# OWNER'S MANUAL





EKTELON

# GENERAL INFORMATION

EKTELON'S NEŌS STRINGING MACHINE
ASSEMBLY INSTRUCTIONS
STRINGING GUIDE
MAINTENANCE AND ADJUSTMENTS
PARTS AND COMPONENTS



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#### IMPORTANT:

Keep this owner's manual for reference and ordering parts and accessories.

### **CONGRATULATIONS**

... and thank you for purchasing Neos, Ektelon's next generation in stringing machines. Totally new, absolutely professional, Neos has been redesigned from top to bottom for hands-on speed and accuracy. We've made it simple yet functional, so you can string more racquets with greater precision and reliability. And greater profit.

Neos is the innovative product of over two years of intensive research and development by Ektelon's research and development team. Since 1964, Ektelon has built an enviable reputation for manufacturing the world's most recommended stringing machines — our performance is the standard by which all others are judged. Neos embraces the quality, feel and durability of Ektelon's stringing machine legacy.

Neos is covered by the greatest warranty in the business — a full five years on parts and labor. Professional, technical support is just a phone call away. And Ektelon's service is second to none. To eliminate downtime, we get replacement parts into your hands fast.

Again, thank you for choosing Ektelon! If you have any questions or need further information, please contact the Ektelon Customer Service Department Monday through Friday between 8:00 a.m. and 3:00 p.m. (Eastern Standard Time) at 800/283-2635.

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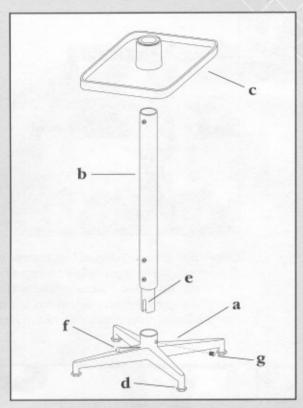
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#### **CUSTOMER SERVICE DEPARTMENT**

Toll-Free Phone Number: (800) 283-2635

# ASSEMBLY INSTRUCTIONS

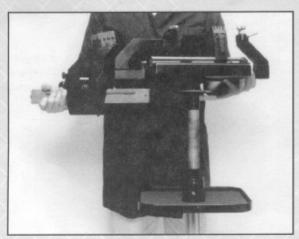
STEP 1



Your Neos Stringing machine comes in four (4) parts: base (a), column (b), tool tray (c), and machine head assembly unit. Remove parts from shipping container carefully. The container should be saved for storage or reshipment. You will need to use the enclosed Allen wrench to assemble your machine.

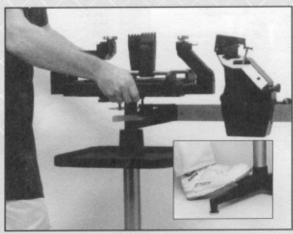
- Thread the base leveling pads (d) into the four "feet" on base (a).
- 2. Insert column (b) into base (a). It is important to line up slot (e) with lever (f). Lock into position with set screw (g) using an Allen wrench.
- 3. Place tool tray (c) over column (b).

2



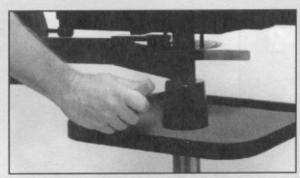
Insert machine-head assembly unit into column top and allow to seat.

STEP 3



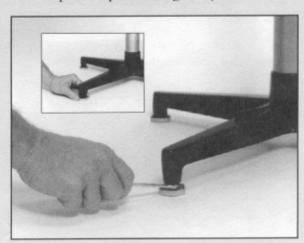
Raise tool tray up to the highest position, securing with Allen wrench. With foot pedal (inset photo) depressed, lift or push to desired height. Note: Unless the lower socket screw is fastened (see Step 4), the tool tray can remain in its lowest position, unlocked, while still being able to raise or lower the head assembly unit.

5TEP 4



Optional locking of machine head assembly. Release socket screw in tool tray and line up lower open hole in the tool tray with the socket screw at the top of the column and lock in position. Repeat Step 3 for height adjustment.

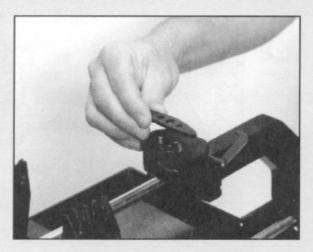
STEP 5



To level base, screw or unscrew foot pads (inset photo) to make floor contact. Lock in place with 7/16" open-end wrench.

