

CALCULATOR CASE CHART (Plate 23-1) Continued

MACHINE DESCRIPTION	CASE REQUIRED			
	6 Columns	10 Columns	13 Columns	14 Columns
English		11-50167B Style 9 No. 4		11-50167B Style 13 No. 4
Indian		11-50167B Style 9 (Ind.)		11-50167B Style 13 (Ind.)
Simplex, electric, high side plate		1-50167B Style 9 No. 1	1-50167B Style 12 No. 1	1-50167B Style 13 No. 1
Sterling, with fractions		1-50167B Style 9 No. 3	1-50167B Style 12 No. 3	1-50167B Style 13 No. 3
Sterling, without fractions			1-50167½B Style 12 No. 3	
English, with fractions		1-50167B Style 9 No. 4	1-50167B Style 12 No. 4	1-50167B Style 13 No. 4
English, without fractions			1-50167½B Style 12 No. 4	
Indian		1-50167B Style 9 (Ind.)		1-50167B Style 13 (Ind.)
Simplex, electric, high side plate, radio interference suppressor on outside of case (U. S. Navy).		1-50167A Style 9 No. 2		1-50167A Style 13 No. 2

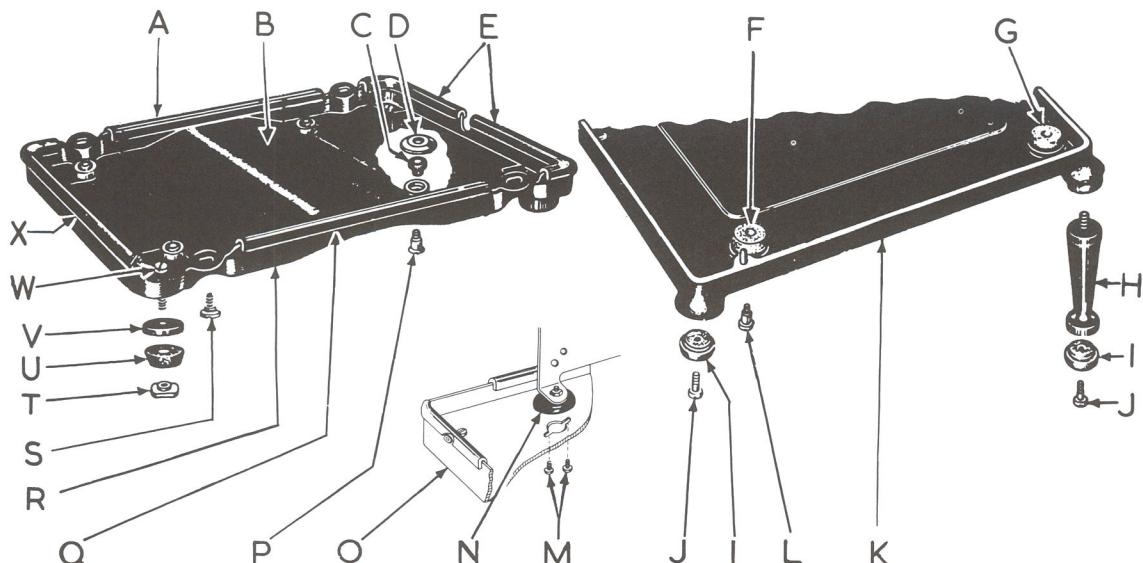
REFERENCE AD

Simplex, hand, low side plate. with 1/12 fractions	1-16026A Style 5 1-16026 Style 5 (1/12 frac.)			
with 1/12 fractions, rubber bushing 50955A in base.	1-16026A Style 5 (1/12 frac.)			

REFERENCE AI

Indian Currency with 1/16 fractions		1-16067½A Style 9 1-50667 (16ths) Style 9 No. 1		1-16067½A Style 13 1-50667 (16ths)
Indian Currency, single column		1-50667 (16ths-12ths) Style 9 No. 1		1-50667 (16ths-12ths) Style 13 No. 1

BASES AND BASE DETAIL (Plate 22)



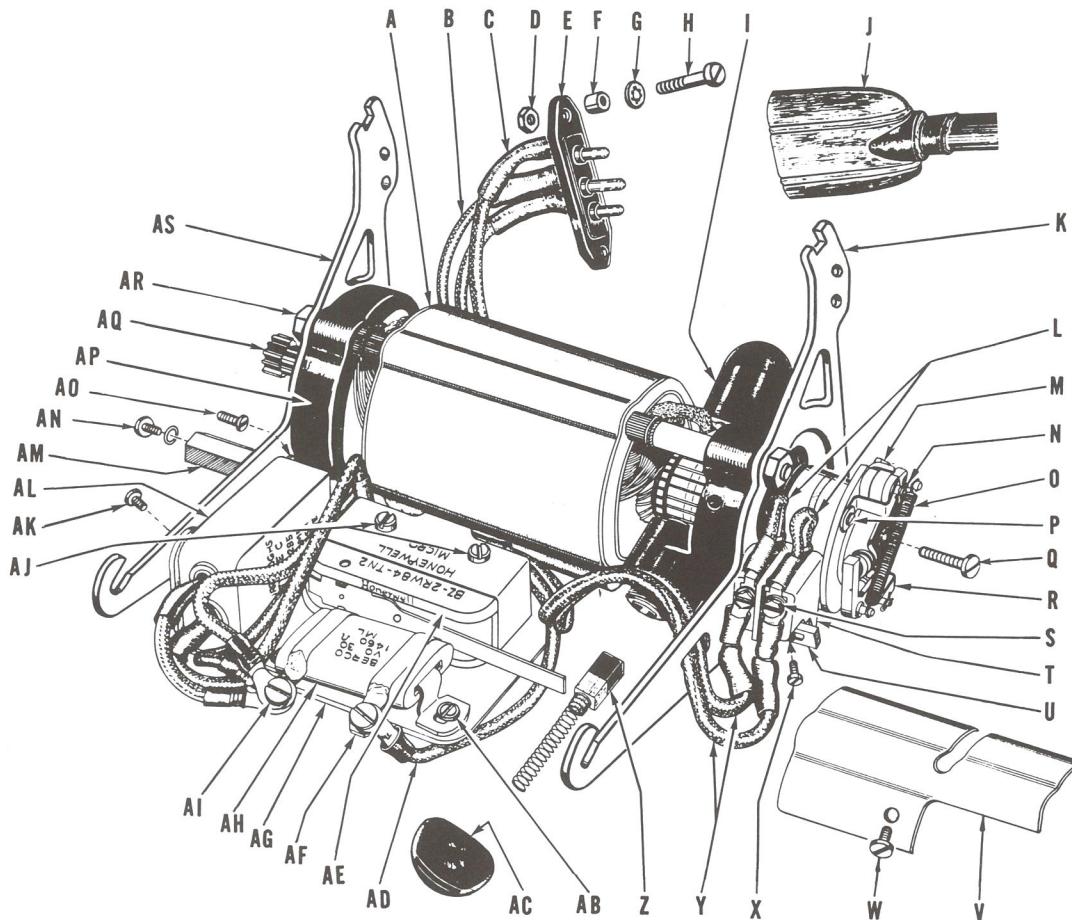
SYMBOLS (Plate 22)

A	50907D No. 1 2 req. for Styles C105, C204, C205, C305 50907D No. 2 1 req. for Styles C101, C103, C203 50907D No. 3 1 req. for Style C303	} rubber strip
B	50906B Style 9 No. 2 for Styles C103, C203 50906B Style 13 No. 2 for Styles C105, C205 50906C Style 13 No. 1 for Style C305 50996A Style 9 for Style C303 50996B Style 9 No. 2	
C	50995A rubber insert	} felt padding
D	50102 guard	
E	50907D No. 1 1 req. for Style C101; 2 req. for Styles C103, C105, C204, C205, C305 50907D No. 4 2 req. for Style C303	} rubber strip
F	16097	
G	16095	
H	1Z-16054A includes I and J	
I	1-16014A (1-28241)	
J	84597	
K	1-16025A Style 5 for Style C101	
L	702656	
M	50558	
N	1-50998 shockmount, use 46 1/4 locknut	
O	1-50165B Style 9 No. 1 complete assembled base for Styles C103, C203 1-50165B Style 13 No. 1 complete assembled base for Styles C105, C204, C205 1-50165B Style 13 No. 2 complete assembled base for Styles C304, C305 1-50165C Style 9 No. 2 complete assembled base for Style C303	} use serial no. plate (91 1/2 No. 3 3/4 and pins 53 No. 4 (2 req.)
P	50553B	
Q	50907D No. 1 2 req. for Styles C105, C204, C205, C305 50907D No. 2 1 req. for Styles C101, C103, C203 50907D No. 3 1 req. for Style C303	
R	1-50165A Style 9 No. 2 [1-50165C Style 9 No. 2, 1-50998 (4 req.), 50558 (8 req.), 46 1/4 (4 req.)] complete assembled base for Style C303; includes A, B, E, Q, T, U, W, X	
S	10761 1/4 (50555 1/2 A)	
T	84206 (84306A)	
U	84900 (93 1/4 No. 1) 93 1/4 No. 3 rocker foot	
V	50900	
W	12055 3/8	
X	50907D No. 1 1 req. for Styles C101, C103, C203; 2 req. for Styles C105, C204, C205, C305 50907D No. 2 1 req. for Style C303	} rubber strip

