



TIE-MATIC[®]
OPERATING MANUAL
FOR
600 Series Machines (603, 604 & 608)



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TM_600 Series Manual_012909

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SECTION I: General Information

SUPPLIES AND SERVICE

The 600 Series machines are designed to wrap and twist tie material to close bags, bundle products and secure wire and cables. PLAS-TIES twist tie material and service should be ordered from your dealer, distributor, or:

PLAS-TIES
14272 Chambers Road
Tustin, CA 92780 USA

Telephone: (714) 542-4487
(800) 854-0137
Fax: (714) 972-2978
Email: info@plasties.com

When contacting Plas-Ties, please have the following information handy:

1. Model Number and Serial Number (see Name Plate)
2. Date of purchase
3. Number of cycles on Counter
4. Type of tie material in use
5. Part Name or description (for replacement parts - see Appendix as reference guide)



SECTION I: General Information

INTRODUCTION

The operating procedures outlined in this manual are prepared to facilitate the Tie-Matic twist tying machine.

CAUTION:
**DO NOT ATTEMPT TO OPERATE YOUR TIE-MATIC BEFORE
READING THE OPERATING INSTRUCTIONS.**

The efficiency and convenience of the Tie-Matic equipment reduces costly labor hours, while increasing output of securely tied products. Semi-automatic operation delivers up to 40 tied bags or bundles per minute with minimal effort. Insert the bundle at the throat to trigger the tying mechanism and get a twist-tie. All bundles and bags are secured with 2-1/2 full twists of tie material.

WARRANTY

Purchaser acknowledges that there are no warranties, expressed or implied, made by **PLAS-TIES**, its distributors or sales representatives related to the Tie-Matic except the manufacturer's warranty against defective materials and workmanship as follows:

PLAS-TIES warrants the Tie-Matic to be free from defects in materials and workmanship at time of delivery. Liability under this warranty is limited to the repair or exchange of any defective part or parts of the unit providing the same is returned to **PLAS-TIES**, transportation prepaid, within 180 days or 300,000 ties. **THE WARRANTY BEGINS FROM THE DATE OF INSTALLATION AT CUSTOMER SITE AND NOT DATE OF PURCHASE. IN ORDER TO ACTIVATE THE WARRANTY, THE NAME, CITY/STATE, AND SERIAL NUMBER MUST BE REGISTERED WITH PLAS-TIES. FAILURE TO DO SO WILL RESULT IN LIMITATION OF THE FULL WARRANTY. THIS IS TO INSURE TOTAL QUALITY ASSURANCE AND 800 TOLL FREE TECHNICAL SUPPORT.**

WARRANTY (continued)

The warranty is void on any Tie-Matic that has been subject to negligence, accident, misuse, failure to use the equipment as instructed in the manual, or that has been tampered with. Cutting the lock will void warranty

This warranty is void if the Tie-Matic is used with anything other than genuine **PLASTIES** twist-tie material.

IMPORTANT: If your Tie-Matic does not operate properly, please bring it to the attention of **PLAS-TIES**, or the dealer or distributor from whom it was purchased. If repairs are needed, the dealer, distributor or other representative of **PLAS-TIES** will arrange to repair or replace parts within the terms of the warranty.

Warranty coverage is limited to the Continental US, Alaska, Hawaii, Puerto Rico, and Canada.

SECTION II: Specifications

MODEL DESIGNATION

This manual covers all models of the Tie-Matic Mark XV. The models are identical in their operation.

Mark XV Models 603, 604 and 608 are equipped with a 2 amp circuit breaker for overload protection U.L. approved for the United States.

SPECIFICATIONS

603-Maximum Tying Diameter Capacity - 3/8"

604-Maximum Tying Diameter Capacity - 5/8"

608-Maximum Tying Diameter Capacity - 7/8"

PERFORMANCE

Up to 40 ties per minute

2-1/2 full twists on product tied

POWER REQUIREMENTS

115 Volts A.C.

2.0 Amp circuit breaker

60 cycle

Option available: 50 cycle,

DIMENSIONS/WEIGHT

Length: 22-1/2"

Height: 10-3/4"

Width at top: 5-1/2"

Width at front feet: 9-1/2"

Weight: 14.8 pounds / 19 pounds with shipping container (no spools)

SECTION III: Operation

MOUNTING AND START-UP

The Tie-Matic machine should be secured to your work table by:

1. Installing the front stabilizer on the unit. (Figure III-1)
2. Rubber suction cup feet (optional part # 16827) are available for complete stability on a stainless steel table or flat surface area (Figure III-2).
3. Also for a permanent position, you can bolt the Tie-Matic to a work table with 10-32 screws to the bottom of the unit.
4. The Tie-Matic machine must be set in the "HOME" position to start the twist-tying process. To set the "HOME" position, align the orange mark on the switch cam with the orange mark on the safety cover. (Figure 111-3)
5. To start the machine, plug the machine into a power source and flip the "ON/OFF" switch to "ON" position on the side of the machine.
6. Cover must be closed to activate machine.

