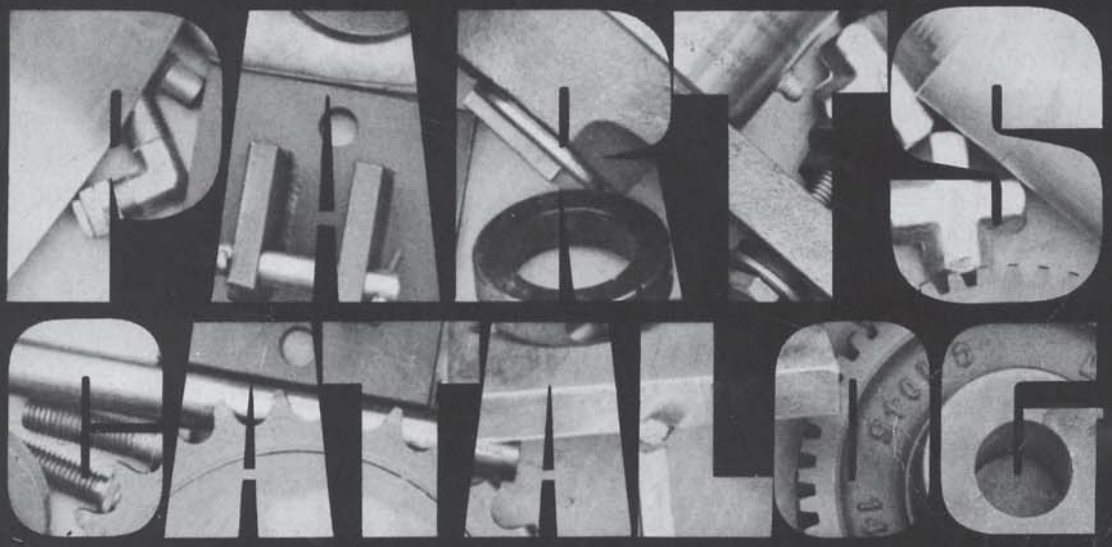
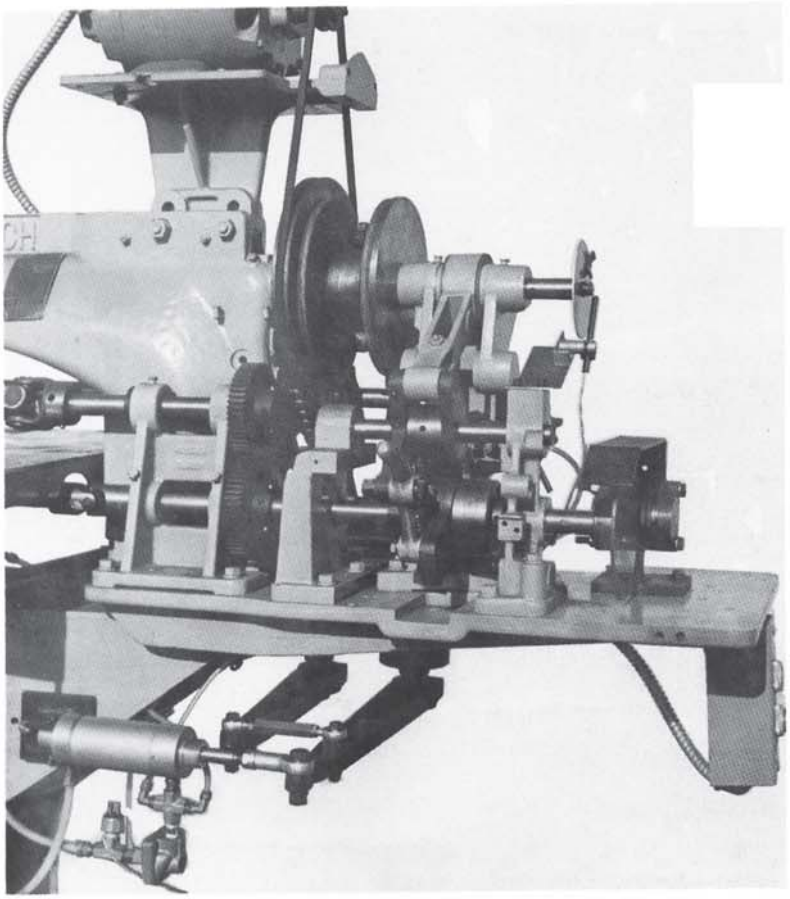
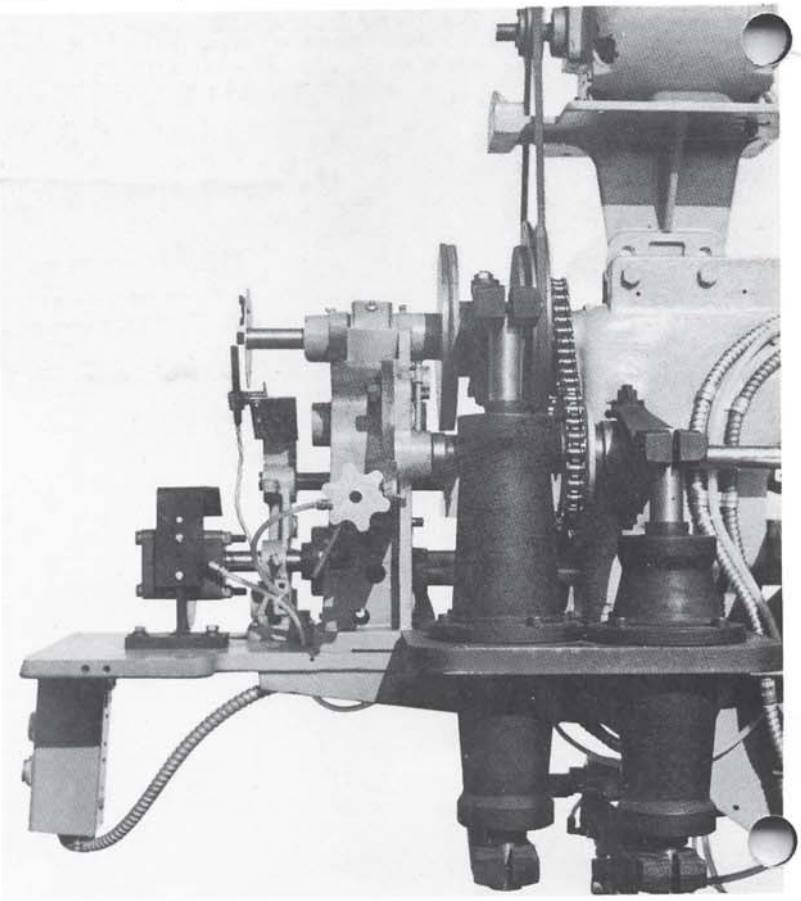
MODEL
385 & 485