SYMBOLS (Plate 23) Continued

	91½ No. 25 3 $\frac{13}{16}$ " long, 3 studs $\frac{1}{2}$ " long; for other than black cases; use 3 speed nuts 22 No. 3
	91½ No. 28 2 $\frac{1}{2}$ " long, 2 studs $\frac{11}{16}$ " long; for other than black cases; use 2 speed nuts 22 No. 3
E	16091 Styles 5, 9, 13 flexible plastic dial cover
F	1-50001 Styles 5, 9, 12, 13 } includes G; used on all cases 1-50001 Styles 9, 12, 13 English } with 16091 dial cover 1-50001 Styles 9, 12, 13 Sterling } except black
	1-50001Z Styles 5, 9, 13 } includes G; used on all 1-50001Z Styles 9, 13, English } black cases with 16091 dial 1-50001Z Styles 9, 13 Sterling } cover
	1A-50001 Style 9 } includes G; used on all cases 1A-50001 Style 9 English } with 50900½ Style 9 dial 1A-50001 Style 9 Sterling } cover
G	Indicator, included in F
H	50550 No. 1 rivet; use in ends of front indicator bar F on duplex cases
	50550 No. 2 rivet; use in center of front indicator } use bar F on duplex cases } spacer
	50550 No. 5 rivet; use in center of rear indicator } 16033 bar F on duplex cases } 50550 No. 6 rivet; use in ends of rear indicator bar F on duplex cases
I	1-53138½
J	83101½ (3 7/8)
K	49½
L	91½ No. 32 $\frac{11}{16}$ " stud, use speed nut 22 No. 3 91½ No. 33 $\frac{11}{16}$ " stud, use speed nut 22 No. 3
M	4456½
N	16020 No. 1 has 5 fingers 16020 No. 2 has 5 fingers; stamped with letter R 16020 No. 3 has 6 fingers; used with plastic case for 10 col. duplex 16020 No. 4 has 5 fingers; used with plastic case for 10 col. duplex 16020½ No. 1 has 7 fingers 16020½ No. 2 has 7 fingers; stamped with letter R 16020½ No. 3 has 6 fingers
O	16052½
P	50120½ Style 9 used with dial cover 50900½ Style 9 ; use speed nuts 22 No. 7 50120½ Style 9 (Ind.) for Indian currency only 50120½ 12ths Style 9 for 1/12 fraction construction
Q	See Plate 23-1, Reference Q
R	50900½ Style 9 plexiglass dial cover 16091 Styles 5, 9, 13 flexible plastic dial cover
S	50550 No. 1 rivet; use in ends of indicator } use spacer bar F on case Q } 50550 No. 2 rivet; use in center of indicator } 16033 bar F on case Q } T 50508
U	90½ No. 16 for regular or fraction keystem slot
V	90½ No. 20 for wall cord opening 90½ Z No. 20 has hole for non-detachable cord
W	90½ No. 15 for wall cord opening
X	90½ No. 13 for dial hole opening; use speed nut 22 No. 2
Y	90½ No. 14 for motor bar or prorate keystem slot
Z	90½ No. 1 for handle opening
AB	50550 No. 1 rivet
AC	16052½
AD	See Plate 23-1, Reference AD
AE	16058A
AF	1-16015
AG	1-16056
AH	50550 No. 6 rivet; use in ends of indicator } use spacer bar F on case AI } 50550 No. 5 rivet; use in center of indicator } 16033 bar F on case AI }
AI	See Plate 23-1, Reference AI
AJ	1-50103 R and L hand grip
AK	46½
AL	50555½A for metal cases } use leather washer 3892½ 302523 for plastic cases }

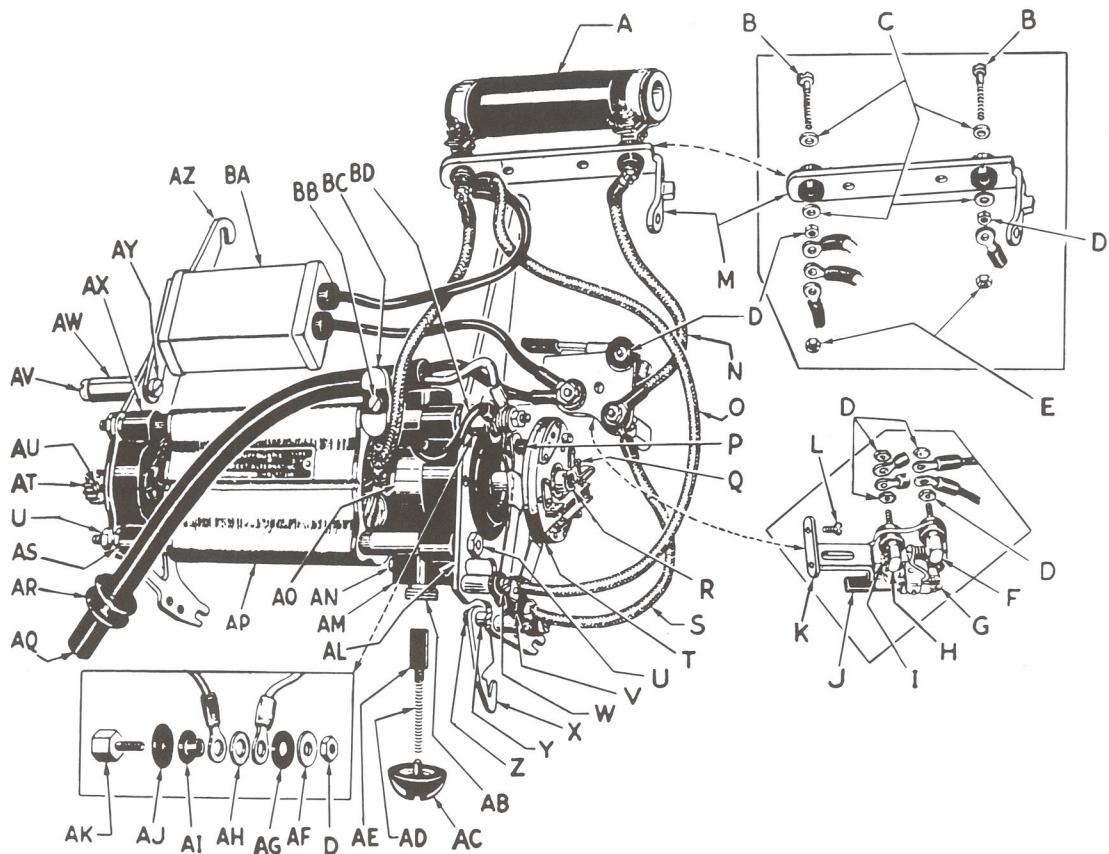
**COMPLETE ASSEMBLED TYPE C MOTOR WITH MICROSWITCH
AND BURROUGHS TYPE GOVERNOR (Plate 21)**



SYMBOLS (Plate 21)

- | | | | | |
|---|---|---|--|---|
| A | 12C-4567C Specify Voltage , complete motor assembly for machine with detachable line cord | 1X78-3 two wire (white and black) U. S. and Canada | X | 2851 7/8 screw, 2 req. |
| | 12CZ-4567C Specify Voltage , complete motor assembly for machine with non-detachable line cord | 1-78 No. 7 three wire (red, black, green) | Y | 1-4570 7/8 lead wires, resistor to governor brush holder and switch to governor brush holder |
| | 1-4500D Specify Voltage , armature | 1-78 No. 9 two wire (red and black) FOR 12CZ-4567C MOTOR WITH NON-DETACHABLE LINE CORDS | Z | 1-4570 brush and spring |
| | 1C-4517A Specify Voltage , stator | 11-51997 1/4 two wire (white and black) | AB | 40507 screw, 2 req. |
| B | 1A-4579 1/4 lead wire, microswitch to line cord receptacle | 11-51997 3/4A three wire (red, black, green) | AC | 1-4538 brush holder cap |
| C | 1B-4579 ground wire | K | 5103A No. 2 side plate | |
| D | 46 1/4 | L | 1-4590 1/2 No. 2 governor brush and spring | |
| E | 31-25A No. 1 three pin receptacle for line cord | M | 2B-4525 speed governor, includes spring O | |
| | 1-4599 3/8 assembly comprising of three pin line cord receptacle and radio & television suppressor and ground lead, supplied on machines shipped to Australia, Denmark, Eire, Great Britain & South Africa | N | 21 No. 17 retaining clip | |
| F | 76302 No. 2 spacer | O | 705813 (4581A No. 1) spring | |
| G | X275-23 lockwasher | P | 71577 screw, use 75210 washer | |
| H | 72614 | Q | 73659 screw | |
| I | 1A-4566D molded motor end cap FOR 12C-4567C MOTOR WITH DETACHABLE LINE CORDS | R | 71179A shunt connecting clip | |
| J | 1-78 No. 3 three wire (white, black, green) U. S. and Canada | S | 4553 1/2 terminal screw | |
| V | | T | 1-4595 No. 2 brush holder assembly | |
| W | | U | 4511 1/8 bracket for brush holder T; use 2859 3/8B screws, 2 req., for fixing bracket to motor end plate | |
| | | V | 1-51112A oil guard | |
| | | W | 952 3/4 screw | |