Front Stabilizer



(Figure III-1)

Suction Cup Feet



(Figure III-2)



(Figure III-3)

SECTION III: Operation

LOADING MATERIAL (Models 603, 604, 608)

1. Turn OFF machine before loading material.
2. Hold spool of material with label facing Right-hand palm as shown in (Figure III-4).
3. 3. Once the spool is placed on the spindle, the leading end of the material will feed off the top of the spool heading toward the spool brake arm at the rear of the machine (Figure III-5). Feed material under small roller on brake arm, over top of roller and through no-back clip located at the rear of the machine (Figure III-6). The flat side of material should be facing toward the inside of the machine. (see label inside Tie-Matic cover)
4. Pull about 6-8" of material through the no-back clip (Figure III-7). The end of the material will now be fed through pinion support marked with bright orange to indicate entry.
5. Pull out idler wheel to allow material to pass into the pinion support (Figure III-8).
6. Feed material up to cut-off area just behind cutters.
7. Turn ON the switch located on the side.
8. Cycle the machine and remove any missed ties with caution. If necessary, use needle-nose pliers to remove excess ties.
9. Machine is now ready to operate. If machine is loaded properly, flat side of material will be against your product, creating a tight, secure tie. As shown on the back of the cover label.
10. Ribbon length as required per machine:

Model Ribbon Length:

603 = 3 -11/16" long

604 = 4" long

608 = 4 -7/8" long

SECTION III: Operation

LOADING MATERIAL (MODELS 603, 604, 608)



(Figure III-4)



(Figure III-5)



(Figure III-6)



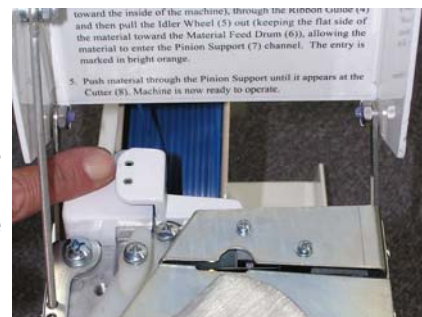
(Figure III-7)



(Figure III-9)

UNLOADING MATERIAL

Turn OFF the machine before unloading material or to change spools. It is necessary to depress the “no-back” before removing material from machine (See Figure III-9). Material must be removed from the rear of the machine.



SECTION III: Operation

FUNCTIONAL INFORMATION FOR THE TIE-MATIC MACHINE

HOW IT WORKS:

When a product is inserted into the throat of the machine, it depresses a trigger which trips a limit switch, starting the drive gear motor. The gear motor causes the gear segment to operate through one revolution. This one revolution feeds tie material, wraps it around the product, cuts material to required length and twists ends together.

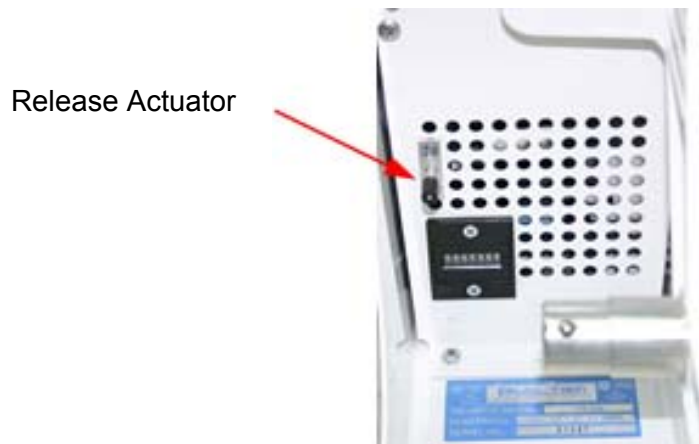
The product has now been tied and is removed by pulling toward the operator. The Tie-Matic will repeat tying cycle ONLY after tied product is removed and another product inserted into the throat.

CLEARING A JAM:

As a safety precaution, the power switch should ALWAYS be turned to the OFF position when inspecting the mechanism for any reason, such as: unloading or reloading twist tie material, cleaning the machine, removing material or performing adjustments.

When material jams the twist-tying cycle, you will need to depress the Release Actuator (Appendix A, Item #185) to unlock the motor brake and remove the jammed material (See Figure III-10).

