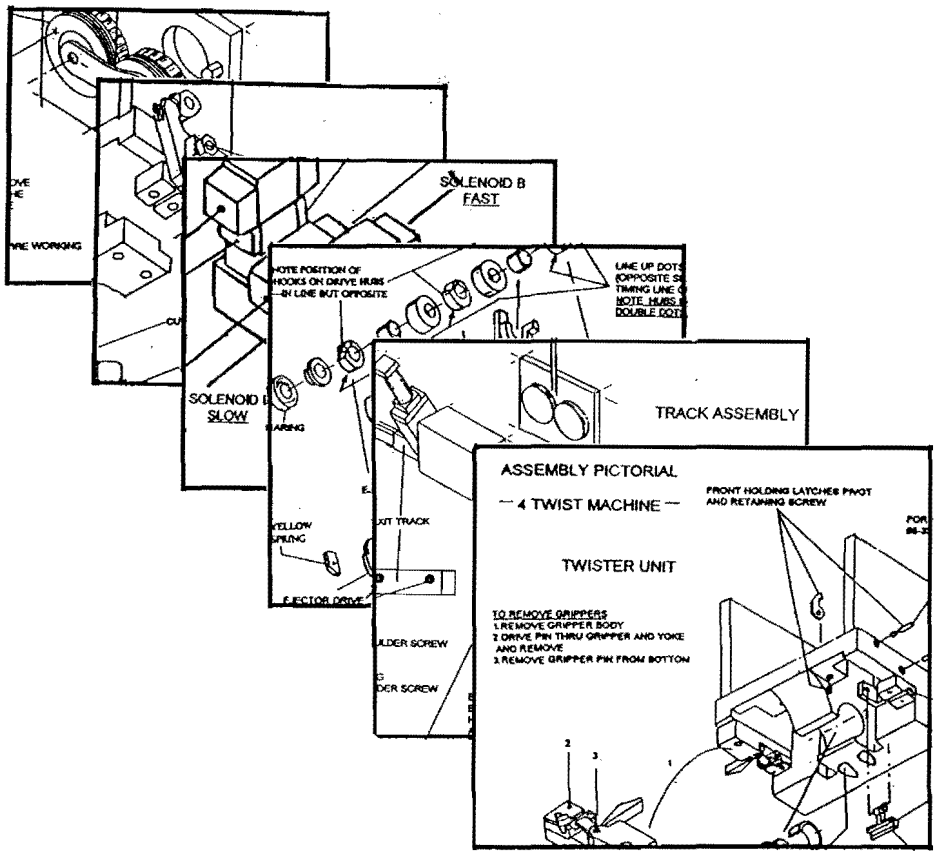
ACCENT WIRE 4-TWIST™

SERVICE MANUAL



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- Galvanized wire for double-ram balers available on 1500-pound carriers or 2000-pound orbits
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- Wire tyer parts

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ACCENT
4 TWIST
SERVICE MANUAL INDEX

SECTION 1

LOCK/TAGOUT PROCEDURE

SECTION 2

HOT LINE SERVICE-TELEPHONE CONTACTS

SECTION 3

TYER CONFIGURATION, ELECTRICAL CONTROL AND SEQUENCE OF EVENTS

SECTION 4

ASSEMBLY PICTORIALS

SECTION 5

HYDRAULIC/ELECTRICAL

SECTION 6

ADJUSTMENTS
- ELECTRICAL
- HYDRAULIC
- MECHANICAL

SECTION 7

TROUBLESHOOTING

SECTION 8

LUBRICATION AND MAINTENANCE

SECTION 9

APPENDIX

MINIMUM REQUIREMENTS FOR STRAPPING HEAD LOCKOUT/TAGOUT

- *Personnel maintaining the strapping equipment must read and be familiar with the requirements of the Department of Labor OSHA Regulation 1910.147 which applies to Lockout/Tagout Procedures. Personnel performing the service work must be qualified to perform the task and must not proceed with the work until the baling equipment has been properly locked out.*

- *The baling equipment must be shut down and locked out in accordance with OSHA Regulation 1910.147, and all energy sources must be removed whenever any part of the equipment is being repaired. After locking out, the equipment must be checked to ensure that no energy exists that would present a danger to personnel.*

- *Under certain conditions the equipment may be functional while work is being performed; however, proper tagout procedures must be used. The equipment must be used in the manual or service mode, and the work must be necessary as part of a check-out or set-up procedure. "Danger-Do Not Start" tags must be placed at all points from which the equipment can be moved or energized.*

- *After the work has been completed, all guards must be reinstalled and the area must be checked to ensure safe operating conditions. Notify all personnel involved that the baler/strapper will be operational. The locks and tags can now be removed by the individuals that applied the devices.*

CAUTION! – If the baler is in manual, off, or service mode, but the main electrical energy sources in not locked out, electrical energy may exist in the strapper control panel.

DOUBLE RAM BALER PROCEDURES
LOCKOUT/TAGOUT OF
POTENTIAL HAZARDOUS ENERGY SOURCES

PURPOSE

- *THIS PRACTICE IS TO ESTABLISH THE MINIMUM REQUIREMENTS FOR THE LOCKOUT/TAGOUT OF ENERGY. IT SHOULD BE USED TO ENSURE THAT BEFORE ANY EMPLOYEE PERFORMS ANY SERVICING OR MAINTENANCE ON THE BALER SYSTEMS WHERE UNEXPECTED START-UP OR RELEASE OF STORED ENERGY COULD OCCUR AND CAUSE INJURY. ALL POTENTIALLY HAZARDOUS ENERGY SHOULD BE ISOLATED AND LOCKEDOUT/TAGGEDOUT.*

RULES FOR USING LOCKOUT/TAGOUT PROCEDURES

- *ALL EQUIPMENT SHOULD BE LOCKEDOUT/TAGGED OUT TO PROTECT AGAINST ACCIDENTIAL OR INADVERTENT OPERATION WHEN SUCH OPERATION COULD CAUSE INJURY TO PERSONNEL. DO NOT ATTEMPT TO OPERATE ANY SWITCH, VALVE, OR OTHER ENERGY ISLOCATING DEVICE BEARING A LOCK/TAG.*

- *ONLY EMPLOYEES WHO ARE KNOWLEDGEABLE OF THE WRITTEN LOCKOUT/TAGOUT PROCEDURE SHOULD PERFORM SERVICE OR MAINTENANCE THAT REQUIRES LOCKOUT/TAGOUT.*

RESPONSIBILITY

- *ALL AFFECTED EMPLOYEES SHOULD BE INSTRUCTED ON THE LOCKOUT/TAGOUT PROCEDURE BY THEIR MANAGER. EACH NEW EMPLOYEE SHALL BE INSTRUCTED BY THEIR MANAGER IN THE PURPOSE AND USE OF THE LOCKOUT/TAGOUT PROCEDURE.*

PREPARATION FOR LOCKOUT/TAGOUT

- *LOCATE AND IDENTIFY ALL ENERGY SOURCES TO BE CERTAIN WHICH SWITCH, VALVE, OR OTHER ENERGY ISOLATING DEVICES APPLY TO THE EQUIPMENT TO BE LOCKEDOUT/TAGGEDOUT. MORE THAN ONE ENERGY SOURCE (ELECTRICAL, MECHANICAL, ETC.) MAY BE INVOLVED. QUESTIONABLE ENERGY SOURCE PROBLEMS SHALL BE RESOLVED BEFORE JOB AUTHORIZATION IS OBTAINED AND LOCKOUT/TAGOUT COMMENCES.*

LOCKOUT/TAGOUT PROCEDURE

- *NOTIFY ALL AFFECTED EMPLOYEES THAT A LOCKOUT/TAGOUT IS REQUIRED.*
- *DETAILED SHUTDOWN PROCEDURE-COMPLETE STEPS A-D*
  - *A. TURN KEY TO "OFF" POSITION*
  - *B. TAKE KEY OUT AND PLACE IN POCKET OF EMPLOYEE PERFORMING SERVICE*
  - *C. PUSH IN EMERGENCY STOP BUTTON*
  - *D. MOVE MAIN SWITCH AT ELECTRICAL PANEL TO "OFF" POSITION*
  - *E. LOCK OUT THE ENERGY-ISOLATING DEVICES (MAIN SWITCH) WITH AN ASSIGNED INDIVIDUAL LOCK*
  - *F. AFTER ENSURING THAT NO PERSONNEL ARE EXPOSED AND AS A CHECK ON HAVING DISCONNECTED THE ENERGY SOURCES, OPERATE THE PUSH BUTTON OR OTHER NORMAL OPERATING CONTROLS TO MAKE CERTAIN THE EQUIPMENT WILL NOT OPERATE.*

    CAUTION: *RETURN OPERATING CONTROLS TO NEUTRAL OR "OFF" POSITION AFTER THE TEST.*

  - *G. TEST THE EQUIPMENT OR PROCESS BY USE OF APPROPRIATE TEST EQUIPMENT AND/OR VISUAL INSPECTION TO DETERMINE THAT THE ENERGY ISOLATION HAS BEEN EFFECTIVE.*

  - *H. THE EQUIPMENT IS NOW ON LOCKOUT.*

- *RESTORING EQUIPMENT TO NORMAL PRODUCTION OPERATIONS*
  - *A. AFTER THE SERVICING AND/OR MAINTENANCE IS COMPLETE AND BALER IS READY FOR NORMAL OPERATIONS, CHECK THE AREA AROUND THE BALER TO ENSURE THAT NO ONE IS EXPOSED.*

  - *B. NOTIFY ALL AFFECTED EMPLOYEES THAT BALER IS BEING PUT IN OPERATION.*

  - *C. AFTER ALL TOOLS HAVE BEEN REMOVED FROM THE BALER, GUARDS HAVE BEEN REINSTALLED AND EMPLOYEES ARE CLEAR, THE EMPLOYEE WHO APPLIED THE LOCKOUT/TAGOUT DEVICES WILL REMOVE THEM. OPERATE THE ENERGY-ISOLATING DEVICES TO RESTORE ENERGY TO THE BALER.*

PROCEDURE INVOLVING MORE THAN ONE PERSON

- *IF MORE THAN ONE INDIVIDUAL IS REQUIRED TO LOCKOUT THE BALER EACH SHOULD PLACE THEIR OWN LOCK/TAG ON ALL ENERGY ISOLATING DEVICES.*

TYING UNIT SAFETY NOTES

WARNING! WHEN THE BALING PRESS HAS BEEN PROPERLY LOCKED OUT, THE TYING UNIT IS ALSO LOCKED OUT. IF, HOWEVER, THE BALER IS IN MANUAL OR SERVICE MODE OR THE MAIN POWER SUPPLY IS NOT LOCKED OFF, THERE ARE LIVE WIRES IN THE TYER CONTROL PANEL.

THE TYING UNIT IS NORMALLY SUPPLIED WITH ELECTRICALLY INTERLOCKED GUARDS ON THE KNOTTER AND FEED MODULES. THE CONTROLS ARE DESIGNED TO ALLOW MOVEMENT IN THE MANUAL MODE ONLY FOR MAINTENANCE PURPOSES. DO NOT BYPASS THESE CONTROLS AND/OR REMOVE THE GUARDS. GEARS AND OTHER QUICK MOVING PARTS ARE COVERED WITH THE GUARDS FOR SAFETY.

ACCENT WIRE

EMERGENCY WIRE TYER SERVICE

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INDEX SECTION 3
—— 4 TWIST ——
TYER CONFIGURATION, ELECTRICAL CONTROL AND SEQUENCE OF EVENTS

ELECTRICAL CONTROL.....P1

GRAPHIC SEQUENCE.....2

FAULT DEVICES.....3

AUTOMATIC SEQUENCE.....4

FAST TENSION CYCLE.....5

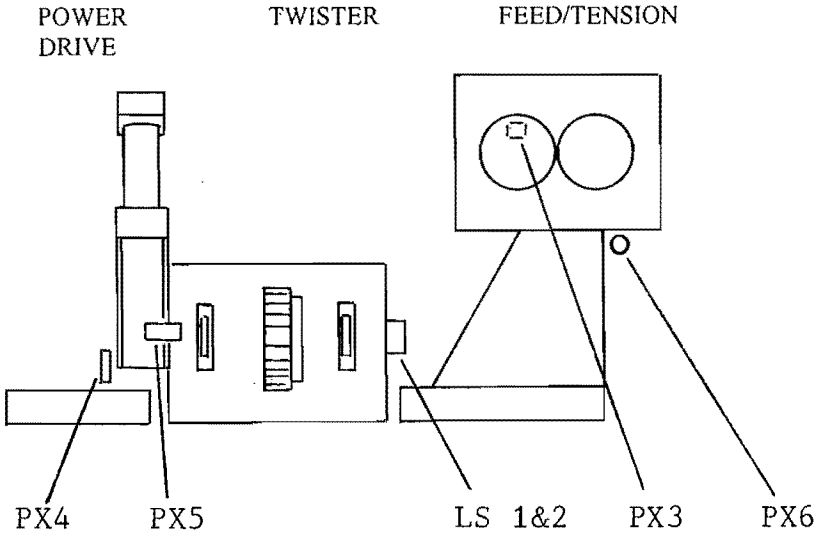
TWIST CYCLE.....6

RETURN TWIST CYCLE.....7

WIRE BACKUP CYCLE.....8

FAST / SLOW FEED CYCLE.....9

VALVE SEQUENCE.....10



LS 1	TWISTER CLOSED
LS 2	TWIST COMPLETE (WIRE EJECT OCCURS WHEN TWISTER RETURNS)
PX 3	WHEEL REVOLUTION COUNTER
PX 4	WIRE HOME INDICATOR
PX 5	TWISTER COVER SAFETY SWITCH
PX 6	FEED COVER SAFETY SWITCH

TYER CONFIGURATION

ELECTRICAL CONTROLS

AUTOMATIC OPERATION:

The automatic cycle is initiated by pressing the strap button on the control panel or by receiving a cycle signal from the baler.

MANUAL OPERATION:

The FEED button will feed the wire around the track in the fast mode. After the PX3 switch count is completed, the wire will drop into the slow feed mode, which happens just before the wire reaches the twister. After the wire travels approximately 15 inches further in slow mode PX4 is tripped and feed stops.

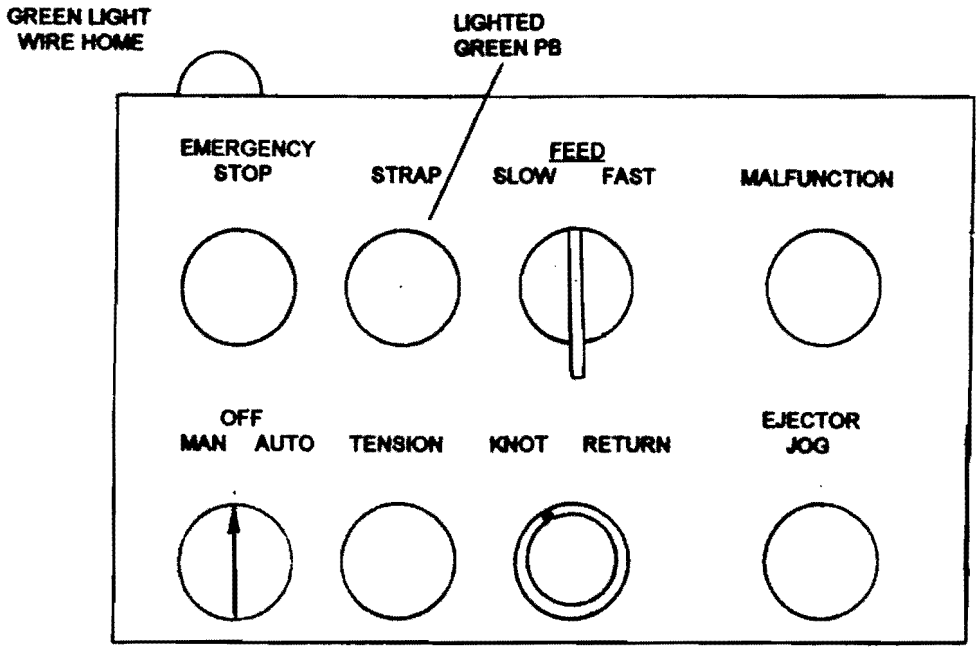
NOTE: If the wire feed is started from a position other than the "normal" start point at the shear lever, the wire could strike the PX4 lever in the fast feed mode resulting in a wire buckle.

The SLOW FEED button will feed the wire around the track in slow mode. The feed will automatically stop when the wire reaches the PX4 switch.

The wire is tensioned out of the track and pulled around the bale using the TENSION button.

A twist or knot is made with the KNOT/RETURN pushbutton. A RETURN knot must be initiated to eject the knot from the twist unit.

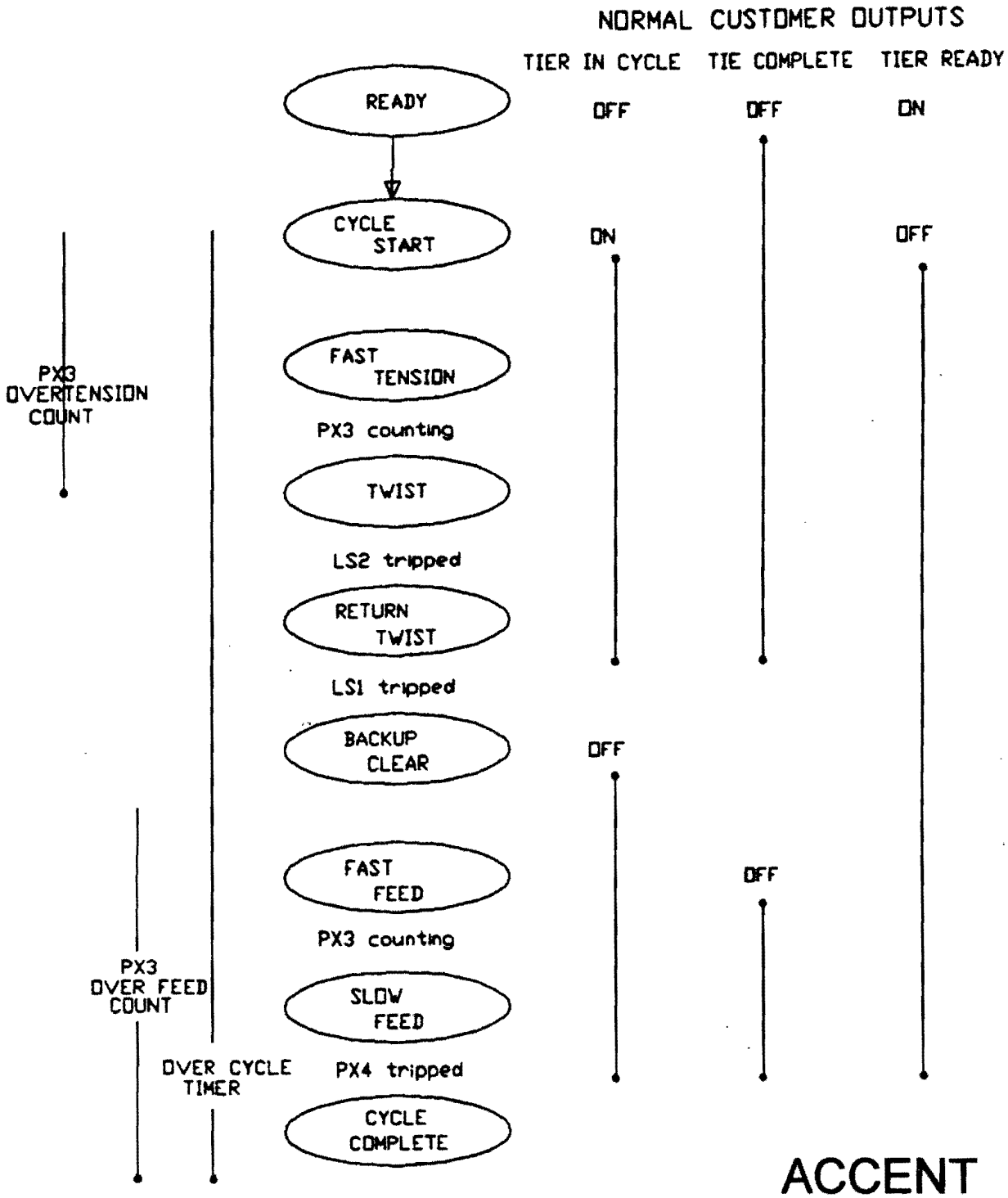
GREEN lights indicate the wire is fed home and the unit is ready to cycle.