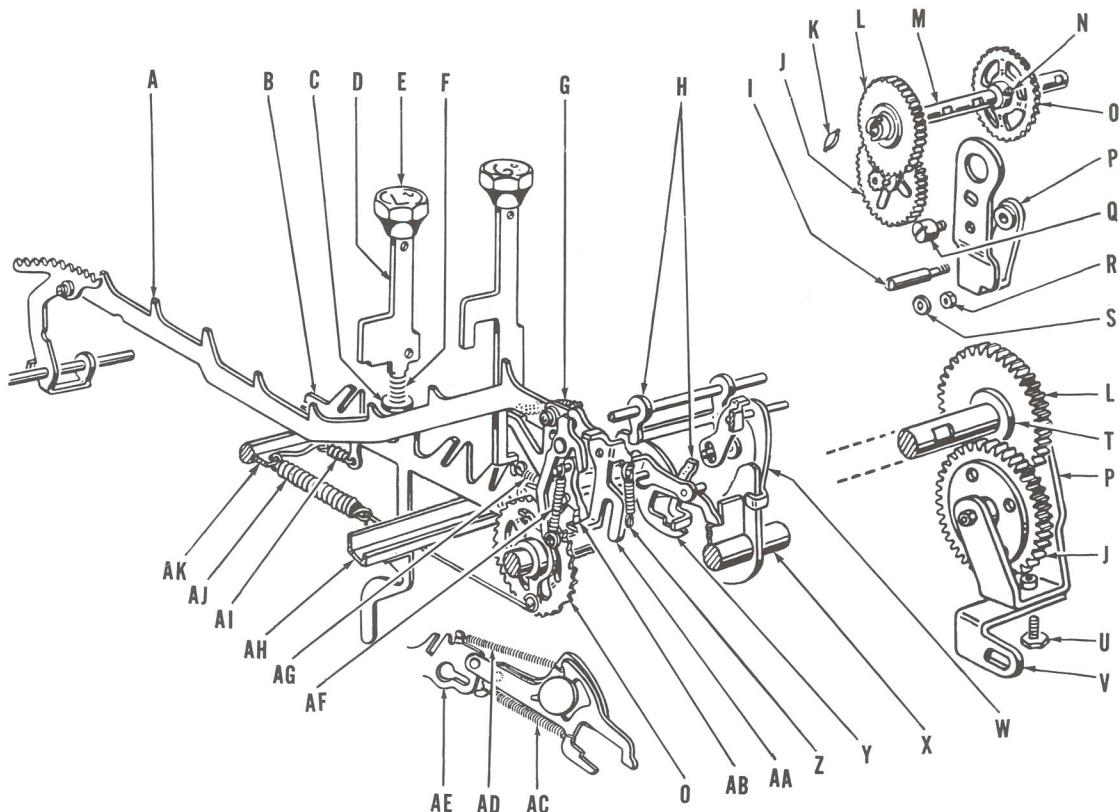
COMPLETE ASSEMBLED TYPE C MOTOR WITH INDIVIDUAL SWITCH POINTS AND LEE TYPE GOVERNOR (Plate 19)



SYMBOLS (Plate 19)

A	1B-200911 Specify Ohms resistor 110 volt use 250 ohms 150 volt use 465 ohms 220 volt use 1000 ohms 250 volt use 1400 ohms 285 volt use 1940 ohms	AC	1-4538 brush cap
C	200538½ No. 1 screw	AD	4580A brush spring
D	7919½A washer	AE	1-4590 carbon brush with spring
E	46 nut	AF	7919½A washer
F	1-701556 contact	AG	3829A insulator
G	21 No. 17 wire clip	AH	707302 No. 1 washer
H	4556½ No. 2 post	AI	3890½ insulator
I	4553½ screw	AJ	X2-2 washer
J	1-4524B use 1Z-4524B switch arm	AK	4561B (FX52-17) post
K	1-4511C switch assembly, includes D, F, G, H, I and J	AL	1-51103B No. 1 side plate, right
L	2859½B screw	AM	1A-4566D molded motor end cap
M	1-4511½ bracket	AN	4557½ screw
N	1-4572A No. 1 lead wire	AO	1-4500C Specify Voltage armature
O	1-4572A No. 4 lead wire	AP	1B-4517A Specify Voltage stator only
P	81990 carbon brush	12A-4567C	Specify Voltage (12CZ-4567C
Q	81604Z adjusting screw, use 4543Z locknut	12CZ-4567C	Specify Voltage, 1C-51110 Style 9, 13) complete assembled
R	51310 circular nut	motor	
S	1-4572A No. 3 lead wire	AQ	11-51997½ line cord, two wire
T	1-51125 governor, includes Q		11-51997¾A line cord; three wire, red, black and green
U	47 nut	AR	93½ No. 10 grommet
V	2A-51141 complete brush holder; includes P, O and S	AS	47½ nut
W	75615 screw	AT	4534C gear
X	51102 No. 2 motor hanger	AU	4551½ screw
Y	73320 spacer	AV	60550 screw, use X275-5 washer
Z	73659 screw, use 46 nut	AW	51346 post
AB	1-4533A brush holder	AX	1A-4567½ molded motor end cap
		AY	12051½ screw
		AZ	51103A No. 2 side plate, left
		BA	1-4599½B capacitor
		BB	12052 screw, use 46 nut
		BC	4510 No. 2 cable clip, 2 req.
		BD	1-4578 lead wire

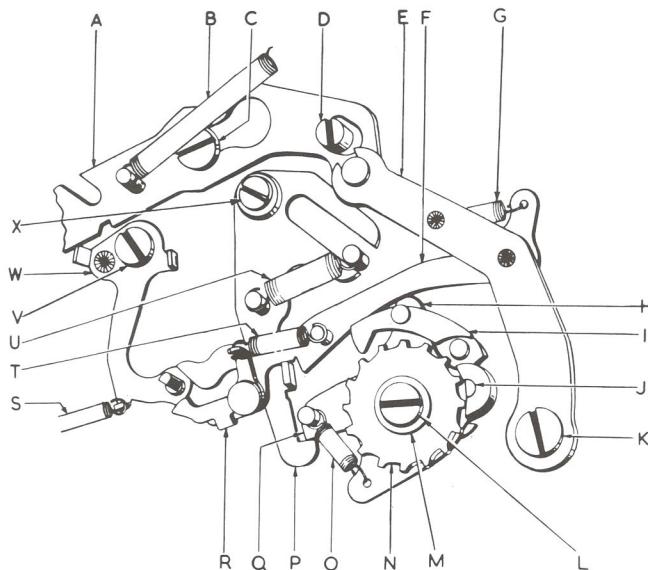
ADDING SECTORS, ELECTRIC MACHINES (Plate 18)



SYMBOLS (Plate 18)

- | | | | |
|---|---|----|--|
| A | 1B-56114 No. 2 regular, includes G, Z,
AD; see Plate 4 for other styles | P | 1-51101A (1-51101B) see Plate 18-1
for other parts required |
| B | 1-56115A No. 1 includes W; without
auxiliary cam on cam latch | Q | 8460$\frac{1}{2}$ |
| | 1A-56115A No. 1 with auxiliary cam
on cam latch | R | 46 |
| C | 52300 keystone guide | S | 824$\frac{1}{4}$ |
| D | 52221 Nos. 1 thru 9 regular, specify
No. ; see Plate 4 for other styles | T | 51302 $\frac{1}{2}$ space collar |
| E | See Keytop Chart Plate 2-1 | U | 103514 Style E No. 1 (203560$\frac{1}{2}$) |
| F | 52880 | V | 51108 No. 2 |
| G | 56805 spring | W | 52107 |
| H | 1-56103$\frac{1}{2}$ | X | 52124 Style 9, 13 |
| I | 51505A (51505B, 3325$\frac{1}{8}$, 86129,
79598) | Y | Included in B |
| J | 1-51330C early, 49 teeth | Z | 3486$\frac{1}{2}$ |
| | 1-51330D later, 60 teeth | AA | 56103B |
| K | 51503 drive pin; flat on one side | AB | 1A-56101 use clip 21 No. 24 ; for re-
pairs on old style machines use 1-
56309 collar, includes 16857 screw |
| | 51503Z drive pin, trunnion, one end
only; for early motors without fuse-
tron | AC | 69806 |
| L | 51302C early, 50 teeth | AD | 3480$\frac{1}{2}$ |
| | 51302D later, 60 teeth | AE | 1A-56115A No. 1 |
| M | 51000 Style 9, 13 No. 2 | AF | 1-56808 includes 20 No. 32 eyelet |
| N | 51550 screw | AG | 3480$\frac{1}{4}$ spring |
| O | 1-51128 (1-51128A, 51803, 51329,
51512) | AH | 1B-51110, Style 9, 13 ; see Plate 15 for
other styles |
| | | AI | 82809 |
| | | AJ | 56803 |
| | | AK | 52125 Style 9, 13 tie strip |

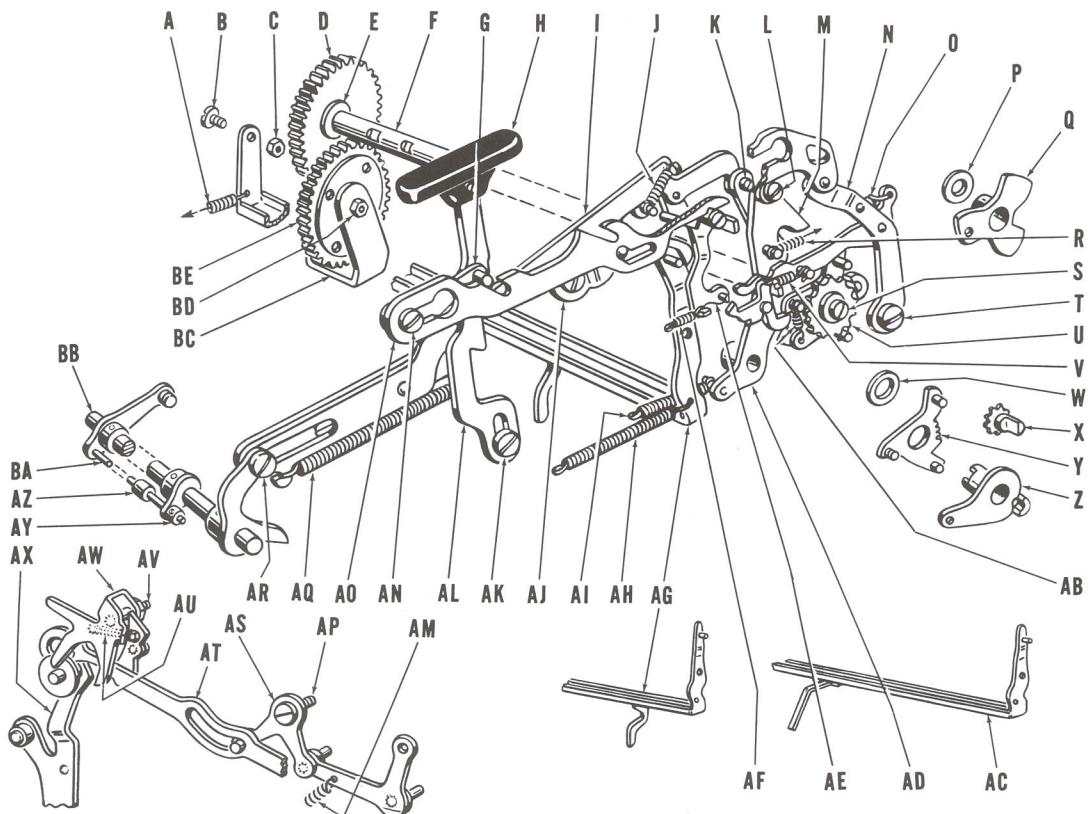
DRIVE CLUTCH WITH NON-SLIP PAWL (Plate 16-1)



