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It is my hope that you find the file of use to you personally – I know that I would have liked to have found some of these files years ago – they would have saved me a lot of time !

Colin Hinson

In the village of Blunham, Bedfordshire.

PART LIST NO. 1071 (2nd EDITION)



THREE-GANG MULTIPLE TRANSMITTER

Model 71B Mk IV Multiple Message Transmitter

Model 72B Mk IV Multiple Numbering Transmitter

Model 74B Mk IV Multiple Message and Numbering Transmitter

Creed & Company Limited

T E L E G R A P H H O U S E
C R O Y D O N · E N G L A N D

Telegraphic address CREDO · TELEX · CROYDON
Telephone MUNICIPAL 2424
Telex 28836

AN  ASSOCIATE

I N T R O D U C T I O N

Creed policy is one of continuous improvement, and the right is reserved to revise equipment specifications and details published without prior notice.

As a consequence of this policy, there may arise, from time to time, circumstances in which piece parts on individual machines are found to be of an earlier or later pattern than those illustrated in this book.

Spare part requirements may, nevertheless, be based on the published information, since all orders and enquiries are checked by the technical order editing department.

The time required to deal with a spares order can be reduced if customers will include the following information with their order:-

1. Model number of machine.
2. Serial number of machine.
3. Part number.
4. Part name.

For the benefit of new customers who may not be familiar with all the abbreviations used in Creed Part Lists, a short glossary is provided in the Notes on page 3.

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N O T E S

1. Standard British Association (B.A.) nuts and screws are not included in the main list of parts, but are dealt with on page 28, where the total number of each size of nuts and screw used per machine is given. A suitable proportion of these parts can be held as expendable spares.
2. The screws and nuts which are listed in the form '6-40 x 1"' have 'National Fine' or 'National Coarse' UNIFIED threads. In this particular example, '6' indicates the screw size, 40 the number of threads per inch, and 1" that the screw has an effective length of 1 inch.
3. Abbreviations used in this part list are:-

B. A.	British Association screw thread
Cap.Hd.	Capstan Head
Ch.Hd.	Cheese Head
C. P.	A 'Complete part', i.e. an assembly of two or more smaller parts
Csk.Hd.	Countersunk Head
GP.	Group
Hex.Hd.	Hexagon Head
I. D.	Internal Diameter
Inst.Hd.	Instrument Head
L. H.	Left-hand
M. S.	Mild Steel
Rd.Hd.	Round Head
R. H.	Right-hand
S. C.	Single Coil

MODEL 71B MK IV THREE GANG MULTIPLE MESSAGE TRANSMITTER

GROUP 1. Machines with motors for voltages between 130 and 270 A.C.

GROUP 2. Machines with motors for voltages between 90 and 125 A.C.

(See Fig. 1)

Index Letter	Part No.	Part Name	
A	S 4147	BASE ASSEMBLY	See Page 11
B	S 4144M	TRANSMITTER UNIT (Message) 3 per set	See Page 17
	PS5425	10-32 x 9/16" Hex. Hd. Screw	} for securing item B
	PW5787	Spring Washer	
	PW5789	Washer (6 per set)	
	3672/170	Bottom Plate Clamp Collar - 3 per set	
COVERS			
C	3673/175 Gr. 1	Front Cover C.P. (Message) comprises:-	
	3673/19	Front Cover	
D	3673/143	Switch Guard	
E	3673/144	Signal Plate	
F	3673/39	Card Holder (3 per set)	
G	PS8472	2-56 x 3/16" Rd. Hd. Screw	} 14 per set for securing items D, E and F
H	PN5113	2-56 Nut	
J	3673/250	L.H. Side Cover C.P.	
K	3673/251	Rear Cover Side Plate C.P.	
L	3673/27 Gr. 2	Rear Cover C.P. (for high voltage motors)	} comprises:-
	or 3673/27 Gr. 1	Rear Cover C.P. (for low voltage motors)	
	3673/28 Gr. 2	Rear Cover Sub C.P. (for high voltage motors)	
	or 3673/28 Gr. 1	Rear Cover Sub C.P. (for low voltage motors)	
M	3673/32	Lid	
N	PS5427	Pivot Screw	
O	PW5790	Shim (0.010") between Sub C.P. and Lid	
P	PW5791	Spring Washer	
Q	PW5780	Washer	
R	PN5111	Nut	
S	3673/22 Gr. 2	R.H. Side Cover C.P. (for high voltage motors)	
	or 3673/22 Gr. 1	R.H. Side Cover C.P. (for low voltage motors)	
T	3673/41	Top Cover C.P.	
	3673/47	Rear Cover Connector (joins Front Cover C.P. Item C to L.H. Side Cover C.P. Item J)	
	3673/343	Bottom Plate (S.R.B.F. plate screwed to underside of Base)	
U	3673/44	Tape Chute	
V	PS5405	6-40 x 1/4" Fil.Hd. Screw (29 per set)	} for securing Covers, Bottom Plate and Tape Chute
W	PW5764	Washer (8 per set)	
X	PS5426	Knurled Head Screw (2 per set)	

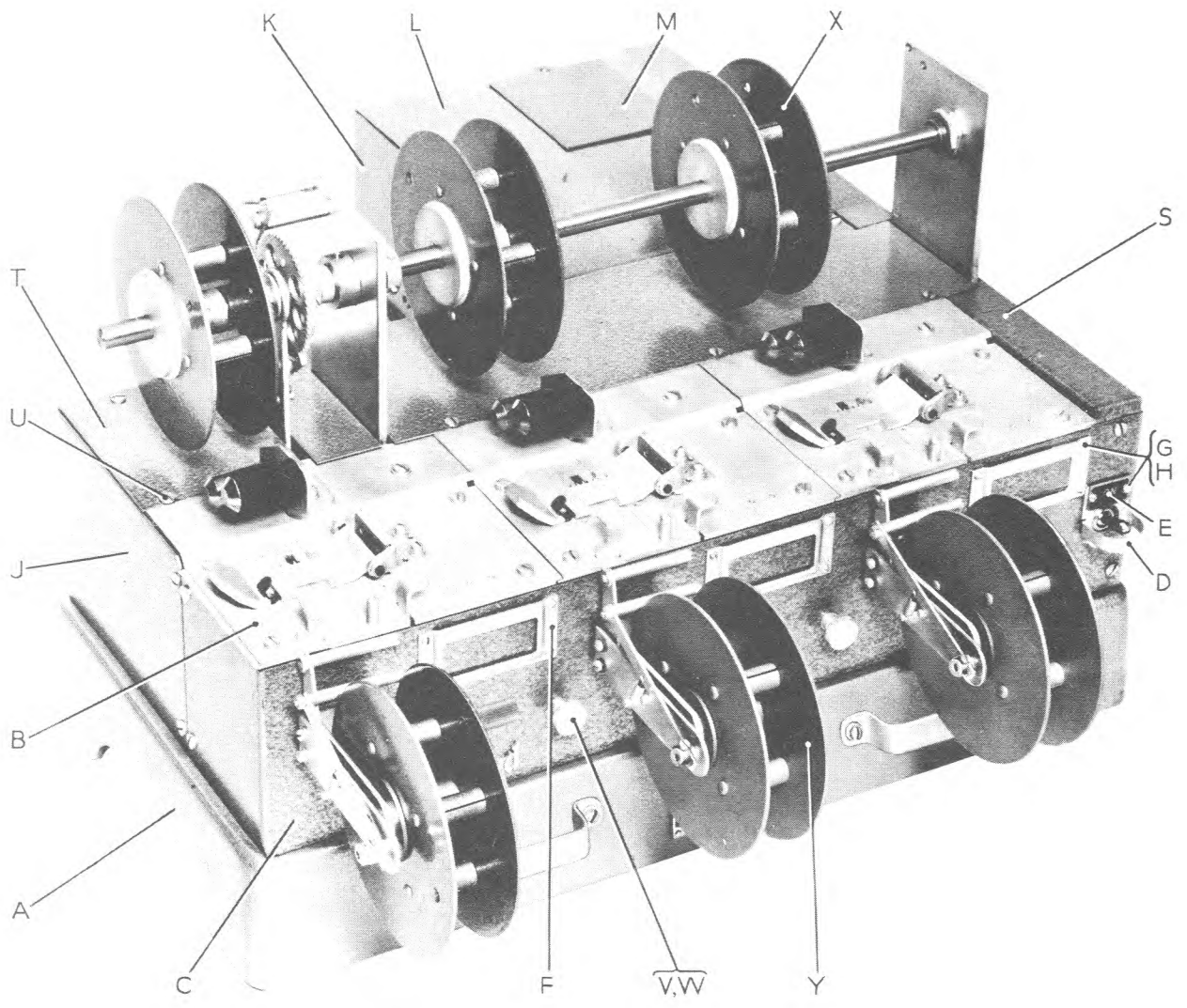


FIG. 2 MODEL 72B MARK IV THREE-GANG MULTIPLE NUMBERING TRANSMITTER

MODEL 72B MK IV THREE GANG MULTIPLE NUMBERING TRANSMITTER

GROUP 1. Machines with motors for voltages between 130 and 270 A.C.

GROUP 2. Machines with motors for voltages between 90 and 125 A.C.

(See Fig. 2)

Index Letter	Part No.	Part Name	
A	S 4147	BASE ASSEMBLY	See Page 11
B	S 4144N	TRANSMITTER UNIT (Numbering)	See Page 17
	PS5425	10-32 x 9/16" Hex.Hd. Screw	} for securing item B
	PW5787	Spring Washer	
	PW5789	Washer (6 per set)	
	3672/170	Bottom Plate Clamp Collar - 3 per set	
COVERS			
C	4145/11 Gr.1	Front Cover C.P. includes:-	
	3673/134 Gr.1	Front Cover Sub C.P.	
D	3673/143	Switch Guard	
E	3673/144	Signal Plate	
F	3673/39	Card Holder (3 per set)	
G	PS8472	2-56 x 3/16" Rd.Hd. Screw	} 14 per set for securing Items D, E and F
H	PN5113	2-56 Nut	
J	3673/250	L.H. Side Cover C.P.	
K	3673/251	Rear Cover Side Plate C.P.	
L	3673/27 Gr.2	Rear Cover C.P. (for high voltage motors)	} comprises:-
	or 3673/27 Gr.1	Rear Cover C.P. (for low voltage motors)	
	3673/28 Gr.2	Rear Cover Sub C.P. (for high voltage motors)	
	or 3673/28 Gr.1	Rear Cover Sub C.P. (for low voltage motors)	
M	3673/32	Lid	} See Fig.1
N	PS5427	Pivot Screw	
O	PW5790	Shim (0.010") between Sub C.P. and Lid	
P	PW5791	Spring Washer	
Q	PW5780	Washer	
R	PN5111	Nut	
S	3673/128 Gr.2	R.H. Side Cover C.P. (for high voltage motors)	
	or 3673/128 Gr.1	R.H. Side Cover C.P. (for low voltage motors)	
T	3672/156	Top Cover	
	3673/47	Rear Cover Connector (joins Front Cover C.P., Item C to L.H. Side Cover C.P. Item J)	
	3673/343	Bottom Plate (S.R.B.F. plate screwed to underside of Base)	
U	PS5405	6-40 x 1/4" Fil.Hd. Screw (30 per set)	} for securing Covers and Bottom Plate
V	PW5764	Washer (8 per set)	
W	PS5426	Knurled Head Screw (2 per set)	
X		TAPE WINDER ASSEMBLY	See Page 14
Y		TAPE REEL ASSEMBLY (3 per set)	See Page 15
	PS8216	6-40 x 1/4" Fil.Hd. Screw (6 per set) for securing Item Y (not visible)	