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SEQUENCE OF OPERATION

4 TWIST MACHINE



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FAULT DEVICES

- When the strapper is in tension, the PX 3 proximity switch counts pulses from the feed wheels. If the number of pulses reach a preset number because the wheels did not stall, the head will stop and indicate a malfunction. This will prevent further tensioning if the wire has slipped out of the gripper.

- When the strapper is feeding, the PX 3 switch counts pulses from the feed wheels. If during feed the number of pulses reach a preset number before PX 4 (wire home) is tripped, the head will stop and indicate a malfunction. This will prevent the wire from feeding out on the floor.

- When a cycle is started a "watch-dog" timer starts timing. The timer is set slightly longer than a normal cycle time. If the timer times out before the cycle is finished, the strapper will stop and indicate a malfunction.

4 TWIST MACHINE

AUTOMATIC SEQUENCE

TO START THE TIE CYCLE:

The automatic strap cycle begins when either the STRAP button on the strapping head or baler control panel is pushed or by receiving an AUTO cycle signal from the baler.

MACHINE REQUIREMENTS TO ALLOW A CYCLE:

- The selector switches on the strapper and the baler are in AUTO .
- The wire has been fed around the track and the PX 4 wire home switch is tripped.
- Safety switches PX5 and PX6 must be tripped. This permissive signal indicates the twister and feed unit guards are in place.
- Limit switch LS1 is tripped which indicates the twister unit is in the closed or home position.

AUTOMATIC CYCLE SEQUENCE:

A. FAST TENSION
B. TWIST
C. RETURN TWISTER
D. WIRE BACKUP (in tension - slow)
E. FAST FEED
F. SLOW FEED

A. TENSION CYCLE

When the pinch rolls turn in the tension (reverse) direction, the wire is pulled out of the spring closed tracks and tight around the bale. Tension is done in the fast mode at 9 FPS. The end of the wire is held in the gripper. Tension solenoid A, Fast solenoid B, and Return twist solenoid E are all energized.

1. Oil flows first through a check valve, then to the gripper cylinder. The gripper cylinder holds the end of the wire during the complete tension cycle. Since the pressure normally drops during tension, the check valve holds the gripper piston at full system pressure.

2. Simultaneously, oil flows to the hydraulic motor causing it to turn in the tension (reverse) direction to pull the wire from the track.

3. The PX3 (always DC) proximity switch mounted behind one of the pinch rolls, counts pulses from the revolving wheel to indicate the amount of wire movement. The pulse count information is fed to the controller and used for logic information.

4. The controller now waits for the pinch rolls to stall, indicating full tension has been achieved. This is sensed by the absence of pulses from PX3.

5. When the stalled feed wheel condition has been sensed, the twist cycle is initiated.

B. TWIST CYCLE

This cycle extends the twist cylinder which through a rack and pinion drive and gears forms the knot. Tension solenoid A remains energized and Twist solenoid D is now energized.

1. Oil flows to the twist cylinder causing it to extend which rotates the twister main drive shaft. This action rotates the pinion drive gear which meshes with the twister pinion. One complete turn of the drive gear rotates the twister pinion four turns. Externally the movement is indicated by LS 1&2 switch collar rotation.
2. As the main drive shaft starts to move, the LS 1 limit switch is released by the switch actuating collar. When the cylinder has completed its stroke, the actuating collar will trip the LS 2 part of the switch to indicate the twist cycle is complete. This initiates the return twist cycle.

NOTES:

- The pinion drive gear is rotated by an internal drive pawl which latches into the splined drive shaft that is turned by the cylinder/rack and pinion drive.
- The ejector hubs and shear drive hub do not move during this cycle. The ejector hubs are held from rotation by levers which latch into notches on the outside of the hub. The shear drive hub is held from rotating by a hook at the end of the cutter lever.
- The LS 1& 2 collar is the only other movement that occurs during this cycle.

NOTES:
(at end of twist)

- At the end of the cylinder stroke a lever will latch into the pinion drive gear. This will keep the gear from rotating back during the return twist cycle.
- Internal pawls in the ejector hubs now latch into the main drive shaft. This will enable them to rotate in the return twist cycle.
- A internal pawl in the shear drive hub also latches in to enable the shear hub to rotate during the return twist cycle.

C. RETURN TWIST CYCLE

To return the twister assembly to the home position, the cylinder is retracted. This action rotates the main drive shaft in the reverse direction which cuts the wire, opens the twister cover and ejects the twisted joint. Feed solenoid C and Return twist E solenoids are energized.

1. Oil flows to the gripper check valve pilot line which unlocks the pressure on the gripper piston. This will allow the wire to be ejected.

2. Simultaneously oil flows to the rod end of the twist cylinder causing it to retract. This rotates the main drive shaft in the reverse direction.

3. The ejector hubs which had been latched into the main drive shaft at the end of the twist cycle now rotate. This action engages the ejectors which move down and push the wire out of the twister pinion. As the ejectors reach the end of their stroke they push the twister cover open. The ejectors return home at the end of the return twist cycle.

4. The shear drive hub which had been latched into the main drive shaft at the end of the twist cycle will now also rotate. The cam surface on the hub pushes on the shear lever roller which pivots the lever and cuts the wire from the supply coil.

5. At the end of the cylinder return stroke, the LS 1 part of the switch is tripped indicating the entire twist cycle is complete and all turning and holding latches are in the latched position. Tripping LS 1 also initiates a feed wheel backup action.

NOTE: The twister drive gear, ejector hubs and the shear drive cam, which are turned by the main drive shaft, rotate in one direction only and are held from rotating in the opposite direction by a latch.

D. WIRE BACKUP CYCLE

This cycle backs the cut end of the wire away from the cutter yoke area so the shear lever can freely return to a clear position. Tension solenoid A, Return twist solenoid E and Slow solenoid P are energized.

1. The feed wheels rotate in the reverse (tension) direction. The PX3 proximity switch is counting pulses to match a programmed amount.

2. When backup is complete the head is prepared for fast feed.

E. FAST FEED CYCLE

During the fast feed cycle the wire feeds around the track at high speed (approx. 9 FPS) toward the wire home position. Feed solenoid C and Fast solenoid B are energized.

A. Oil (typically 12 GPM) flows to the feed/tension motor which rotates at fast speed. Through gears, the motor drives the pinch rolls.

B. As the motor turns, the proximity switch PX3 counts pulses from the pinch rolls. When the number matches a pre-set value , the fast feed cycle is complete and the slow feed cycle starts.

NOTE: PX4 proximity switch is inactive during the fast feed cycle, it is armed only after the slow feed begins.

F. SLOW FEED CYCLE

The wire feed continues at slow speed towards the wire home position. Feed solenoid C remains energized, Fast feed solenoid B drops out and Slow feed solenoid P is energized.

A. The oil flow to the motor is now metered through the flow control valve to reduce the volume to approximately 25%. Normally the speed of the motor in slow is 80 to 100 RPM.

B. The wire continues on to the PX 4 switch (wire home switch) in slow. When the switch is tripped the feed stops. The head is now ready for the next automatic cycle which begins with tension.

VALVE SOLENOID SEQUENCE

	SOL A TENSION	SOL D KNOT	SOL E RETURN	SOL C FEED	SOL B FAST	SOL P SLOW
FAST TENSION	●		●		●	
KNOT	●	●				○
RETURN DELAY			●			
RETURN KNOT			●	●		
BACKUP	●		●			●
FAST FEED				●	●	
SLOW FEED				●		●

INDEX SECTION 4
—— 4 TWIST——
ASSEMBLY PICTORIALS

TWISTER UNIT.....P 1

MAIN DRIVE SHAFT.....2

WIRE FEED UNIT.....3

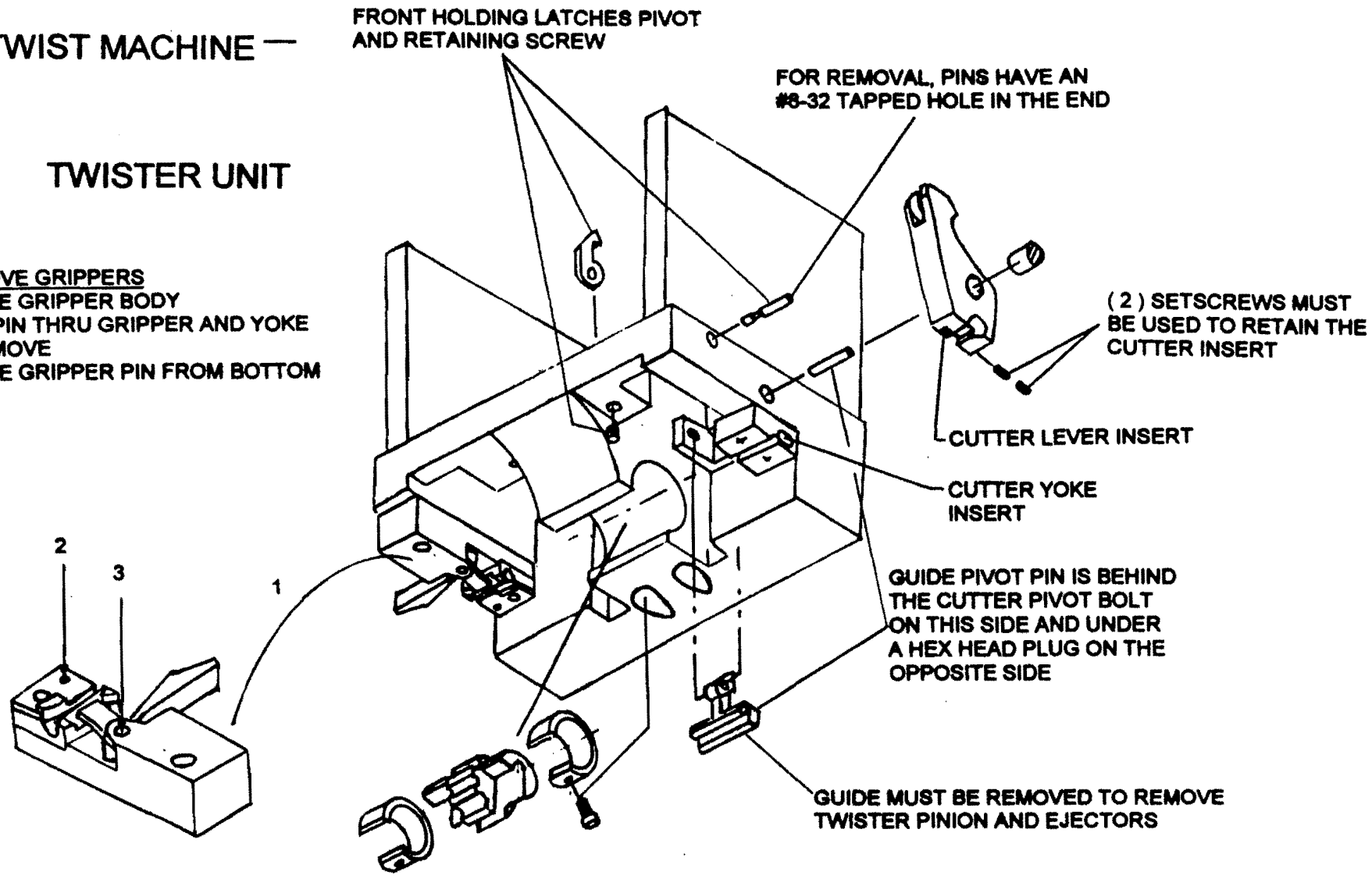
TRACK ASSEMBLY.....4

ASSEMBLY PICTORIAL

— 4 TWIST MACHINE —

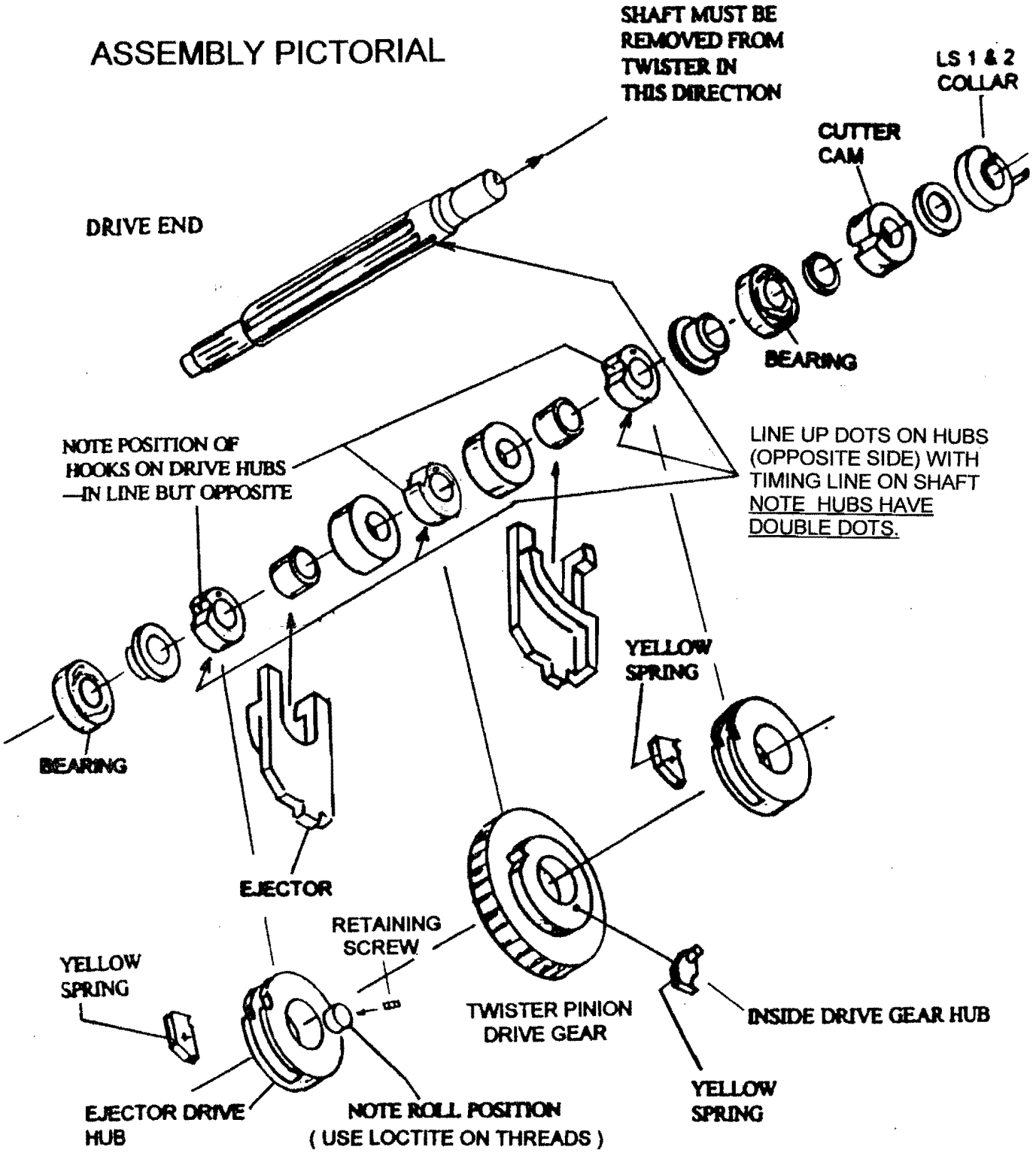
TWISTER UNIT

<u>TO REMOVE GRIPPERS</u>
1. REMOVE GRIPPER BODY
2. DRIVE PIN THRU GRIPPER AND YOKE AND REMOVE
3. REMOVE GRIPPER PIN FROM BOTTOM



