GENERAL BINDING CORPORATION

AUTOMATED FINISHING DIVISION

STL-1000 SEMI-AUTOMATIC TWIN LOOP BINDER

60 Hz. SERVICE MANUAL REV 1.0

Section: **pg.**

FOR YOUR SAFETY

Marty Moore

Your safety as well as the safety of others is important to us at GBC. In this Service Manual and on the STL1000 itself are important safety messages. ***Please read these message carefully.***

The Safety Alert symbol precedes each safety message in this manual. This symbol indicates a potential safety hazard that could injure you or others, as well as cause product or property damage.

This safety message means that you could be seriously hurt or killed if you open the electrical enclosure and expose yourself to hazardous voltage:

This safety message means that your hands could be crushed and cut if you place your hands in the area of moving parts:

The following ISO and IEC symbols appear on this product.. Their meaning is:

"I" means Power On
"O" means Power Off

" ! " means emergency stop

" o " means dereel

Do not connect electrical power to the STL1000 or attempt to operate it before reading this Operators Manual or you have been fully trained as an operator.

Save the operator's manual for future use and referral.

Keep hands, long hair, neckties, and loose articles away from moving parts.

Never override or attempt to defeat electrical or mechanical interlock devices

Never insert objects or spill liquids into the STL1000. They may contact dangerous voltage or short out components, resulting in fire or dangerous shock.

Connect the STL1000 only to the electrical supply shown in the machine specification section of this manual and the Serial/Rating label on the equipment. Connect to a power outlet installed near the equipment and easily accessible.

Connect the plug only to a matching receptacle, contact a qualified electrician to have one installed.

Turn the STL1000 power "Off" (O) at the end of each day.

Do not attempt to service the STL1000. *Contact an authorized GBC service representative if any of the conditions listed below are encountered:*

?? Liquid has been spilled into the STL1000 has been exposed to rain or water.
?? STL1000.
?? The STL1000 has been dropped, bumped, or dented.
?? The product does not operate normally when following the operating instructions.

WARNING:

SUPERVISORS PLEASE NOTE:

THESE PRECAUTIONS MUST BE FOLLOWED WHEN OPERATING OR SERVICING THIS MACHINE.

?? **ALL OPERATORS MUST BE PROPERLY TRAINED PRIOR TO USING THIS EQUIPMENT.**

?? **READ INSTRUCTION MANUAL BEFORE OPERATING OR SERVICING THIS MACHINCE.**

?? **ONLY A TRAINED, QUALIFIED TECHNICIAN SHOULD SERVICE THIS MACHINE.**

?? **DO NOT ATTEMPT SET-UP CHANGES UNLESS FULLY TRAINED.**

?? **FOLLOW ALL STATE, LOCAL AND FEDERAL POWER LOCKOUT / TAGOUT STANDARDS WHEN SERVICING THIS EQUPIMENT.**

?? **HAVING MACHINE UNDER POWER WHILE MAKING ALTERATIONS CAN RESULT IN SERIOUS BODILY INJURY. ALWAYS DISCONNECT ELECTRICAL POWER AND AIR SUPPLY BEFORE MAKING ALTERATIONS.**

?? **NEVER OPERATE MACHINE WITHOUT ALL GUARDS IN OPERATING POSITION.**

?? **SAFETY GLASSES SHOULD BE WORN AT ALL TIMES WHEN OPERATING THIS MACHINE OR MANUALLY CLIPPING WIRE.**

- **KEEP HANDS AND LOOSE CLOTHING AWAY FROM ALL MOVING PARTS.**

1. Installation and setup Preparation

Use this section to properly unpack ,set into place, and setup the **STL1000.**

1.1 Inspect the shipping container for any visible damage while the trucking company is still there . If you see any damage, file a damage claim with that trucking company immediately . Otherwise you may be responsible for any needed repairs.

1.2 Remove the cardboard slip cover and dispose of in accordance with local regulations.

1.3 Cut the banding material securing the output conveyor to the shipping skid. Remove conveyor from shipping skid and move to the location where the STL1000 is to be located in your facility .

1.4 There are four bolts securing the STL1000 to the shipping skid (REF. FIG. 1A). These bolts are located one in each foot pad of the STL1000. Use a ¼" Allen wrench to remove these bolts and discard.

1.5 Locate the orange colored foot pedal secured to the shipping skid. Remove the fasteners that secure the foot pedal to the skid and discard fasteners. Place foot pedal on the table top of the STL1000 . CAUTION: Make sure the foot pedal will not fall off the table top. It may damaged by falling.

1.6 Refer to fig._1A_ for fork lift points of the STL1000. Using a fork lift with a lift capacity of 700kg/2000lbs. , lift the STL1000 from the shipping skid and transport it to the operating location.

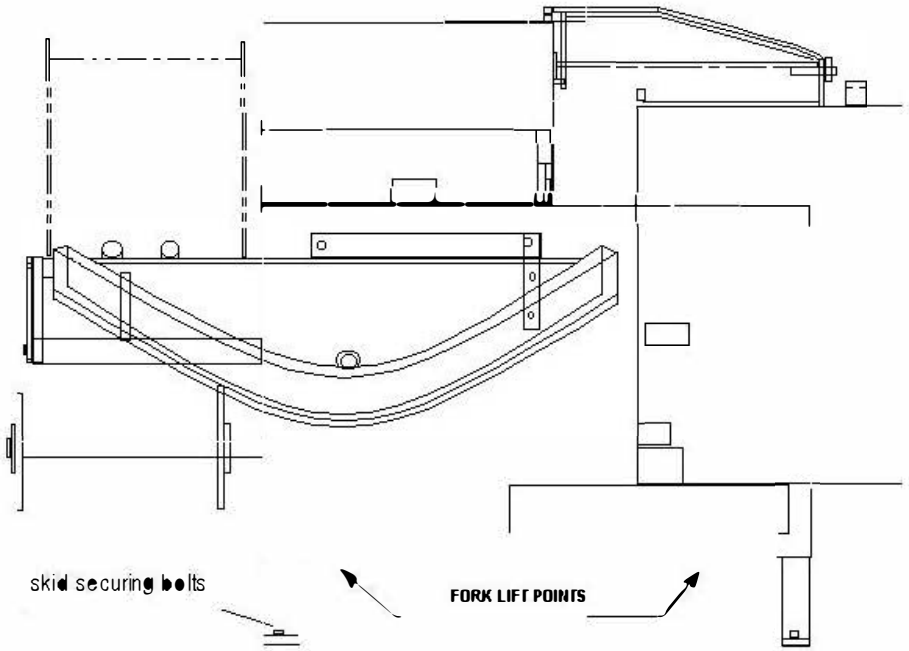
1.7 Have your electrician hook up the appropriate power requirements. Refer to section 3 of this manual to find the right requirements for your machine **CAUTION DO NOT APPLY POWER TO THE STL1000 !!** A GBC technician will check to insure proper power is present when installation is scheduled . **YOU WILL VOID YOUR WARRANTY IF YOU APPLY POWER.**

1.8 You will need to supply compressed air to the STL1000. Refer to section 3 of this manual for minimum air requirements . A quick connect is supplied on the air regulator located on the rear of the machine..

1.9 Be sure that you have TWIN LOOP WIRE and enough prepunched books to run your machine for at least one hour . Please contact your sales representative if you have any supply needs.

1.10 Contact GBC National service to schedule a technician to complete your installation.

FIGURE 1A



2. About this Manual REV. 1

2.1 General

This manual is intended as a training and reference document for persons responsible for installation, service and maintenance of the STL-1000 binder. It is assumed the reader has basic mechanical and electrical troubleshooting abilities.

This Service Manual, revision (A), covers 220 Volt, 3 Phase, 60 Hz STL-1000, version _1 system.

2.2 Document Control

It is intended that future revisions of this document will be published, please refer to the revision number on the top of this page to determine the most recent.

2.3 Problem Solving

The path for solving problems with the STL-1000 should proceed in the following sequence:

1) Find the description of the problem in the table in section 16

2) Evaluate the list of possible causes for the probable one.

3) Proceed to the referenced section (see 4) for further diagnosis. Part replacement instructions (section 18 or 19) or adjustment instructions (section 6 thru 14).

4) If problem is not properly described in the problem column of the troubleshooting tables of section 16, reread the Theory of Operation (section 4) for insight.

5) If the problem is unsolved call for support with a clear description of the problem and the results of any unsuccessful solution you have tried.

6) ***Fill out and Fax the Problem Report Form*** (section 20) after solving the problem. A strong feedback loop from service personnel is the best way to improve the design and manufacturing of our products.

3. Specifications

Use this section to determine proper installation requirements as well as the capabilities of the STL-1000.

3.1 Purpose

The STL-1000 is designed to automatically supply spool fed Twin Loop elements cut to a specified length and is automatically staged for the next book to be bound.

Operator hung pre-punched documents are transported to the closing area, bound and are transported from the bind area to a stacking conveyor.

3.1.1 Dimensions

Machine only: 85" L x 56" W x 50" H (2.16M x 1.42M x 1.27M).

Smallest doorway machine will fit through 40" (1.016M) wide (with the removal of the spool holder assembly). NOTE: This unit should only be removed by a GBC service tech.

Recommended work area: 10 ft. x 10 ft. (3.05M x 3.05M).

Shipping: 65" x 91" x 60" high (1.65M x 2.31M x 1.52M).

3.2.2 Weight

Weight (machine only): 1200 lbs. (545.6Kgms.)
Shipping weight: 1350 lbs. (613.6Kgms.)

3.3 Electrical Power

2.3.1 Voltage	2.3.2 PHASE	2.3.3 Current	2.3.3 Short circuit interrupt capacity:
220 VAC, 60Hz	3	15 amps	2000 A

3.4 Compressed Air

8 cfm at 80 psi (227L/min @ 522K Pa)

3.5 Environment

Ambient air temperatures, 41 degrees F to 104 degrees F. (5 degrees C to 40 degrees C.)

Altitude rating, up to 3280 feet (1000 meters).

3.6 Noise Generation

TBD

3.7 **Initial Year of Manufacturing**: 1999

3.8 Productivity

3.8.1 Cycle Time

The time the system takes to bind a placed document until it is ready to accept the next document, independent of the operator, is dependent on the specified length of the Twin Loop element.

The STL-1000 is capable of up to 1,000 books per hour.

3.8.2 Throughput

The number of documents produced in a given time period depends on element length, document punching quality, but most importantly operator proficiency.

3.9 Book Thickness

3.9.1

The STL-1000 can successfully bind documents within the capacity of each given Twin Loop element size. Use the element size chart supplied by your Twin Loop sales representative to determine the appropriate element for the book to be bound. If book size is at the maximum for a given size use the next larger size to insure quality closure of the bound book.

3.9.2 Bind Length

The STL-1000 is capable of a book bind length of a minimum of 3 inches (76mm) and with a maximum of 13 inches (330.2mm).

3.9.3 Book Width

The STL-1000 is capable of transporting books with the unbound edge width of 3 ½' (85.75mm)to 12' (304.2mm).

3.9.4 Hole Quality

The holes must be pre-punched in the paper and be of 2 to 1 or 3 to 1 punch pattern.
The quality of the holes has a direct relationship on the success of the operators ability to load books on to waiting Twin Loop elements. Cleaner , crisp holes that align well from one page to the next will speed up the process of loading books on to the STL-1000.

4. Theory of Operation of the STL-1000

Conditions at Power up of the STL-1000

1. Closing guard must be closed to actuate the closing guard interlock switch IS-1. IS-1 has two switches in one housing.

   A. One side of the IS-1 breaks main power to the E-stop.

   B. The other side of IS-1 is used to monitor 24 volts to the P.L.C. at X7 Which shouldn't be illuminated.

2. P.L.C. is in ready condition should have at least X0, X13 and Y12, or Y13.

Conditions After Power up of the STL-1000

1. Series of events after the depression of the foot switch (FS).

   A. X6 on the P.L.C. will illuminate.

   B. Y2 to energize Sol-2 (pusher) to advance book to closing area.

   C. Y6 to energize 1CR to turn on 1M (feed motor) to feed element to be cut.

   D. Y10 to energize 3CR to turn on 3M (belt) to advance element is cut.

2. During element feed cycle:

   A. Either the signal from X4 (count prox 2:1) or X10 (count prox. 3:1) will be used to count the number of element legs to the number entered into the keypad.

B. Once the entered number is reached Y6 (feed 1M) is turned off.

C. Y4 energized Sol-4 (cut) which charges the air cylinder to swing the knife and drop the pawl into the element stop gear to stop rotation of the element feed shaft. At this point the feed shaft should be stopped so the knife can cut a stationary element. Through P.L.C. timer Sol-4 is deenergized through Y4 to release the knife and pawl.

Conditions After Power up of the STL-1000 (Continued)

3. Series of events during the book transport and closing cycle:

A. After pusher has advanced LS-2 (forward 1) will close and illuminate X1 on the P.L.C.

B. Y5 will energize Sol 1 (door) closing doors on the closing area guard. This will also open IS-2 at X13 and close IS-2 at Y3. (NOTE: IS-2 has two sets of switches in one housing).

C. Y3 energizes to fire Sol-3, which charges the closing air cylinder to actuate the closing ram to full down stroke.

D. When the ram reaches its full down stroke LS-3 (close) actuates and illuminates X2 on the P.L.C. and releases Sol-3 through Y3 to let the ram return to its home position. NOTE: Home position is fully up.

E. Sol-1 is deenergized through Y5, which opens the guard doors.

F. Sol-2 is deenergized through Y2. The pusher returns home and actuates LS-1, which illuminates X0 on the P.L.C.

G. Y11 energized 4CR (conveyor 4M) to advance conveyor to a predetermined distance through an entry from the keypad.

Conditions on a Need Basis

1. Dereel Unit

A. When dereel switch is on auto, spool prox X3 illuminates when no element is present Y7 illuminates to fire 2CR which turns on 2M (dereel).

B. When dereel switch is on manually pressing the green button will illuminate X15 then Y7 on the P.L.C. to turn on 2CR (dereel) which turns on 2M.

2. Pitch Selection

A. When pressing 2:1 on the keypad Y12 on the P.L.C. will illuminate and fire Sol-5 to change the air cylinder to shift the feed sprocket. At this time X4 on the P.L.C. is being used to count 2:1 by prox switch.

Conditions on a Need Basis *(Continued)*

B. When pressing 3:1 on the keypad Y13 will illuminate on the P.L.C. and fire Sol-6 to charge the air cylinder to shift the feed sprocket. At this time X10 is being used to count 3:1 by prox switch.

5. STL-1000 OPERATING INSTRUCTIONS FOR KEYPAD

MAIN MENU

When you first power up the machine you should see the following two lines on the Keypad.

B.COUNTER **0** (any number may appear)
SETUP MENU **0**

Line 1: **"B. COUNTER:" =** Batch Counter. This counter will count the number of books, which are bound on the STL1000 and display a running total.
To reset this counter, use the ✍ arrow key to move the cursor over. When blinking, key in "0" from the numeric section of the keypad then press "ENTERS". The value "0" will be displayed.

Line 2: **SETUP MENU**:" The Setup Menu will allow you to make other adjustments to control the STL1000. Use the ✍ arrow key to move the cursor over to the ✍ arrow. Press the "ENTER" key to get into the Setup menu.

Line 3: " **SERVICE MENU**:" The Service Menu will allow our service Technicians to monitor the STL1000 when making service calls. There is no useful information in this menu for the operator or setup person. You can get into the Service Menu in the same manner as the Setup Menu.

SETUP MENU

Line 1: **"NO. OF LOOPS:"=** Number of Loops required to bind your book.

Use the numeric keypad to key in the number of desired loops and press "Enter".
The range of amount of loops is limited from five (5) through forty-two (42).

Line 2: "**CONVEYOR STEP:" =** The amount of travel desired on the Output conveyor. Use the numeric keypad to key in the amount of desired travel and press " ENTER". The range of travel is limited to one (1) through six (6) inches.

Line 3: "**GOTO MAIN MENU**:" = This will bring you back to the Main Menu so the operator can view the batch count as they run the STL1000.
Press the "ENTER" key to return to the main menu.

Line 4: "**SERVICE MENU**:" = The Service Menu will allow our Service Technicians to monitor the STL1000 when making service calls. There is no useful information in this menu for the operator or setup person. You can get into the Service Menu in the same manner as the Setup Menu.

FUNCTION KEYS (fig. 1 Section 5)

There are six "Function Keys" on the keypad, which will allow you to activate certain functions of the STL1000 during the setup process.

PUSHER ADVANCE / HOME: This key will allow you to transport a prehung book into the closing area or to discharge a bound book onto the conveyor. Press this key again to return the Pushers back to the home position. NOTE: A red light will illuminate above the **PUSHER** key and the message "**AUTOMATIC CYCLE IS NOT READY**!!! " will appear on the display on the keypad Make sure the pushers are in the home position and the display doesn't read "**AUTOMATIC CYCLE IS NOT READY** " to run in automatic mode.

RAM DOWN / UP: This key will allow you close the element of the book in the closing area. Press this key again to return the Ram to the up position.
NOTE: A red light will illuminate above the **RAM DOWN / UP** key, also the message " **AUTOMATIC CYCLE IS NOT READY** " will appear on the display on the keypad when the RAM is in the down position.

3:1 This key will shift a gear in the feed area so you can run with 3:1 pitch elements.

2:1 This key will shift a gear in the feed area so you can run with 2:1 pitch elements.

FEED ELEMENT: This key will feed and cut an element to the desired length.

CUT ELEMENT: This key will cycle the cut unit, can be used to test knife block height setting or if an element didn't cut in the auto cycle mode.

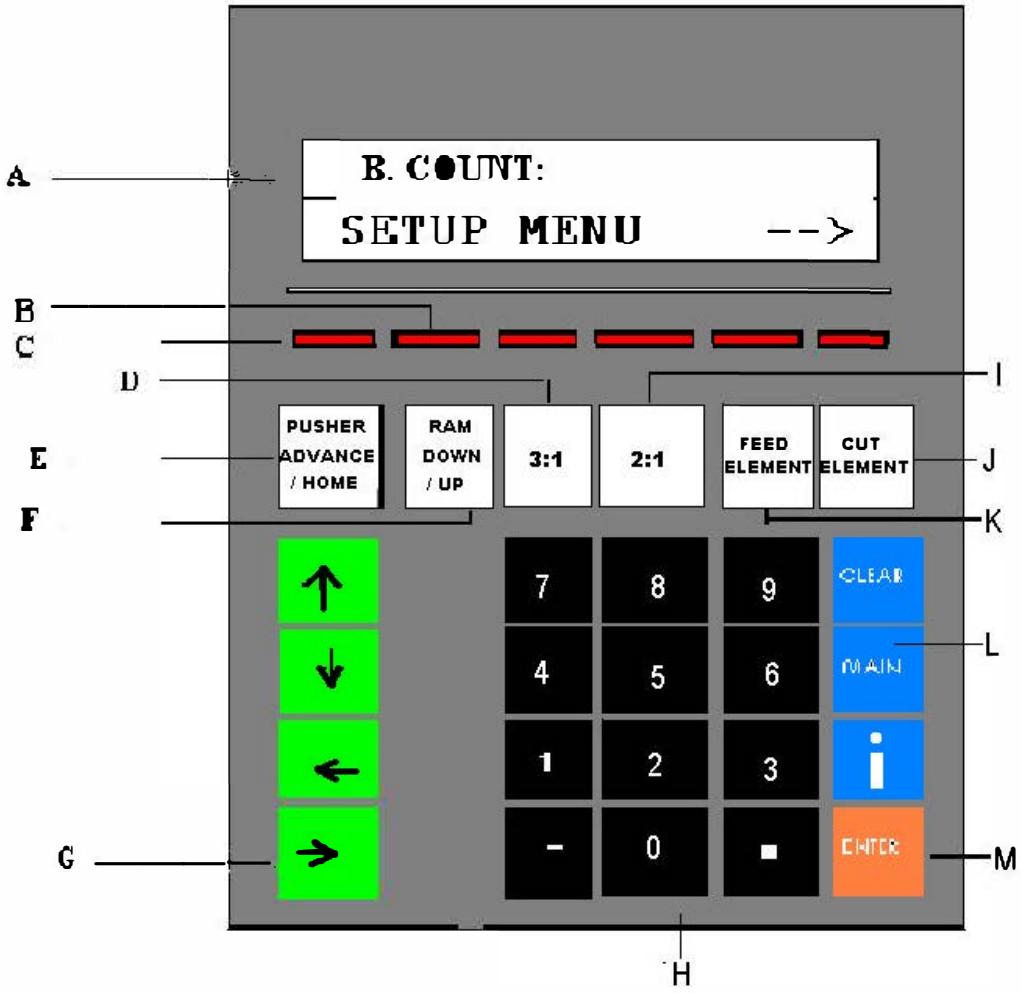

A
B
C
D
E
F
G
H
I
J
K
L
M
B. COUNT:
SETUP MENU --->
PUSHER ADVANCE / HOME
RAM DOWN / UP
3:1
2:1
FEED ELEMENT
CUT ELEMENT
7
8
9
CLEAR
4
5
6
MAIN
1
2
3
-
0
.
ENTER

FIGURE 1

6. Spool and Supply Chute Loading the Spool

When viewing from the back of the machine, the spool of Twin Loop wire will rotate in a clockwise direction (See *figure 6-1).* For loading a new spool, the following steps are recommended:

1. Place the spool onto the two rollers with the wire unspooling from the top of the spool.

2. Make sure the end boards of the spool are riding between the flanges of the idler roller (See Figure 6-2). This will place the end boards on the knurled portion of the drive rollers.

