

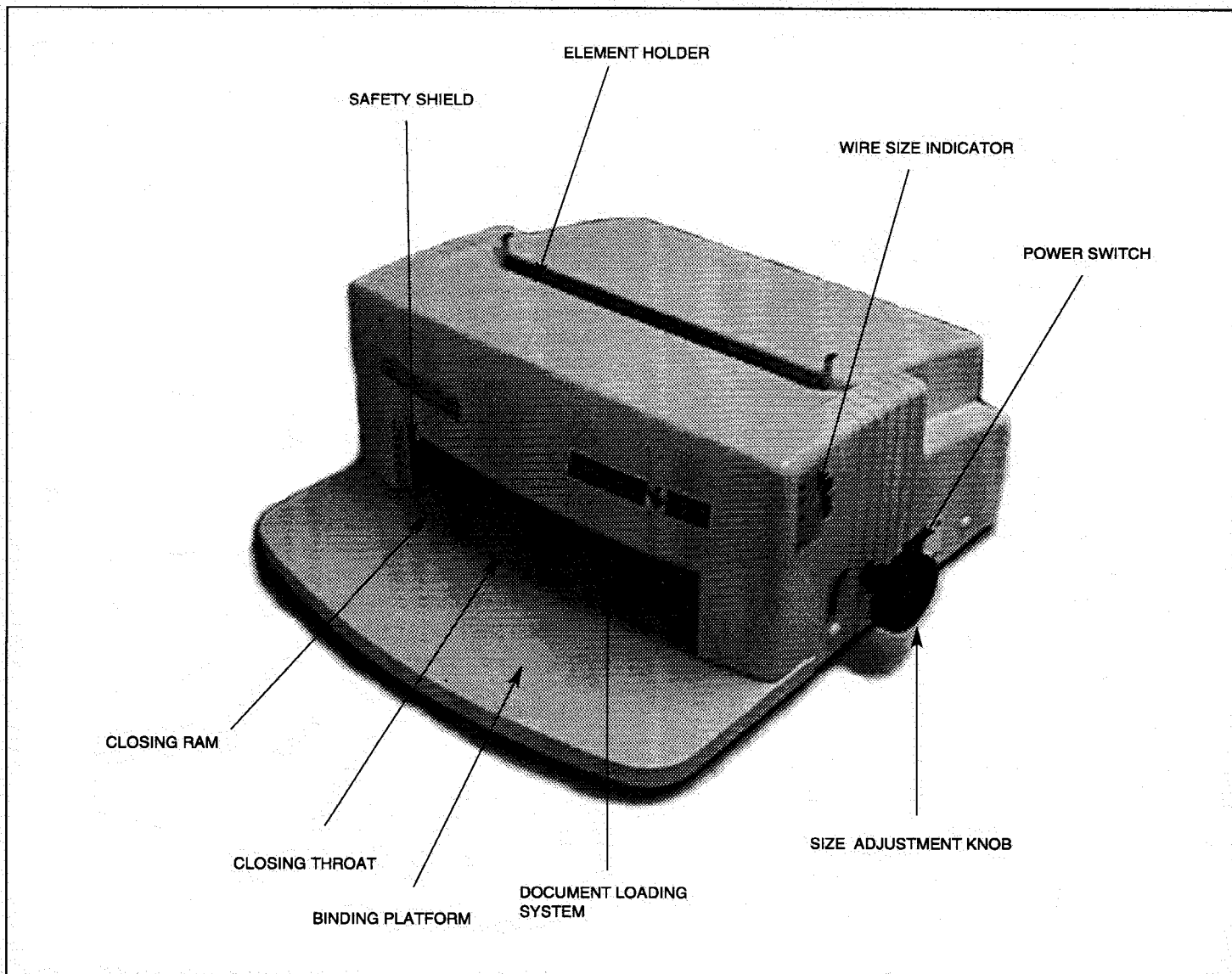
# **TL12**

*Electric TwinLoop™ Wire Closer*



## **Operating Instructions**

## FUNCTIONAL PARTS



**Power Switch:** Located on the right side of the machine. This switch turns electrical power On (I) and Off (O) by toggle switch.

**Shield Safety Switches:** Located on the front side of the unit. This shield must be in the down position for the TL-12 to operate. Safety switches prevent the TL-12 from operating when the shield is raised.

**Size Adjustment Knob:** This knob, located on the right side of the machine, is used to adjust the closing ram to the desired Twin Loop element size. Turn the knob clockwise to reduce the size. Turn the knob counter-clockwise to increase the size.

**Size Indicator:** This indicator, located on the right side of the machine, is used as a quick reference to know what size the closing ram is adjusted to. Since wire characteristics vary, you will have to make fine adjustments to achieve proper wire closer.