The Tie-Matic must be set in the "HOME" position to start the twist-tying process. To set the "HOME" position, align the orange mark on the switch cam with the orange mark on the safety cover.(See Figure III_3)



(Figure III-10)

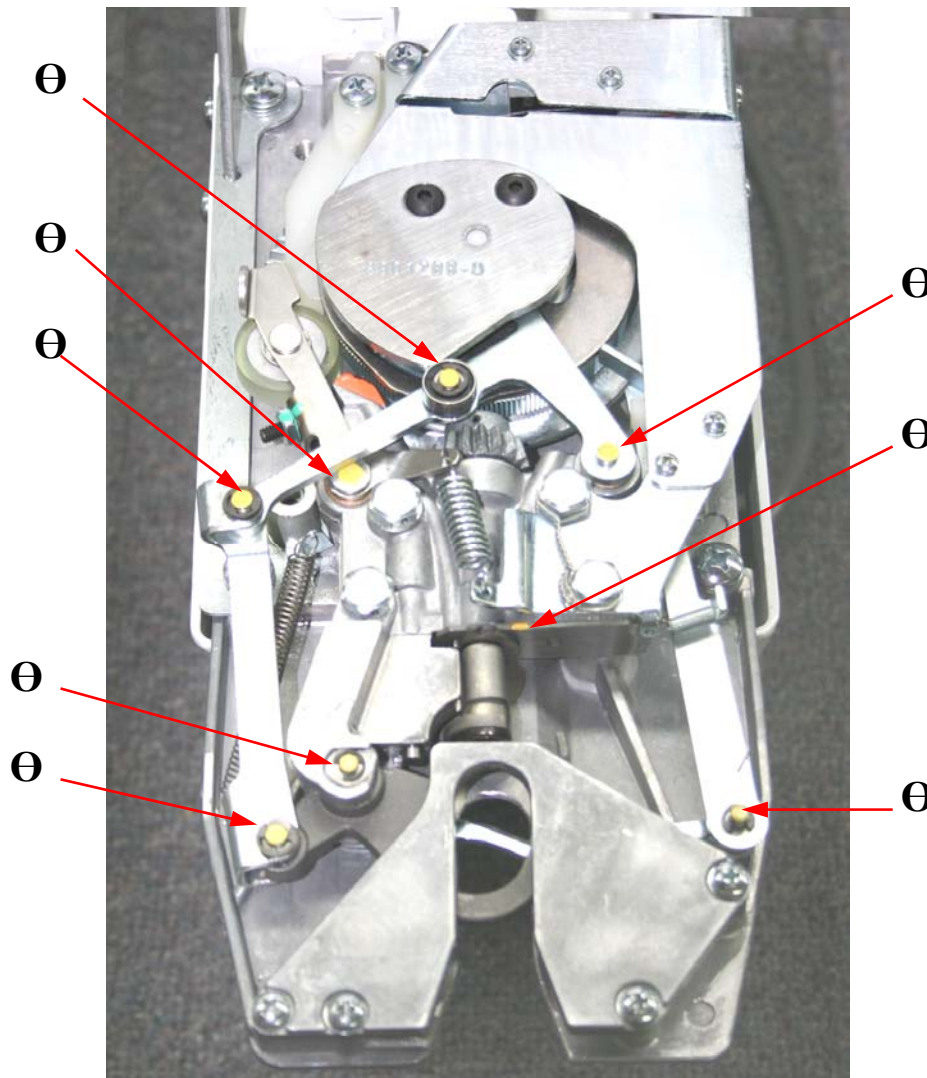
SECTION IV: Maintenance

GENERAL

The Tie-Matic machine is designed for simple operation and, with reasonable care and maintenance, will provide long service.

LUBRICATION

1. Turn OFF the machine
2. Air hose the dust from the machine
3. Lubricate the machine with 1 to 2 drops of 3-in-one multi-purpose oil every 50,000 ties. Apply to areas marked with yellow dots or Θ as shown in Figure IV-1 (8 locations).
4. Lubricate gear segment (Item # 420 of Appendix B) with food machinery lubricant (Bel Ray).



