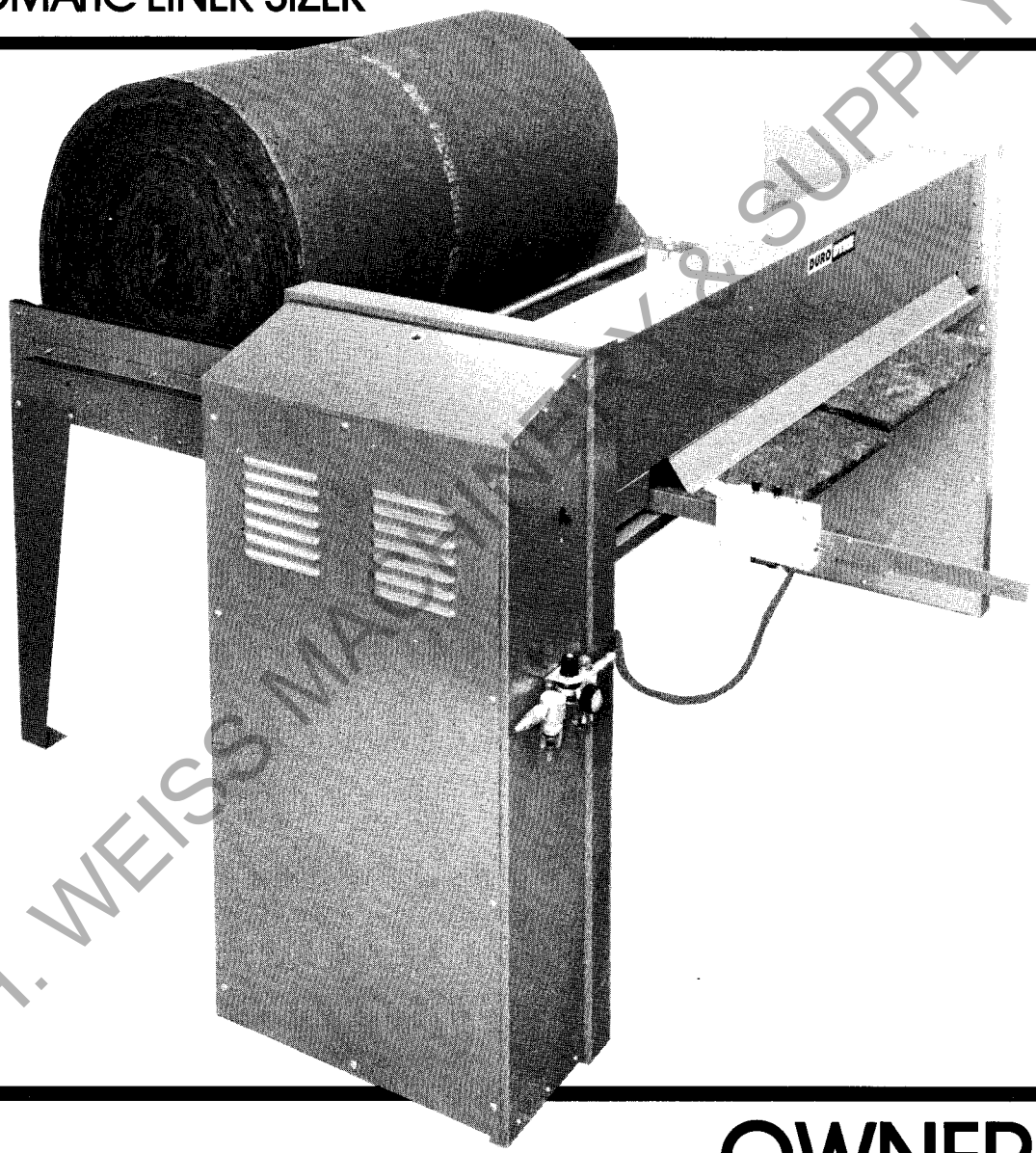
DURO DYNE

PLS
AUTOMATIC LINER SIZER



OWNER'S MANUAL

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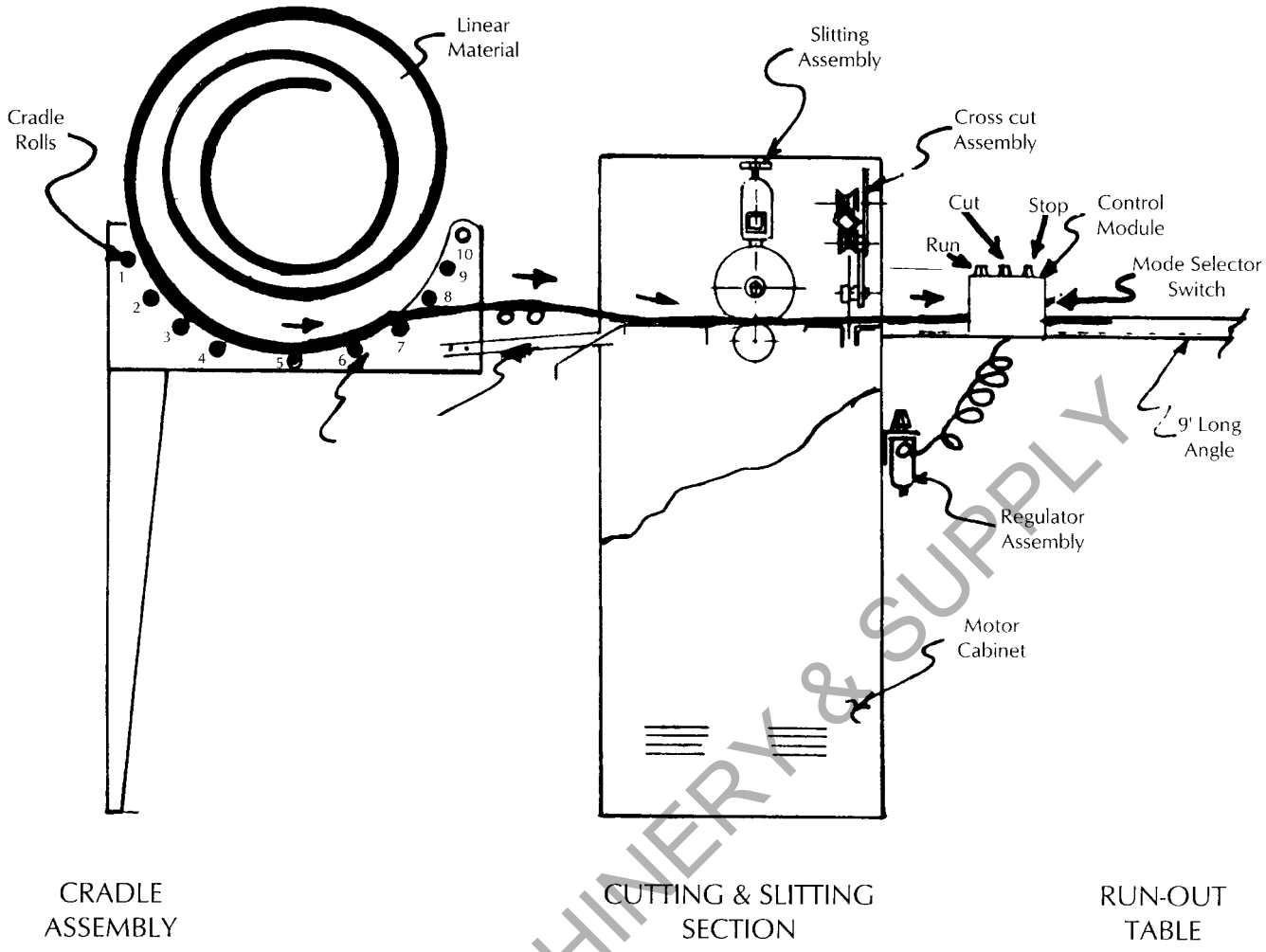
LIMITED WARRANTY

