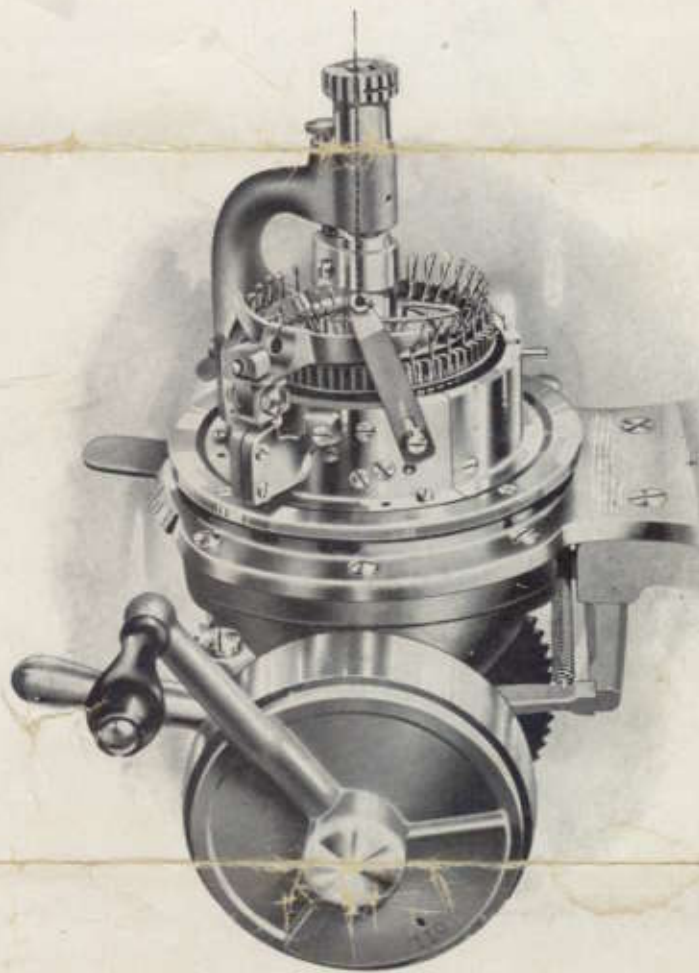


# HARLEY-KAY-MARSLAND

Semi-Automatic Cone Dial Hosiery Machine



HARLEY-KAY-MARSLAND, LIMITED GEORGETOWN, CANADA

# GENERAL INFORMATION

## FEATURES

★ The Harley-Kay-Marsland semi-automatic hosiery machine is especially designed for the rapid commercial production of medium and heavy wool, worsted and solid diamond pattern socks etc.

★ The machine has the largest production of any machine and will knit one and one cuff with or without welt; three and one leg and rib instep or three and one leg throughout with either rib instep or plain foot, or boys' two and one stockings changing colours as desired. The cylinders and dials generally used are 69, 72, or 84 needles, although specials can be cut to order.

★ The driving mechanism is a simple and effective clutch with starting handle immediately in front of the operator.

★ The equal spacing of dial and cylinder needles and adjustment of tensions can be easily made.

★ Timing of dial needles is adjusted by a clamp.

★ Hardened steel cylinder ensures long life.

★ Steel yarn guides with porcelain eyes.

★ Cam cylinders have removeable sections exposing cam action for inspection, standard sizes prevail throughout.

★ Needle cylinder is not held by clamps or screws, but set rigidly over a flanged shell which is an integral part of the machine.

★ Automatic pick cam ensures good heel and toes, as the picking of needles is beyond the control of the operator.

★ Cams are of the best tool steel ground accurately on all surfaces after careful hardening. Working cams are hardened and tempered.

★ Gears are machine cut and all other parts are machined to close tolerances ensuring interchangeability and only four sizes of screws are used throughout for assembly.

★ For power operation a speed of 235 r.p.m. is recommended.

