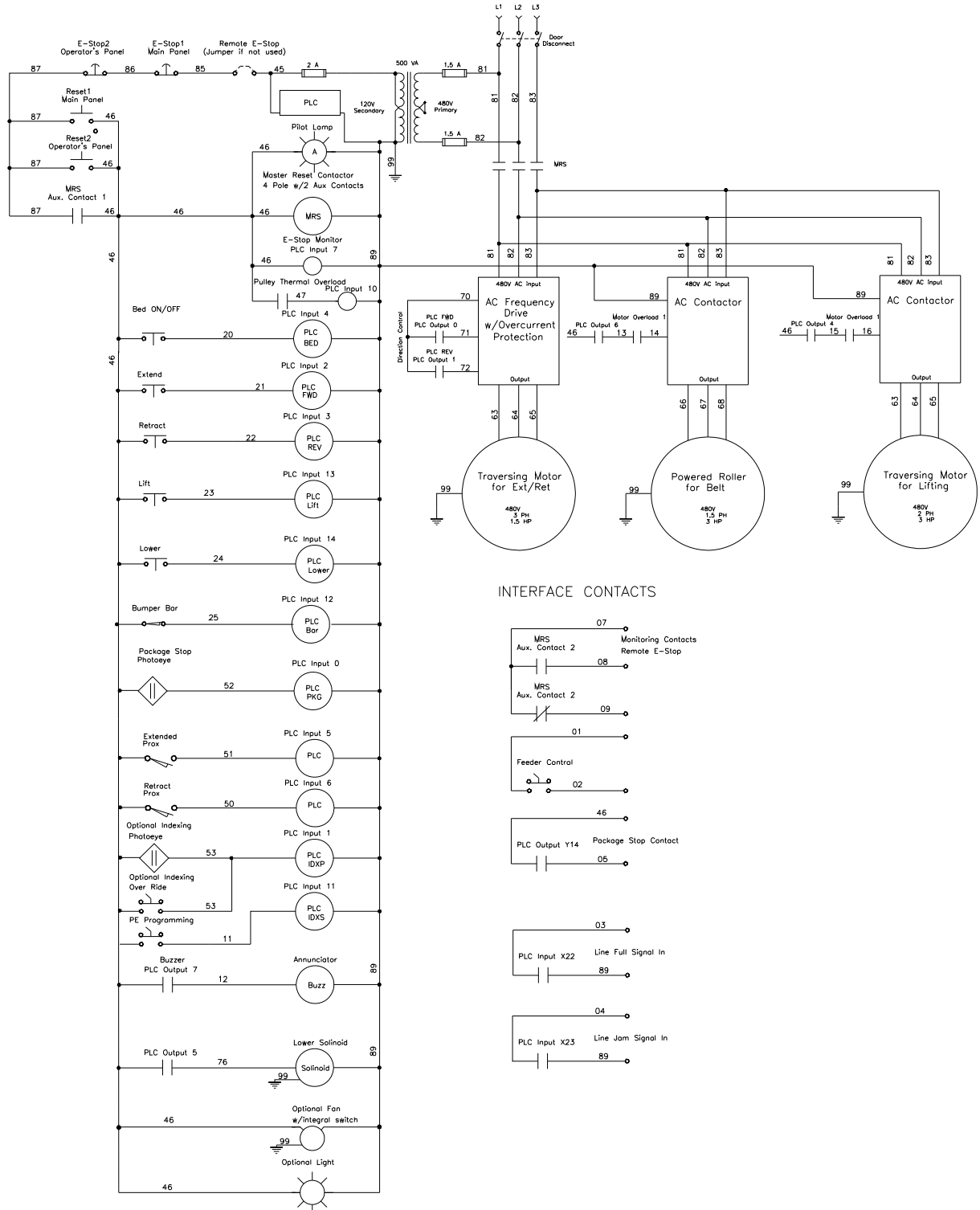


# Assembly: 3-Stage, 480V, Single Speed, Power Leveling, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	302155	Panel, 480V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300601	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



# Schematic: 480V, Single Speed, Power Leveling

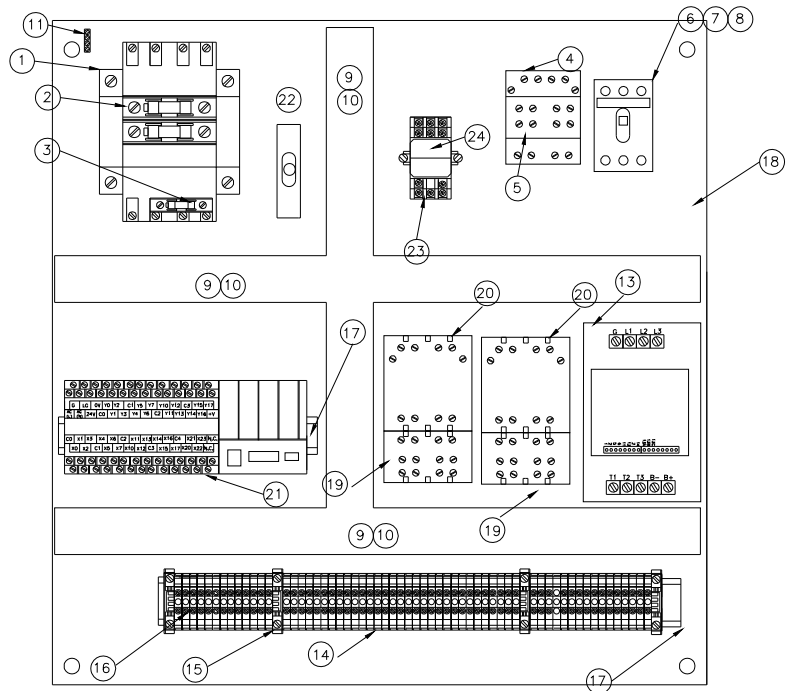


Drawing 300600

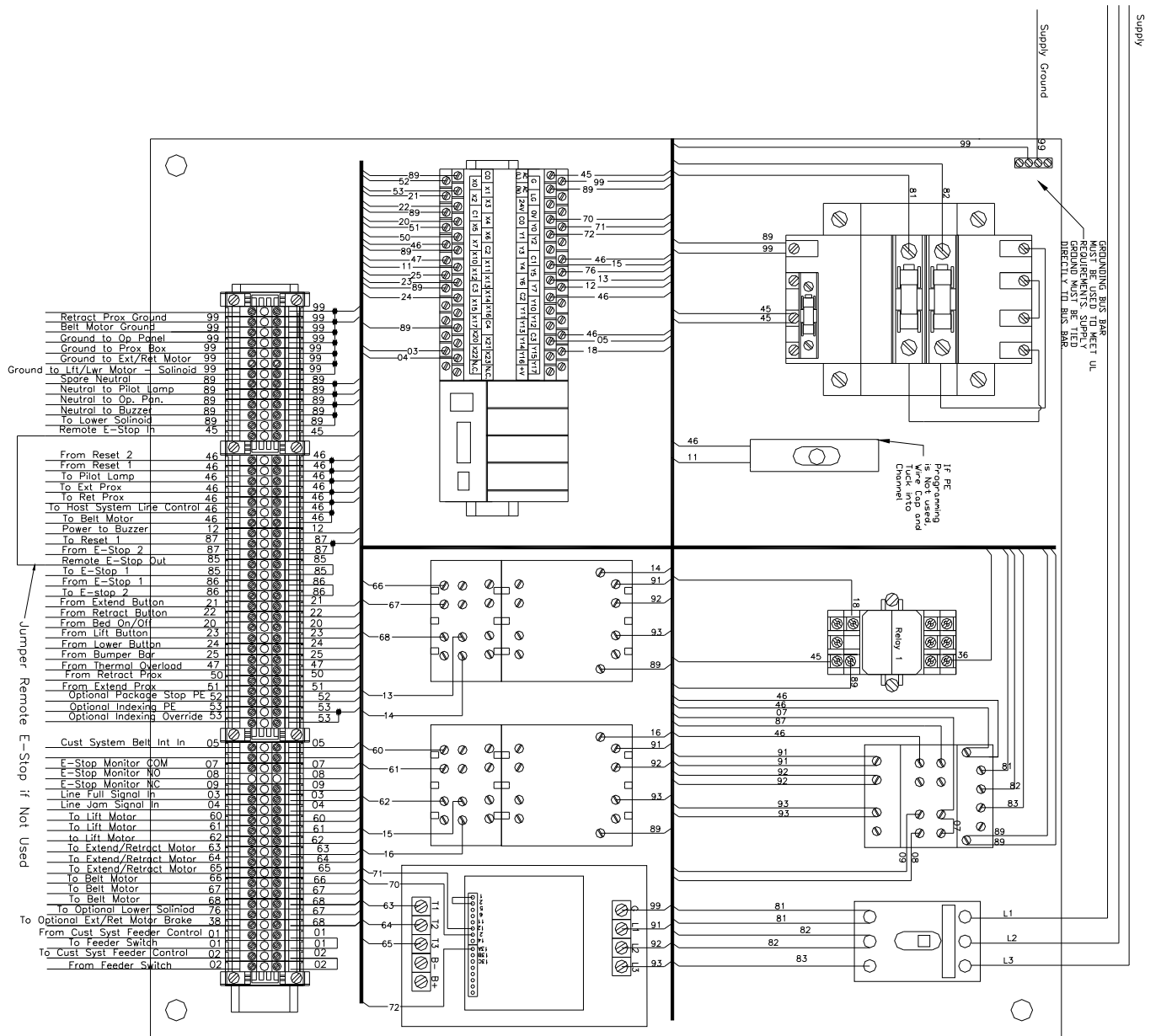
# Panel: 480V, Single Speed, Power Leveling, BOM

REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
12	-	-	-
13	1	300271	2HP AC Freq. Drive, 480V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	2	-	1.8-2.7 A Motor Overload
20	2	300273	4 Pole Contactor
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY



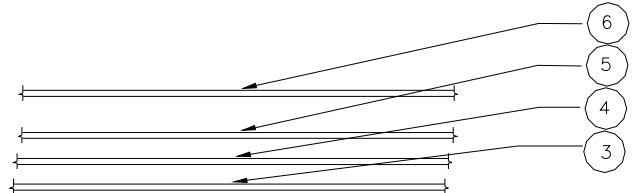
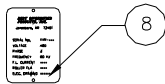
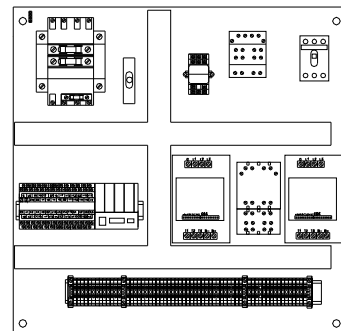
# Panel: 480V, Power Leveling, Wiring Schematic



Drawing 302155-2

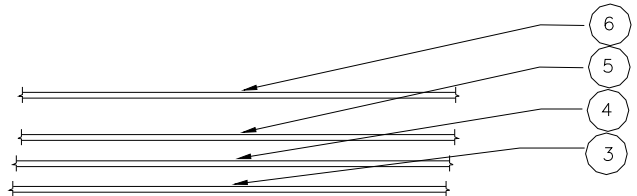
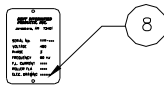
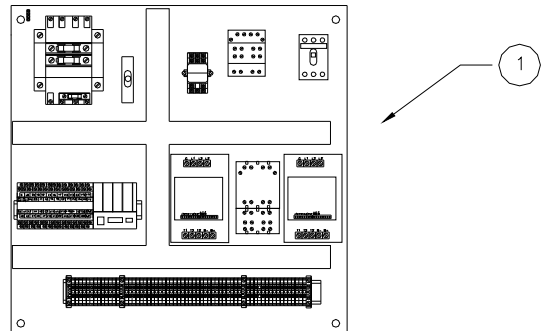
# Assembly: 4-Stage, 480V, Variable Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	302159	Panel, 480V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300603	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing



# Assembly: 4-Stage, 480V, Variable Speed, Power Leveling, Shipping

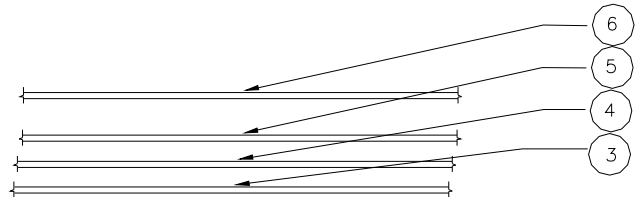
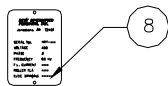
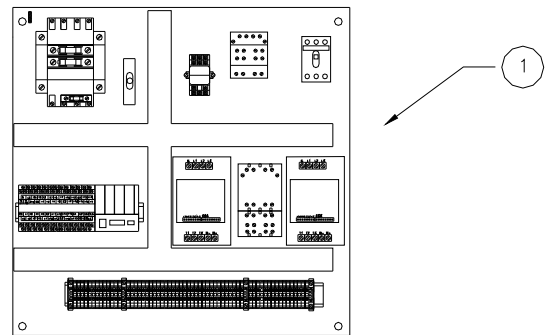
REF.	QTY.	PART #	DESCRIPTION
1	1	302159	Panel, 480V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300603	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18





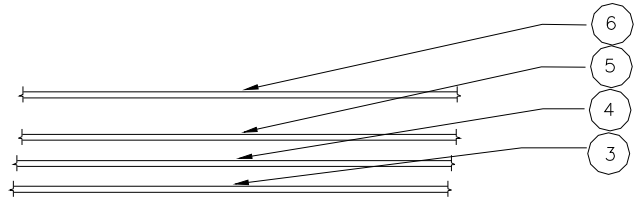
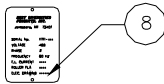
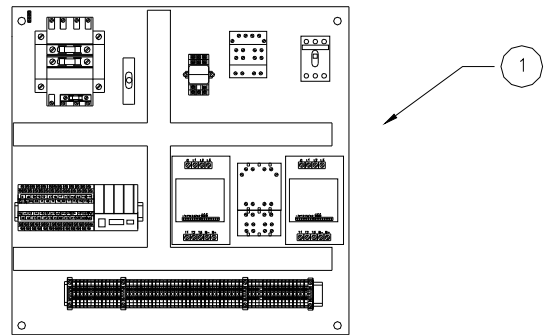
# Assembly: 3-Stage, 480V, Variable Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	302159	Panel, 480V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300603	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing

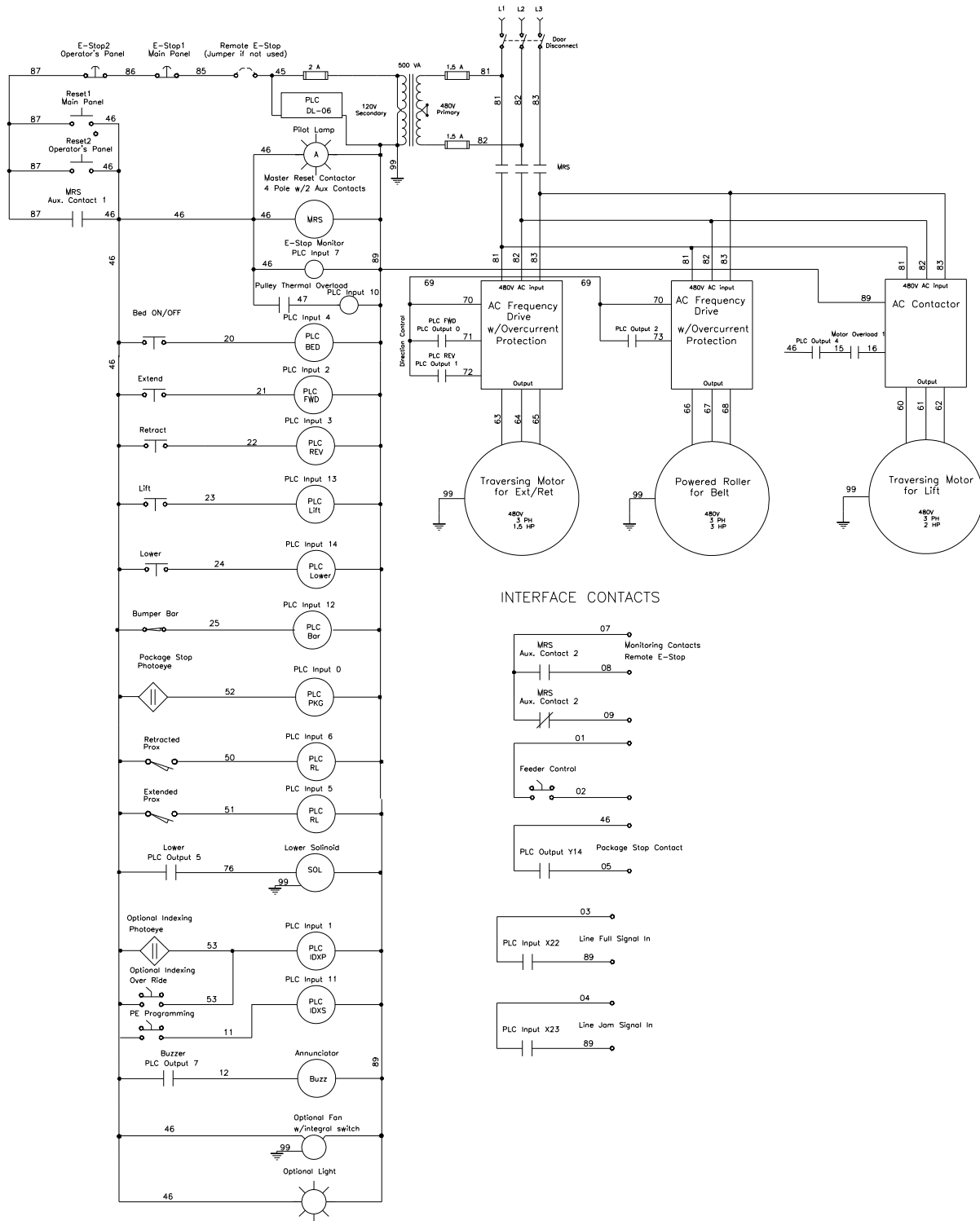


# Assembly: 3-Stage, 480V, Variable Speed, Power Leveling, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	302159	Panel, 480V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300603	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300628	Elect Assembly - Belt Motor
12	1	300630	Elect Assembly - E/R Motor
13	1	300631	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



# Schematic: 480V, Variable Speed, Power Leveling

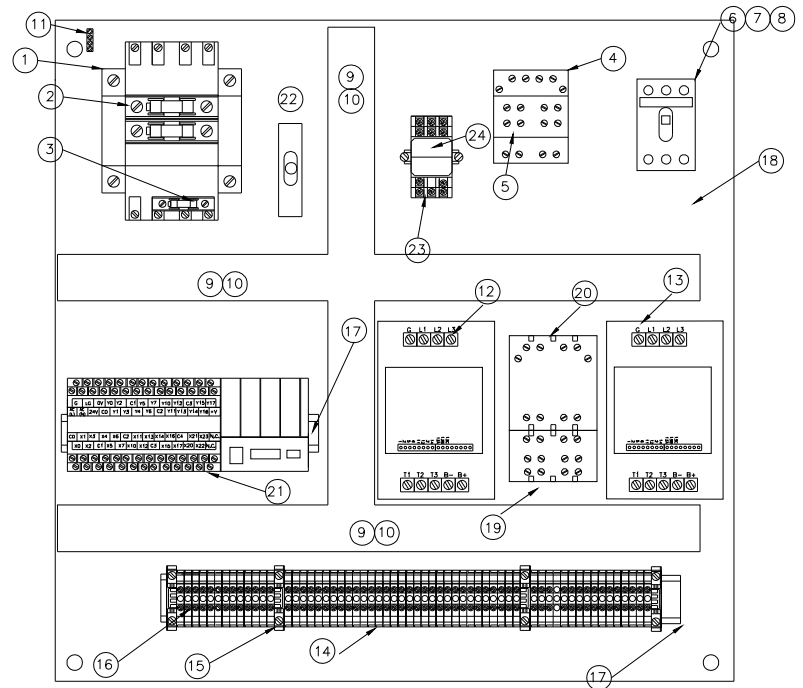


Drawing 300602

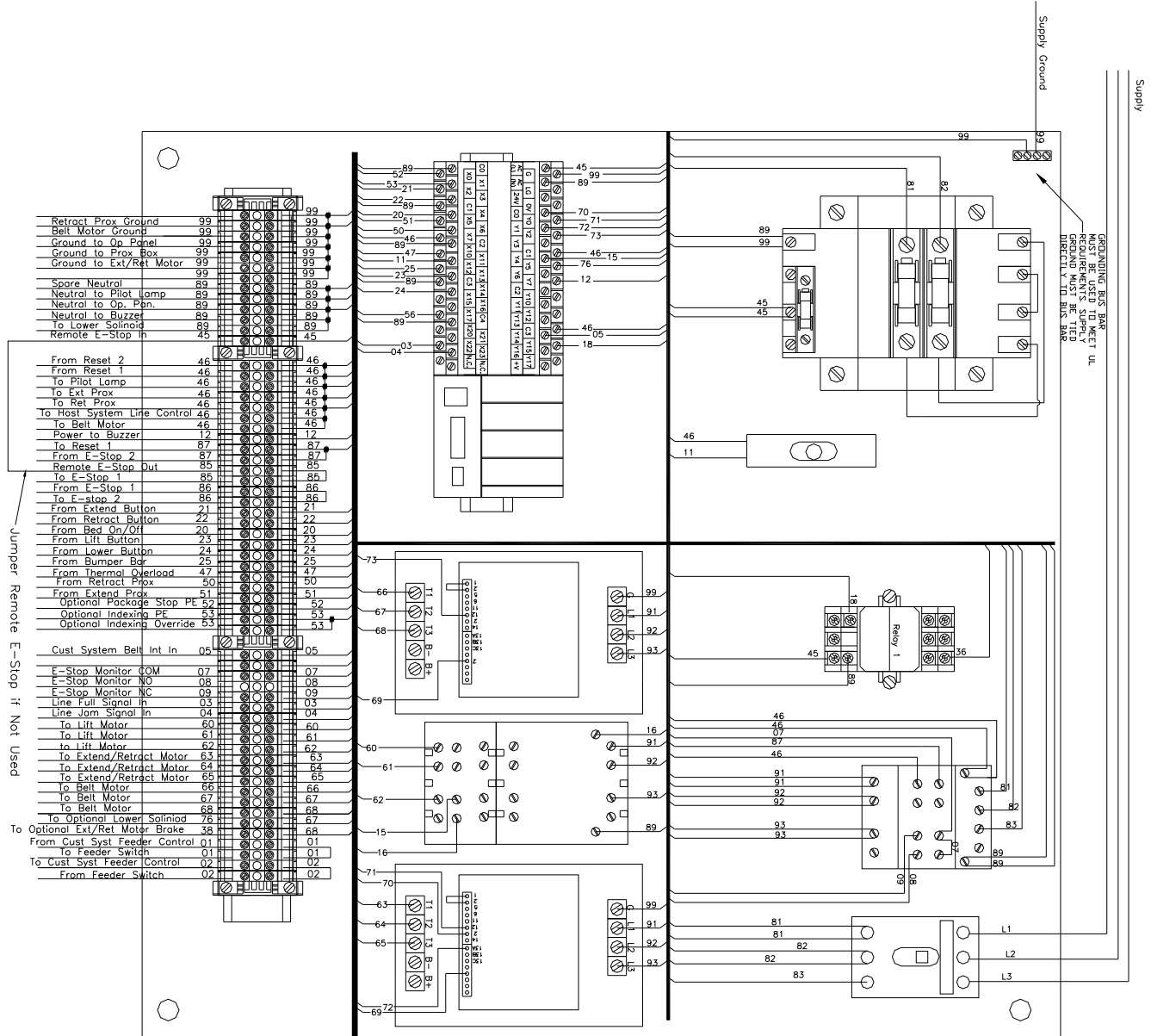
# Panel: 480V, Variable Speed, Power Leveling, BOM

REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
12	1	300509	3 HP AC Freq. Drive, 480V
13	1	300271	2HP AC Freq. Drive, 480V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	1	302156	1.8-2.7 A Motor Overload
20	1	300273	4 Pole Contactor
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY



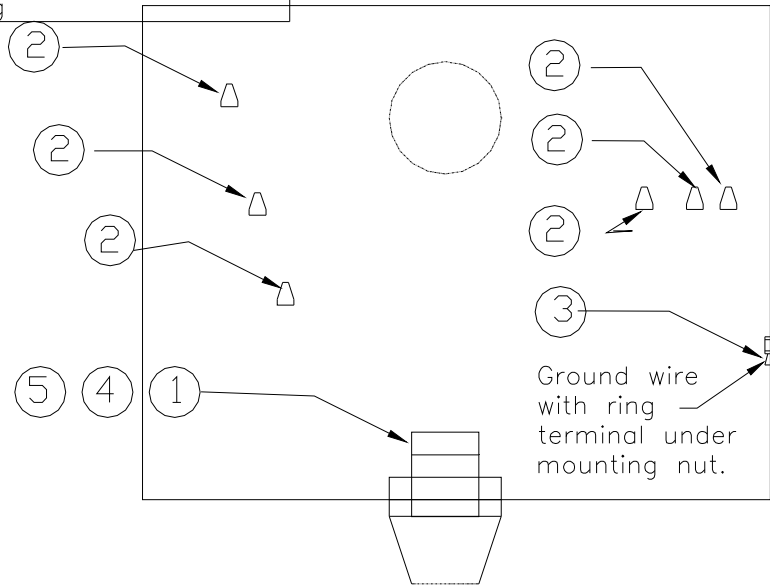
# Panel: 480V, Variable Speed, Power Leveling, Wiring Schematic



# Extend/Retract Motor BOM

ITEM	QTY	PART NO	DESCRIPTION
1	1	300213	Strain Relief
2	6	15026-2	Wire Nut
3	1	15016	Ring Terminal
4	1	15010-N	1/2" Lock Nut
5	1	300113	1/2" Bushing

All connections must be wrapped with electrical tape after assembly

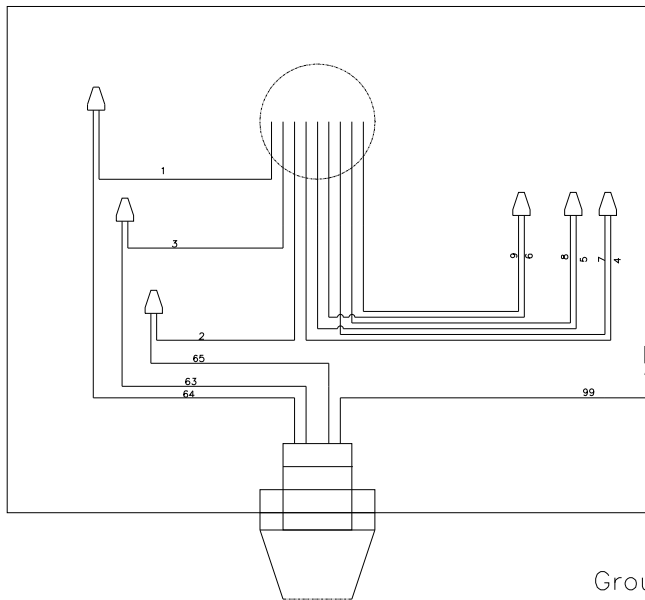


# Extend/Retract Motor Connections

## Wire Key

Color	Wire #
Red	64
White	63
Black	65
Green	99

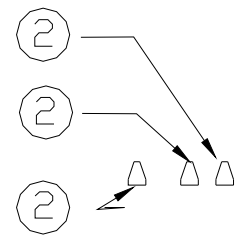
All connections must be wrapped with electrical tape after assembly



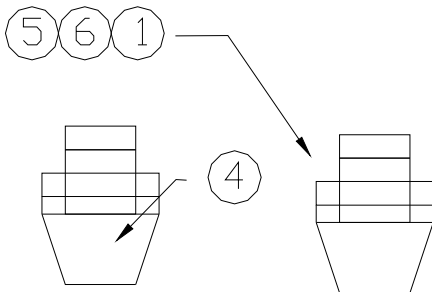
Ground wire with ring terminal under mounting nut.