(Figure IV-1)

SECTION IV: Maintenance

CAUTION:

DO NOT OVER-OIL OR OVER-LUBRICATE MACHINE

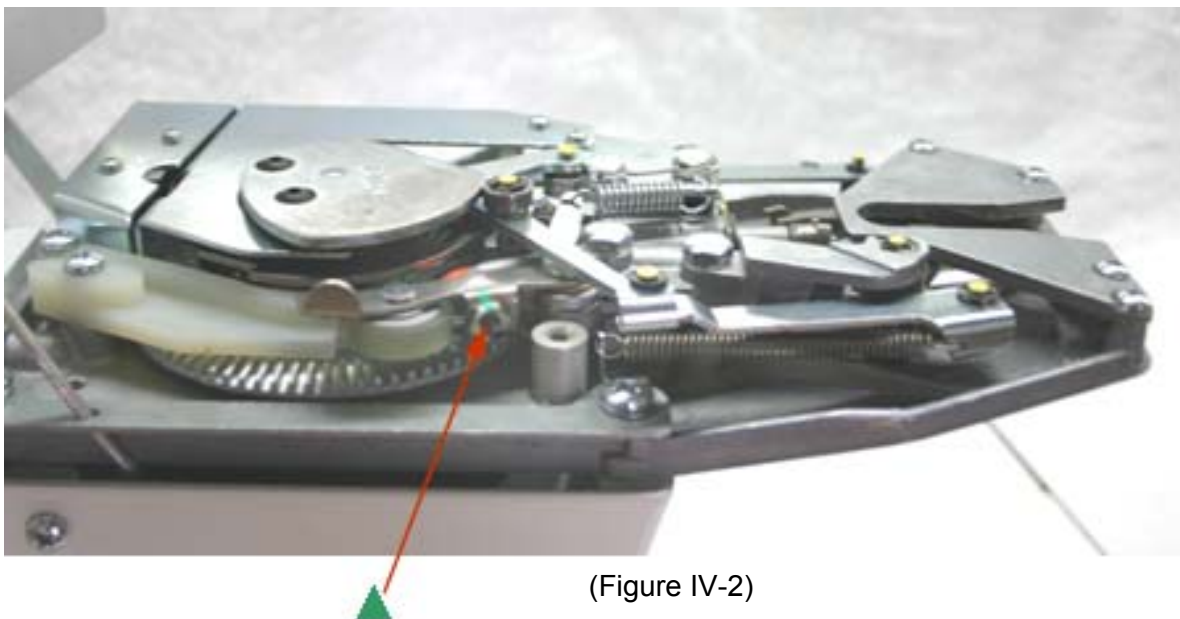
It is important that the material feed drum and idler pressure wheel be kept free of lubricants. Excess lubrication to the drum (Item #425 of Appendix B) will result in an improper tie due to material slippage, requiring a thorough cleaning of the material feed drum and idler wheel before reuse. Excess oil lubrication could damage the motor.

SECTION V: Adjustments

MATERIAL FEED IDLER (APPENDIX B, ITEM #195)

In the event that the length dimension is out of specification and adjustment is required, perform the following:

1. Cycle the machine to measure the tie length (see page 10, Ribbon Length Per Model)
2. If out of specification, loosen adjusting screw nut (Part # P001070) - Marked with Green or ▲ on Figure IV-2)
3. To increase the length of the tie, turn the set screw (Part # P001230) counter-clockwise. Turning clockwise will shorten the tie length. Adjust as necessary.
4. To keep the settings, secure the screw nut.



(Figure IV-2)

SECTION V: Troubleshooting

<u>Condition</u>	<u>Cause</u>	<u>Correction</u>
A. Machine jammed	a. Using non-Plas-Ties material b. Improper threading of material c. Oversized bundle to be tied d. Material jammed at throat of machine	a. Use Plas-Ties material only b. Check spool & ribbon threading c. Do not exceed capacity diameter of the machine d. Press Release Actuator (Appendix A, Item #185) to allow the motor to rotate, then remove the jammed material.
B. Machine circuit breaker trips	a. Motor locked due to jamming	a. Press circuit breaker (#80 on Appendix A) and remove material causing the jam
C. Material end crushed	a. Cutters dull or worn out b. Improperly installed movable c. cutter	a. Replace worn cutter b. Install properly
D. Machine won't start	a. Power cord not connected b. Circuit breaker tripped c. Motor malfunction d. Machine switched off	a. Connect to outlet b. Reset circuit breaker c. Replace motor d. Check ON/OFF switch
E. Missing Ties	a. Loosely wound ribbon on spool b. Oil or grease on material or feed drum c. Defective spool brake spring d. Improper tie length e. Pinion channel obstructed f. Package too big	a. Rethread material taut b. Clean material feed drum c. Replace spring d. Adjust idle lever e. Clean channel f. Use larger model of machine

SECTION V: Troubleshooting

<u>Condition</u>	<u>Cause</u>	<u>Correction</u>
F. Tie length short	a. Oil or grease on material feed drum b. Brake arm binding c. Material snag in spool	a. Clean with appropriate solvent b. Check material alignment on spool c. Take out snag and rethread
G. Machine won't stop at end of cycle	a. Defective limit switch b. Switch activating cam spring defective c. Defective motor	a. Replace switch b. Replace spring c. Replace motor
H. Machine not working	a. Switch Actuating cam is not at HOME position b. Material jammed at pinion support	a. Align the orange dot on the cam with the orange dot on the pinion to start the machine at "HOME" position. b. Clean jammed material