# Instructions for Operating the *Harley-Kay-Marsland* Cone Dial Sock Machine

The welt on this machine is made by taking the yarn from the leading guide, where it must run for all rib knitting, and placing it in the heel and toe guide. Then pull up the plunger which drives the cone dial, and turn the machine three to five courses, according to "size" of welt required. Press the drive pin down and place the yarn in the leading guide and proceed with 1/1. Some extra weight by hand when you are "clearing" the welt may help at times.

When the leg is completed, transfer half the needles in front half of the cone dial to cylinder, then place the yarn in heel and toe guide. This will give you plain knitting for the heel, leaving the yarn guide in front of the machine. Then lift in dial arm, also lift needle bed, which will raise half of the needles in the cylinder so there is a clear course for the cams to operate in the heel and by turning the handle backwards and forwards the pick cam will raise one needle in the first half of heel and the operator presses two needles down on each side on opposite side from yarn in second part of heel. When heel is complete put down all needles in the cylinder—press down bobbin into dial dog, transfer yarn in high yarn guide, then proceed with the foot. The same operation for the toe as for the heel.

In knitting the heel and toe, knit until there are 12 or more needles down, then start to knit the

other half and press two needles down on each side but this number of needles is regulated by whatever size of heel and toe required and number of needles in cylinder.

When finished toe—transfer yarn into the high yarn guide, also transfer every other needle into the dial—then lift bobbin, transfer yarn to heel and toe guide—turn handle three or four revolutions, press down bobbin, this forms the welt—then proceed with the 1/1 as before.

The dial adjustments are controlled by a nut at top of dial shaft and a screw in cone hub to operate dial stitch cam—by raising or lowering, this will give the length of rib stitch required.

The handle at the front of machine is to control the cylinder stitch length.

When starting to knit the heel, the needle bed is at the back of the machine.

Do not use too much weight or the needles will cut the yarn.

The springs on the takeup are only in use when knitting the heel and toe.

The work hook is used to transfer cylinder band over to holder.

This machine must be kept well lubricated.

# Instructions for Making Solid Diamond Hose on the *Harley-Kay-Marsland* Cone Dial Sock Machine

After the 1/1 rib cuff is completed and the needles are all transferred from the Cone Dial to the Cylinder, remove the dial arm (by wing nut) placing yarn in heel and toe guide. Knit as many courses (plain knit) as required before starting to knit a diamond.

The diamond is made by a reciprocating movement, by hand, the same as the heel and toe, and the size of the diamond depends upon the number of needles you select to use and the numbers of needles you 'pick' up and down in each backward and forward movement.

We will now explain the manner in which the large diamond is made. After a number of plain courses are knit following the 1/1 top, turn the yarn guide to the front of the machine, lift up the two ¼" posts which lift the needle bed and raises the back half of the cylinder needles up out of action. Then press needle bed down. These needles are then held up by the spring band. Pull down the sleeve on the half inch rod holding the take-up head. This adds tension and takes up the slack yarn, similar to the heel and toe action on any hosiery machine.

This machine has an up pick cam so turn the machine backwards and forwards until all the needles are picked up, making sure to turn the machine far enough each time so that the needles will clear the safety cams. Bring the yarn guide to front of machine and press down the needles at the back or in other words the needles that were out of action, while you were knitting the front half. Proceed in the same manner until all these needles are picked up.

You will need some extra weight while knitting the first part, so you will find the use of double heel hooks an advantage. You will place these

hooks in a manner to keep the stitches of the yarn down on the needles.

The needles are now all picked up and you have two inverted V's of knitting, one at the front half and one at the back half of machine.

Now it is necessary to change the colour of yarn and start on either side of the machine to take the needles down. Press two needles down. If these two needles are hard to press down it is on account of all the weight pulling on these two needles on each side. Lift the weight by hand a little and you will overcome this.