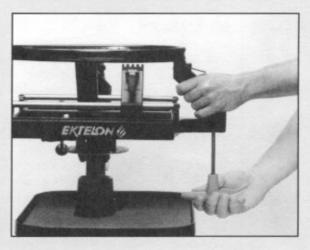
## PREPARING THE MACHINE FOR USE

STEP 1



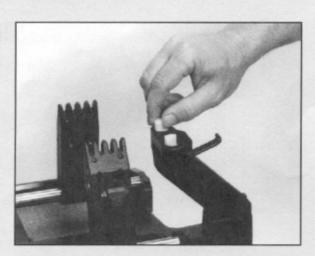
**Install proper frame retainer.** (See page 13, Frame Retainers).

3



Level the frame (vertical adjustment). The factory setting is appropriate for most racquets. However, on some racquets where the throat and the top of the racquet frame are of different thickness, adjustment may be necessary.

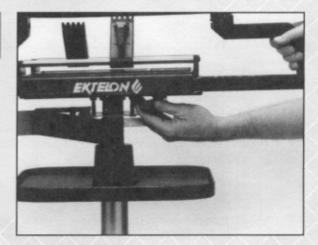
2 2



Adjust tip retainers by threading or unthreading each retainer to desired height.

**NOTE:** Be sure the tip retainers are adjusted to the same height.

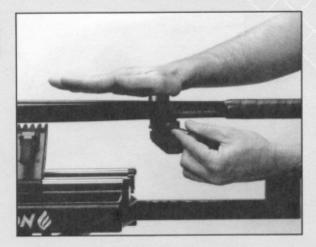
**4** 



Adjust throat riser slide bar to accommodate various sized racquet frames (horizontal adjustment) and lock into position by pulling red locking handle.

**IMPORTANT:** Red locking handle must be pulled firmly to ensure the racquet frame is locked in position during string tensioning.





**Set throat-hold down clamp** with hand pressure and lock down completely with finger locking lever.



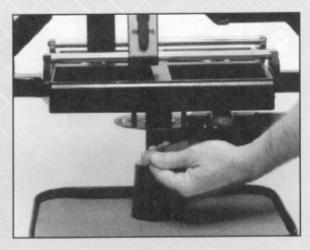
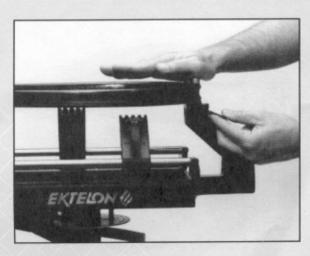


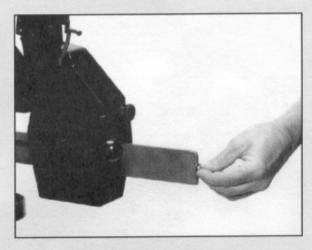
Table brake. Pull lever to set, push lever towards machine to release.





Set tip hold down clamp with hand pressure and lock down completely with finger locking lever.

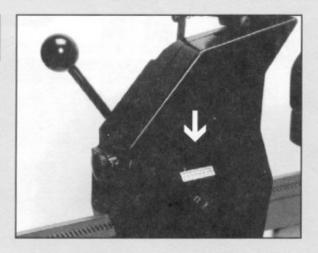
STEP 8



**Important.** Make sure tension arm safety screw with washer is seated to ensure that the tension head cannot slide off tension arm.

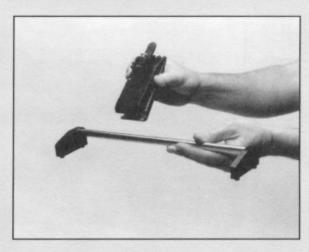
### PREPARING THE MACHINE FOR USE ... Continued

STEP 9



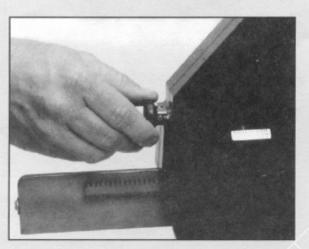
**Tensioning.** A tension scale reading in 5 lb. increments of tension is located on the right side of the tension head.