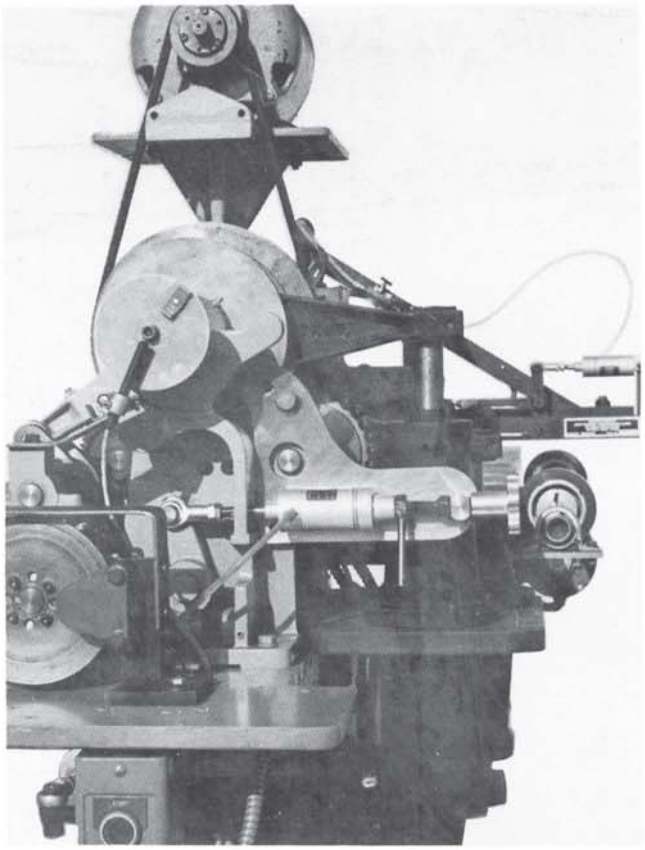


CRITTENDEN CONVERSION CORPORATION



Special care has been given to the design and manufacture of your conversion to make it as trouble-free as possible. Nevertheless, there will be occasional instances of malfunctioning which, if dealt with systematically, can usually be corrected by your regular maintenance personnel. The following instructions are set forth to help you analyze your machine in order to locate and correct any difficulties that should occur.





OPERATION SEQUENCE

As flap of box hits Trip Gate, LS1 is closed, energizing C1 start side of Solenoid Valve, causing 2" x 2" Air Cylinder to retract, shifting Main Clutch/Brake to contact Flywheel.

High Speed Clutch is now disengaged, Crank Rod is moving Step-Feed Shaft. The Overrun of the Step-Feed Shaft is controlled by the Auxiliary Brake, which is energized only in stitch position. You will note that Auxiliary Brake Air Regulator indicates pressure only while stitching.

The *spacing between stitches* is controlled the same as before conversion.

The *number of stitches* will be determined by the following:

You will have one of two models of counters.

With the **Model 102 Counter** you will be able to count stitch.

With the **Model 204 Counter** you will be able to count stitch and count tie-stitch.

The last stitch is controlled by the Reed Switch (RS1) which closes each time the Magnet, mounted on aluminum disc on end of Crank Shaft, passes by Switch.