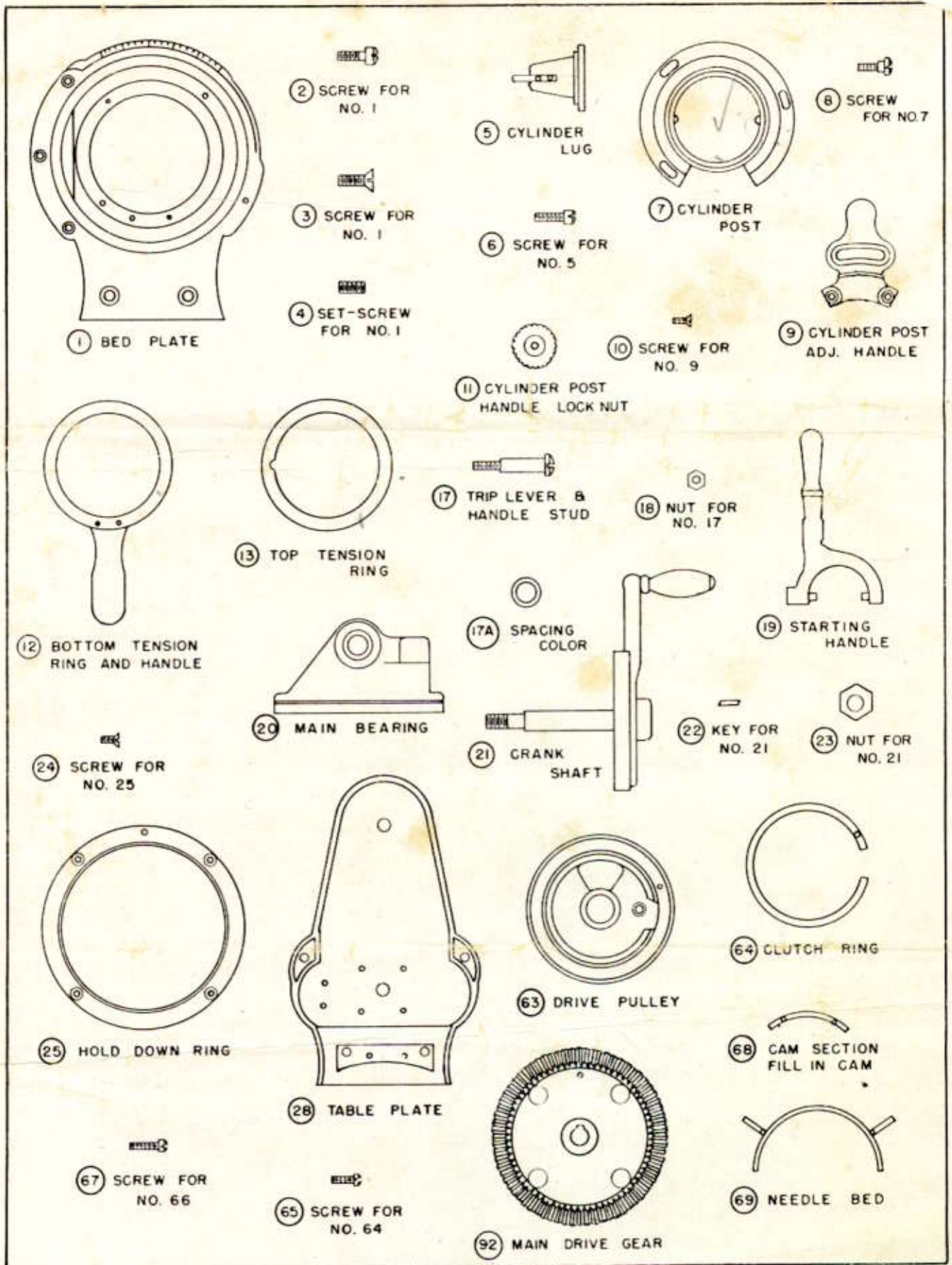
It is necessary to press down two needles (on opposite side from yarn) on each backward and forward movement by hand. Proceed in this manner until you have half the cylinder needles on one side of the machine knitting. Pull these all up out of action and press down needle bed. Turn to the other side and press down two needles and knit on one or two needles and proceed in the same manner, until half the needles are knitting.