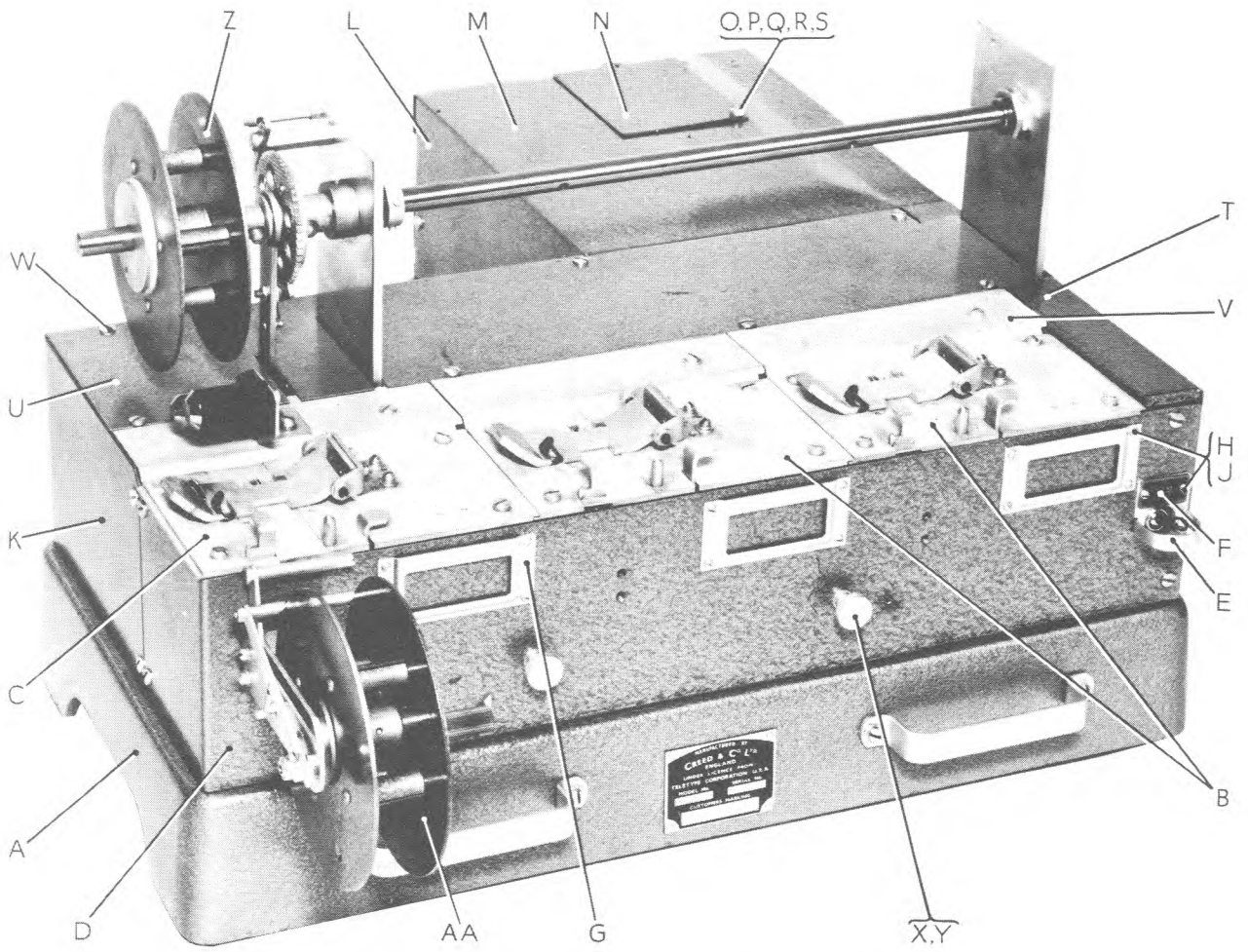


FIG. 3 MODEL 74B MARK IV THREE-GANG MULTIPLE MESSAGE AND NUMBERING TRANSMITTER

MODEL 74B MK IV THREE GANG MULTIPLE MESSAGE AND NUMBERING TRANSMITTER

GROUP 1. Machines with Motors for voltages between 130 and 270 A.C.

GROUP 2. Machines with Motors for voltages between 90 and 125 A.C.

(See Fig.3)

Index Letter	Part No.	Part Name	
A	S 4147	BASE ASSEMBLY	See Page 11
B	S 4144M	TRANSMITTER UNIT (Message) 2 per set	See Page 17
C	S 4144N	TRANSMITTER UNIT (Numbering)	See Page 17
	PS5425	10-32 x 9/16" Hex.Hd. Screw	} 9 of each } } per set } for securing Items } B and C
	PW5787	Spring Washer	
	PW5789	Washer (6 per set)	
	3672/170	Bottom Plate Clamp Collar (3 per set)	
COVERS			
D	4145/13 Gr.2	Front Cover C.P. includes:-	
	3673/134 Gr.1	Front Cover Sub C.P.	
E	3673/143	Switch Guard	
F	3673/144	Signal Plate	
G	3673/39	Card Holder (3 per set)	
H	PS8472	2-56 x 3/16" Rd. Hd. Screw	} 14 per set for securing } Items E, F and G
J	PN5113	2-56 Nut	
K	3673/250	L.H. Side Cover C.P.	
L	3673/251	Rear Cover Side Plate C.P.	
M	3673/27 Gr.2	Rear Cover C.P. (for high voltage motors)	} comprises:-
or	3673/27 Gr.1	Rear Cover C.P. (for low voltage motors)	
	3673/28 Gr.2	Rear Cover Sub C.P. (for high voltage motors)	
or	3673/28 Gr.1	Rear Cover Sub C.P. (for low voltage motors)	
N	3673/32	Lid	
O	PS5427	Pivot Screw	
P	PW5790	Shim (0.010") between Sub C.P. and Lid	
Q	PW5791	Spring Washer	
R	PW5780	Washer	
S	PN5111	Nut	
T	3673/128 Gr.2	R.H. Side Cover C.P. (for high voltage motors)	
or	3673/128 Gr.1	R.H. Side Cover C.P. (for low voltage motors)	
U	3673/156	Top Cover	
V	3672/278	Top Cover	
	3673/47	Rear Cover Connector (joins Front Cover C.P., Item D to L.H. Side Cover C.P. Item K)	
	3673/343	Bottom Plate (S.R.B.F. plate screwed to underside of Base)	
W	PS5405	6-40 x 1/4" Fil. Hd. Screw (32 per set)	} for securing Covers and } Bottom Plate
X	PW5764	Washer (10 per set)	
Y	PS5426	Knurled Head Screw (2 per set)	
Z		TAPE WINDER ASSEMBLY	See Page 14
AA		TAPE REEL ASSEMBLY (1 per set)	See Page 15
	PS8216	6-40 x 1/4" Fil.Hd. Screw (2 per set) for securing Item AA (not visible)	

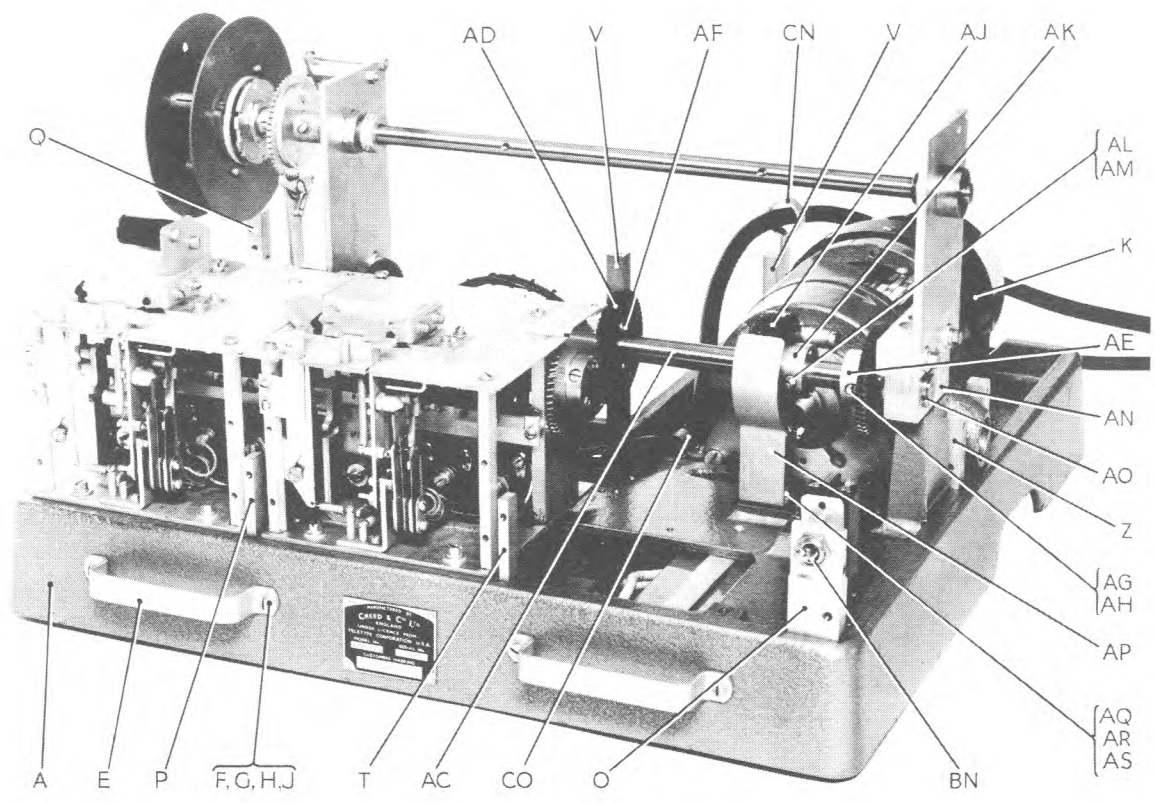


FIG. 4 BASE ASSEMBLY S4147 (TOP VIEW)