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ASSEMBLY PICTORIAL

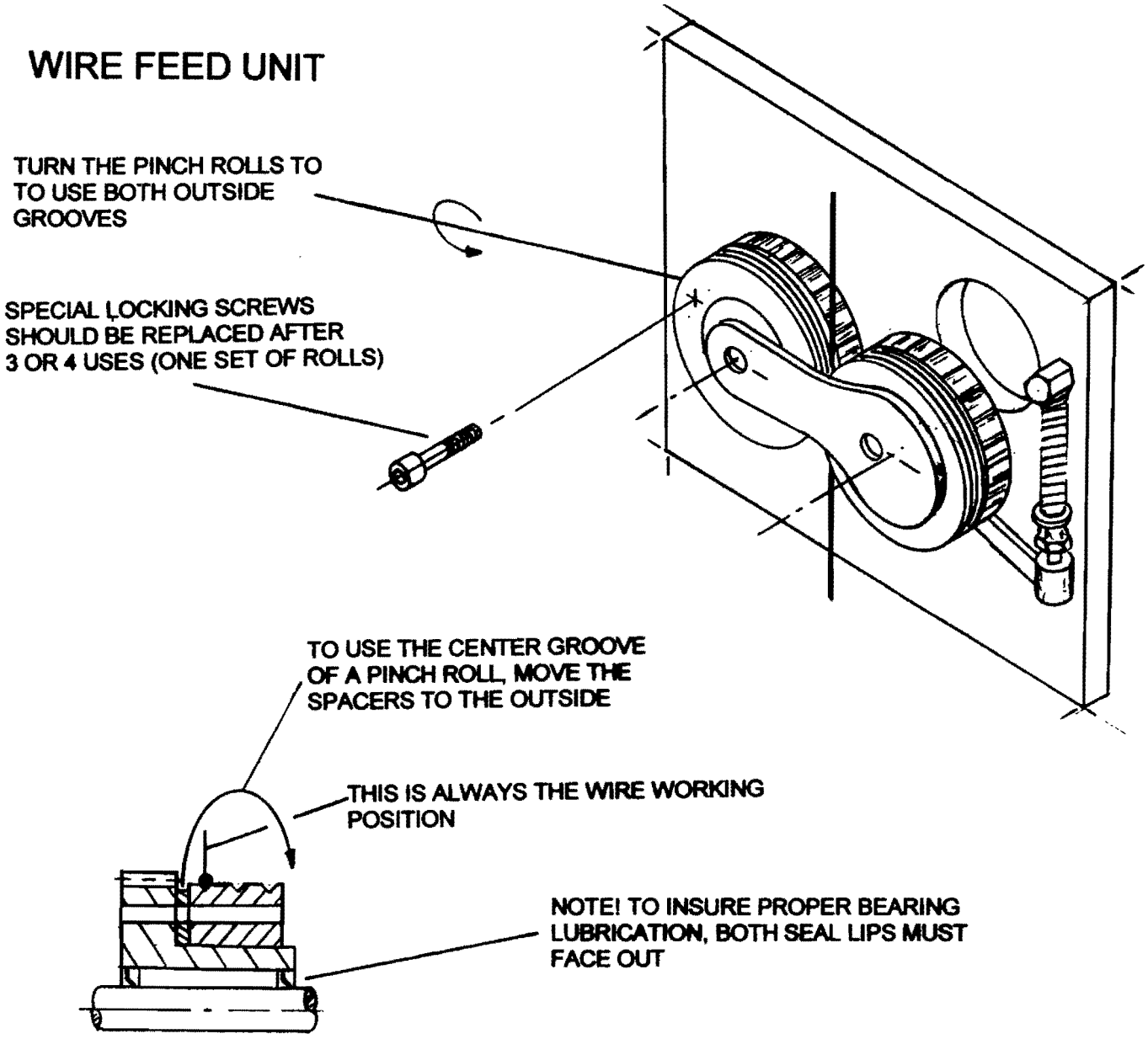


MAIN DRIVE SHAFT ASSEMBLY ACCENT

ASSEMBLY PICTORIAL

4 TWIST MACHINE

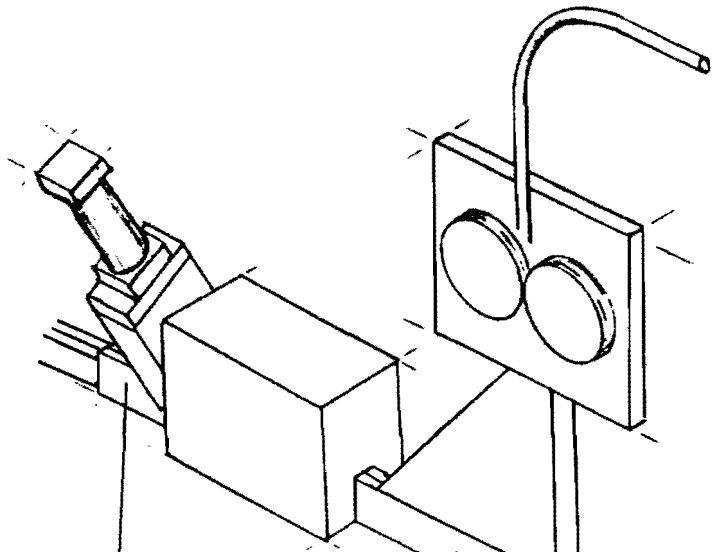
WIRE FEED UNIT



CROSS SECTION THROUGH A GEAR
ASSEMBLY

ASSEMBLY PICTORIAL

4 TWIST MACHINE



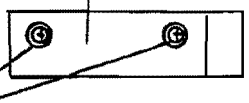
TRACK ASSEMBLY

EXIT TRACK

NORMALLY A SPRING SHOULD BE LOCATED ON BOTH SIDES OF A TRACK JOINT

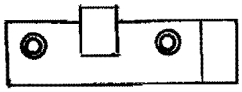
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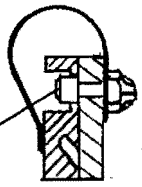


STANDARD
RED SPRING
5/8" LONG SHOULDER SCREW

IMPROVED DESIGN
5/8" SHOULDER SCREWS
FLAT SPRING



EACH JOINT EXCEPT AT THE ENTRY AND EXIT TO THE HEAD MUST HAVE A PIN TO ALLOW THE TRACK TO OPEN PROPERLY

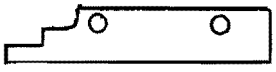


SECTION A - A

TYPICAL TRACK AND SPRING EXCEPT ENTRY AND EXIT

STANDARD
SILVER SPRING





ENTRY TRACK TYPES

SPECIAL HARDENED SCREW

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INDEX SECTION 5
—4 TWIST—
HYDRAULIC/ELECTRICAL

HYDRAULIC VALVE DESCRIPTIONS.....P 1

HYDRAULIC SCHEMATIC.....2

VALVE IDENTIFICATION.....3

VALVE SEQUENCE.....4

OLD/NEW MANIFOLD DESCRIPTION.....5 & 6

ELECTRICAL SYMBOLS.....7

ELECTRICAL PANELS.....8

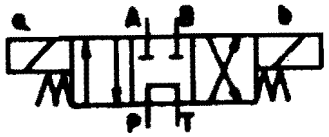
ALLEN BRADLEY SLC 150 INPUT/OUPUT INFORMATION.....9 & 10

INPUT/OUTPUT STATUS 4 TWIST SLC 150.....10A

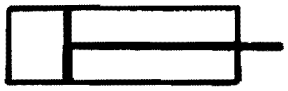
ALLEN BRADLEY MICROLOGIX INPUT/OUTPUT INFORMATION..11 & 12

INPUT/OUTPUT STATUS 4 TWIST MICROLOGIX.....12A

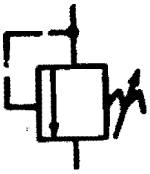
HYDRAULIC VALVE DESCRIPTIONS AND IDENTIFICATION

SOLENOID OPERATED, 4 WAY, 3 POSITION VALVE 

PILOT OPERATED CHECK VALVE 



CYLINDER

RELIEF VALVE 

FLOW CONTROL VALVE 



BI-DIRECTIONAL MOTOR

FEED AND TENSION VALVE: Controls the flow of oil through the system. Turns the hydraulic motor in feed or tension direction. Determines if the gripper is energized (TENSION)

GRIPPER P.O. CHECK VALVE: Holds pressure on the gripper during the tension cycle.

FEED RELIEF VALVE: Controls the pressure on the hydraulic motor during the feed cycle.

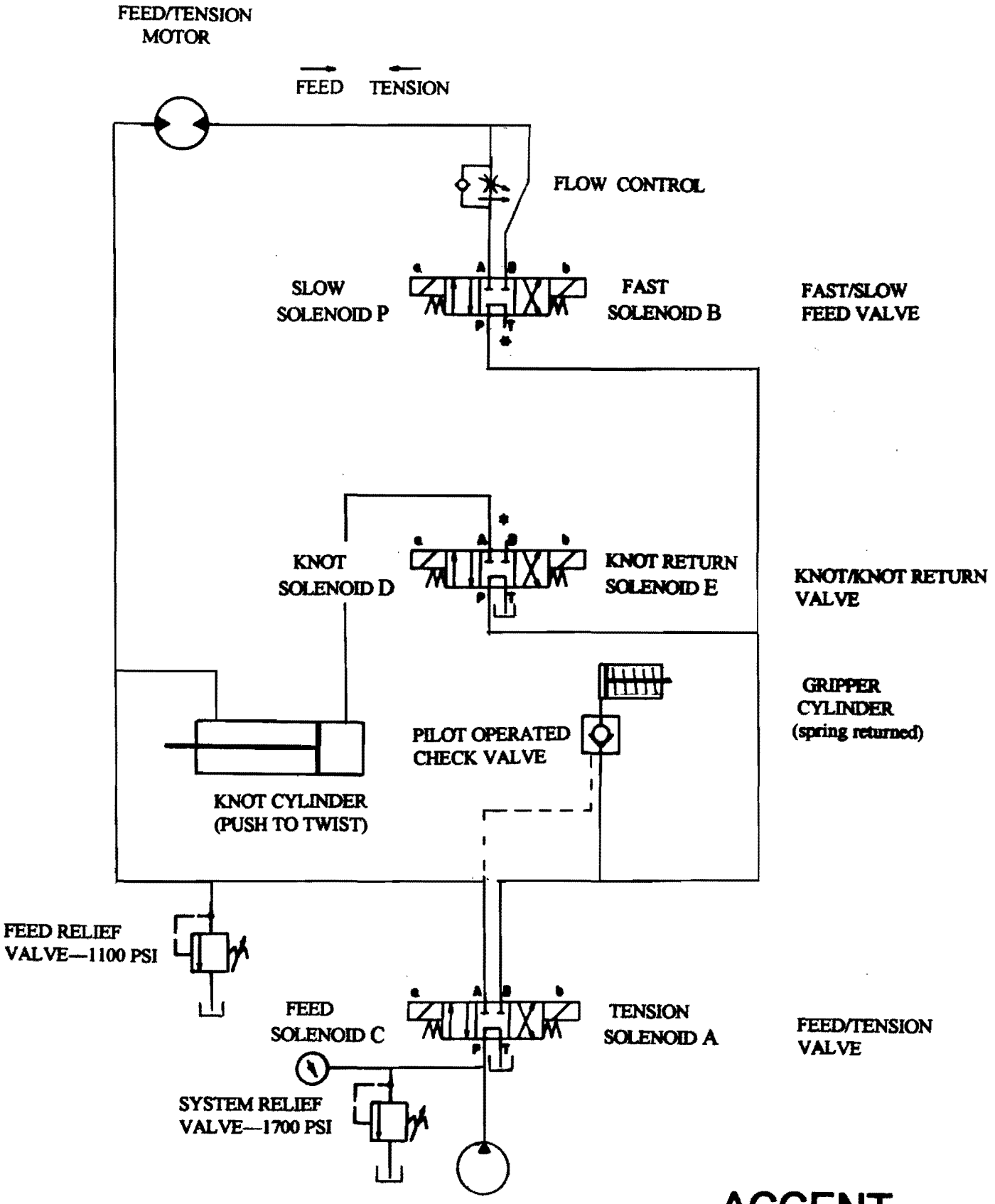
SYSTEM RELIEF VALVE: Controls the overall pressure on the hydraulic motor and other components and specifically controls the pull on the wire during tension.

KNOT / KNOT RETURN VALVE: Controls the knotting function.

FAST / SLOW FEED / BLOCK VALVE: Controls the wire speed through the twister just before the end of the feed cycle, stops the motor from turning during knot.

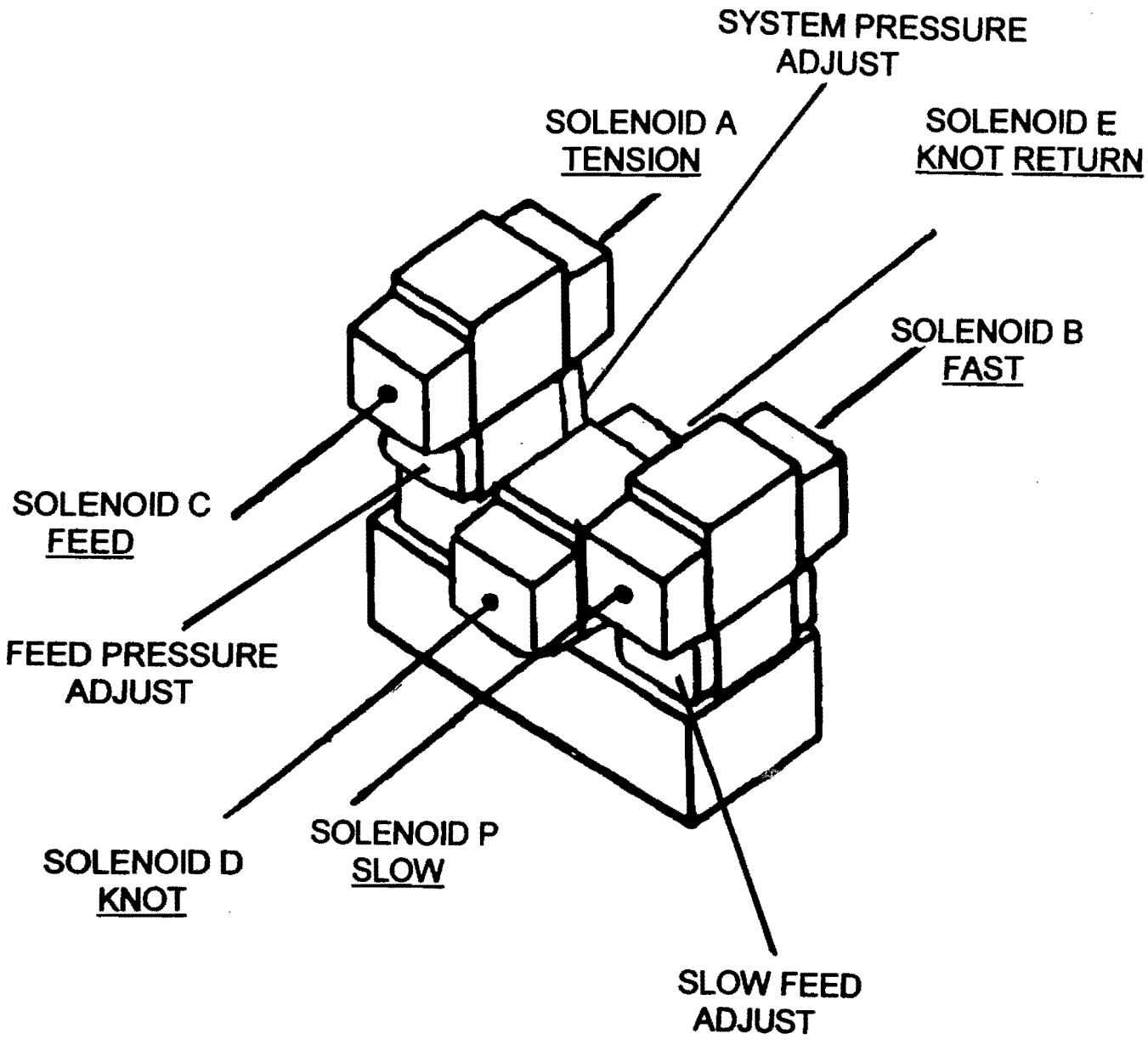
FLOW CONTROL VALVE: Adjusts the slow feed speed of the wire