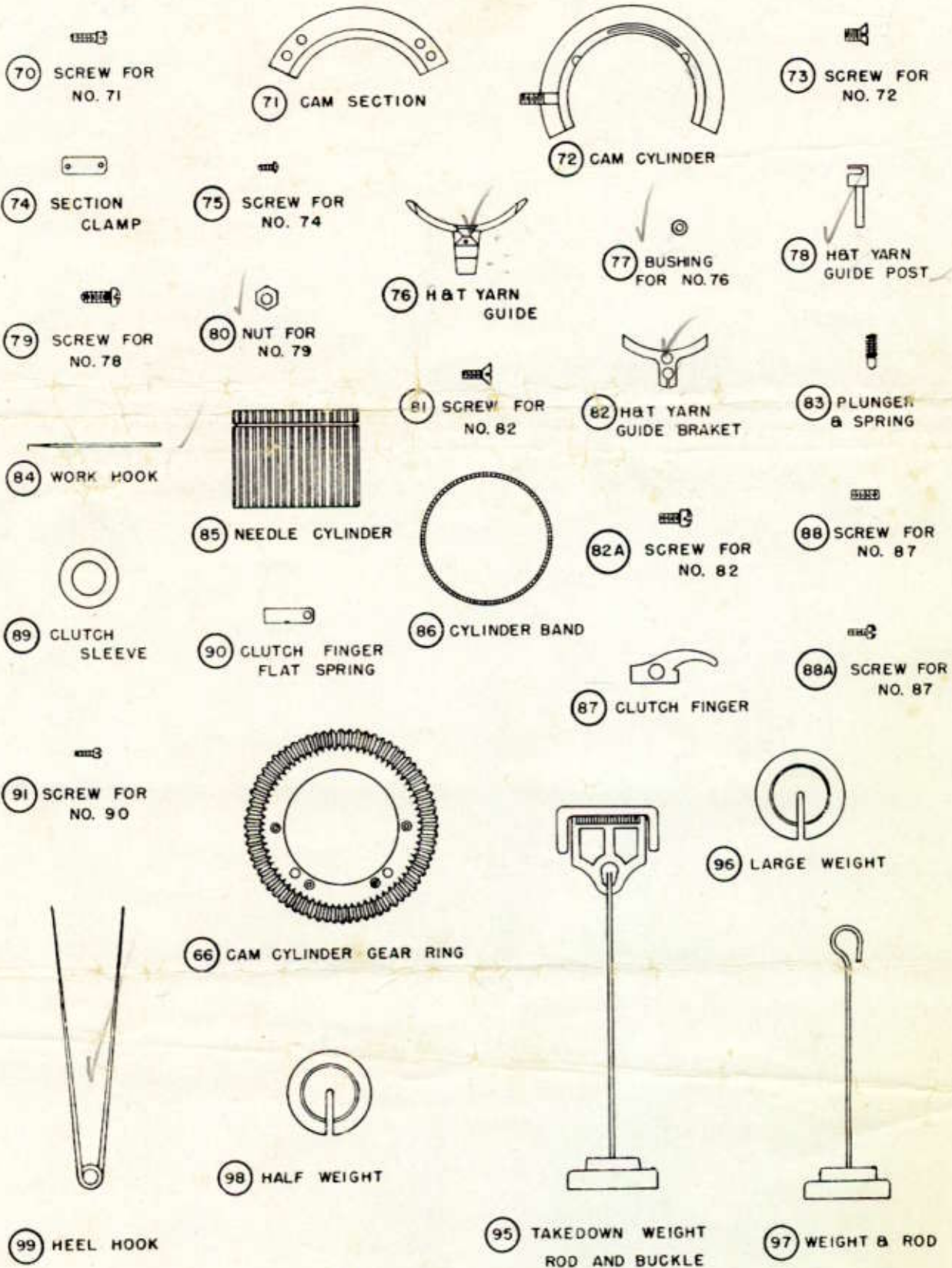
As soon as half the needles are knitting, do not press any more down, but let the pick cam pick the needles all up, on this side, until the diamond is complete.

The needles are all up now, and the other half must be pressed down to let the pick cam lift the needles up, until the diamond on this side is finished.

The needles are all up now and are ready to start at the back or front with another colour, by pressing down two needles and proceeding in a manner same as before.