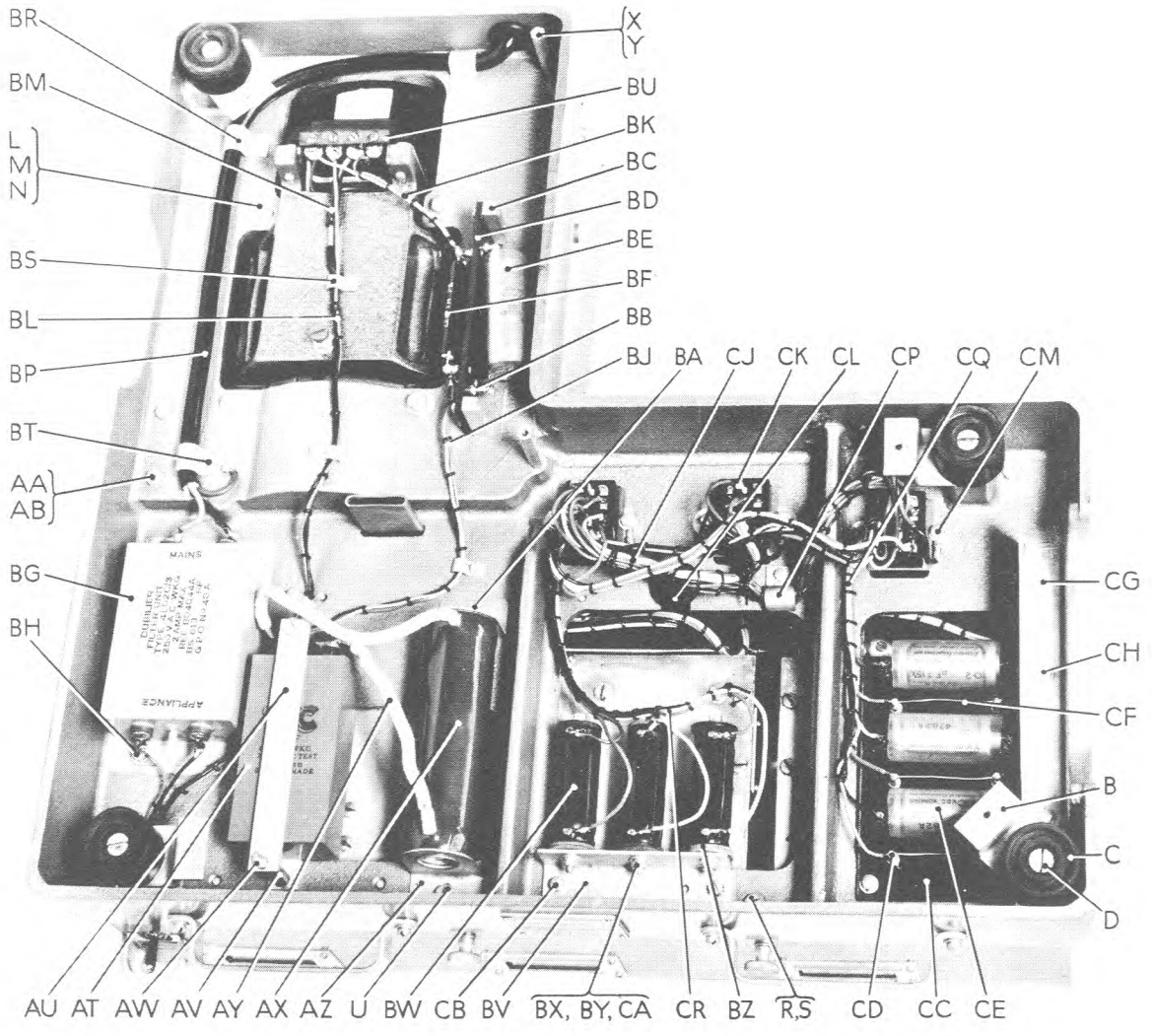


FIG. 5 BASE ASSEMBLY S4147 (UNDERSIDE VIEW)

BASE ASSEMBLY S4147

GROUP 1. Model 74B (130-270V. A.C. Motor)

GROUP 2. Model 74B (90-125V. A.C. Motor)

GROUP 5. Model 71B (130-270V. A.C. Motor)

GROUP 6. Model 71B (90-125V. A.C. Motor)

GROUP 9. Model 72B (130-270V. A.C. Motor)

GROUP 10. Model 72B (90-125V. A.C. Motor)

(See Figs. 4, 5 and 6)

Index Letter	Part No.	Part Name
A	4147/4	Base Casting (for use on S 4147 GROUPS 1, 5 and 9)
	or 4147/2	Base Casting (for use on S 4147 GROUPS 2, 6 and 10)
B	3673/344	Mounting Bracket
C	1836/69	Rubber Foot - 4 per set
D	PS5429	Shouldered Screw - 4 per set for securing Items B and C
E	3673/126	Handle (2 per set)
F	PS8236-1	6-40 x 1/2" Fil. Hd. M.S. Screw
G	PW5764	Washer
H	PW5775	Spring Washer
J	PN5110	6-40 Nut
K		MOTOR AND GOVERNOR UNIT See Page 25
	PW5788	Motor Shim (0.010") as required, between Motor Cradle and Base casting
L	PW5789	Washer
M	PW5787	Spring Washer
N	PS5424	10-32 x 3/4" Hex. Hd. Screw
		} 4 per set for securing Item K
COVER SUPPORTS		
O	3673/119	Switch and Cover Support
P	3673/16	Cover Support
Q	3673/162	Cover Support
R	PS5421	6-40 x 5/8" Hex. Hd. Screw
S	PW5775	Spring Washer
		} 3 per set for securing Items O, P and Q
T	3673/16	Cover Support
U	PS5421	6-40 x 5/8" Hex. Hd. Screw (for securing Item T)
V	3673/15	Cover Support
W	3673/162	Cover Support
X	3673/345	Pillar
Y	PW5775	Spring Washer
		} 2 per set for securing Items V and W
Z	3673/15	Cover Support (2 per set)
	3673/329	Support Plate
	PS8218-1	6-40 x 5/16" CSK. Hd. Screw
		} for use on Groups 1, 5 and 9 only
AA	PS5422	6-40 x 1 1/4" Hex. Hd. Screw
AB	PW5775	Spring Washer
		} for securing Item Z

BASE ASSEMBLY S4147 (Continued)

Index Letter	Part No.	Part Name
TRANSMITTER DRIVE SHAFT ASSEMBLY		
	4145/12	Driving Shaft C.P. comprises:-
AC	3673/6	Driving Shaft
AD	GR2226	Transmitter Driving Gear (3 per set)
AE	3673/9	Gear Boss (3 per set)
AF	PS5419	6-40 Screw (6 per set) for securing Item AD to Item AE
AG	PS8236-1	6-40 x 1/2" Fil. Hd. Screw } 3 per set for securing
AH	PW5775	Spring Washer } Item AE to Item AC
AJ	GR2227	Driven Gear (7 1/2 Unit)
AK	3673/9	Gear Boss
	PS8243-1	6-40 x 3/4" Fil.Hd. Screw } 2 per set for securing
	PW5775	Spring Washer } Item AJ to Item AK
AL	PS8236-1	6-40 x 1/2" Fil.Hd. Screw } for securing Item AK to Item AC
AM	PW5775	Spring Washer }
	3673/3A	Bearing Block C.P. (2 per set) comprises:-
AN	3673/4A	Bearing Block
AO	3673/5	Oil Impregnated Flanged Bush
	3673/13	Bearing Block Shim (between Item AN and casting)
	PW5787	Spring Washer
	PS8394-1	10-32 x 1-3/8" Fil. Hd. Screw (for Model 71B) } 4 of each per set
or	PS5432	10-32 x 1-13/16" Fil.Hd.Screw (for Models 72B) } for securing
		and 74B) } Bearing Blocks
	3673/10	Retaining Collar (for use on Groups 5 and 6) at extreme L.H. end of Driving Shaft
	PS5420	10-32 Grub Screw (2 per set) for securing Retaining Collar
AP	3673/12	Gear Guard
AQ	PW5764	Washer
AR	PW5775	Spring Washer
AS	PS5407	6-40 x 5/16" Hex. Hd. Screw } 2 per set for securing Item AP
MOTOR CIRCUIT COMPONENTS		
AT	BO 2649	0.5 µF. Capacitor
AU	3673/52	Capacitor Clamp Plate (2 per set)
AV	PE1043	Insulating Sleeve (2 per set)
AW	PS8394-1	10-32 x 1-3/8" Fil.Hd. Screw (2 per set)
AX	4147/15 Gr.1	Resistor C.P. (for use on S 4147 GROUPS 1, 3 and 5) } includes:-
or	4147/15 Gr.2	Resistor C.P. (for use on S 4147 GROUPS 2, 6 and 10) }
AY	BO 1701	Insulating Beads (60 per set)
AZ	PK1121	Bracket C.P. (2 per set)
BA	PS8216-1	6-40 x 1/4" Fil.Hd. Screw
	4147/11 Gr.1	Components Panel C.P. (for use on S 4147 GROUPS 1, 3 and 5) } comprises
or	4147/11 Gr.2	Components Panel C.P. (for use on S 4147 GROUPS 2, 6 and 10) }
BB	4147/13	Tag Board C.P.
BC	4147/12	Pillar (2 per set)
BD	PS8087	4-40 x 5/16" Fil.Hd. Screw (4 per set)
BE	BO 2659	Capacitor
BF	BO 2724	Resistor 5 ohm (2 per set) for use on GROUP 1
or	BO 2878/1	Resistor 1.7 ohm (2 per set) for use on GROUP 2
	PS8226-1	6-40 x 3/8" Fil. Hd. Screw (2 per set) for securing Item BB
BG	BO 4044A	Filter
BH	PS8216-1	6-40 x 1/4" Fil.Hd. Screw (2 per set) for securing Item BG
BJ	CF1959	Connector C.P.
BK	CF1958	Connector C.P.
BL	CF1960	Motor Lead C.P. includes:-
BM	BO 5581/1	Inductor P.O. Type RF17

BASE ASSEMBLY S4147 (Continued)