Duro Dyne Machinery is manufactured by skilled mechanics, utilizing the latest production techniques. Each unit has been rigorously tested prior to packaging and shipment in order to ensure trouble-free operation.

Your Duro Dyne machine has a one year warranty against defects in material. Any component found to be defective will be repaired or replaced (at manufacturer's discretion) at no cost if faulty component is returned freight prepaid to the nearest Duro Dyne Service Department. Warranty does not apply to expendable parts (cutting blades, etc.) or repairs or service due to improper maintenance or operation procedures.



INTRODUCTION

The PLS Automatic Liner Sizer has primarily two Parts; one called the Cradle Assembly, the other called the Cutting and Slitting Section. It is suggested that a run out table be used in conjunction with the machine.

The cradle assembly consists of: The cradle, with eight installed rolls, and two additional rolls. The eight rolls installed in the cradle are pitched and should not be altered for any reason. The rolls are designed to force the duct liner against one side of the cradle. **See Pg. 4; figure A.**

Cradle rolls are aluminum and should be handled carefully.

When building the run out table it is important that a two inch clearance gap be left between the angle iron and the table frame from the cutting head to the far leg so that the light beam of the length sizer (located in the control module) is unobstructed.

Safety interlocks under the guards, (see cradle and crosscut view) will not allow the machine to operate if the guards are removed. **Do not** remove safety guards and render safety micro-switches inoperative. The PLS has moving blades which can cause serious injury should the safety features be over ridden. **Disconnect air and electric supply before servicing the PLS.**

To insure square and accurate sizing, the cradle support angles and the nine foot angle guides should be mounted at 90° degree angles to the cutting head.

Important: Always follow manufacturer's recommendations for proper safety and handling procedures for all materials used in conjunction with this machine as outlined in Manufacturer's Safety Data Sheet (MSDS) for each product.

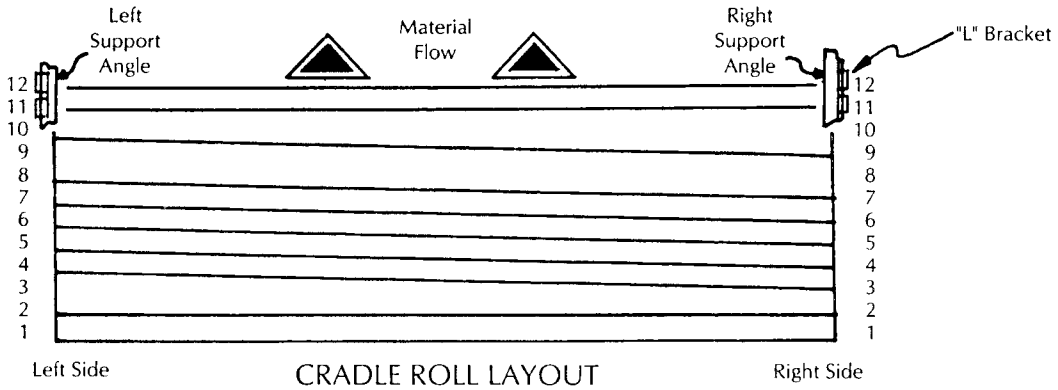
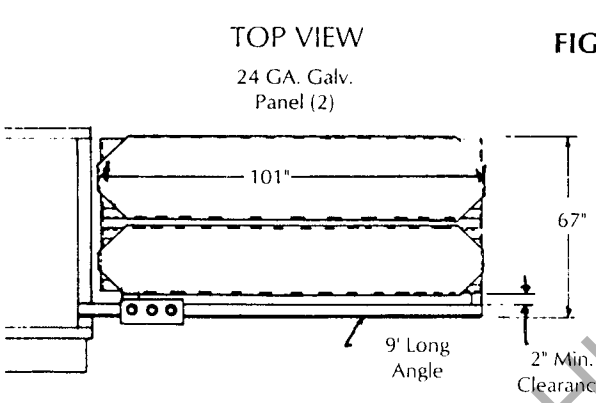


FIG. A

CRADLE ROLL LAYOUT
FOR LEFT TO RIGHT TABLE

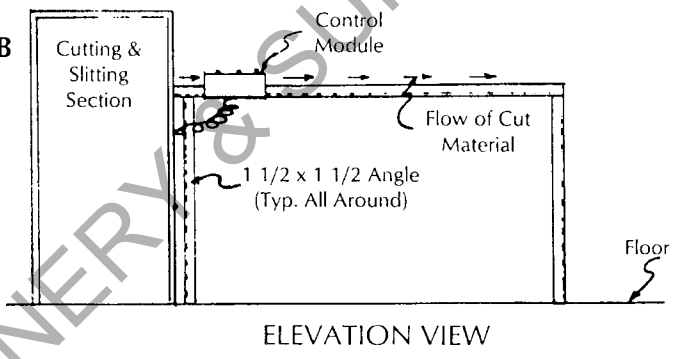
INSTALLATION INSTRUCTIONS

NOTE: Do not tighten bolts and nuts until unit is completely assembled. When assembling the PLS be sure all components are square to each other.