3. Unspool approximately 5 feet of wire from the top of the spool. Place the wire over the top of the cross bar and between the two side guides (See Figure).

Note:
To unspool the wire, twist the collar on the despool button located on the top of the control box to manual, then push the green button until the desired length has been acquired.
IMPORTANT: Be sure to return the selector collar to auto on the despool button to feed wire automatically.

SPOOL AND SUPPLY CHUTE LOADING THE SPOOL (CONTINUED)

4. Lay the wire inside the storage chute and thread the scrap paper between both drive rollers and wind it up on the scrap take-up spool in a counter-clockwise direction (See *Figure 6-3).*

Notes:

1. The scrap paper should be wound taunt to prevent it from breaking when the spool drive starts up.
2. The storage chute has a sensor at the bottom to control the spool drive. The sensor will start and stop the spool drive on demand to replenish the supply of wire to the storage chute.

7. Spool and Supply Chute Adjusting the Supply Chute

The supply chute is designed to be used in three different positions (see figure 7-1). The upper position is for larger size wire -1" and 1 ¼". The middle position is for medium sizes 9/16" through 7/8'. The lower position is for the small size wire - ¼" through ½". The smaller sizes need more weight inside the supply chute to prevent the wire from unspooling on the bottom side of the spool. On the other hand, the larger and medium sizes will stretch too much, causing misfeeds in the feed area if left in the lower position.

For the Small and Medium Sizes:

1. Loosen the handle and slide the storage chute to the required position.
2. Tighten the handle to secure the storage chute.

For the Larger Sizes:

1. Remove the right and left -hand supply chute brackets and replace them with brackets #4270035 and #4270036, which are, include with the machine.
2. Fasten the right hand bracket to the upper mounting hole (see figure 7-1).
3. On the left side, swing the supply chute adjustment bracket over and fasten the left bracket as shown in figure 7-1.

8. Feed and Cut Feed Wheel Guide Adjustment

The outboard guide on the feed wheel (see Figure 8-1) should be adjusted so that there is approximately 1/16” (.06) clearance for the wire. Make sure the outboard guide does not rub against the feed wheel. See figure 8-1 for the correct orientation of the wire.

9. Feed and Cut Height and Width Adjustment of Guides

The upper and side guides should be adjusted so that the Twin Loop wire will travel back and forth freely (see Figure 9-1) but without too much room to move around. *The following steps are recommended:*

1. Cut a 12” long piece of Twin Loop wire element from the supply chute and use it as a set-up Sample.
2. Loosen the two adjustable handles for the upper guide and the side guides (see Figure 9-1).
3. Insert the 12” long sample as shown in Figure 9-1.
4. To set the .01 clearance, use three sheets of 20# bond paper as a gauge. Hold the open side of the wire up against the sideplate of the feed assembly. Insert the three sheets of paper and slide the side guide up against the paper. Tighten the handles to secure the guide and remove the paper.
5. Repeat step 4 for the upper guide.

FEED AND CUT HEIGHT ADJUSTMENT OF CUTTING BLOCK

Using a 5/32 hex key, loosen the two (2) screws which secure the cutting block (see Figure 9-1).
Adjust the height of the cutting block to allow the Twin Loop wire to pass freely under it.
Tighten the screws to secure the cutting block. **Note:** The height of the cutting block must be adjusted for each wire size.
The set-up of the feed area is now complete. To double check, insert the 12" long sample piece again, into the guides. Slide the sample forward until the feed sprocket stops it. Now rotate the handwheel (see Figure 9-1) in the clockwise direction and continue feeding the sample all the way through and past the cutting block. If the element does not go through freely, repeat step #4 in the " Height and Width Adjustment of Guides" section or repeat the above step.

10. Loading Area

Before you load a book for binding, you need to make a few adjustments to the loading area.
The following steps are recommended:

Select either the large or small wire holder, the small wire holder should be used for element size no larger than 5/16. Use the large wire holder for all other sizes. Part number for the large support guide is 460003900, and the part number for the small support-guide is 0460004000.

Adjusting the wire holder: using your 12" long sample piece of wire feed it through the feed assembly by turning the hand wheel (see figure 9-1) right up to the loading area. Adjust the height of the wire holder (see 10-1) by loosening the two adjusting knobs located on the backside of the machine which hold the holder in place. Slide the holder up or down to allow for free movement of the wire. Enough room should be provided so the wire sits back on a 15-degree angle as shown in figure 10-1. This angle will

make it easier to load the book. Tighten the two adjusting knobs to secure the wire holder. Load book onto element and adjust rear rail in the book loading area. To adjust, loosen adjusting screws and slide up to book loosely.
Tighten adjusting screws.

11. Book Transport Area

At this time, check to see if the pusher will hit the rear rail or be pushed down because of rear rail interference (see figure 11-1). To prevent the interference, push the pusher foot down below the table top and tighten the set screw located on the top of the pusher foot (see figure 11-2) to lock in place.

Note: If you lock down one of the pusher feet, you must lock down the foot directly in front of it or it will crash into the closing rail.

12. Closing Area

Adjusting the closing rail (For the following see figure 12-1).

1. Open closing guard and prop open with prop rod.

2. Loosen the adjusting screws, which secure the closing rail located in front of the closing area And slide toward the front of the machine.

3. Close the closing guard.

4. Twist the red emergency stop button located on the front of the machine to supply power to the machine.

5. Using the hand wheel on the upper right hand side of the closing head, turn hand wheel until the indicator points the proper wire size to be closed.

6. Push the pusher advance/home button on the control panel and advance the book under Closing ram (a red light will illuminate above button).

7. Open closing guard.

8. Adjust the closing rail forward so the open side of the wire element is up against the back of the closing area. Do not apply pressure to the book. Tighten the adjusting screws to lock the Closing rail into position.

9. Close closing guard.

10. Press ram down/up button and close wire. Press ram down/up button to release the closed wire. Adjust wire closure with hand wheel and reclose wire until proper closure is attained.

11. Press pusher advance/home button to return pushers to their home position.

Figure 12-1

13. CLOSING HEIGHT ADJUSTMENT

To adjust height of the closing ram, the following steps are recommended:

1. The pointer for the Twin Loop Size Gauge (see Figure 13-1) will move up or down. A hand wheel is provided on the right side of the closing area. This hand wheel is to be used to adjust the height.

2. The size gauge is used to accurately adjust the closing height. After closing a sample book, you may need to make further fine adjustments to get the proper closing of the wire. See figure 13-2 for proper closing of Twin Loop elements.

3. Never cycle the closing ram under power without checking the size gauge first.

FIGURE 13-1 **FIGURE 13-2**

14. Loading the Book

Books with 2-Piece Flush Cut Covers:

Stack the books with the front covers up; rotate the back cover to the top (see Figure 14-1). This ensures that the wire loop closure will be inside and in the back of the book.

FIGURE 14-1

Pick up the two covers and the body of the book; jog it on the side with the binding edge down. The back page (not the back cover) should face the operator (see figure 14-2).

Align the holes with the Twin Loop tines and lay the book toward you (see figure 14-3) and press the foot pedal to cycle the STL1000.

FIGURE 14-3

Loading The Book (continued)
Books With Oversized or Wrap-Around Covers:

Due to its design, the STL-1000 is well suited for non-standard cover styles.

Load the body of the book (front) onto the Twin Loop tines, then load the covers (folded back to back) on the tines and push the foot pedal.

15. Air Solenoid Explanation

This write up is to understand the location and function of the five air solenoids (see fig 15-1) on the STL1000.

To get to the solenoids to either replace or adjust, the rear panel must be removed. Once the panel is removed, the air solenoids will be before you, working left to right.

Solenoid # 1 *Guard Solenoid* is responsible for opening for opening and closing guard doors to allow entrance and exit of books into the closing area .

Solenoid # 2 *Pusher* is responsible for the transporting the book from loading station to closing area and to the conveyor.

Solenoid # 3 *Closing Head Solenoid* is responsible for the actuation of the closing ram.

Solenoid # 4 *Cutter Solenoid* is responsible for the actuation of the element cutting knife.

Solenoid #5&6 *Feed Sprocket Selection* is responsible for the selection of 2:1 to 3:1 feed sprocket. Solenoid #5 for 2:1, solenoid #6 for 3:1. This solenoid is different from solenoid #1 through 4 because it is a dual circuit solenoid to prevent crushing of the element on power down.

Controlling actuation speed adjusts consist of regulating air being discharged through adjusting screws on the exhaust mufflers (see figure 15-2). To slow down actuation, loosen jam nut on muffler and screw in setscrew. To speed up action, back setscrew out. Once desired actuation speed has been achieved, tighten jam nut.

16. Trouble Shooting Guide

PROBLEM	PROBABLE CAUSE	SOLUTION
Dereel unit won't run.	Dereel switch on manual.	Turn collar of dereel switch to auto.
Dereel unit runs on.	Wire not properly routed along supply shoot.	Route wire from top of spool to supply chute and up to wire cutting unit. Make sure wire is routed to pass in front of prox switch located on the supply chute.
	Wire tangled with scrap paper.	Adjust supply chute height to prevent wire from tangling with scrap paper.
	Check height of spool prox switch.	The face of the prox switch should be flush or slightly protruding on the supply chute.
	Faulty spool prox switch.	Replace prox switch.
Wire stretching or sagging on the bottom of spool.	Supply chute.	Adjust supply chute height to accommodate wire size.
Wire not traveling smoothly through wire feed and cutting unit.	Wire guides too tight.	Check width of feed wheel guide. Check side and upper guides, also knife cutting block height.

PROBLEM	PROBABLE CAUSE	SOLUTION

PROBLEM	PROBABLE CAUSE	SOLUTION
Feed sprocket not turning.	Worm gear clutch pad. Needs adjustment or clutch pads need cleaning.	Remove collar, spring, pressure collar, key and worm gear. Clean all parts with alcohol and reassemble. Adjust tension spring to full compression.
	Lockout pawl too low.	With the air on, adjust height of lockout pawl and adjust with height adjustment nut to just clear lockout gear.
Scrap paper tearing.	Scrap paper take up spool.	Adjust tension spring behind panel in line with paper take up spool. Adjust to have slight pressure.
Scrap paper not being spooled.	Scrap paper take up spool.	Adjust tension spring behind panel in line with paper take up spool. Adjust to have slight pressure.
Improper number of loops.	Air pressure.	Make sure a constant air supply is maintained at 100 PSI. Make sure the air regulator on the STL-1000 is set at 80 psi.
	Water separator	Empty water separator.
	Airline oiler	Check airline oiler.
	Locking pawl.	Check height of locking pawl. Should just clear the locking gear.

Improper number of loops. *(continued)*	Locking gear.	Check screws in locking gear for tightness.
	Counting gear.	Loosen setscrew on counting gear and slightly advance clockwise and test. Repeat until proper count has been achieved. NOTE: Disregard first element after each adjustment
	Counting prox sensor.	Rotate counting gear and check for flashing light on the PLC. Inside the control box. Check x4 for 2:1 and x10 for 3:1. If not flashing, prox switch should be replaced.
Cut length's tails uneven.	Locking pawl.	Disconnect air. With wire in machine, seat locking pawl into lockout gear. Check position of wire in relation to the cutting block to cut in the center of the wide leg of the element. If adjustment is needed, loosen screw on the side of locking pawl. Push pawl into locking gear and rotate until ideal position has been acquired. Tighten screw. NOTE: Screw can be accessed through side plate.

PROBLEM	PROBABLE CAUSE	SOLUTION

PROBLEM	PROBABLE CAUSE	SOLUTION
Uneven wire closure.	Anvil adjustment.	Loosen two socket head screws at the back of the anvil. Adjust anvil with the two hex head bolts underneath the anvil to achieve even end to end closure. NOTE: Tighten socket head screws after each adjustment to insure accurate closure. Also tighten jam nuts on the hex head after final adjustment.
Wire closing with an over or under bite.	Table straps.	Utilize one of two table straps to control over or under bite. There are two sizes of table straps and two different locations to mount them. Experiment with the different straps and locating positions. The straps elevate the binding edge of the book to control the books influence in proper closure of wire elements.
Pushers won't advance when foot switch is depressed.	Main power.	Check main power switch located on the main power box is in the ON position.
	E-STOP or Interlock switches.	Check E-STOP to insure it is in the ON position and also check all guards to be sure that they are in their full closed position.
	Main air supply.	Check airline connections. Check air regulator is set at 80 psi.

Pushers won't advance when foot switch is depressed. (continued)	LS1 home switch.	Remove center panel on the tabletop (section 18 drawing 2 detail #23). Located LS1 on the left side of the air cylinder Loosen the clamp, which secures LS1 to the air cylinder. Slide LS1 to the left or right until the LED on LS1 illuminates. Tighten clamp to secure to air cylinder. Depress foot switch and test for a completed cycle. Replace tabletop.
Pushers advance then stop.	LS2 needs to be adjusted.	Remove center panel on tabletop (section 18 drawing 2 of 3 detail #23). Locate LS2 on the right side of the air cylinder). Loosen the clamp, which secures LS2 to the air cylinder. Close safety hood, turn power on, press pusher advance key on the keypad. This will advance the pushers to the right. Slide LS2 to the right or left until the LED on LS2 illuminates. Tighten clamp to secure LS2 to the air cylinder. Depress pusher key to return the pushers to their home position. Depress foot switch and test for a complete cycle. Replace tabletop.
Pushers advance, safety doors close, cycle stops.	Door switch IS2.	Check closing doors for any obstruction.

PROBLEM	PROBABLE CAUSE	SOLUTION

Pushers advance, safety doors close, cycle stops *(continued)*	Door switch IS2.	This adjusting screw located on the exit door is used to set IS2, which completes the circuit for PLC numbers, X13 and Y3. X13 must be illuminated before Y3 circuit can be completed.
Pushers advance, safety doors close, closing head comes down and machine cycle stops.	Book thickness.	Failure to adjust closing unit height. Book is too thick and not letting the closing ram make LS3.
	LS3 needs adjustment.	Remove rear cover on closing area. Locate the air cylinder). Mounted on the air cylinder is LS3. Turn power on. Depress the ram down key on the keypad. Loosen the clamp that secures LS3 to the air cylinder and slide LS3 to the right or to the left until the LED illuminates. Tighten clamp. NOTE: There shouldn't be any books or wire under closing ram during this adjustment. Depress ram up key and test cycle.

17. MAINTENANCE REQUIREMENTS FOR THE STL1000

1. **EMPTY WATER SEPARATOR DAILY**

A. To empty water separator, loosen bleeder valve located on the bottom of the water separator.

2. **CHECK AIR LINE OILER WEEKLY**

A. Fill only with a good quality air tool oil.

B. To fill with air tool oil:
   1) Disconnect air supply.
   2) Remove oil reservoir cup by turning a 1/4 turn, and then pull cup downward.
   3) Fill reservoir with good quality air tool oil to max line.
   4) Install oil reservoir.
   5) Connect air supply.

3. **OIL PUSHER AXLES BI-WEEKLY**

A. To oil pusher axles:
   1) Remove center tabletop by removing two end screws.
   2) Locate pusher axles.
   3) Apply two or three drops of 3&1 oil the length of each axle.
   4) Return center table and tighten in place.

WARNING: DO NOT APPLY GREASE OR HEAVY OIL. THIS WILL DESTROY THE LINAR BEARINGS!!!

FILTER/REGULATOR/LUBICATOR (FRL)

The filter portion (see Figure 17-1) of the FRL is used to remove moisture from the compressed air supply. Before the water level reaches the "MAX LEVEL" line (see figure 17-1), you should drain the water. How often you have to drain depends on the amount of humidity in the air. To drain the filter, turn the knob on the bottom of the filter in the "O" (open) direction. Turn the knob in the "S" (shut)

direction after all of the water has drained. **NOTE:** a ¼ inch soft nylon tube can be attached to the end of the drain so that the water can be emptied into a container.

The regulator portion (see figure 17-1) of the FRL is used to regulate the air pressure being supplied to the machine. The proper setting is 80 PSI. To adjust the pressure, pull the regulator knob down and turn clockwise to reduce the pressure and turn counter-clockwise to increase the pressure. Push the knob back up to lock it into position.

WORN PARTS
FEED AND CUT AREA

The only wear item in the feed area is the knife blade (see figure 17-2). If the wire has a burr on it after cutting, or, if a groove has worn into the cutting edge of the knife, it is time to rotate the blade. The knife blade has four cutting edges on it. **To switch to a new cutting edge, the following steps are recommended:**

A. Disconnect air and electrical power from the machine.
B. Remove feed cover.
C. Using a 5/32" hex key, loosen and remove the two screws, which secure the cutting block.
D. Loosen the jam nut and remove the pivot screw.
E. Flip the blade over to a new cutting edge.
F. Apply grease to the pivot screw and the mating surfaces of the cutting block and the knife blade.
G. Install the knife blade by tightening the pivot screw enough so the blade pivots freely with zero clearance to the cutting block.
H. Tighten the jam nut to secure the pivot screw.
I. Apply grease to the pin for the upper pivot joint and attach the knife blade
   USE CAUTION! KNIFE BLADE IS VERY SHARP!!
J. Mount the cutting block.

18.

Exploded Assembly And Parts List

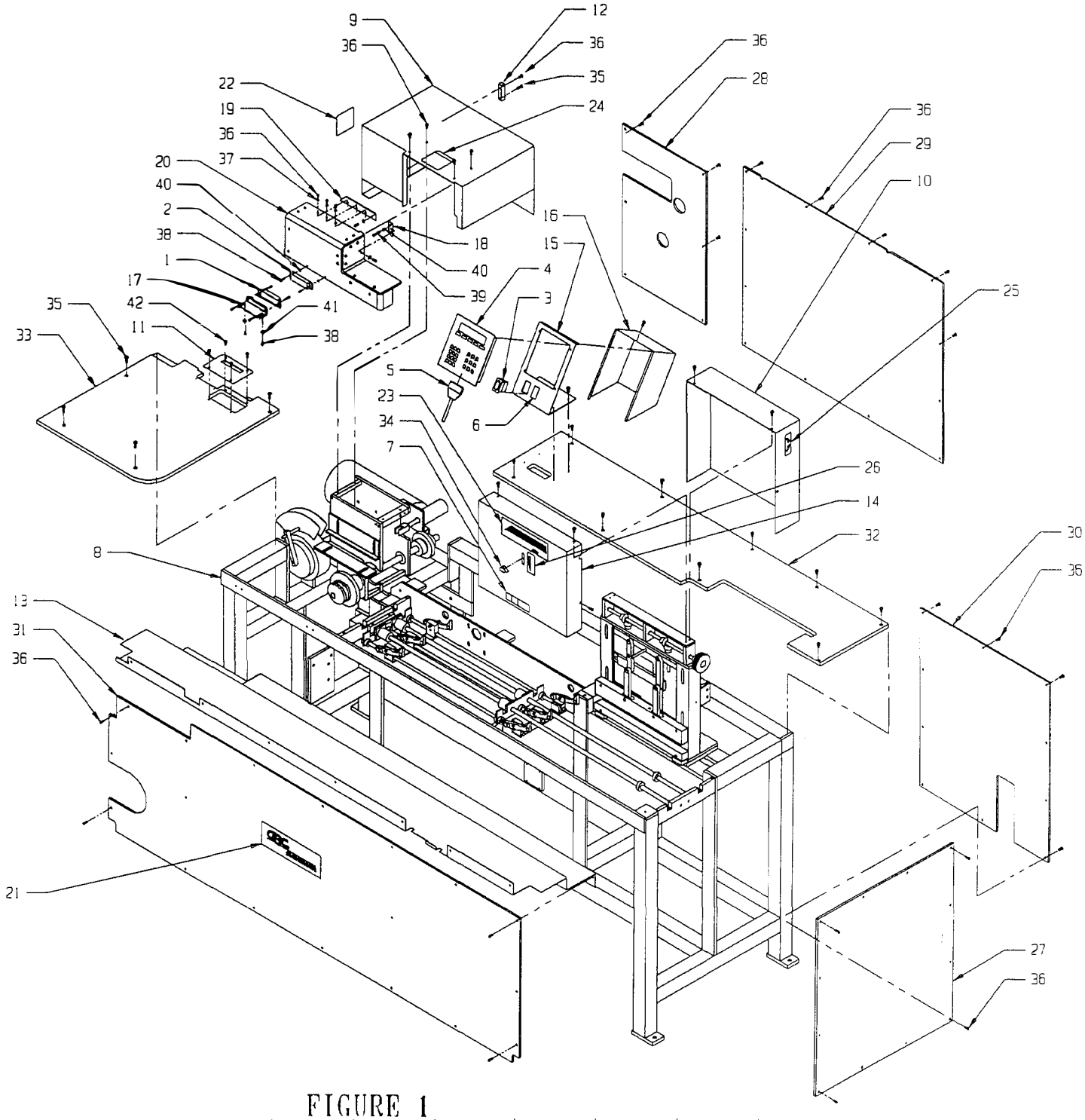

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FIGURE 1

FIGURE 1 PARTS LIST

	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0220284400	Switch - Magnetic	1
2	0750140100	Magnet - Coded	1
3	0220011200	Rocker Switch	1
4	0461000300	Keypad	1
5	0461000400	Cable - Keypad	1
6	0480000600	Decal -	1
7	0480005900	Decal -	1
8	0460000100	Frame	1
9	0460004600	Guard - Feed Assembly	1
10	0460004800	Cover - Rear	1
11	0460005000	Guard - Threading	1
12	0460005200	Bracket - Guard	1
13	0460005300	Guard - Knee	1
14	0460005800	Cover - Front	1
15	0461000100	Bracket - Keypad	1
16	0461000200	Cover - Keypad	1
17	0461000500	Bracket - Magnetic Switch	1
18	0462045600	Angle - Short	1
19	0462045700	Hinge - Guard	1
20	0462049000	Guard	1
21	0480001000	Tag - GBC/Sickinger	1
22	0480001300	Decal - Warning Guards	1
23	0480001700	Label - STL1000	1
24	0480002700	Decal - Panel Caution	1
25	0480003700	Decal - Turn	1
26	0480004700	Decal - Size	1
27	0480121000	Panel - R/H	1
28	0480121500	Panel - Back L/H	1
29	0480122000	Panel - Back Center	1
30	0480122500	Panel - Back R/H	1
31	0480123200	Panel - Front	1
32	0480123500	Panel - Top	1
33	0480124000	Table Top	1
34	0750088100	Pointer	1
35	0753369500	Phillips Head Screw - Gray	5
36	0753396000	Phillips Head Screw - Gray	79
37	0750431500	Washer - Nylon #10	4
38	0750711100	SHCS - #8-32 x 1/2	6
39	0750711800	SHCS - #8-32 x 1	1
40	0750301000	Jam Nut - #8-32 Thd	5
41	0750403500	Flat Washer - #8	2
42	0750935300	BHCS - 10-24 x 1/2	4