STEP 11



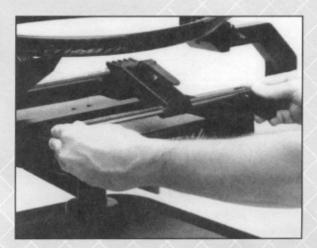
Attaching and mounting the string clamps. Attach a string clamp to each of the long glide bars, as shown. (See clamp positions on the opposite page).

10

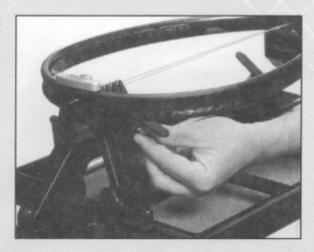


Indicator collar dial for 1-pound increment adjustments. Set tension by turning the knob until the desired pounds (see frame manufacturer's recommendation) are in alignment on both the scale and the collar. Example: To set tension for 28 pounds, the tension scale should read between the 25- and 30-pound mark and the collar should read 3 pounds, with the number on the collar lining up with the right edge of the housing.

12



**Installing the glide bars.** Mount both long glide bars with steel glides riding in the channel of the table. Handles of clamp should face outward.



Adjust string clamp pressure. To adjust correct holding pressure of string clamp fingers, turn the thumb nut clockwise to tighten or counterclockwise to loosen. *Never overtighten* – doing so could cause damage to the string and the clamp.

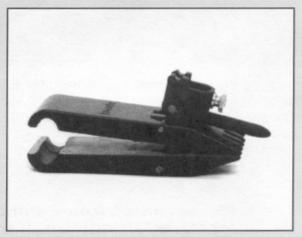
#### **CLAMP POSITIONS**



Locked



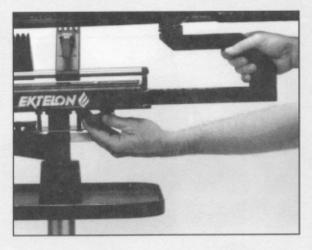
Open



Removable

### STRINGING THE FRAME

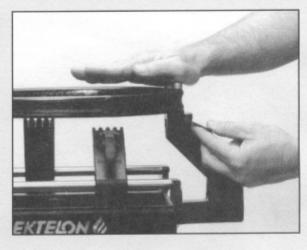
STEP 1



Adjust throat riser slide bar to accommodate various sized racquet frames (horizontal adjustment) and lock into position by pulling red locking handle.

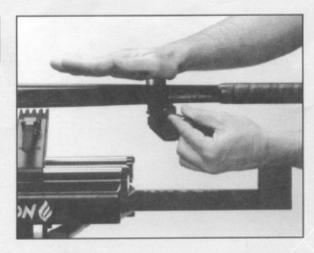
**IMPORTANT:** Red locking handle must be pulled firmly to ensure the racquet frame is locked in position during string tensioning.

3

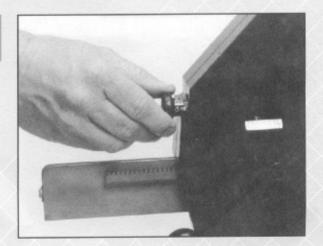


Recheck tip hold down clamp by pressing against hold down clamp with the palm of the hand and raising and resetting hold down lever as shown.

2

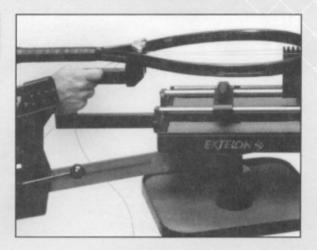


Recheck throat hold-down clamp by pressing against hold down clamp with the palm of the hand and raising and resetting hold down lever as shown. STEP 4



**Setting the tension.** Set tension according to frame manufacturer's recommendations.

Please consult frame manufacturers's recommendation for correct stringing patterns and tensions.



Stringing the frame. Thread the end of string through the center holes at tip of frame. Pull end through the corresponding hole at the throat until taut. Set string clamp up against frame and clamp first main string. Reverse this process for throat-centered mains.





Threading string through tension head. Place opposite string (not the one already clamped) in jaws of tension head. Hold string to one side until it grips securely when tension crank is rotated backward. Release string and continue pulling back tension crank until locking lever engages. This locks the tension head to tension arm.





Check tension-head positioning. Turn handle to position tension head as close as possible to racquet frame.