**Element Holder:** Located on the top of the machine. This element holder is used to help you load pages onto the element, simply slide the book to the right or left side to slide the element out of the holder. For larger size books, you can tilt the top of the element back to unhook it from the holder.

**Binder Platform:** Document is placed on Binder Platform and slid into Closing Throat.

**Closing Throat:** Area where wire is closed by Closing Ram.

**Closing Ram:** Lowers to crimp wire and bind book.

**Foot Pedal (Not Shown):** Activates the bind cycle causing the Closing Ram to lower and bind the document.

## SPECIFICATIONS:

<b>Capacity</b>	¼" to 1 ¼" Twin Loop elements Binding Edge up to 12" (30.5cm) Unbound edge 3 ¼" (8.25cm) minimum Maximum Book Thickness 1-1/8" (2.8cm)
<b>Dimensions</b>	8"H x 18"W x 20"D 20.3cm H x 45.7cm W x 50.8cm D
<b>Weight</b>	50 Lbs. (22.7kg)
<b>Shipping Weight</b>	60 Lbs. (27.3kg)
<b>Electrical Requirements</b>	<b>Voltage; Domestic:</b> 115VAC (+-10%) 60Hz, Single Phase 1.5 Amps, 210 Watts <b>Voltage; International:</b> 230VAC (+-10%) 50Hz, Single Phase 2.5 Amps, 260 Watts
<b>Short Circuit Interrupt</b>	2000A Capacity
<b>Acoustical Noise</b>	74dB (A)
<b>Altitude Rating</b>	Up to 1000 meters / 3937 feet (Min.)
<b>Ambient Air Temperature</b>	41° > 104°F / 5° > 40° C
<b>Humidity Rating</b>	30% - 90% Relative Humidity (non-condensing)
<b>Agency Approvals</b>	Domestic: N.R.T.L. / C. International: T.U.V. - CE Compliance

## SAFETY MESSAGES

Your safety as well as the safety of others is important to GBC. In this Operator Manual and on the unit itself are important safety messages. Read these messages carefully.

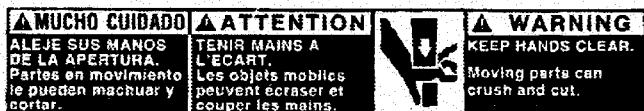
**!** The safety alert symbol precedes each safety message in this Operator Manual. This symbol indicates a potential personal safety hazard that could hurt you or others, as well as cause product or property damage.

The following warnings are found on this unit:

This safety message means you could be seriously hurt or killed if you open the product and expose yourself to hazardous voltage.



This safety message means your hands could be crushed or cut if you place them past the safety shield.



The following ISO and IEC symbols appear on this product, their meaning is:

| Means ON.

○ Means OFF.

### **!** FOR YOUR SAFETY

- Do not connect this unit to electrical power or attempt to operate it before you read this Operator Manual and have been fully trained to operate it.
- Save this Operator Manual for later use.
- Keep hands, long hair, neck ties, necklaces and other loose articles away from moving parts.
- Never override or attempt to defeat electrical or mechanical interlock devices.
- Do not insert objects or spill liquids into this unit. They may contact dangerous voltage or short out components that may result in fire or electric shock.
- Only connect this unit to the electrical supply shown in the machine specification section of this Operator Manual and on the serial/rating label located on the equipment. Connect to a receptacle installed near the product that is easily accessible.
- Do not alter the plug on the end of the cord set provided with the unit. It was selected for your safety.
- Connect the plug only to a matching receptacle. If you do not have such a receptacle, contact a qualified electrician to have one installed.
- Turn the unit's power off "O" at the end of the day.
- Unplug this unit before moving it or when it will not be in use for an extended period of time.
- Do not attempt to service this unit. Contact an authorized GBC service representative if any of the conditions listed below are encountered.

- Damaged plug or frayed power cord.
- If the product has been exposed to rain or water.
- If the product has been dropped, bumped or dented.
- If the product does not operate normally when following the operating instructions.

The following notes apply only to the units rated 115V 60Hz.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operator manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

**!** **CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY GENERAL BINDING CORPORATION COULD VOID YOUR AUTHORITY TO OPERATE THE EQUIPMENT.**

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouiller du Canada.

**MAIN CORDSET SELECTION (FOR 230 VOLT MACHINES ONLY)**

**!** **CAUTION: WHEN CHOOSING A DETACHABLE LINE CORD FOR USE WITH THIS UNIT, ALWAYS OBSERVE THE FOLLOWING PRECAUTIONS:**

The cordset consists of three components; the attachment plug, cordage and appliance inlet. Each of these components must have European regulatory approvals for safety.