You will have a little experimenting to do in the matter of weights, heel hooks, etc. Also you will have to change the stitch tension when changing from one and one rib to the plain knit.

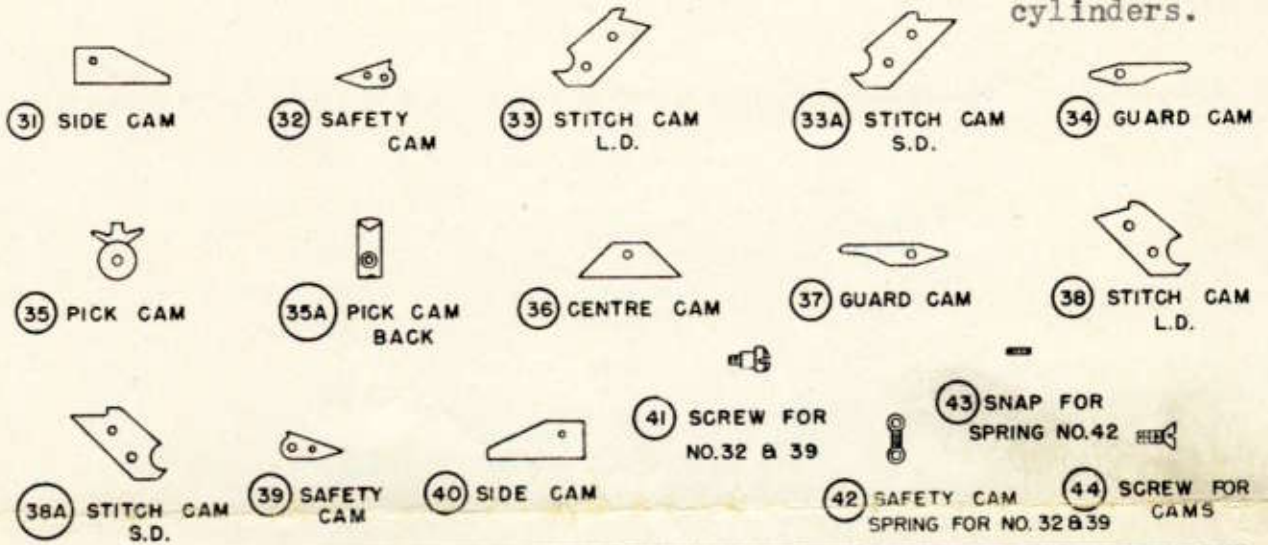




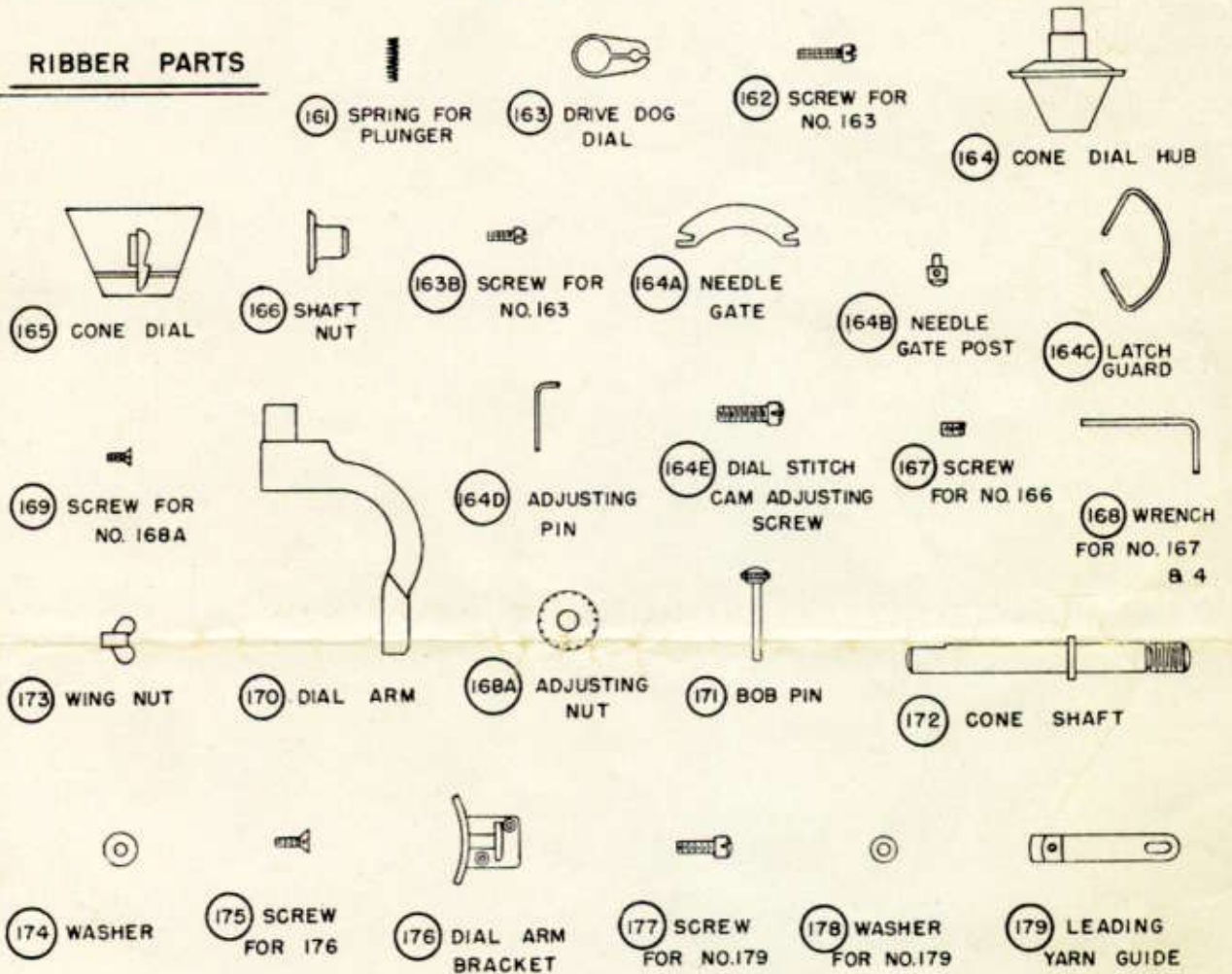
**CAMS FOR MACHINE**

S.D. cams 80 to 88 needle cylinders.






L.D. cams 60 to 72 needle cylinders.









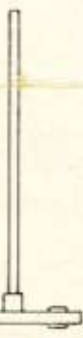









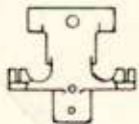
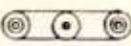




**RIBBER PARTS**









CAMS FOR CONE DIAL HUB

- |   |   |   |   |   |
|---|---|---|---|---|
|  |  |  |  |  |
| (57) POINT CAM  | (58) LEADING CONE CAM   | (59) STITCH CAM   | (60) GUARD CAM  | (44) SCREWS FOR CAMS  |

TAKE-UP HEAD PARTS 2 YARN

- |   |   |   |   |  |
|---|---|---|---|--|
|    |    |    |    |  |
| (103) TAKE UP HEAD BASE   | (104) SCREW FOR NO. 103   | (105) SPRING FOR NO. 108  | (106) SPRING FOR NO. 108  |  |
|    |    |    |   |  |
| (108) TAKE-UP SPRING SLEEVE   | (109) TAKE-UP FRONT CASTING & ROD   | (110) STRAIGHT PIN FOR NO. 116  | (111) TAKE-UP WIRE AND CASTING  |  |
|    |    |    |   |  |
| (113) SCREW FOR NO. 114   | (112) SCREW FOR NO. 111   | (112) SCREW FOR NO. 111   |   |  |
|  |  |  |  |  |
| (114) YARN LOCK FINGER  | (115) SCREW FOR NO. 114   | (118) SCREW FOR NO. 117   | (119) YARN LOCK FINGER  |  |
|  |  |  |  |  |
| (116) HEAD CASTING  | (117) BACK YARN GUIDE CASTING   | (123) SCREW FOR NO. 122   | (122) TAKE-UP WIRE AND CASTING  |  |
|  |  |   |   |  |
| (120) SCREW FOR NO. 119   | (121) SCREW FOR NO. 119   |   |   |  |