STEP 8



Clamping string. String clamps should be angled so that the string is placed inside the clamp fingers near the "finger tips" (where the fingers just begin to narrow). Position the clamp as close to the racquet frame as possible.

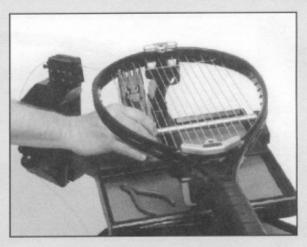
### STRINGING THE FRAME ... Continued

9



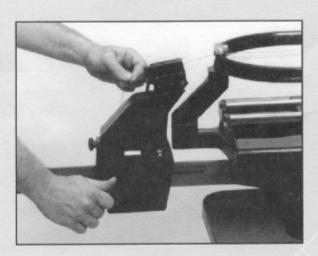
Release tension head. Holding on to tension head crank, push the locking lever up into the catch on the self-tightening clamp, then move the tension head forward slightly. This lets you lift the string out of the self-tightening clamp in order to string it through the next hole.

STEP 11



Use of one long bar for cross stringing. One long glide bar with one clamp can be used to install the cross strings by removing one long glide bar and installing the remaining bar in the channel perpendicular (90 degrees) to its original position.

10

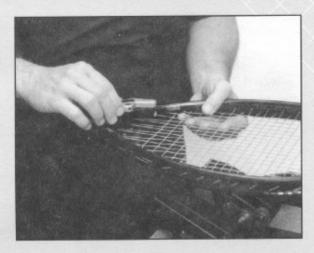


Stringing the second main. Swing the racquet frame around, and thread the second string through the tip of the frame. Position the tension head the same way you did when it was at the throat. (Repeat Step 7 on Page 7). Release string clamp at the throat, slide it to the tip, and string clamp it to the string you have just tensioned. To reduce frame distortion, alternate stringing mains from left to right in groups of two or three until all mains are strung. Tie off.

12 12



Stringing the crosses. Weave and tension all of the cross strings, clamping the strings as was done for the main strings. After all of the cross strings are strung, tie off.



Removing the racquet. Release tip hold down clamp and throat hold down clamp. Remove racquet from stringing machine. Straighten strings.

15



Optional use of short glide bars for main strings. For stringing main strings with short glide bars, install bridge bars.

5TEP 14



Optional use of short glide bars. Tilt glide bars and install as shown.

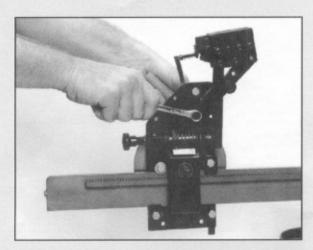
Note: When adjusting the short glide bars, make sure that the bearing is up against the inside of the table. There should be a 0.010" to 0.015" end clearance so that the glides will move freely. (See Glide Bar Adjustment on Page 10).

### MAINTENANCE AND ADJUSTMENTS

Your Ektelon stringing machine is adjusted properly prior to shipping, and is designed to be relatively maintenance-free. During the use of the machine, some simple adjustments and care will keep it working properly. Glide bars and clamps must kept free of residue to prevent slippage.

#### CLEANING THE MACHINE

To remove built-up residue and dirt from the glide bars, contact areas of the string clamps and tension head self-tightening clamp, simply use alcohol or light, nonabrasive cleaning fluid. Do not use sandpaper or any abrasive material on these areas. Keep the table glide bar channels free of residue and dirt in the same manner. This will allow the glide bars to move freely.

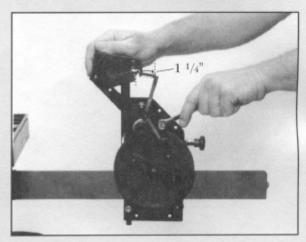


#### ADJUSTING THE LOCKING LEVER

Remove the tension head cover by removing the 3 screws located on the locking lever side of the tension head. (The locking lever will need to be released. Place 1/4" Allen wrench into hex socket of locking lever screw. Place 7/16" wrench on a cap screw directly opposite other side of tension head. Turn Allen wrench and 7/16" wrench at the same time and in the same direction until lever is the proper distance from the catch. See the following instructions for further details

- 1. Turn screw and bolt simultaneously with Allen wrench and 7/16" wrench. Downward adjustment will move lever further from catch.
- Upward adjustment will move lever closer to catch.
- 3. Once proper adjustment is achieved, hold Allen wrench and tighten bolt by moving <sup>7</sup>/16" wrench clockwise. Proper distance between catch and lever release should be approx. 1 <sup>1</sup>/4".