HYDRAULIC SCHEMATIC



ACCENT

VALVE IDENTIFICATION

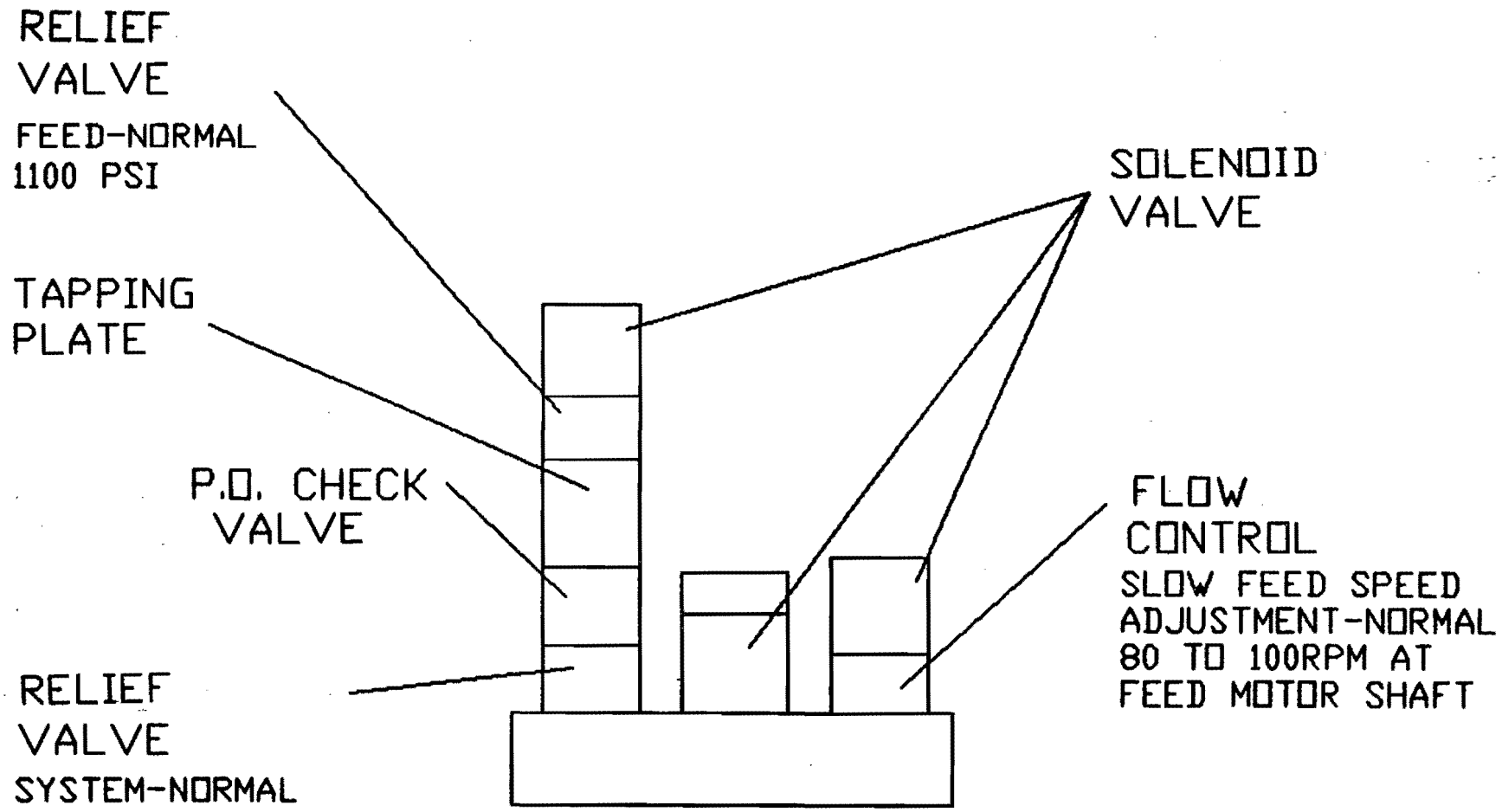


VALVE SOLENOID SEQUENCE

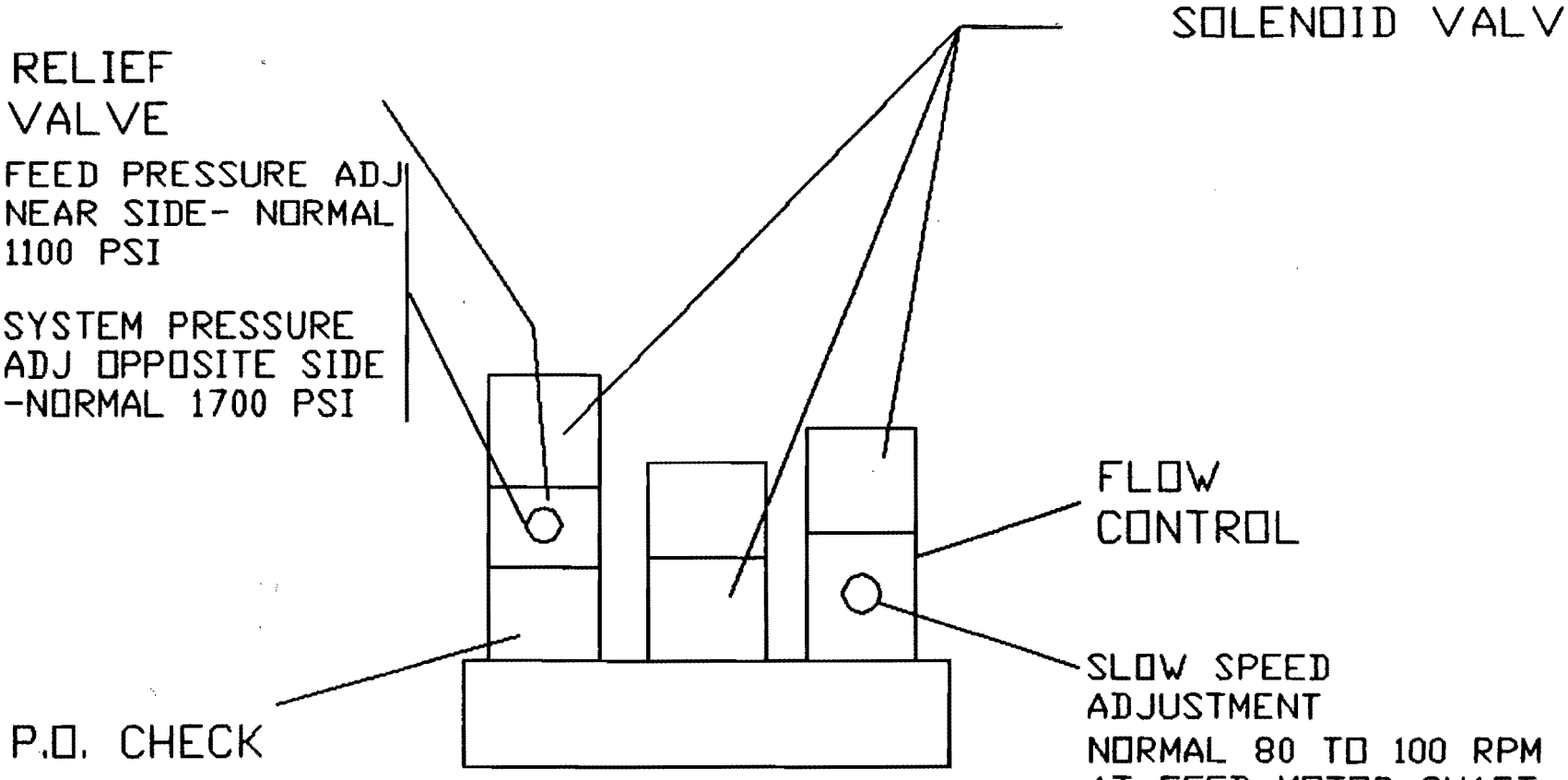
	SOL A TENSION	SOL D KNOT	SOL E RETURN	SOL C FEED	SOL B FAST	SOL P SLOW
FAST TENSION	●		●		●	
KNOT	●	●				◌
RETURN DELAY			●			
RETURN KNOT			●	●		
BACKUP	●		●			●
FAST FEED				●	●	
SLOW FEED				●		●

ACCENT

HYDRAULIC MANIFOLD
BEFORE MARCH 1993



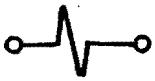
HYDRAULIC MANIFOLD
AFTER MARCH 1993



ELECTRICAL SYMBOLS



FUSE



SOLENOID



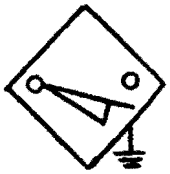
LIGHT - GREEN



NORMALLY OPEN
LIMIT SWITCH



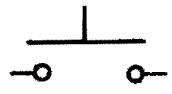
NORMALLY CLOSED
LIMIT SWITCH



NORMALLY OPEN
PROXIMITY SWITCH



NORMALLY CLOSED
PUSH BUTTON
(E - STOP)



NORMALLY OPEN
PUSH BUTTON

MECHANICAL
RELAY



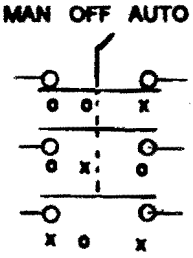
RELAY CONTACT
NORMALLY OPEN



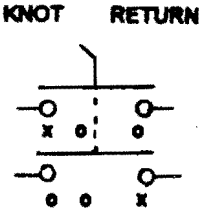
RELAY CONTACT
NORMALLY CLOSED



SELECTOR SWITCH



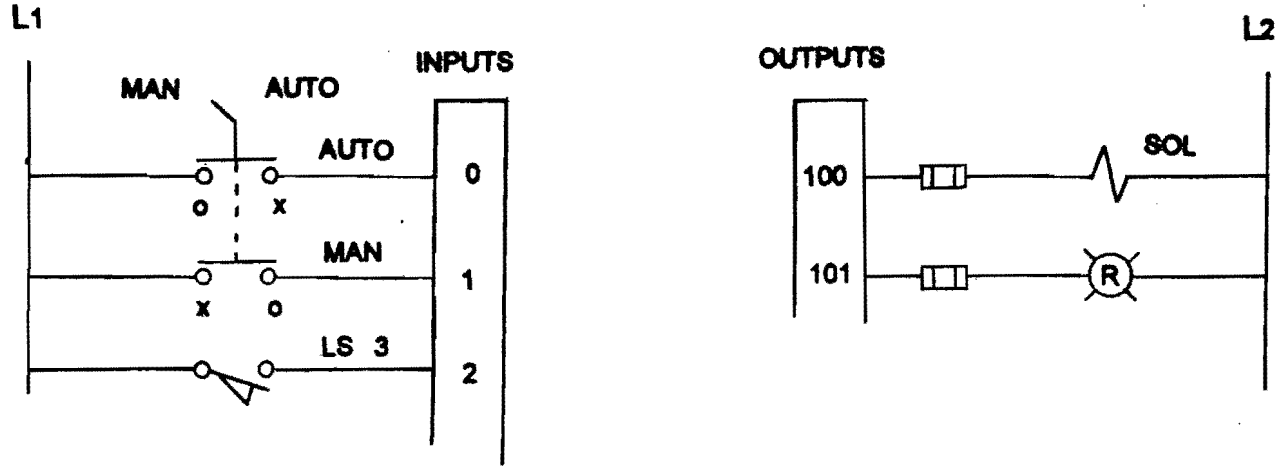
SELECTOR
PUSH BUTTON

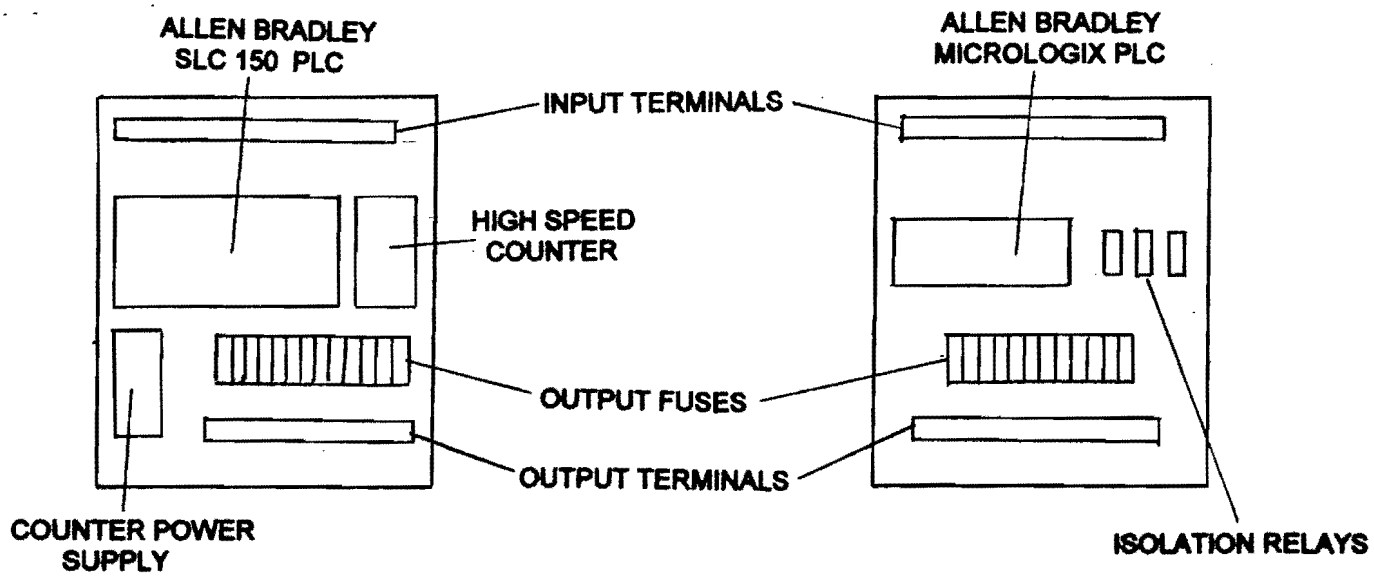


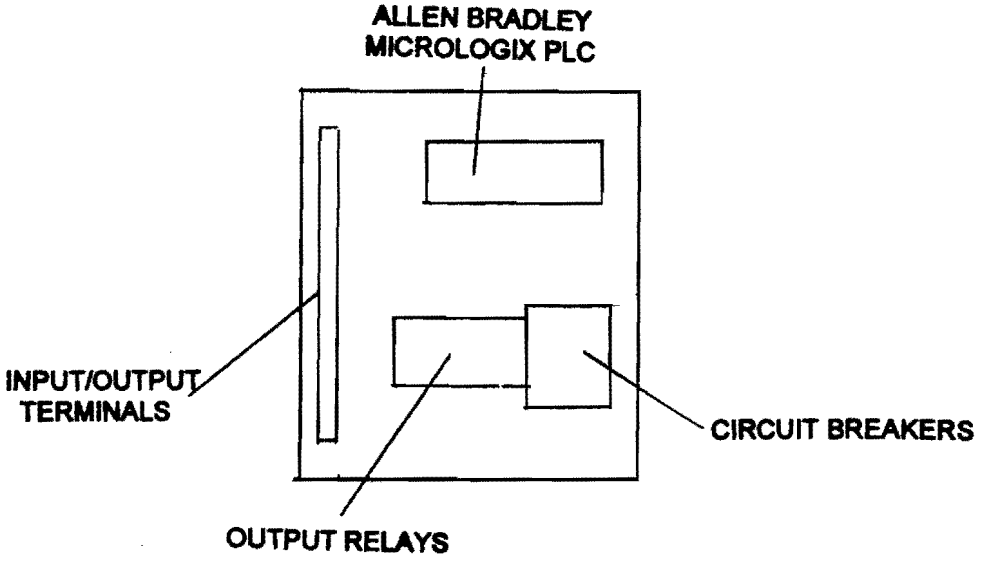
CIRCUIT BREAKER



GENERAL ELECTRICAL INFORMATION







ACCENT

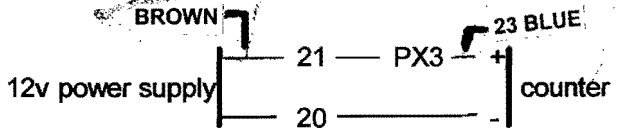
SLC 150 I/O

— 4 twist strapper —

TO TEST STRAPPER FUNCTIONS IN MANUAL REMOVE THE WIRE FROM THE UNIT
(MANUAL INPUT LIGHT #2 MUST BE ILLUMINATED)

TURN, PUSH OR ACTUATE INPUT DEVICE AND OBSERVE INPUT/OUTPUT LIGHTS

PX 3 COUNTER SWITCH



	INPUT LIGHTS	OUTPUT LIGHTS
AUTO SELECTOR SWITCH	1 (ALSO TO BALER L1 o o A1)	
MANUAL SELECTOR SWITCH	2	
FAST FEED PUSHBUTTON	3	13, 14
SLOW FEED (PANEL)	4	13, 15
SLOW FEED (ACCUMULATOR)	4	13, 15
TENSION PUSHBUTTON	5	12, 14, 112
KNOT PUSHBUTTON	6	12, 16
KNOT RETURN PUSHBUTTON	7	13, 112
LS 1 TWISTER RETURNED	9	
LS 2 TWISTER TWISTED	10	
STRAP PUSHBUTTON	8	
PX 4 WIRE HOME SWITCH	101	
PX 5 TWISTER SAFETY SWITCH	103	
PX 6 FEEDER SAFETY SWITCH	102	

EJECT PB L1 o o A2

STOP PB A3 o o A4

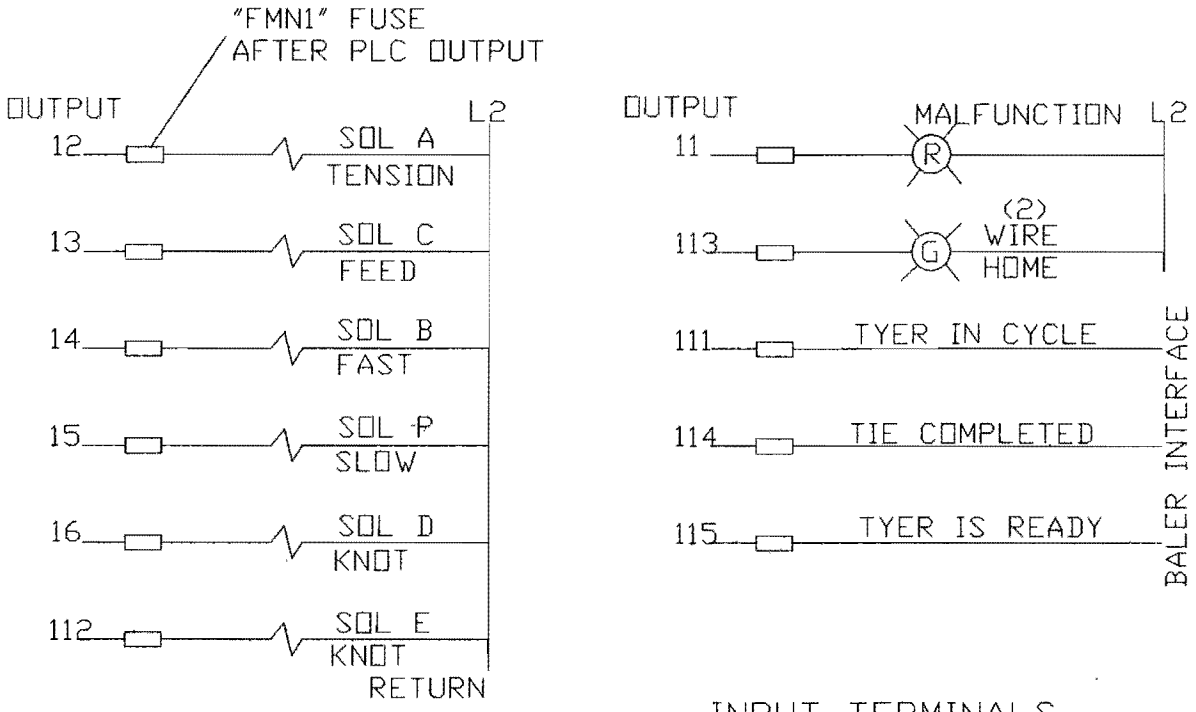
BALER CONTROLLED INPUTS

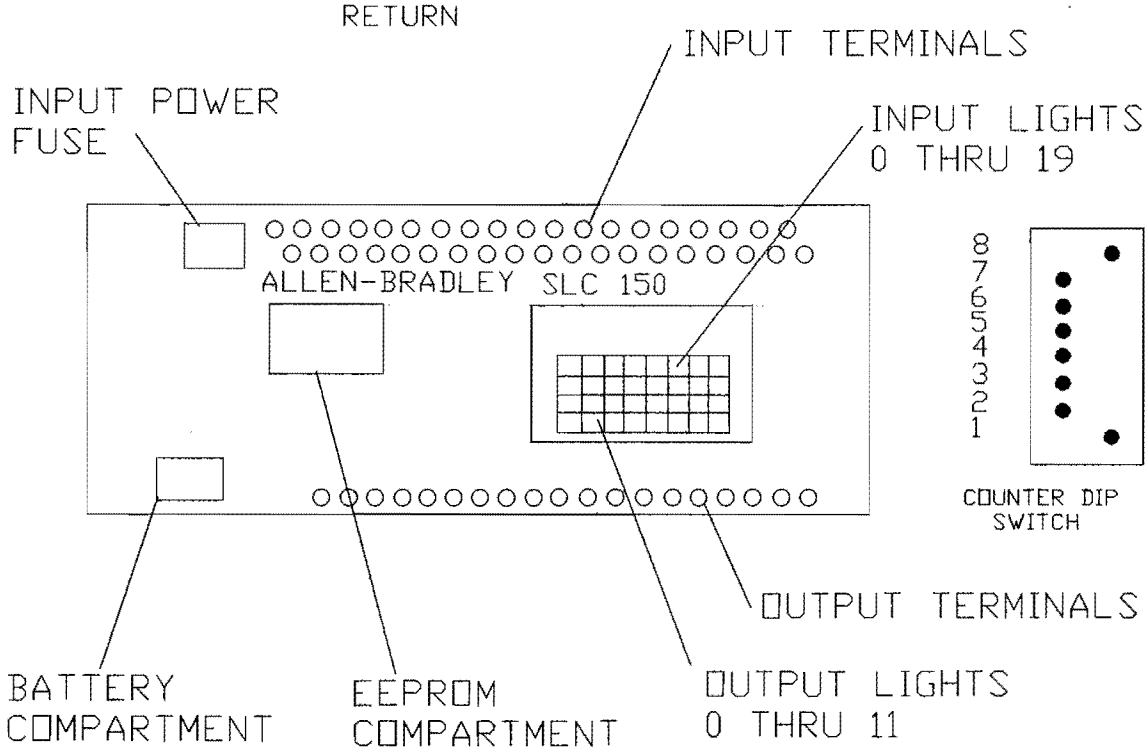
BALER CYCLE SIGNAL	8
STRAPPER STOP	105
BALER IN MANUAL	104

ACCENT

SHEET 1

SLC150 I/O
OUTPUT LISTING
—4 twist strapper—





ACCENT
SHEET 2

INPUT/OUTPUT STATUS

4 TWIST SLC 150

FUNCTION	INPUTS		OUTPUTS
AUTO			
AUTO READY	1, 9, 101,		113, 115
(GREEN LIGHT)	102, 103		
		SEQUENCE	
STRAP	1, 8, 9,101	TENSION	12, 14, 111, 112, 113
	102, 103	KNOT	12, 16, 111, 113
		RETURN KNOT	13, 112, 111, 113
		BACKUP	12, 15, 112
		FAST REFEED	13, 14
		SLOW REFEED	13, 15
MANUAL			
FAST FEED	2, 3, 9		13, 14
SLOW FEED	2, 4, 9		13, 15
TENSION	2, 5, 9		12, 14, 112
KNOT	2, 6, (10 AFTER FULL KNOT)		12, 16
RETURN KNOT	2, 7, (9 AFTER FULL RETURN)		13, 112

THE I/O LIGHTS SHOWN ARE FOR STRAPPER FUNCTIONS ONLY. SEVERAL ADDITIONAL LIGHTS FOR BALER INTERFACE SIGNALS WILL BE ILLUMINATED.