PORCELAINS

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| (1) FOR PART NO. 76   | (2) FOR PART NO. 179  | (3) FOR PART NO. 76   | (4) FOR PART NO. 111 & 122  | (5) FOR PART NO. 109  | (6) FOR PORCELAIN NO. 4 (RUBBER RETAINER)   |



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# HARLEY-KAY-MARSLAND

products for  
**THE TEXTILE TRADE**

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- Winders and Accessories
- Semi and Full Automatic Hosiery Machines
- Special Knitting Machines and Attachments
- Cylinders and Dials
- Sinkers - Sliders - Jacks
- Porcelains and Cylinder Banding



*Handwritten scribble in blue ink.*

SEMI-AUTOMATIC HOSIERY MACHINE PARTS  
PRICE LIST — OCTOBER 20th, 1955

1. Bed Plate	\$ 29.50	43. Safety cam snap	10	100. Tripoff 1/4 Rod	2.00
2. 3/8 Fil. Hd. Screw	15	44. 10/32 Ft. Hd. Screw, per doz.	.35	101. Tripoff Plate Nut	1.00
3. Flat Screw 3/8	15	57. Point cam	8.00	102. Tripoff Plate	1.00
4. 3/8 Grub Screw	15	58. Leading Cone Cam	4.20	103. Takeup Head Base	2.00
5. Cylinder lug	4.85	59. Dial Stitch Cam	2.50	104. 10/32 Ft. Hd. screw, Doz.	.35
6. 14/24 Fil. Hd. screw	15	Dial Arm Stud	3.50	105. Short Takeup Spring	1.00
7. Cylinder Post	10.80	60. Dial Guard Cam 5" 2.75	2.50	106. Long Takeup Spring	1.50
8. Shoulder screw 12/24	25	63. Drive pulley	14.50	107. Takeup Rod	1.50
9. Cylinder Post Handle	1.50	64. Clutch ring	2.00	108. Takeup Spring Sleeve	.60
10. 10/32 x 1/2 ft. hd. Screw per doz.	3.35	65. 8/32 Fil. Hd. Screw, Doz.	2.50	109. Front Casting and Rod	1.00
11. Cylinder Post Handle Lock Nut	1.25	66. Cam Cylinder Gear Ring	3.50	110. Taper Pin 1/4-20x1/2	1.25
12. Bottom Tension ring and handle	6.00	67. 10/32 Fil. Hd. Screw, Doz.	10.00	111. Takeup Wire and Casting	.05
without handle	4.50	68. Cam section fill in cam	3.00	112. Takeup Wire and shoulder screw	1.20
13. Top Tension ring	2.00	69. Needle Bed (handle .25)	10.00	113. Adjusting screw for lock finger	.15
15. Tripoff Top Lever	2.00	70. 10/32 x 7/16 Fil. Hd. Screw, Doz.	.35	114. Yarn Lock Finger	.60
16. Tripoff Top Lever Spring	.50	71. Cam section (plain)	12.50	115. Shoulder screw for above	.35
17. Trip Lever and Handle stud	.40	72. Cam cylinder	12.50	116. Takeup Head casting	4.00
17A. Spacing Collar	.25	73. 10/32 Ft. Hd. Screw, Doz.	11.50	117. Back Yarn Guide Casting	.75
18. Trip Lever Handle Stud Nut	3.40	74. Section Clamp	.50	118. 8/32 Fil. Hd. Screw	.03
19. Starting Handle	15.00	75. Hd. Hd. 10/32 Screw, Doz.	8.00	119. Yarn Lock Finger	.80
20. Main Bracket	10.00	76. H & T Yarn Guide	.25	120. Adj. Screw 10/32	.05