Upon completion of last stitch, the counter emits an output on Terminal number 4, energizing C2 stop side of Solenoid Valve causing 2"x 2" Air Cylinder to extend, shifting Main Clutch/Brake to contact Stationary Brake Plate. High Speed Clutch engages, causing ejection of completed box.

The following is an example of Model 204 Counter setup to assist you when setting up to run a box that requires tie-stitching.

TIE-COUNT REQUIREMENTS:

16 total stitches with 1 tie at front of box and 1 tie at back of box.

COUNTER SETTINGS WOULD BE:

Counter Switch—on, Tie Stitch Switch—on

Total Knobs—left knob on 1, right knob on 6.

Back Tie Knobs—left knob on 1, right knob on 5.

Front Tie Knob—on 1.

From this you will note that the front tie setting is a direct reading, where the back number of ties is attained by subtracting the back tie setting from the total setting.

TROUBLE SHOOTING

Machine Will Not Start Stitching

1. Check N.O. LS1 micro switch and wiring to junction box.
2. Check solenoid valve for excessive oil, foreign matter, etc.
3. Check wiring to solenoid valve.
4. Check for sticking bottom rail on trip frame.
5. Check for 110 VAC across terminals 1 and 4. This should be a momentary signal only. A constant signal will prevent stitcher from starting as this is the stop circuit.

Machine Will Not Stop Stitching

1. Check RS1 N.O. reed switch (count input).
2. Be sure counter switch is in on position.
3. Be sure counter mode switch is in count position.
4. Check for 110 VAC output between terminals 1 and 4 (stop circuit). **NOTE:** This should be a momentary signal at end of each stitch cycle.
5. Check solenoid valve and wiring.
6. Check for loose magnet disc. or missing magnet.
7. Check to see that N.O. LS1 micro switch is not stuck closed.

After Stitching, Box Does Not Eject Satisfactorily

1. Check high speed clutch adjustment.
   Caution: Do not overtighten, as this will cause erratic stopping. Tighten only to the point where box ejects properly.
2. Be sure trip is not set to low, causing excessive drag between gate and box.
3. Check auxiliary brake regulator for sticking open.

Feed Rolls Stop and Fail to Eject Box After Completing the Stitching Cycle and the Stitcher Motor is Still Running

1. Check shifting linkage for missing or broken parts.
2. Check auxiliary brake regulator for sticking open.

Front End of Boxes Being Excessively Broken Down Due to Impact with Trip Gate

1. Feed rolls too tight.
2. Restrictor valve on trip is closed too far and not allowing gate to open fast enough.

Boxes Show Stitch Deformation or Tearing

1. Check mechanical timing (head drive cam with respect to crank shaft). Refer to Bostitch manual.

Placement of First Stitch Erratic

1. Restrictor valve on trip open too far.
2. Feed rolls too loose.

Boxes Come out of Machine with no Staples

1. Check head for faulty wire feed mechanism or wire may be tangled on spool.

First Two Staples Too Close Together or on Top of One Another

1. Restrictor valve on trip closed too far.
2. Faulty step-feed clutch.

Erratic Placement of Stitches

1. Feed rolls too loose.
2. Auxiliary brake not holding properly due to low air pressure, worn discs or oil on brake disc.
3. Faulty step-feed clutch.
4. Grease, wax or oil on feed rolls.
5. Box guides set too tight.

Machine Puts in Wrong Number of Staples

1. Check counter settings.
2. Check for faulty RS1 N.O. reed switch.
3. Check for loose magnet disc and adjustment of reed switch position with respect to magnet.
4. Check for faulty counter or plug in modules.

Machine Stops Consistently with Formers in Wrong Position (Down)

1. Loosen magnet disc and rotate CW or CCW until desired stopping position of head is attained. Be sure to firmly tighten disc retaining bolt.

Erratic Stopping of Machine (More Than a Total of Approx. 20 Degrees)

1. High speed clutch too tight.
2. Grease or oil on main brake lining.
3. Binding in main shifting air cylinder.
4. Loose main brake disc.