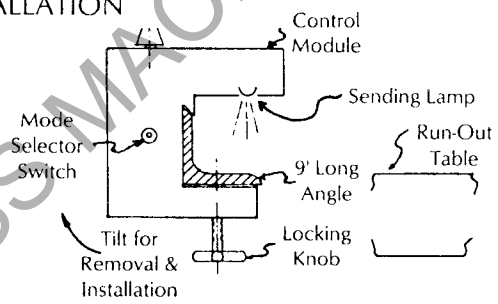
CONTROL MODULE INSTALLATION

FIG. B



ELEVATION VIEW

FIG. C



1) In the carton that was placed in the PLS crate, locate the leveling feet. Tilt the motor cabinet and locate the threaded holes at both ends of the frame. Turn the leveling feet clockwise into holes. Repeat this procedure at the opposite end of the PLS (end cabinet). After inserting all leveling feet, level the cutting head by turning leveling feet clockwise or counter clockwise.

2) Refer to **Fig. A** which depicts the cradle roll layout. Follow roll number sequence as shown. Pitch of all rolls has been determined at the factory. Rolls for positions 11 and 12 must be installed on the support angles with the correct pitch. Attach the right support angle to the cradle and the cutting and slitting section. Then slip rolls into holes 11 and 12 in the "L" brackets. Next slide rolls into holes 11 and 12 in the "L" brackets on the left support angle and attach the left support angle to the cradle assembly and the cutting and slitting section.

3) Attach 9 foot angle iron guide (**Fig. B**) square to the cutting and slitting section using two 1/4 x 20 truss head bolts. (Be sure angle iron is at a right angle with the frame.)

4) Build a run out table similar in design to the table shown in **Fig. B**.

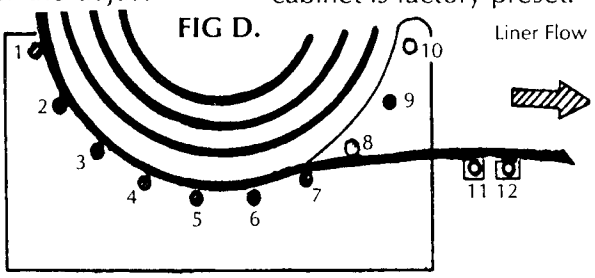
5) Locate the control module in the carton packed in the PLS crate. Loosen the locking wheel on the module. Tilt module so that switches are angled toward the run out table. Slip the groove in the control module over the edge of the nine foot angle iron guide and straighten module. See **Fig. C**.

6) Plug control module into socket located on motor cabinet. Twist lock ring on plug to secure connection.

7) Locate the air regulator in the carton packed in the PLS crate. Connect the air hose from the motor cabinet to the air regulator. (1) and slide the regulator adjustment knob through the mounting bracket that is located beneath the power switch on the motor cabinet. Lock the regulator into position by placing the threaded ring that is provided over the adjustment knob and hand tightening the ring in a clockwise direction. Connect air supply.

8)Turn on air and adjust air regulator for 80 p.s.i. by turning the regulator knob clockwise to decrease air pressure and counter clockwise to increase air pressure. **Note:** the regulator located inside the motor cabinet is factory preset.

FIG D.



Sec. of Cradle Left to Right

OPERATION

1)Plug machine into 110 volt power supply with grounded socket.

2) Refer to **Pg. 3** pictorial representation of machine. Set the slitting width by loosening the knob on the slitter assembly, slide the ridge in the center of the assembly unit casting is lined up with the desired width on the measuring tape; retighten the knob on the slitter assembly unit.

3) Place a roll of liner material on the cradle. **Fig. D.** Feed the leading edge of the liner through the rollers on the cradle carriage as shown in **Fig. D.** Lift the pinch roller by raising the pinch roller switch on the PLS motor cabinet and place the leading edge of the liner between the pinch roller and the feed roller. Lower the pinch roller with the pinch roller switch.

4) Set the length by loosening knob on the control module, **Pg. 4; Fig. B & C**, and slide along the 9' angle iron guide until the edge of the control module is lined up with the proper length setting on the measuring tape; retighten knob.

5a) **Automatic Operation - Pg. 4; Fig. C**, and pictorial representation, **Pg 3**. To cut multiple pieces of the same dimensions, set mode selector switch to automatic. Depress run button: See **Pg. 3**. The insulation will advance through the rotary knife slitter until it reaches the preset length. Liner is then automatically stopped and crosscut to length. As the liner is removed from the machine, it automatically restarts. The next piece of liner is slit as it advances through the machine toward the length sensor where it will stop and be cut to length. Machine continues in this mode until stop button is depressed.

5b) **Manual Operation - refer to Pg. 3.** For individual pieces of varying lengths set mode selector switch to manual. Depress the run button and the material will feed through the slitter into the length sensor and stop. Depress the cut button and the material is cut to length and can be removed. If cutting is to be done by visual observation of length requirements, loosen knob control module locking knob, tilt module and remove it from 9' angle guide; control module may be hand held. Depress the run button feed through the machine until electric eye on component module is broken or stop button is depressed. Depress cut button and remove sized liner material.

MAINTENANCE

Air Supply Unit

1) To provide uninterrupted service, the air regulator assembly must be kept clean. Drain off any filter bowl accumulation before it reaches the level of lower baffle. A visible coating of dirt or condensate on the filter element or erratic operation indicates cleaning is necessary. Wash filter element in dentured alcohol and blow out with compressed air.

2) Clean bowl with household soap.

3) Check for leaks in air hoses

4) Check and adjust air pressure to 80 p.s.i. minimum. When reducing regulator pressure turn knob counter clockwise. Cycle machine before reading gauge. To increase air pressure repeat procedure turning knob clockwise.

Electrical Unit

1) Control module should be kept set on 9' long angle, fastened securely to it; **Pg. 4; Fig C**. The sending lamp together with the photo receiver must be kept clean and free of obstruction in order to insure proper response and proper functioning of cutting, timing and other operations controlled by the control module.

TROUBLESHOOTING

The PLS is comprised of four distinct circuitry segments:
1) The motor
2) The clutch drive
3) The crosscut
4) The pinch roller

When troubleshooting, it is important to observe how each segment is operating in the manual mode as well as the automatic mode so that the symptoms displayed by your machine can be matched exactly to those shown below.

See Motor Cabinet view opposite page.

IMPORTANT:

1) The PLS will not operate with the guards up. To assure accurate test results and maximize operator safety, perform all troubleshooting procedures with the guards in position.