# Belt Motor BOM

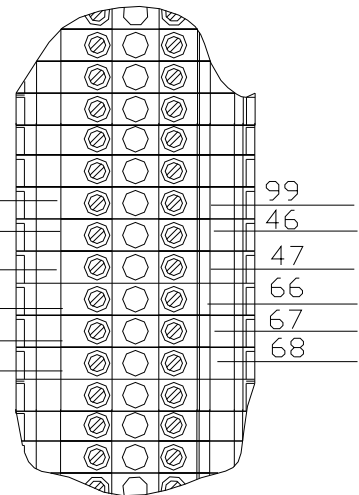
ITEM	QTY	PART NO	DESCRIPTION
1	1	300115	Strain Relief
2	3	15026-2	WIRE NUT
REF	3	15025	WIRE TIE
4	REF	300115	Strain Relief
5	1	300113	1/2" Bushing
6	1	15010-N	1/2" Locknut



All connections must be wrapped with electrical tape after assembly



Ground	99	99
To Belt Motor	46	46
Thermal Overload	47	47
To Belt Motor	66	66
To Belt Motor	67	67
To Belt Motor	68	68





# Belt Motor Connections

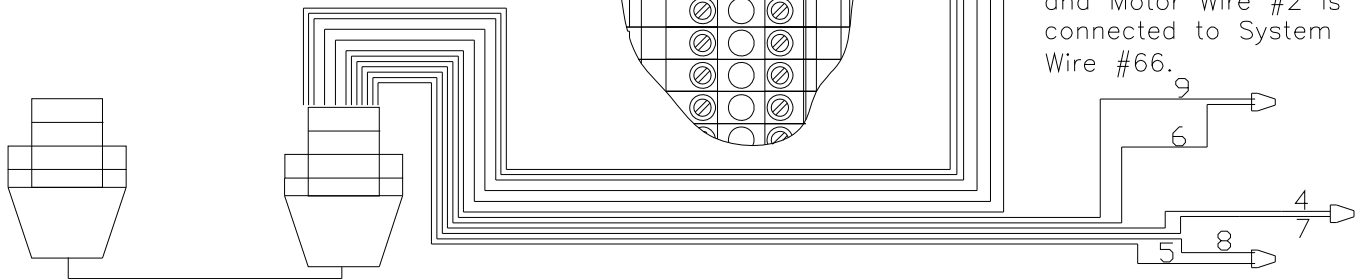
All connections must be wrapped with electrical tape after assembly

Belt Motor Ground	99
To Belt Motor	46
Thermal Overload	47
To Belt Motor	66
To Belt Motor	67
To Belt Motor	68

Receiving Motor Connection Numbering

Motor Wire #	System Wire #
10	99
11	46
12	47
2	66
1	67
3	68

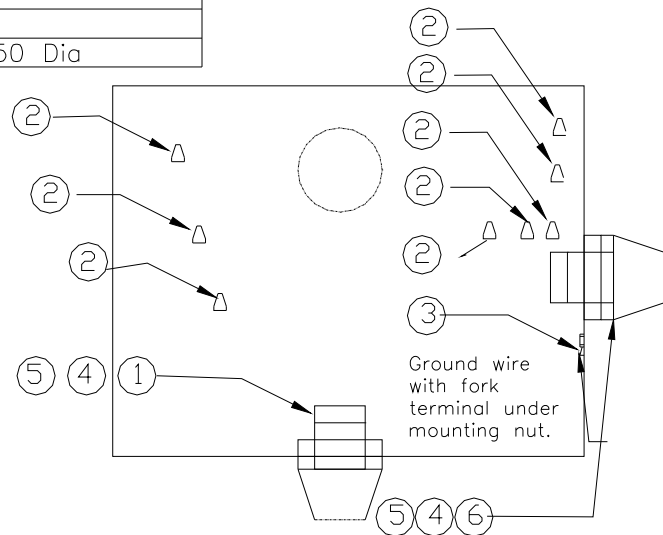
For Shipping Applications, Motor Wire #1 is connected to System Wire #67, and Motor Wire #2 is connected to System Wire #66.



# Lift Motor BOM

ITEM	QTY	PART NO	DESCRIPTION
1	1	300213	3/4" Strain Relief
2	11	15026-2	Wire Nut
3	1	15015-3	Fork Terminal
4	2	15010-N	1/2" Lock Nut
5	22	300113	1/2" Bushing
6	1	302165	Strain Relief .125-.250 Dia

All connections must be wrapped with electrical tape after assembly



# Lift Motor Connections

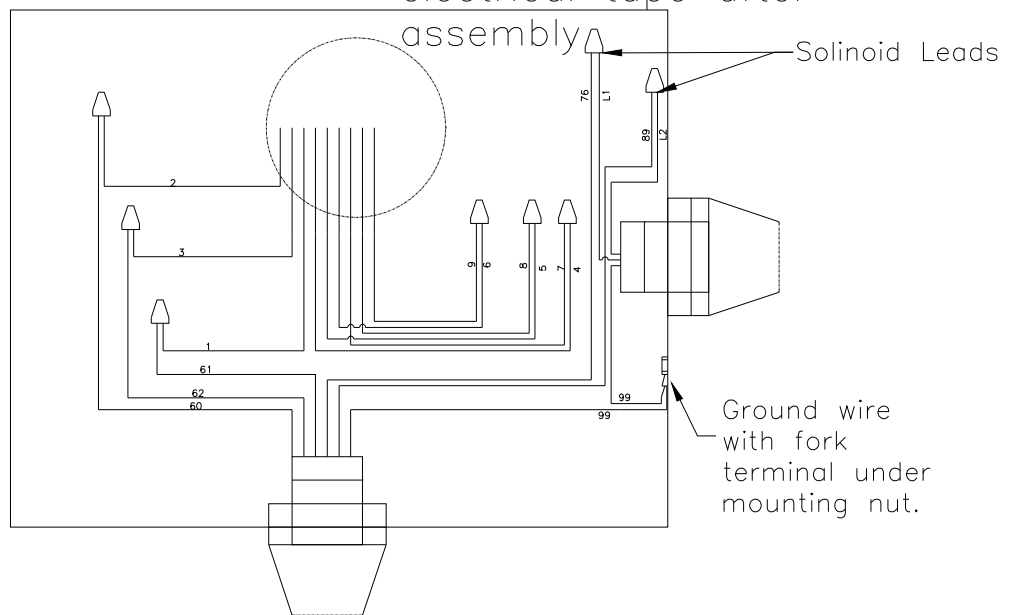
## Wire Key

Color	Wire #
Red	60
White	62
Black	61
Green	99
Blue	76
Wht/Blk	89
Orange	Spare

Wire cap individually and tape motor wires 14, 15 and 16.

Wire nut and tape spare wire

All connections must be wrapped with electrical tape after assembly

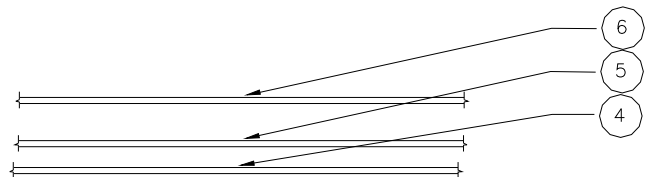
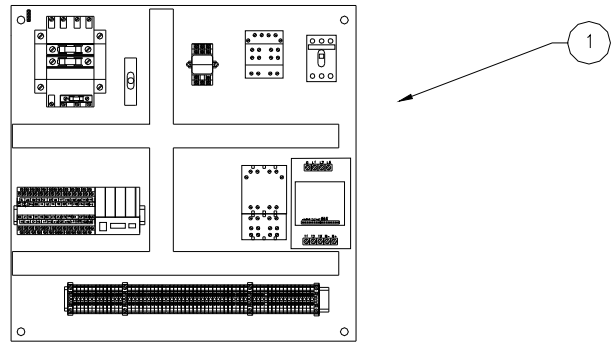


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# **Drawings for 240V AC Model**

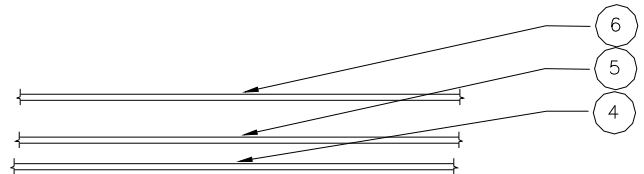
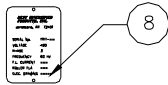
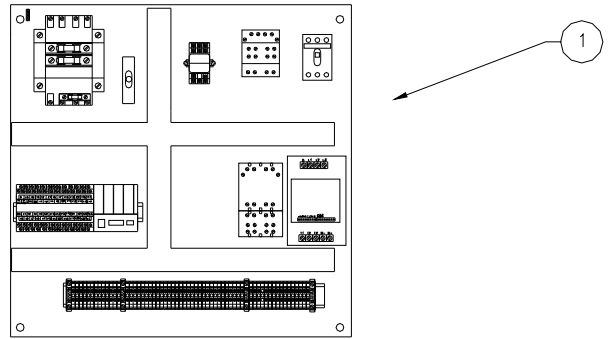
# Assembly: 4-Stage, 240V, Single Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300597	Panel, 240V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300613	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing



# Assembly: 4-Stage, 240V, Single Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300597	Panel, 240V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300613	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18

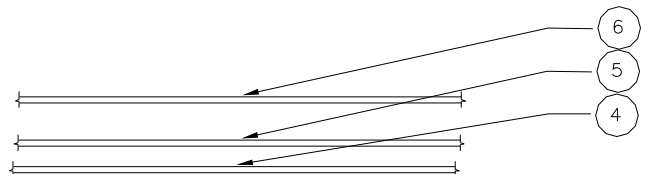
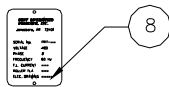
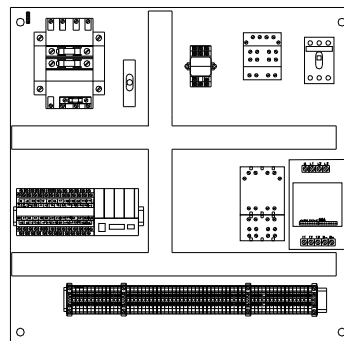


Drawing 800147

# Assembly: 3-Stage, 240V, Single Speed, Receiving

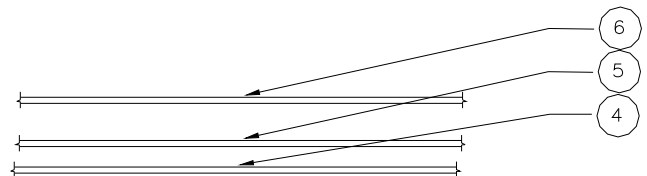
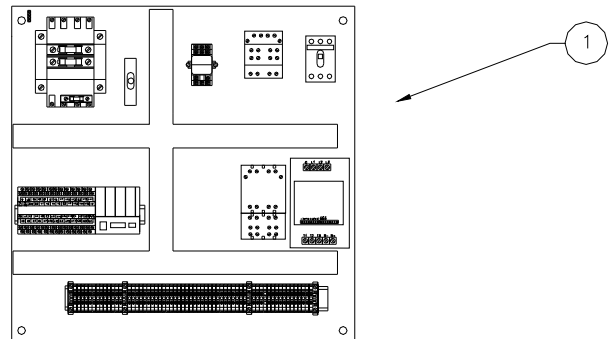
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REF.	QTY.	PART #	DESCRIPTION
1	1	300597	Panel, 240V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300613	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing



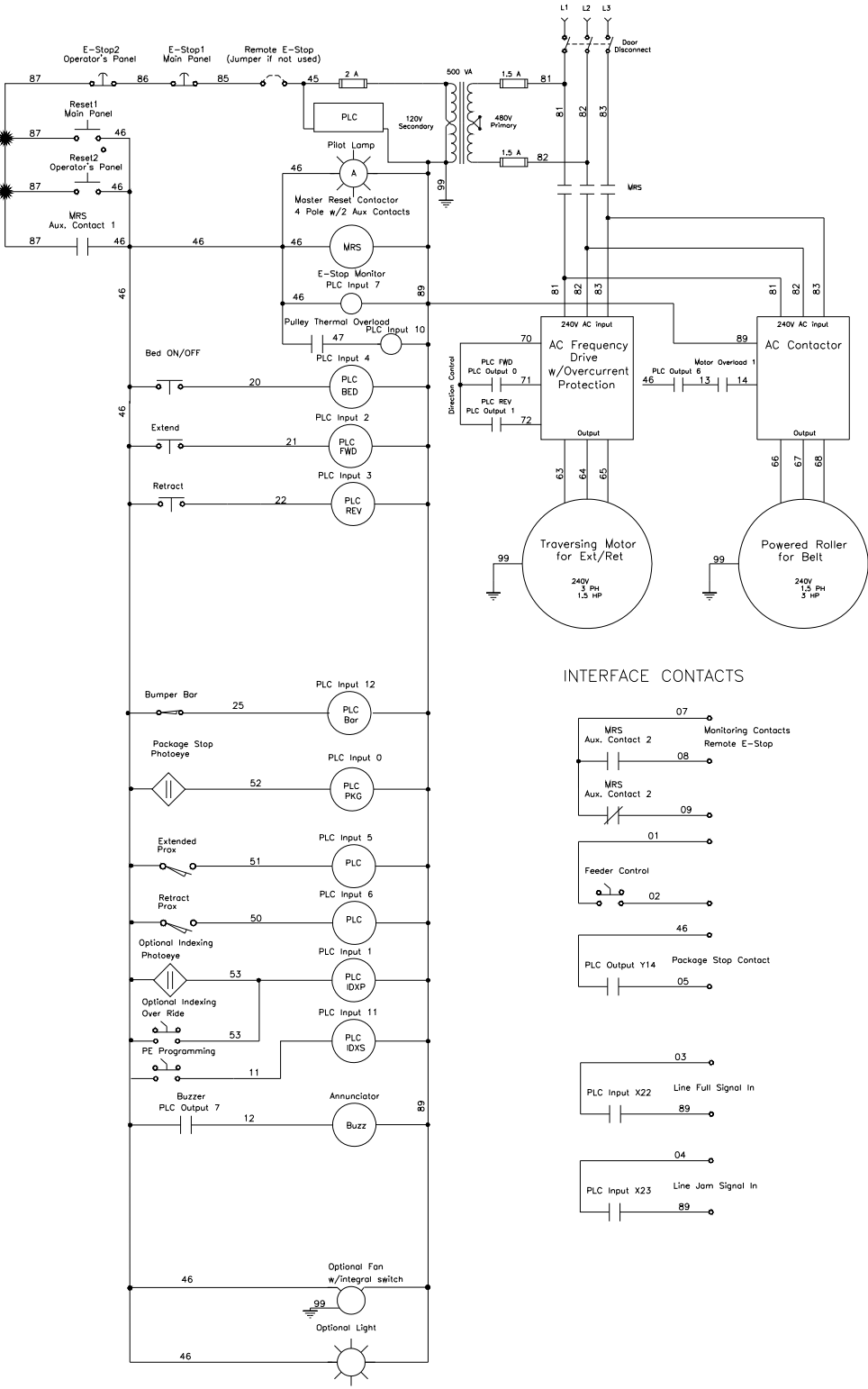
# Assembly: 3-Stage, 240V, Single Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300597	Panel, 240V SS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300613	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18