#### LOCKING LEVER ADJUSTMENT



 If Tension head slips forward after locking lever is disengaged.

Remove cover, loosen cap screw and rotate tab affixed to spring upward to increase spring force, downward to decrease pressure. Note: Adjust tab no more than 1/8" in either direction.

#### **GLIDE BAR ADJUSTMENTS**



· If Glide bars won't slide.

Loosen screws under the slides. Adjust the slides into the slots along the rails. When adjusting the short glide bars, make sure that the bearing is up against the inside of the rail. There should be a 0.010" to 0.015" end clearance so that the glides will move freely.

#### **GLIDE BAR ADJUSTMENT**

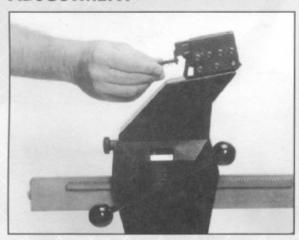


Glide bar ends not parallel.



Loosen glide bar from end with Allen wrench, apply downward pressure to glide bar to level slide and retighten.

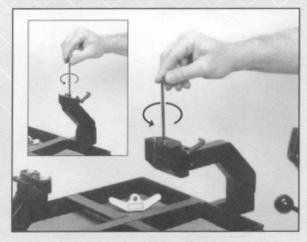
#### SELF-TIGHTENING CLAMP ADJUSTMENT



• If String slips through tension head.

Make sure inner plates of self-tightening clamp are clean. If not, follow cleaning instructions on page 10. If problem persists, turn screw at top of tension head counterclockwise until string is securely grasped.

#### **HOLD-DOWNS ADJUSTMENT**



- If Hold-down clamps do not hold frame securely.
  - Make sure hold-down clamp has been inserted securely by using thumb or palm pressure when inserting pin.
  - 2. Clean hold-down clamp pin with rubbing alcohol to remove residue and dirt.
  - 3. Reinsert hold-down clamp securely.
  - If problem persists, adjust socket screw by a slight turn (1/8") counterclockwise using an Allen wrench.

**Caution:** Care should be taken when this adjustment is made. Over-adjustment could result in frame damage.

#### STRING CLAMP ADJUSTMENT



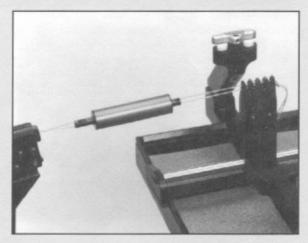
 If String clamp is slips on glide bar, or string slips through string clamp.

First, clean glide bar contact and finger surfaces (see page 10). Turn thumb nut on clamp clockwise slightly until clamp grasps bar securely. A 1/8" turn may only be necessary. String must be in a clamp at the time of adjustment for reference.

Caution: Do not overtighten nut on clamp as permanent damage may occur.

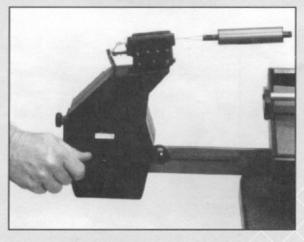
### **MAINTENANCE AND ADJUSTMENTS... Continued**

#### **TENSION HEAD CALIBRATION**



Set up calibrator gage as shown. Set the indicator at 50 lbs. (Tension scale on 50, collar on 0).

#### **CALIBRATION STEP #2**

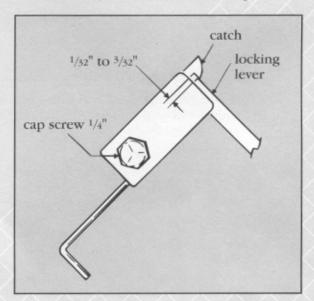


Pull until the locking lever engages.

#### **CALIBRATION STEP#3**



If it engages before 50 lbs. is reached on the scale, adjust the catch downward. A movement of approximately 1/16" downward will increase the release tension by about 5 lbs. If the scale reaches more than 50 lbs. before the locking lever releases, then move the catch upward.



# FRAME RETAINERS/TOOLS



Standard yoke.



Reversed standard yoke.