Index Letter	Part No.	Part Name
BN	BO 3783	Switch
BO	CF1963	Switch Connector C.P.
BP	CD1914	3-way Power Cord and Plug C.P. comprises:-
	CF1965	3-way Cord
	BO 2677	3-pin 5 amp Plug
	BO 2670	3-pin Socket
BQ	BO 7805/6	Grommet
BR	PK1123	Cable Clamp (3 per set)
BS	PK2029	Cable Clip (4 per set)
BT	PS8216-1	6-40 x 1/4" Fil. Hd. Screw (7 per set) for securing Items BR and BS
BU	3673/217	Connection Panel Moulding C.P.
SIGNAL CIRCUIT COMPONENTS		
	3673/146	Resistor Unit C.P. (used on Models 71B and 72B only) comprises:-
BV	3673/148	Resistor Bracket
BW	3673/147	Resistor 1000 ohm (3 per set)
BX	3673/149	Resistor Screw (3 per set)
BY	3672/188	Washer (3 per set)
BZ	3673/150	Resistor Washer (9 per set) } for securing Item BV to Item BW
CA	3672/222	6-40 Nut (3 per set) }
CB	PS8216-1	6-40 x 1/4" Fil.Hd. Screw (2 per set) for securing Item BV
	4147/7 Gr.1	Tag board Assembly (used on Model 74B)
	or 4147/7 Gr.2	Tag board Assembly (used on Models 71B and 72B only) } comprises:-
CC	4147/8	Tag board
CD	BO 2700	Turret Lug (12 per set)
CE	3673/57	Capacitor 0.2 µF. (3 per set)
	BO 3551/5	Resistor 1000 ohm (3 per set) used on Group 1
CF	or 4147/9	.036" Tinned Copper Wire used on Group 2
CG	4147/10	Insulation Board (under Item CC)
CH	PS8231-1	Guard Plate
	CD1915 Gr.1	6-40 x 7/16" Fil.Hd. Screw, 3 per set for securing Items CC and CG
	or CD1915 Gr.2	Cable form Plug and Socket C.P. (for use on Model 71B) } includes:-
CJ	CF1967 Gr.1	Cable form Plug and Socket C.P. (for use on Model 72B) }
	or CF1967 Gr.2	Cable form (for use on Model 71B)
CK	BO 7605/4	Cable form (for use on Model 72B)
	BO 7607/3	12-way Socket (3 per set)
	BO 7607/9	24-way Plug Inner Assembly } external to machine
CL	BO 7805/8	24-way Plug Cover }
	or CD1916 Gr.1	Grommet
CJ	CF1968 Gr.1	Cable form Plug and Socket C.P. (for use on Model 74B) includes:-
CK	BO 7605/4	Cable form
	BO 7605/3	12-way Socket (3 per set)
	BO 7505/9	12-way Plug Inner Assembly } external to machine
CL	BO 7805/8	12-way Plug Cover }
CM	PS8216-1	Grommet
	BO 7607/5	6-40 x 1/4" Fil.Hd. Screw (6 per set) for securing Item CK
	or BO 7605/4	24-way Socket
CM	3673/346	12-way Socket
	PW5775	Cable Clamp
	PS5412	Spring Washer
CN	PK1050	6-40 x 7/16" Hex.Hd. Screw } for securing Item CM
	or PK1142	Cable Clip (2 per set) for Model 74B
CO	PK1123	Cable Clip (2 per set) for Models 71B and 72B
	PS8216-1	Cable Clip
CP	CF1961	6-40 x 1/4" Fil.Hd. Screw (3 per set) for securing items CN and CO
CQ	CF1962	Cable form
		Cable form (for use on Models 71B and 72B only)

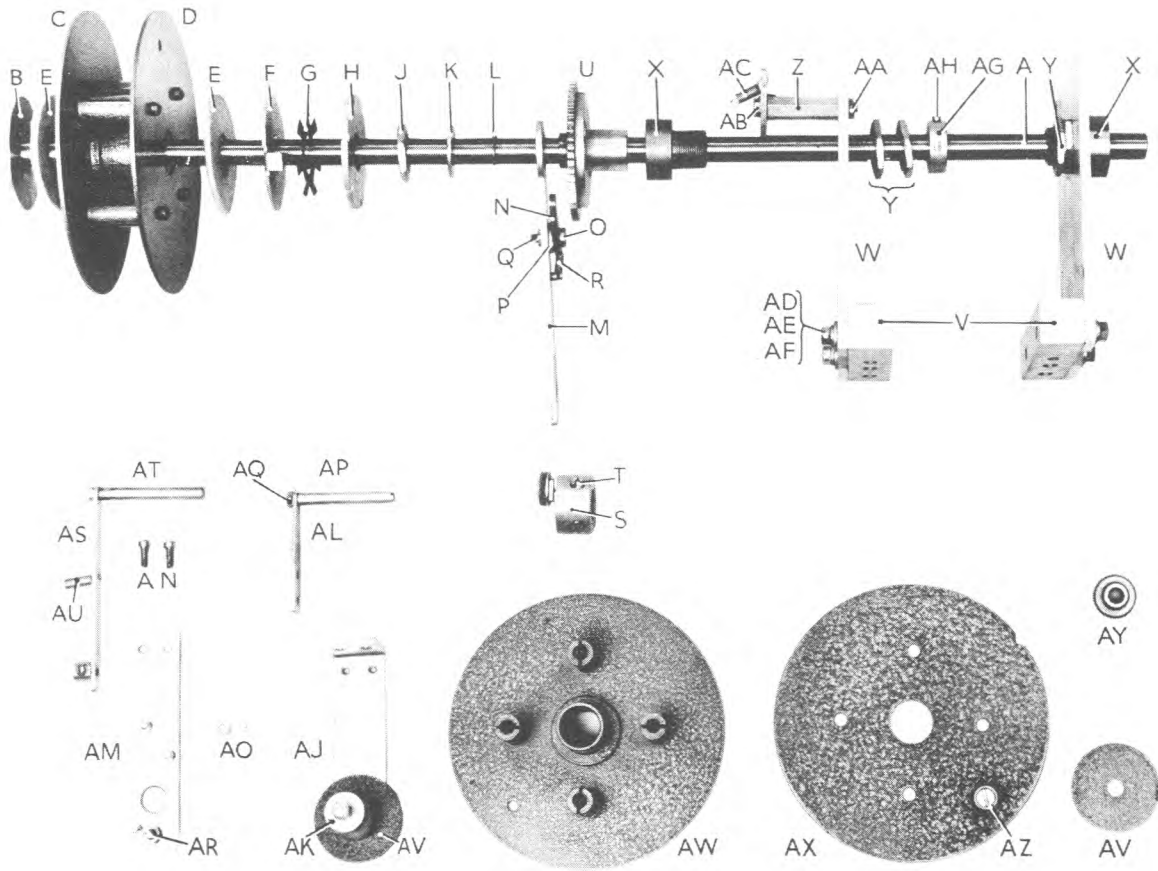


FIG. 6 TAPE WINDER AND TAPE REEL COMPONENTS

BASE ASSEMBLY S4147 (Continued)

Index Letter	Part No.	Part Name
<i>TAPE WINDER ASSEMBLY (used on Models 72B and 74B only) See Fig.6</i>		
A	3673/300 3673/309	Tape Reel Shaft Tape Reel and Clutch C.P. (3 per Model 72B, 1 per Model 74B) comprises:-
B	3673/308	Tape Reel Centre
C	3673/301	Tape Reel Plate C.P.
D	3673/140	Tape Reel Plate
E	3673/94	Friction Drive Washer (2 per Tape Winder)
F	3673/95	Friction Washer
G	3673/96	Clutch Spring
H	3673/97	Friction Adjustment Washer
J	3673/88	Locknut
	PW5774	Washer
	PW5775	Spring Washer
	PS8226-1	6-40 x 3/8" Fil.Hd. Screw } for securing Item B to Item A
K	PW5800	Washer
L	PW5799	Shim (0.005") as required
	3673/121	Tape Feed Operating Lever C.P. comprises:-
M	3673/122A	Tape Feed Operating Lever Sub C.P.
N	3673/107	Tape Feed Pawl
O	3673/108	Feed Pawl Pivot

BASE ASSEMBLY S4147 (Continued)

<i>Index Letter</i>	<i>Part No.</i>	<i>Part Name</i>
P	3672/188	Spacing Washer
	3673/73	Shim (0.010") <i>Quantity as required.</i>
	3673/253	Shim (0.004") <i>Between Item M and Item N</i>
Q	3672/37	Nut
R	3672/177	Tension Spring
S	3673/296	Tape Reel Drive Collar C.P.
T	PS5420	10-32 Grub Screw (2 per set) for securing Item S
U	3673/111	Ratchet C.P.
	PW5774	Washer
	PW5775	Spring Washer
	PS8226-1	6-40 x 3/8" Fil.Hd. Screw
V	3673/84A	Bearing Block Extension (2 per set)
	3673/170	Bearing Plate L.H. C.P. } <i>each plate includes:-</i>
	3673/169	Bearing Plate R.H. C.P. }
W	3673/85	Bearing Plate
X	3673/86	Tape Reel Bearing
	3673/87	Oil Wick (inside Item X)
Y	3673/88	Locknut (2 per set)
		<i>Additional parts on L.H. Plate C.P.</i>
Z	3673/116	Retention Pawl Mounting
	3673/117	Spring Anchor (not visible)
AA	3672/37	6-40 Nut (2 per set) for securing Item Z and Spring Anchor
	3673/107	Tape Feed Pawl (this part is the same as Item N)
AB	3673/115	Retention Pawl Eccentric Pivot
AC	3673/232	Spring
AD	PW5789	Washer
AE	PW5787	Spring Washer
AF	PS5425	10-32 x 5/8" Hex. Hd. Screw
AG	3673/102	Retaining Collar
AH	PS5433	6-40 Grub Screw (2 per set) for securing Item AG
<i>TAPE REEL ASSEMBLY</i>		
AJ	3673/310	Tape Wheel Bracket
AK	3673/304	Centre Boss
	PN5114	10-32 Hex. Nut (for securing Item AJ to Item AK)
AL	3673/136	Arm
AM	4145/6	Jockey Lever Bracket C.P.
AN	PS8087	4-40 x 5/16" Fil. Hd. Screw (2 per set)
AO	PW5767	Washer (2 per set) between Item AL and Item AM
AP	PP5626	Guide Pin
AQ	PN5109	6-40 Hex. Nut
AR	PP6868	Pivot Pin
AS	4145/8	Lever and Bush C.P.
AT	PP5627	Guide Pin
AU	PG7066	Tension Spring
AV	3673/137	Washer (2 per set)
AW	3673/301	Tape Reel Plate C.P.
AX	4145/9	Tape Reel Plate C.P.
AY	4145/1	Knurled Nut
AZ	4145/4	Rotating Grip
	PS8216	6-40 x 1/4" Fil.Hd. M.S. Screw (2 per Tape Reel) <i>for securing Tape Reel</i>