# Schematic: 240V, Single Speed

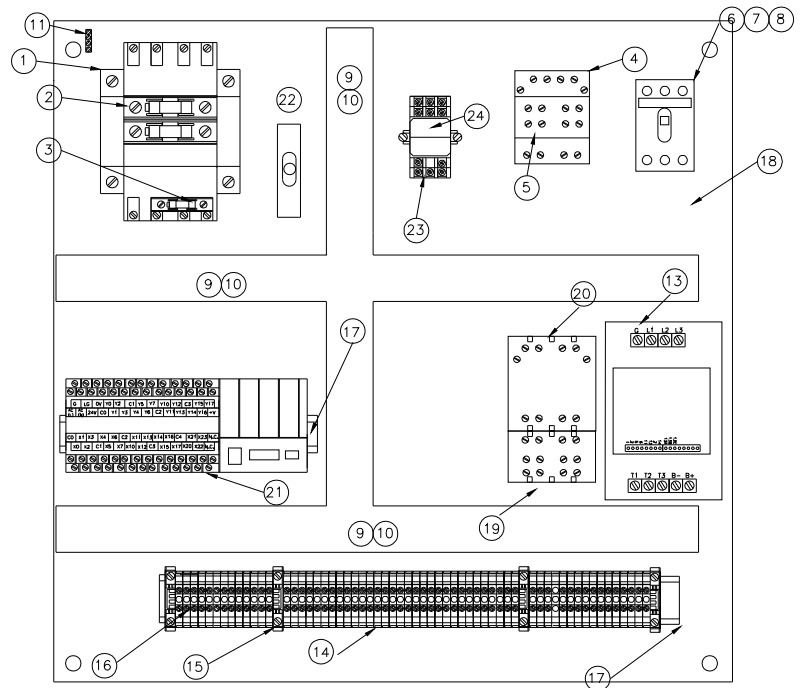


Drawing 300612

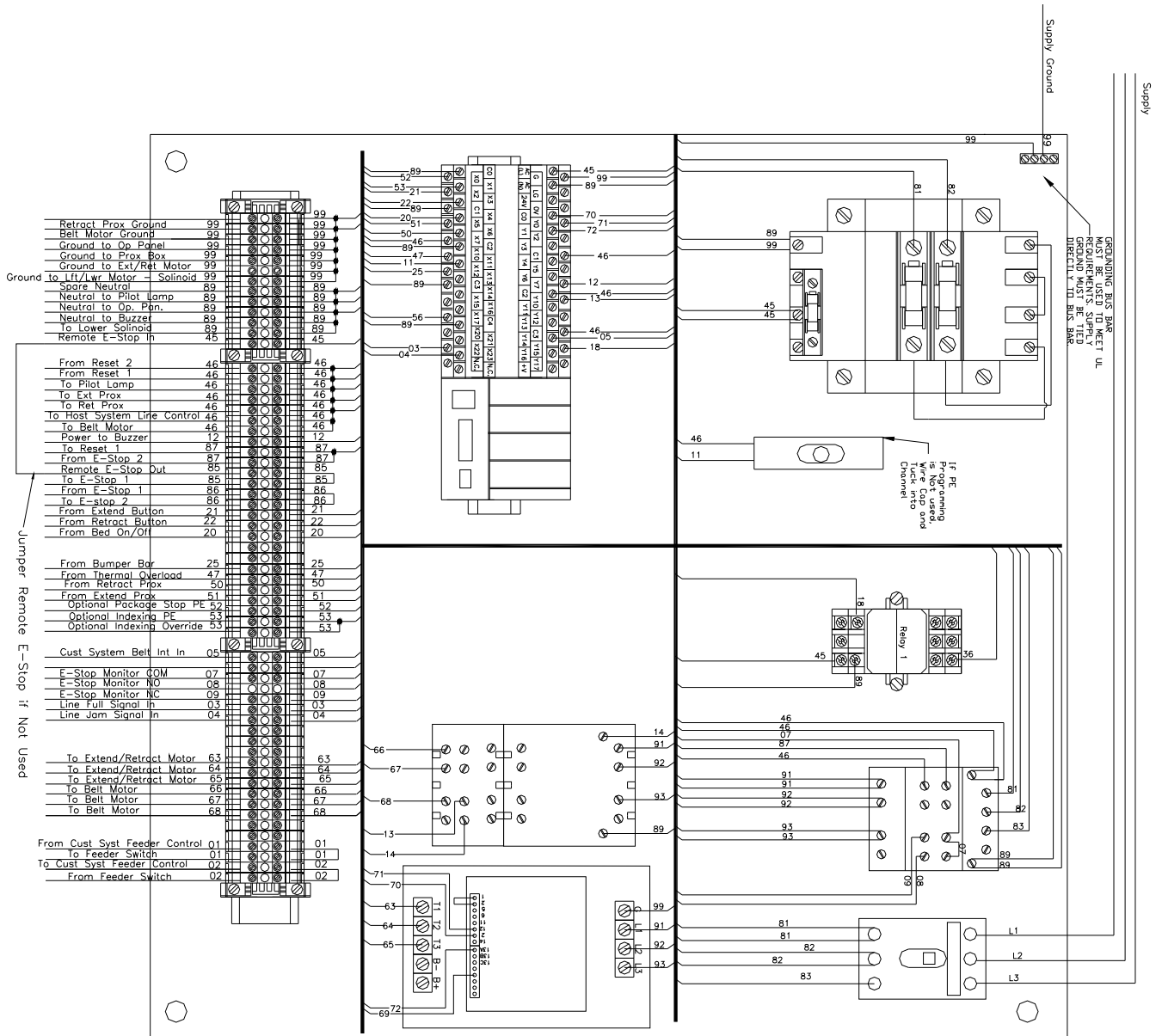
# Panel: 240V, Single Speed, BOM

REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
13	1	300272	2HP AC Freq. Drive, 240V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	1	302156	1.8-2.7 A Motor Overload
20	1	300273	4 Pole Contactor
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY



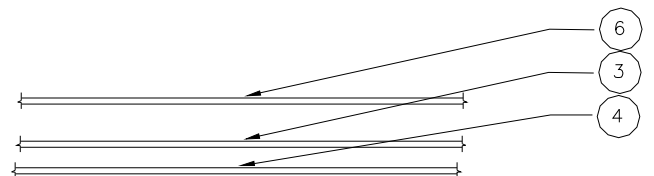
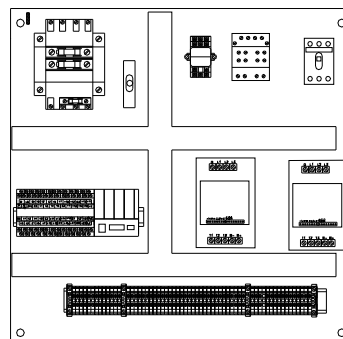
# Panel: 240V, Wiring Schematic



Drawing 300597-2

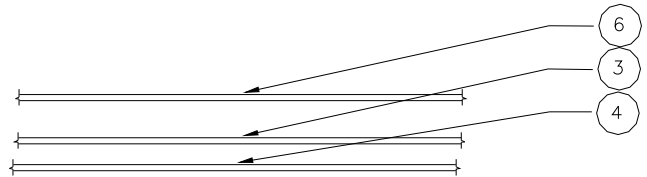
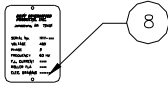
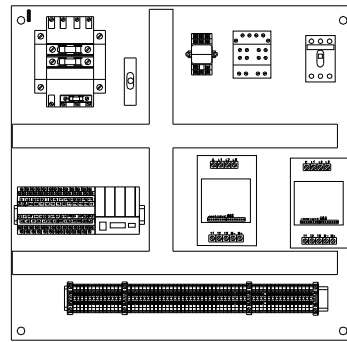
# Assembly: 4-Stage, 240V, Variable Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300598	Panel, 240V VS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300615	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing



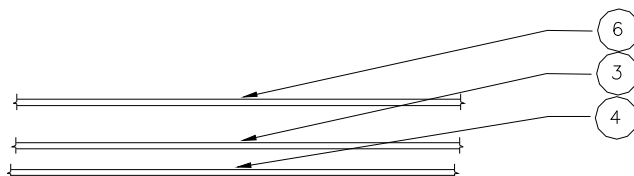
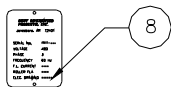
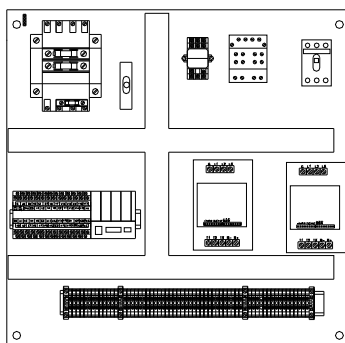
# Assembly: 4-Stage, 240V, Variable Speed, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300598	Panel, 240V VS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300615	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



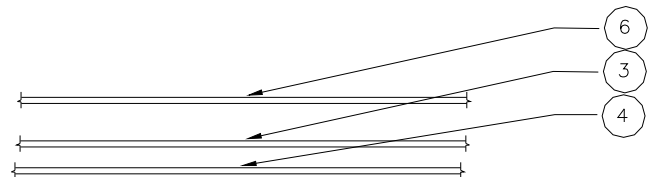
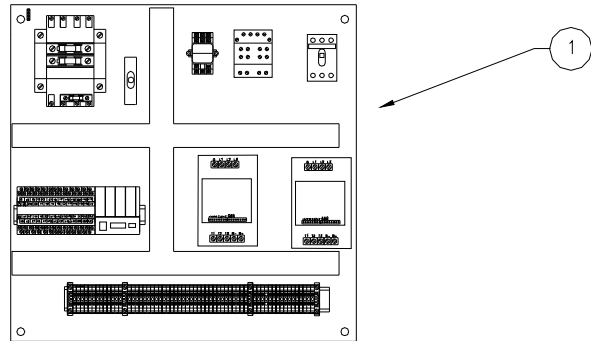
# Assembly: 3-Stage, 240V, Variable Speed, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300598	Panel, 240V VS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300615	Nameplate
9	1	300334	Head Pully - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing

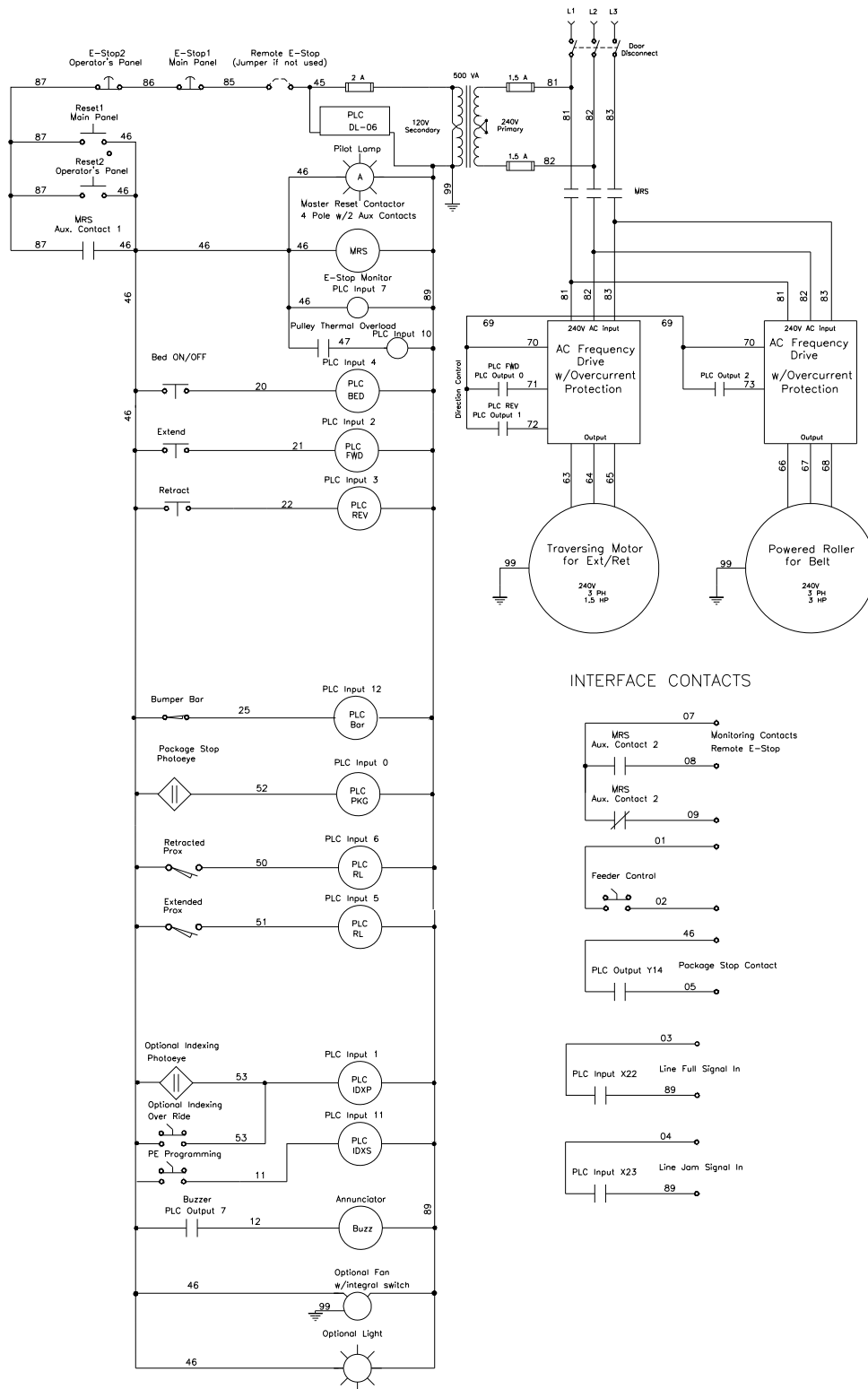


# Assembly: 3-Stage, 240V, Variable Speed, Shipping

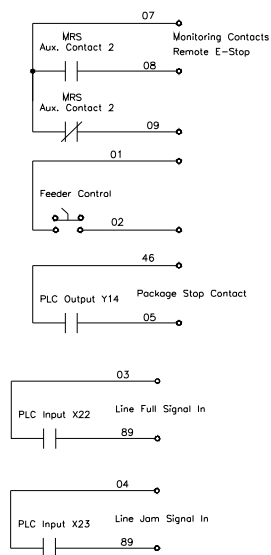
REF.	QTY.	PART #	DESCRIPTION
1	1	300598	Panel, 240V VS TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-14	Cord Elect, 16/3 SO 600 V
4	31	15037-13	Cord Elect, 14/4 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300615	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300633	Operator Panel - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	2	300213	1/2" Strain Relief
17	1	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	4	15010-N	1/2" Locknut
20	1	300119	3/4" Locknut
21	4	300113	1/2" Bushing
22	1	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



# Schematic: 240V, Variable Speed



## INTERFACE CONTACTS



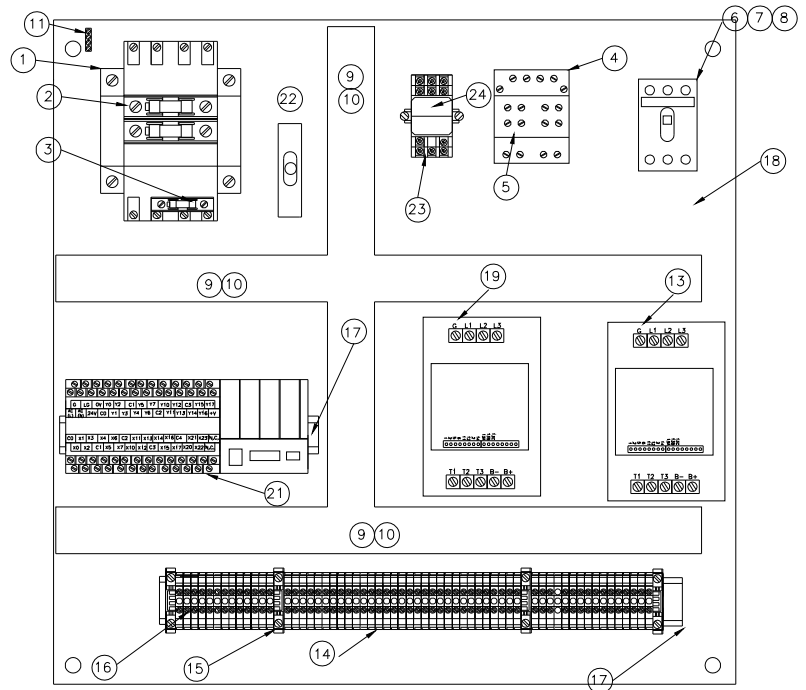
Drawing 300614



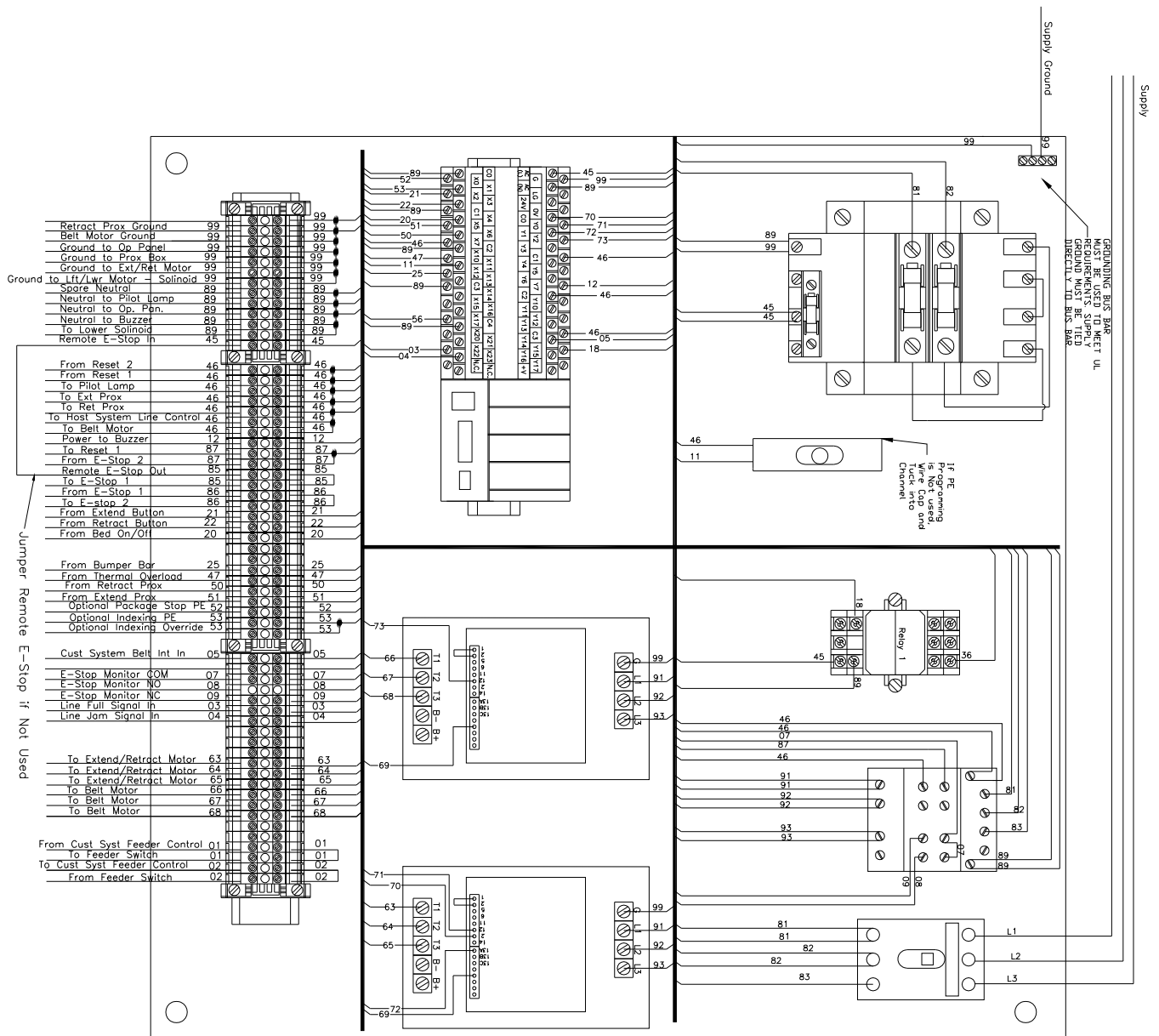
# Panel: 240V, Variable Speed, BOM

REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
13	1	300272	2HP AC Freq. Drive, 240V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	1	300510	3 HP AC Freq. Drive, 240V
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY



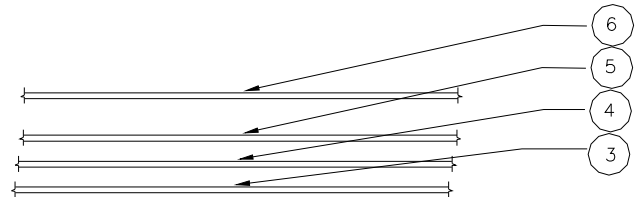
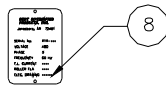
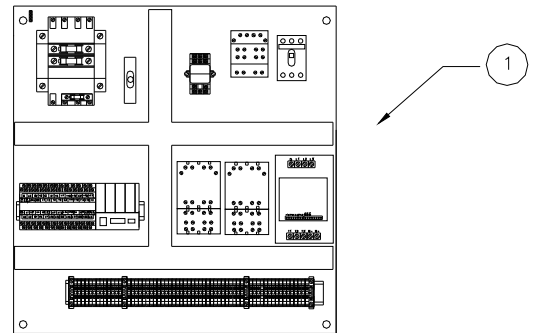
# Panel: 240V, Variable Speed, Wiring Schematic



Drawing 300598-2

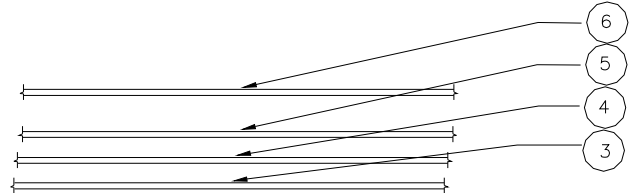
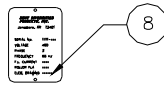
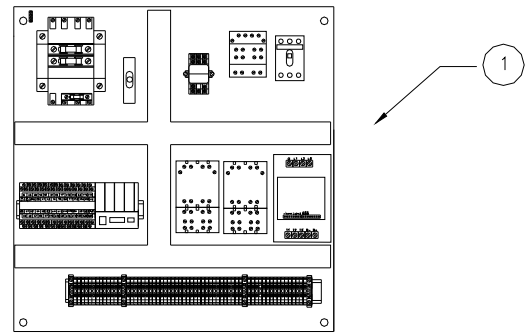
# Assembly: 4-Stage, 240V, Single Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300595	Panel, 240V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300609	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	602162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing



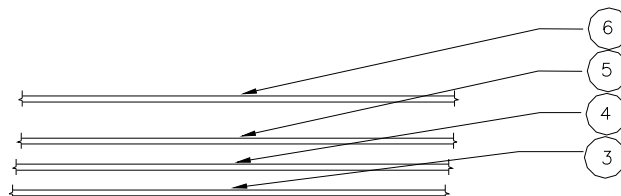
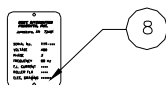
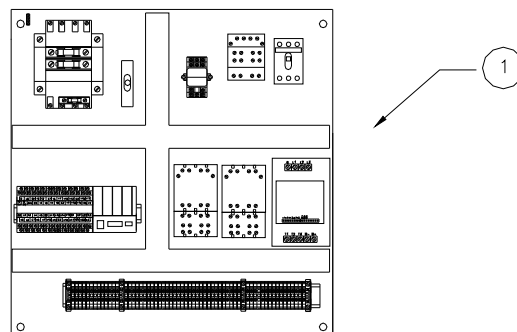
# Assembly: 4-Stage, 240V, Single Speed, Power Leveling, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300595	Panel, 240V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300609	Nomeplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	602162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



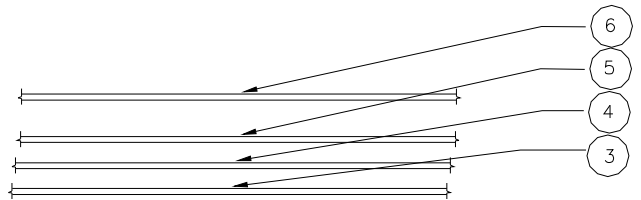
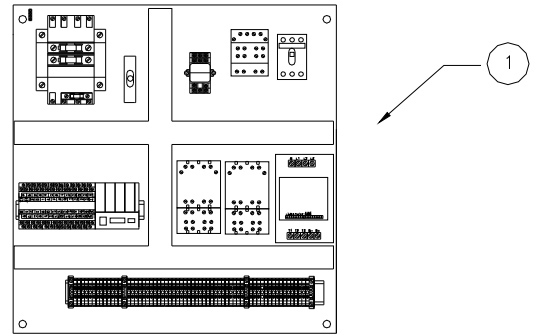
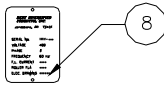
# Assembly: 3-Stage, 240V, Single Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300595	Panel, 240V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300609	Nameplate
9	1	300335	Head Pully - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	602162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing

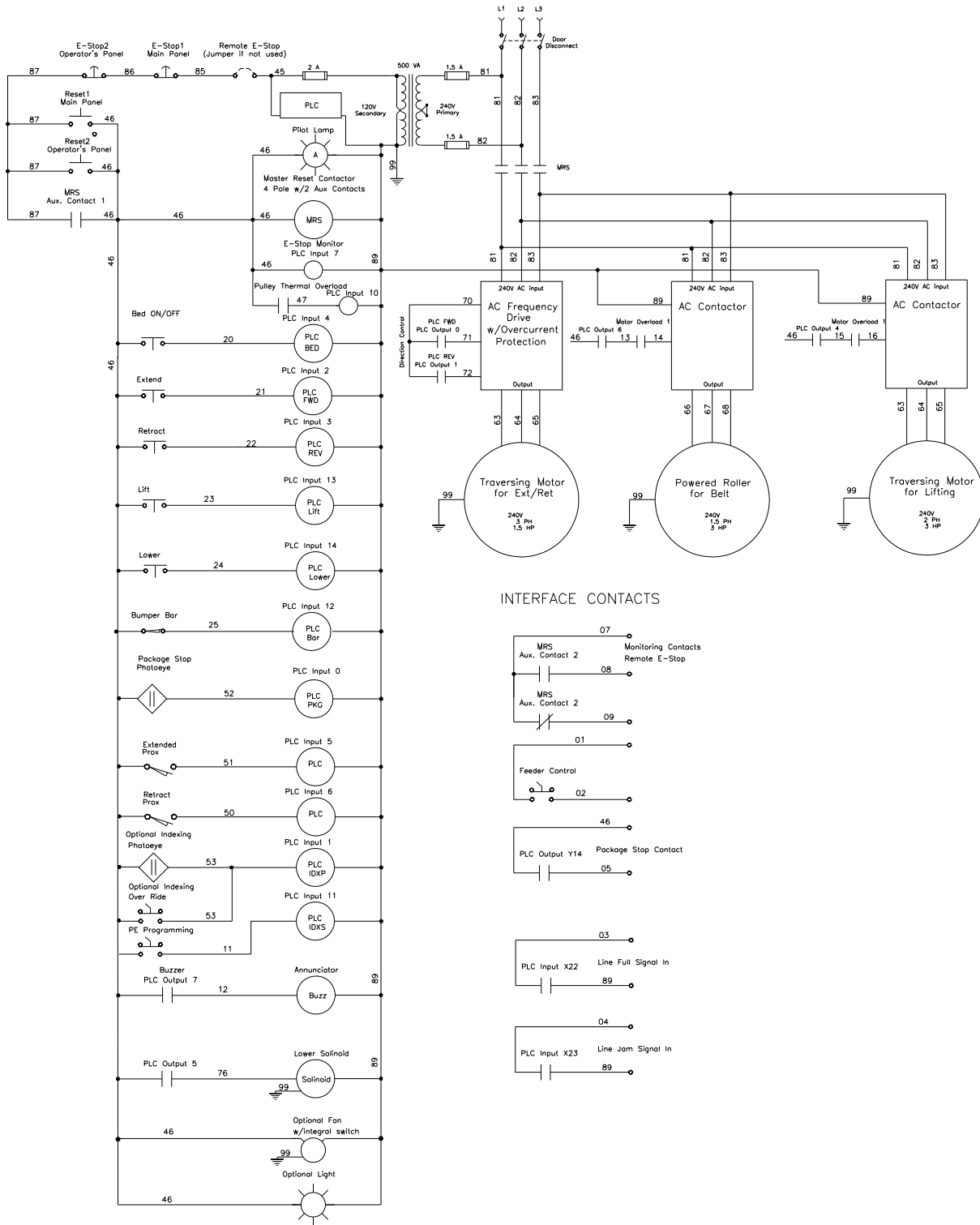


# Assembly: 3-Stage, 240V, Single Speed, Power Leveling, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300595	Panel, 240V SS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300609	Nameplate
9	1	300335	Head Pulley - 1.5 HP 65FPM
10	1	300627	Operator Panel Power Leveling - TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	602162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S18



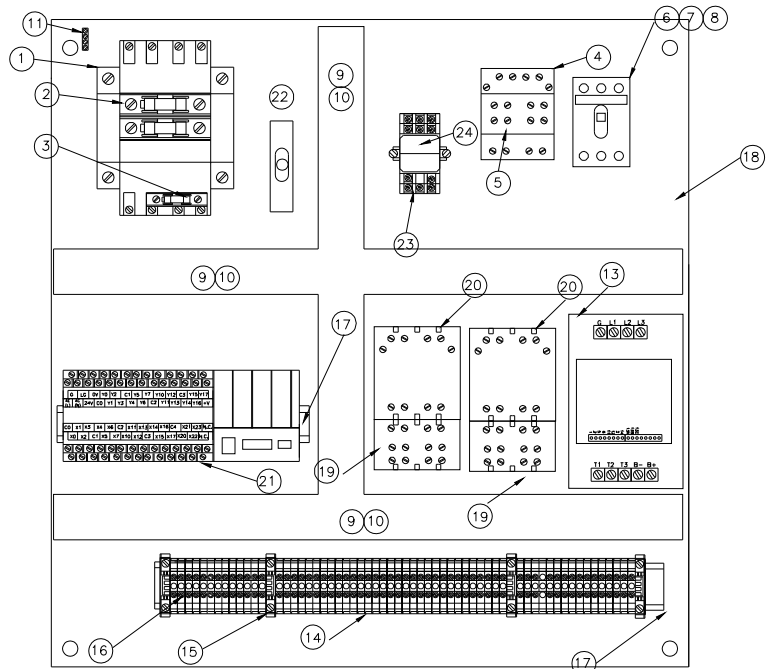
# Schematic: 240V, Single Speed, Power Leveling



# Panel: 240V, Single Speed, Power Leveling, BOM

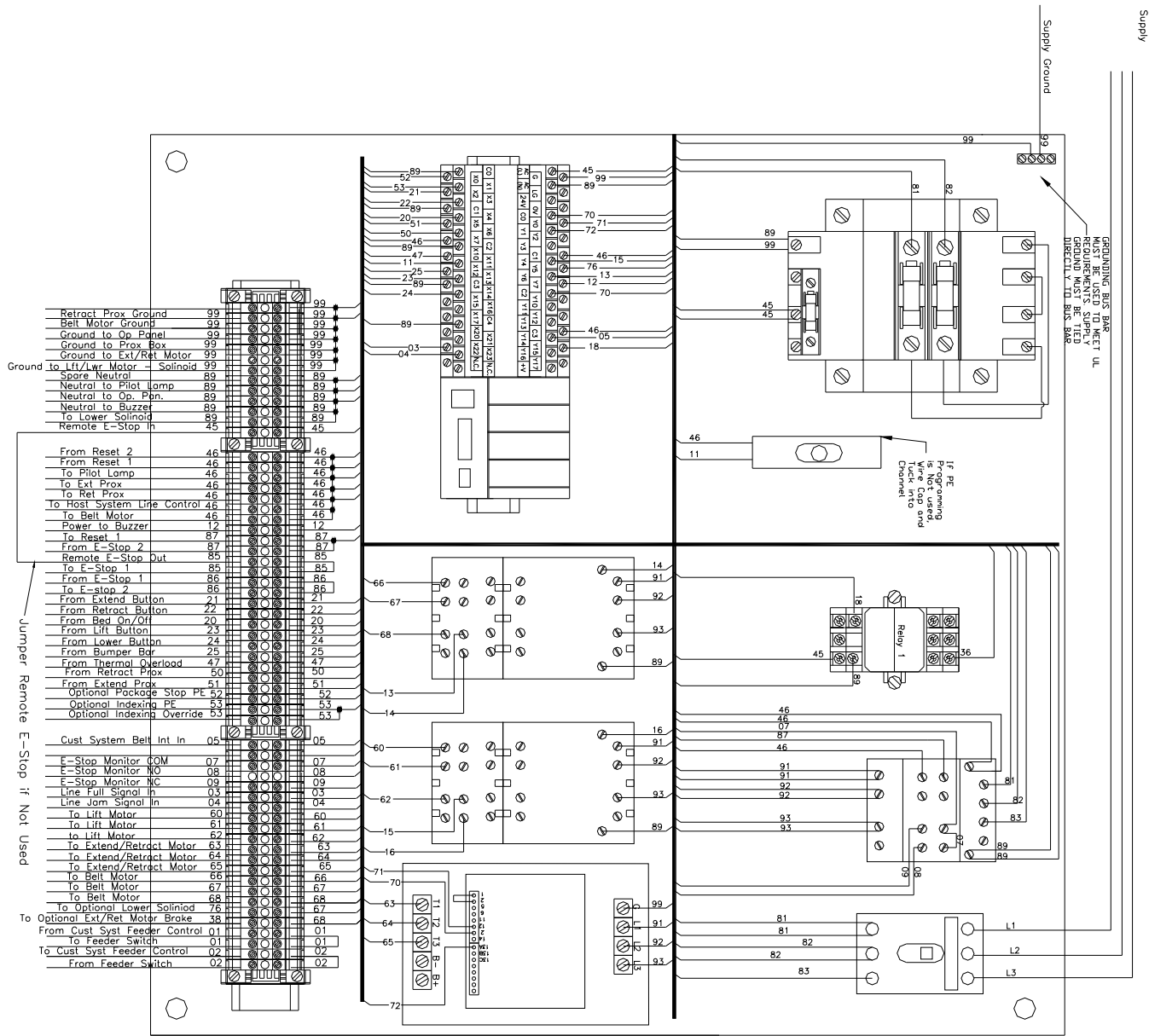
REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
12	-	-	-
13	1	300272	2HP AC Freq. Drive, 240V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	2	-	1.8-2.7 A Motor Overload
20	2	300273	4 Pole Contactor
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY





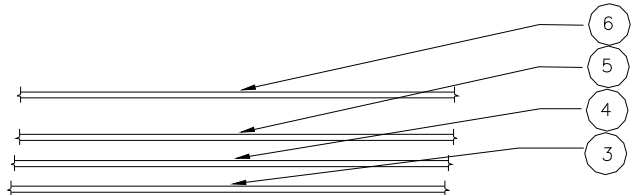
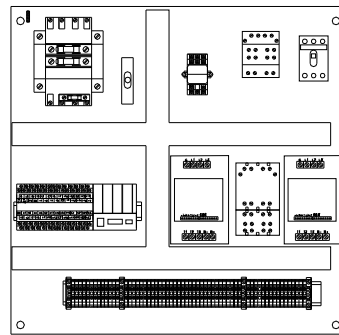
# Panel: 240V, Power Leveling, Wiring Schematic



Drawing 300595-2

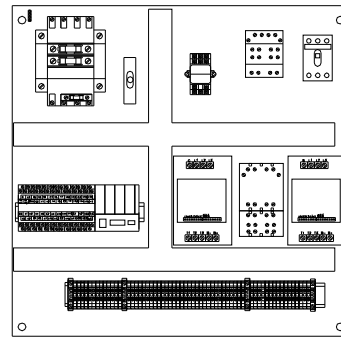
# Assembly: 4-Stage, 240V, Variable Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300596	Panel, 240V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300611	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing



# Assembly: 4-Stage, 240V, Variable Speed, Power Leveling, Shipping

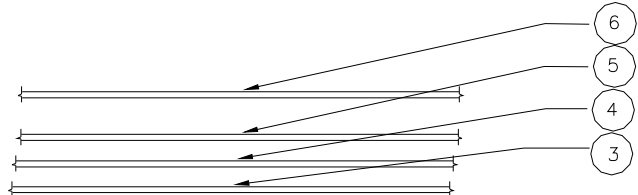
REF.	QTY.	PART #	DESCRIPTION
1	1	300596	Panel, 240V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	115	15037-18	Cord Elect, 18/10 SO 600 V
7	115	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300611	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S-18



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8



6

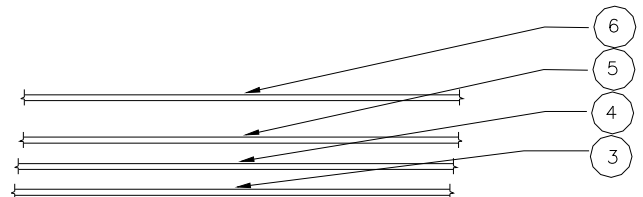
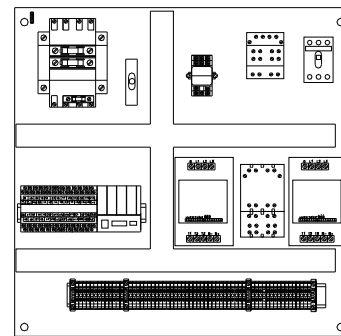
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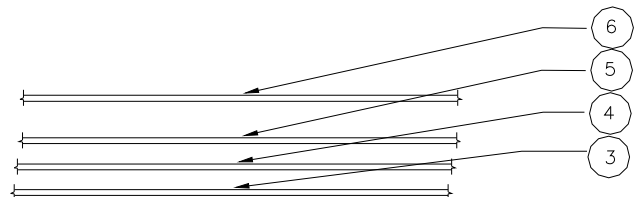
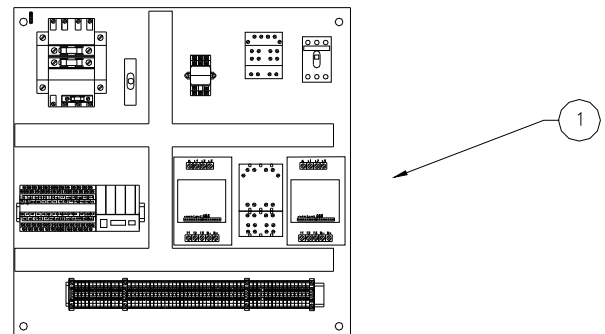
# Assembly, 3-Stage, 240V, Variable Speed, Power Leveling, Receiving

REF.	QTY.	PART #	DESCRIPTION
1	1	300596	Panel, 240V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300611	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing

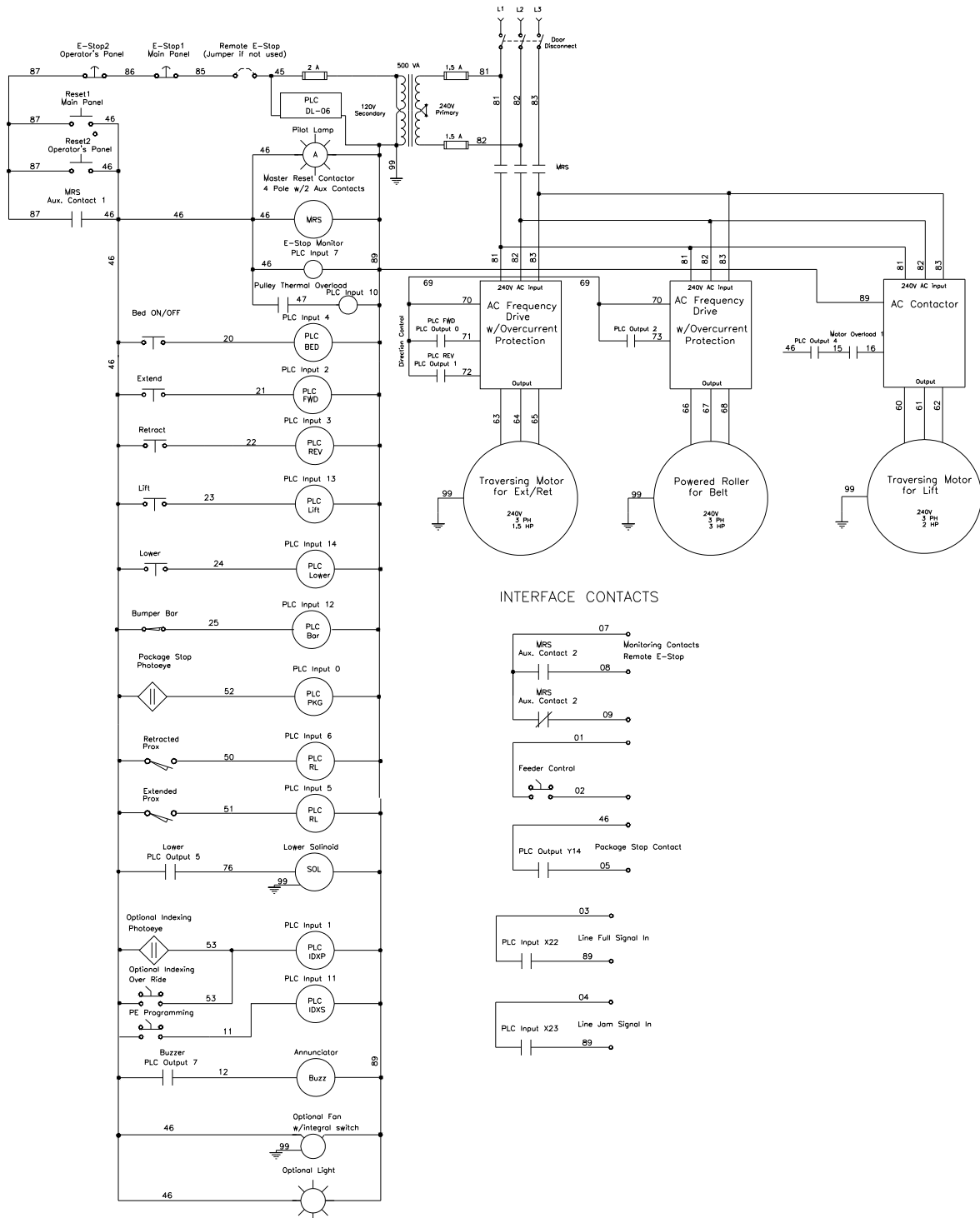


# Assembly: 3-Stage, 240V Variable Speed, Power Leveling, Shipping

REF.	QTY.	PART #	DESCRIPTION
1	1	300596	Panel, 240V VS PL TB
2	8	15037-14	Cord Elect, 16/3 SO 600 V
3	31	15037-13	Cord Elect, 14/4 SO 600 V
4	31	15037-14	Cord Elect, 16/3 SO 600 V
5	40	15037-8	Cord Elect, 16/7 SO 600 V
6	88	15037-18	Cord Elect, 18/10 SO 600 V
7	88	15037-18	Cord Elect, 18/10 SO 600 V
8	1	300611	Nameplate
9	1	300334	Head Pulley - 3.0 HP 120FPM
10	1	300627	Operator Panel Power Leveling- TB
11	1	300629	Elect Assembly - Belt Motor
12	1	300635	Elect Assembly - E/R Motor
13	1	300636	Elect Assembly - L/L Motor
14	1	300637	Elect Assembly - Prox Sensors
15	REF	302162	Enclosure, Reworked - TB
16	3	300213	1/2" Strain Relief
17	2	15012-5	3/4" Strain Relief
18	2	300115	1/2" Strain Relief (Small)
19	5	15010-N	1/2" Locknut
20	2	300119	3/4" Locknut
21	5	300113	1/2" Bushing
22	2	300112	3/4" Bushing
23	3	8-15502	Photoeye Banner S-18



# Schematic: 240V, Variable Speed, Power Leveling

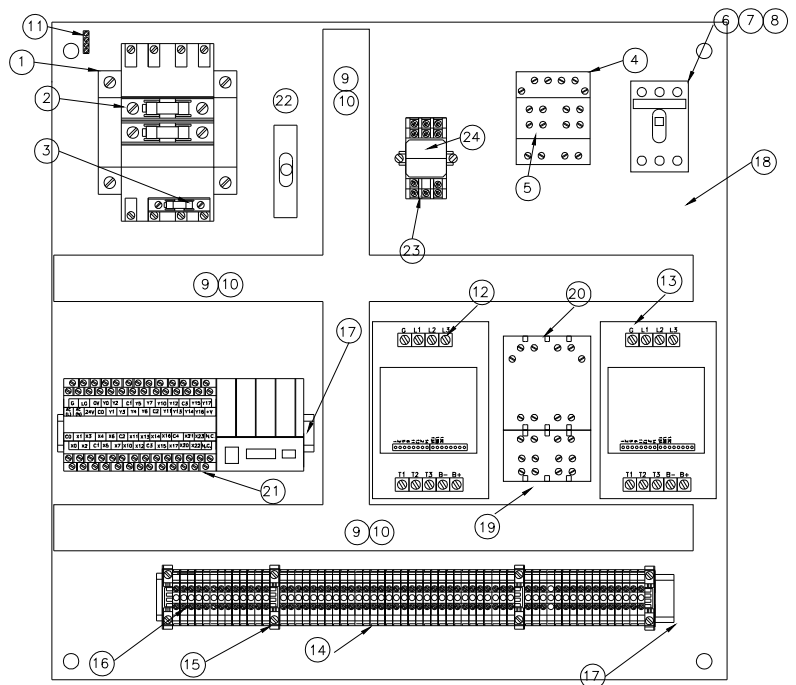


Drawing 300610

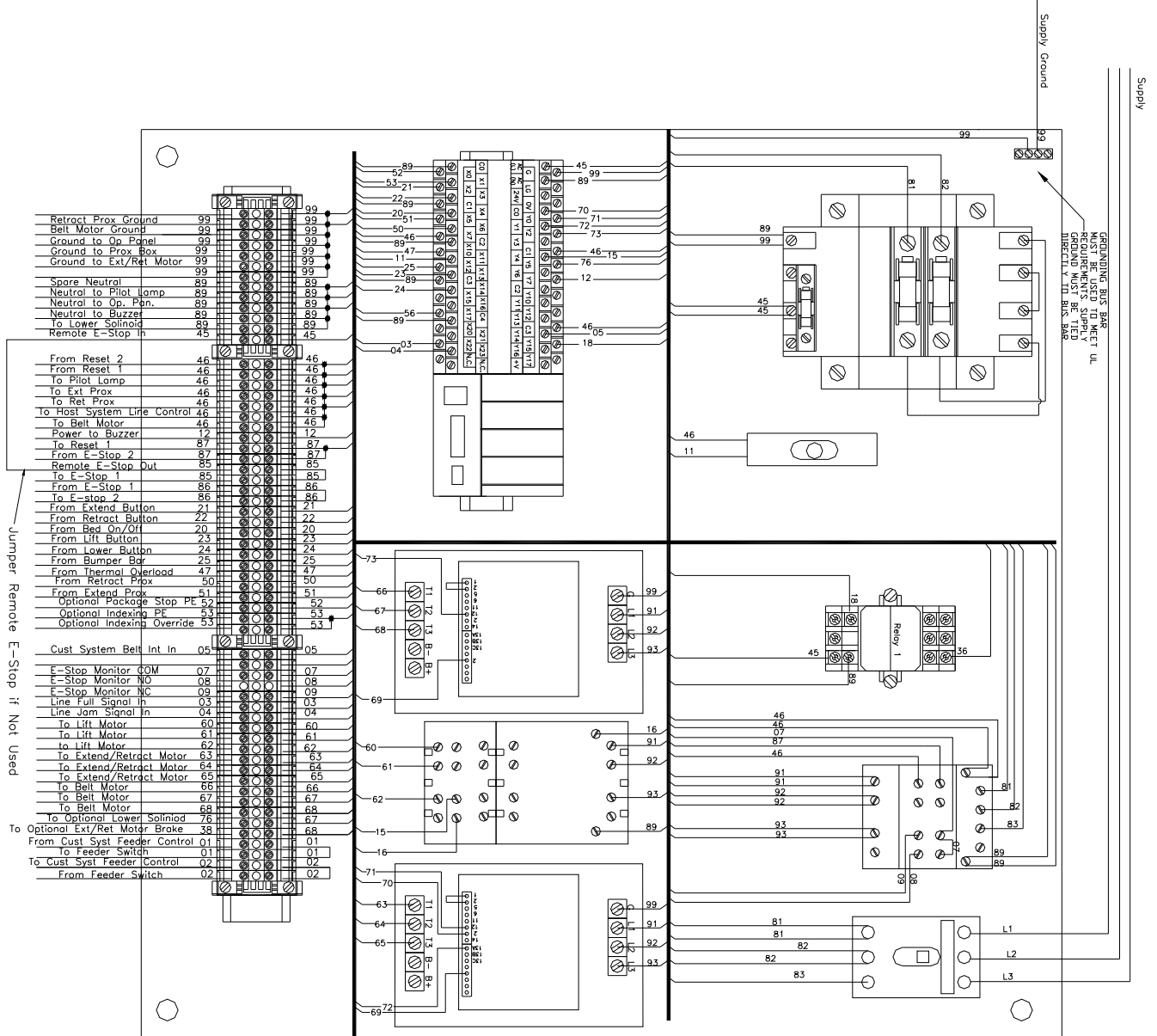
# Panel: 240V, Variable Speed, Power Leveling, BOM

REF.	QTY.	PART #	DESCRIPTION
1	1	300350	CONTROL TRANSFORMER, 500VA
2	2	300360	Fuse, 1.5A 600V
3	1	300252	Fuse, 2A 250V
4	4	300273	4 Pole Contactor
5	1	300274	Aux Contacts
6	1	300357	30A Door Disconnect
7	1	300358	Disconnect Handle
8	1	300359	Disconnect Rod
9	3	300254	Wire Duct, 1" x 1.5"
10	3	300255	Wire Duct Cover, 1"
11	1	400800	4 Position Grounding Bar
12	1	300510	3 HP AC Freq. Drive, 240V
13	1	300272	2HP AC Freq. Drive, 240V
14	61	300247	Terminal Block
15	4	300249	End Cap
16	4	300248	Terminal Anchor
17	1	300246	DIN Rail
18	1	300244	Back Panel
19	1	302156	1.8-2.7 A Motor Overload
20	1	300273	4 Pole Contactor
21	1	300592	PLC
22	1	15040	Switch
23	1	15067	Relay Base
24	1	15066	Relay

COMPONENT LAYOUT OF MAIN PANEL  
FOR VISUAL REFERENCE ONLY



# Schematic: 240V, Variable Speed, Power Leveling, Wiring Schematic



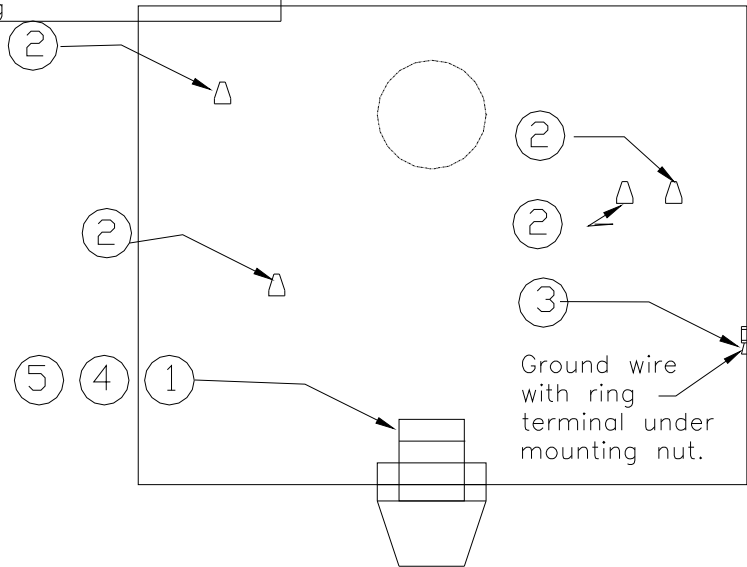
Drawing 300596-2



# Extend/Retract Motor BOM

ITEM	QTY	PART NO	DESCRIPTION
1	1	300213	3/4" Strain Relief
2	4	15026-2	Wire Nut
3	1	15016	Ring Terminal
4	1	15010-N	1/2" Lock Nut
5	1	300113	1/2" Bushing

All connections must be wrapped with electrical tape after assembly

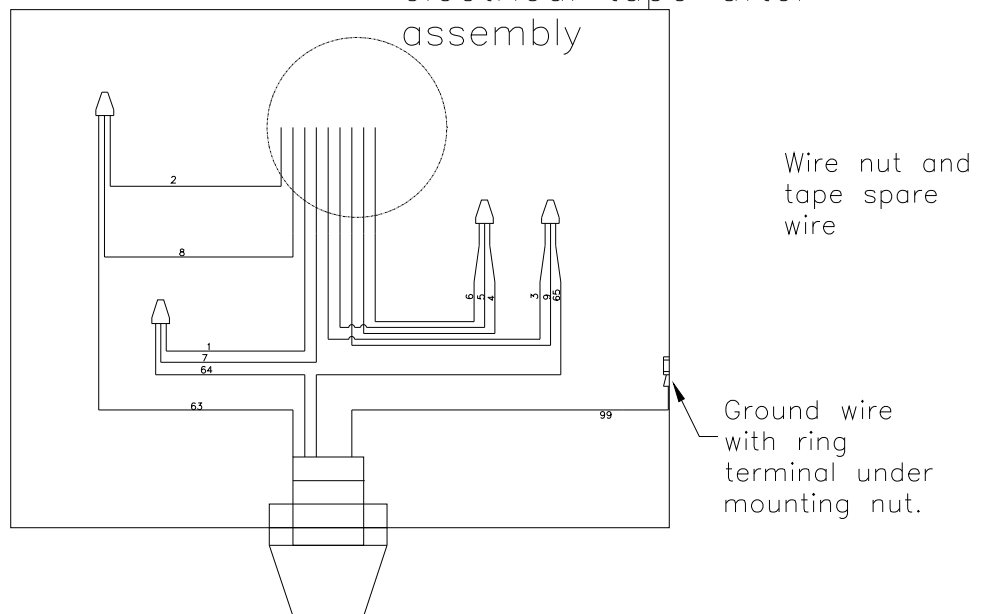


# Extend/Retract Motor Connections

## Wire Key

Color	Wire #
Red	64
White	63
Black	65
Green	99

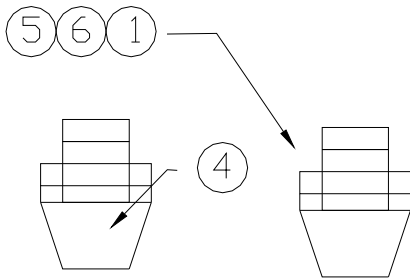
All connections must be wrapped with electrical tape after assembly