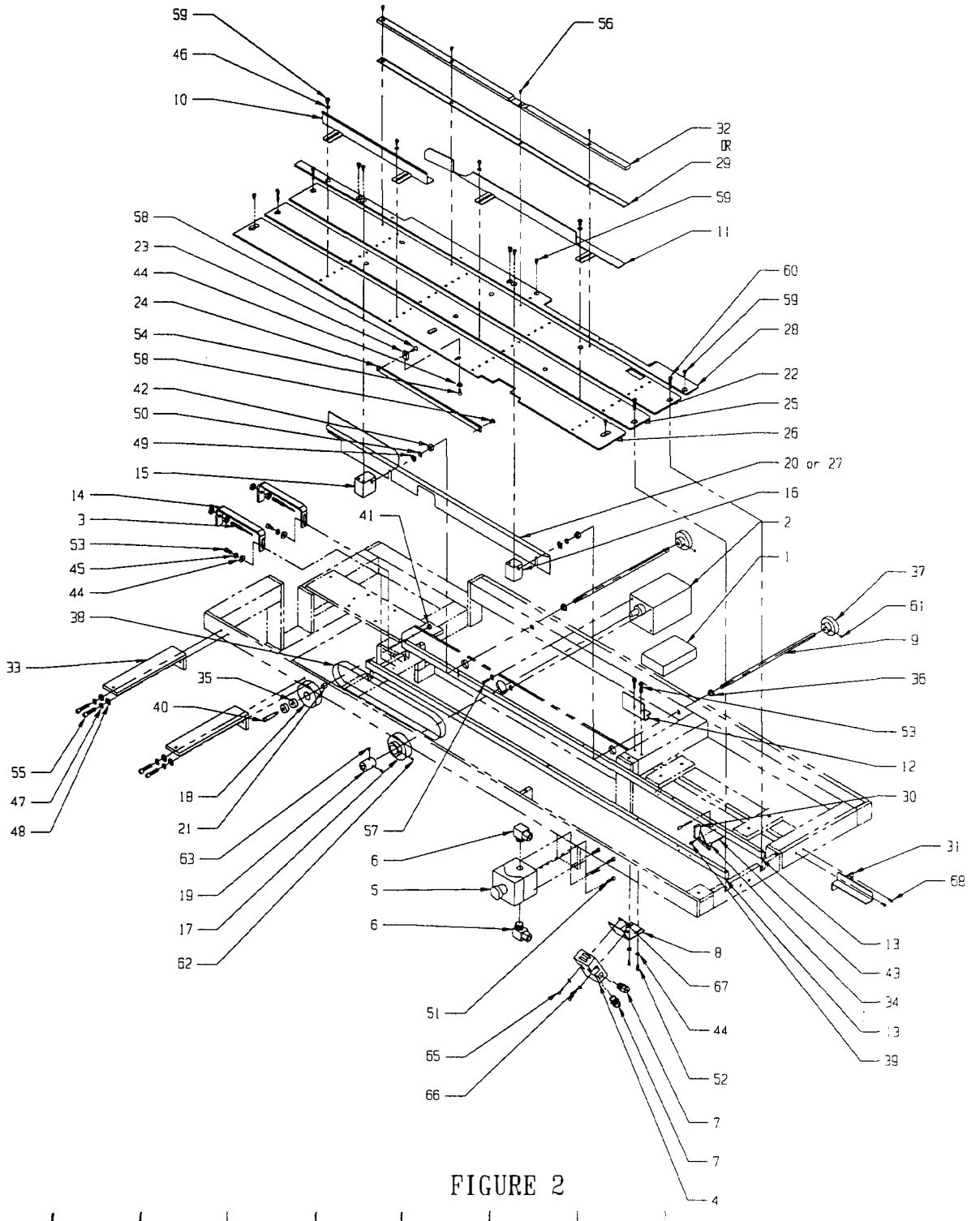
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FIGURE 2

FIGURE 2 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0220004400	Terminal Box	1
2	0220004500	Gearmotor - 14-RPM	1
3	0220014900	Switch - Prox	2
4	0220017800	Interlock Switch	1
5	0220034900	Emergency Stop Assembly	1
6	0220130600	Strain Relief - 90 degree	2
7	0220130900	Strain Relief - Straight	2
8	0426008500	Bracket - Limit Switch	1
9	0460000700	Adjusting Screw	2
10	0460002800	Guide Rail - L/H	1
11	0460002900	Guide Rail - R/H	1
12	0460003000	Guide - Rear	1
13	0460003100	Bar Support - Plate	2
14	0460003700	Bracket - Prox	2
15	0460003900	Support - Guide - Large	1
16	0460004000	Support - Guide - Small	1
17	0460004100	Pulley with Hub	1
18	0460004200	Pulley	1
19	0460004300	Arbor	1
20	0460004400	Guide - Element - Small	1
21	0460004500	Spacer	1
22	0460005400	Top Plate -2	1
23	0460005600	Support - Brace	1
24	0460005700	Brace - Guard	1
25	0460006300	Top Plate - 3	1
26	0460006400	Top Plate - 4	1
27	0460006500	Guide - Element - Large	1
28	0460006600	Top Plate -1	1
29	0460006700	Strip - Element	1
30	0460006800	Book Stop Weldment	1
31	0460006900	Extension Guide	1
32	0460007000	Strip - Element - 3/8	1
33	0460004900	Bracket Weldment	2
34	0482035300	Tubing - Polyurethane	2
35	0485056200	Ball Bearing - 5/16 ID	2
36	0485074900	Bearing - Nylon 3/8 ID	2
37	7610112 ~~0750088000~~	Handwheel	2
38	0750161800	Belt - Flat	1
39	0750227500	Shoulder Screw - 5/16 Dia	1
40	0750235000	Shoulder Screw - 5/16 Dia	1
41	0750306500	Hex Nut - 5/16-18	1
42	0750309000	Hex Nut - 3/8-16	2
43	0750363000	Rollpin - 1/8 Dia.	2
44	0750405500	Washer - Flat #10	7
45	0750406000	Washer - Lock #10	2
46	0750409000	Washer - Flat 1/4 ID	4
47	0750412500	Washer - Flat 5/16 ID	4
48	0750413000	Washer - Lock 5/16 ID	4
49	0750415000	Washer - Flat 3/8 ID	2
50	0750416000	Washer - Lock 3/8 ID	2

FIGURE 2 PARTS LIST

51	0750711100	SHCS - #8-32 x 1/2	4
52			
53	0750713600	SHCS - #10-24 x 3/8	2
54	0750714100	SHCS - #10-24 x 1/2	1
55	0750729100	SHCS - 5/16-18 x 1	4
* 56	0750858100	FHCS - #8-32 x 3/8	4
57	0750862500	FHCS - #10-32 x 1/2	4
58	0750864100	FHCS - 1/4-20 x 1/2	1
59	0750940100	BHCS - 1/4-20 x 3/8	5
60	0750943900	BHCS - 1/4-20 x 1 1/4	4
61	0751024000	Set Screw - 1/4-20 x 1/4	2
62	0751025000	Set Screw - 1/4-20 x 3/16	1
63	07514010	Set Screw - 8-32 x 3/16	2
64			
65	0750711100	SHCS - 8-32 x 1/2	2
66	0750403500	Washer - Flat #8	2
67	0750301000	Hex Nut 8-32	2
68	0750716200	SHCS - 10-32 x 3/8	2
56	0750858200	FHCS - 8-32 x 1/2" Longer screw	4

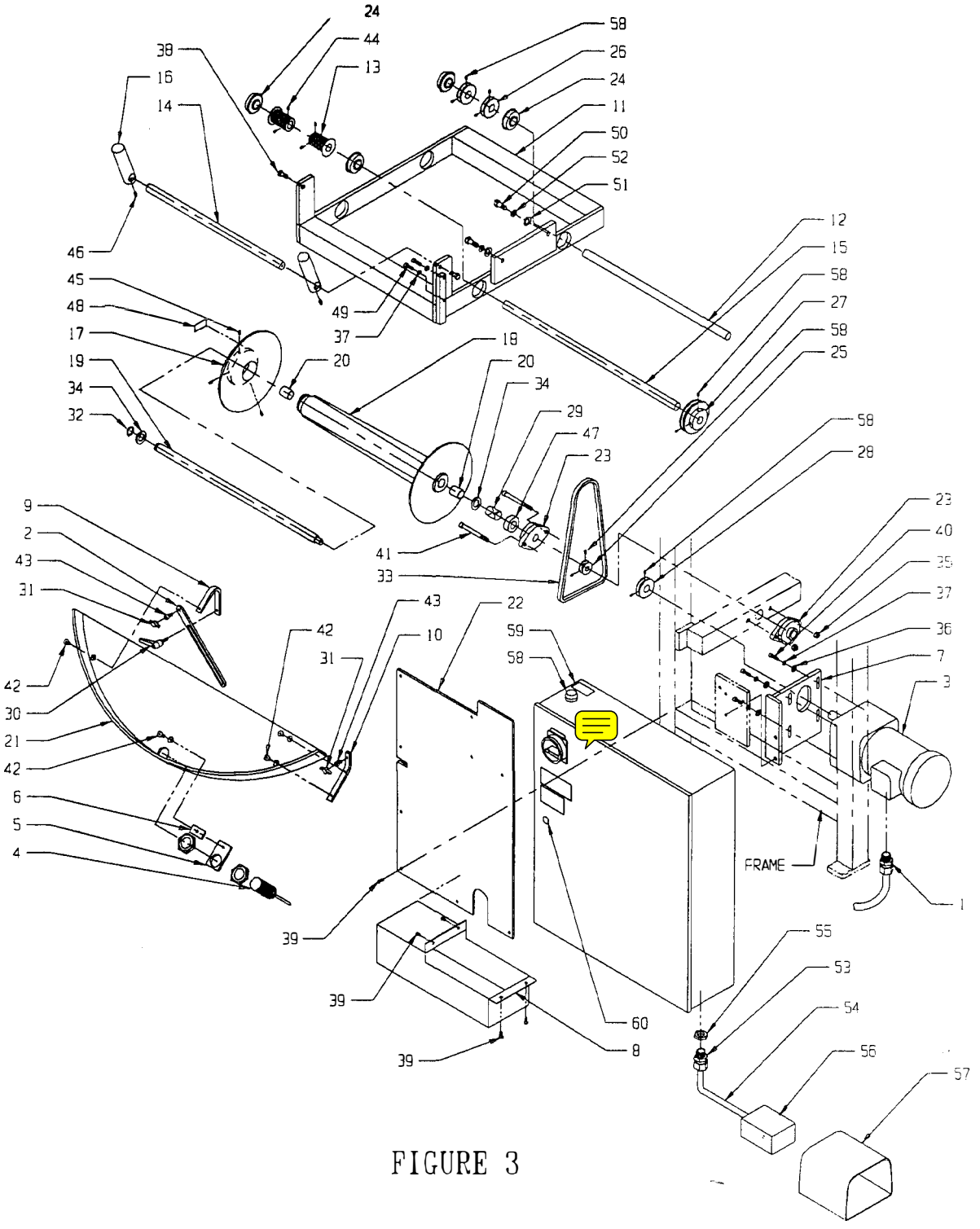
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FIGURE 3

FIGURE 3 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0461000600	Cable - Motor Feed	1
2	0165009000	Lever	1
3	0220005300	Gearmotor - 173 RPM	1
4	0220013900	Switch - Proximity	1
5	0425002600	Bracket - Proximity Switch	1
6	0425002700	Spacer - Proximity Switch	1
7	0460009300	Bracket - Motor	1
8	0460006000	Cover - Wires	1
9	0426003500	Bracket - L/H	1
10	0426008600	Bracket - R/H	1
11	0425060100	Frame - Despool	1
12	0425060200	Shaft - Idler	1
13	0425060700	Drive Wheel	2
14	0425060800	Shaft - Element Guide	1
15	0425060900	Shaft - Driven	1
16	0425061100	Guide - Element	2
17	0425070100	Flange - Take-up	1
18	0425070200	Spool - Take-up	1
19	0425070300	Shaft - Take-up Spool	1
20	0485033000	Bushing -Bronze 3/4 ID	2
21	0480073500	Chute - Loop	1
22	0480120500	Panel - L/H	1
23	0485039000	Bearing - Flanged 3/4 ID	2
24	0485061100	Bearing - Ball 3/4 ID	4
25	0487020300	Pulley	1
26	0487020600	Pulley	2
27	0487020700	Pulley	1
28	0487021300	Pulley	1
29	0750029500	Spring - Compression	1
30	0750088800	Handle - Adjustable	1
31	0750094300	T-Knob - 1/4	2
32	0750125200	Snap Ring	1
33	0750156700	V-Belt	1
34	0750194000	Thrust Washer	2
35	0750306500	Hex. Nut - 5/16-18	2
36	0750409000	Flat Washer - 1/4	4
37	0750410500	Lock Washer - 1/4	6
38	0750522100	HHCS - 5/16-18 x 3/4	2
39	0753396000	Phillips Head Screw - Gray	13
40	0750727000	SHCS - 1/4-28 x 1	4
41	0750731400	SHCS - 5/16-18 x 3 1/4	2
42	0750864100	FHCS - 1/4-20 x 1/2	4
43	0750718900	SHCS - 1/4-20 x 1/2	2
44	0751025000	Set Screw - 1/4-20 x 3/16	4
45	0751075700	Spring Plunger	3
46	0751036000	Set Screw - 5/16-18 x 1/4	4
47	0750002500	Collar - Clamp 3/4	1
48	0480007000	Tag - Direction Arrow	1
49	0750722100	SHCS - 1/4-20 x 1	2

FIGURE 3 PARTS LIST

50	0750535100	HHCS - 3/8-16 x 1	2
51	0750415000	Washer - Flat 3/8 ID	2
52	0750416000	Washer - Lock 3/8 ID	2
53	0220134000	Strain Relief	1
54	0220112100	Cord - SJO 18-3	1
55	0220193000	Conduit Locknut	1
56	0220015000	Foot Switch	1
57	0220015500	Guard - Foot Switch	1
58	0220011500	Push Button	1
59	X	Legend Plate - Dereel	1
60	0750086800	Lock Kit	1
61	0751403000	Set Screw - 1/4-20 x 1/4	10

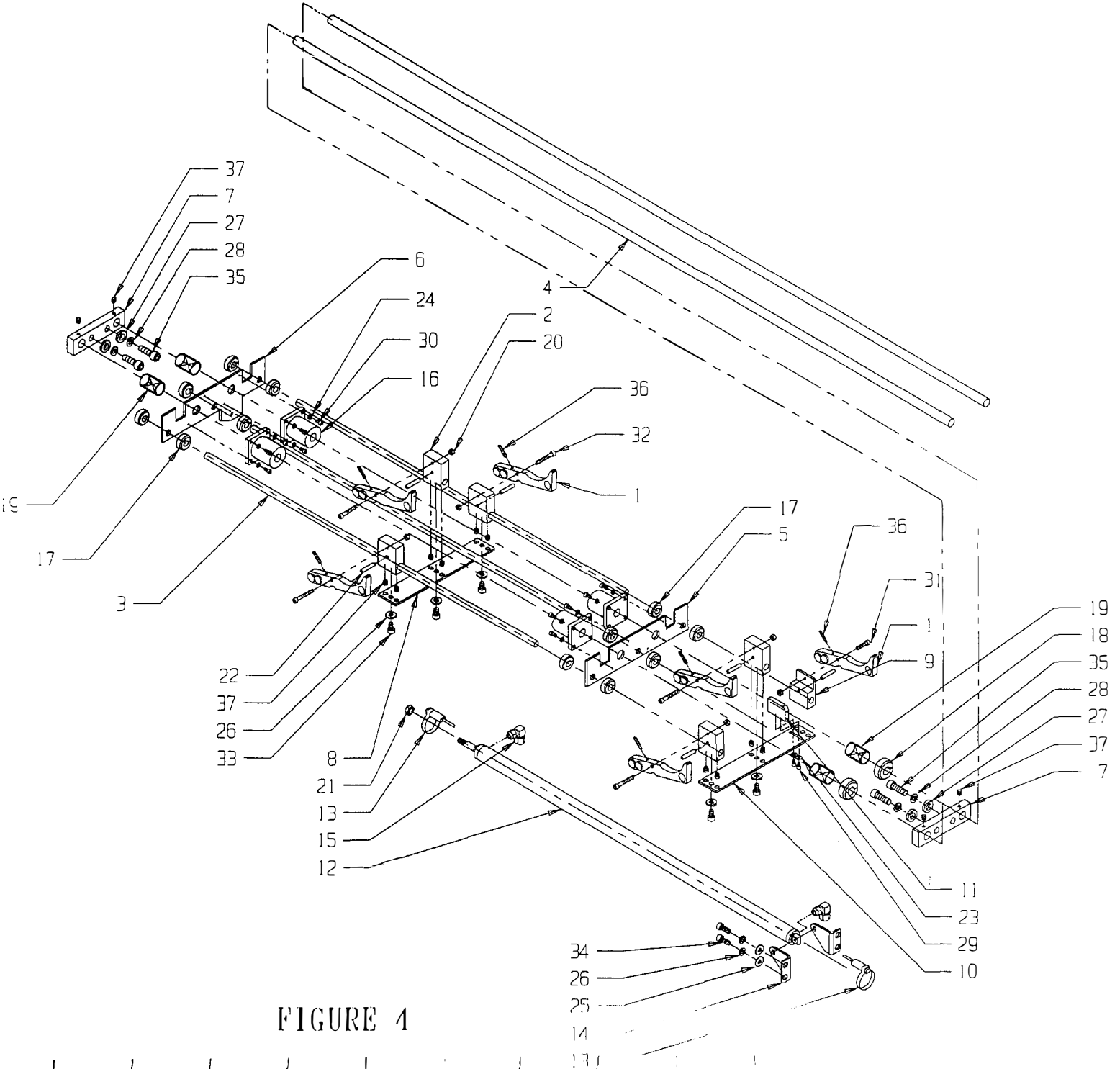
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FIGURE 4

FIGURE 4 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0460020100	Pusher	6
2	0460020200	Holder - Pusher	5
3	0460020300	Axle - Small	3
4	0460020400	Axle - Large	2
5	0460020500	Support Bearings - Small	1
6	0460020600	Support Bearings - Large	1
7	0460020700	Bracket	2
8	0460020800	Bottom Bracket	1
9	0460020900	Holder - Pusher	1
10	0460021000	Bottom Plate	1
11	0460021100	Actuator	1
12	0482022700	Air Cylinder - 3/4 B x 21 3/4 S	1
13	0482022900	Switch - Magnetic	2
14	0482023100	Pivot Bracket	1
15	0482039500	Elbow - Male	2
16	0485059900	Bearing - Flange Mount 1/2 ID	4
17	0750001000	Collar - Clamp-Tite 3/8 ID	12
18	0750002000	Collar - Clamp-Tite 1/2 ID	2
19	0750042000	Spring	4
20	0750301500	Hex Nut - 10-24	12
21	0750305500	Hex Jam Nut - 1/4-28	1
22	0750366000	Rollpin - 3/16 Dia.	6
23	0750401500	Washer - Flat #6	2
24	0750404000	Washer - Lock #8	16
25	0750409000	Washer - Flat 1/4	4
26	0750410500	Washer - Lock 1/4	10
27	0750412300	Washer - Flat 5/16	4
28	0750413000	Washer - Lock 5/16	4
29	0750706600	SHCS #6-32 x 3/8	2
30	0750711100	SHCS #8-32 x 1/2	16
31	0750714600	SHCS #10-24 x 3/4	1
32	0750715600	SHCS #10-24 x 1 1/4	5
33	0750718600	SHCS 1/4-20 x 3/8	6
34	0750718900	SHCS 1/4-20 x 1/2	4
35	0750729100	SHCS 5/16-18 x 1	4
36	0751019500	Set Screw - #10-24 x 3/4	6
37	0751403000	Set Screw - 1/4-20 x 1/4	16