Machine Stops and Cannot be Turned Over By Hand

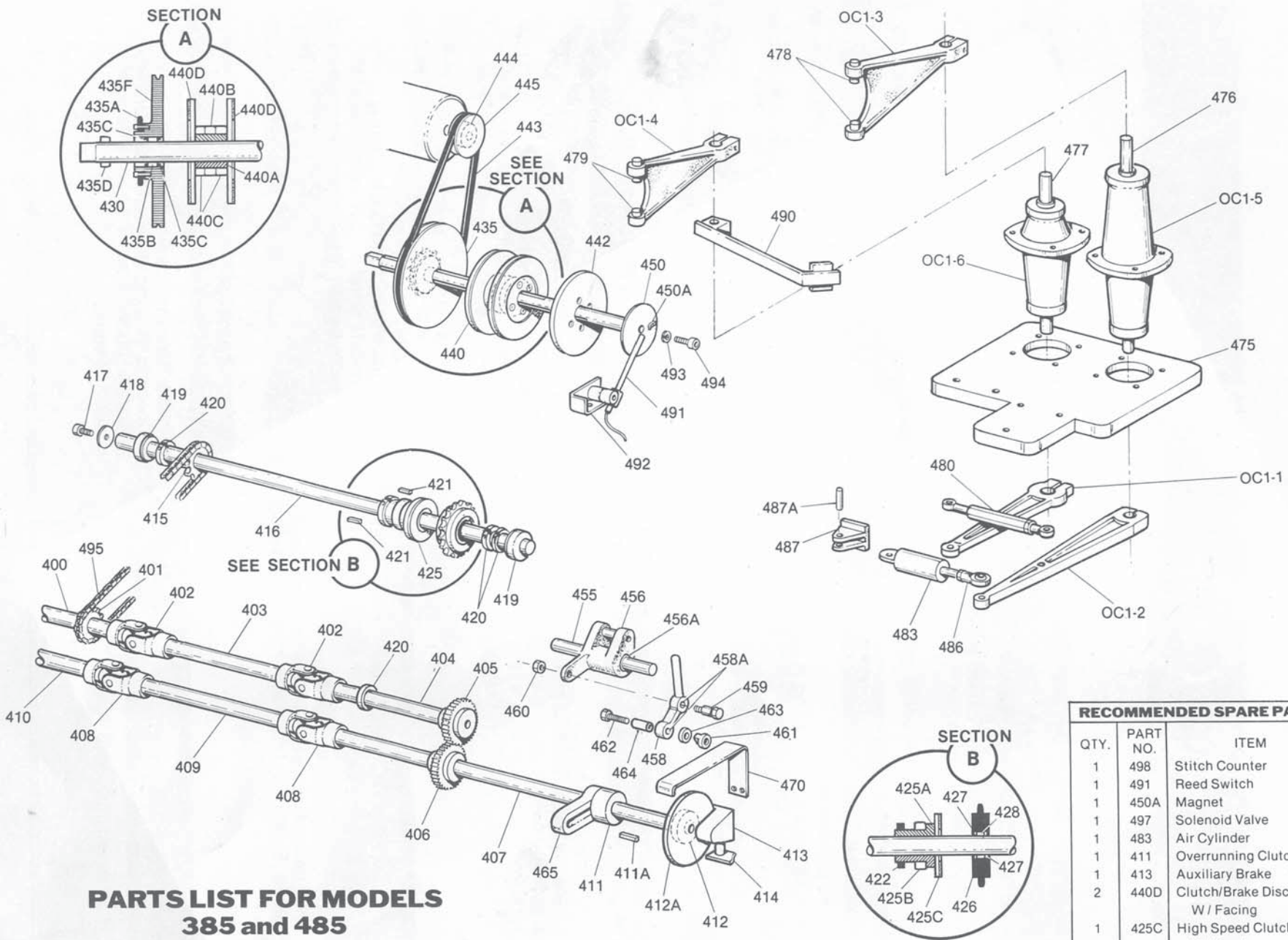
1. Check stitch head for wire jamming or broken parts.
2. Check to see that connecting rod is not frozen to eccentric.
3. Check for sticking auxiliary brake regulator.

Will Not Tie-Stitch

1. Re-check counter settings.
2. Mode switch is not in "tie" position. With switch in "tie" position, tie-stitch air cylinder should be retracted, If not, check the following:
   a. Tie-stitch solenoid valve (TSC-1).
   b. Tie-stitch air cylinder.
   c. Pinched or broken air lines.
   d. Check electrical circuit, including counter for loose or broken connections.
   e. Replace plug-in module in counter.
3. If cylinder is retracted but will not tie-stitch:
   a. Check tie-stitch bell crank mechanism for proper adjustment and broken parts.