SYMBOLS (Plate 16-1)

A	1A-53128 No. 2 slide
B	10786 spring
C	53511 screw
D	52551 screw
E	1A-53125A clutch release arm assembly
F	Part of assembly E
G	69806 spring
H	1-51340 No. 3 clutch hub assembly for duplex machines 51340 No. 2 clutch hub assembly for simplex machines
I	Part of assembly H
J	51555 clutch dog
K	200565 1/2 screw
L	60550 screw
M	824 1/4 washer
N	51393A clutch wheel
O	44805 spring
P	1-53135A latch
Q	1-51190B clutch gear segment assembly for duplex machines 1-51190A No. 2 clutch gear segment assembly for simplex machines
R	Part of assembly E
S	53804 spring
T	69806 spring
U	81803 spring
V	53517A screw
W	1A-53120A latch
X	53519 screw

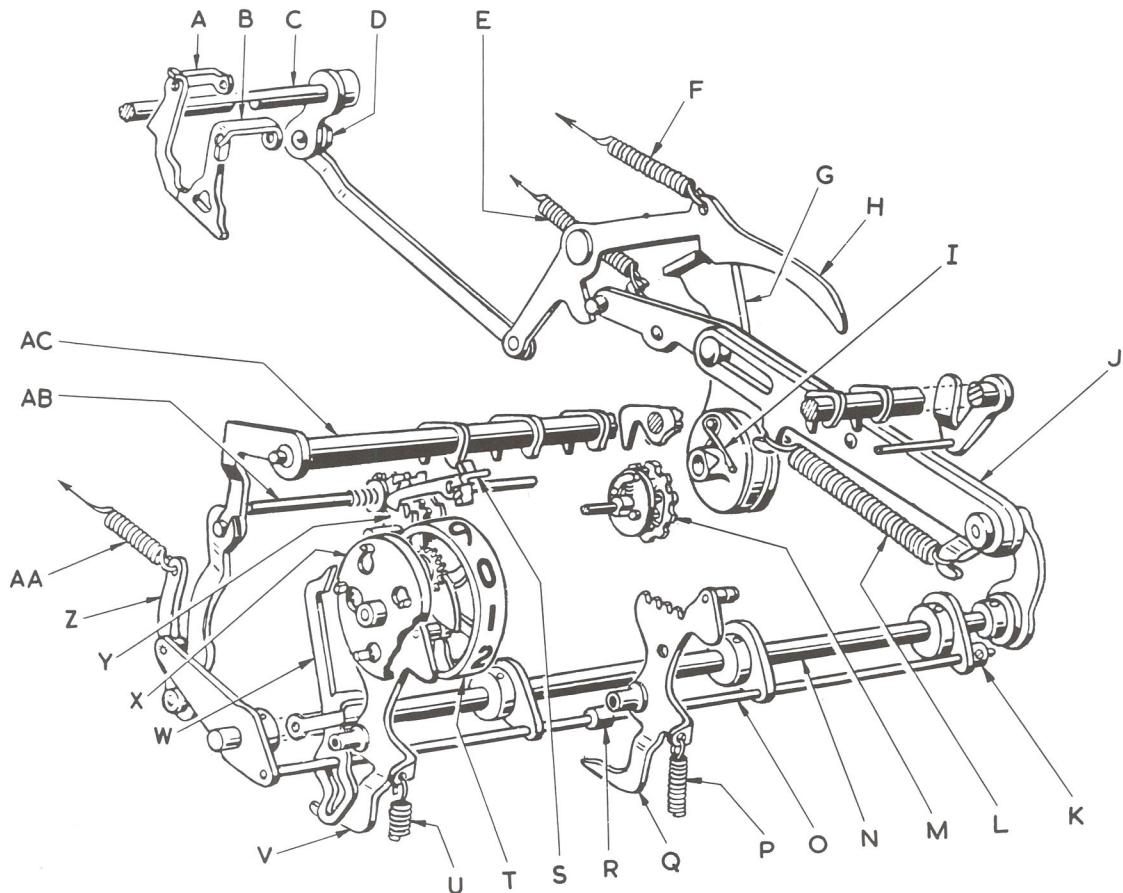
CLEARING MECHANISM AND DRIVE CLUTCH, SIMPLEX ELECTRIC
(Plate 15)



SYMBOLS (Plate 15)

A	51802	T	200565 $\frac{1}{2}$	T07509 screw, 46 $\frac{1}{8}$ nut used on machine from C44024S
B	7357 $\frac{1}{2}$	U	51393 (51393A)	AL 1-53118 No. 2
C	702300 No. 2	V	69806 spring	AM 71805
D	51302C early, 50 teeth	W	68115 (51115) washer	AN 53511
	51302D later, 60 teeth	X	51555	AO 1-53128 No. 2 (1A-53128 No. 2, 1-53125A)
E	51302 $\frac{1}{2}$	Y	1-51190 No. 2 used on machines prior to C38865S	AP 53510A No. 2 use 53511A No. 2 nut
F	51000 Style 9, 13 No. 2	Z	1-51190A No. 2 used on machines after C38865S	AQ 785 Style 15 for Style 9
G	1-53123 No. 3 illustrated	AB	51340 No. 2	53805 Style 13 for Style 13
	1A-53123 No. 1 used with AS, AT, and AX	AC	44805 spring	AR 16855
H	53900A use 74502 screw	AD	1C-51110 Style 9, 13 used with micro-switch motor; springs A, AH not req.	AS 1A-53133 $\frac{1}{2}$
I	1-53114 No. 2 see AT for other style	AE	1-53117 No. 2 see AX for other style	AT 1-53114A No. 2
J	489	AF	1A-53120A used with AW and AX	AU 76806 spring
K	53512 use 3434 nut	AG	1B-51110 Style 9, 13	AV 53544 screw stud
L	53519	AH	51802 spring	AW 1-53116A
M	1-53135 used on machines prior to C38865S	AI	53801A No. 1 used on Styles C203 and C203 $\frac{1}{4}$	AX 1-53117B No. 2
	1-53135A used on machines after C38865S		53801 No. 3 used on Styles C205 and C205 $\frac{1}{4}$	AY 1-16841 $\frac{1}{2}$ includes 16857 screw
N	1C-53125 (1-53125A, 1A-53128 No. 2)	AJ	1-53129 use 53525 screw	AZ 16840 roller
	1A-53125A used on machines after C38865S	AK	3259 $\frac{1}{8}$ A used on machines prior to C44024S	BA 16802 Style 9, 13
O	69806 spring			BB 21-58000 Style 9, 13
P	51192			BC 1-51101A (1-51101B, see Plate 18-1 for other parts required)
Q	1-51100A No. 1			BD 46 nut
R	81803 spring			BE 1-51330C early, 49 teeth
S	60550 screw, 824 $\frac{1}{4}$ washer			1-51330D later, 60 teeth

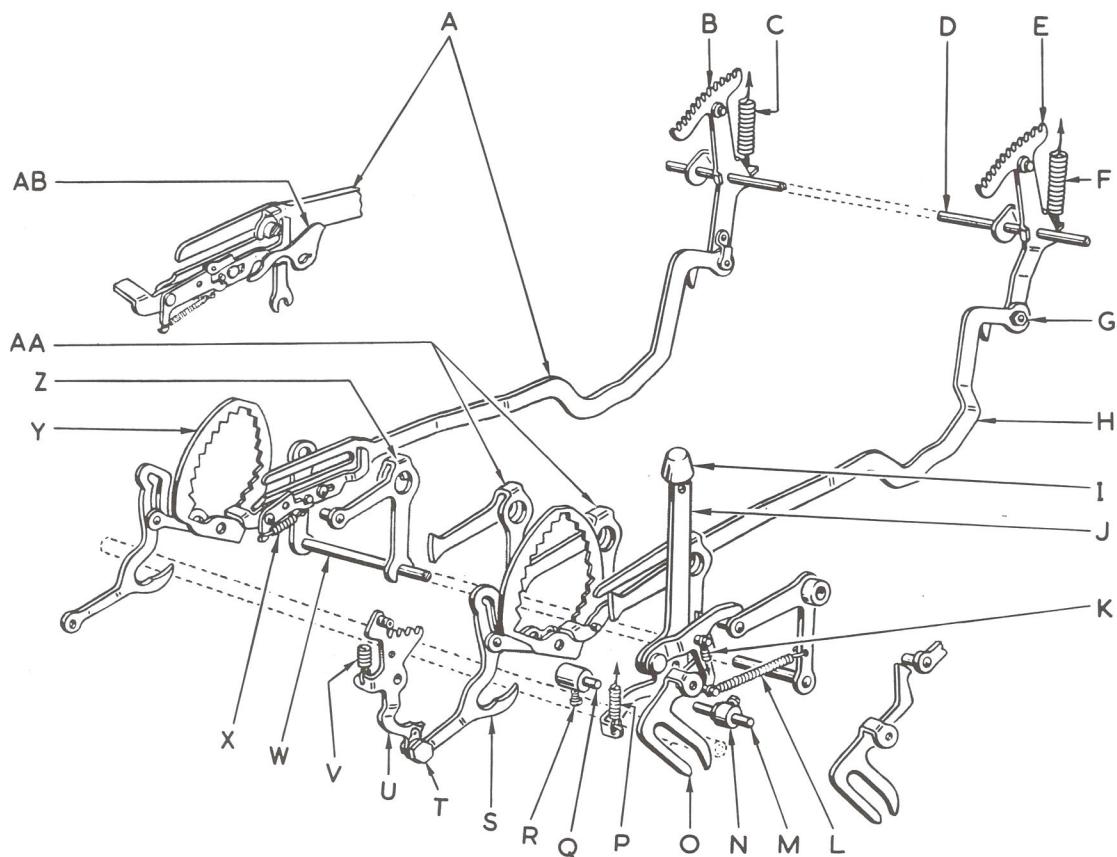
CLEARING MECHANISM, HAND CALCULATOR (INSIDE VIEW) (Plate 13)