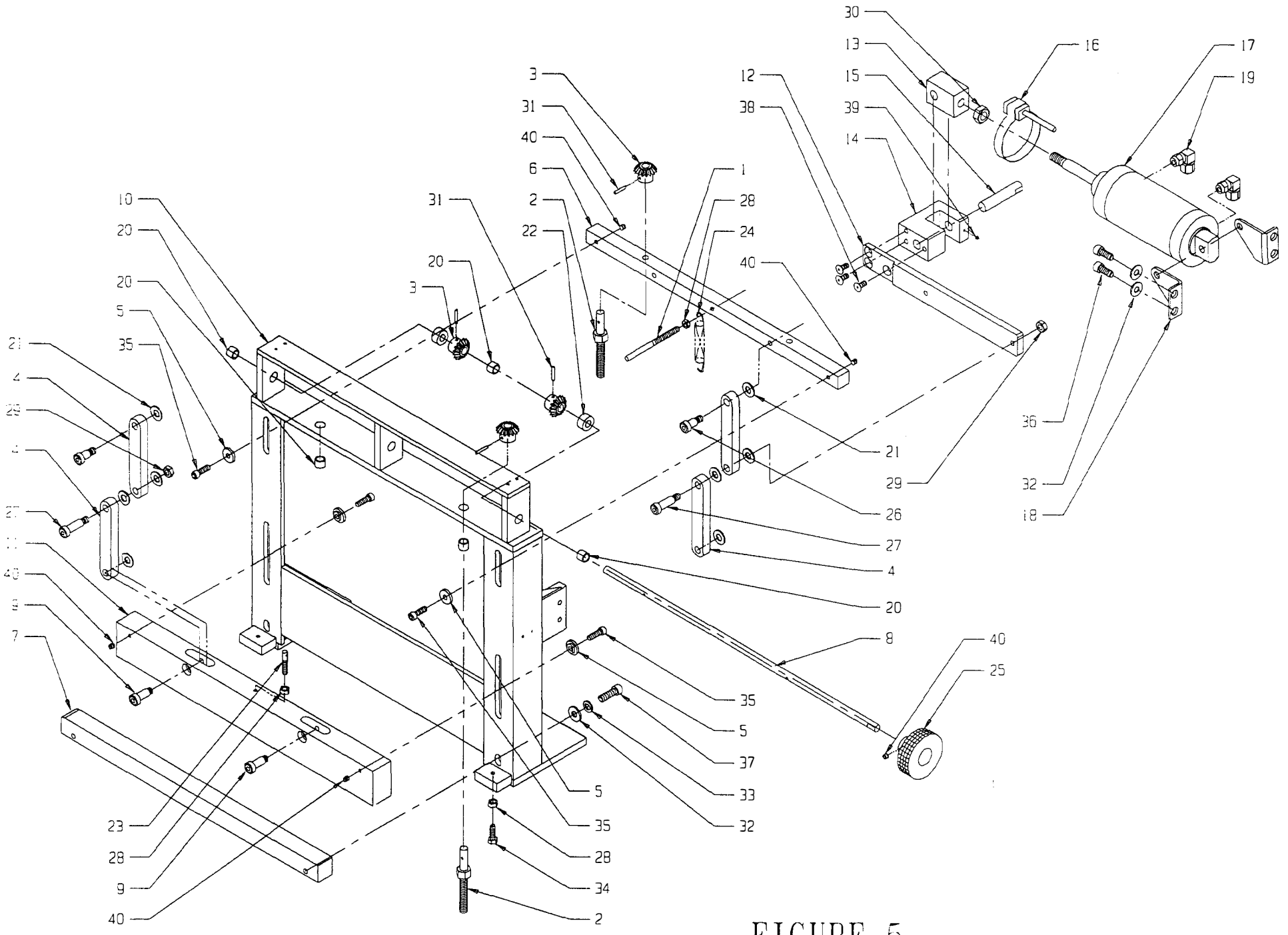
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FIGURE 5

FIGURE 5 PARTS LIST

ITEM NO.	GBC/SICKENGER P/N	DESCRIPTION	QTY. REQ'D.
1	0110007500	Shaft Point	1
2	0425090200	Screw – Adj.	2
3	0425091400	Gear – Miter – Mod.	4
4	0460090600	Link – Pivot	4
5	0425091700	Bushing – Guide	4
6	0460090700	Slide	1
7	0460091800	Base – Closing	1
8	0460091300	Shaft – Gear	1
9	0425092700	Shldr Screw – MOD.	2
10	0460090100	Frame Ass'y	1
11	0460091900	Ram – Closing	1
12	0460091000	Cross Piece	1
13	0460091100	Clevis – Male	1
14	0460091200	Clevis – Female	1
15	0426093200	Pin – Pivot	1
16	0482019100	Reed Switch	1
17	0482019200	Air Cyl. 2.58 X 25	1
18	0482019300	Pivot Mt. W/ Pin	1
19	0482040100	Elbow Male ¼ NP 1	2
20	0485028900	Bronze Bushing	5
21	0750196700	Bronze Washer	8
22	0750001000	Clamp Collar	2
23	0750019700	Sp Anchor ¼-20	1
24	0750029000	Spring – Extension	1
25	7610112	~~0750088000~~	Hand Wheel	1
26	0750238300	Shldr Screw 3/8" Dia X ½"	2
27	0750239300	Shldr Screw 3/8" Dia X 1"	2
28	0750304500	Nut Hex Jam ¼" – 20	4
29	0750307000	Nut Hex Jam 5/16" – 18	2
30	0750315000	Nut Hex Jam ½ - 20 Thd.	1
31	0750362000	Roll Pin 1/8 Dia X ¾"	4
32	0750412300	Washer – Flat 5/16 I.D.	6
33	0750413000	Washer – Lock 5/16 I.D.	2
34	0750511000	HHCS ¼ - 20 X ¼"	2
35	0750722100	SHCS ¼ - 20 X 1" S.S.	4
36	0750728600	SHCS 5/16 – 18 X ¾" S.S.	4
37	0750729600	SHCS 5/16 – 18 X 1 ¼" S.S.	2
38	0750864400	FHCS ¼ - 20X 5/8" S.S.	3
39	0751027000	SSS ¼ - 20 X 3/8"	1
40	0751024000	SSS ¼ - 20 X ¼"	5

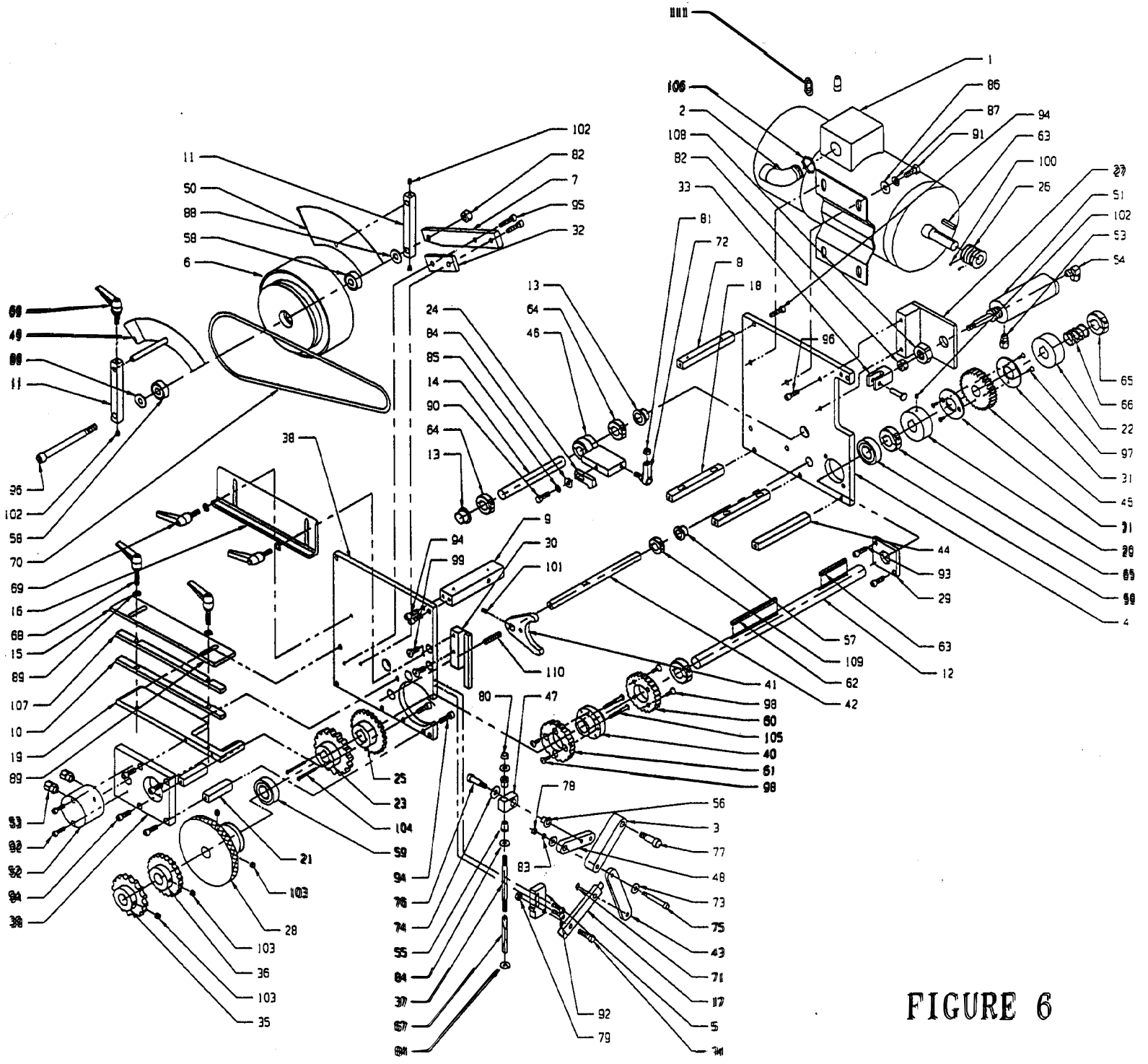

FIGURE 6

FIGURE 6 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0220000600	Motor--1/4 HP	1
2	0220133000	Connector--Strain Relief	1
3	0425080200	Link--Upper	1
4	0425080400	Side Plate--Rear	1
5	0425080700	Back-up Knife	1
6	0425080800	Wheel--Feed	1
7	0425081000	Arm--Wheel	1
8	0425081100	Tie Bar	1
9	0425081200	Support Bar - Top	1
10	0425081300	Spacer	1
11	0425081500	Support - Element Guide	2
12	0460081600	Shaft - Worm Gear	1
13	0425082100	Bushing - Modify	2
14	0425082200	Shaft - Stop	1
15	0425082400	Element Guide - Lower	1
16	0425082600	Element Guide - Upper	1
17	0425082900	Knife Blade	1
18	0425083100	Tie Bar - Slotted	2
19	0425083200	Guide	1
20	0425083300	Collar - Worm Gear - L/H	1
21	0425083400	Spacer	2
22	0425083500	Collar - Worm Gear - R/H	1
23	0425083700	Feed Gear - 2:1	1
24	0425084100	Stop Dog	1
25	0425084300	Feed Gear - 3:1	1
26	0425084400	Worm - Modify	1
27	0425084500	Mount - Cylinder	1
28	0460084700	Wheel - Pulley	1
29	0425085000	Retainer - Bearing	1
30	0425085100	Guide - Back-up	1
31	0425085200	Clutch Pad	2
32	0425085300	Spacer - Arm	1
33	0425085400	Clevis - Modify	1
34	0425085700	Screw--Pivot	1
35	0425085800	Gear--Count--2:1	1
36	0425085900	Gear--Count--3:1	1
37	0426080800	Rod--Connecting	1
38	0426080900	Side Plate--Front	1
39	0426081400	Support--Bearing	1
40	0426081700	Hub--Stop Gears	1
41	0426081800	Fork--Shifter	1
42	0426081900	Shaft--Cylinder	1
43	0426082700	Link--Lower	1
44	0426083000	Tie Bar	1
45	0425083600	Worm Gear - Modify	1
46	0426084000	Mount--Stop Dog	1
47	0426084200	Actuator Block	1

FIGURE 6 PARTS LIST (Continued)

ITEM NO.	GBC STOCK/GEER P/N	DESCRIPTION	QTY. REQ'D.
48	0426084000	Link--Cylinder	1
49	0480116700	Guide--Element--L/H	1
50	0480116800	Guide--Element--R/H	1
51	0482018100	Cylinder--Air 1 1/2 Bore	1
52	0482021500	Cylinder--Air 1 1/8 Bore	1
53	0482034500	Male Connector--Push-lock	3
54	0482039500	Elbow--Male	1
55	0485010000	Bushing - Bronze 1/4 ID	2
56	0485012000	Bushing - Bronze 5/16 ID	1
57	0485014000	Bushing - Bronze 1/2 ID	1
58	0485057000	Bearing - Ball 3/8 ID	2
59	0485060000	Bearing - Ball 3/4 ID	2
60	0487055000	Gear - 3:1	1
61	0487056000	Gear - 2:1	1
62	0512150100	Key - 3/16	1
63	0512150400	Key - 3/16	2
64	0750002400	Collar - Clamp 5/8 ID	2
65	0750002500	Collar - Clamp 3/4 ID	2
66	0750029200	Spring - Compression	1
67	0750030600	Spring - Compression	1
68	0750089200	Handle - Adjustable	2
69	0750088800	Handle - Adjustable	3
70	0750119000	O-Ring Drive Belt	1
71	0750121200	Snap Ring	1
72	0750170000	Rod End	1
73	0750194200	Thrust Washer	2
74	0750194500	Thrust Washer	2
75	0750232000	Shoulder Screw - 1/4 Dia.	1
76	0750234000	Shoulder Screw - 5/16 Dia.	1
77	0750238500	Shoulder Screw - 3/8 Dia.	1
78	0750301500	Hex. Nut - 10-24	1
79	0750304000	Hex. Nut - 1/4-20	1
80	0750304700	Locknut - 1/4-20	1
81	0750305500	Hex. Nut - 1/4-28	1
82	0750309800	Hex. Jam Nut - 3/8-16	2
83	0750406000	Lock Washer - #10	1
84	0750409000	Flat Washer - 1/4	4
85	0750410800	Lock Washer - 1/4	1
86	0750412800	Flat Washer - 5/16	4
87	0750413000	Lock Washer - 5/16	4
88	0750415000	Washer	2
89	0750434000	Flat Washer - M6	4
90	0750506100	HHCSS - 1/4-20 x 3/4	1
91	0750522100	HHCSS - 5/16-18 x 3/4	4
92	0750711600	SHCSS - 10-24 x 3/4	4
93	0750719600	SHCSS - 1/4-20 x 5/8	2
94	0750720100	SHCSS - 1/4-20 x 3/4	2

FIGURE 22 PARTS LIST (Continued)

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D
95	0750722100	SHCS - 1/4-20 x 1	2
96	0750739600	SHCS - 3/8-16 x 4 1/2	1
97	0750856300	FHCS - 6-32 x 3/8	4
98	0750861900	FHCS - 10-24 x 3/4	8
99	0750864600	FHCS - 1/4-20 x 3/4	2
100	0751013000	Set Screw - 8-32 x 3/16	2
101	0751018000	Set Screw - 10-24 x 1/4	1
102	0751403000	Set Screw - 1/4-20 x 1/4	3
103	0751405500	Set Screw - 5/16-18 x 1/4	3
104	0753393200	Round Head Screw - 6-32 x 1 1/4	2
105	0753393300	Round Head Screw - 6-32 x 1 1/2	2
106	0220193000	Conduit Locknut	1
107	0426081300	Spacer - Slotted	1
108	0482020200	Nut - Air Cylinder	1
109	0750002200	Collar - 1/2 ID 2-pc	1
110	0751038500	Set Screw - 5/16-24 x 1 1/4	1
111	0220215500	Wire Nut	2

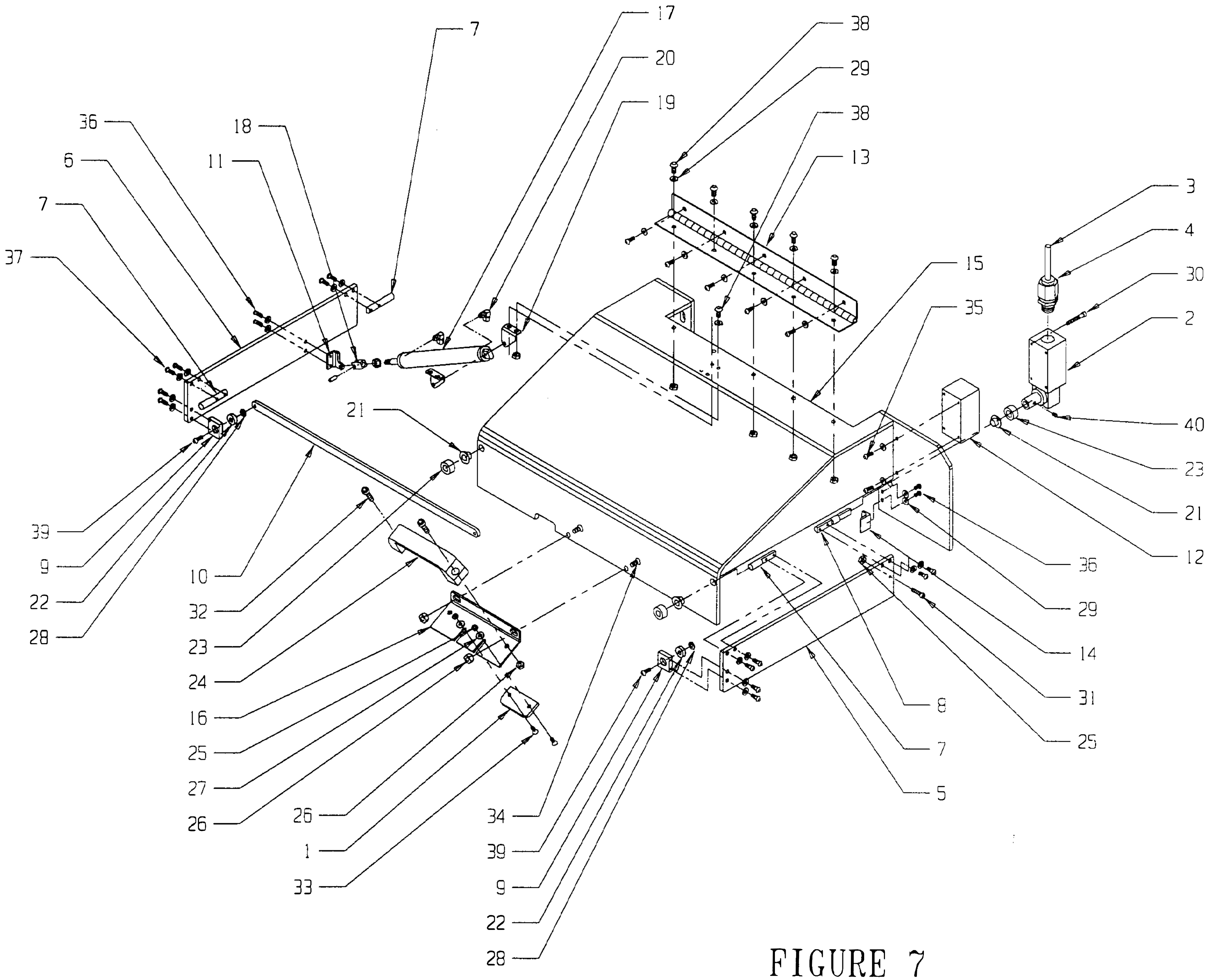

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FIGURE 7

FIGURE 7 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0220017900	Actuator	1
2	0220018200	Safety Limit Switch	1
3	0220109500	Cable - Gray	1
4	0220133500	Strain Relief	1
5	0460030200	Safety Gate - R/H	1
6	0460030300	Safety Gate - L/H	1
7	0460030400	Axle - Short	1
8	0460030500	Axle - Long	1
9	0460030700	Bearing Block	1
10	0460030800	Connecting Rod	1
11	0460030900	Clevis - Gate	1
12	0460031000	Spacer - Limit Switch	1
13	0460031100	Hinge - Guard	1
14	0460031200	Stop - Gate	1
15	0460031400	Safety Guard	1
16	0460031500	Bracket - Handle	2
17	0482021700	Air Cylinder - 9/16 B x 3" S	1
18	0482021800	Rod Clevis	1
19	0482021900	Pivot Bracket	2
20	0482046100	Male Elbow	1
21	0485075100	Bearing - Nylon 3/8 ID	4
22	0485086700	Ball Bearing - 1/4 ID	1
23	0750001000	Collar - Clamptite 3/8 ID	2
24	0750086700	Pull Handle	1
25	0750303700	Locknut - 10-32	10
26	0750304500	Hex Jam Nut - 1/4-20	4
27	0750405300	Washer	4
28	0750411000	Washer - Lock 1/4	2
29	0750431500	Washer - Nylon #10	30
30	0750715800	SHCS - #10-24 x 1 1/2	2
31	0750717100	SHCS - #10-32 x 3/4	1
32	0750728100	SHCS - 5/16-18 x 1/2	2
33	0750862500	FHCS - #10-32 x 1/2	2
34	0750862700	FHCS - #10-32 x 5/8	2
35	0750935300	BHCS - #10-24 x 1/2	4
36	0750937200	BHCS - #10-32 x 3/8	4
37	0750937400	BHCS - #10-32 x 1/2	12
38	0750938100	BHCS - #10-32 x 5/8	9
39	0750941000	BHCS - 1/4-20 x 1/2	2
40	0751020000	Set Screw - #10-32 x 3/16	1