2) When servicing the machine perform all test procedures in the manual mode unless otherwise specified.

3) Many test procedures refer to numbered terminals of the terminal strip. When performing tests, double check that you are performing tests on the correctly numbered terminals.

4) Before performing any test procedures in the following sections, check that: all wire connections are tight, wires attached to one terminal do not touch wires on other terminals, wires are not cut or broken.

SYMPTOM I

The motor does not operate with the power in the "ON" position.

SYMPTOM II

The motor is operating but nothing else works.

SYMPTOM III

Everything operates properly in manual mode except the clutch drive.

SYMPTOM IV

The unit will not repeat its cycle in automatic mode. Everything operates properly in manual mode.

SYMPTOM V

Everything operates properly except the crosscut. It does not work in manual and/or automatic.

SYMPTOM VI

Only the pinch rollers do not work.

SYMPTOM VII

Material runs through the electric eye without stopping (the clutch remains engaged after the "RUN" switch is depressed.)

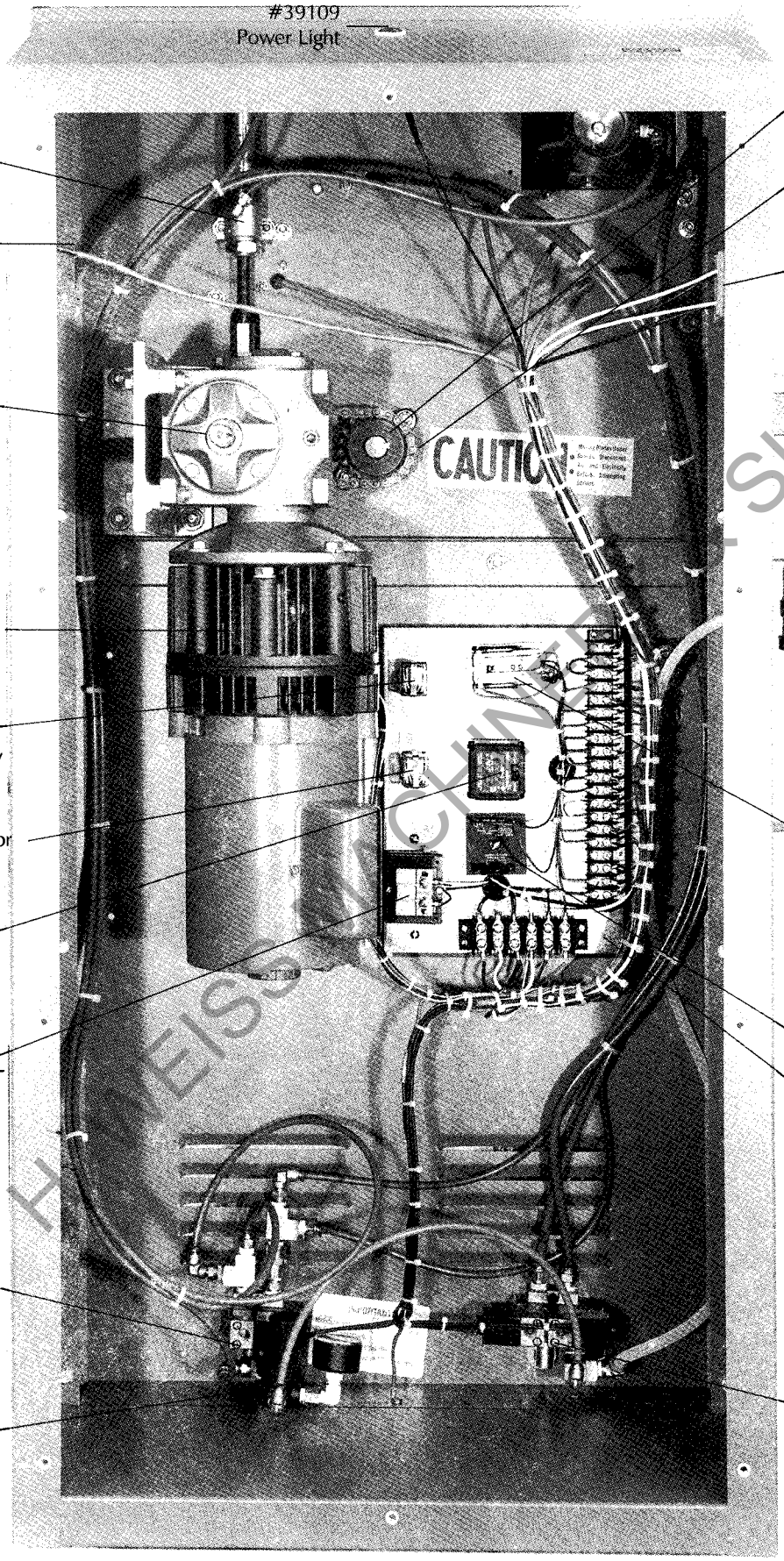
SYMPTOM VIII

The clutch is engaged as soon as the power switch is in the "ON" position.