Wrong Number of Tie Stitches

1. Recheck counter settings.
2. Check for binding of tie-stitch air cylinder.
3. See 3 (a) above.
4. See 2 (e) above.

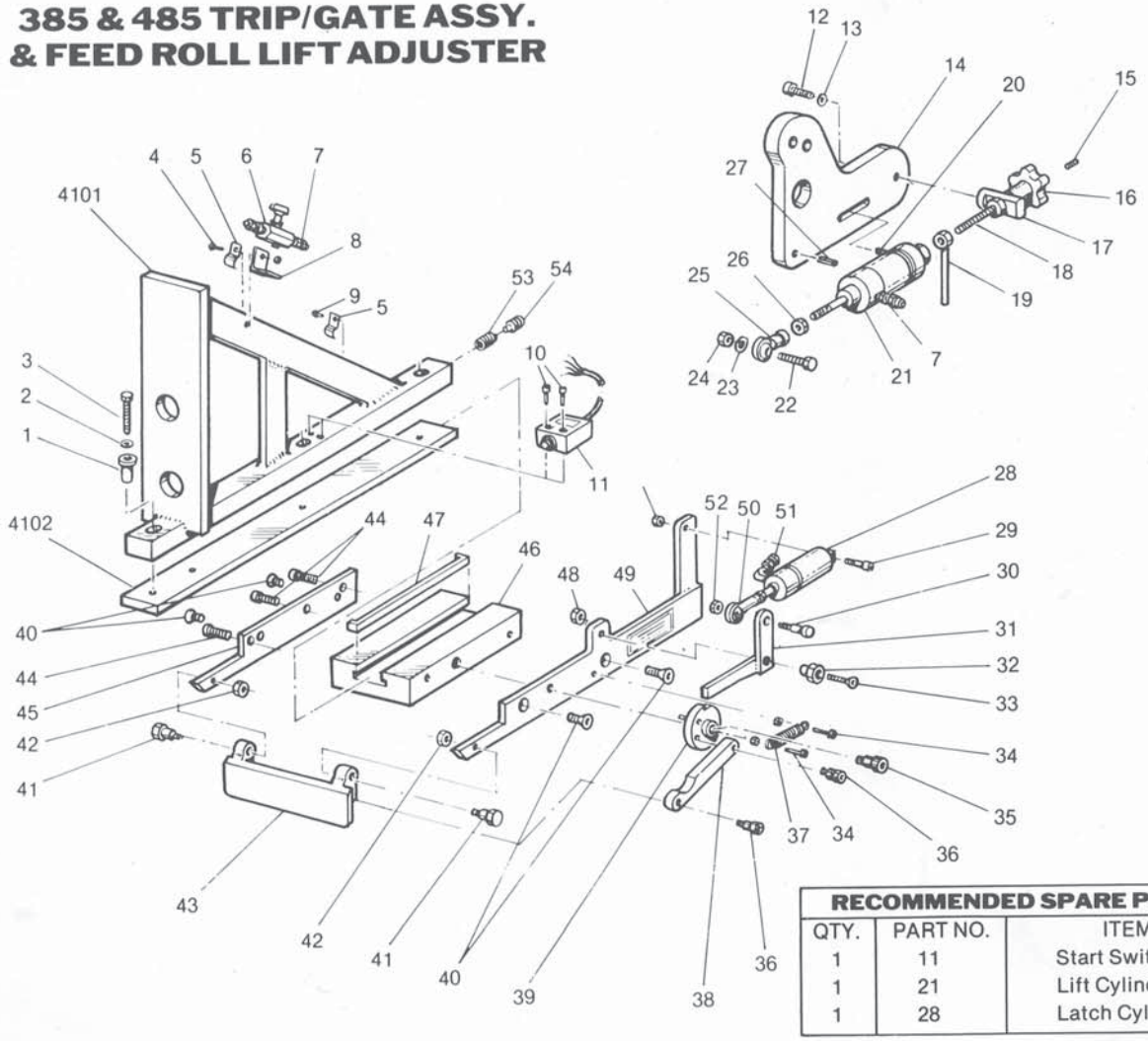


PARTS LIST FOR MODELS 385 and 485

RECOMMENDED SPARE PARTS		
QTY.	PART NO.	ITEM
1	498	Stitch Counter
1	491	Reed Switch
1	450A	Magnet
1	497	Solenoid Valve
1	483	Air Cylinder
1	411	Overrunning Clutch
1	413	Auxiliary Brake
2	440D	Clutch/Brake Disc W / Facing
1	425C	High Speed Clutch Disc W / Facing