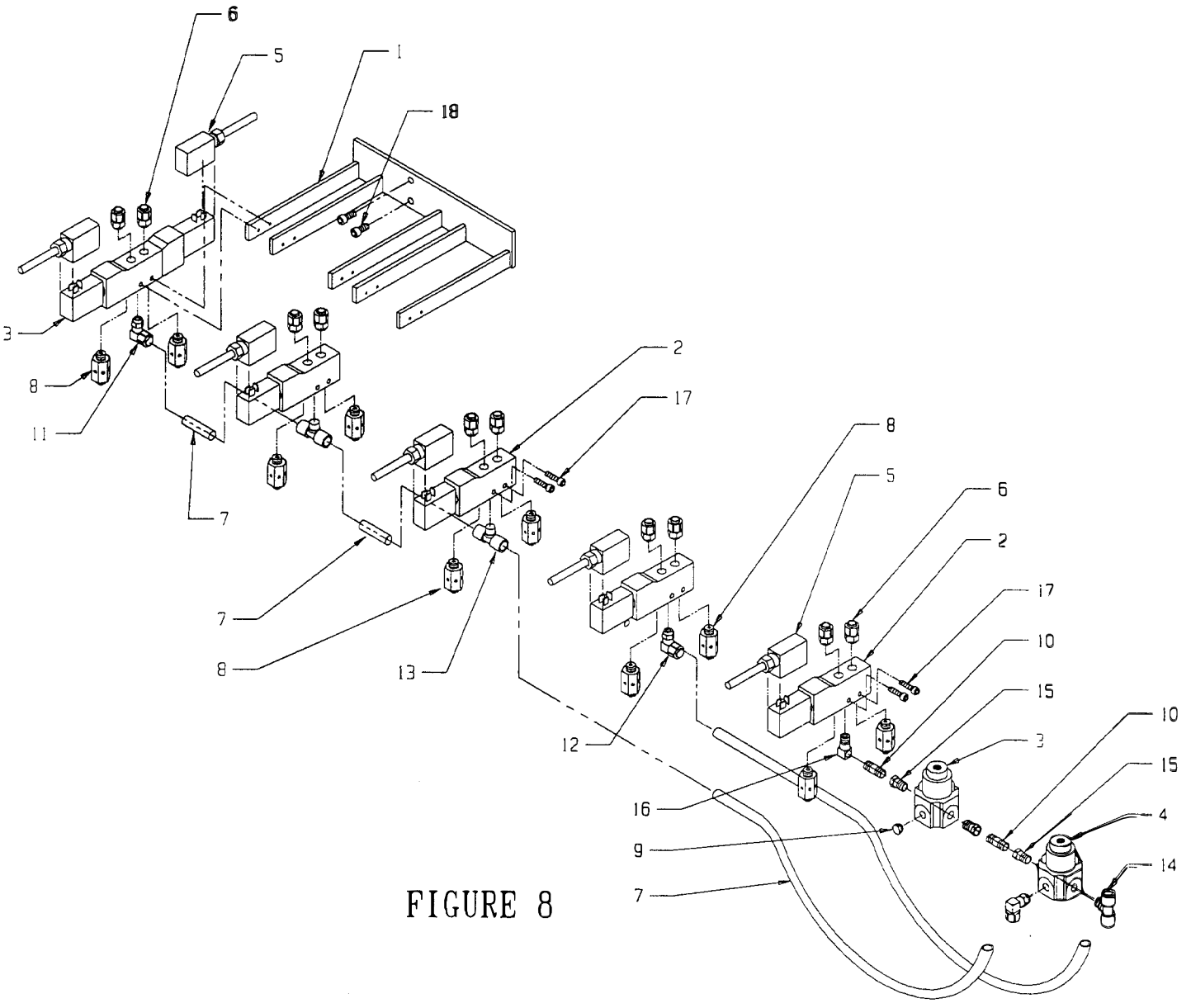


FIGURE 8

FIGURE 8 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0460035100	Bracket - Air Valve	1
2	0482006300	Valve - Air	4
3	0482006400	Valve - Air - Double Solenoid	1
4	0482009800	Regulator	2
5	0482017800	Connector with 9 ft Lead	6
6	0482034500	Male Connector	10
7	0482035000	Polytube - 1/4	12 in.
8	0482036700	Muffler with Speed Control	10
9	0482038000	Pipe Plug	1
10	0482038700	Close Nipple - 1/8 NPT	2
11	0482039500	Elbow - Male	1
12	0482039600	Elbow - Male - Swivel	1
13	0482043700	Male Tee	2
14	0482044500	Male Tee	1
15	0482051200	Reducer Bushing	3
16	0482052200	Elbow - Fitting	1
17	0750708000	SHCS - 6-32 x 1	10
18	0750718100	SHCS - 1/4-20 x 1/2	2

FIGURE 9 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0462050200	Dim Rail - Modify 17.35	1
2	0462050300	Dim Rail - Modify 7.5	1
3	0460050200	Dim Rail - Modify	1
4	0120014000	Dim Rail - Modify 5"	1
5	0462050400	Sub Panel	1
6	0220042500	Thermal Overload - .9A	2
7	0220042000	Thermal Overload - 2.1A	2
8	0220154700	Contractor - 3 HP	4
9	0220158000	Terminal Block	46
10	0220065500	PLC Controller	1
11	0220090300	Transformer	1
12	X	Fuse Block	6
13	X	Fuse	6
14	0220158200	End Anchor	5
15	X	Disconnect	1
16	0220158300	Grounding Block	9
17	0220162000	Grounding Lug	6
18	0220158500	Jumper	1
19	0220158400	Number Kit - 1-50	1
20	0480011500	Legend Plate - 1-CR	1
21	0480012000	Legend Plate - 2-CR	1
22	0480012500	Legend Plate - 3-CR	1
23	0480013000	Legend Plate - 4-CR	1
24	0220157900	Partition Plate	1
25	X	Filter	1
26	X	Safety Monitor	2
27	X	Relay - Positive Guided	1
28	0220270200	Circuit Breaker	1
29	X	Legend Plate - 5-CR	1
30	X	Ground Label	6
31	X	Legend - HEATER 1	1
32	X	Legend - HEATER 2	1
33	X	Legend - HEATER 3	1
34	X	Legend - HEATER 4	1
35	X	Legend - SAFETY MONITOR 1	1
36	X	Legend - SAFETY MONITOR 2	1

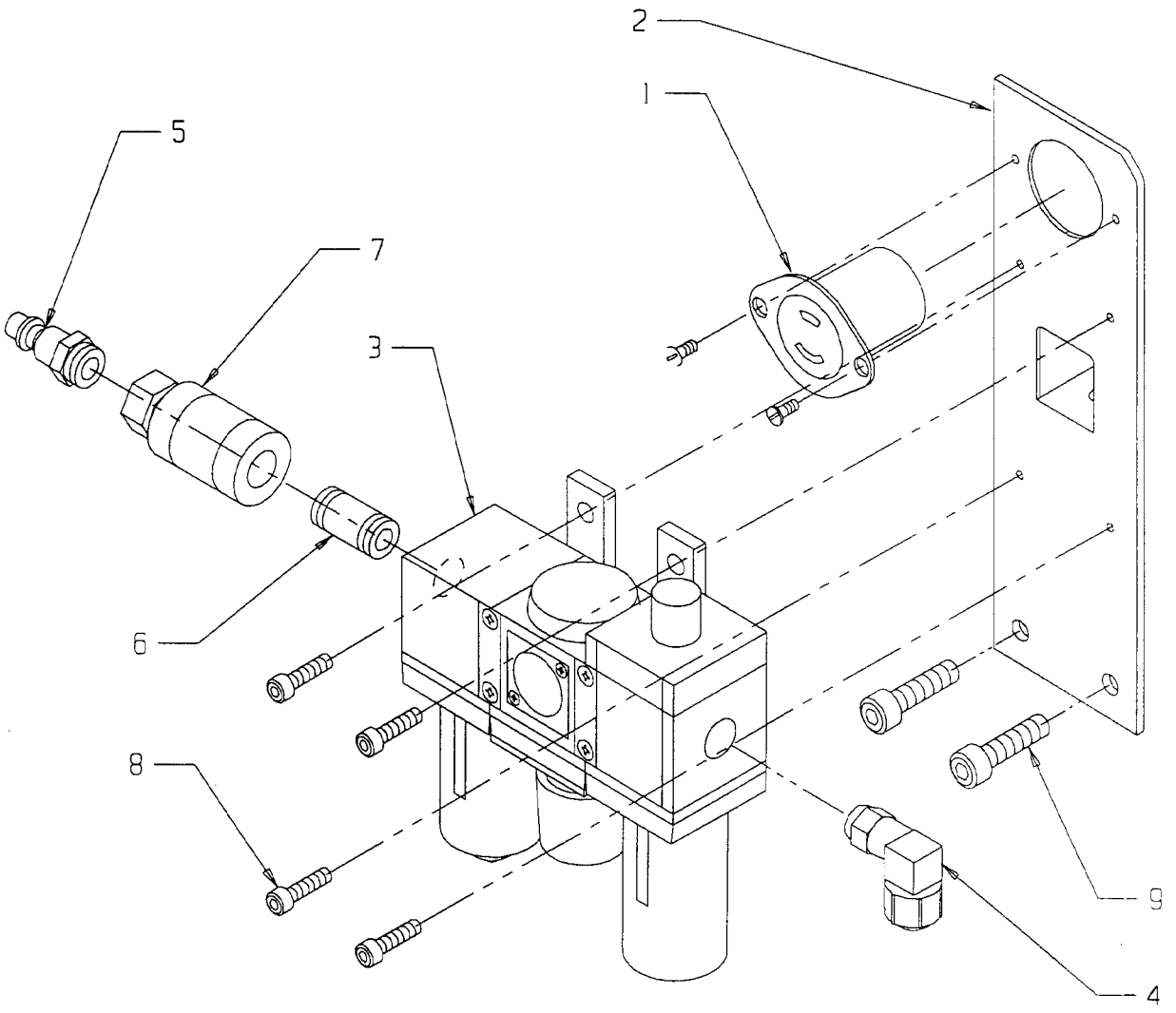
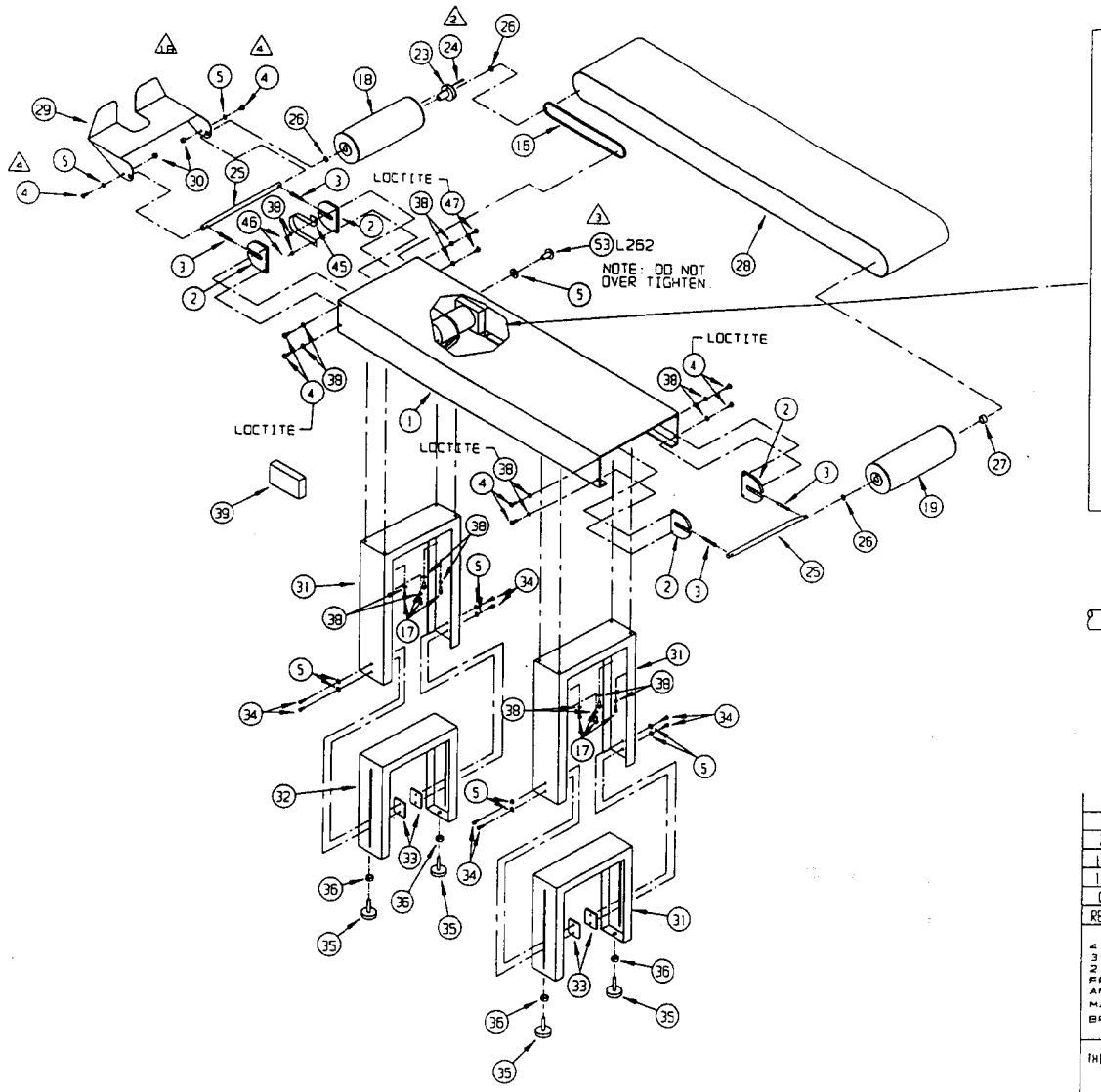


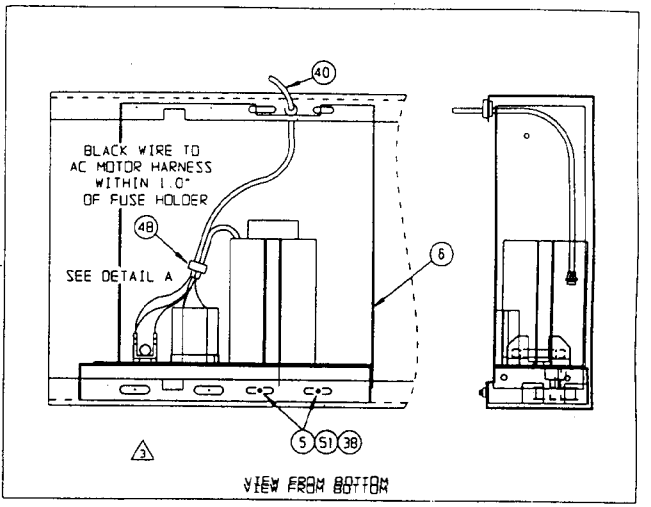
FIGURE 10

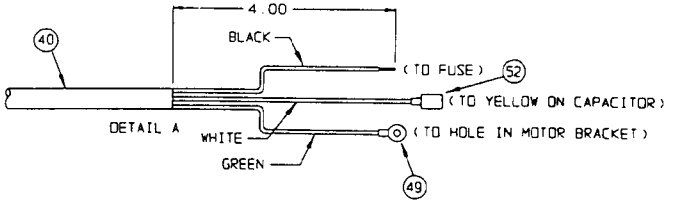
FIGURE 10 PARTS LIST

ITEM NO.	GBC/SICKINGER P/N	DESCRIPTION	QTY. REQ'D.
1	0220202400	Receptacle -Flanged	1
2	0460040100	Bracket - FRL	1
3	0482010400	Filter Regulator	1
4	0482040000	Elbow - Male	1
5	0482044700	Male Connector	1
6	0482039000	Close Nipple - 1/4 NPT	1
7	0482010600	Valve - Shut Off	1
8	0750714100	SHCS #10-24 x 1/2	4
9	0750718900	SHCS - 1/4-20 x 1/2	2

19. Exploded Assembly and Parts List Conveyor







REV	DESCRIPTION	DATE	BY	ECN#
4	CORRECTIONS TO DRAWING AND MATERIAL LIST	07/24/97	RJT	2446
3	MANY CHANGES	04/23/97	RJT	2342
2	REMOVED DID #22, IT BECAME PART OF DID #23	04/09/97	RJT	2341
1B	REMOVED DID # 44, 43 AND 42	08/07/96	RJT	1830
1A	GROUND WIRE ROUTING CHANGED	08/07/96	RJT	1830
0	ORIGINAL DESIGN	06/17/96	RJT	

TOLERANCES
4 PLACE DEC. : 0005
3 PLACE DEC. : 005
2 PLACE DEC. : 015
FRACTIONAL : 1/32
ANGULAR : 1/2°
MACH. FIN : 63 √
BREAK SHARP EDGES : 010 MAX

as·ter·isk®
Old Saybrook, CT 06475

CONVEYOR

MAT'L NO.

MAT'L DESC

DESG BY CMC | SCALE 1:6 | B | CNA004A0

OUTPUT CONVEYOR, AC MOTOR 4 FOOT BED PARTS LIST

PART #	DESCRIPTION	FIND NUMBER	UNIT OF MEASURE
0460012600	CONVEYOR BED AC 4'	01	1.00 EACH
0460012700	SHAFT BRACKET	02	4.00 EACH
0750723500	SHCS ¼-20 X1-3/4	03	4.00 EACH
0750941100	BHSCS ¼ - 20X1/2	04	8.00 EACH
0750409100	FLAT WASHER ¼	05	11.00 EACH
0460012800	MOTOR ASSY. AC 120V	06	1.00 EACH
0750161100	TIMING BELT	16	1.00 EACH
0750718600	SHCS ¼ 20 X3/8	17	8.00 EACH
0460012900	DRIVE PULLEY	18	1.00 EACH
0460013000	IDLER PULLEY	19	1.00 EACH
0460013100	DRIVEN PULLEY	23	1.00 EACH
0750367600	COILED SPRING PIN	24	1.00 EACH
0460013200	PULLEY SHAFT	25	2.00 EACH
0750423800	NYLON FLAT WASHER, NARROW RIM 5/8 ID	26	3.00 EACH
0460013300	SPACER	27	1.00 EACH
0750163600	CONVEYOR BELT	28	1.00 EACH
0460013400	ENDSTOP	29	1.00 EACH
0460013500	STOP ADJUST CAM	30	2.00 EACH
0460013600	LEG	31	2.00 EACH
0460013700	LEG EXTENSION	32	2.00 EACH
0460013800	NUT PLATE	33	4.00 EACH
0750501000	HHCS ¼ -20 X1/2	34	8.00 EACH
0750182000	LEVELING GUIDE	35	4.00 EACH
0750309500	HEX JAM NUT 3/8-16	36	4.00 EACH
0750410500	SPRING LOCK WASHER ¼"	38	12.00 EACH

0750140200	OUTPUT CONVEYOR MAGNET	39	1.00 EACH
0220109600	POWER SUPPLY CORD W/PLUG	40	1.00 EACH
0220131200	STRAIGHT-THRU STRAIN RELEIF BUSHING	41	1.00 EACH
0460013900	GUARD	45	1.00 EACH
0750304000	HEX NUT ¼ -20	46	2.00 EACH
0750942400	BHCS ¼-20X7/8	47	2.00 EACH
0220210000	CABLE TIE	48	3.00 EACH
0220179200	RING TERMINAL	49	1.00 EACH
0750718900	SHCS ¼-20X1/2	51	2.00 EACH
0220196700	FEMALE QUICK CONNECT	52	1.00 EACH
0750339900	PHPMS ¼-20X2	53	1.00 EACH

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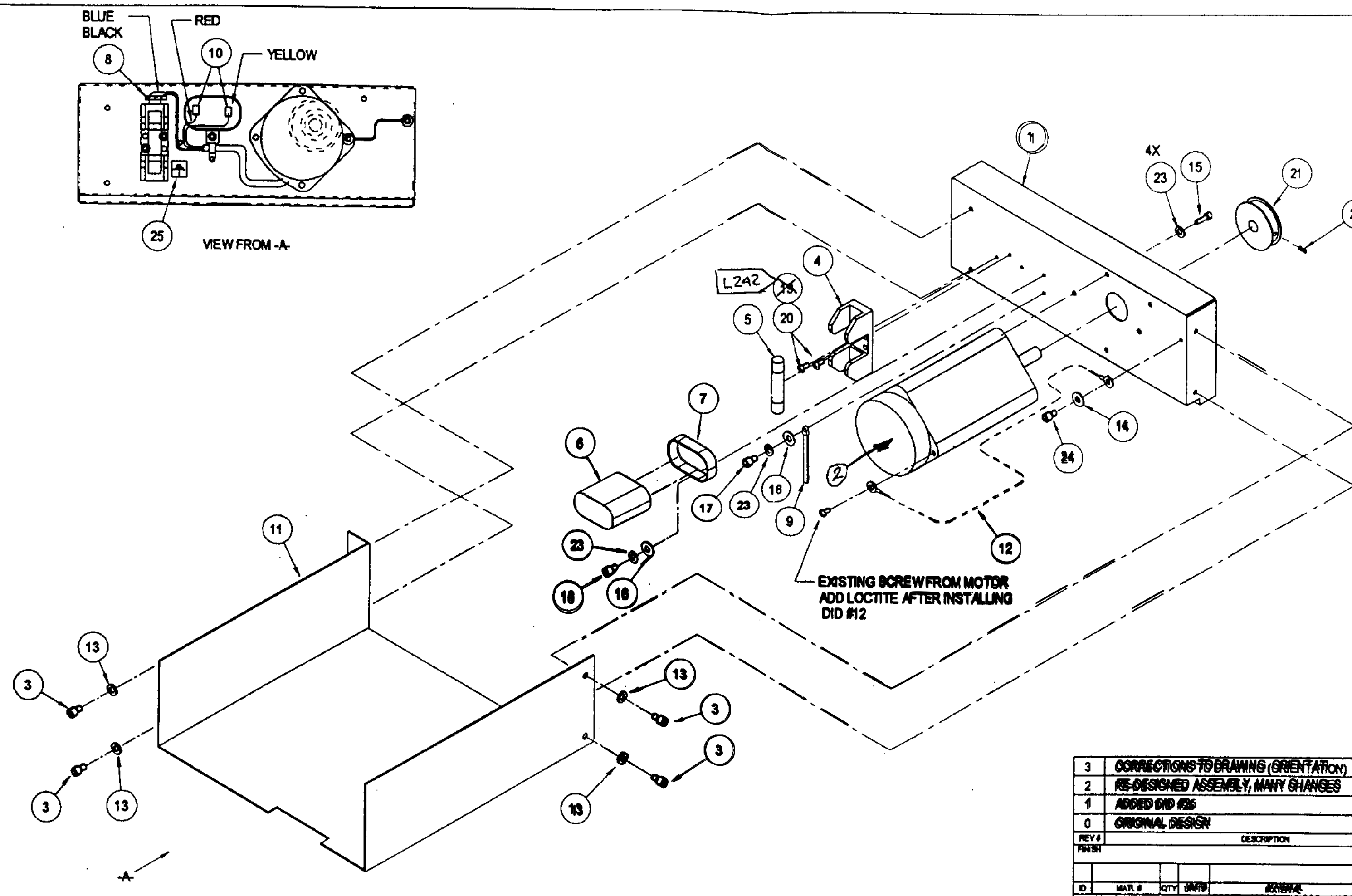
from plug - black [illegible]
- white to cap

from [illegible] - blue & black to
other end of [illegible]
- yellow w/ [illegible]
red [illegible]