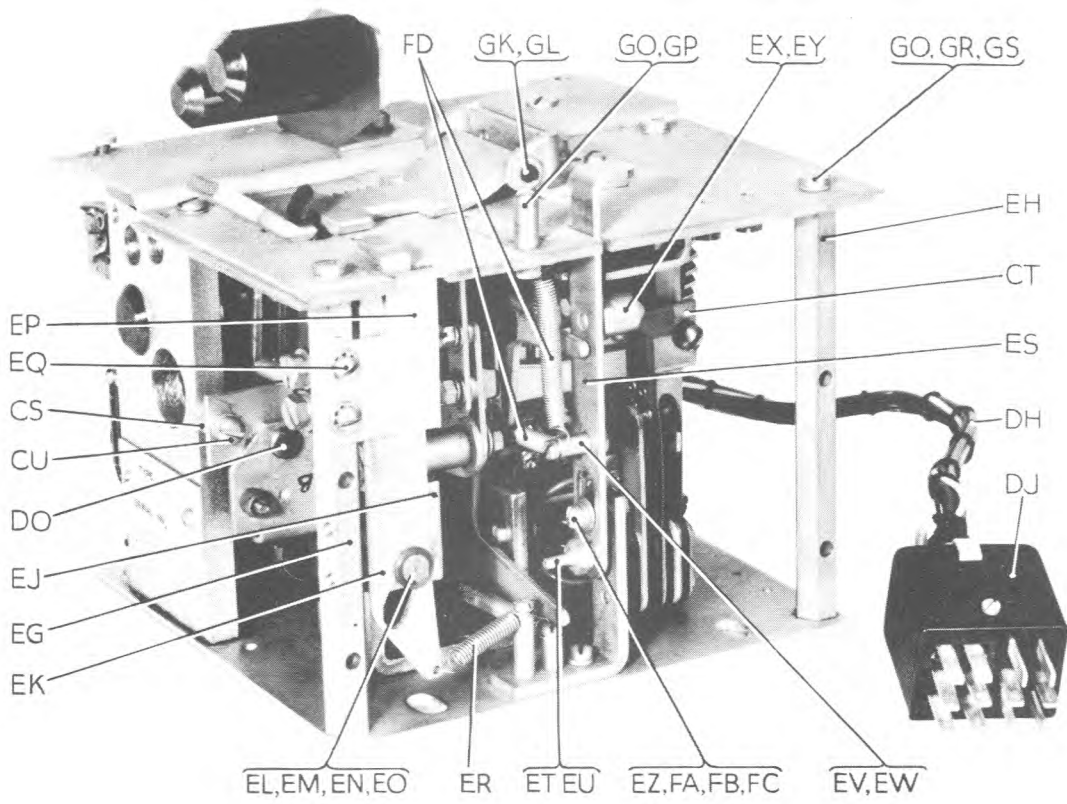


FIG. 7 TRANSMITTER UNIT S4144 (FRONT VIEW)

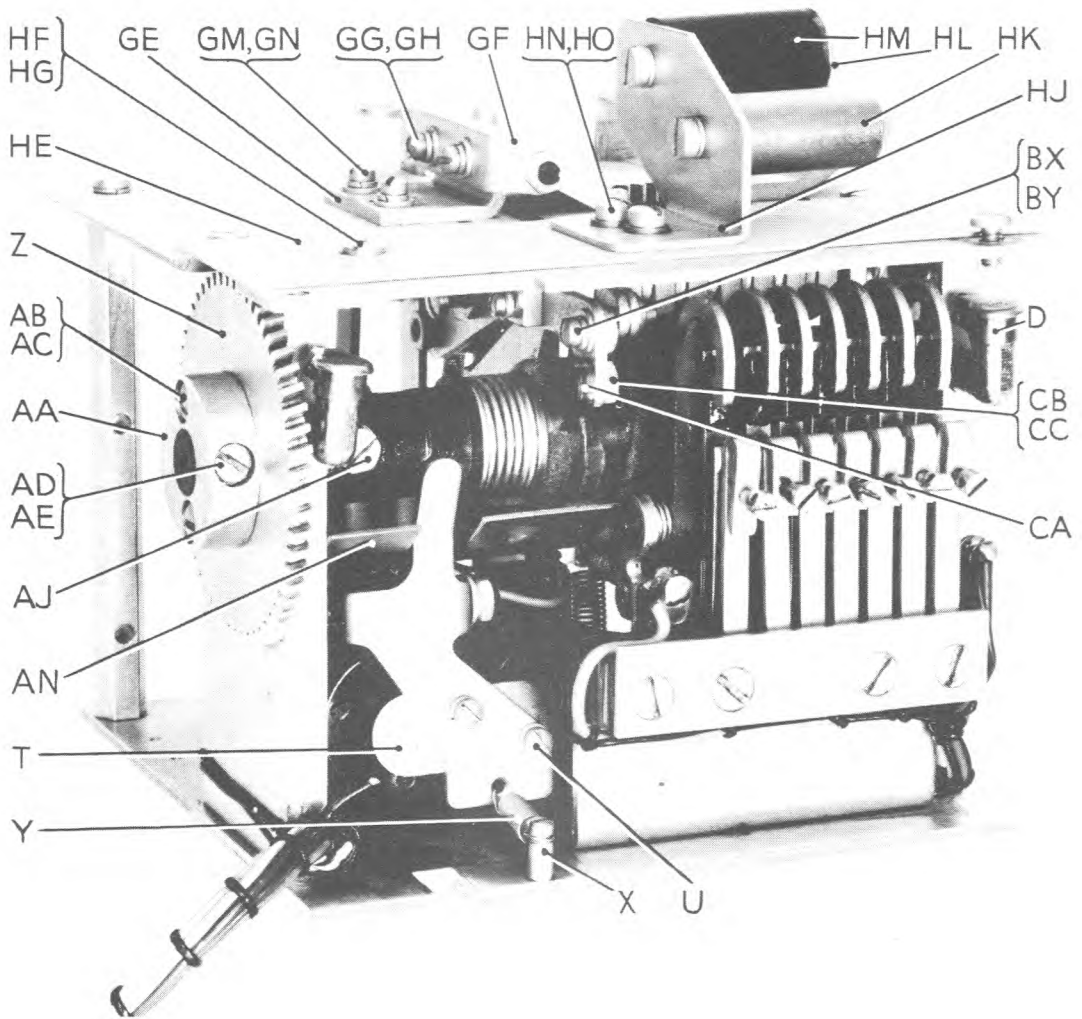


FIG. 8 TRANSMITTER UNIT S4144 (REAR VIEW)

TRANSMITTER UNIT S4144M (MESSAGE) S4144N (NUMBERING)

(See Figs. 7, 8, 9, 10 and 11)

Index Letter	Part No.	Part Name
	4144/21 Gr. 1	Base and Wiring C.P. (for Message Transmitter only) } includes
	or 4144/21 Gr. 2	
BASE ASSEMBLY		
	4144/19 Gr. 1	Base C.P. (for Message Transmitter only) } includes:-
	or 4144/19 Gr. 2	
A	3672/1	Bottom Plate C.P.
B	3672/8	Bearing Block R.H. C.P.
C	3672/5	Bearing Block L.H. C.P.
	PS5406-1	Special Screw (4 per set) for securing Item B and Item C
D	3672/262	Oiler C.P. (2 per set)
	3672/254	Magnet and Mounting C.P. includes:-
E	3672/64	Magnet Mounting Bracket
F	3672/65	Magnet Mounting
G	3672/66	Magnet C.P. (110V.) 2 per set
H	PS5416	Special Screw (2 per set) } for securing Item G
J	PW5775	Spring Washer (2 per set) }
K	PS5408	Terminal Screw } 4 per set
L	PW5781	Special Washer }
M	PS5407-1	6-40 x 5/16" Hex.Hd. Screw } 2 per set for securing Item E
N	PW5764	Washer }
CLUTCH DETENT		
	3672/253	Clutch Detent C.P. includes:-
O	3672/82	Clutch Detent Pivot
P	3672/83	Clutch Detent
Q	PN5110-1	Special Nut
R	PW5764	Special Washer } for retaining Items O and P
S	PW5775	Spring Washer }
T	3672/84	Armature C.P.
U	PS8077-1	Special Screw (2 per set) for securing Item T
V	PW5764	Washer } on Item O between Hex
W	PW5766	Shim (.004") as required } Shoulder and Item B
X	3672/4	Spring Anchor
Y	PG3241	Tension Spring (Clutch Detent)
Z	4144/20	Spiral Gear (driven) 7½ Unit 56 Teeth
AA	3672/34	Gear Boss
AB	PS8222-1	6-40 x 5/16" Fil.Hd. Screw } 2 per set for securing
AC	PW5775	Spring Washer } Item Z to Item AA
AD	PS8236-1	6-40 x ½" Fil.Hd. Screw } for securing Item AA to Item AF
AE	PW5775	Spring Washer }
AF	3672/15	Cam Shaft
AG	PW5765	Shim (0.005") as required
AH	3672/16	Cam Driving Dog
AJ	PS5407-1	Special Screw (for securing Item AH)
AK	3672/17	Cam Shaft Clutch
AL	PG3239	Clutch Spring
AM	4144/5	Cam Sleeve C.P. (7½ Unit)
AN	3672/418	Clutch Guard C.P.
AO	3672/323	Stop (for Numbering Transmitter only)
	PS8468	2-56 x 1/8" Fil.Hd. Screw (2 per set) for securing Item AN and AO

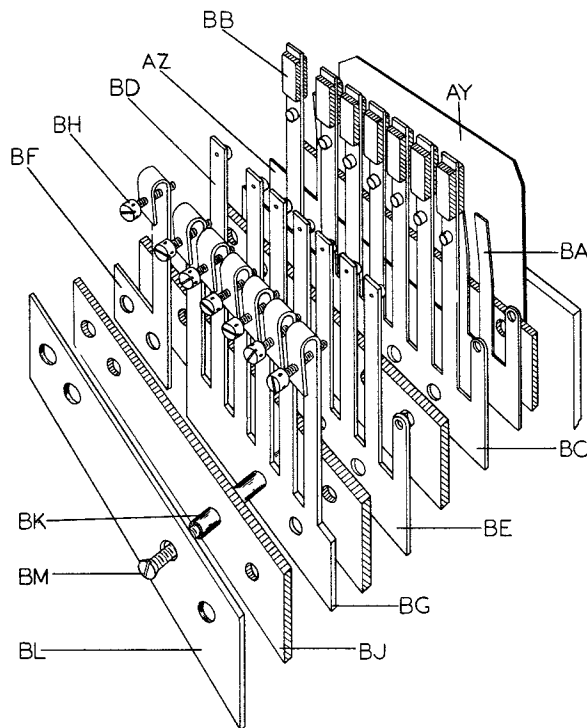


FIG. 9 TRANSMITTING CONTACTS

TRANSMITTER UNIT (Continued)