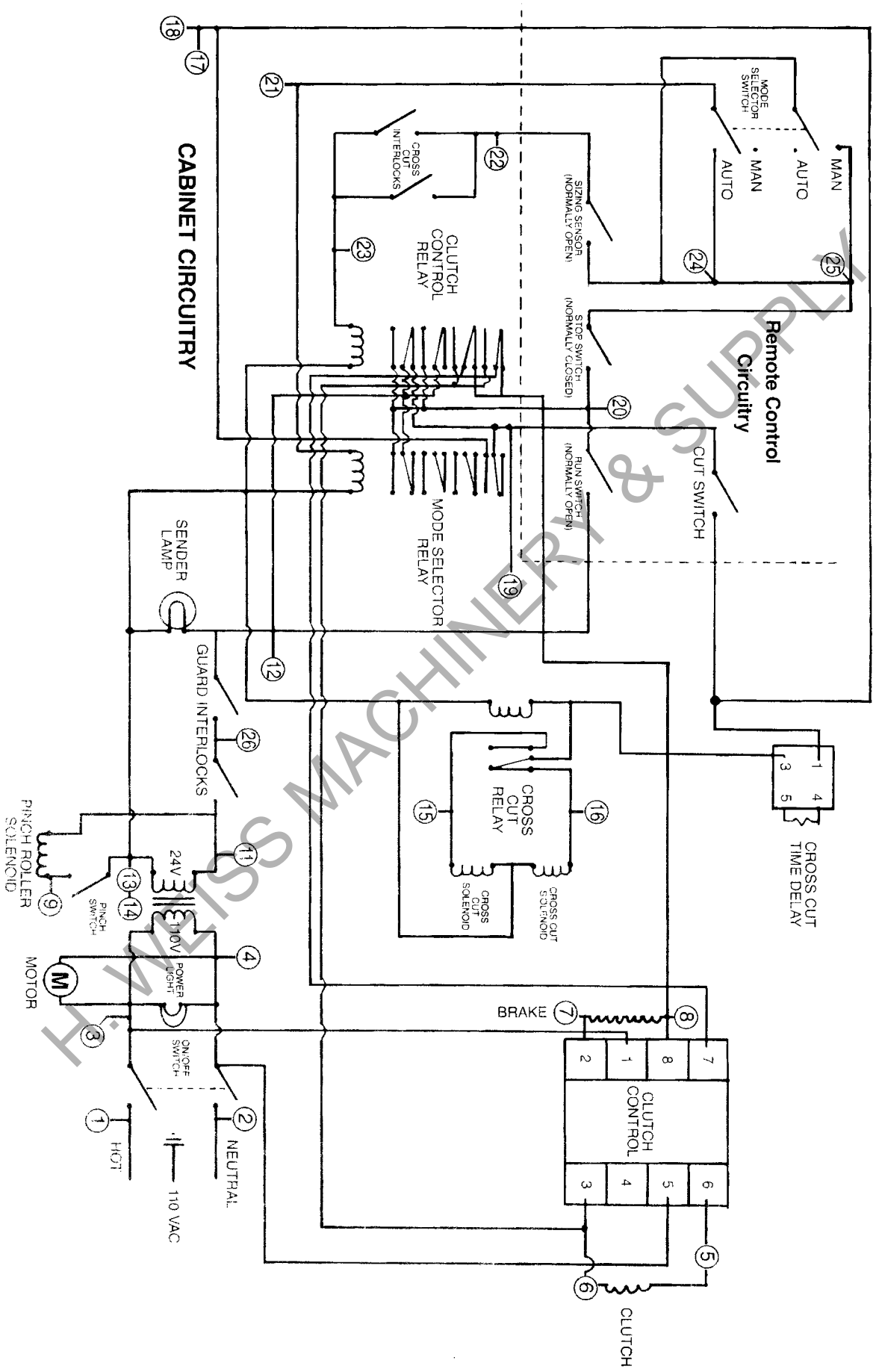
SYMPTOM IX

The material length is extremely erratic (clutch disengagement is erratic).

MOTOR CABINET PARTS LOCATION



WIRING SCHEMATIC



THEORY OF OPERATION

The PLS Cutting and Slitting Section consists of four distinct operating segments:

a) The motor

b) The clutch

c) The pinch roller

1) The motor is turned on or off by movement of the power switch. While in the "ON" position, the motor is constantly turning.

2) The clutch is actuated by depressing the "RUN" switch. This signal travels through the "STOP" switch, receiving board and crosscut interlocks to activate the clutch control relay. This relay, in turn, sends a 90 volt D.C. signal generated by the clutch control module to the electromagnetic clutch causing the clutch to engage the motor. Pushing the stop switch or breaking the electric eye (deactivating the receiving board) will cause the clutch relay to de-energize the clutch from the motor. With the mode selector switch in the automatic position the mode selector relay is activated. This relay parallels the run switch and allows the machine to automatically restart once the electric eye is clear of material.

3) The crosscut is actuated by depressing the "CUT" switch. This signals the crosscut relay to deactivate one coil of the double solenoid valve and activate the other. This solenoid valve controls the movement of the crosscut cylinder which draws the crosscut blade through the insulation. With the mode selector switch in the automatic mode, the mode selector relay is energized. This relay parallels the cut switch allowing the machine to crosscut automatically. While the machine is in the automatic mode, each time the electric eye is interrupted, deactivating the clutch control relay, a signal is sent to the crosscut relay via the mode selector relay.

4) The pinch roller is moved up or down by movement of the pinch switch. The pinch switch activates or deactivates a solenoid valve sending air pressure from a pair of air cylinders. These cylinders move the pinch roller up or down.

NOTE: The pinch roller circuitry is 24 volts and not affected by the guard positions. The clutch and crosscut circuitry are 24 volts with the exception of the clutch control module and the electromagnetic clutch. In series with the clutch and crosscut circuit are the guard interlock switches. When the guards are out of position, the 24 volt supply to the clutch and crosscut circuitry is interrupted de-energizing these circuits.

SERVICING

It may be necessary to use a voltmeter and or ohmmeter to perform the simple servicing procedures. Follow the instructions below for reading resistance and voltage.

MEASURING RESISTANCE (OHMMETER)

1) Disconnect the power supply.

2) Set the ohmmeter at RX 1000 scale.

3) Touch two probes together and "ZERO" the ohmmeter.

4) If the meter reads as shown in Diagram A, there is infinite resistance across the terminals.

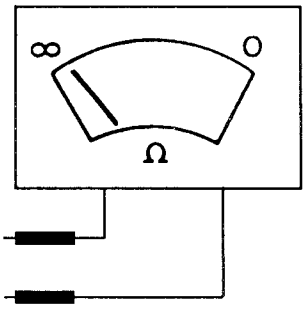
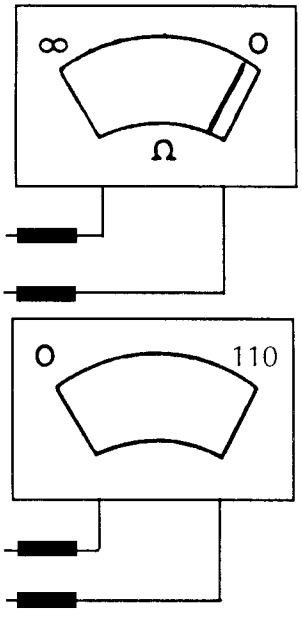


Diagram A

Diagram B

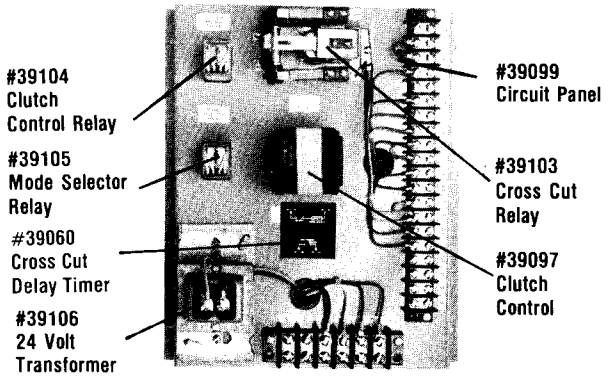
5) If the meter reads as shown in Diagram B, there is no resistance across the terminals.