L242 > Loctite 242

REV #	DESCRIPTION	ECN #	DATE	BY
3	CORRECTIONS TO DRAWING (ORIENTATION)	2384	5/23/97	RJ
2	RE-DESIGNED ASSEMBLY, MANY CHANGES	2343	4/10/97	RJ
1	ADDED DID #25	1830	8/07/96	RJ
0	ORIGINAL DESIGN		6/17/96	RJ

FINISH | SCALE

ID	MAT'L #	QTY	UNITS	MATERIAL	SPECIFICATION

TOLERANCES: X.XXXX ±0.0005; X.XXX ±0.005; X.XX ±0.010; X.X ±1/32; ANGLE ±1/2
Machine Finish 63 ; Break all edges to 0.015 max; Threads = Class 2; Geo Tol. = ASME Y14.5

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DOC TYPE: ASSEMBLY	ENG: HOT	PRINT DATE: 4/10/97	MAY 23 1997
TITLE: MOTOR ASSEMBLY			SHT 1 OF 1

as·ter·isk*® Incorporated
175-2 Elm St.; Old Saybrook CT 06475; 860-388-3811

ITEM #: CNA01000

PART #	DESCRIPTION	FIND NUMBER	UNIT OF MEASURE
0460014100	AC MOTOR BRACKET	01	1 EACH
0220003900	AC GEARMOTOR	02	1 EACH
0750718600	SHCS ¼ 20X 3/8	03	4 EACH
0220149600	FUSE BLOCK	04	1EACH
0220140200	TIME DELAY FUSE 8/10 AMP	05	1 EACH
0220008900	CAPACITOR	06	1 EACH
0220010100	CAPACITOR MOUNTING KIT	07	1 EACH
0220210000	CABLE TIE	08	1 EACH
0220188500	SCREW MOUNT CABLE TIE	09	1 EACH
0220196600	FEMALE QUICK CONNECT, INSULATED	10	2 EACH
0460014200	MOTOR GUARD	11	1 EACH
0177126900	GREEN GROUNDING CABLE ASSEMBLY	12	1 EACH
0750410500	SPRING LOCK WASHER 1/4	13	4 EACH
0750403500	FLAT WASHER # 8	14	1 EACH
0750716900	SHCS10-32X5/8	15	4 EACH
0750405500	FLAT WASHER #10	16	2 EACH
0750716300	SHCS 10-32 X ½	17	1 EACH
0750716900	SHCS 10-32 X3/8	18	1 EACH
0750937200	BHCS 10-32 X 3/8	20	2 EACH
0460014000	DRIVE PULLEY , AC MOTOR	21	1 EACH
0751401300	NYLON PATCH SET SCREW 8-32 X3/8	22	1 EACH
0750406000	SPRING LOCK WASHER #10	23	6 EACH
0750710700	SHCS 8-32 X 5/16	24	1 EACH
0480000200	GROUND LABEL	25	1 EACH
0460014300	END CAP	26	2 EACH

21.

ELECTRICAL

DIAGRAM

REVISIONS				
REV.	E.C.N.	CHANGE	DATE	CHK BY
C		ADD 4 PCS #HC SCREW FOR TRANSFORM CHANGE QTY TO 11 PCS FOR ITEM 39.	10/17/96	
D	3905	CHANGED TY-WRAPS	6/25/98	
E1	E10940	ADD FX10-30MR TO ITEM33	11/15/04	
F1	E11111	ADD 0460000130	6/5/06	

DISCONNECT

230 V AC
3-PHASE
60 Hz

L1 L2 L3

FU-11 FU-12

230/115 VAC

FU-13

E-STOP

IS1

FU-1 FU-2 FU-3 FU-4 FU-5 FU-6

1-CR 2-CR

FEED DEREEL

CONVEYOR

4-CR

FU-14 FU-15 FU-16

SOL-1 SOL-2 SOL-3 SOL-4 SOL-5 SOL-6

PUSHER CLOSE CUT DOOR FEED DEREEL BELT CONVEYER PITCH 2:1 PITCH 3:1

1CR 2CR 3CR 4CR

3-CR

BELT

24V OV COM0 COM1 Y0 Y1 COM2 Y2 Y3 Y4 Y5 COM3 Y6 Y7 Y10 Y11 COM4 Y12 Y13 Y14 Y15

OUTPUT

P.L.C.

110 AC L N ⏚ S/S S/S X0 X1 X2 X3 X4 X5 X6 X7 X10 X11 X12 X13 X14 X15 X16 X17

INPUT

LS1 HOME 1

LS2 FORWARD 1

LS3 CLOSE

SPOOL PROX

COUNT PROX 2:1

FS START CYCLE

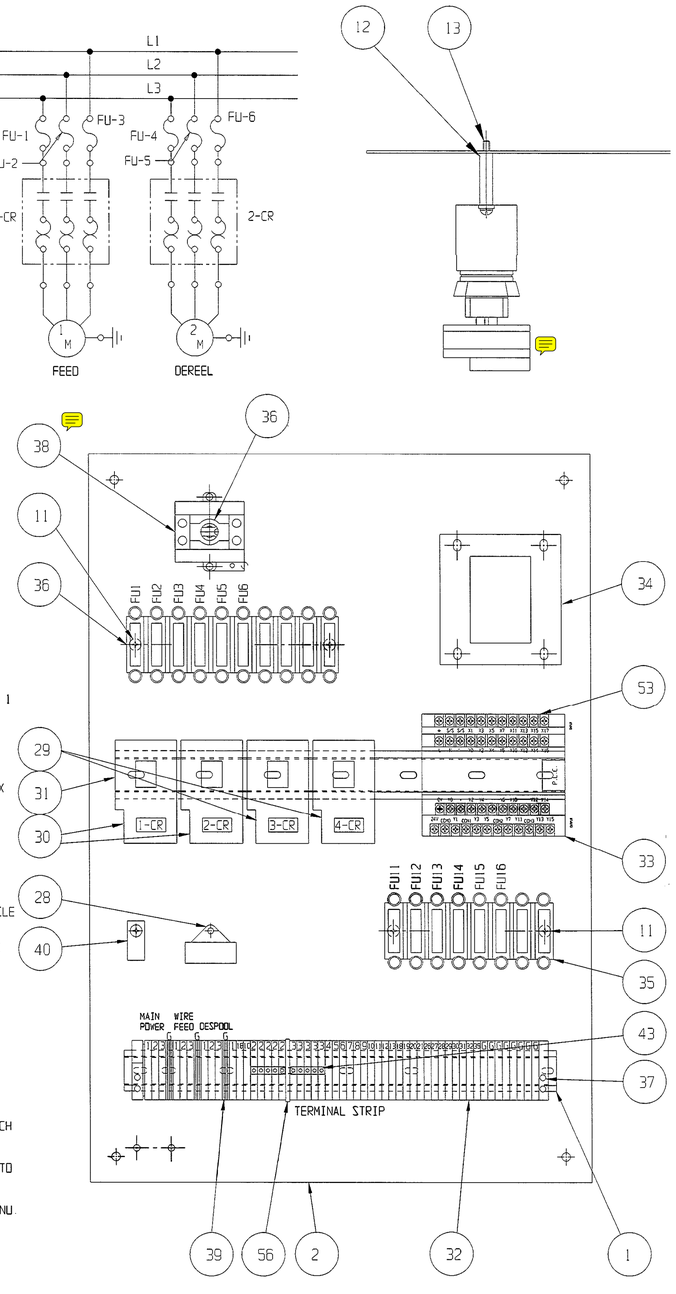
IS1 INTERLOCK SWITCH

COUNT PROX 3:1

IS2 DOOR SWITCH

DEREEL AUTO

DEREEL MANU.



NOTES:

FU - 1,2,3,4,5,6,13 ALL 10 AMP.
FU - 11,12,14,15,16 ALL 5 AMP.

#1-BLACK
#2-WHITE
24 V.DC - BLUE
110 V.AC - RED

SOL-5 AND SOL-6 ARE ON DOUBLE-SOL. VALVE.

ALL GREEN (GROUND) WIRE SHOULD BE LONGER THAN OTHERS

	74			SHIELD TUBE - CHRIS (PSS17)
	73	0480000100	3	LABEL - SHOCK WARNING
	72		1	FICTER SCHAFFNER #FN356-16106
	71	XXXXXXX	2	SAFETY MONITOR - SCHMERSAL #AES2135
	70	XXXXXXX	2	RELAY - SCHMERSAL #SH04-22-A
	69	XXXXXXX	1	LEGEND PLATE - SDR
	68		1	LABEL - PE
	67	0480000200	5	LABEL - GROUND
	66			LEGEND - FUSE 6
	65			LEGEND - FUSE 5
	64			LEGEND - FUSE 4
	63			LEGEND - FUSE 3
	62			LEGEND - FUSE 2
	61			LEGEND - FUSE 1 MARK
	60			CIRCUIT BREAK MARK
	57	0220158600	.20	1492-SMSX5C
	56	0220157900	1	1492-PP3
D	55	0750495000	4	#8-32 X 3/8"
	54	0753393600	6	GREEN GROUND SCREW #10-32 THREAD
	53	0220170000	40	THOMAS & BETTS #RA18-6F
	52	0220114000	1	WIRE - BLUE MTW 16 X 50 FT. GOOV RATED
	51	0220113500	1	WIRE - BLACK MTW 16 X 50 FT. GOOV RATED
	50	0220113000	1	WIRE - WHITE MTW 16 X 30 FT. GOOV RATED
	49	0220112500	1	WIRE - RED MTW 16 X 30 FT. GOOV RATED
	48	0480013000	1	LEGEND PLATE - 4CR
	47	0480012500	1	LEGEND PLATE - 3CR
	46	0480012000	1	LEGEND PLATE - 2CR
	45	0480011500	1	LEGEND PLATE - 1CR
	44	0220158400	1	NUMBER KIT (1-50) ALLEN BRADLEY #1492-N85
	43	0220158500	1	JUMPER ALLEN BRADLEY #1492-N50
D	42	0220210500	25	TY-WRAP
	41	0220171500	40	STAK-ON TERMINAL THOMAS & BETTS #B14-8
	40	0220162000	6	GROUNDING LUG THOMAS & BETTS #31003
C	39	0220158300	9	GROUNDING BLOCK ALLEN BRADLEY #1492UB4
	38	DISCONNECT		KLOCKNER MOLLER # PL-25/V/SVB+2N
	37	0220158200	8	END ANCHOR ALLEN BRADLEY #1492-N76
F1	36	0460000130	1	DOOR INTERLOCK SHAFT
	35	FUSE BLOCK	6	MARK
	34	0220090300	1	TRANSFORMER SIGNAL TRANSFORMER #M4L-2-3
E1	33	0220065500	1	PLC CONTROLLER MITSUBISHI FX10-30MR
	32	0220158000	46	TERMINAL BLOCK ALLEN BRADLEY #1492-W3
	31	0220154700	4	3 HP CONTACTORS MITSUBISHI S-K10 120 VAC COIL
	30	0220042500	2	THERMAL OVERLOAD MITSUBISHI TH-K12ABKPUL 0.9A
	14	0753380500	12	SELF TAPPING SCREW #8-32 X 1/2
	13	0753323000	2	RD HD MACHINE SCREW #10-24 X 2 1/2
	12	0750375500	2	ROLL PIN 3/8 DIA. X 2"
	11	0750856200	4	FHCS #6-32 X 3/8
	5	0462050400	1	SUB PANEL C SIZE DRAWING
	4	0120014000	1	DIN RAIL - MODIFY-5" A SIZE DRAWING
	3	0460050200	1	DIN RAIL - MODIFY A SIZE DRAWING
	2	0462050300	1	DIN RAIL - MODIFY-7-3/4" A SIZE DRAWING
	1	0462050200	1	DIN RAIL - MODIFY-17-3/8" C SIZE DRAWING

QTY.	MATERIAL	SIZE

TOLERANCE PRIORITY IS AS FOLLOWS.
1) DRAWING VIEWS
2) NOTES
3) DEFAULT IF NOT SPECIFIED ABOVE
FRACTION: ±1/64"
DECIMALS: ±.005 = XXX
±.010 = .XX
ANGULAR: ±0°30'

ALL DIMENSIONS AFTER PLATING | PARTS ARE TO BE FREE OF BURRS, SHARP EDGES AND SHARP CORNER | DO NOT SCALE PRINT

MATERIAL
FINISH

DR BY	NL	7/11/96
DES BY	NL	7/11/96
APP'D BY		

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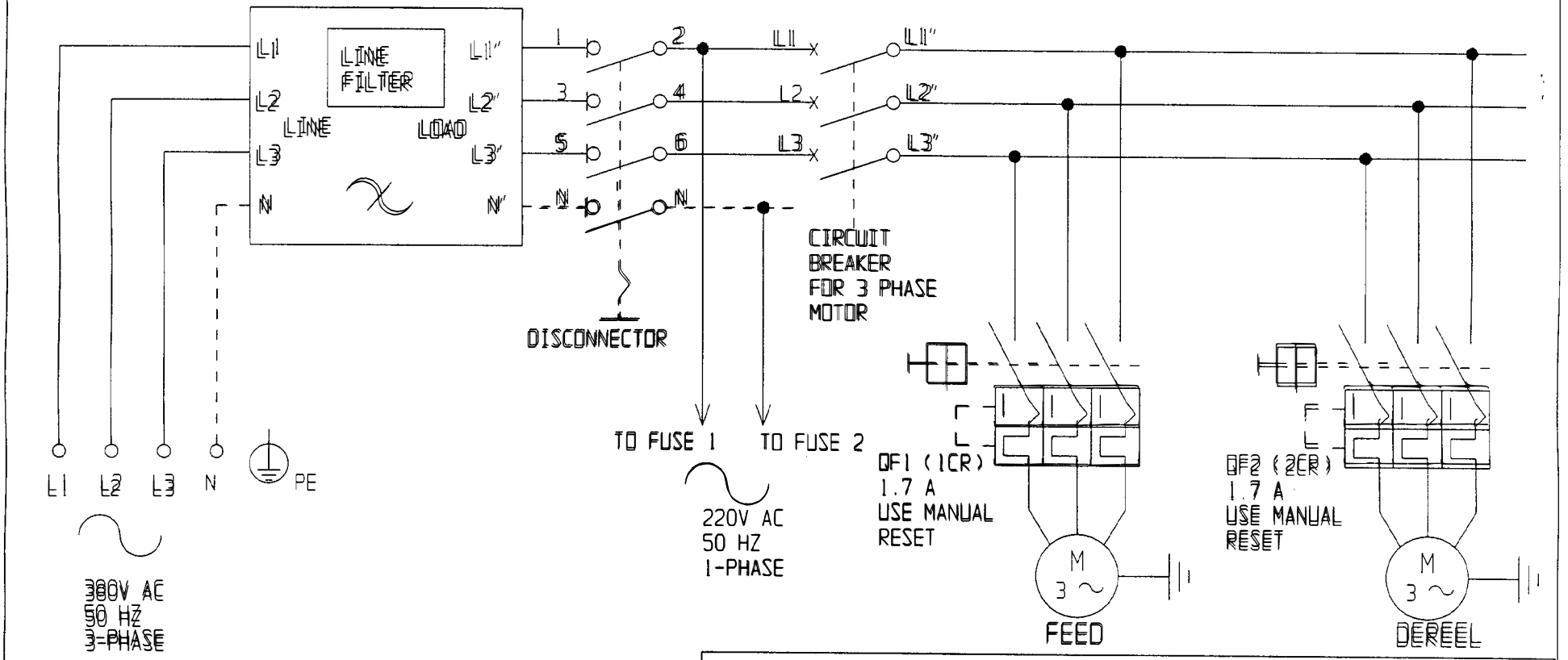
SIZE D | PSP | SCALE N/A

GBC © 5700 OLD ORCHARD RD SKOKIE IL 60077 TEL (847) 965 0600

SUBPANEL ASSY.

Drawing #

Part # 0460055000 | SHT. 1 OF 1



ELECTRO1 | A

General Binding Corporation

GBC AUTOMATED FINISHING DIVISION

DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

TITLE:

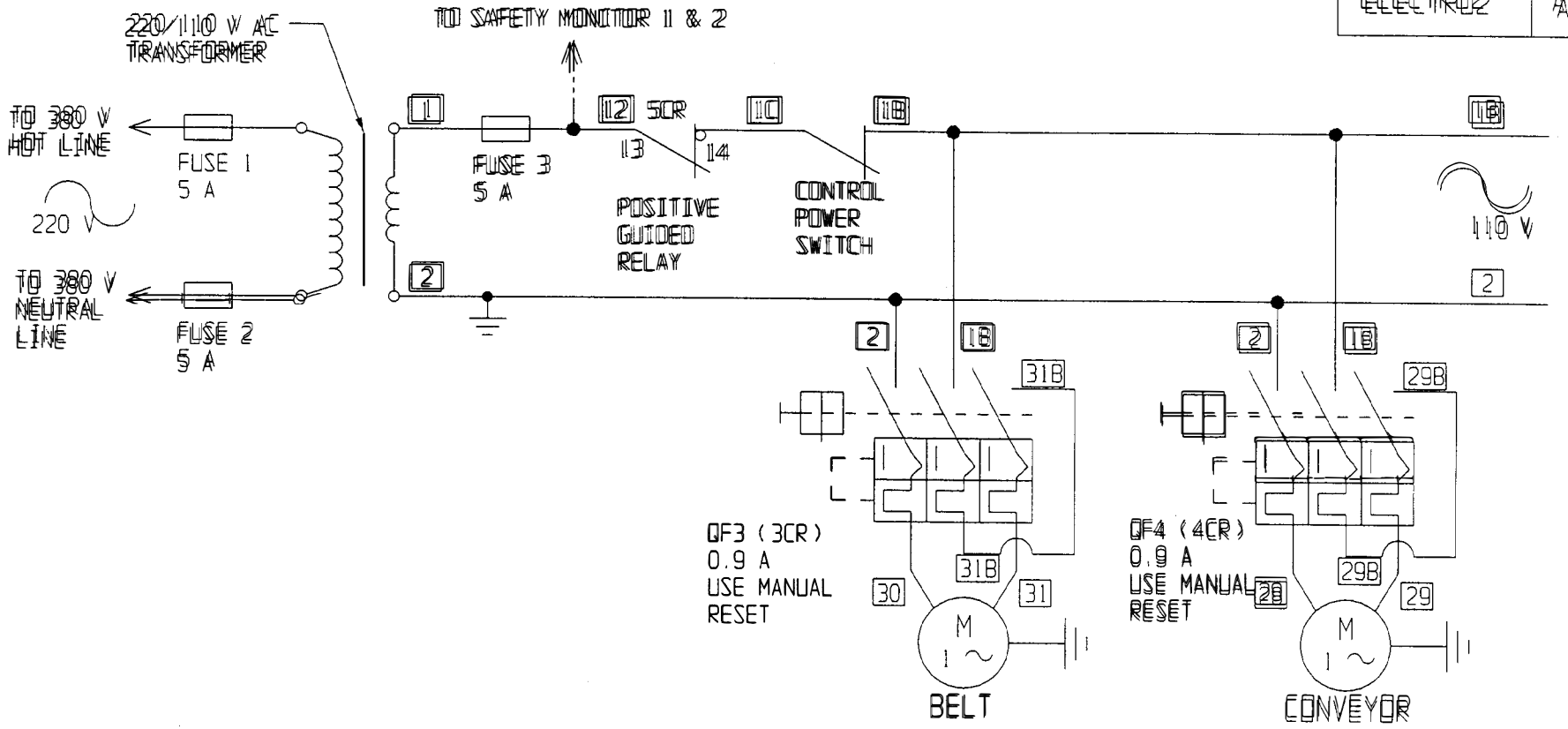
STL 1000 ELECTRICAL CONTROL
380V, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
X = ± .030 XXX = ± .005
XX = ± .010 XXXX = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE	REF. NO	DRAWING NUMBER	REV
		ELECTRO1	A