Index Letter	Part No.	Part Name
TRANSMITTING CONTACTS		
	3672/258A	Transmitting Contact C.P. comprises:-
AP	3672/40	Contact Mounting Bracket
AQ	3672/60	Spring Anchor
AR	3672/57	Operating Lever Pivot
	PN5110	Special Nut
	PW5775	Special Washer
		} for securing Item AR
AS	PG3250	Special Spring
AT	PW5783	Special Washer
AU	3672/56	Contact Operating Lever (Tape Out)
	PW5784	Shim (0.004") 2 per set between Item AU and AV
AV	3672/79	Operating Lever C.P.
AW	3672/473	Set of Operating Levers C.P. (6 per set)
AX	3672/58	Spacer (6 per set) between Items AW
AY	3672/414	Insulating Strip
AZ	3672/62	Contact Spring Backing
BA	3672/63	Contact Spring Backing
BB	3672/49	Contact Spring C.P.
BC	3672/52	Contact Spring C.P.
BD	3672/44	Contact Blade C.P.
BE	3672/47	Contact Blade C.P.
BF	3672/416	Contact Backing Strip
BG	3672/415	Contact Backing Strip
BH	PS8489-1	2-56 x 3/8" Cap.Hd. Screw (7 per set)
BJ	3672/42	Insulator
BK	3672/43	Insulating Brush
		} 4 of each per set
BL	3672/41	Contact Clamp Plate
BM	PS8238-1	6-40 x 11/16" CSK.Hd. Screw (4 per set) for securing Contact Ass:
	PS5405-1	Special Screw (2 per set) for securing Item AP

TRANSMITTER UNIT (Continued)

Index Letter	Part No.	Part Name
PECKER LEVERS		
	3672/257 Gr.1	Pecker Levers C.P. comprises:-
BN	3672/13	Rack
BO	3672/118	Pecker Lever Spindle
BP	PS8473-1	2-56 x 3/16" Fil.Hd. Screw } 2 of each per set) for
BQ	PW5785-1	Special Washer } securing Item BR to Item BN
BR	3672/141	Retaining Plate (2 per set)
BS	3672/140	Pivot Bush (2 per set)
	3672/256 Gr.1	Feed Pawl Sub C.P. includes:-
BT	3672/143	Feed Pawl
BU	3672/137	Feed Pawl Operating Lever
BV	PN5111	Special Nut
BW	PW5491	Shim (0.005") 2 per set max. } for retaining Item BT
BX	PS5418	Feed Pawl Pivot Screw } to Item BU
BY	3672/136	Feed Follower Lever
BZ	PS8083-1	Special Screw } for securing Item BY to Item BU
	PW5767	Special Washer }
CA	3672/138	Feed Follower Roller
CB	PS5417	Pivot Screw } for retaining Item CA
CC	PN5110	Special Nut }
	3672/276	Pecker Lever Bail C.P. includes:-
CD	3672/134	Pecker Lever Bail
CE	3672/135	Pecker Lever Bail Extension
CF	PS8083-1	Special Screw } for securing Item CD to Item CE
CG	PW5767	Special Washer }
CH	3672/138	Feed Follower Roller
CJ	PS7099	Pivot Screw } for retaining Item CH
CK	PN5110	Special Nut }
CL	3672/125	Tape Out Sensing Lever
	3672/126	Pecker Lever No.1, C.P.
	3672/127	Pecker Lever No.2, C.P.
	3672/128	Pecker Lever No.3, C.P.
	3672/129	Pecker Lever No.4, C.P.
	3672/130	Pecker Lever No.5, C.P.
CM		To assist in assembly refer to corresponding numbers against the slots on Item BN, Fig.11
CN	PG3245	Tension Spring (for Item CE)
	3672/169	Shim (.004 ins.) as required between Bearing Blocks and Item BN
	PS8216	Special Screw } 2 of each per set for
	PW5776	Special Spring Washer } securing Item BN
CO	PG3242	Tension Spring (for Item BY)
CP	PG3240	Tension Spring (for Item AV)
CQ	PG3243	Tension Spring (for Item CL)
CR	PG3244	Tension Spring (5 per set) for Pecker Levers
CS	3672/158	Spacer (2 per set)
CT	3672/157	Spring Anchor Plate
CU	PS8231-1	Special Screw (2 per set) for securing Item CT
	3672/90	Contact Bank C.P. comprises:-
CV	3672/91	Contact Bracket
CW	3672/92	Contact Blade C.P.
CX	3672/95	Contact Spring C.P.
CY	3672/105	Terminal (3 per set)
CZ	3672/104	Contact Spring Backing
DA	3672/101	Contact Spring C.P.
DB	3672/106	Insulating Spacer (6 per set)
DC	3672/107	Clamp Plate
	3672/108	Insulating Bush } 2 of each per set
DD	PS5414	Special Screw }
DE	3672/4	Spring Anchor
DF	4144/10	Spring Anchor
DG	PS8083-1	4-40 x 1/4" Fil.Hd. Screw
	3672/235	Cable form and Plug C.P. includes:-
DH	3672/172	Cable form C.P.
DJ	BO 2694/2	12-way Terminal Plug

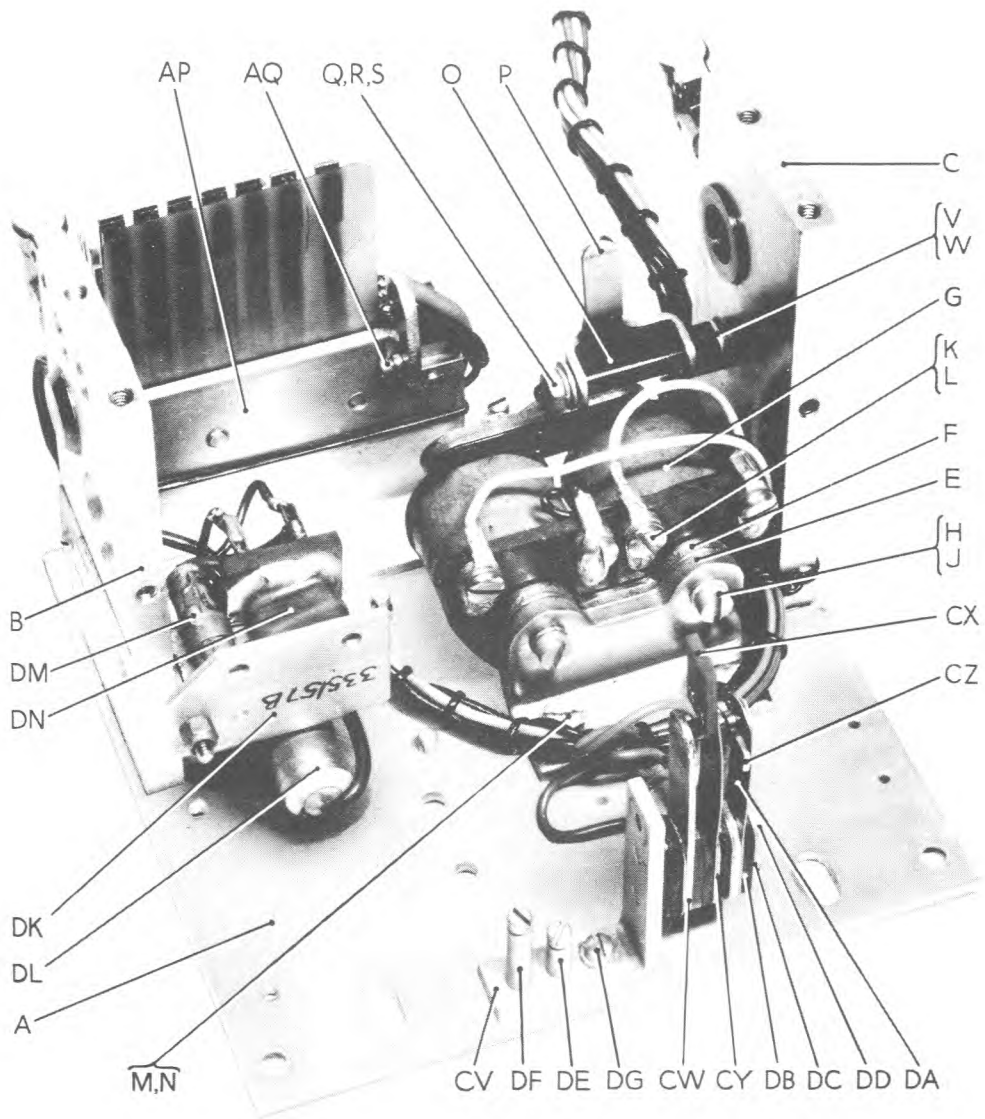


FIG. 10 TRANSMITTER UNIT (PARTIAL ASSEMBLY)

TRANSMITTER UNIT (Continued)

Index Letter	Part No.	Part Name
FILTER UNIT		
DK	3672/251	Filter Unit C.P. includes:-
DL	3672/252	Filter Unit Bracket
DM	BO 3107	Capacitor 0.1 μF
DN	BO 3108	Capacitor 0.01 μF
DO	BO 3109	Retard Coil 1.4 mH. 5.75 ohm
	PS5408	Terminal Screw (2 per set) for securing Item DK
	3672/266	Mounting Bracket C.P. (for Message Transmitter only)
	3672/265	Mounting Bracket C.P. (for Numbering Transmitter only) } includes:
DP	3672/152	Mounting Bracket
DQ	PS5415	Pivot Screw
DR	3672/155	Contact Operating Lever Latch
DS	PW5780	Washer (2 per set)
	PW5779	Shim (0.0015") 3 per set maximum. (Between Item DR and Item DS)
DT	PN5111	4-40 Nut
DU	PS8087	4-40 x 5/16" Screw
DV	PN5111	4-40 Nut
DW	PW5767	Washer
	PS5405	6-40 x 1/4" Fil.Hd. Screw (2 per set) for securing Item DP to Item A

TRANSMITTER UNIT (Continued)