The following **minimum** electrical ratings for the specific cordset are published for safety purposes. **DO NOT USE CORDSETS THAT DO NOT MEET THE FOLLOWING MINIMUM ELECTRICAL REQUIREMENTS.**

**PLUG:** 3 amperes, 250 volts, 50/60 Hz, Class 1,3 conductor, European safety approved.

**CORDAGE:** Type HO5VV-F3G0.75, Harmonized (< HAR >). The "< >" symbols indicate cordage approved to appropriate European standard (NOTE: "HAR" may be substituted by the approval mark of the European safety agency which approved the cordage. An example would be "< VDE >".

**APPLIANCE CONNECTOR:** 3 amperes, 250 volts, 50/60 Hz, European safety approved, Type IEC 320. Cordset shall not exceed 3 meters in length. Cordset with component electrical ratings greater than the minimum specified electrical ratings may be substituted.

# THEORY OF OPERATION:

## **Idle Mode:**

Power is applied to the TL 12.

When the foot switch is depressed the closing cycle is activated.

## **Initialize Mode:**

If mechanism is not in "Home" position and cam microswitch is in "Open" position, power is applied to motor and machine mechanism rotates back to "Home" position and the cam microswitch closes.

## **Element Closing Mode:**

When foot switch is activated, power is applied, and the motor rotates in a forward direction. The cam rotation opens the cam microswitch while rotating 360 degrees back to "Home" position. At this point, power is removed from the motor and the mechanism is ready for the next element closing cycle.

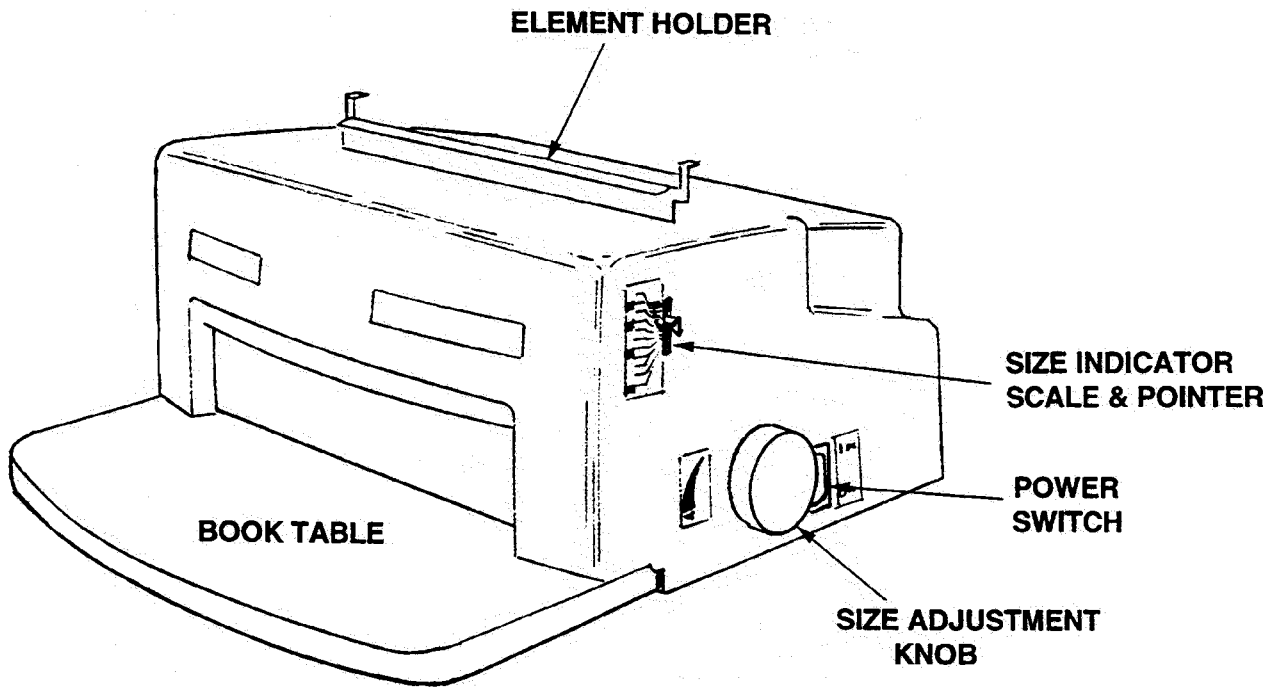
## **Auto Reverse Mode:**

If during the normal closing cycle a jam or other problem prevents the cam microswitch from changing state within a pre-set time, the micro processor will reverse power to the motor. The mechanism will then automatically reverse direction to the "Home" position where power to the motor is shut off. When the problem has safely been remedied the machine will be ready for a normal closing cycle.

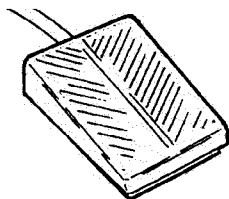
## INTRODUCTION:

Your new GBC TL 12 Electric Twin Loop™ Wire Closer is designed for easy and quiet operation with minimal training. Its simple operation and rugged design should give you many years of service with virtually no repairs and a minimum of maintenance.