REV	DATE	REVISION	BY	ECN

SHEET 1 OF 7



ELECTRO2 | A

General Binding Corporation

GBC AUTOMATED FINISHING DIVISION

DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

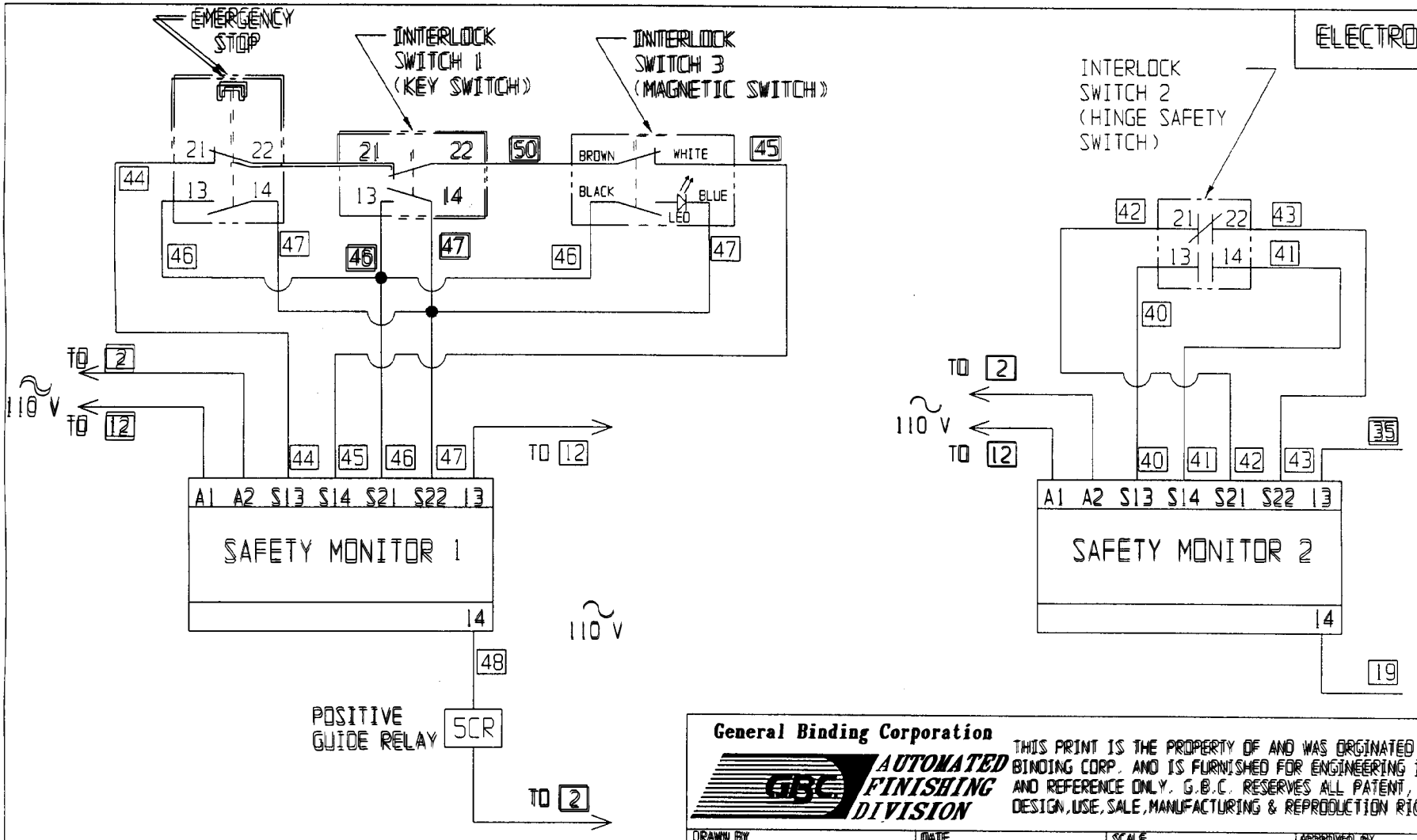
TITLE:

STL 1000 ELECTRICAL CONTROL 380V, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
X = ± .030 XXX = ± .005
XX = ± .010 XXXX = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE	REF. NO	DRAWING NUMBER	REV
		ELECTRO2	A

REV	DATE	REVISION	BY	ECN



ELECTRO3 | A

SHEET 3 OF 7

REV	DATE	REVISION	BY	ECN

General Binding Corporation

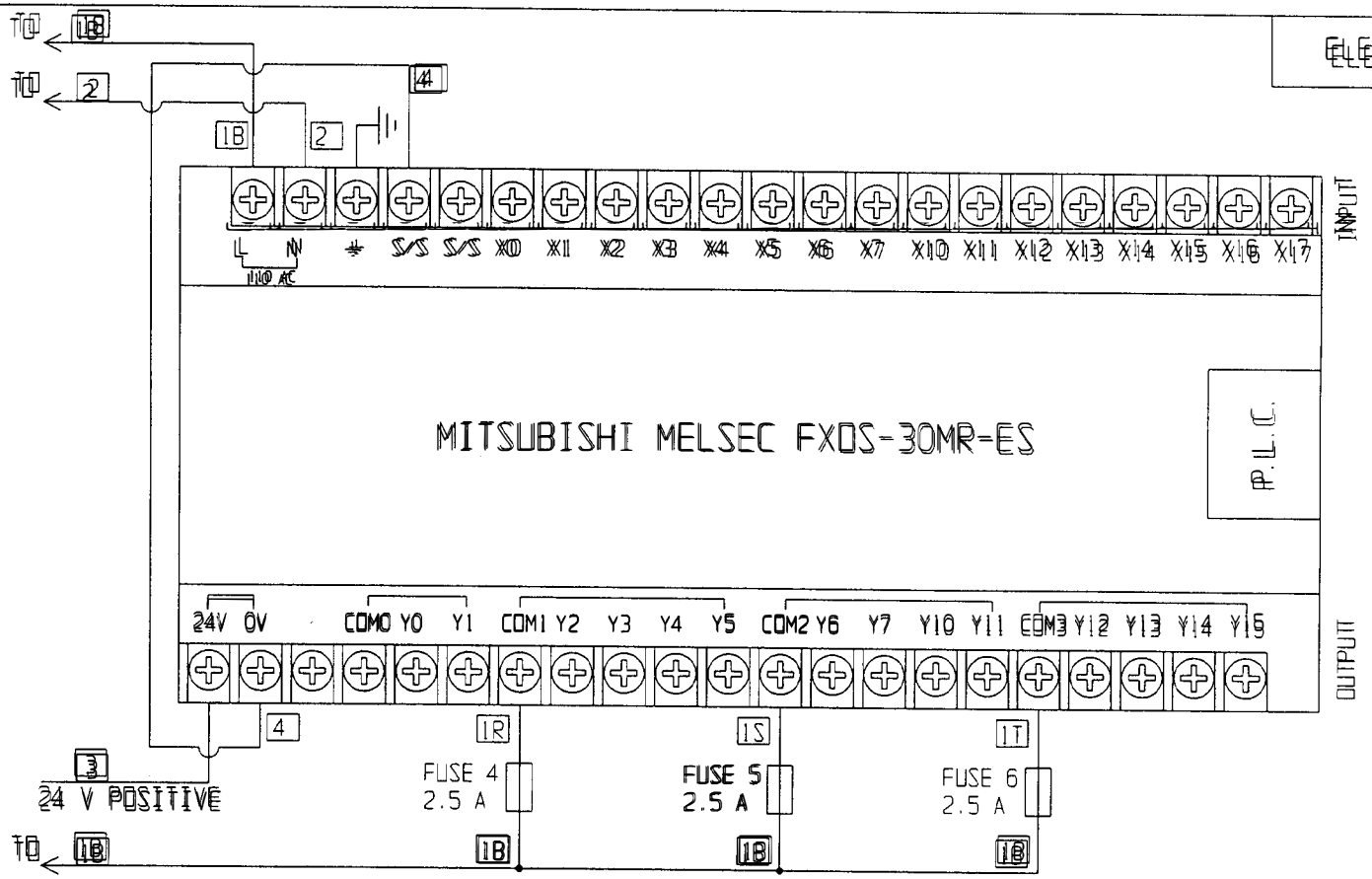
GBC AUTOMATED FINISHING DIVISION

DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

TITLE: STL 1000 ELECTRICAL CONTROL 380V, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
X = ± .030 XXX = ± .005
XX = ± .010 XXXX = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE	REF. NO.	DRAWING NUMBER	REV
		ELECTRO3	A



ELECTRO4 | A

PLC 110 V AC POWER SUPPLY
AND 24V DC POWER LINE

SHEET 4 OF 7

REV	DATE	REVISION	BY	ECN

General Binding Corporation

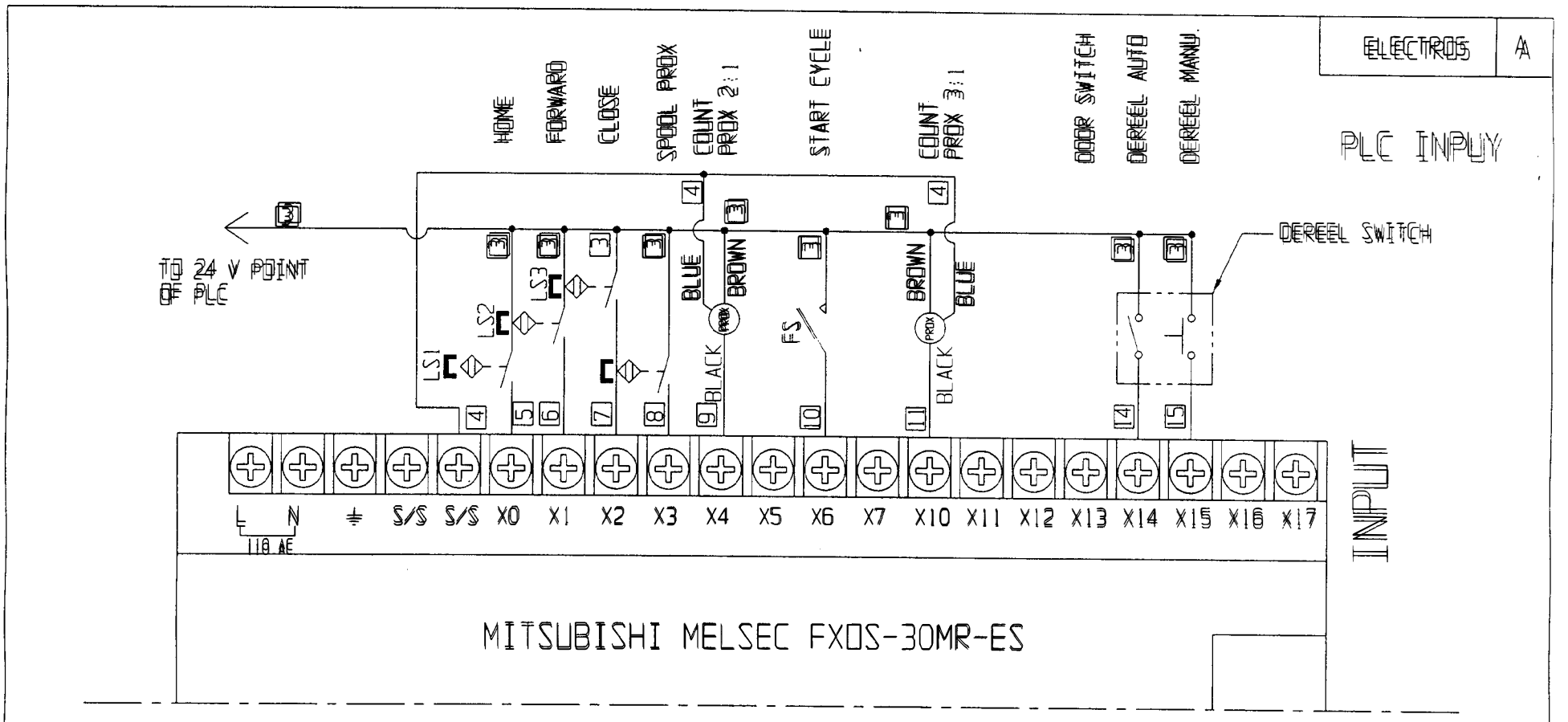
GBC AUTOMATED FINISHING DIVISION

DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

TITLE:
STL 1000 ELECTRICAL CONTROL
380V, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
X = ± .030 XXX = ± .005
XX = ± .010 XXXX = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE	REF. NO.	DRAWING NUMBER	REV
		ELECTRO4	A



NOTES:

LS1 = LIMIT SWITCH 1
LS2 = LIMIT SWITCH2
FS = FOOT SWITCH
PROX = PROXIMITY SWITCH

SHEET 5 OF 7

REV	DATE	REVISION	BY	ECN

General Binding Corporation

GBC AUTOMATED FINISHING DIVISION

DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

TITLE:
STL 1000 ELECTRICAL CONTROL
380V, 50 HZ, 3 PHASE MACHINE

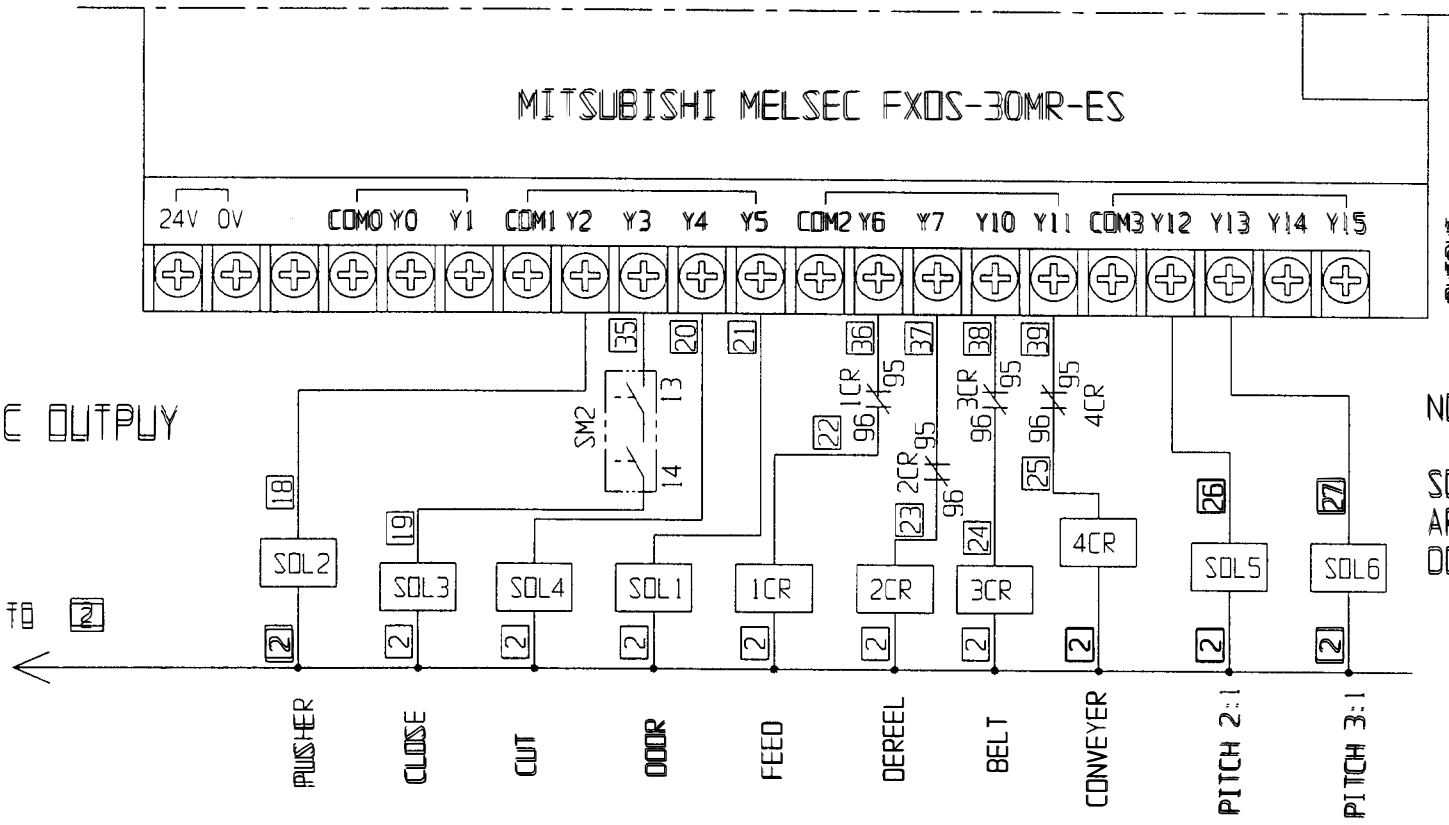
TOLERANCE LIMITS
X = ± .030 XXX = ± .005
XX = ± .010 XXXX = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE

REF. NO

DRAWING NUMBER: ELECTRO5
REV: A

ELECTRO6 | A



NOTE:

SOL=5 AND SOL=6 ARE ON THE DOUBLE=SOL. VALVE.

NOTES:
SOL1 - 6 : SOLENOID 1 TO SOLEOID 6
1CR - 4CR: QF1 TO QF4, RELAY
SM2 = SAFETY MONITOR 2

SHEET 6 OF 7

REV	DATE	REVISION	BY	ECN

General Binding Corporation

GBC AUTOMATED FINISHING DIVISION

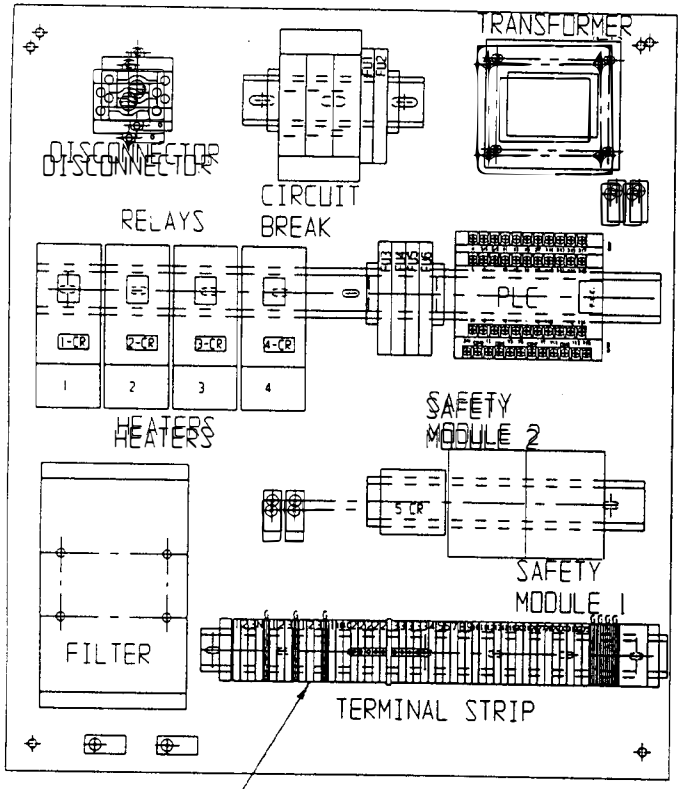
DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

TITLE: STL 1000 ELECTRICAL CONTROL 380V, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
x = ± .030 xxx = ± .005
xx = ± .010 xxxx = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE	REF. NO.	DRAWING NUMBER	REV
		ELECTRO6	A

ELECTRO7 | A



NOTES:

1. USE 16 GAGE, 600 V., UL LIST WIRE
2. DOUBLE SHIELD 380 V POWER LINE
3. USE BLACK COLOR WIRE FOR 380 V HOT LINE
4. USE WHITE COLOR WIRE FOR NEUTRAL
5. USE RED COLOR WIRE FOR 110 V HOT
6. USE BLUE FOR 24V DC HOT
7. USE GREEN / YELLOW FOR GROUND
8. USE SUPERFLEX GREEN FOR DOOR GROUND

SHEET 7 OF 7

REV	DATE	REVISION	BY	ECN
REV	DATE	REVISION	BY	ECN

General Binding Corporation

GBC AUTOMATED FINISHING DIVISION

DRAWN BY	DATE	SCALE	APPROVED BY
NORMANN LINN	01-11-99	NONE	APPROVED BY

TITLE:
STL 1000 ELECTRICAL CONTROL
380V, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
X = ± .030 XXX = ± .005
XX = ± .010 XXXX = ± .0005
ANGULAR LIMITS = ± 0° 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

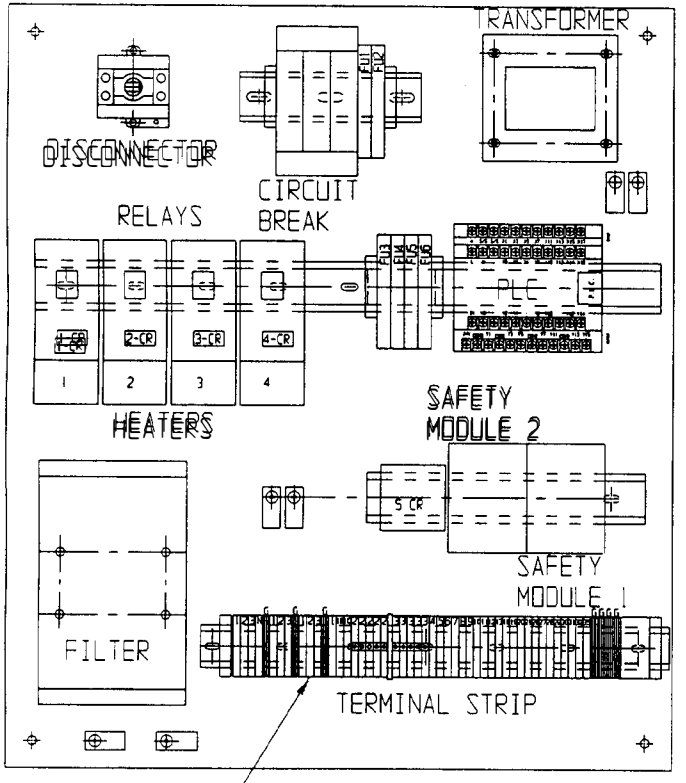
A SIZE	REF. NO.	DRAWING NUMBER	REV
		ELECTRO7	A

22.