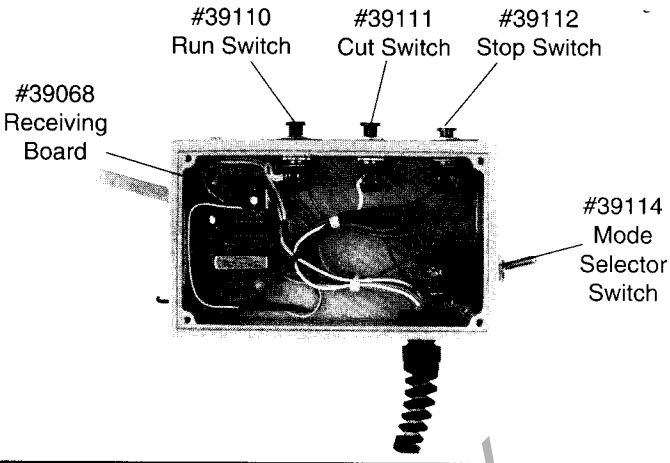


MEASURING AC VOLTAGES (VOLTMETER)

1) Set the voltmeter at the nearest scale above (never below) voltage you wish to read.

For all servicing, refer to the parts call out enclosed in this manual.





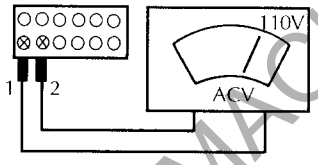
TROUBLESHOOTING

SYMPTOM I
The motor does not operate with the power switch in the "ON" position.

1) Check the power source with 110 volt test or voltmeter.

2) Visually inspect the line cord for wear or cuts.

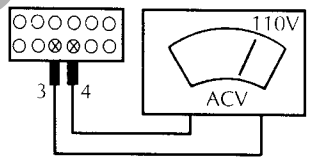
3) Remove the motor cabinet side panel to expose the PLS terminal strip. With electricity on, read voltage across 1 and 2 on the terminal strip.
If voltage is as shown, minimum 110 volts, proceed to step 4.



If voltage is "0" volts, either power source is not minimum 110 volts or line cord has a break in it.

4) With electricity on, read voltage across 3 and 4 of the terminal strip.

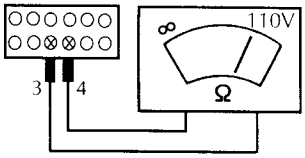
If voltage is as shown, minimum 110 volts, proceed to step 5.



If voltage is "0" volts replace the on/off switch.

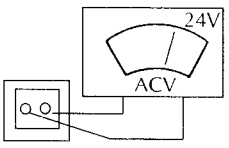
5) Place the on/off switch in the "OFF" position and with the unit unplugged, read across terminals 3 and 4 with an ohmmeter.

If the meter reads "O" resistance, retrace steps 1 through 4.

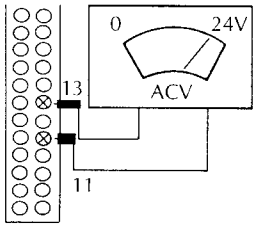


If the meter reads "∞" resistance, replace motor.

SYMPTOM II:
The motor is operating but nothing else works.
1) Remove the side panel from the motor cabinet. Locate the 24 volt transformer on the component tray. With the power "ON", read across the terminals on the transformer with a voltmeter.
If the meter reads approximately 24 volts, proceed to step 2.

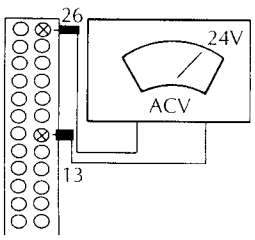


If the meter reads "0" volts, replace the 24 volt transformer.
2) With the power "ON", read across terminals 11 and 13 with a voltmeter.
If the meter reads 24 volts, proceed to step 3.

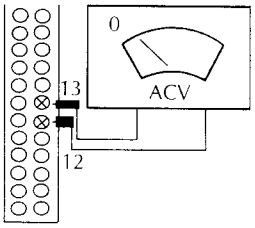


If the meter reads "0" volts turn off the power and check for a broken wire from transformer to terminals 11 and 13.

3) With power "ON", place voltmeter across terminals 13 and 26.
If meter reads 24 volts, proceed to step 4.



If the meter reads "0" volts, trace switch wire on terminal 11 to inoperative guard interlock switch and replace.
4) With power "ON", place voltmeter across terminals 13 and 12.
If meter reads "0" volts, trace switch wire on terminal 12 to inoperative guard interlock switch and replace.



If meter reads "24" volts, you may be in wrong section of manual, recheck symptoms.

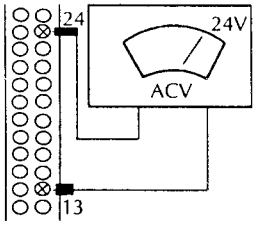
SYMPTOM III:

Everything operates properly in manual mode except the clutch drive.

1) Place the unit in manual mode. Remove the PLS side panel exposing the wiring terminal strips. Place a voltmeter across 20 and 13 of the terminal strip. With electricity on, depress "RUN" button

If meter reads "24" volts, proceed to step 2.

If meter reads "0" volts, run switch needs replacement.

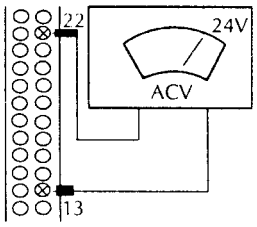


2) With electricity on, place voltmeter across terminals 13 and 22.

Depress run switch.

If meter reads "24" volts proceed to step 5.

If meter reads "0" volts proceed to step 3.

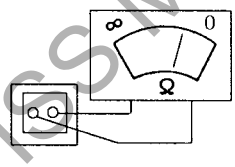


3) Power the unit. Visually inspect the sending lamp located on the control module. If the lamp is lit, proceed to step 4. If the lamp is not lit, replace the sending lamp.

4) Disconnect the 110 volt power supply and remove the cover from the control module. Read for resistance across the stop switch (do not depress the switch).

If the meter reads "∞" resistance, replace the stop switch.

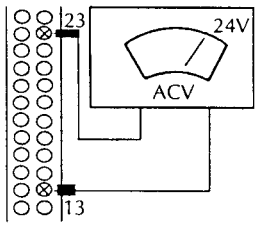
If the meter reads "0" resistance, replace the receiving board and photo receiver.