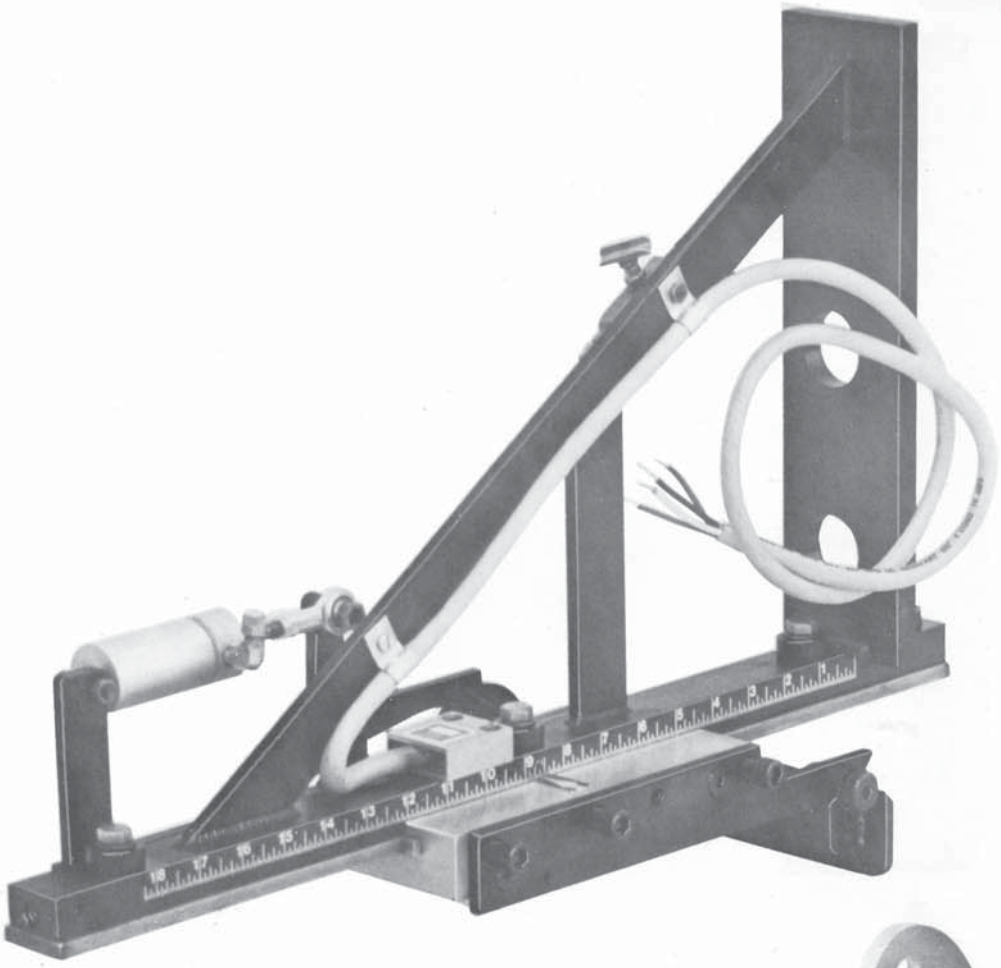
400	TOP FEED ROLL SHAFT
401	TOP FEED ROLL SPROCKET—16 TOOTH
402	TOP UNIVERSAL JOINT
403	TOP JACK SHAFT
404	REVERSE GEAR SHAFT
405	TOP REVERSE GEAR
406	BOTTOM REVERSE GEAR
407	STEP FEED SHAFT
408	BOTTOM UNIVERSAL JOINT
409	BOTTOM JACK SHAFT
410	BOTTOM FEED ROLL SHAFT
411	OVERRUNNING CLUTCH
411A	OVERRUNNING CLUTCH KEY
412	AUXILIARY BRAKE HUB
412A	AUXILIARY BRAKE DISC
413	AUXILIARY BRAKE
414	AUXILIARY BRAKE MOUNT
415	SPROCKET
416	HIGH SPEED SHAFT
417	SCREW
418	WASHER
419	THRUST BEARING # E9
420	SQUEEZE-LOCK
421	KEY
422	LOCK COLLAR
425A	HIGH SPEED CLUTCH SLEEVE
425B	THRUST BEARING # E20
425C	HIGH SPEED CLUTCH DISC W/FACING
425	HIGH SPEED CLUTCH COMPLETE
426	HIGH SPEED SPROCKET
427	SNAP RING
428	BEARING—SL-16
430	CRANK SHAFT
435A	SPROCKET
435B	BEARING # SL 15
435C	SNAP RING
435D	THRUST BEARING # E8
435F	FLYWHEEL
435	FLYWHEEL ASSY. COMPLETE
440	CLUTCH/BRAKE ASSY. COMP.
440A	CLUTCH & BRAKE SLEEVE
440B	COLLAR
440C	THRUST BEARING # E25
440D	CLUTCH & BRAKE DISC
442	BRAKE PLATE
443	V-BELT # 3 V 475
444	BUSHING
445	SHEAVE
450	DISC
450A	MAGNET
455	SHAFT
456	BELL CRANK
456A(2)	BELL CRANK BUSHING
458	STITCH SPACE LEVER
458A(2)	BUSHING
459	SHOULDER SCREW
460	NUT
461	T-SLOT NUT
462	SCREW
463	HARD WASHER
464	BUSHING
465	OVERRUNNING CLUTCH HUB CASTING
470	AUXILIARY BRAKE GUARD
475	BASE PLATE
476	SHAFT
477	SHAFT
478	SCREW
479	SCREW
480	TURNBUCKLE ASSY. COMPLETE
483	AIR CYLINDER
486	ROD END # FR 8
487	AIR CYLINDER CLEVIS
487A	AIR CYLINDER CLEVIS PIN
490	TRIP LATCH PADDLE
491	REED SWITCH
492	REED SWITCH CLAMP
493	LOCK WASHER
494	SCREW
495	CHAIN # 40
497	SOL. VALVE BO2 (NOT SHOWN)
498	STITCH COUNTER (NOT SHOWN (SPECIFY TYPE)
OC1-1	HIGH SPEED CLUTCH ARM
OC1-2	CLUTCH/BRAKE ARM
OC1-3	CLUTCH/BRAKE SHIFTING YOKE
OC1-4	HIGH SPEED CLUTCH YOKE
OC1-5	LARGE BEARING HOUSING CASTING
OC1-6	SMALL BEARING HOUSING CASTING

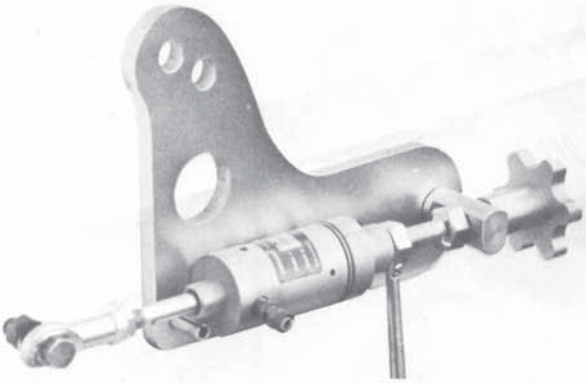
385 & 485 TRIP/GATE ASSY. & FEED ROLL LIFT ADJUSTER