ACCENT

MICROLOGIX I/O

—— 4 twist strapper ——

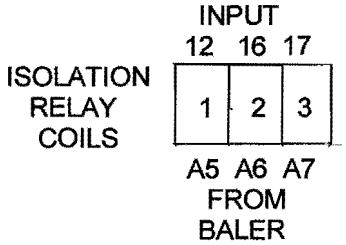
TO TEST STRAPPER FUNCTIONS IN MANUAL REMOVE THE WIRE FROM THE UNIT
(MANUAL INPUT LIGHT #2 MUST BE ILLUMINATED)

TURN, PUSH OR ACTUATE INPUT DEVICE AND OBSERVE INPUT/OUTPUT LIGHTS

	INPUT LIGHTS	OUTPUT LIGHTS
PX 3 COUNTER SWITCH	0	
AUTO SELECTOR SWITCH	1 (ALSO TO BALER A3 o ←┴→ o A4)	
MANUAL SELECTOR SWITCH	2	
FAST FEED PUSHBUTTON	3	1, 2
SLOW FEED (PANEL)	4	1, 3
SLOW FEED (ACCUMULATOR)	5	1, 3
TENSION PUSHBUTTON	6	0, 2, 5
KNOT PUSHBUTTON	7	0, 4
KNOT RETURN PUSHBUTTON	8	1, 5
LS 1 TWISTER RETURNED	9	
LS 2 TWISTER TWISTED	10	
STRAP PUSHBUTTON	11	
PX 4 WIRE HOME SWITCH	13	
PX 5 TWISTER SAFETY SWITCH	14	
PX 6 FEEDER SAFETY SWITCH	15	

EJECT PB
A1 o ┴ o A2

STOP PB
A8 o ┬ o A9

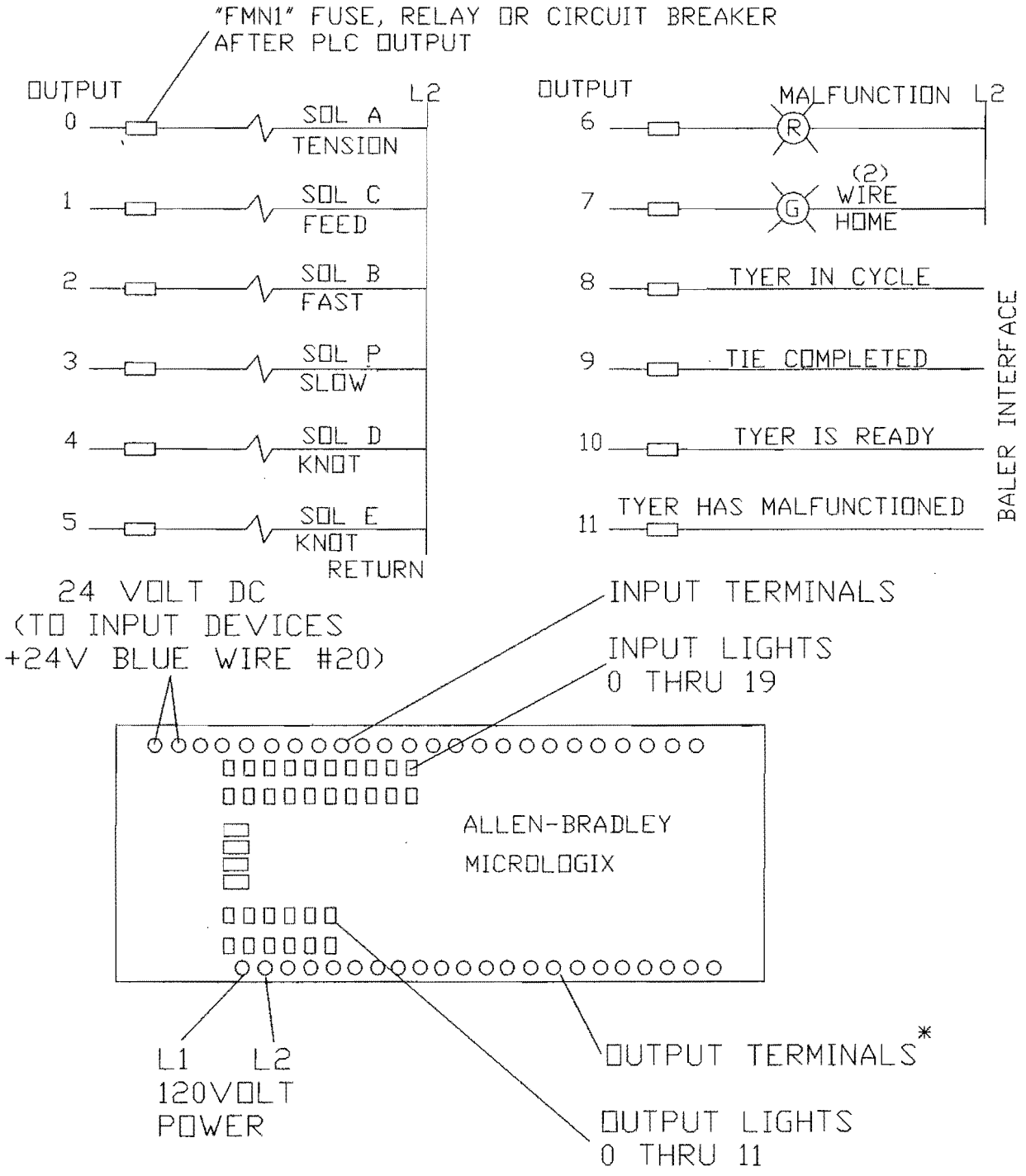


BALER CONTROLLED INPUTS

BALER CYCLE SIGNAL	12	
STRAPPER STOP (MUST BE ON FOR OPERATION)	16 OPTION*	*INPUTS MUST BE JUMPERED (ON) TO +24v IF NOT USED
BALER IN MANUAL	17 OPTION*	

ACCENT
SHEET 1

MICROLOGIX I/O
OUTPUT LISTING
4 twist strapper



Note: * For output wire numbers, add a "10" in front of the output terminal number

SHEET 2

INPUT/OUTPUT STATUS

4 TWIST MICROLOGIX

FUNCTION	INPUTS		OUTPUTS
AUTO			
AUTO READY (GREENLIGHT)	1,9,13, 14,15		7,10
		SEQUENCE	
STRAP	1,9,11,13	TENSION	0,2,5,7,8
	14,15,16	KNOT	0,4,7,8
	(17)	RETURN KNOT	1,5,7,8
		BACKUP	0,5,3
		FAST REFEED	1,2
		SLOW REFEED	1,3
MANUAL			
FAST FEED	2,3,9		1,2
SLOW FEED	2, (4 OR 5), 9		1,3
TENSION	2,6,9		0,2,5
KNOT	2,7, (10 AFTER FULL KNOT)		0,4
RETURN KNOT	2,8, (9 AFTER FULL RETURN)		1,5

THE I/O LIGHTS SHOWN ARE FOR STRAPPER FUNCTIONS ONLY. SERVERAL ADDITIONAL LIGHTS FOR BALER INTERFACE SIGNALS WILL BE ILLUMNATED.

ACCENT

INDEX SECTION 6
—— 4 TWIST——
ADJUSTMENTS

ELECTRICAL

PX 3 SENSOR.....P 1
PX 4 WIRE HOME SWITCH.....1
LS 1&2 SWITCH.....1

HYDRAULIC

SYSTEM PRESSURE.....2
FEED PRESSURE.....2
SLOW FEED.....2

MECHANICAL

FEED WHEEL PRESSURE.....2
CUTTER GAP.....3
TWISTER TIMING.....4
RIGHT ANGLE ENTRY.....5
WIRE STRAIGHTENER.....6&7
PAYOFF.....8

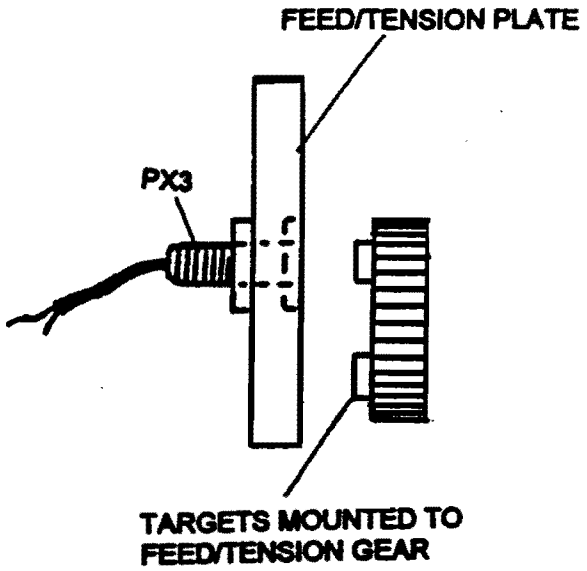
ELECTRICAL ADJUSTMENTS

PX3 FEED WHEEL PULSE COUNTER

This is a proximity type switch which counts feed wheel revolutions to determine the position of the wire in the tying unit. It is used both in feed and tension cycles.

ADJUSTMENT:

Position the face of the switch flush with the surface of the feed plate.

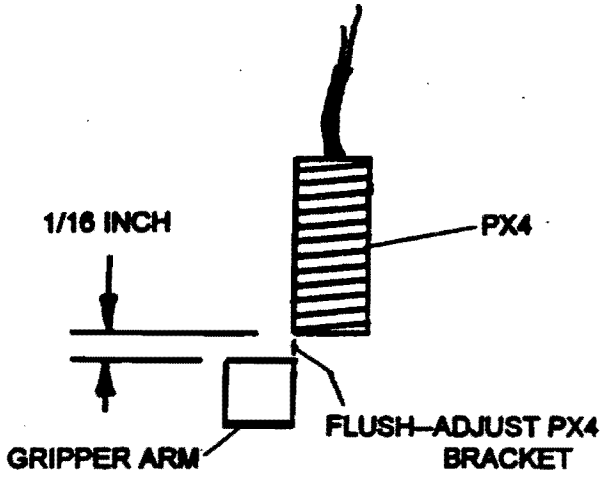


PX4 WIRE HOME SWITCH

This proximity type switch senses when the wire has reached home at the end of the feed cycle and indicates the wire is in the gripper.

ADJUSTMENT:

Adjust the outside of the switch flush with and 1/16 clear of the gripper arm. This adjustment must be made without wire tripping the gripper lever.

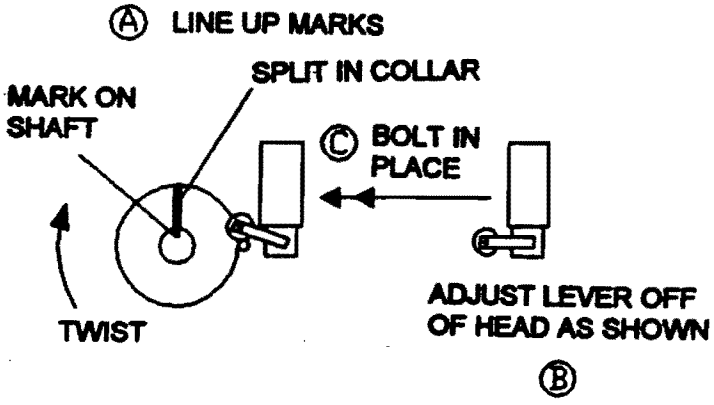


LS1/2 TWIST MODULE POSITION

This neutral position mechanical switch indicates if the twister is in the end of twist position or the twister returned position(home)

ADJUSTMENT: Use steps A, B,C as shown.

TWISTER MUST BE
IN HOME POSITION
(RETURNED)
LS1 IS SHOWN TRIPPED



HYDRAULIC ADJUSTMENTS

There are three hydraulic adjustments that can be made on the system. Remove the wire from the unit and place the control panel in manual mode. Refer to page 5.3 for adjustment identification.

SYSTEM PRESSURE (normal setting 1700psi. -do not exceed 1800psi.):
Controls the maximum pressure on the hydraulic motor and other components and specially controls the pull on the wire during tension. To adjust: push and hold the "knot" button while turning the adjustment screw.

FEED PRESSURE (normal setting 1100psi.):
Controls the pressure on the hydraulic motor during the feed cycle. To adjust: push and hold the "return knot" button while turning the adjustment screw.

SLOW FEED SPEED (80 TO 100 rpm):
Adjusts the slow speed of the wire feed cycle. To adjust: while turning the "slow feed" selector, adjust the speed as fast as possible without creating an excessive wire buckle out of the exit track at the end of the feed cycle.

MECHANICAL ADJUSTMENTS

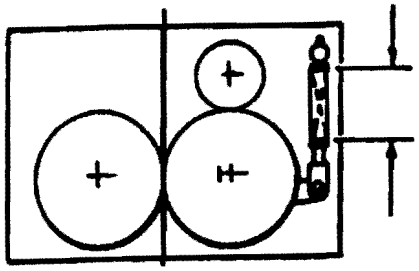
There are three mechanical areas that periodically may require adjustment.

FEED/TENSION WHEEL PRESSURE SPRING:
Adjustment should be checked each time the wheels are rotated or replaced. The pressure on the feed wheels is important to the life of the wheels.

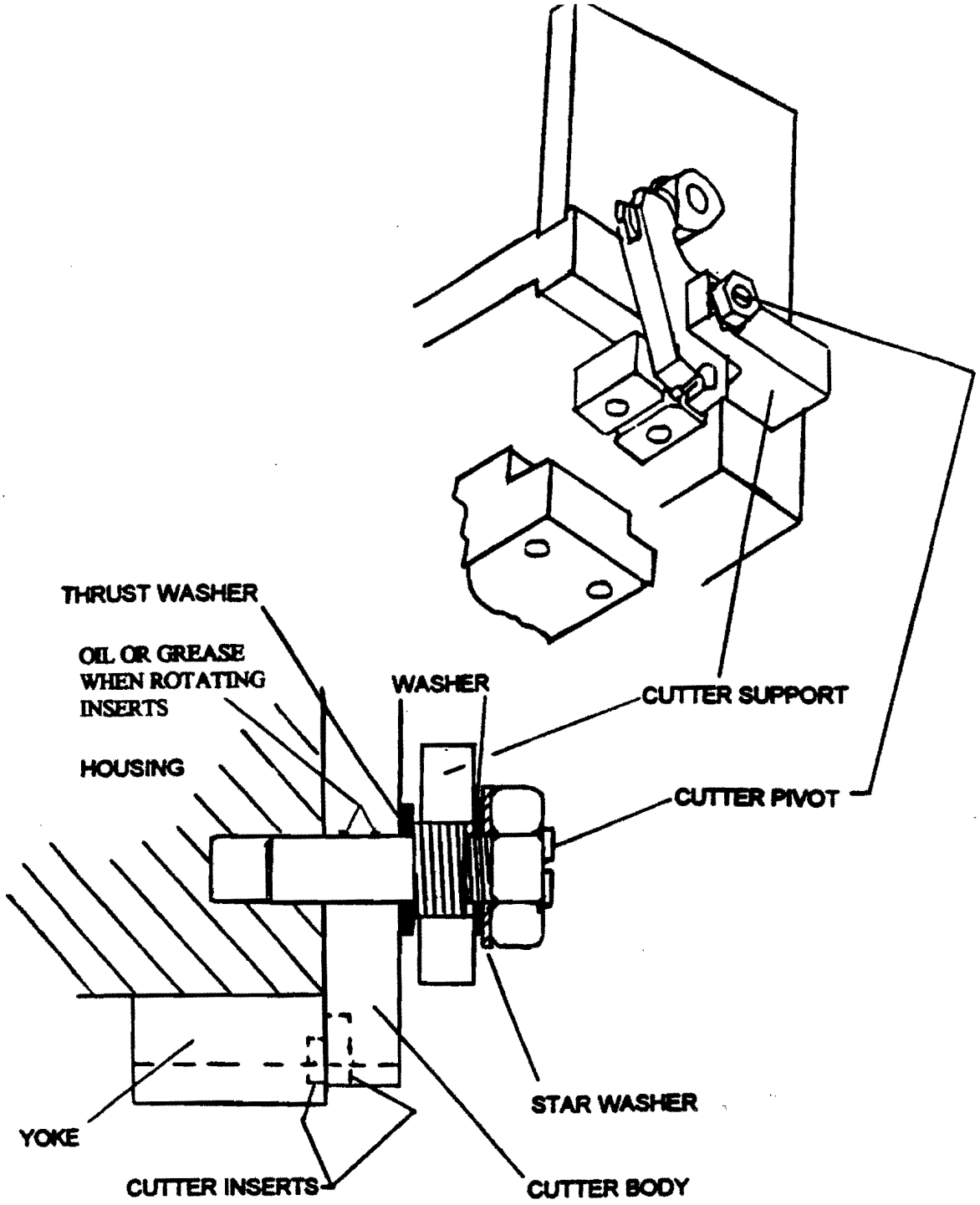
CUTTER LEVER GAP:
This adjustment must be made each time a cutter insert is changed or rotated.

POWER DRIVE TIMING:
Generally the only time this adjustment requires attention is if the drive cylinder is changed. A check may also be required if the twist drive gear, ejectors or cutter cam do not latch.

FEED/TENSION WHEEL PRESSURE SPRING



ADJUST LENGTH BETWEEN WASHERS TO 2 ¾ TO 3 INCHES WITH WIRE BETWEEN THE ROLLS.