SYMBOLS (Plate 13)

A	16214½} see Plate 1 for other styles	O	16802 Style 5, 9, 13
B	16214	P	16880
C	1-16205 Style 5, 9	Q	1-16821A regular
D	11-16205 12ths Style 13	R	16840 use 16841 in extreme left position
E	46 nut, 7919½A washer	S	1-16924 regular; see Plate 6 for other styles
F	16380B	T	2-16913A regular; see Plate 6 for other styles
G	7283½	U	16880
H	1B-16311 for all 5 col. machines, and for early Style 9	V	1-16821AL used in extreme left position
I	and 13 col. machines	W	16816A regular
J	1-16311 Style 9 for all late Style 9 and 13 col. ma-	Y	16816½AR used in extreme right position
K	chines	Z	1-16816½AL used in extreme left position
L	1-16312	X	2-16914A regular; see Plate 6 for other styles
M	16380½A	Y	1-16916B ratchet gear, regular; see Plate 6 for other styles
N	Included in G	Z	1-16812
O	1-16841½ includes 16857 screw	AA	7283½
P	16381	AB	1-16904 Style 5
Q	1-16937 regular; see Plate 6 for other styles	AC) complete control gear shaft, regular; see Plate 6 for other styles
R	1-16800 Style 5	AC	1-16905 Style 5
S	1A-16800 Style 9, 13		1-16905A Style 9, 13

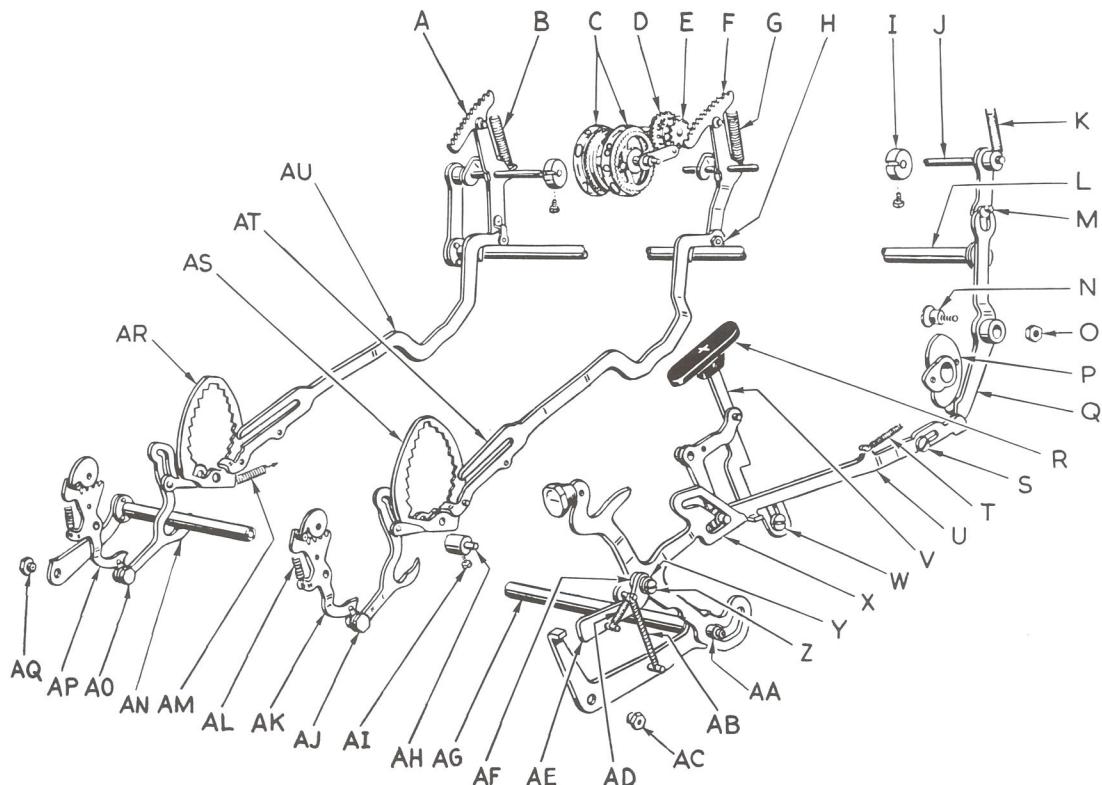
AUTOMATIC ONE AND DECIMAL NON-TRANSFER MECHANISMS (Plate 11)



SYMBOLS (Plate 11)

- A 1-56121 No. 3 used in 4th col., includes X; see AT, Plate 9 for other styles
- B 1-56110 No. 2 regular
- C 56802
- D 16601 Style 9, 13
- E 1-56110R No. 2 used in col. 1
- F 56802
- G 72591 screw, $49\frac{1}{4}$ nut
- H 1-56121AR used in col. 1; see AT, Plate 9 for other styles
- I 82990A red
- J 52993B specify color, ivory or gray
- K 1-52221 No. 19
- L 7285½A spring
- M 56807
- N 56001 No. 2 shaft, $1\frac{1}{4}$ " long
- O 1-56308 includes 72573 screw
- P 56133A
- Q 3283 spring
- R 3686A spring used with pro-rating feature
- S 56001 No. 1 shaft, $\frac{5}{8}$ " long
- T 74533
- U 1-56111R 10ths No. 2 used in col. 1
- V 58510 eccentric screw, use 58310 nut
- W 1-58121A No. 1 regular
- X 1-58121AL used in extreme left position
- Y 1-58121 No. 4 used in cols. 1, 2, 3 with prorate fte.; see Q, Plate 12
- Z 16880
- AA 1-56000
- AB 75815 spring
- AA 1-56111 10ths No. 2 regular
- AB 1-56134L
- AA 56134
- AB 11-52111 No. 3 partition plate, used in col. 4

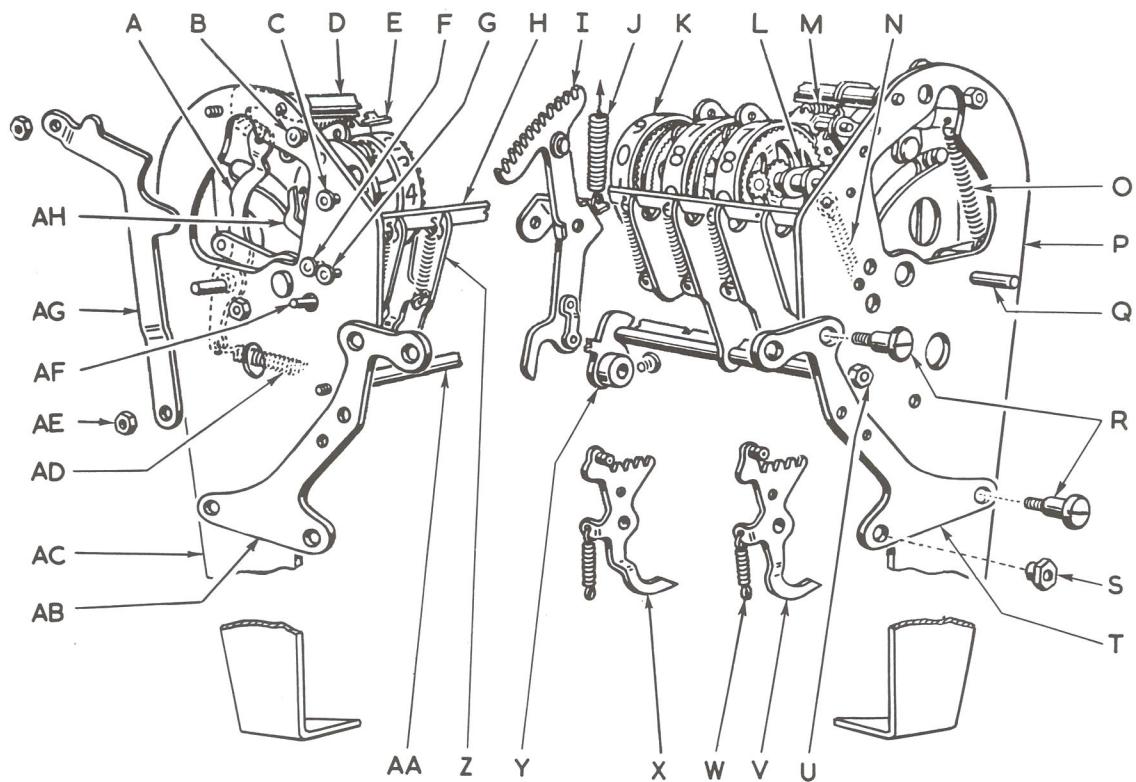
TRANSFER AND DIRECT SUBTRACT KEY MECHANISMS (Plate 9)



SYMBOLS (Plate 9)