ELECTRICAL

PARTS

LAYOUT



NOTES:

1. USE 16 GAGE, 600 V, UL LIST WIRE
2. DOUBLE SHIELD 380 V POWER LINE
3. USE BLACK COLOR WIRE FOR 380 V HOT LINE
4. USE WHITE COLOR WIRE FOR NEUTRAL
5. USE RED COLOR WIRE FOR 110 V HOT
6. USE BLUE FOR 24V DC HOT
7. USE GREEN / YELLOW FOR GROUND
8. USE SUPERFLEX GREEN FOR DOOR GROUND

SHEET 7 OF 7

REV	DATE	REVISION	BY	ECN

General Binding Corporation

GBC AUTOMATED FINISHING DIVISION

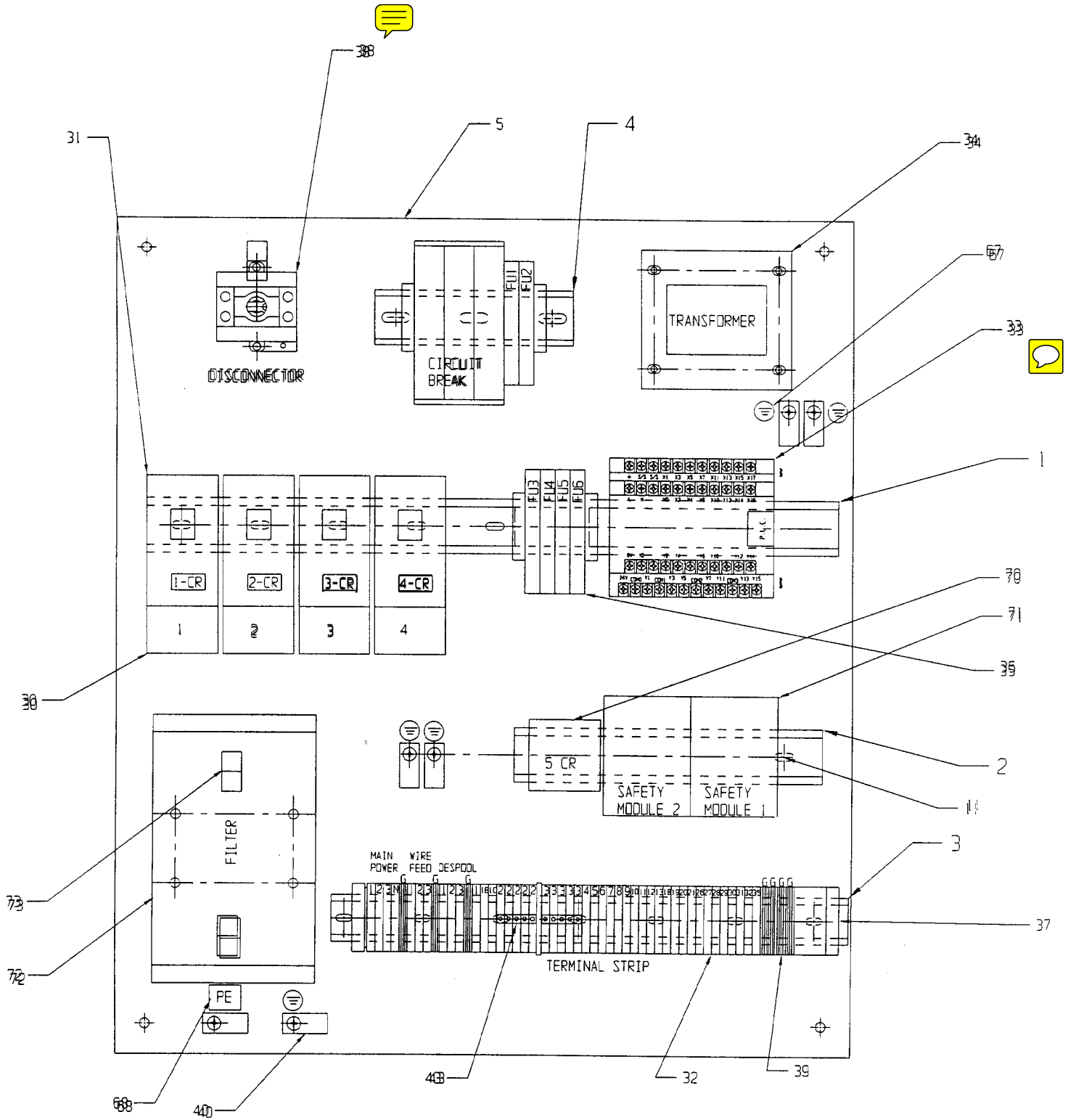
DRAWN BY	DATE	SCALE	APPROVED BY
NORMAN LIN	01-11-99	NONE	

TITLE:

STL 1000 ELECTRICAL CONTROL 380W, 50 HZ, 3 PHASE MACHINE

TOLERANCE LIMITS
XX = ± .010 XXX = ± .005
ANGULAR LIMITS = ± 30'
UNLESS OTHERWISE SPECIFIED
BREAK ALL SHARP CORNERS

A SIZE	REF. NO.	DRAWING NUMBER ELECTRO7	REV A

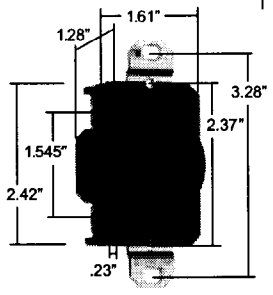

DISCONNECTOR
CIRCUIT BREAK
FU1
FU2
TRANSFORMER
FU3
FU4
FU5
FU6
1-CR
2-CR
3-CR
4-CR
1
2
3
4
P.L.C.
5 CR
SAFETY MODULE 2
SAFETY MODULE 1
FILTER
PE
MAIN POWER
WIRE FEED
DESPOOL
TERMINAL STRIP
31
5
4
34
67
33
1
70
71
35
30
2
73
72
3
37
68
40
43
32
39

74	2201800		SHIELD TUBE
73	4800001 LABEL - SHOCK WARNING	1	A SIZE DRAWING
72	4820703	1	FILTER SCHAFFNER #FN356-16/06
71	2202203	2	SAFETY MONITOR SCHMERSAL #AES2135
70	2200517	1	RELAY - SCHMERSAL #SI04 22-A
69	4800135	1	LEGEND PLATE - 5CR
68	4800089	1	LABEL - PE
67	4800002	5	LABEL - GROUND
66			
65			
64			
63	2202519 END STOP	8	SCHURTER # 502-2040
62	2202518 END PLATE	6	SCHURTER # 502-4430
61	2201274 MARKING KIT	2	SCHURTER # 502-2102
60	2202702 CIRCUIT BREAKER		SCHURTER # 798-2148
57	2201586 NUMBERING KIT	20	1492-SM5X9C
56	2201579 PARTITION PLATE	1	1492-PP3
55	7504950 HCCS W/EXT. WASHER	4	#8-32 X 3/8"
54	7533936 GREEN GROUND SCREW	6	#10-32 THREAD
53	2201700 STA-KON	40	THOMAS & BETTS #RA18-6F
52	2201140 WIRE - BLUE	1	MTW 16 X 50 FT. 600V RATED
51	2201135 WIRE - BLACK	1	MTW 16 X 50 FT. 600V RATED
50	2201130 WIRE - WHITE	1	MTW 16 X 30 FT. 600V RATED
49	2201125 WIRE - RED	1	MTW 16 X 30 FT. 600V RATED
48	4800130 LEGEND PLATE - 4CR	1	
47	4800125 LEGEND PLATE - 3CR	1	
46	4800120 LEGEND PLATE - 2CR	1	
45	4800115 LEGEND PLATE - 1CR	1	
44	2201584 NUMBER KIT (1-50)	1	ALLEN BRADELY #1492-N85
43	2201585 JUMPER	1	ALLEN BRADELY #1492-N60
42	2202105 TY-WRAP	25	
41	2201715 STAK-ON TERMINAL	40	THOMAS & BETTS #814-8
40	2201620 GROUNDING LUG	6	THOMAS & BETTS #31003
39	2201583 GROUNDING BLOCK	9	ALLEN BRADELY #1492U64
38	2200123 DISCONNECT	1	KLOCHNER MOLLER # P1-25/V/SVB+2N
37	2201582 END ANCHOR	8	ALLEN BRADELY #1492-N76
35	2201531 FUSE BLOCK	6	# SCHURTER # 502-2010
34	2200903 TRANSFORMER	1	SIGNAL TRANSFORMER #M4L-2-3
33	2200655 PLC CONTROLLER	1	MITSUBISHI FX0S-30MR-ES-UL
32	2201580 TERMINAL BLOCK	46	ALLEN BRADELY #1492-W3
31	2201547 3 HP CONTACTORS	4	MITSUBISHI S-K10 120 VAC COIL
30	2200425 THERMAL OVERLOAD	4	MITSUBISHI TH-K12ABKPUL 0.9A
14	7533805 SELF TAPPING SCREW	12	#8-32 X 1/2
13	7533230 RD HD MACHINE SCREW	2	#10-24 X 2 1/2
12	7503755 ROLL PIN	2	3/8 DIA. X 2"
11	7508562 FHCS	10	#6-32 X 3/8
5	4620504 SUB PANEL	1	C SIZE DRAWING
4	1200140 DIN RAIL - MODIFY-5"	1	A SIZE DRAWING
3	4600502 DIN RAIL - MODIFY	1	A SIZE DRAWING
2	4620503 DIN RAIL - MODIFY-7-3/4"	1	A SIZE DRAWING
1	4620502 DIN RAIL - MODIFY-17-3/8"	1	C SIZE DRAWING
ITEM	MATERIAL	QTY	SIZE

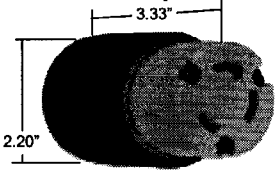
STL-1000

Pass & Seymour Legrand

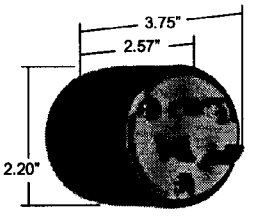
Turnlok® Devices
Receptacles, Connectors, Plugs, Inlets, Outlets
4 Wire Grounded 30A, 3ø, 125/250, 250, 480 & 600V



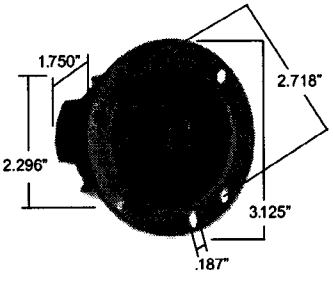
30A Receptacle



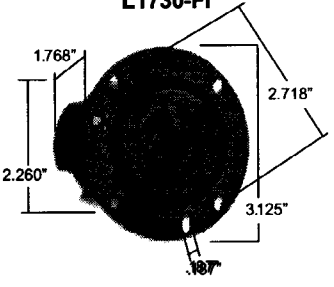
30A Connector



30A Plug



L1430, L1530, L1630, L1730-FI



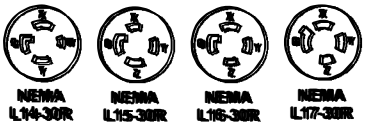
L1430, L1530, L1630, L1730-FO

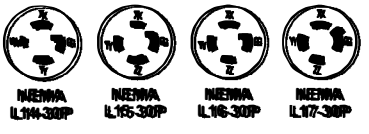
Catalog Number	Rating A. V.	Description/ Color	Cord Diameter	NEMA Config. No.	3rd Party Compliance UL498	FSUL WC596	CSA
Receptacles							
L1430-R	30 125/250	Single Receptacle		L14-30R	•	•	•
✤ L1430-RCN	30 125/250	Single Receptacle		L14-30R	•	•	•
L1530-R	30 3ø, 250	Single Receptacle		L15-30R	•	•	•
✤ L1530-RCN	30 3ø, 250	Single Receptacle		L15-30R	•	•	•
L1630-R	30 3ø, 480	Single Receptacle		L16-30R	•	•	•
L1730-R	30 3ø, 600	Single Receptacle		L17-30R	•	•	•
✤ L1730-RCN	30 3ø, 600	Single Receptacle		L17-30R	•	•	•
Connectors IP20 Suitability							
L1430-C	30 125/250	Black Shell, Yellow Face	.385"-1.150"	L14-30R	•	•	•
✤ L1430-CCN	30 125/250	Black Shell, Yellow Face	.385"-1.150"	L14-30R	•	•	•
CRL1430-C	30 125/250	Corrosion Resistant	.385"-1.150"	L14-30R	•	•	•
L1530-C	30 3ø, 250	Black Shell, Yellow Face	.385"-1.150"	L15-30R	•	•	•
✤ L1530-CCN	30 3ø, 250	Black Shell, Yellow Face	.385"-1.150"	L15-30R	•	•	•
L1530-CBK	30 3ø, 250	Black Shell, Black Face	.385"-1.150"	L15-30R	•	•	•
L1630-C	30 3ø, 480	Black Shell, Yellow Face	.385"-1.150"	L16-30R	•	•	•
L1730-C	30 3ø, 600	Black Shell, Yellow Face	.385"-1.150"	L17-30R	•	•	•
✤ L1730-CCN	30 3ø, 600	Black Shell, Yellow Face	.385"-1.150"	L17-30R	•	•	•
Plugs IP20 Suitability							
L1430-P	30 125/250	Black Shell, Yellow Face	.385"-1.150"	L14-30P	•	•	•
✤ L1430-PCN	30 125/250	Black Shell, Yellow Face	.385"-1.150"	L14-30P	•	•	•
CRL1430-P	30 125/250	Corrosion Resistant	.385"-1.150"	L14-30P	•	•	•
L1530-P	30 3ø, 250	Black Shell, Yellow Face	.385"-1.150"	L15-30P	•	•	•
✤ L1530-PCN	30 3ø, 250	Black Shell, Yellow Face	.385"-1.150"	L15-30P	•	•	•
L1530-PBK	30 3ø, 250	Black Shell, Black Face	.385"-1.150"	L15-30P	•	•	•
L1630-P	30 3ø, 480	Black Shell, Yellow Face	.385"-1.150"	L16-30P	•	•	•
L1730-P	30 3ø, 600	Black Shell, Yellow Face	.385"-1.150"	L17-30P	•	•	•
✤ L1730-PCN	30 3ø, 600	Black Shell, Yellow Face	.385"-1.150"	L17-30P	•	•	•
Flanged Inlets & Outlets							
L1430-FI	30 125/250	Gray Inlet		L14-30P	•		•
L1430-FO	30 125/250	Gray Outlet		L14-30R	•		•
L1530-FI	30 3ø, 250	Gray Inlet		L15-30P	•		•
L1530-FIBK	30 3ø, 250	Black Inlet		L15-30P	•		•
L1530-FO	30 3ø, 250	Gray Outlet		L15-30R	•		•
L1530-FOBK	30 3ø, 250	Black Outlet		L15-30R	•		•
L1630-FI	30 3ø, 480	Gray Inlet		L16-30P	•		•
L1630-FO	30 3ø, 480	Gray Outlet		L16-30R	•		•
L1730-FI	30 3ø, 600	Gray Inlet		L17-30P	•		•
L1730-FO	30 3ø, 600	Gray Outlet		L17-30R	•		•

✤ Denotes Canadian catalog number. All Canadian products have Combination Slotted/Robertson Head Brass Screws.

All devices listed on this page conform to NEMA WD-1.

3-Pole 4-Wire


NEMA L14-30R | NEMA L15-30R | NEMA L16-30R | NEMA L17-30R


NEMA L14-30P | NEMA L15-30P | NEMA L16-30P | NEMA L17-30P

Catalog Number	Description
Accessories	
L2030-RBC	Weatherproof Boot-Connector
L2030-RBP	Weatherproof Boot-Plug
CRL2030-RBC	Weatherproof Boot-Connector, Corrosion Resistant
CRL2030-RBP	Weatherproof Boot-Plug, Corrosion Resistant
3722-FS	*Weatherproof Cover for Locking Receptacle
3760	*Weatherproof Cover for Locking Receptacle
WPG2	*Weatherproof Cover for Flanged Inlets and Outlets
S720	Stainless Steel Plate for Locking Receptacle
FC70-GL	+EHIU-Strain Relief Grip
FC94-GL	+EHIU-Strain Relief Grip
DC1	Dust Cover-Plug & Connector Replacement
PSLD	Lockout Device

*For further information consult the Weatherproof Section R.
+For further information consult the Flexcor® Section K.

National Service Department
500 Bond Street
Lincolnshire, IL 60069
847/634-3750

NATIONAL SERVICE BULLETIN

TO: SEE DISTRIBUTION

N.S.B. NO: 238A

FROM: NATIONAL SERVICE DEPARTMENT

SUBJECT: **STL-1000 PART NUMBER CHANGES**

Date: 10/19/99

The following part numbers have changed on the STL-1000. Please update your manuals with this information.

OLD PART NUMBER	NEW PART NUMBER	DESCRIPTION
0460020600	0460021200	Holder-Pusher
0750042000	0750044400	Spring

The new parts are interchangeable with the existing parts in the STL-1000's.

National Service
500 Bond Street
Lincolnshire, IL 60069
800-790-7787

NATIONAL SERVICE BULLETIN

TO: SEE DISTRIBUTION

N.S.B. NO: 238B

FROM: NATIONAL SERVICE DEPARTMENT

SUBJECT: **STL-1000 PART NUMBER UPDATE**

Date: 05/01/00

Part number 0460009900 Keypad – Programmed with Label has been changed to part number **0220066000**. There is a separate part number for the label, which is 0480056000. Please update your Service Manual with this information.

National Service
500 Bond Street
Lincolnshire, IL 60069
800-790-7787

NATIONAL SERVICE BULLETIN

TO: SEE DISTRIBUTION

N.S.B. NO: 238 D

FROM: NATIONAL SERVICE DEPARTMENT

SUBJECT: **STL1000 2:1 WIRE RETROFIT KIT**

DATE: 7/26/00

This N.S.B. obsoletes and supercedes N.S.B. 238C dated 7/19/00.

There is a retrofit kit made for **STL1000** units that were made before March 1998. These kits were made to resolve the feeding and crimping problems of **2:1 TWINLOOP WIRE** sizes 7/8" and up. The kit can be ordered under part number **1722646** at a retail price of **$648.63.**

This kit includes:

PART NUMBER	DESCRIPTION	RETAIL (each)	QTY
0426083700	2:1 Gear	247.52	1
0425083200	Guide	163.29	1
0425081300	Spacer	17.50	1
0426081300	Slotted Spacer	43.71	1
0750089200	Adjustable Handle	9.28	2
0460007000	3/8" Element Strip	158.05	1

National Service
5980 Bond Street
Lincolnshire, IL 60069
800-790-7787

NATIONAL SERVICE BULLETIN

TO: SEE DISTRIBUTION

N.S.B. NO: 238 E

FROM: NATIONAL SERVICE DEPARTMENT

SUBJECT: STL1000 COUNTING EXTRA LOOPS

DATE: 7/31/00

Please contact the National Service Technical Support Department (800-790-7787), when you come across an STL1000 that is counting extra loops. A retrofit kit is in the works and is being tested on new builds. The retrofit consists of larger air regulators to supply more air to the knife cylinder for a quicker response when cutting. This is still a test, so a part number for the kit is not yet available. Technical Support will send out the kits at a per need basis.

National Service
500 Bond Street
Lincolnshire, IL 60069
800-790-7787

NATIONAL SERVICE BULLETIN

TO: SEE DISTRIBUTION

N.S.B. NO: 238 F

FROM: NATIONAL SERVICE DEPARTMENT

SUBJECT: STL1000 COUNTING EXTRA LOOPS

DATE: 9/05/00

New findings show that the air supplied to an STL1000 machine is very crucial. The machine will inconsistently cut the selected number of loops unless it is supplied with an air compressor rated for 8 CFM (cubic feet per minute) @ 80 PSI with a total output of about 150 PSI. It is also a **MUST** that an Air Accumulator (storage tank), that is certified by the American Society of Mechanical Engineering (A.S.M.E.), be hooked up next to the Filter/ Regulator/ Lubricator. This tank will help provide a consistent supply of air. The Air Accumulator should be rated somewhere above 80 PSI, ideally starting at 150 PSI with a pressure relief valve also rated at 150 PSI. If you have any questions, please contact National Service Technical Support at 800-790-7787.

Professional Support Services
500 Bond St.
Lincolnshire, IL 60069

NATIONAL SERVICE BULLETIN

TO: SEE DISTRIBUTION

FROM: NATIONAL SERVICE DEPARTMENT

SUBJECT: STL-1000 HARDWARE INFORMATION

N.S.B. NO: 238G

Page: 1 of 1

Date: 12/19/01

There are two different Element Strips to use on the STL-1000 depending on the size of Twin Loop Supply being used. The problem is that the incorrect screws, which are used to attach either Element Strip to the top plate, were being shipped with the machine. These screws (#8-32x3/8) are too short to attach the larger element strip needed for binding bigger books. **The size of each screw should be #8-32x5/8.** Manufacturing is now shipping the correct screws **(PART NUMBER 07508558500)** with every STL-1000 starting with serial numbers beginning **in NL. The part number in the manual is incorrect** so please update your manuals with this information.

IMPORTANT SERVICE INFORMATION