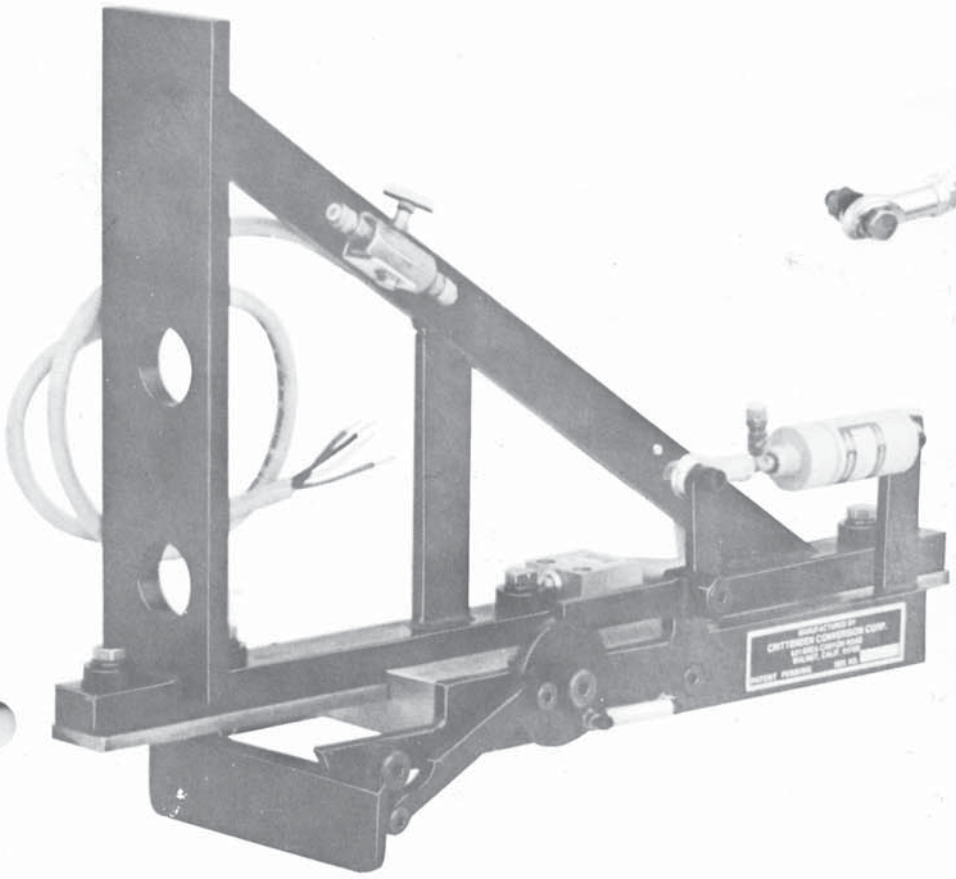


RECOMMENDED SPARE PARTS		
QTY.	PART NO.	ITEM
1	11	Start Switch
1	21	Lift Cylinder
1	28	Latch Cylinder

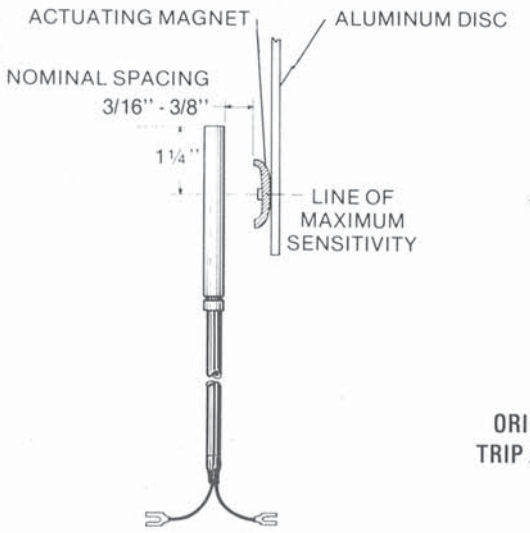
4101	TRIP FRAME
4102	SLIDE RAIL
1 (4)	SPACER
2 (4)	LOCK WASHER
3 (4)	SCREW
4	SCREW
5	CABLE CLAMP
6	RESTRICTOR VALVE
7 (3)	POLY-FLO FITTING
8	BRACKET
9	SCREW
10	SCREW
11	MICRO SWITCH—OCT-35
12	SCREW
13	LOCK WASHER
14	LIFT PLATE
15	SET SCREW
16	KNOB
17	GUIDE
18	ADJUSTING ROD
19	LOCK HANDLE
20	SPRING PIN
21	LIFT CYLINDER
22	SCREW
23	LOCK WASHER
24	NUT
25	ROD END—TF-7
26	JAM NUT
27	SPRING PIN
28	LATCH CYLINDER
29	SCREW
30	SCREW
31	LATCH
32	LATCH ECCENTRIC
33	SCREW
34 (2)	SCREW
35	SHOULDER SCREW
36	SHOULDER SCREW
37	SPRING
38	LINK
39	LATCH CAM
40 (4)	SCREWS
41 (2)	SHOULDER SCREW
42 (2)	JAM NUT
43	TRIP GATE
44	LOCK SCREWS
45	SIDE RAIL
46	SLIDE BLOCK
47	KEY
48	NUT
49	SIDE RAIL
50	ROD END—TF-5
51	POLY-FLO FITTING
52	NUT
53	SPRING
54	SPRING ADJ. SCREW