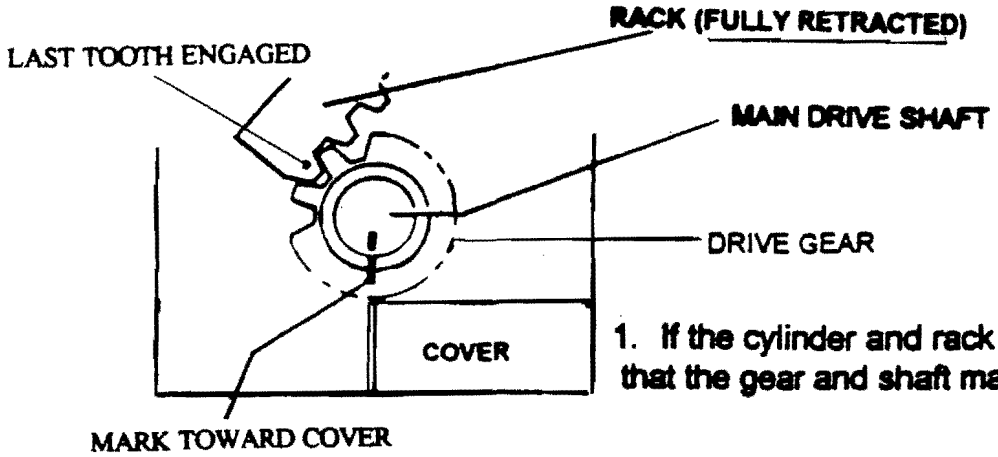
IMPORTANT! WASHERS MUST BE ASSEMBLED AS SHOWN

TWISTER COVER REMOVED FOR CLARITY

ADJUST CUTTER GAP BY EITHER MEASURING THE GAP (.001-.002) OR BY TIGHTENING THE SCREW UNTIL THE LEVER IS SNUG AGAINST THE YOKE. TIGHTEN NUT WHILE HOLDING PIVOT SCREW.

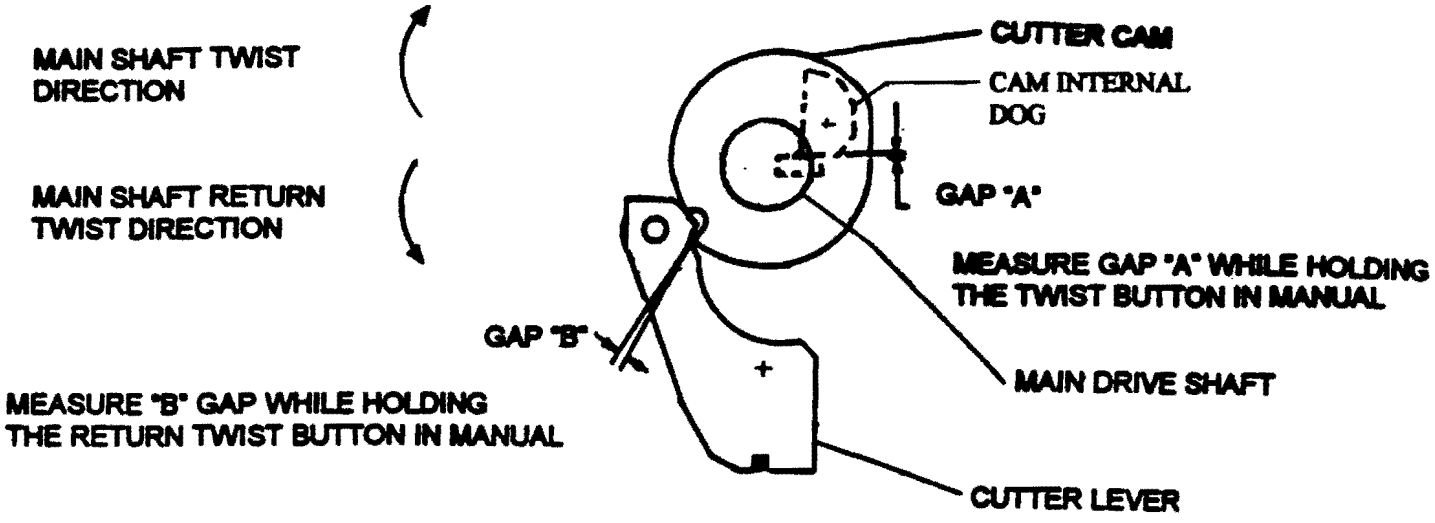
CUTTER ADJUSTMENT

ACCENT

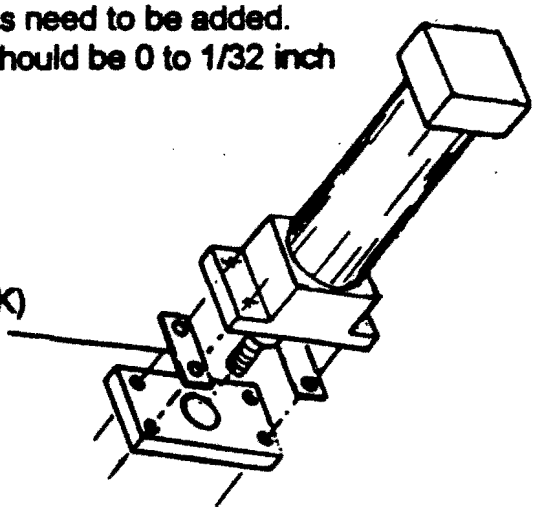


1. If the cylinder and rack have been removed, insure that the gear and shaft match marks are aligned.

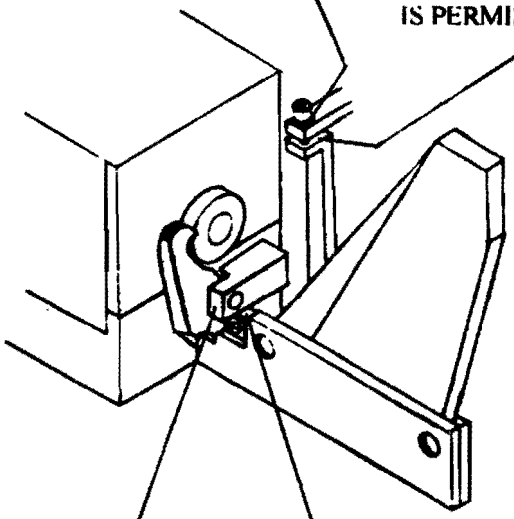
If the internal components are not excessively worn, the cutter cam area need only be observed to check the twister timing.

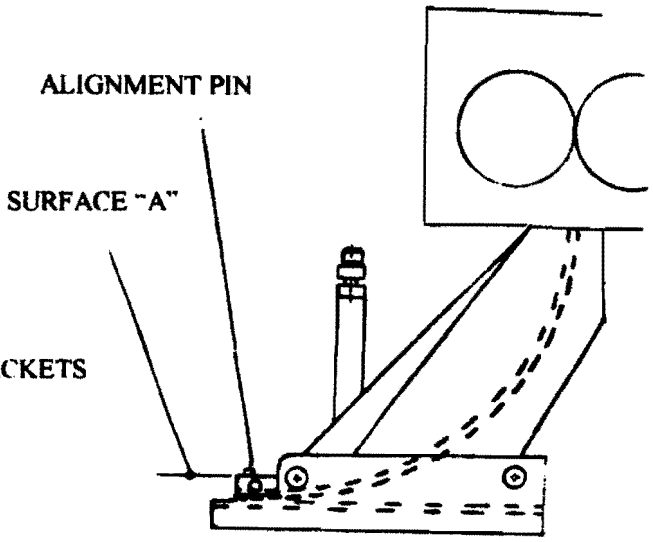


2. If gap "A" is less than 1/16 inch, shims need to be removed.
   If gap "A" is more than 1/16 inch, shims need to be added.
   Note: If gap "A" is correct, gap "B" should be 0 to 1/32 inch



RIGHT ANGLE ENTRY



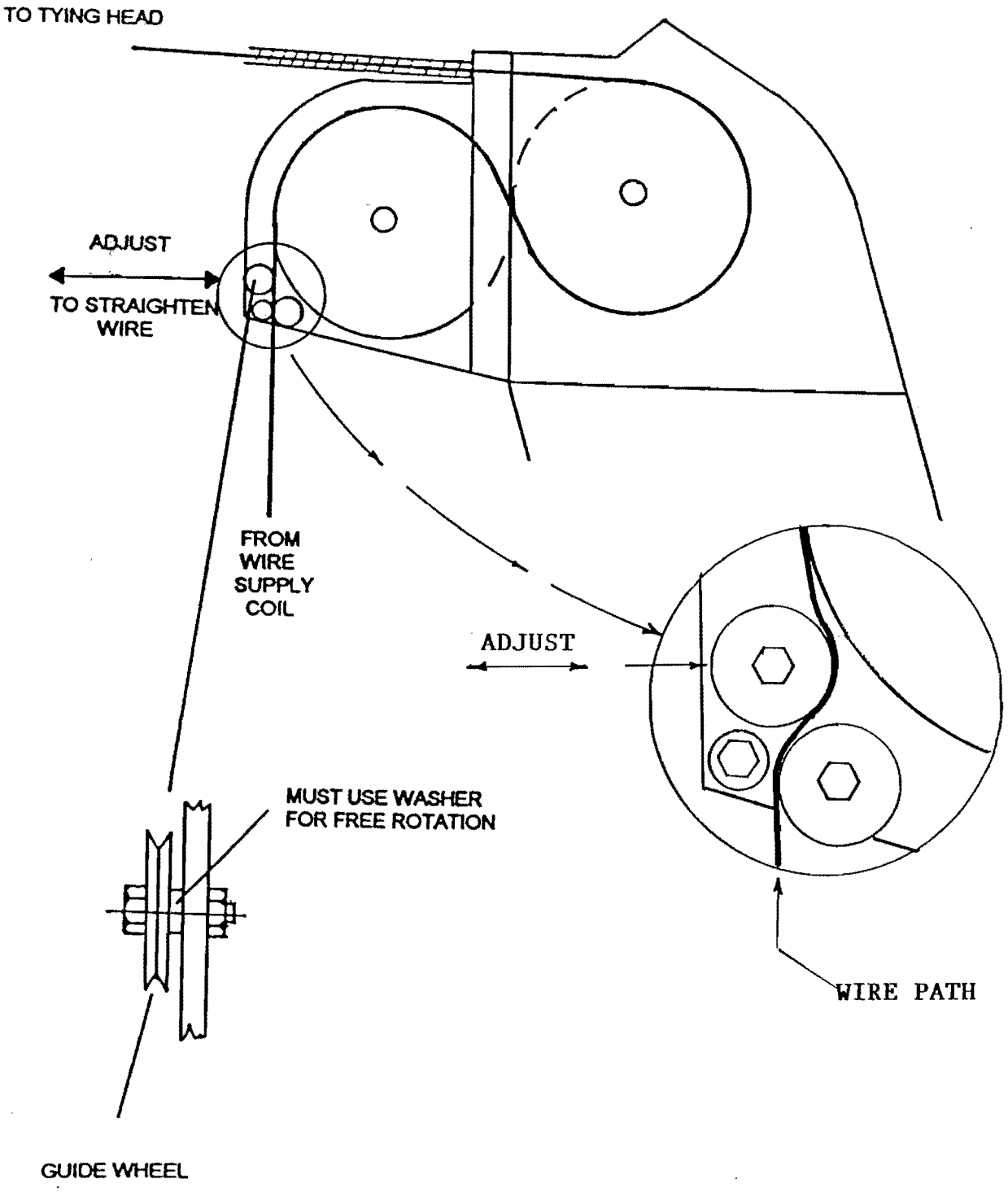


PLACE ALIGNMENT PIN IN CUTTER SUPPORT BLOCK HOLE. TIGHTEN SCREW UNTIL SURFACE "A" IS FIRMLY SEATED AGAINST CUTTER BLOCK—NO GAP!

NOTE: **If the pin or receiver hole are worn, they should be replaced to insure location of the assemblies.**

Eliminating Tangles

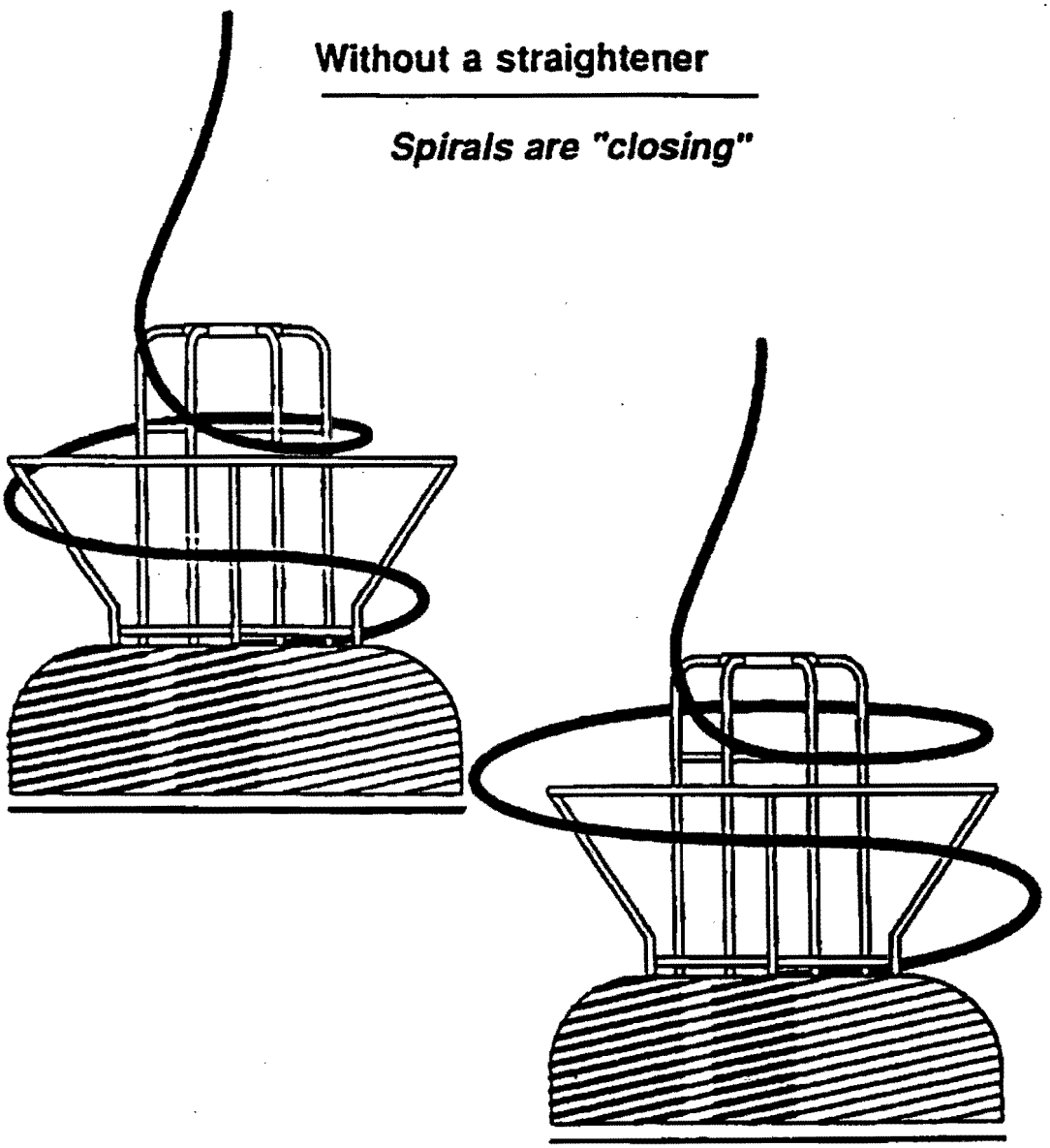
If wire is strangling around carrier legs or appears to be feeding from the inside of the coil during payoff, the spirals are closing on the carrier. To correct this, increase the tension on the wire by adjusting the wire straightener. When properly adjusted, the wire spirals will open, thus eliminating the problem.



A STRAIGHTENER IS A MUST !!!

Without a straightener

Spirals are "closing"



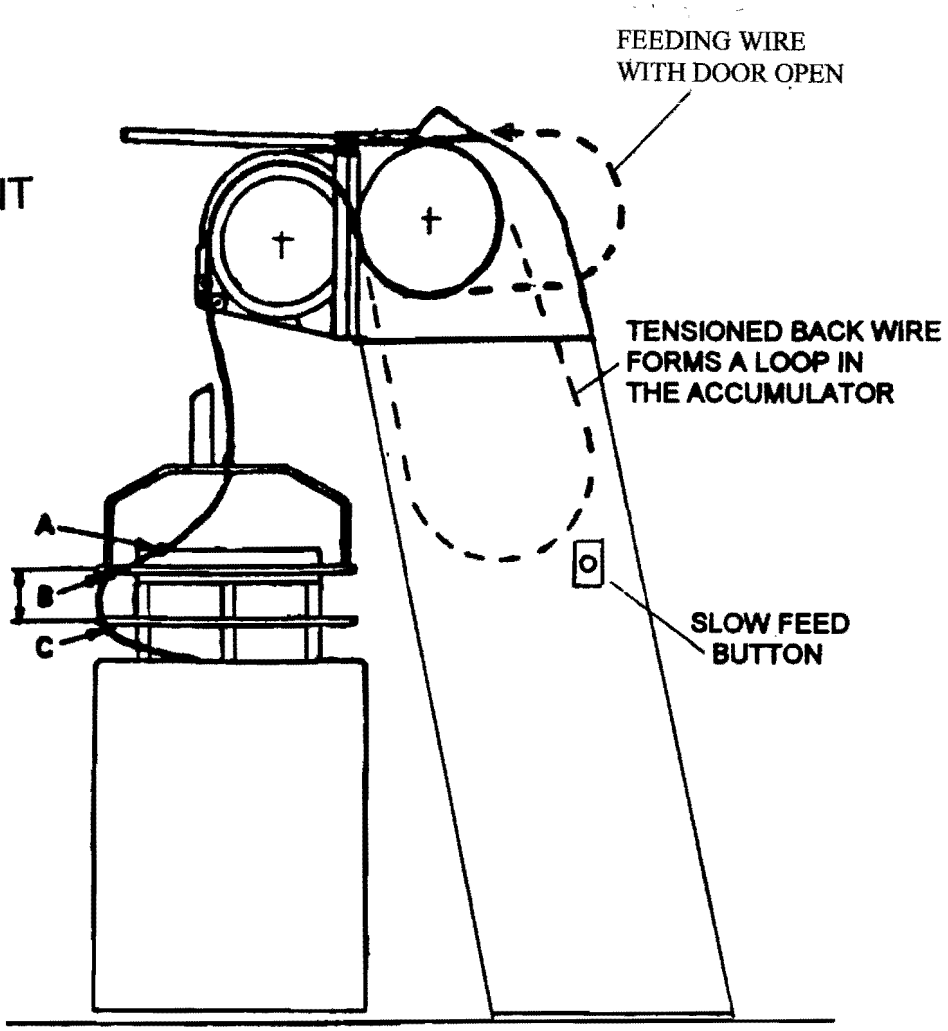
With a straightener:

Spirals are "opening"