5) With electricity on, place voltmeter across terminals 13 and 23. Depress the run switch.

If meter reads "24" volts, proceed to step 6.

If meter reads "0" volts, one of the two crosscut interlocks are not functioning. Disconnect the air and electricity.



NOTE:

With safety covers removed, extreme caution must be exercised by any person near the unit.

To determine which safety interlock is inoperative, remove the top cover on the exit side of the machine and locate crosscut blade. The crosscut interlock located on the side of the machine where the crosscut blade is must be adjusted or replaced.

6) Swap the clutch control relay with the mode selector relay. Place the mode selector switch in the "MANUAL" position. Depress the run switch. If the drive roller now turns, replace the relay NOW in the mode selector socket. If the drive roller does not turn, proceed to step 7.

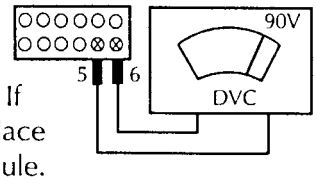
7a) Connect a D.C. voltmeter across terminals 7 and 8 on terminal strip. If meter reads 85-95 volts D.C., proceed to 7b.

If meter does not read 85-95 volts D.C., check the fuse in the clutch control module. If the fuse is good, replace the clutch control module.

7b) Connect a D.C. voltmeter across terminals 5 and 6 on the terminal strip. Depress run switch.

If the voltmeter reads 85-95 volts D.C. replace the clutch/brake.

If the voltmeter does not read 85-95 volts D.C. check the fuse in the clutch control module. If the fuse is all right, replace the clutch control module.



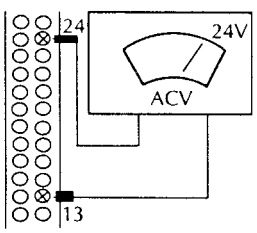
SYMPTOM IV:

The unit will not repeat its cycle in automatic mode. Everything operates properly in manual mode.

1) If your unit is not equipped with a factory installed piece counter, proceed to step 2.

If your unit has the factory installed unit:

With the electricity "ON", place machine in auto mode and set counter for at least two pieces. Place a voltmeter across terminals 13 and 24 on the terminal strip and depress "RUN" switch.



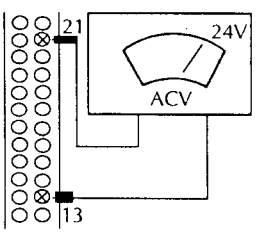
If meter reads "24" volts proceed to step 2.

If meter reads "0" volts, replace the counter.

2) With electricity "ON", remove cabinet cover on motor side of unit. Place unit in automatic mode. Place a voltmeter across terminals 13 and 21. Depress the "RUN" switch.

If the meter reads "24" volts replace mode selector relay.

If the meter reads "0" volts, replace mode selector switch.

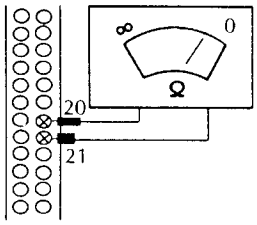


SYMPTOM V:
Everything operates properly except the crosscut. It does not work in either manual or automatic.
IMPORTANT: Guards must be in place.
1) Place the mode selector switch in the "MANUAL" position. With air and electricity on and the power switch in the "ON" position, depress the cut switch.
If the crosscut operates, proceed to Step 2.
If the crosscut does not operate, proceed to Step 4.

2) If machine is of serial #67 or less, proceed to Step 3. Disconnect electricity. Place ohmmeter across terminals 20 and 21. Place the mode selector switch in the "AUTOMATIC" position.

If meter reads "0" resistance, replace mode selector relay.

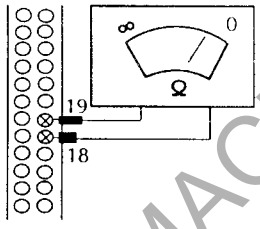
If the meter reads "∞" resistance, replace mode selector switch.



3) Disconnect electricity. If machine is Serial #68 or higher proceed to step 4. Place ohmmeter across terminals 19 and 18. Depress cut switch.

If meter reads "0" resistance, replace mode selector relay.

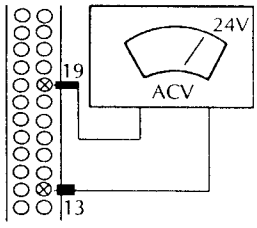
If meter reads "∞" resistance, replace mode selector switch.



4) Remove the side cover from the motor cabinet. Place a voltmeter across terminal 13 and terminal 19. With electricity on, place mode selector switch in the manual position. Place power switch in "ON" position. Do not depress run button.

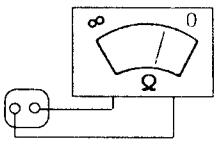
If meter reads "24" volts, proceed to step 5.

If meter reads "0" volts, replace clutch control relay.



5) Disconnect electricity. Remove cover from control module. Lift up one of the guard covers. Place ohmmeter across cut switch terminals. Depress cut switch.

If meter reads "0" resistance. Proceed to step 6.
If meter reads "∞" resistance, replace the cut switch.



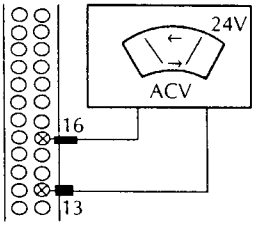
6) Place volt meter across terminal strip and terminal 1 of crosscut delay timer. Place mode selector switch in "MANUAL" position. Press and hold down cut switch.
If meter reads "24" volts, proceed to step 7.
If meter reads "0" volts, replace control cable.

7) Place volt meter across terminal 13 of terminal strip and terminal 3 of crosscut delay timer. Place mode selector switch in "MANUAL" position. Press and hold down cut switch.
If meter reads "24" volts, proceed to step 8.
If meter reads "0" volts, check for broken resistor jumper between terminals 4 and 5 on delay timer. If resistor jumper is good, replace crosscut delay timer.

8) Turn electricity on. Place voltmeter across terminals 13 and 16. Place mode selector switch in "MANUAL" position. Press cut switch several times. Meter should read "0" volts and "24" volts alternately. Repeat test with voltmeter on 13 and 15.

If meter fails to alternate between 0 and 24 volts during either test, replace the crosscut relay.

If meter does alternate during both tests, proceed to step 9.



Meter response more important than the actual reading in step 8.