SECTION VII: Parts List

Item #	New Part No.	Description	Qty
5	P001270	Screw - Pan Head Phillips 8-32 x .500	2
10	P001200	Screw - Pan Head Phillips 8-32 x .625	1
15	A301140	Cover / Label - Assembly (603)	1
	A301141	Cover / Label - Assembly (604)	1
	A301142	Cover / Label - Assembly (608)	1
20	P001430	Washer - Flat No. 8	1
25	P001430	Washer - Flat No. 8	1
30	P001530	Spacer - Cover	1
35	M001060	Stop - Cover	1
40	P001330	Screw - Pan Head Phillips .250-20 x 1.0	2
45	P001450	Lockwasher - Internal Tooth .250	2
50	S001030	Guide - Cover	1
55	P001560	Switch - On / Off	1
	P001650	On / Off Plate	1
60	M001240	Case	1
65	A101040	Foot Stabilizer - Assembly	1
70	P001290	Screw - Pan Head Phillips 10-32 x .500	2
75	P001540	Foot - Rubber	2
	P001210	Screw -Type F, Pan Head Phillips 10-32 x .500	2
80	A301010	Power Cord - Assembly	1
	P001320	Screw - Pan Head 10-32 x .250	
	P001480	Lockwasher - Internal Tooth No. 10	
85	P001280	Screw - Pan Head Phillips 10-32 x .313	4
	P001480	Lockwasher - Internal Tooth No. 10	4
90	P001580	Circuit Breaker - 115v 2 amp	1
	P001880	Lockwasher - Internal Tooth .375	1
	A301160	5" Wire - Assembly	1
95	P001080	Nut - Hex .250-20	2
100	P001450	Lockwasher - Internal Tooth .250	2
105	P001060	Nut - Lock 8-32	1
110	P001430	Washer - Flat No. 8	1

SECTION VII: Parts List

Item No.	New Part No.	Description	Qty
115	S001180	Hinge - Support Bracket	1
120	P001450	Lockwasher - Internal Tooth .250	2
125	M001130	Nut - Hinge Cover	2
130	P001470	Lockwasher - Internal Tooth No. 8	2
135	P001330	Screw - Pan Head Phillips .250 x 1.0	2
140	P001920	Washer - Nylon No. 8	2
145	S001220	Divider - Case	1
150	P001480	Lockwasher - Internal Tooth No. 10	4
155	P001320	Screw - Pan Head 10-32 x .250	4
160	P001940	Screw - Flat Head Phillips 6-32 x .188	2
165	A301020	Counter - Assembly	1
170	P001630	Screw - Flat Head 4-40 x .375	2
175	M001040	Seal - Counter	1
180	P001640	Nut - Hex 4-40	2
185	A301170	Release - Acutator Switch - Assembly	1
190	M001270	Pin - Idler Lever	1
195	A301060	Lever - Tape Feed Idler - Assembly	1
200	M001460	Spring - Tension Material Feed	1
205	P001340	Screw - Pan Head Phillips .250-20 x 1.250	4
210	P001450	Lockwasher - Internal Tooth .250	4
215	A301080	Idler Lever Plate - Assembly	1
	S001190	Idler Lever Plate	1
	M001010	Support	1
	P001240	Pan Head Screw 2-56x.313	2
	P001440	# 2 Lockwasher	2
220	P001520	Spring Link - Switch Actuating	1
225	P001140	E- Ring	1
230	S001100	Link - Switch Actuating	1
235		Delete	
240	P001190	E- Ring	1
245	P001500	Curved Spring Washer No. 10	1
250	S001230	Link - Needle Operating	1
255	M001260	Pin - Idler Wheel	1