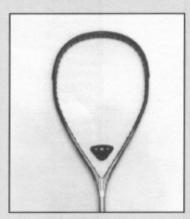
Extended throat frames.



Reverse-curve yoke and non-curved yoke.



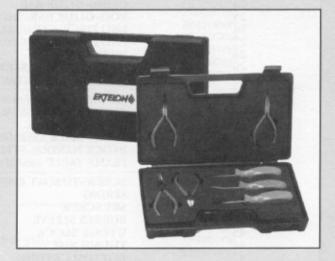
Racquetball frames and for general use.



Deep-V, Squash and Racquetball frames.



Retainers – Set of nine frame retainers (sold as set only).
Part item #72360500



**Tool Kit** – Includes 3 awls, 2 pliers (bent nose and needle nose), 1 side cutter. Comes with plastic carrying case with foam padding.

Part item #72010500

## PARTS AND COMPONENTS

Ektelon's Neos Stringing Machine is designed for accuracy, reliability and durability. Occasionally, it may be necessary to repair your machine or replace parts. For your convenience, below starts a complete list of parts and components available for replacement. A detailed mechanical drawing of Neos is also shown on pages 16 and 17 with corresponding parts/components numbers.

We stand behind all of our equipment, and pride ourselves on the fast service we provide our customers. Ektelon maintains loaner tension heads and string clamps which you may utilize during the time your equipment is out for repair. You may borrow this equipment for a deposit of \$75 plus freight both ways. Deposit is refundable upon return. A customer with a new stringing machine less than 90 days old will receive a loaner at no charge. After 45 days, Ektelon will bill you for these units if they are not returned. Ektelon offers a 5-year warranty on all Neos Stringing Machines. See your warranty policy for details.

Again, thank you for choosing the Ektelon Neos! For ordering, requesting assistance or further information, please contact the Ektelon Customer Service Department Monday through Friday between 8:00 a.m and 3:00 p.m. (Eastern Standard Time) at 800/283-2635.

NUMBER	COMPONENT PART	PART ORDER NUMBER
1	BASE ASSEMBLY	78010000
2	COLUMN	78020000
3	TOOL TRAY	78030000
4	PAD	78040000
5	LEVELING PADS	78050000
6	SET SCREW	
7	TENSION ARM ASSEMBLY	76200700
8	SCREW	78060000
9	DISC-BRAKE	76010700
10		76130700
	SCREW	76140700
11	NUT	76120700
12	PIN-ROLL	78070000
13	DOG KIT	72090500
14	BEARING	78080000
15	FRICTION DISK	78090000
16	COVER PLATE ASSEMBLY	78100000
17	SCREW-COVER PLATE	78110000
18	LEVER ASSEMBLY-THROAT RISER	78120000
19	BRIDGE BAR	78130000
20	EXTRA-LONG GLIDE BAR (rod)	77190700
21		
21 22	END PIECE-GLIDE BAR-LONG r/1	76560700
	PAD	78140000
23	SCREW-GLIDE BAR	78150000
24	GLIDE-GLIDE BAR	76580700
25	ROD-GLIDE BAR-SHORT	78160000
26	END PIECE-GLIDE BAR-SHORT (left w/bearing)	76640700
27	END PIECE-GLIDE BAR-SHORT (right w/bearing)	76650700
28	WASHER	76530700
29	GLIDE-GLIDE BAR-EXTRA LONG	77180700
30	SET OF FRAME RETAINERS	72360500
31	THROAT CLAMP PADS (set of 2) (after 6/1/87 snap-on pads)	
35	CLAMP-UPPER ASSEMBLY-THROAT	
37	WASHER SPECIAL	78170000
38	TROAT RISER ASSEMBLY (includes #35)	78180000
39	BLOCK HANDLE-STRING CLAMP	78190000
40	FRAME TABLE ASSEMBLY (includes #15, 16, 17, 18 & 109)	78200000 78210000
41	SCREW-THROAT RISER	78220000
42	SPRING	78230000
43	SET SCREW	76400700
44	RUBBER SLEEVE	78250000
45	WEDGE BLOCK	78260000
46	THUMB NUT	78270000
47	BOTTOM CASTING	78280000
48	TOP CASTING	78290000
49	COLLAR w/SCREW	78300000
51	PAD-BRAKE (large)	
51 52 53	PAD–BRAKE (large) PIN–PIVOT RETAINING RING	76060700 77000700 78310000