9) Disconnect the 110 volt power and the air supply from the unit. Remove the red and blue 3/8" air hose from the right and left side of the solenoid. **Caution: Do not remove the air line located in the front of the solenoid.** Place the mode selector switch in the "MANUAL" position. Connect the air and 110 volt electrical supply to the unit and depress the cut switch several times.
If the air is alternately exhausted from the ports exposed by the removal of the air hosing in the above procedure, do not reconnect the air hosing and proceed to step 10.
If the air is not alternately exhausted from the ports exposed by the removal of the air hosing in the above procedure, replace the crosscut solenoid.

10) Disconnect the air and 110 volt electric supply from the unit. **Caution: For this test procedure the air must be disconnected from the machine to assure the safety of the maintenance personnel.** Remove the top cover and guard on the exit side of the machine. Locate the crosscut roller plate. This plate is moved by the large crosscut cylinder mounted across the top of the insulation cutter. Inspect the nylon encased cable in the crosscut cylinder for a nick or cut in the nylon casing. To inspect the entire cable, the crosscut roller plate must be manually moved across the machine. After inspection is complete, replace the top and cover guard.
If the cable casing is damaged, reconnect the air lines previously disconnected and replace the cable.
If the nylon casing for the cable is not damaged, reconnect the air lines previously disconnected and replace the crosscut cylinder.

SYMPTOM VI:
Only the pinch rollers do not work.

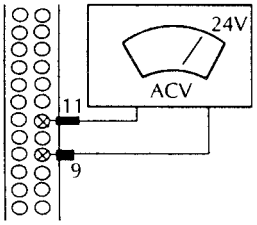
1) With the air and electricity on, place the pinch switch in the raise position.

If the pinch roller raises on one side and remains in the lowered position on the opposite side; replace the pinch roller cylinder on the side of the machine that did not raise.

If the pinch roller did not rise on either side, proceed to step 2.
2) With the electricity "ON" and pinch roller switch in raised position, connect a voltmeter across terminals 11 and 9.

If meter reads "24" volts proceed to step 3.

If meter reads "0" volts, replace pinch roller switch.



3) Check the pinch roller regulator for air leakage. Note: Pinch roller regulator is preset at the factory for 40 PSI.

If the pinch roller regulator is leaking, replace it.

If the pinch roller regulator is not leaking, proceed to step 4.

4) Disconnect the electricity and air supply to the unit. Remove one 1/4" blue air hose and 1/4" red air hose from the right and left side of the pinch roller solenoid respectively. Connect the air and electricity supply to the unit and raise and lower the pinch switch several times manually.

If the air alternately exhausts from each port of the solenoid, exposed by the above procedure, change the pinch roller cylinders.

If the air does not exhaust alternately from each port of the solenoid exposed by the above procedure, replace the pinch roller solenoid.

SYMPTOM VII:
Material runs through the electric eye without stopping (the clutch remains engaged after the "RUN" switch is depressed).

Remove insulation from machine. Place unit in "MANUAL" mode. Connect air and electricity. Turn power switch on. Remove control module from nine foot angle iron. Depress run switch. Depress stop switch.

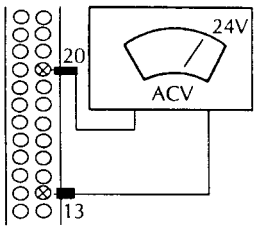
If drive roller stops turning only while "STOP" switch is depressed but turns when released, go to SYMPTOM VIII. If drive roller remains stopped after depressing stop switch, replace receiving board and photo receiver.

SYMPTOM VIII:
The clutch is engaged as soon as the power switch is in the "ON" position.

With electricity on; power switch in "ON" position, place voltmeter across terminals 13 and 20.

If voltage reads "24" volts, replace run switch.

If voltage reads "0" volts, replace clutch control relay.



SYMPTOM IX:
Material length is extremely erratic (clutch disengagement erratic).

1) Be sure photo receiver is free from any obstructions between it and the sending lamp.

2) Shield photo receiver from all other light sources except the light of the control module electric eye.

3) If step 1 did not correct the problem, remove the cabinet cover from the motor side and swap the clutch control relay and the mode selector relay.

If the problem is corrected, replace the relay **presently** in the mode selector socket.

If the problem persists, replace the photo receiver and receiving board in the control module.

PLS PARTS LISTING

ITEM #	DESCRIPTION
39083	CRADLE ASSEMBLY COMPLETE
39076	Cradle Roller with Bushing
39077	Cradle Side Plate
39079	Cradle Leg
39080	Cradle Cross Angle
39082	Cradle Corner Brace
39107	CROSS CUT ASSEMBLY COMPLETE
39084	Cross Cut Roller Plate
39085	Cross Cut Nylon Rollers
39086	Cross Cut Nylon Spacers
39173	Cross Cut Magnet
39087	SLITTING ASSEMBLY WITH BLADE ROLLER
39050	Blade Roller
39089	Slitter Casting
39139	Locking Wheel
39081	BLADE WITH HUB
39088	Blade Hub
39093	Blade
29078	CUTTING HEAD COMPLETE
39090	Cross Cut Interlock
39091	Cross Cut Cylinder
39092	Cross Cut Cable Replacement Kit
39094	Motor
39095	Speed Reducer
39096	Clutch/Brake
39098	Drive Gear
39100	Drive Chain
39101	Chain Link
39102	Love Joy Coupling
39108	On/Off Switch
39109	Power Light

ITEM #	DESCRIPTION
39115	Pinch Roller Switch
39116	Pinch Roller Solenoid
39117	Cross Cut Solenoid
39118	Line Cord
39133	Drive Roller
39134	Pinch Roller
39135	Pinch Roller Cylinder
39136	Pinch Roller Regulator
39137	Air Regulator Assembly
39138	Air Regulator Bracket
39172	Guard Interlock
39099	CIRCUIT PANEL
39097	Clutch Control
39103	Cross Cut Relay
39104	Clutch Control Relay
39105	Mode Selector Relay
39106	24 Volt Transformer
39142	Clutch Control Fuse
39060	Cross Cut Delay Timer
39140	CONTROL MODULE ASSEMBLY L to R
39143	CONTROL MODULE ASSEMBLY R to L
39065	Photo Receiver
39066	Sending Lamp
39067	Sending Shade
39068	Receiving Board
39110	Run Switch
39111	Cut Switch
39112	Stop Switch
39113	Sizing Sensor (Air)
39114	Mode Selector Switch
39140	Module Casting
39141	Module Cable
39119	9 Foot Angle Iron

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