SECTION VII: Parts List

Item No.	New Part No.	Description	Qty
260	A301050	Needle - Assembly (603)	1
	A301051	Needle - Assembly (604)	1
	A301052	Needle - Assembly (608)	1
265	P001170	Crescent External Ring	1
270	M001080	Pin - Clevis	1
275	M001220	Sleeve	
280	P001140	E- Ring	1
	A201030	Master Pinion Support - Assembly (603)	1
	A201031	Master Pinion Support - Assembly (604)	1
	A201032	Master Pinion Support - Assembly (608)	1
	A301120	. Pinion Support - Assembly	1
285	A401030	. Pinion - Assembly	1
290	A301100	Trigger Lever - Assembly	1
295	M001230	Spring - Trigger Return	1
300	S001070	Shim .005	A/R
	S001080	Shim .010	A/R
305	P001160	Crescent External Ring	1
310	P001160	Crescent External Ring	1
315	P001730	Shim - Pinion Support	1
320	M001340	Cover - Trigger (603)	1
	M001600	Cover - Trigger (604)	1
	M001610	Cover - Trigger (608)	1
325	P001470	Lockwasher - Internal Tooth No. 8	4
330	P001980	Screw - Pan Head Phillips 8-32 x .375	4
335	A301090	Pinion / Shaft - Assembly	1
340	A301110	Needle Actuating - Assembly	1
345	M001020	Guide - Tape Feed	1
	S001050	Shim - Material Guide	A/R
350	P001480	Lockwasher - Internal Tooth No. 10	2
355	P001300	Screw - Pan Head Phillips 10-32 x .750	2

SECTION VII: Parts List

Item No.	New Part No.	Description	Qty
360	P001380	Screw - Pan Head Phillips, 4-40 x .313	1
365	P001250	Screw - Pan Head Phillips 4-40 x .250	1
370	P001720	Shim - Gear Segment	A/R
375	P001980	Screw - Pan Head Phillips 8-32 x .313	4
380	P001470	Lockwasher - Internal Tooth No. 8	4
385	P001740	Motor - Gear	1
390	S001170	Plate - Motor Mount	1
395	P001310	Screw - Flat Head Phillips .250-20 x .375	4
400	P001450	Lockwasher - Internal Tooth .250	4
405	P001150	E- Ring Bowed	1
410	P001720	Shim - Frame	A/R
415	A401100	Gear Support Frame - Assembly (603)	1
	A401101	Gear Support Frame - Assembly (604)	1
	A401102	Gear Support Frame - Assembly (608)	1
	M001350	. Frame - Gear Support (603)	1
	M001580	. Frame - Gear Support (604)	1
	M001590	. Frame - Gear Support (608)	1
	P001030	. Bearing - Radial Ball	2
	P001550	. Groument	1
	A401120	Master Gear Segment - Assembly	1
420	A501030	Gear Segment - Assembly	1
425	S001140	Drum - Material Feed (603)	1
	S001240	Drum - Material Feed (604)	1
	S001250	Drum - Material Feed (608)	1
430	P001460	Lockwasher - Internal Tooth No. 4	2
435	S001150	Guard - Cam Return Spring	1
440	P001250	Screw - Pan Head Phillips 4-40 x .250	2
445	P001390	Screw - Flat Head Phillips w/Undercut Head 4-40 x .313	1
450	A401020	Micro Switch - Assembly	1

SECTION VII: Parts List

Item No.	New Part No.	Description	Qty
455	P001600	Spring - Cam Return	1
460	S001015	Switch Cam - Assembly	1
465	S001210	Cam - Laminate	3
470	M001140	Bearing - Thrust	1
475	S001200	Cam - Needle	1
480	P001370	Screw - Button Head Cap 10-32 x .625	2
485	P001260	Screw - Pan Head Phillips 4-40 x .875	2
490	P001460	Lockwasher - Internal Tooth No. 4	2
495	S001120	Cover - Switch	1
500	M001050	Insulator - Switch	1
505	M001200	Spacer - Switch	1
510	S001110	Cover - Safety	1
515	A301150	Brake Arm Spool Assembly	1
520	P001290	Screw - Pan Head Phillips 10-32 x .500	2
525	P001480	Lockwasher - Internal Tooth No. 10	2
530	A301130	Spindle Assembly	1
535	A101030	Brake - Assembly	1
	M001100	. Beam - Brake	1
	M001540	. Spring - No Back	1
	M001550	. Spring - Brake Arm	1
	P001130	. Roll Spring Pin .125 x .563	2
	P001350	. Shoulder - Bolt .375-16	1
	P001360	. Hex Bolt .250-20 x .500	1
	P001490	. Washer - Nylon .250-20	1
	S001040	. No-Back	1
600	P001180	Internal Ring	1