MECHANICAL ADJUSTMENTS

4 TWIST MACHINE

PAYOFF ADJUSTMENT



TO PRODUCE DRAG ON THE WIRE AS IT PAYS OFF OF THE COIL——

POSITION THE TOP RING SO THE WIRE MAKES LIGHT CONTACT AT POINTS A, B & C. THE WIRE SHOULD BE DEFLECTED AT POINT B

B...UNDER RING
C...OVER RING

ACCENT

INDEX SECTION 7
—— 4 TWIST ——
TROUBLE SHOOTING

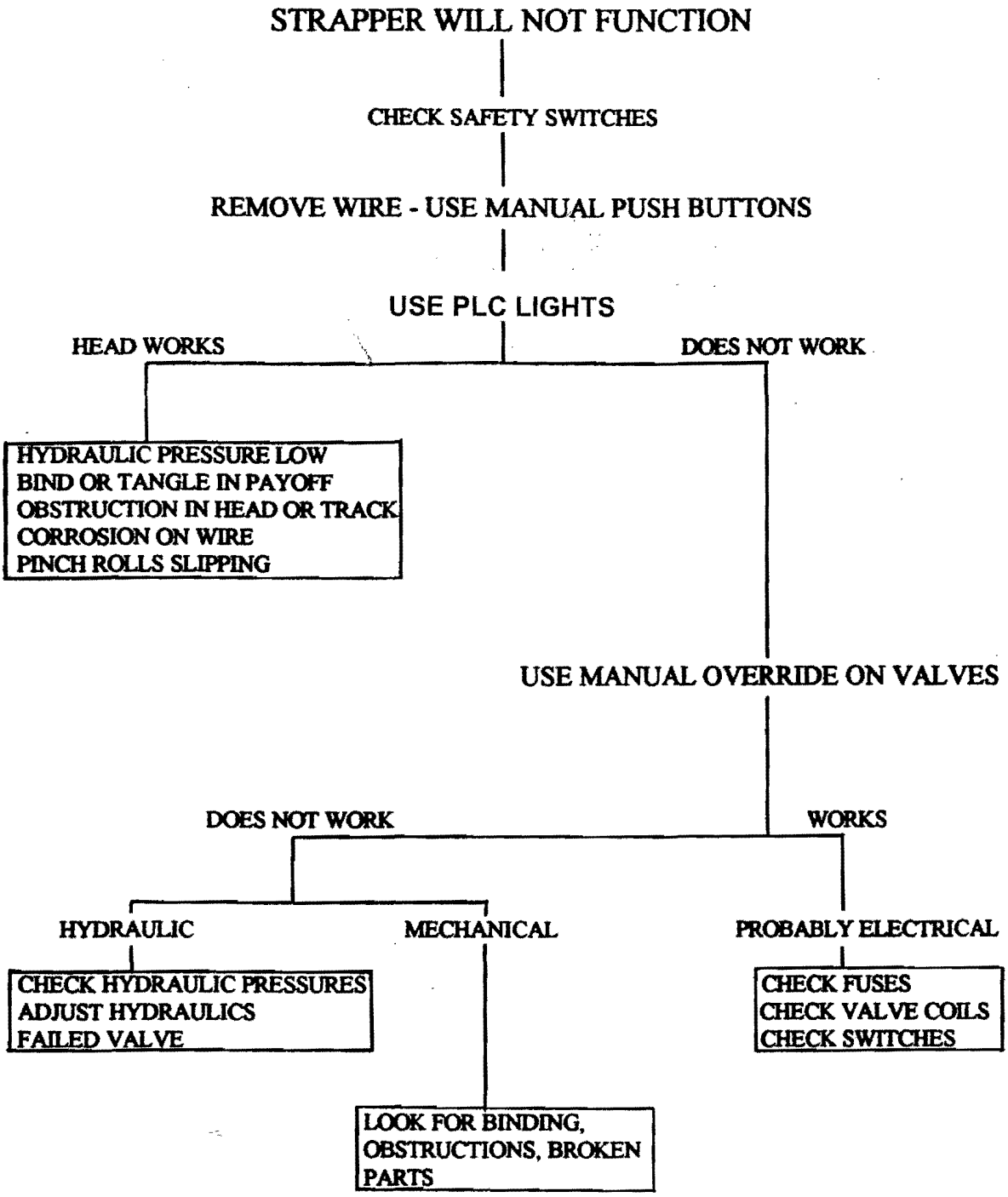
TROUBLE SHOOTING FLOW CHART.....P 1

TROUBLE SHOOTING LIST.....2, 3&4

COMMON PROBLEMS.....5

VISUAL WEAR CHECK.....6

A BASIC UNDERSTANDING OF THE TYING HEAD AND A SYSTEMATIC APPROACH IS NECESSARY TO DETERMINE IF THE FAULT IS ELECTRICAL, HYDRAULIC OR MECHANICAL



*By removing the wire it can usually be determined if a wire binding or lack of power problem exists.

*When the hydraulic valve manual overrides are pushed to run the head through its functions, a decision can usually be made if the problem is electrical in origin.

FEED FAULTS

Will not feed

- Fast feed fuse blown
- LS1 switch is not tripped (AUTO)
- PX4 is tripped (will not feed slow in MAN)
- Safety cover is open (AUTO)
- Failed valve solenoid (s)
- Loose connection
- Failed selector switch
- Jam at dispenser
- Small piece of wire in right angle entry

Will not feed slow

- Slow feed fuse blown (will stop feeding)
- Missing PX3 counts (AUTO)
- Failed slow feed solenoid
- Sticky valve
- Flow control has failed

Does not feed home

- **Over feed counter has counted out**
  - Track has been held open, wire fed out
  - Wire is oily or wet causing slippage
  - Feed wheels are worn and slip
  - Slow feed is too slow (80 to 100 RPM)
  - Wire has bulged out at exit track
  - A foreign object in the track or head is creating an excessive drag
  - Offset on payoff straightener is excessive
  - Feed tube or feed spring is worn
  - Payoff wheel is chipped or worn
  - Guides on payoff are worn
  - Wire is not on payoff wheel, wheel or door warped
  - Tangle in payoff
  - Wire is corroded or does not have enough wax
  - Feed wheel guides plugged (arrow heads)
  - Feed wheel spring is not adjusted properly
- Wire jams
  - Entry track is not aligned (locating pin)
  - Broken or worn wire separator

(Wire jams-con't)

- Wire jams at gripper or entry to twister; cover loose or missing lockwasher under cover bolt
- Poor cut on end of wire catches on various head parts
- Backpressure in gripper hydraulic line hold gripper out (failed P.O. check valve)
- Cutter lever has not fully returned
- Wire jams at gripper; gripper piston return spring is broken
- Wire jams on short pieces of wire in twister; after repeated MAN twist/return cycles a piece of wire will be fed and cut
- Feed stops just short of home; PX4 switch has been pre-tripped by a bent piece of wire

Wire overfeeds

- PX4 not adjusted properly
- Wire stop worn or missing
- Twister cover loose or missing lockwasher under bolt
- Twister cover pivot bolt broken
- No slow feed

TENSION FAULTS

Will not tension

- Solenoid fuse(s) blown
- LS1&2 switch setting not correct (AUTO)
- Failed valve solenoid(s)
- Loose connection
- Safety cover open
- Failed selector switch

Tension not complete

- Wheel slip, wire is oily or wet, wheels do not stall
- Feed wheel spring not adjusted properly, wire slips
- Wheel slips, cannot push wire back to payoff

Loose grip

- Worn gripper(s)
- PX4 setting not correct, did not get fully into gripper
- Bulged out of exit or other track and did not get fully into gripper
- P.O. check failed and released pressure on gripper
- Air in gripper line

Pre knots

- Wire binds over edge of bale or sharp object during tension
- Wire binds in bale voids
- Hydraulic pressure low
- Wrong gauge part or worn head part causing bind

TWISTER FAULTS

Will not twist

- Tension or twist fuse blown
- LS1 switch marginal, drifted open
- Twister gear did not latch in at the prior twist return cycle
- Did not tension fully, malfunction light (wheel slip)
- Safety cover open
- Twister lubrication
- Small piece of wire in gear teeth

Will not eject properly (drive shaft turns)

- One or both ejector hubs do not turn
  - * Hub did not latch at prior twist cycle
  - * LS2 setting did not allow enough rotation to latch hub at end of twist cycle
  - * Loose tie cannot fully eject
  - * One or both cam rolls on hub are broken or missing
  - * Gripper did not release; failed P.O. check
  - * Worn exit track
  - * Wire did not cut

Will not eject

- Tension or twist return solenoids failed

Wire does not cut

- Chipped insert(s)
- Cutter gap too large
- Cutter cam did not latch in the prior twist cycle (LS2)
- Main drive shaft insert on cutter cam missing or installed incorrectly

SEVEN COMMON PROBLEMS
— 4 TWIST MACHINE —

SYMPTOM	POSSIBLE CAUSE
Strapper does not knot and eject properly in automatic	LS 1&2 adjustment or failure
Short feeds	Exit track springs are weak, PX 4 switch setting too sensitive
Does not tension properly	Wire stop is worn, wire is corroded
One of the valve functions will not work	Blown fuse or failed solenoid
General feed problems	Dirty or worn tracks, track springs failed or missing, exit track springs weak or distorted
Erratic action	Baler is running hot and effecting strapper valves
Frequent feed jams in cutter area	Separator is chipped or worn, right angle feed section is not aligned

WEAR PARTS VISUAL CHECK & PROBLEMS CAUSED BY WORN PARTS

4 TWIST MACHINE

PART	OBSERVED WEAR	PROBLEM CREATED
Feed Tube	Wire will cut through inside radius of tube	Wire binds on feed, short feeds or will not feed
Pinch Rolls	"V" shaped groove is worn to half round shape	Rolls will slip at final tension
Right Angle Entry	Groove will wear on inside (top) edge of radius	Loose tension, pre-knots caused by bind in groove
Twister Pinion/ Yokes	Inside of slot has deep groove worn by wire (approx. 1/32 in.)	Twisted knot does not eject properly, feed jams
Cutter Insert/ Cutting Edges	Cutting edge is worn round or edge is chipped	Ragged cuts will cause feed problems
Grippers	Groove worn in moving and fixed grippers (approx. .010 in.)	Grip on wire will be lost at start of tension
Wire Stop	Deep groove worn on tip (1/32 in. plus)	Loose tension, premature knots
Separator	Edge has deep grooves or is chipped	Feed problems, wire shavings in cutter area
Curved track	Small groove from wire worn in outside of groove radius	Short feeds, feed jams

INDEX SECTION 8
—— 4 TWIST ——
LUBRICATION & MAINTENANCE

LUBRICATION POINTS.....P 1

DAILY MAINTENANCE.....2

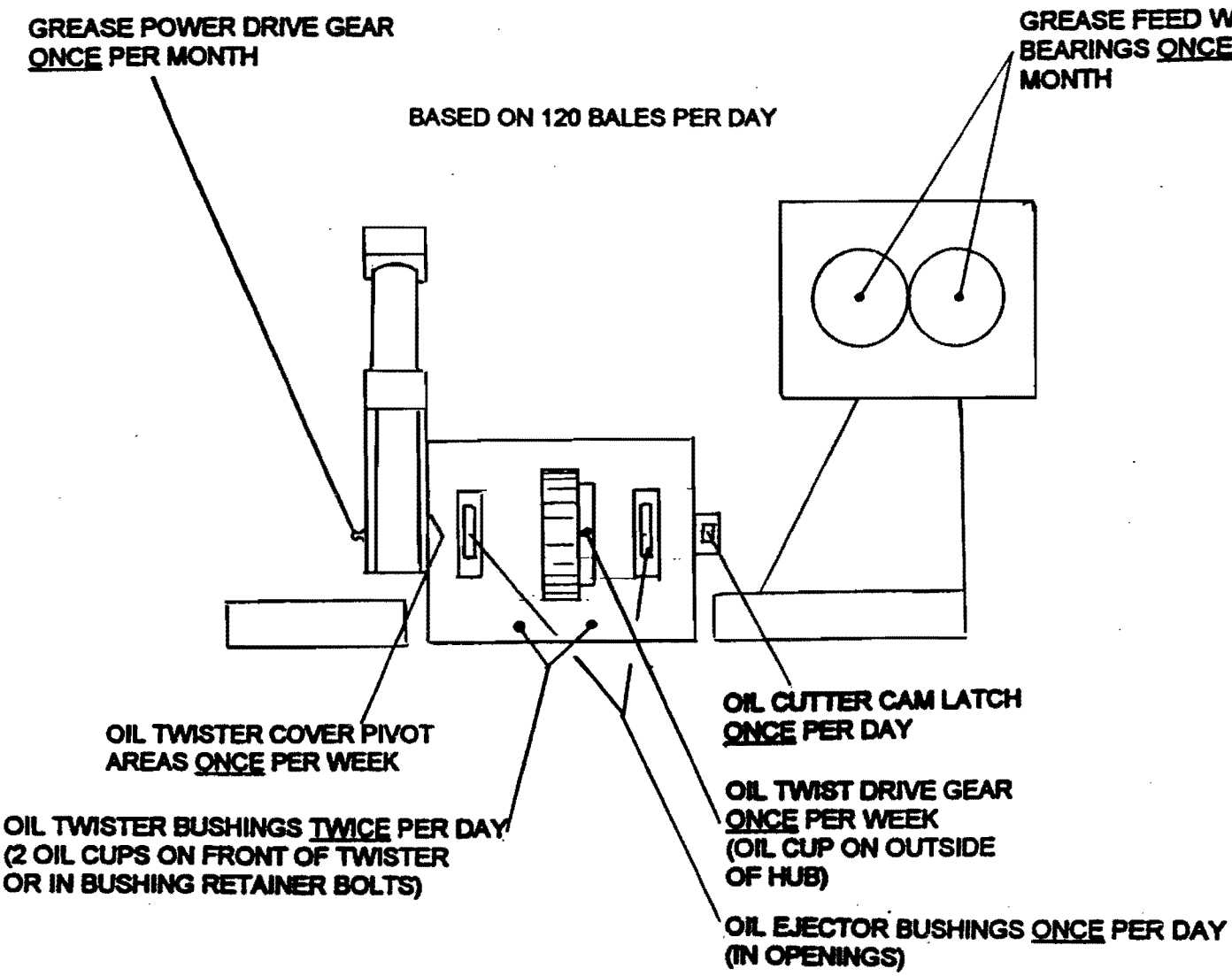
WEEKLY MAINTENANCE.....3

MONTHLY MAINTENANCE.....4

POWER DRIVE

TWISTER

FEED/TENSION



IMPORTANT: If excess lubricant is allowed to contact the wire, the feed wheels will slip and cause excessive wear. The grooves of the wheels must be clean at all times.

LUBRICATION POINTS

ACCENT

4 TWIST MACHINES

WIRE STRAPPER DAILY PREVENTIVE MAINTENANCE

LOCKOUT/TAGOUT ALL ENERGY SOURCES BEFORE PERFORMING WORK
ALWAYS WEAR SAFETY GLASSES
DO NOT STEAM CLEAN STRAPPER UNIT

- USING AN OSHA APPROVED AIR NOZZLE BLOW OFF ALL LOOSE DEBRIS FROM THE FOLLOWING AREAS:

    1. THE STRAPPING HEAD - REMOVE THE WIRE, OPEN THWE COVER AND BLOW OUT THE INSIDE. PAY CLOSE ATTENTION TO THE CUTTER AND GRIPPER AREAS.
    2. THE TRACK - OPEN THE TRACK, ONE SECTION AT A TIME WITH A SCREWDRIVER AND BLOW OUT ALL DEBRIS.
    3. THE FEED UNIT - BLOW OUT ALL DEBRIS FROM AROUND THE PINCH ROLLS AND GUIDES.
    4. THE PAYOFF - BLOW ALL DEBRIS OFF THE TOP OF THE PAYOFF RINGS AND WIRE COIL.
    5. THE ACCUMULATOR - BLOW OFF ALL LOOSE DEBRIS AROUND THE WIRE STRAIGHTENER ROLLS. OPEN THE DOOR AND BLOW ALL DEBRIS OFF THE SHEAVE WHEELS.

- LUBRICATE TWISTER BUSHINGS, CUTTER PIVOT PIN, CUTTER CAM LATCH AND EJECTOR HUBS.

- CHECK ALL TRACK SPRINGS AND BOLTS FOR TIGHTNESS.

- CHECK THAT ALL SAFETY GUARDS ARE IN PLACE AND SAFETY SWITCHES ARE FUNCTIONAL.

- INSURE THAT THE PUSH-BUTTON PANEL DOOR IS CLOSED AND SECURED.

- CHECK THE CONDITION OF THE FEED TUBE OR SPRING . MAKE SURE IT IS SECURE AT BOTH ENDS.

WIRE STRAPPER WEEKLY PREVENTIVE MAINTENANCE

LOCK-OUT/TAG-OUT ALL ENERGY SOURCES BEFORE PERFORMING WORK
ALWAYS WEAR SAFETY GLASSES
DO NOT STEAM CLEAN STRAPPER UNIT

- PERFORM ALL DAILY AND WEEKLY MAINTENANCE AS INDICATED.
- CHECK GRIPPER IMPRINT ON TAIL END OF KNOT, A SPIRAL GROOVE IS NORMAL. IF THE INDENTATION IS NOT FIRM OR DEFINED, REPLACE BOTH GRIPPERS.
- CHECK CUTTER END OF KNOT FOR CORRECT WIRE CUT-OFF. THE CUT SHOULD BE STRAIGHT WITH NO EVIDENCE OF DEFORMITY OR BURRS ON THE END OF THE WIRE. IF THE CUT IS QUESTIONABLE, CHECK CUTTER LEVER ADJUSTMENT AND CUTTER INSERTS. ROTATE BOTH INSERTS OR REPLACE IF NECESSARY.
- CLEAN SURFACES OF PINCH ROLLS WITH A NON RESIDUE, NON FLAMMABLE CLEANER.CHECH FOR EXCESSIVE WEAR IN GROOVE. CHANGE TO A NEW GROOVE ON BOTH ROLLS IF NECESSARY.
- LUBRICATE TWISTER DRIVE GEAR AND TWISTER COVER PIVOT AREAS.

NOTE: IF EXTREMELY DIRTY CONDITIONS EXIST IT IS ADVISABLE TO DISASSEMBLE AND CLEAN THE TRACK ON A WEEKLY BASIS.

4 TWIST MACHINES

WIRE STRAPPER MONTHLY PREVENTIVE MAINTENANCE

LOCKOUT/TAGOUT ALL ENERGY SOURCES BEFORE PERFORMING WORK
ALWAYS WEAR SAFETY GLASSES
DO NOT STEAM CLEAN STRAPPER UNIT

- PERFORM ALL DAILY AND WEEKLY MAINTENANCE AS INDICATED.
- COMPLETELY DISASSEMBLE TRACK FROM COVERS. USING A PUTTY KNIFE, SCRAPE AWAY ANY PACKED DEBRIS. CLEAN ALL SURFACES THOROUGHLY WITH NON FLAMMABLE SOLVENT. CHECK TRACK GROOVE FOR WEAR PAYING PARTICULAR ATTENTION TO THE CORNER TRACKS. REPLACE ANY MISSING OR WORN TRACK PINS. BE SURE ALL TRACK SPRINGS AND NUTS ARE TIGHT, REPLACE ANY THAT ARE WORN OR BROKEN.
- CHECK THE TWISTER PINION FOR WEAR POCKET IN THE GROOVE. REPLACE IF NECESSARY. ALWAYS REPLACE THE BUSHINGS WITH THE TWISTER PINION TO MAXIMIZE LIFE OF THE COMPONENTS.
- CHECK THE CONDITION OF THE HYDRAULIC HOSES, REPLACE IF BADLY WORN TO AVOID FUTURE DOWNTIME.
- CHECK ALL HYDRAULIC FITTINGS FOR LEAKS, REPARE OR REPLACE.
- CHECK ALL ELECTRICAL CONDUITS, REPLACE IF BROKEN.
- GREASE FEED WHEEL BEARINGS AND POWER DRIVE GEAR.