A	1-56110 No. 2	Y	824 $\frac{1}{4}$ washer
B	56802	Z	3459 $\frac{1}{4}$ screw, use nut 46
C	2-16913A regular; see Plate 6 for other styles	AA	1-56512
D	1-16916B regular; see Plate 6 for other styles	AB	10782
E	1-16937 regular; see Plate 6 for other styles	AC	3434
F	1-56110R No. 2, used in col. 1	AD	87801A
G	56802	AE	1-53137
H	72591 screw, 49 $\frac{1}{4}$ nut	AF	53309A collar
I	59301 use 60550 set screw	AG	1-56900 Style 9, 13
J	16601 Style 9, 13	AH	56001 No. 1 short shaft, $\frac{5}{8}$ " long
K	59800	AI	56001 No. 2 long shaft, 1 $\frac{1}{4}$ " long
L	11-59900 Style 9, 13 (11A-59900 Style 9, 13 1-53130A)	AJ	74533
M	59503A eccentric, used on machines prior to C38431S	AK	58510 eccentric screw, use 58310 nut
	59503B eccentric, included in L, used on machines from C38431S	AA	1-58121A No. 1 regular
N	53520	AB	1-58121AL extreme left
O	46 nut	AC	1-58121 No. 4 cols. 1, 2, 3 with prorate fte.; see Q, Plate 12
P	1-51100 No. 2	AD	16880
Q	1-53130 used on machines prior to C38431S	AM	72830
R	1-53130A used on machines from C38431S	AN	Included in AR
S	53900 No. 2 (53900A No. 2) use 74502 screw	AO	58510L screw used in extreme left position; use 58310L eccentric nut
T	3259 $\frac{1}{8}$ A	AP	1-58121AL used in extreme left position; see AK for other styles
U	79805	AQ	3434
V	1-53134A (1B-53134A)	AR	1-56111 10ths No. 2 regular, includes AN
W	1-53118 No. 2	AS	1-56111R 10ths No. 2 used in col. 1
X	3259 $\frac{1}{8}$ A used on machines prior to C44024S	AT	1-56121AR used in col. 1
	707509 screw, 46 $\frac{1}{8}$ nut used on machines from C44024S		1-56121A No. 2 used in cols. 2 & 3
	1-53118 No. 4 Style 9 (1-53118A No. 4 Style 9, 53902 Subtract, 74502) used with sectional keyboard, Plate 3		1-56121 No. 3 used in col. 4
	1-53118 No. 4 (1-53118A No. 4 Style 13, 53902 Subtract, 74502) used without sectional keyboard		56121A regular used in all other cols.
	1-53118B No. 4 Styles 9, 13 use with pro-rating feature	AU	56121A see AT for other styles

ACCUMULATION, REAR REGISTER (Plate 7)



SYMBOLS (Plate 7)

A	1-59112
B	1-16801 Style 9, 13
C	1-16900 Style 9, 13
D	1-16905A Style 9, 13
E	1-16924 includes M
F	1-16801 Style 9, 13
G	1-16801 Style 9, 13
H	16224 Style 9, 13
I	1-56110 No. 2 regular 1-56110R No. 2 used in extreme right position
J	56802
K	2-16913A regular; see Plate 6 for other styles
L	1-16914½
M	489
N	72826
O	59800
P	1-59110AR No. 1
Q	16601 Style 9, 13
R	52565 screw, use 46 nut
S	3434
T	59113A
U	46
V	1-16821A regular 1-16821AL used in extreme left position
W	16880
X	1-58121 No. 3 used in fourth column
Y	1-59113½ includes 7562 set screw
Z	1-59115 No. 1 regular 1-59115 No. 2 used in fourth position on machines with direct subt. 1-59115R No. 2 used in first position on machines with direct subt. 21-59115 No. 1 used in fifth position on Sterling machines
AA	52000 Style 9, 13 No. 2
AB	59113A
AC	1-59110AL No. 1
AD	56807
AE	46
AF	58002L Style 9, 13 use 1-16841½ collar, includes 16857 screw
AG	59130
AH	1-16816½AL

SYMBOLS (Plate S-6-1)

Symbols listed are common to Pound, Shilling, Pence, and Farthing machines.
 For other parts refer to the respective plate in the Symbol List.
 See Plates S-2-1 and S-6-2 for variations on hand machines.

A 21A-52111 No. 2
 21A-52111 No. 3 duplex subt.
 B 1-56808 spring, includes 20 No. 32 eyelet
 C 1A-52111 No. 2
 1-52111 No. 3 duplex subt.
 D 52221 12ths No. 4 thru 6, 8 thru 11
 E 4463
 F 1-8344 includes E
 G 1-52005 Style 9, 13 No. 4
 1-16905 Style 5 hand machine
 H 56115 No. 8
 I 56115A No. 4
 J 1A-52111R No. 2
 K Use 1B-56114 8ths No. 2 assembled sector, includes spring B and drive pawl
 L 52221 8ths Nos. 2, 4, 6
 M 11A-52111 12ths No. 2
 11A-52111 12ths No. 3 for duplex subt.
 N Use 1B-56114 12ths No. 2 assembled sector, includes spring B and drive pawl
 O 1-56115A No. 1 old style (without auxiliary cam on cam latch)
 1A-56115A No. 1 new style (with auxiliary cam on cam latch)
 P 1A-52111 No. 2
 1-52111 No. 3 duplex subt.
 Q 52221 Nos. 1, 2, 3, 7
 R Use 1B-56114 No. 2 assembled sector, includes spring B and drive pawl
 S Use 1B-56114 No. 3 assembled sector, includes spring B and drive pawl
 T 82-16913A Brown Body, White Inlay used in unit £ column
 82B-16913A Brown Body, White Inlay with bold figures, used in unit £ column
 U Included in W
 V Included in W
 W 2-16914½ complete gear assembly, includes U, V
 X 2-16913A Shilling, Ivory Body, Red Inlay
 2B-16913A Shilling, Ivory Body, Red Inlay with bold figures
 Y 1-58121A No. 2
 Z 72-16913A Ivory Body, Red Inlay
 72B-16913A Ivory Body, Red Inlay with bold figures
 AA 12-16913A 12ths Brown Body, White Inlay
 AB 1-16821½
 AC Included in AD
 AD 2-16914 12ths for second column
 2-16914A
 AE 2-16913A Farthing, Ivory Body, Red Inlay
 AF Included in AG

AG 1-16916 ¼ includes AF
 AH 1-16914 ½
 AI Included in AK
 AJ Included in AK
 AK 1-16904A Style 9, 13 £.s.d. & f. assembled control shaft, includes AI, AJ, AN
 AL 1-16937 8ths
 AM 1-16916A 4ths
 AN Included in AK
 AO 1-16937 12ths
 AP 1-16916A 12ths
 AQ 1-16924 12ths includes AR
 AR 489
 AS 10085
 AT 1-56111 Farthing No. 2 includes AU
 AU Included in AT
 AV 1-56111 12ths No. 2 includes AW
 AW Included in AV
 AX 1-56111 10ths No. 2 includes AY
 AY Included in AX
 AZ 58310 nut
 BB 58310L nut for last column on left
 BC 58510 screw for last column on left
 BD Included in BC
 BE 1-56111 Shilling No. 2 includes BC
 BE 72830 spring
 51802 spring used in unit £ column

NOTE: The following installation instructions apply only to Sterling machines. All other instructions may be found in the Calculator Instruction Book.

Pawl Gear AL. Assemble pawl gear AL in mesh with the front tooth of sector K, and position the pawl of the gear so as to actuate when indexed by the finger of shaft AC (Plate 13, Symbol Book).

Ratchet Gear AM. Assemble ratchet gear AM in mesh with the pawl on gear AL having the pawl upright and in a space of gear AM to permit gear AM to rotate rearward.

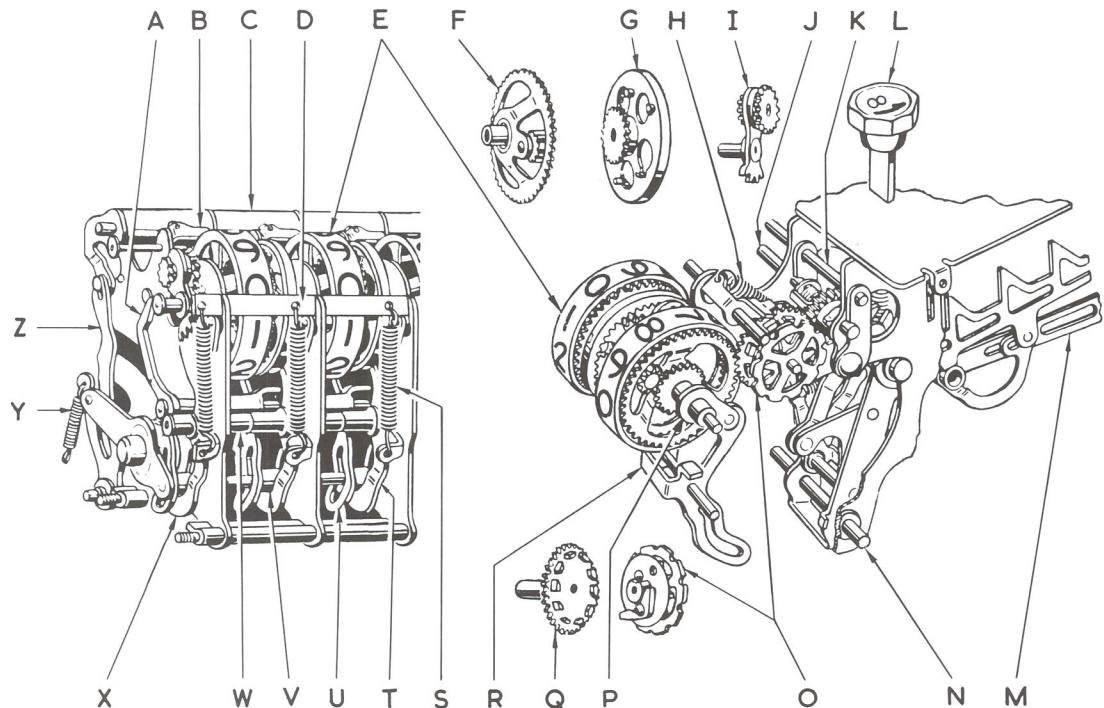
Dial Wheel AE. Assemble dial wheel AE in the first column, with the "¼" figure facing upward and gear AF positioned to the front.

Carry Wheel AD. Assemble carry wheel AD in column two with the aligned tooth of gear AC in the tooth space opposite the stud which is under the lug of carry wheel AD.

Carry Pinion V. Assemble carry pinion V in the fifth column. Place the teeth of oscillating arm W in mesh with carry arm Y, and gear U in mesh with the gear on dial wheel X.