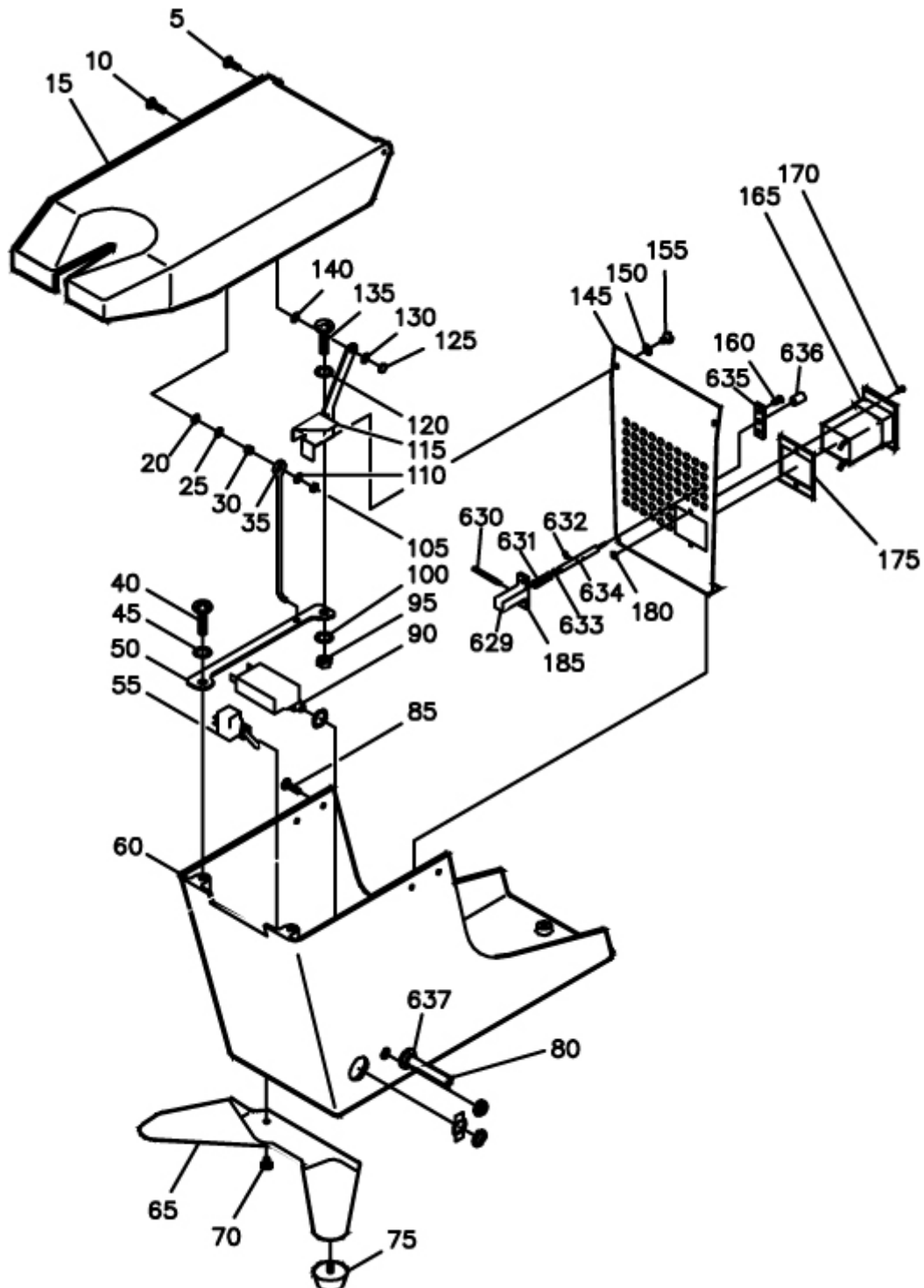
SECTION VII: Parts List

Item No.	New Part No.	Description	Qty
601	S001060	Deflector	1
602	M001330	Twister Ribbon	1
603	M001190	Spring Cover	1
604	M001150	Cutter Spring	1
605	M001370	Movable Cutter	1
606	M001380	Stationary Plate	1
607	M001180	Cutter Locating Pin	1
608	M001220	Needle Pivot Sleeve	1
609	P001030	Bearing - Thrust	2
610	S001260	Needle Return Spring Plate	1
611	M001570	Needle Return Spring	1
612	M001010	Support	1
	P001240	Pan Head Screw 2-56x.313	2
	P001440	# 2 Lockwasher	2
613	A401075	Wheel Assembly	1
614	M001260	Idler Wheel Pin	1
615	P001230	8-32x.750 Set Screw	1
616	P001070	8-32 Hex Nut	1
617	P001190	Snap Ring	1
618	P001510	Bearing	1
619	S001130	Needle Actuating Lever	1
620	M001550	Spring	1
621	A401090	Brake Arm Roller Assembly	1
622	P001090	Push Nut	2
623	M001120	Roller Shaft	1
624	S001090	Brake Spool Arm	1
625	S001280	Brake Arm Shield	1
626	P001040	Nylon Split Bushing	1
627	P001350	3/8-16 Shoulder Bolt	1
628	M001030	Brake Arm Spool Plate	1
629	M001660	Release Actuator Switch Housing	1
630	M001680	Release Actuator Switch Shaft	1
631	P001970	Release Actuator Switch Spring	1
632	P001950	E Ring	1
633	P001960	Flat Washer	1
634	M001670	Shaft	1
635	M001650	Release Actuator Switch Plate	1
636	M001160	Needle Stop Cushion	1
637	P0015901	Strain Relief Bushing	1
638	S001040	`No-Back	1