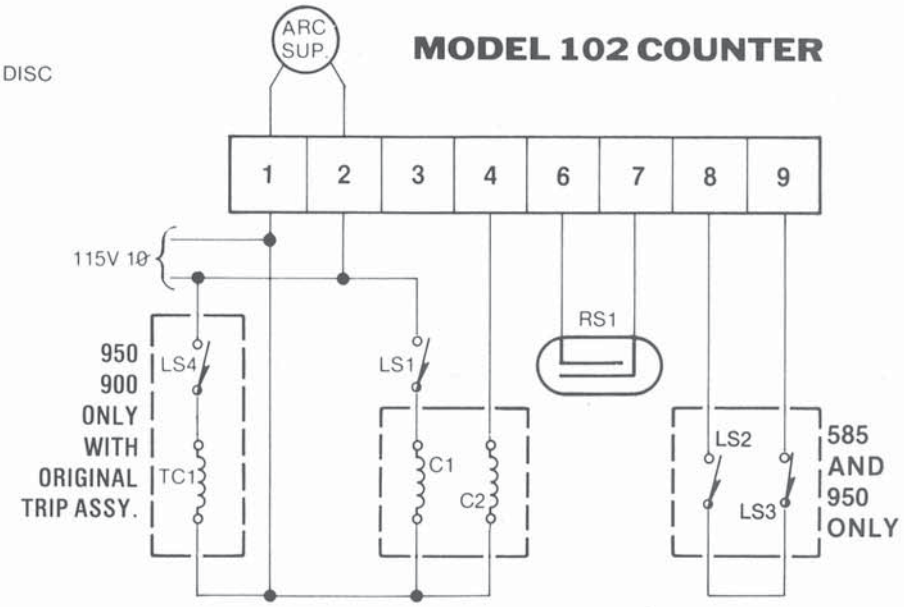




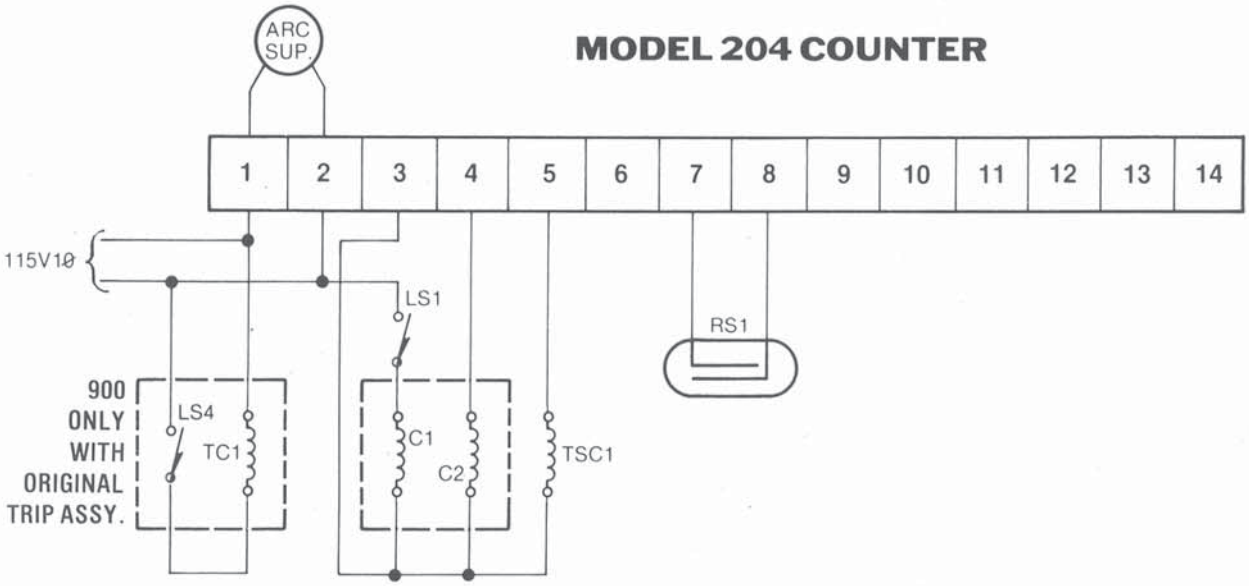
REED SWITCH



MODEL 102 COUNTER



MODEL 204 COUNTER



PNEUMATIC CIRCUIT