Dial Wheel X. Rotate dial wheel X until its chamfered spoke is located slightly above the roller at the top of carry arm Y. Place carry pinion V so that the cam containing the hole is two cam spaces below and to the rear of the stud in back stop detent AB.

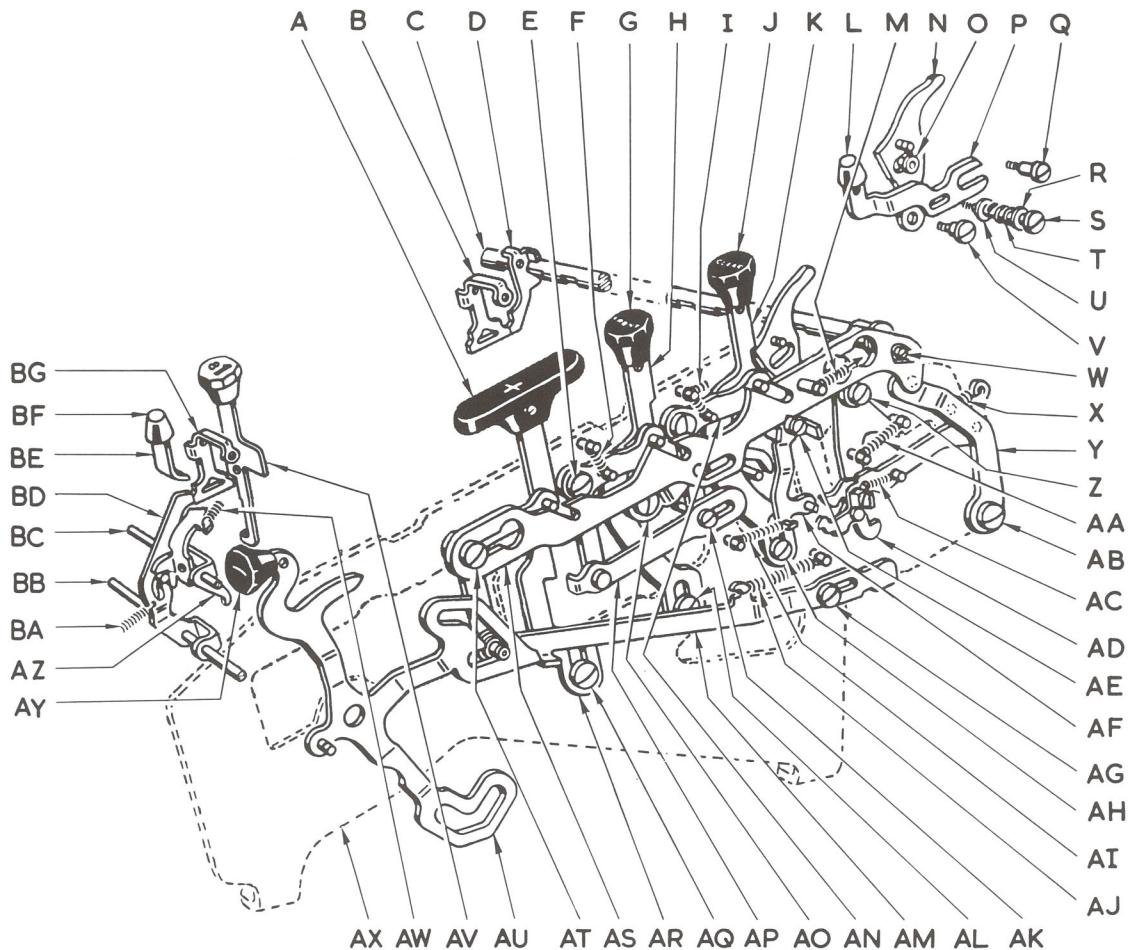
ACCUMULATION, FRONT REGISTER (Plate 6)



SYMBOLS (Plate 6)

A	1-16816 $\frac{1}{2}$ AL	L	16291B Nos. 1, 3, 5, 7, 9 regular; specify No. and color; 16292B Nos. 2, 4, 6, 8 /see Plate 2-1 for other styles
B	1-16924 regular	M	16291B Blank specify color
	1-16924 12ths used also for hr. & min.	N	2-16610C regular, complete assembled sector; see Plate 2 for other styles
C	1-16924 16ths	O	16601 Style 5, 9, 13 regular
D	1-16905 Style 5	P	Use 11-52001 Style 9 } for duplex machines use collar Use 11-52001 Style 13 1-52312, includes 74533 screw
E	1-16905A Style 9, 13	Q	1-16937 regular
	16224 Style 5, 9, 13	R	1-16937 8ths used also for $\frac{1}{4}$ frac.
	2-16913A specify color, brown, black, white, regular	S	1-16937 12ths used also for hr. & min.
	2B-16913A regular with bold figures	T	1-16937 16ths for Indian currency or 16th frac.
	2-16913A 8ths used also for $\frac{1}{4}$ fractions	U	1-16914 $\frac{1}{2}$ AR
	2-16913A 10ths Hr. & Min.	V	16880
	2-16913A 12ths	W	1-16821A regular
	2-16913A 12ths Hr. & Min.	X	1-58121A No. 1 used on duplex machines
	2-16913A 16ths	Y	1-58121 No. 4 used in cols. 1, 2, 3 in machines with prorate f.t.e.; see Q, Plate 12
	12-16913A Indian currency	Z	16816A regular
	16948 collar, use in place of dial wheel in col. 13 of 12 col. ma- chines		16840 roller
F	Included in E		16841 used on extreme left end
G	2-16914A regular		16847
	2-16914 12ths		1-16821AL used in leftmost position, hand machines
	2-16914A Hr. & Min.		1-58121AL used on duplex machines, leftmost position
	2-16914AL used in extreme left position		7283 $\frac{3}{4}$ for hand machines 83836 for electric machines
H	489		
I	Included in G		
J	1-16904 Style 5		
	1-16904A 8ths Style 9, 13		
	1-16904A 10ths Style 9, 13		
	1-16904A 12ths Style 9, 13		
	1-16904A 16ths Style 9, 13		
	1-16904A Hr. & Min. Style 9, 13		
	11A-16904A Style 9, 13 Indian currency		
K	1-16201A Style 5, 9, 13		

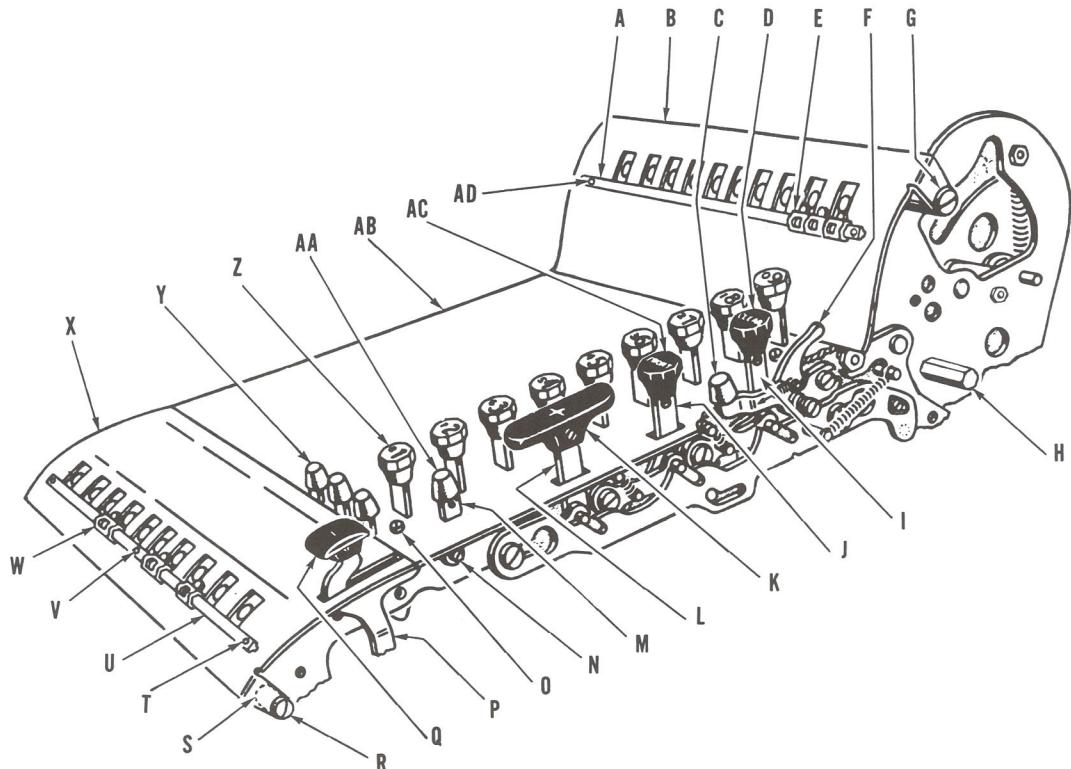
KEYBOARD AND MOTOR BAR INTERLOCKS (Plate 5)



SYMBOLS (Plate 5)