21. Crank and Shaft	.50	77. Bushing	.25	121. Shoulder Screw for finger	.25
22. Shaft Key 1/4 x 1/4	.50	78. H & T Yarn Guide Post	2.50	122. Takeup Wire Castings	1.20
23. 3/4 Nut	.35	79. H & T Yarn Guide Bolt	.30	123. Shoulder screw for same	.25
24. 10/32 x 1/2 Ft. Hd. Screw per doz.	6.00	80. H & T Yarn Guide Nut	.35	161. Bob pin spring	.25
25. Hold Down Ring 5" 6.50	3.50	81. 10/32 x 7/16 Fil. Hd. Screw, Doz.	3.50	162. 14/24 x 7/8 Fil. Hd. screw	1.15
26. Tripoff Bar Shoulder Screw	.75	82. H & T Yarn Guide Bracket	8.50	163. Drive Dog (dial)	3.00
27. Tripoff Bar	1.65	82A. Screw	1.00	164. Cone Dial Hub	11.35
28. Table Plate	.65	83. Plunger	.20	164C. Latch Guard	.75
29. Tripoff Rod Lever and Bracket	.20	83A. Spring	27.94	164D. Adjusting pin	.25
29A 14/24 Fil. Hd. Screw	2.50	84. Work Hooks	.90	164E. Screw	.50
30. Tripoff Weight	4.15	85. Needle cylinder 84 nd.	.75	165. Cone Dial — 42 needle	13.50
30A 1/4 - 20 Thumb Screw	2.20	Cylinder band 5" machine	1.00	166. Shaft Nut	1.50
31. Side Cam	2.20	86. Cylinder band	2.00	167. 3/8 Grub Screw	1.0
32. Safety Cam	6.00	87. Clutch finger	1.5	168. 3/16 Hex Wrench	.10
33. Stitch Cam	6.00	88. 1/4-20 x 1/4 Grub Screw	4.50	168A. Adjusting Nut	3.00
34. Guard Cam	2.00	89. Clutch sleeve	1.00	169. 10/32 Ft. Hd. Screw, Doz.	.35
35. Pick cam	2.25	90. Clutch finger ft. spring	1.75	170. Dial Arm	8.00
35-2 Pick cam	2.20	91. 8/32 Fil. Hd. screw for above	.10	171. Bob Pin	.50
35A. Pick cam back	2.25	92. Main drive gear	12.00	172. Cone Shaft (hub)	5.00
36. Centre Cam	3.25	93. Tripoff Rod Base	.60	174. 3/8 Washer	.15
37. Guard cam	4.15	94. 7/8 - 7 Woodcrew	1.75	173. Wing Nut 3/8	.20
37A. Guard cam	3.25	95. Takedown weight Rod and Buckle	.85	173A. Stud	.40
38. Stitch cam	2.50	96. Large Weight	.50	175. 10/32 Ft. Hd. Screw, Doz.	.35
39. Safety cam	2.50	97. Heel Hook weight and rod	.75	176. Dial Arm Bracket	2.00
40. Side cam	.20	98. Heel Weight	.28.51	177. 14/24 x 9/16 Fil. Hd. Screw	.15
41. Safety cam screw	.20	99. Heel Hook	41.44	178. 1/4 Washer	.10
42. Safety cam spring	.20		40.64	179. Leading Yarn Guide	4.00
			38.23	Set-up only #144	2.25
			37.43		
			36.64		

Semi-Automatic Cylinders and dials:

Cylinder	Dial
4 1/2" 88-44 cylinder and dial	\$ 13.73
4 1/2" 84-42 cylinder and dial	13.50
4 1/2" 80-40 cylinder and dial	13.28
4 1/2" 72-36 cylinder and dial	12.83
4 1/2" 68-34 cylinder and dial	12.61
4 1/2" 64-32 cylinder and dial	12.38
4 1/2" 60-30 cylinder and dial	12.16
4 1/2" 48 cylinder and dial	24.50
4 1/2" 54 cylinder	24.75
4 1/2" 96 cylinder	29.70
4 1/2" 108 cylinder	31.50

Needles \$6.20 per hundred, or \$62.00 per M.