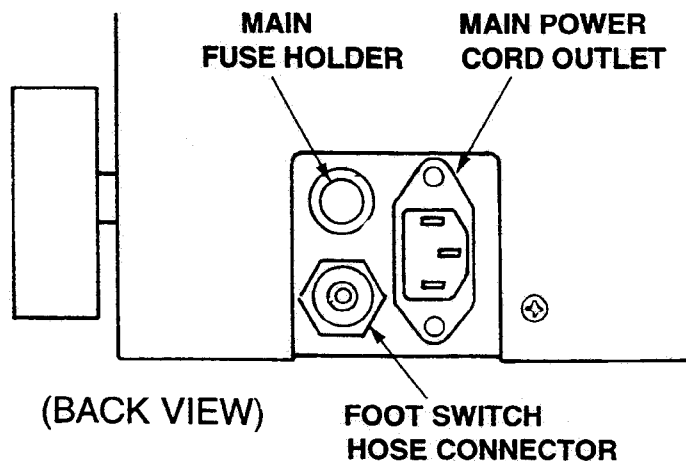
*Shown below are the main power, control and adjustment components of the TL 12 Electric Twin Loop™ Wire Closer:*



**POWER SWITCH:** The Power Switch is located on the right side of the TL 12. The symbol "I" indicates power "ON". The symbol "O" indicates that power is "OFF"

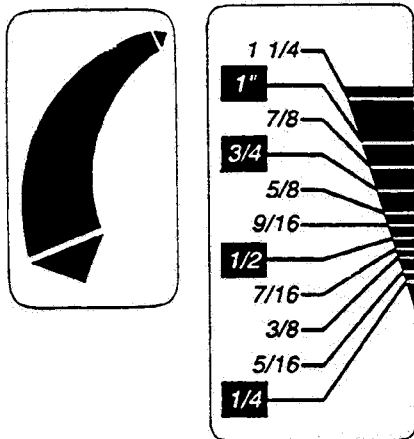


**FOOT SWITCH**



**SAFETY SHIELD:** Located above the element loading area on the front of the machine, the Safety Shield must be in the down position for the TL 12 to operate. A safety switch ensures that the spring-loaded shield can be safely raised to insert a Twin Loop™ wire element. The Safety Shield will automatically drop into position for operation when released.

**ELEMENT HOLDER:** Located on the top of the TL 12, the element holder makes it easy to insert a stack of pre-punched paper onto a Twin Loop™ wire element. Simply slide the stack to either side of the element holder for release. For larger books, the element holder may be raised and folded back.



**SIZE ADJUSTMENT KNOB:** Located on the lower right side of the machine. The Adjustment Knob can be turned clockwise (smaller) or counter-clockwise (larger) until the pointer on the **SIZE INDICATOR SCALE** matches the Twin Loop™ element size. Slight adjustments may need to be made for exact closing ram adjustments since wire elements may vary slightly. *See Closing Height Adjustment chart on page 9.*

**FOOT SWITCH:** An air activated Foot Switch allows the operator to activate the closing ram hands off. Its connection is on the back right side of the machine next to the power cord. (No external air supply is needed to operate the foot switch).

**POWER CONNECTOR AND FUSE HOLDER:** Located on the back right side of the TL 12. See page 4 for correct power source connections.












**ANTI - JAM FEATURE:** If the loading area is improperly loaded an Anti-Jam microswitch will automatically reverse the direction of the closing ram to its "OFF" position. The problem can then be corrected before beginning the next cycle.

# TWIN LOOP™ ELEMENT SIZE CHART

- Measure book thickness and determine element size from chart.
- Measure binding edge and determine number of loops per inch.:  
*Measure edge in inches, then multiply by the number of loops per inch and subtract one.*

**Example:** For 3:1 pitch (3 loops per inch)  
11 inch (27.9cm), binding edge,  
 $11 \times 3 = 33 - 1 = 32$  loops

**Example:** For 2:1 pitch (2 loops per inch),  
11 inch (27.9cm), binding edge,  
 $11 \times 2 = 22 - 1 = 21$  loops

ELEMENT SIZE	BOOK THICKNESS
3 LOOPS PER INCH	
1/4" 	3/16" OR LESS
5/16" 	1/4" OR LESS
3/8" 	5/16" OR LESS
7/16" 	3/8" OR LESS
1/2" 	7/16" OR LESS
9/16" 	1/2" OR LESS
2 LOOPS PER INCH	
5/8" 	9/16" OR LESS
3/4" 	5/8" OR LESS
7/8" 	3/4" OR LESS
1" 	7/8" OR LESS
1-1/4" 	1-1/8" OR LESS