A	53900A No. 2 use 74502 screw	AC	69806	AU	1-53118A No. 4 Style 9 used with sectional keyboard Plate 3
B	16214 regular; see Plate 1 for other styles	AD	1-53135	1-53118B No. 4 Style 9 used with proportioning feature	
C	1-52005 Style 9 No. 4		1-53135A used with non-slip clutch mechanism, Plate 16-1	1-53118A No. 4 Style 13 used without sectional keyboard	
D	1-52005 Style 13 No. 4	AE	53517A	52221 Nos. 1 thru 9	
		AF	1-53120A used on simplex machines with connected drive arm AD and drive link I, Plate 15; used on duplex machines with FRONT and CLEAR clearing keys	AV 489	
E	53510		1A-53120A used on simplex machines with separate drive arm AX and drive link AT, Plate 15; used on duplex machines with independent FRONT and REAR clearing keys	AX 1-16210BR Style 9 for all late style hand machines	
F	10784 spring	AG	3259 1/4A	11-52110AR No. 1 (41A-52110AR No. 1, 707509, 46 3/8) for all late style electric machines	
G	53901 Front ivory on gray	AH	203565 1/2	SIDE FRAMES USED ON LEFT SIDE	
H	53901A Front white on gray	AI	53804	1-16210BL Style 9 for all late style hand machines	
I	1-53118 No. 3	AJ	79805	1-52110AL No. 1 for all late style electric machines	
J	72830 spring	AK	75645		
K	53901 Clear ivory on gray	AL	3259 1/8A	A Y 53901 Subtract, red	
L	53901A Clear white on gray	AM	1-53134A (1B-53134A)	53901A Subtract, gray	
M	1-53118A No. 3 later style	AN	1-53123 No. 2	AZ 1-56131 see Plate 8 for other styles	
N	82990A	AO	1-53129 use 53525 screw	BA 51802	
O	10786	AP	1-53133	BB 16601 Style 9, 13 regular	
P	1-53138		1-53133A used on machines with independent clearing of front & rear registers	Use 11-52001 for duplex machines;	
Q	8436 shoulder collar	AG	1-53133A used on machines below serial number C440248	Style 9 use 1-52312 collar,	
R	53138 1/2 Style 9	AQ	707509 screw, 46 3/8 nut used on machines from serial number C440248	Use 11-52001 includes 74533	
S	705556 use 99341 Style 8 washer	AR	1-53118 No. 2	Style 13 screw	
T	3821 1/2 washer	AS	1-53128 No. 2 (1A-53128 No. 2, 1-53125A)	BC 1-59001 Style 9, 13 use 21 No. 24 clip on left end	
U	3855	AT	53511	BD 56130A	
V	Use 8881 1/4 spring			BE 52221 No. 17	
W	407105			BF 82990A red	
X	73566			BB 52993B specify color, ivory or gray	
Y	52551			BG 16214 regular; see Plate 1 for other styles	
Z	69806 spring				
AA	1C-53125 (1-53125A, 1A-53128 No. 2)				
AB	1A-53125A used with non-slip clutch mechanism, Plate 16-1				
	53519				
	81803				
	200565 1/2				

KEYBOARD ASSEMBLY, SECTIONAL, DUPLEX MACHINES (Plate 3)



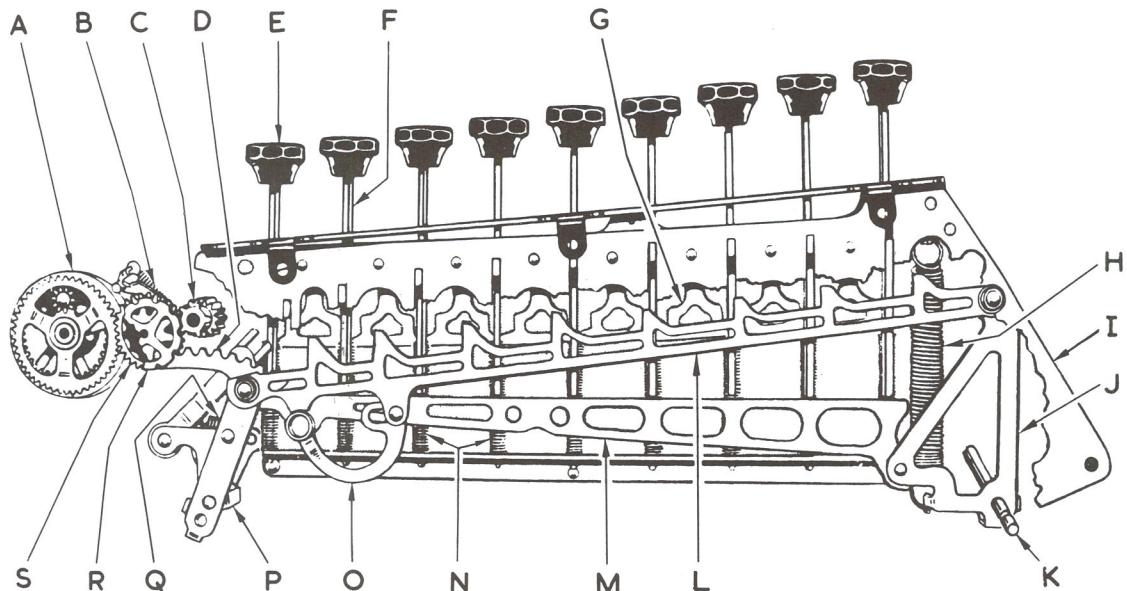
SYMBOLS (Plate 3)

- | | | | |
|---|---|-----------------------------|--|
| A | 1-50001 Style 9 | Q | 53902 Subtract ivory on gray, use 74502 screw |
| B | 1-52113 $\frac{1}{4}$ Style 9 (1-52113 $\frac{1}{4}$ B Style 9, 1-
52113 $\frac{1}{2}$ B Style 9, specify Decimal, Sterling or English on Strathleven orders) includes A, E, AD; see Plate 23 for 1-52113 $\frac{1}{4}$ B Style 9 specify Decimal, Sterling or English on Strathleven orders; with other details | R | 52519 |
| C | 1-52113 $\frac{1}{4}$ 12ths Style 9 (1-52113 $\frac{1}{4}$ B Style 9)
82990A red | S | 52313 collar |
| D | 52993B specify color, ivory or gray | T | 50550 No. 1 rivet |
| E | 53901 Clear ivory on gray | U | 1-50001 Style 9 |
| F | 53901A Clear white on gray | V | 50550 No. 2 rivet |
| G | 1-52113 $\frac{1}{4}$ 12ths Style 9 (1-52113 $\frac{1}{4}$ B Style 9) | W | 50118 No. 2 indicator, 50119 friction spring |
| H | 82990A red | X | 1-52113 $\frac{1}{2}$ Style 9 No. 2 (1-52113 $\frac{1}{2}$ B Style 9,
1-52113 $\frac{1}{4}$ B Style 9 specify Decimal, Sterling or English on Strathleven orders) includes 1-52113 $\frac{1}{2}$ B Style 9 specify Decimal, Sterling or English on Strathleven orders; with plexiglass dial cover |
| I | 50504 (50504B) | Y | 1-52113 $\frac{1}{4}$ 12ths Style 9 No. 2 |
| J | 1-53118 No. 3 | Z | 82990A red |
| K | 1-53118 No. 3 | AA | 52993B specify color, ivory or gray |
| L | 53900 No. 2 (53900A No. 2) | See Keystop Chart Plate 2-1 | |
| M | 1-52221 No. 19 | AB | 82990A red |
| N | 12055 9/16 | AC | 52993B specify color, ivory or gray |
| O | 52521 used on left side | AD | 1A-53113B Style 9 No. 1 for Style C303; see Plate 1 for other styles |
| P | 73563 | AC | 53901 Front , ivory on gray |
| | 1-53118A No. 4 Style 9 | AD | 53901A Front , white on gray |
| | 1-53118B No. 4 Style 9, used on machines with pro-rating feature | AD | 50550 No. 1 rivet, use 50550 No. 2 rivet in center |

KEYTOP CHART (Plate 2-1)—Continued

Keypad Outline	Symbol No.	Description	Color	Color No.
	16292 B Number}		Gray Ivory Red Blue Black White	(204) (302) (402) (700) (800) (900)
	16292 D Number}		Gray Ivory	(207) (301)
	16292 B Shillings}		Gray Ivory Red White	(204) (302) (402) (900)
	16292 D Shillings}	01	Gray Ivory	(207) (301)
	16292 B Hr. & Min.}	14, 32	Ivory Red	(302) (402)
	16292 D Hr. & Min.}		Ivory	(301)
	16292 B Farthings}		Ivory Red	(302) (402)
	16292 D Farthings}	51/4, 51/2, 03/4	Ivory	(301)
	16292 B 8ths}		Gray Ivory Red White	(204) (302) (402) (900)
	16292 D 8ths}		Ivory	(301)
	16292 B 12ths}		Gray Ivory Red Black	(204) (302) (402) (800)
	16292 D 12ths}		Brown Gray Ivory	(108) (207) (301)
	16292 B 16ths}	92, 74, 56, 38, 10	Gray Red White	(204) (402) (900)
	16292 D 16ths}		Gray	(207)
	16292 C Numerator}		Ivory Red	(302) (402)
	16292 D Numerator}	10, 20, 30, 40, 50	Ivory	(301)
	16292 1/2 B Farthings}		Ivory Red	(302) (402)
	16292 1/2 D Farthings}		Ivory	(301)
	16292 1/2 B 8ths}		Gray Ivory Red White	(204) (302) (402) (900)
	16292 1/2 D 8ths	51/4, 51/2, 03/4	Ivory	(301)

KEYSYSTEMS AND ADDING SECTORS, HAND MACHINES (Plate 2)



SYMBOLS (Plate 2)

A	2-16913A regular; see Plate 6 for other styles	G	16214 regular; see Plate 1 for other styles
B	489 spring	H	16680 spring
C	1-16904A 10ths Style 9, 13 regular, complete assembled control gear shaft; see Plate 6 for other styles	I	1-16210 1/4 hand
D	2-16610C regular	J	partition plate used in extreme right position; see Plate 1 for other positions
	2-16610CL used in extreme left col.	K	1A-52111R No. 2
	2-16610C 8ths	L	Included in D
	2-16610C 12ths used also for hr. & min.	M	Included in D
	2-16610C 16ths	N	16280 hand
E	See Keytop Chart, Plate 2-1	O	52880 elec.
F	16221 Nos. 1 thru 9 regular	P	Included in D
	16221 8ths Nos. 1 thru 7	Q	Included in D
	16221 12ths No. 9	R	16681A spring
	1-16221 12ths Nos. 10, 11	S	1-16937 regular; see Plate 6 for other styles
	16221 16ths No. 5 thru 15 for Indian currency or 16ths fraction		1-16916B regular; see Plate 6 for other styles