## PARTS AND COMPONENTS

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10	SCREW	76130700 76140700
		/6140/00
11	NUT	76120700
12	PIN-ROLL	78070000
13	DOG KIT	72090500
14	BEARING	78080000
15	FRICTION DISK	78090000
16	COVER PLATE ASSEMBLY	78100000
17	SCREW-COVER PLATE	78110000
18	LEVER ASSEMBLY-THROAT RISER	78120000
19	BRIDGE BAR	78130000
20	EXTRA-LONG GLIDE BAR (rod)	77190700
21	END PIECE-GLIDE BAR-LONG r/1	76560700
22	PAD	78140000
23	SCREW-GLIDE BAR	78150000
24	GLIDE-GLIDE BAR	76580700
25	ROD-GLIDE BAR-SHORT	78160000
26	END PIECE-GLIDE BAR-SHORT (left w/bearing)	76640700
27	END PIECE-GLIDE BAR-SHORT (right w/bearing)	76650700
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42	SPRING	78230000
43	SET SCREW	76400700
44	RUBBER SLEEVE	78250000
45	WEDGE BLOCK	78260000
46	THUMB NUT	78270000
47	BOTTOM CASTING	78280000
48	TOP CASTING	78290000
49	COLLAR w/SCREW	78300000
51	PAD-BRAKE (large)	76060700
52	PIN-PIVOT	77000700
	RETAINING RING	//000/00

54	CATCH-ASSEMBLY	77640700
55	SCREW	76360700
56	SPRING	76290700
57	SCREW	77030700
58	COVER-TENSION HEAD	52910000
59	SCREW	76620700
60	SPACER-GEAR	77050700
61	GAP PIN	78320000
62	BLOCK-SPRING SUPPORT	78330000
63	ARM-SPRING SUPPORT	76900700
64	SPRING	76910700
65	SCREW	76920700
66	SCREW-MODIFIED	76930700
67		
	PLATE w/PAD-BRAKE	76940700
68	WASHER-MODIFIED	76950700
69 70	LOCKING LEVER-WELDMENT	76960700
	BLOCK STOP CAM	76970700
71	SCREW-BLOCK STOP	78340000
72	SCREW	76990700
73	DICS-BRAKE	76820700
74	SPRING	76830700
75	BUSHING-TIP	76840700
76	WASHER	76850700
77	CASTING PIN	78350000
78	NUT-DOUBLE LEAD	76870700
79	KNOB w/SCREW-TENSION ADJUSTMENT	77090700
80	INDICATOR	78360000
81	SPRING	76880700
82	LEVER-SPRING ARM	76890700
83	SCALE-TENSION w/SCREWS	78370000
84	WELDMENT-PLATE-TENSION HEAD	78380000
85	BUSHING	76750700
86	BEARING	77020700
87	TAB-SUPPORT	76780700
88	NUT	76030700
89	SCREW	76590700
90	WASHER	77010700
91	DOGLEG LINK	78390000
92	NUT	76040700
93	STOP-TIP	78510000
94	TOP PIN	78400000
95	GEAR-PINION w/SCREW	77060700
96	TENSION HEAD ASSEMBLY	78410000
97	CLAMP-SELF TIGHTENING ASSEMBLY	
		77110700
98	SCREW	76020700
99 100	PLATE w/PAD-BRAKE (assy.) WASHER	76050700 76080700
101	SCREW	76090700
102	NUT	76100700
103	LEVER-BRAKE-TENSION ARM	76110700
104	RETAINING RING	78420000
105	SCREW-COLUMN	78430000
106	GAS SPRING ASSEMBLY	78440000
107	PUSH ROD	78450000
108	WEIGHT-COLUMN	78460000
109	SLIDING BAR-THROAT RISER	78470000
111	TIP RISER PADS (set of 2)	77580700
112	SHOULDER WASHER	78240000
114	TIP RISER ASSEMBLY (includes #115 & 116)	78490000
115	TIP-RETAINER	52920000
116	CLAMP-HOLD DOWN-TIP	78500000
117	SPEED CRANK HANDLE	72370500
118	SHAFT-GEAR ASSEMBLY	77370700
119	ALLEN WRENCH T-HANDLE	76690100
	BEARING STRIP	78510000
120		(0311/000)
120 121	BEARING	77020700

### PARTS AND COMPONENTS... Continued