Index Letter	Part No.	Part Name
DX	PG3248	Tension Spring
DY	3672/153	Tape Retaining Plate Spring
DZ	PS5412	6-40 Hex. Hd. Special Screw
EA	PW5765	Washer
EF	3909/25	Distance Piece
EG	4144/9	Spacer
EH	3672/14	Spacer
	PS8218	6-40 x 5/16" CSK.Hd. Screw (2 per set) for securing Items EG and EH to Item A
EJ	4144/8	Guide
	PS8083	4-40 x 1/4" Fil.Hd. Screw (2 per set) for securing Item EJ
EK	4144/13	Tape Guide
EL	PB4753	Guide Bush
EM	PS8088	4-40 x 5/16" CSK.Hd. Screw
EN	PW5767	Washer
EO	PN5111	4-40 Hex. Nut
EP	4144/12	Support Plate
EQ	PS8083	4-40 x 1/4" Fil.Hd. Screw (2 per set) for securing Item EP
ER	PG7322	Tension Spring
RELEASE LEVER		
	3672/263	Release Lever C.P. (for Message Transmitter only)
	or 3672/264	Release Lever C.P. (for Numbering Transmitter only)
ES	3672/110	Release Lever
ET	3672/111	Release Lever Operating Pin
EU	PW5775	Spring Washer
EV	3672/4	Spring Anchor
EW	PN5111	4-40 Nut (for securing Item EV)
	3672/112	Contact Operating Stud (for Message Transmitter only)
EX	or 3672/250	Contact Operating Stud (for Numbering Transmitter only)
EY	PW5775	Spring Washer
EZ	PS8096	4-40 x 13/32" Fil.Hd. Screw
FA	PW5767	Washer
FB	PB4755	Guide Bush
FC	PN5111	4-40 Nut
FD	PG3248	Tension Spring (2 per set)
TAPE GUIDE PLATE		
	4144/24	Tape Guide Plate C.P. includes:-
FE	4144/22	Tape Guide Plate Sub C.P.
	3672/259	Tape Feed Detent C.P. comprises:-
FF	3672/147	Tape Feed Support Bracket R.H.
FG	3672/160	Tape Feed Detent Lever
FH	3672/161	Detent Pivot
FJ	3672/162	Detent Spacer
FK	PN5110	6-40 Nut
FL	3672/163	Detent Roller Pivot
FM	PW5778	Washer
FN	3672/164	Detent Roller
FO	PW5786	Washer
FP	23963	Locking Ring
FQ	3672/146	Tape Feed Support Bracket L.H.
FR	3672/150	Shim (16 per set)
FS	3672/149	Clamp Plate (2 per set)
FT	PS5411	4-40 x 1/4" Hex. Hd. Screw (4 per set) for securing Item FQ
FU	3672/145	Tape Feeding Wheel
FV	PS5409	Pivot Screw
FW	PN5110	6-40 Nut
FX	3672/151	Rack
FY	PW5767	Washer
FZ	PS7122	Special Screw
GA	PS8085-1	4-40 x 9/32" Fil.Hd. Screw
GB	3672/114	Release Lever Catch
GC	PS5410	4-40 x 3/16" Hex.Hd. Screw (2 per set) for securing Item GB
GD	PG3247	Tension Spring

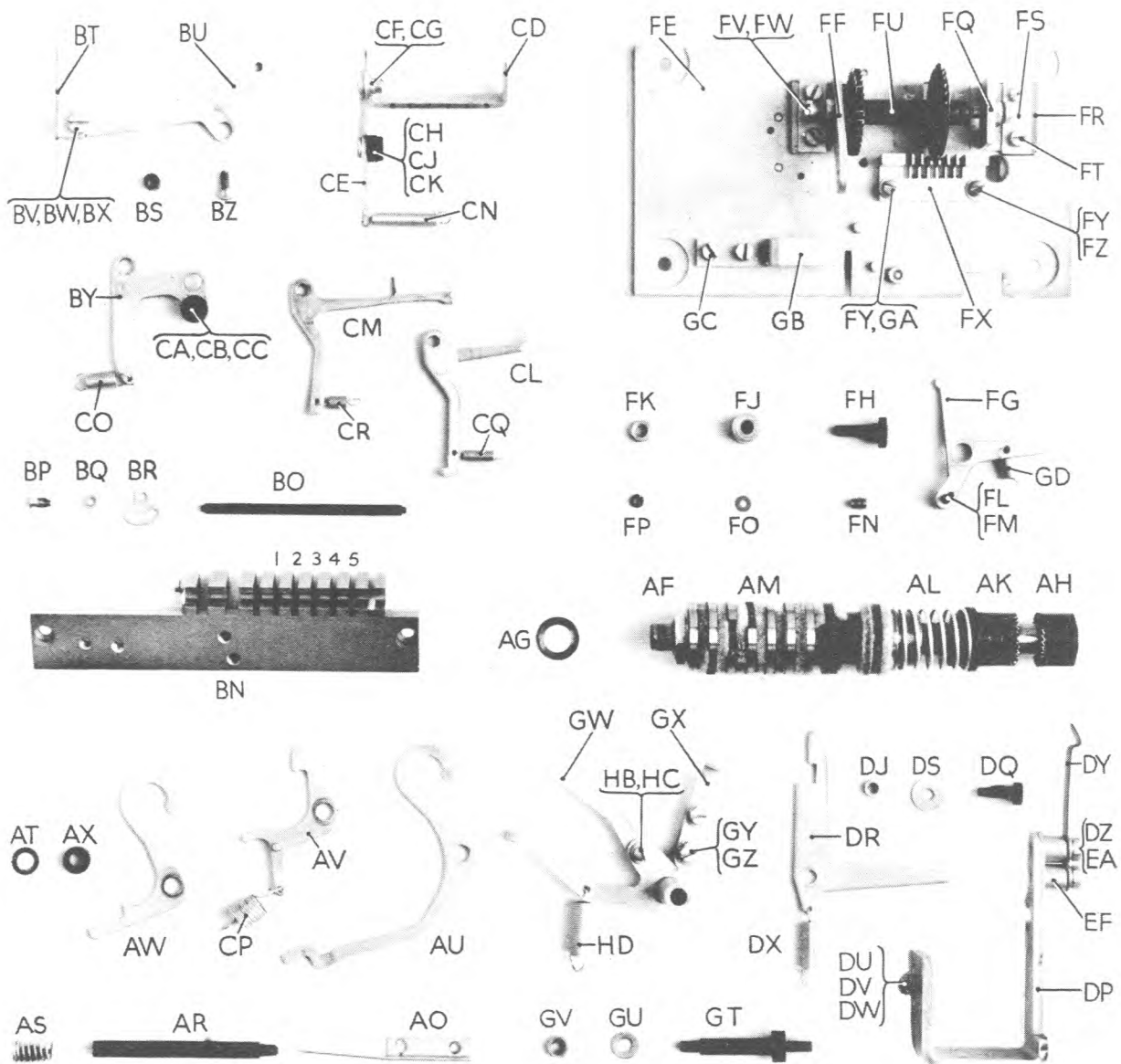


FIG. 11 TRANSMITTER UNIT (COMPONENTS)

TRANSMITTER UNIT (Continued)

<i>Index Letter</i>	<i>Part No.</i>	<i>Part Name</i>
TAPE RETAINING PLATE		
	4144/23	Tape Retaining Plate C.P. <i>includes:-</i>
GE	3672/38	Mounting Bracket
GF	3672/39	Mounting Bracket
	3672/190	Shim (Tape Retaining Plate) <i>between Items GE and GF</i>
GG	PW5767	Washer
GH	PS8083-1	4-40 x 1/4" Fil. Hd. Screw } 2 per set for securing Item GF
GJ	3672/471	Tape Retaining Plate
GK	PS7123	Pivot Screw } 2 per set
GL	PN5109	6-40 Nut
GM	PW5767	Washer
GN	PS8083-1	4-40 x 1/4" Fil. Hd. Screw } (2 per set) for securing Item GE
	3672/190	Shim (3 per set maximum) <i>under Item GE</i>
GO	4144/11	Tape Guide Pin
GP	PN5111	4-40 Nut (<i>for securing Item GO</i>)
GQ	PW5764	Washer (4 per set)
GR	PW5766	Shim (0.004") 24 per set maximum } <i>for securing Item FE</i>
GS	PS5406	6-40 Fil.Hd. Screw (4 per set)
OPERATING LEVER (FOR NUMBERING TRANSMITTERS ONLY)		
GT	3672/234	Operating Lever Pivot
GU	PW5764	Washer
GV	PN5110	6-40 Nut
	3672/226	Operating Lever C.P. <i>includes:-</i>
GW	3672/227	Operating Lever (Letters) Sub C.P.
GX	3672/230	Operating Lever Extension
GY	PW5782	Washer
GZ	PS5411	4-40 x 1/4" Hex.Hd. Screw } 2 per set for securing Item GX
HA	3672/231	Release Lever Letters
HB	PW5767	Washer
HC	PS8083	4-40 x 1/4" Fil.Hd. Screw } <i>for securing Item HA</i>
GU	PW5764	Washer
GV	PN5110	6-40 Nut } <i>for securing Operating Lever C.P.</i>
HD	PG3249	Tension Spring
HE	3672/247	Top Cover C.P.
HF	PW5764	Washer
HG	PS5405	6-40 Fil.Hd. Special Screw } <i>for securing Item HE</i>
	4144/17	Snubber Bracket C.P. <i>includes:-</i>
HJ	4144/16	Snubber Bracket
HK	4144/14	Snubbing Pin
HL	4144/15	Snubbing Pin
HM	4144/18	Rubber Sleeve
HN	PS8222	6-40 x 5/16" Fil.Hd. Screw } 2 per set for securing Item HJ
HO	PW5774	Washer