**Proprietary Information of Plas-Ties, Co.*

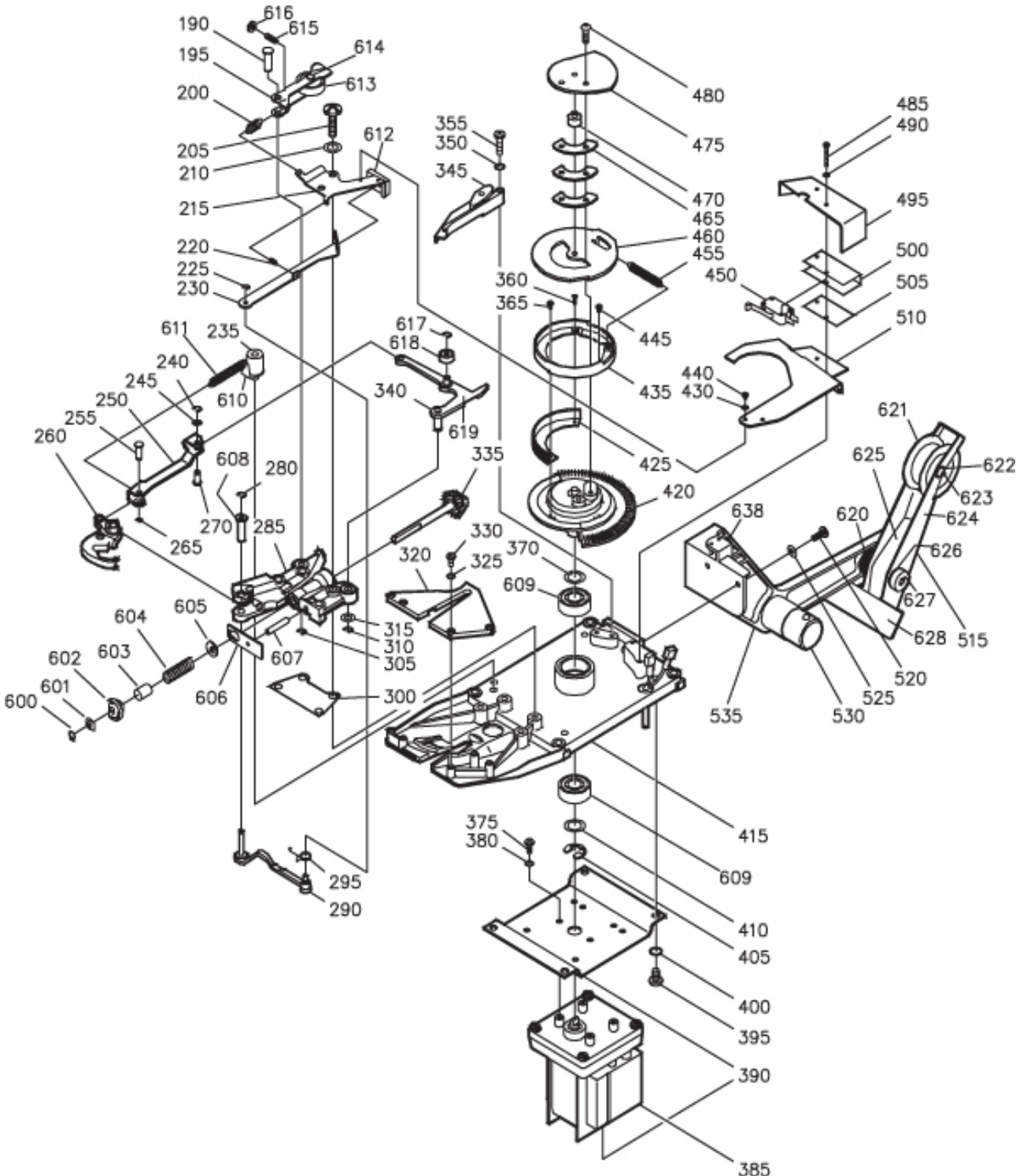
APPENDIX A

CASE & COVER



APPENDIX B

PARTS EXPLOSION



TIE-MATIC®

110V

(600 Series Machines – 603, 604, 608)

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