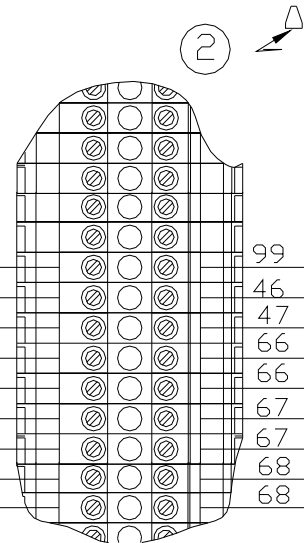
# Belt Motor BOM

ITEM	QTY	PART NO	DESCRIPTION
1	1	300115	Strain Relief
2	1	15026-2	WIRE NUT
REF	3	15025	WIRE TIE
4	REF	300115	Strain Relief
5	1	300113	1/2" Bushing
6	1	15010-N	1/2" Locknut

All connections must be wrapped with electrical tape after assembly

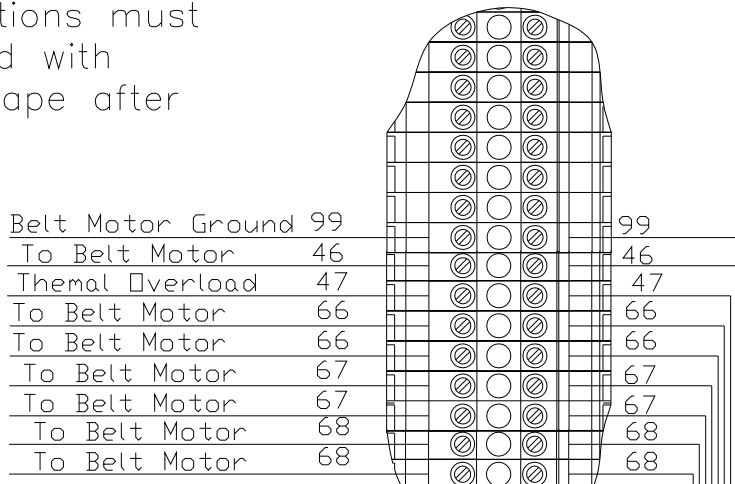


Ground	99	99
To Belt Motor	46	46
Thermal Overload	47	47
To Belt Motor	66	66
To Belt Motor	66	66
To Belt Motor	67	67
To Belt Motor	67	67
To Belt Motor	68	68
To Belt Motor	68	68



# Belt Motor Connections

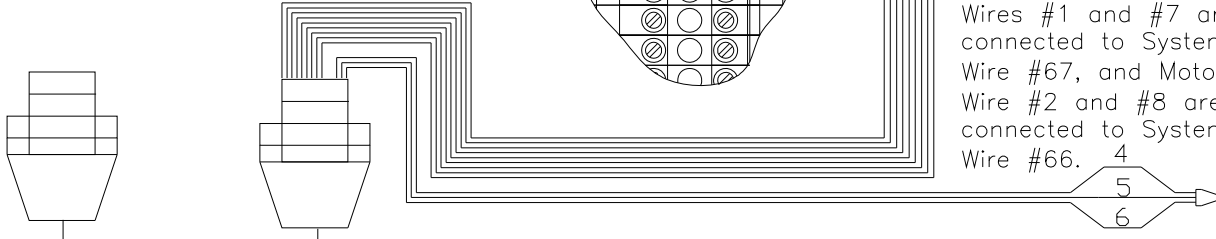
All connections must be wrapped with electrical tape after assembly



Receiving Motor Connection Numbering

Motor Wire #	System Wire #
10	99
11	46
12	47
1	66
7	66
2	67
8	67
3	68
9	68

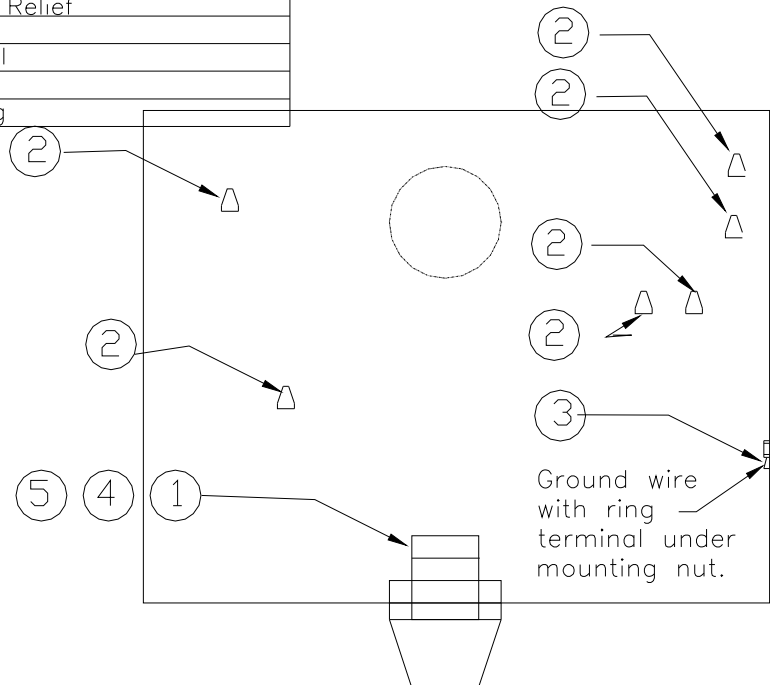
For Shipping Applications, Motor Wires #1 and #7 are connected to System Wire #67, and Motor Wire #2 and #8 are connected to System Wire #66.



# Lift Motor BOM

ITEM	QTY	PART NO	DESCRIPTION
1	1	300213	3/4" Strain Relief
2	6	15026	Wire Nut
3	1	15016	Ring Terminal
4	1	15010-N	1/2" Lock Nut
5	1	300113	1/2" Bushing

All connections must be wrapped with electrical tape after assembly

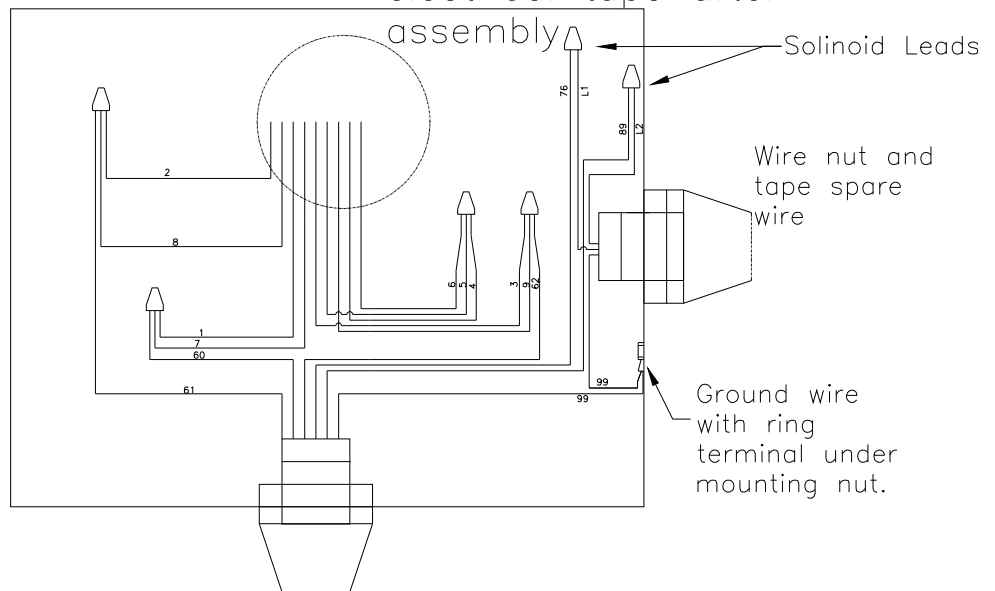


# Lift Motor Connections

## Wire Key

Color	Wire #
Red	60
White	62
Black	61
Green	99
Blue	76
Wht/Blk	89
Orange	Spare

All connections must be wrapped with electrical tape after assembly



# AC Tech Frequency Drives

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## Frequency Drive for Traversing Motor

The Best Reach Telescopic Boom's traversing motor uses a 2 HP AC Tech frequency drive, model SF420 for 480V systems and model SF220 for 230V systems, to provide a soft start, programmable accel and decel times and braking.

Control wiring used for this drive is the ALTERNATE TWO-WIRE START/STOP CONTROL found on page 20 of AC Tech's SCF Series manual. In order for the drive to function properly in this mode, **a jumper must be in place between the drive's TB-2 terminals 1 and 2.** Forward and Reverse is controlled by the Best Reach's PLC relay outputs wired to the drive's TB-2 terminals 2 (common), 12 (forward) and 13A (reverse).

The AC Tech drive is field programmable. The following list shows the parameters that are programmed before being shipped with the Best Reach unit. All parameters not shown in this list remain set to the factory defaults.

### Parameter List for Traversing Motor

Parameter	Value
04	03
10	05
17	02
19	1.0
20	0.5
26	75
28	4.4
29	4.4

Frequency Setting: 60 HZ

This frequency drive has built-in over current protection. If an over current fault occurs, the drive will shut off current to the motor and will display PF. While this error code is displayed, the conveyor cannot be driven. The frequency drive will reset itself after approximately 30 seconds. The conveyor can be driven after this reset time if the conditions that caused the fault have been removed.

## AC Tech Frequency Drives (cont.)

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### Frequency Drive for Optional Belt Speed

The frequency drive used to power the motorized head pulley for this option is the same as the drive used for the traversing motor except it has a 3 HP rating instead of the traversing's 2 HP.

Control wiring for this drive is the Two-Wire Start/Stop Control wiring found on page 19 of the AC Tech SCF Series Manual. Reversing is not used for the conveyor belt. Therefore, a jumper is used to select Forward only.

The parameters are different for this drive from the traversing drive's parameters. All parameters not listed here remain at the factory's default values.

### Parameter List for Optional Speed Belt Drive

Parameter	Value
04	03
10	05
17	02
19	1.0
20	0.5
26	75
28	4.4
29	4.4

With these parameters, the belt speed in feet per minute will be displayed on the frequency drive's LED display when the belt is running. Belt speed may be adjusted by the up and down buttons on the frequency drive. For more information on the drive, consult the AC Tech Manual supplied with you conveyor.

**WARNING:** *Voltage in the main electrical panel can cause injury or death. Viewing the frequency drive's display and adjusting the belt speed requires that the main electrical panel door be open while power is applied. This should only be done by trained and qualified personnel with approval to work with live voltage. Follow all OSHA and other pertinent safety guidelines when servicing this conveyor.*



# Troubleshooting: Electrical System

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## ***WHEN NOTHING WILL RUN***

### **Check:**

- Remote disconnect fuses and disconnect is turned on
- Conveyor's door disconnect is turned on
- E-Stops mushroom heads are out
- Master reset circuit is on (amber pilot light on main electrical panel should be on)
- Primary and secondary fuses for control transformer
- Supply power wiring

## ***CONVEYOR BELT WILL NOT RUN***

### **Check:**

- Master reset circuit is on (amber pilot light on main electrical panel should be on)
- Bed On/Off contacts are making
- Wiring from Bed On/Off contacts to PLC input
- PLC output is making
- Wiring between PLC output and bed contactor coil
- Bed contactor's overload has tripped
- Bed contactor is making (check contacts and coil)
- Motorized pulley thermal overload. The motorized pulley has a normally closed internal thermal overload switch. This switch is wired as an input to the PLC. If the pulley overheats and the switch opens, the belt will shut off. If the Bed On/Off button is pushed while the thermal overload switch is open (or the wiring to the switch is broken or not connected) the belt will not start and the beeper will sound an error code of three beeps 2 seconds each separated by .5 seconds.
- Wiring between bed contactor and motorized pulley
- Motorized pulley motor

## ***Conveyor will NOT drive FORWARD, but WILL drive in REVERSE:***

### **Check:**

- Bumper is not returning fully forward
- Bumper switch is not making while bumper is fully forward
- Extend prox switch is not operating properly or properly positioned.
- Wiring between Forward contact (joystick or selector switch) and bumper switch
- Wiring between bumper switch and PLC input

**Continued Next Page**

## Troubleshooting: Electrical System (cont.)

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### ***Conveyor will NOT drive Forward or Reverse:***

#### **Check:**

- Jumper on AC frequency drive's terminals 1 and 2 (must be in place)
- AC frequency drive's common control wiring to Forward/Reverse contacts (joystick or selector switch)
- AC frequency drive has faulted out (overload faults, shown as PF, will reset themselves in approximately 30 seconds after no input to forward or reverse controls)
- Three phase power to AC frequency drive
- Output from AC frequency drive
- Traversing Motor
- Wiring from AC frequency drive to motor
- Parameters in AC frequency drive have changed from values shown in list

### ***Conveyor will NOT Power Up or Down (power leveling models only)***

#### **Check:**

- Power to joystick contacts, fuse in main electrical panel
- Power through joystick contacts when operating
- Power to pump motor
- Motor overloads
- Flow control valve



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