APPENDIX INDEX SECTION 9
—— 4 TWIST——

BASIC SAFETY INFORMATION.....P 1

FEEDING WIRE.....2

CLEARING THE STRAPPER.....3

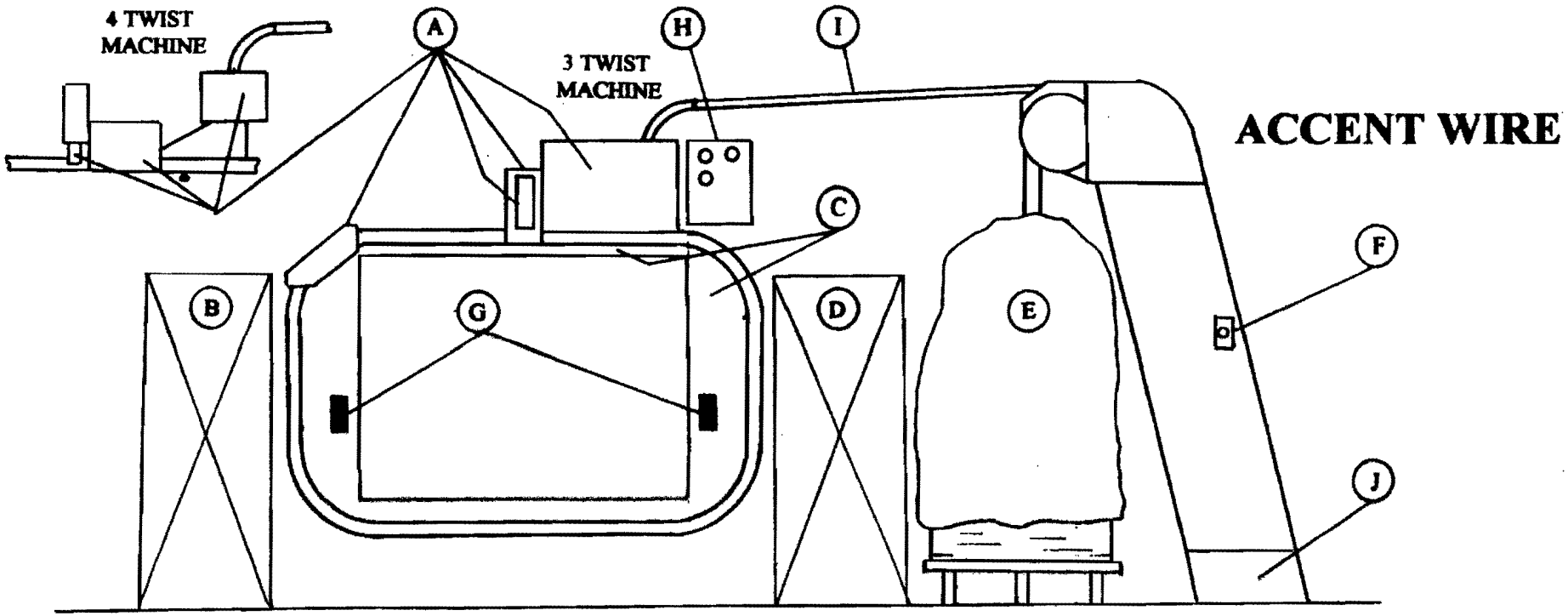
PROCEDURES FOR HANDLING WIRE.....4

SEVEN POINT QUICK CHECK 5

GENERAL SAFETY CHECK LIST

A. ALL GUARDS WITH SAFETY INTERLOCK SWITCHES MUST BE IN PLACE AND FUNCTIONAL. (4 GUARDS)
B. INDIVIDUALS MUST NOT BE IN THIS AREA WHILE WIRE IS BEING FED. WIRE FEEDS AT 10 TO 12 FEET PER SECOND AND MAY NOT BE CONTAINED IN THE TRACK.
C. A PINCH HAZARD EXISTS BETWEEN THE WIRE AND THE BALE. DO NOT REACH INTO TRACK OR HEAD AREA WHILE WIRE TYING IS TAKING PLACE.
D. DURING NORMAL OPERATION, ONLY THE OPERATOR SHOULD BE IN THE BALING AREA. WIRES MAY FAIL AS THE BALE EXPANDS CAUSING A FLYING OBJECT HAZARD.
E. THE SUPPLY COIL DUST COVER ALSO FUNCTIONS AS A PERSONNEL SNAG GUARD. IT MUST BE IN PLACE WHENEVER THE WIRE TYER IS OPERATING.
F. ONLY THE SLOW FEED PUSHBUTTON MOUNTED ON THE ACCUMULATOR MUST BE USED WHILE RETHREADING WIRE WITH THE ACCUMULATOR DOOR OPEN.
G. BALE SIDE GUARDS MUST BE INSTALLED ON THE FEED-OUT TABLE TO PROTECT AGAINST EXPLODING BALES.
H. THE CONTROL PANEL MUST BE LOCATED TO ALLOW ONE INDIVIDUAL TO ACTUATE MANUAL FUNCTIONS WHILE CLEARING OR ADJUSTING THE STRAPPER. ALL STRAPPER FUNCTIONS MUST BE INITIATED FROM THE STRAPPER CONTROL PANEL.
I. IF A SPRING FEED TUBE IS USED, IT MUST BE HELD FROM SWINGING AND RESTRAINED AT BOTH ENDS. A FLYING OBJECT HAZARD EXISTS IF IT DISCONNECTS OR BREAKS FROM THE ANCHOR POINTS. AS AN ALTERNATIVE, THE SPRING MAY BE PLACED IN A PIPE OR TUBE.
J. DO NOT STAND IN THE PAYOFF AREA UNLESS SERVICING THE STRAPPER. A WIRE CAN LOOP OUT OF THE BOTTOM OF THE ACCUMULATOR AND PRESENTS A PINCHING OR TRIPPING HAZARD.

THE SAFETY ITEMS LISTED ARE A MINIMUM REQUIREMENT. IF THERE IS NOT A CLEAR UNDERSTANDING OR OTHER HAZARDS EXIST OR ARE SUSPECTED, NOTIFY THE RESPONSIBLE INDIVIDUALS. DO NOT OPERATE THE BALING UNIT UNTIL ALL SAFETY ISSUES ARE RESOLVED.



FEEDING WIRE

1 Place the strapper control panel in the manual mode when feeding a new coil of wire. Follow the pictorial instructions for the wire path up to the feed tube inlet point.

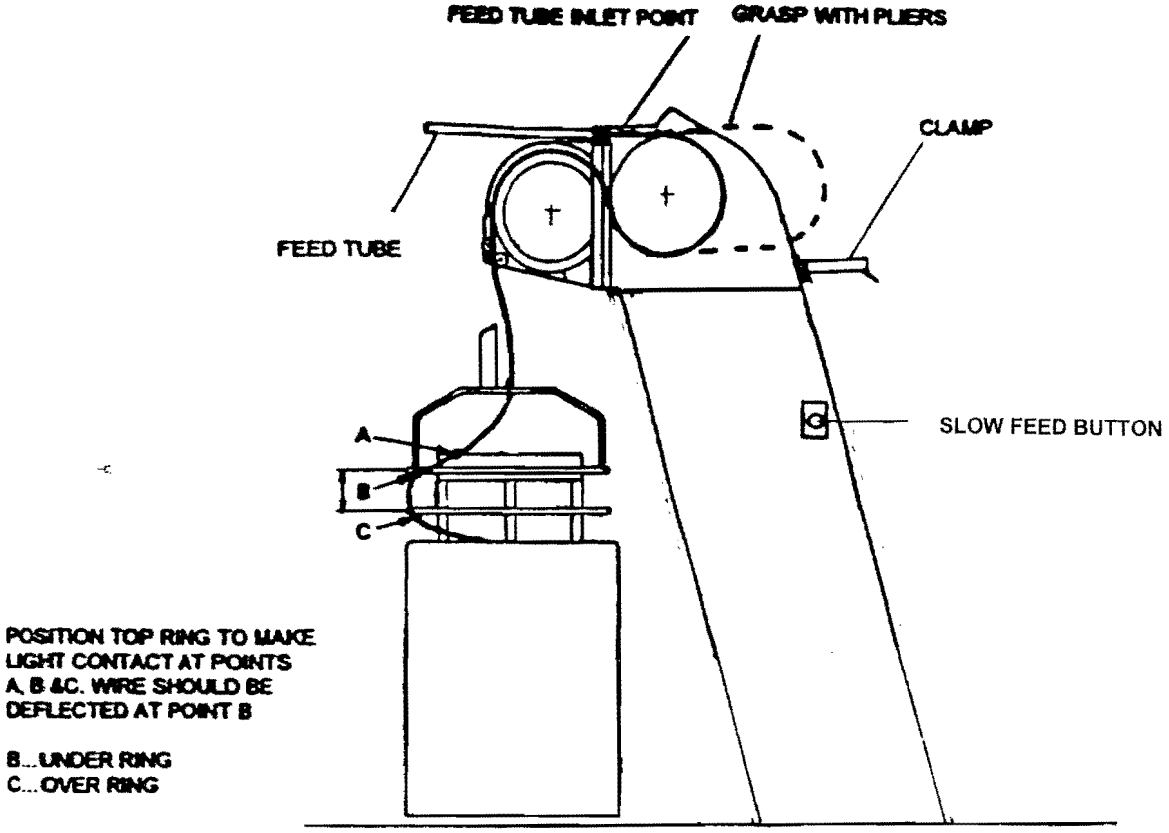
2 Insert the end of the wire into the feed tube entry point and push until it reaches the feed/tension wheels. Grasp the wire with a pliers, approximately one foot back from the entry point and push on the wire while depressing the slow feed button on the accumulator.

> **CAUTION!** If the slow feed button is inoperative or the unit feeds only in the fast mode, do not attempt to feed the wire. This indicates that corrective action is required and the responsible people must be notified immediately.

3 When the feed/tension wheels have picked up the wire, release the feed button, place the wire around the accumulator wheel, close and clamp the door.

4 Complete the wire feed from the strapper panel.

> **CAUTION!** The area around the pay off must be clear of personnel. A loop of wire may have come out from the bottom of the accumulator which presents a danger when the wire is re-fed.



CLEARING THE STRAPPER DUE TO FEED OR TENSION MALFUNCTION

1. Place the strapper control panel in the manual mode.

2. If the wire has bulged from the track during feed, or if only a partial tension has occurred, remove any wire remaining in the track using a pliers or pull it out by hand.

3. Cut off the wire as close as possible to the knotter on the left side and pull the wire from the knotter on the right side. If the right side wire is held by the gripper, the feed button should be tapped until the wire is released.

4. (a) If a knot cycle has not occurred, tension the wire out of the fee/tension wheels back into the accumulator.

   (b) If a knot cycle has occurred, it will be necessary to clear the wire from the knotter using hand tools. DO NOT attempt to clear the wire by energizing the knotter. If all pieces of the knot cannot be removed using a screwdriver and pliers. Remove the knotter cover for access.

5. After the knotter has been cleared, tension the wire back into the accumulator. Check the end of the wire for "kinks" or irregular cuts that would cause problems when re-fed.

CAUTION!

Lockout the strapper using the proper procedures when disassembling any part of the strapping unit!

ACCENT

PROCEDURES FOR HANDLING WIRE

- INSPECT INCOMING LOADS FOR DAMAGED COILS OR BENT CARRIERS. CHECK ARRIVING WIRE FOR OXIDATION. A SLIGHT AMOUNT OF OXIDATION OF A COIL WILL NOT HARM THE PERFORMANCE OF WIRE.
- MAKE EXCEPTIONS ON THE BILL OF LADING IF DAMAGE IS APPARENT AND NOTIFY US IMMEDIATELY 1-800-383-8047.
- ALWAYS HANDLE THE WIRE UP ON THE TOP OF THE COIL CARRIER.
- CARRIERS MAY BE STACKED 2 HIGH. DO NOT ATTEMPT TO STACK BENT CARRIERS.
- STORE WIRE IN A DRY AREA WITH GOOD VENTILATION.
- ALWAYS ROTATE YOUR STOCK.
- STORE WIRE ON PALLETS WHEN POSSIBLE.
- DO NOT DISPOSE OF EMPTY WIRE CARRIERS - CONTACT US AT 1-800-383-8047 AND WE WILL MAKE ARRANGEMENTS TO RETURN THEM TO THE MILL.

SEVEN POINT QUICK CHECK
4 TWIST

1. Look at the knot.
   Check the cut ends, they should be square with a slight dent from the cutters, no burs. (worn cutter indicator)

   Check the gripper marks, they should be clean without excessive slipping. They may spiral around the wire. (worn gripper indicator)

   The center flat of the twist may have dents from the twister but no heavy distress marks. (worn twister pinion)

   The ends that were held by the yokes can have dents but no heavy distress marks. (worn or chipped yokes)

2. Check for a dust cover.
   This item is not only one of the ways to eliminate feed problems but is also a safety cover.

3. Check for safety guards and switches.
   The 4 twist strapper has (2) switches and guards over the knotter and feed/tension assembly.

4. If a feed spring is used, is it supported properly? If not, it is a safety issue since they do break loose and could cause an injury. Suggest the spring can be put in a piece of supported ½ inch electrical conduit. The main reason they break is the spring "whips" during feed and tension.

5. Are the straightening wheels in place on the escapement? These wheels are important for feeding since they remove most of the coil set from the wire.

6. Are all of the track springs in place? Do they have cardboard stuffed behind them? If they do not have the proper clamping force, frequent feed problems will occur.

7. Do the payoff wheels have heavy chipping? This condition will cause multiple feed Jams.

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ACCENT WIRE

Accent Service/Parts/Wire Directory

The following information provides a quick reference for our Service and Parts.

FREE WIRE TYER PHONE SUPPORT:

JIM CLOUSE	1-800-383-8047
JOHN WIEDEL	1-800-301-9845

ORDER WIRE TYER PARTS:

CAROLYN ADAMS	1-800-383-8047
JIM CLOUSE	1-800-383-8047

EXTRA HI-TENSILE GALVANIZED PRODUCTS FOR RECYCLING:

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(800) 383-8047 ■ www.accentwire.com

ACCENT WIRE

EASY PARTS ORDER FORM FOR WIRE TIEING MACHINES.

Purchase order # _____ **Date**_____

Contact name_____ **Phone #**_____

Bill to: _____

_____ **Fax #**_____

_____ ***Freight Services:***

_____ ***UPS GROUND***

Ship to:_____ ***UPS 3 DAY SELECT***

_____ ***UPS BLUE***

_____ ***UPS RED***

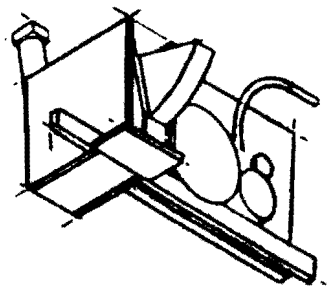
_____ ***OTHER***

QUANTITY	*PART NUMBER*	*DESCRIPTION*

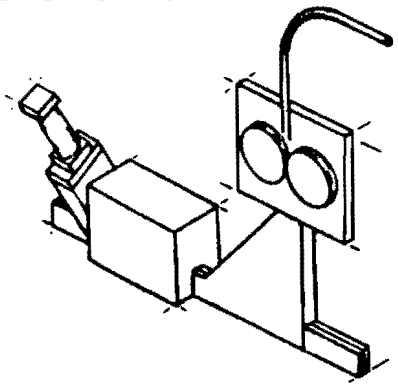
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ACCENT HAS THE SERVICES AND INFORMATION YOU REQUIRE TO AVOID COSTLY DOWNTIME ON YOUR BALING SYSTEM



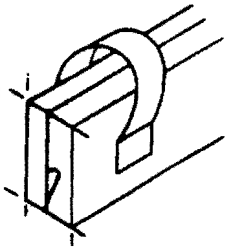
- STRAPPER TRAINING CLASSES



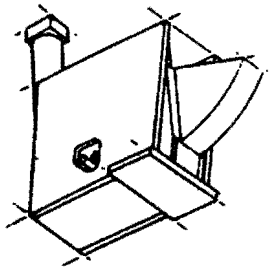
3 TWIST MACHINES

4 TWIST MACHINES

STRAPPER REPLACEMENT PARTS AND HEAD CONTROLS RE-ENGINEERED FOR ADDED RELIABILITY

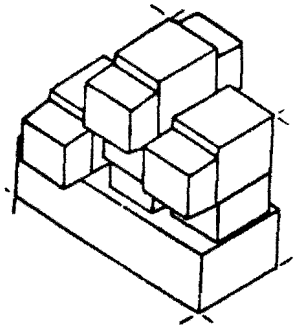


- PREVENTIVE MAINTENANCE PROGRAMS AND SERVICE FOR YOUR TOTAL BALING SYSTEM



A SOLID STATE SOLUTION FOR LS 1&2 SWITCH

- ADVISORIES PERIODICALLY PUBLISHED TO ASSIST IN MAINTAINING YOUR STRAPPING HEAD



UPGRADE A 25 YEAR OLD HYDRAULIC DESIGN WITH STATE OF THE ART COMMONLY AVAILABLE COMPONENTS

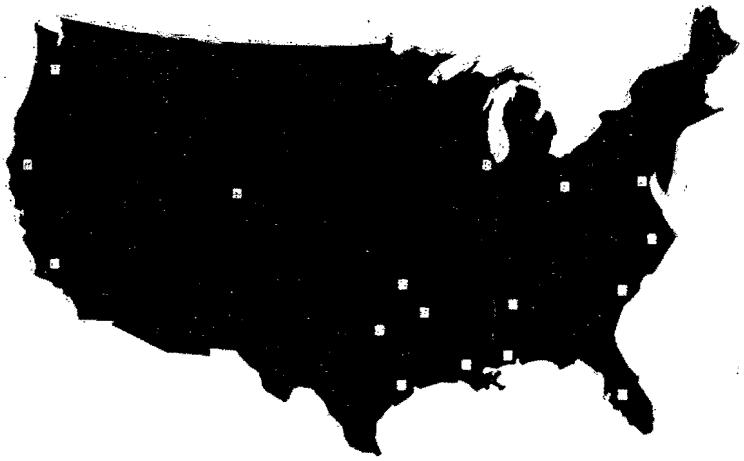
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