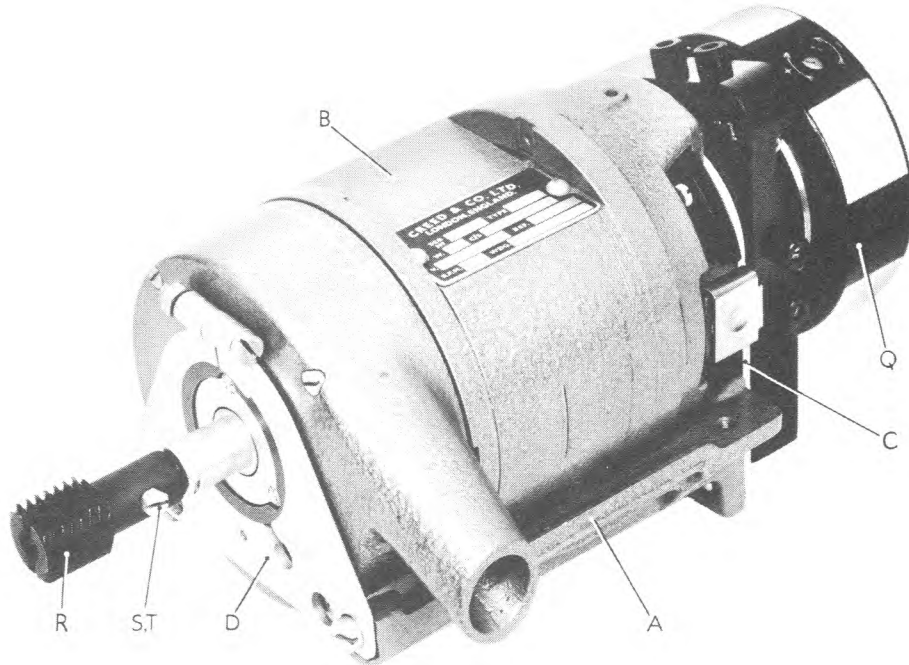


FIG. 12 MOTOR CONNECTION PANEL AND GOVERNOR UNIT S4177

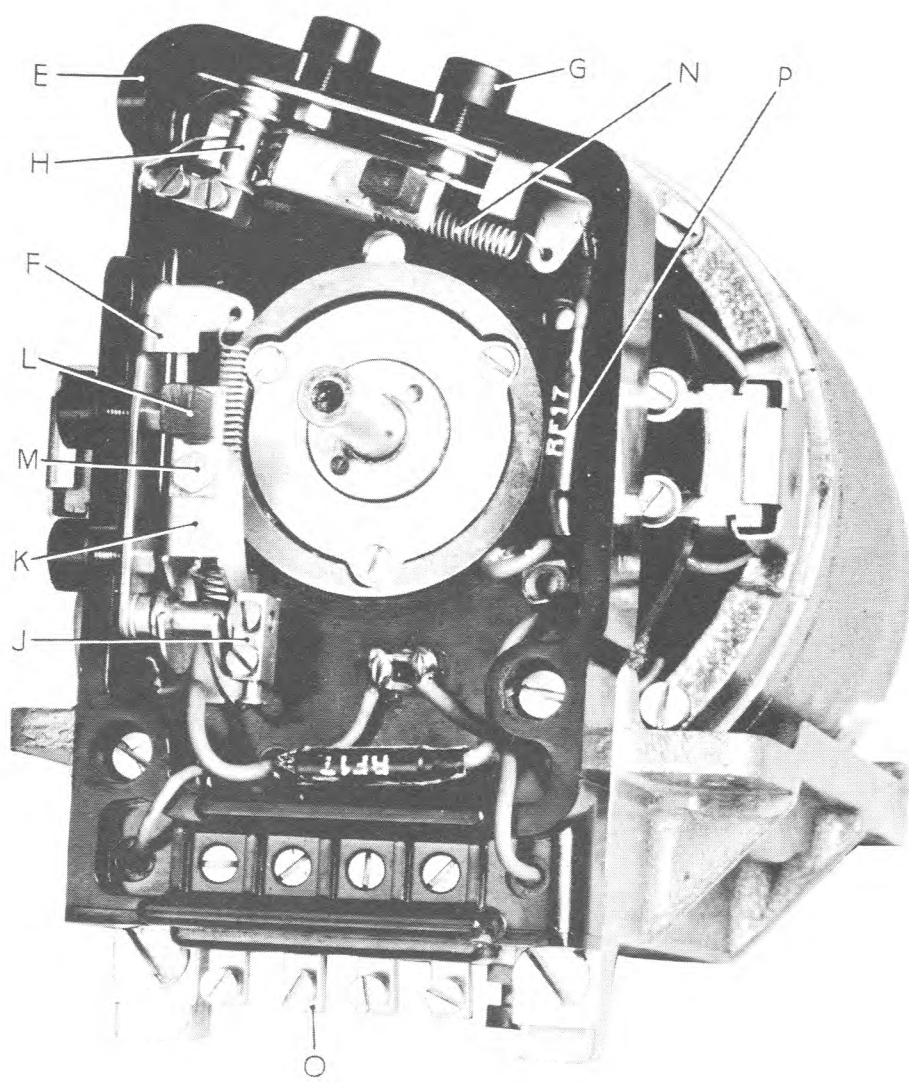


FIG. 13 MOTOR CONNECTION PANEL

MOTOR CONNECTION PANEL AND GOVERNOR UNIT (TYPE KBF) S4177

(See Figs. 12 and 13)

Index Letter	Part No.	Part Name
	S 4177	Motor Connection Panel and Governor Unit (KBF) includes:-
A	3675/14	Motor Cradle
B	Ref. 412A	Motor Unit (130-270 Volts A.C.) includes:-
	4031/3	Drip Proof Cover (not shown)
	BO 3879	Ball Bearing (2 per set)
	AA11/1	Motor Brush C.P. (2 per set) } not visible
C	2846/57	Motor Support Plate (commutator end)
D	4052/14	Motor Support Plate C.P.
CONNECTION PANEL		
E	4177/1 Gr.2	Motor Connection Panel C.P.
F	2846/37	Brush Arm Pivot Plate C.P. (2 per set)
G	2846/39	Insulating Washer (4 per set)
	2846/38	Spacing Washer (4 per set) between Item E and Item F
	PW5492	Special Washer (4 per set) between Item F and Item H
H	2846/14	Contact Arm Bush (2 per set)
J	2846/45	Connection Collar (2 per set)
	2846/55	Contact Arm C.P. (2 per set) includes:-
K	2846/32A	Contact Arm C.P.
L	2846/46	Contact Plate C.P.
M	PS7023	Special Screw
N	PG7205	Contact Spring (2 per set)
O	2846/50	Contact Strip (4 per set)
	PW5005	Special Washer (8 per set) not shown, used in securing Item O
P	BO 5581	Inductor P.O. Type RF.17 (2 per set)
Q	S1910	GOVERNOR UNIT
R	GR4062	Motor Pinion
S	PW5775	Spring Washer
T	PS5407	6-40 x 5/16" Hex.Hd. Screw

See Page 26

} These items are not part of S.4177

MOTOR CONNECTION PANEL AND GOVERNOR UNIT (TYPE KBE) S4178

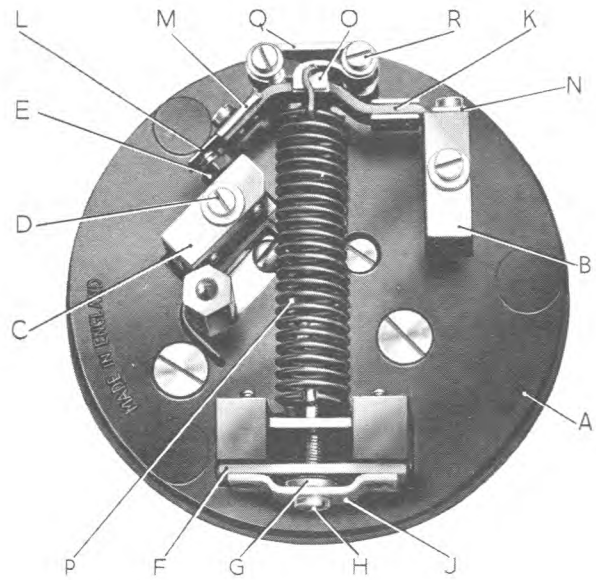
(See Figs. 12 and 13). Note Fig.12 shows a type KBF motor not a type KBE

Index Letter	Part No.	Part Name
	S 4178	Motor Connection Panel and Governor Unit (KBE) includes:-
A	3675/1	Motor Cradle
B	Ref. 217A	Motor Unit (90-125 Volts A.C.) includes:-
	1858/26A	Drip Proof Cover
	BO 2874	Single Row Deep Grooved Bearing (2 per set)
	AA2/2	Motor Brush C.P. (2 per set)
CONNECTION PANEL		
E	4177/1 Gr.1	Motor Connection Panel
F	2846/37	Brush Arm Pivot Plate C.P.
G	2846/39	Insulating Washer (4 per set)
	2846/38	Spacing Washer (4 per set)
	PW5492	Special Washer (4 per set)
H	2846/14	Contact Arm Bush (2 per set)
J	2846/45	Connection Collar (2 per set)
	2846/55	Contact Arm C.P. (2 per set) includes:-
K	2846/32A	Contact Arm C.P.
L	2846/46	Contact Plate C.P.
M	PS7023	Special Screw
N	PG7205	Contact Spring (2 per set)
O	2846/50	Contact Strip (4 per set)
	PW5005	Special Washer (8 per set) not shown, used in securing Item O
P	BO 5581	Inductor P.O. Type RF.17 (2 per set)
Q	S 1910	GOVERNOR UNIT
R	GR4062	Motor Pinion
S	PW5775	Spring Washer
T	PS5407	6-40 x 5/16" Hex.Hd. Screw

See Page 26

} These items are not part of S 4178

FIG. 14 SERIES GOVERNOR UNIT S1910



SERIES GOVERNOR UNIT S1910

(See Fig. 14)

<i>Index Letter</i>	<i>Part No.</i>	<i>Part Name</i>
A	1910/33 Gr. 1	Governor Base Sub C.P. 5/16" bore, comprises base moulding assembled with slip rings, governor boss, and the following replaceable parts:-
B	1910/5A	Contact Arm Mounting Block
C	1910/13	Contact Block
D	PS6097	Special Screw
E	PC3006	Contact Screw
F	1910/17A	Governor Spring Plate
	PW5573	Special Washer (2 per set) under Item F
G	PW5547	Special Washer
H	PS7034	Special Screw
J	1910/96	Governor Spring Clamping Plate
	1910/12	Contact Arm C.P. comprises:-
K	1910/27A	Contact Arm Sub C.P.
L	1910/52	Contact Blade C.P.
M	1910/51	Clamp
N	1910/6	Contact Arm Keep Plate
O	1910/26	Contact Arm Saddle
P	1910/19A	Governor Spring C.P.
Q	1910/87	Governor Arm Stop Spring
	1910/88	Flanged Bush (2 per set) under Item Q
R	1910/89	Special Washer (2 per set)
	1910/25A	Governor Cover (not shown)

TOOLS

Tool Kits are supplied only if specifically ordered and are not included in the price of the complete machine. The required quantity of Tool Kits should be specified when ordering the machines.

TA1132	2 - Spanner (<i>3/16" and 1/4" across flats</i>)
TA1133	2 - Spanner (<i>5/16" across flats</i>)
TA1134	1 - Spanner (<i>3/8" across flats</i>)
TA1135	1 - Special 'C' spanner (<i>for friction adjustment washer</i>)
TA1008	1 - Spring hook (pull)
TA1130	1 - Spring hook (push)
TA1131	1 - Contact spring bending tool
TA1136	2 - Tape-out sensing lever bending tool
TA1030	1 - Contact burnisher
TA1141	1 - .015" Feeler gauge
TA1142	1 - .020" Feeler gauge
TA1143	1 - .025" Feeler gauge
TA1023	1 - Pair special pliers (<i>for removing locking rings</i>)
TA1110	1 - Governor adjusting clamp
TA1117/125	1 - Fork stroboscope (<i>125 d.v.s.</i>)
TA1148	1 - Screwdriver 5" x 1/4"
TA1187	1 - Screwdriver 5" x 1/8".
8199	1 - Pair Tweezers
8620	2 - Oil can (<i>watch pattern</i>)

ACCESSORIES

Accessories are supplied if required, and are not included in the price of a complete machine.

TA1095	1 - 1/4 pint can Lubricant No.1 (<i>Thin oil</i>)
TA1096	1 - 1/4 pint can Lubricant No.2 (<i>Medium oil</i>)
TA1097	1 - 2oz. tin Lubricant No.4 (<i>Grease</i>)
TA1098	1 - 2oz. tin Lubricant No.5 (<i>Grease</i>)
	1 - Instruction Book No.71 (2nd Edition)
	1 - Part List No.1071 (2nd Edition)

STANDARD NUTS, SCREWS AND WASHERS

NUTS

		<i>Quantity</i>
PN1013-1	Std. 6BA Hex. M.S.	3
PN1014-15	Std. 6BA Hex. Brass	8
PN1505-1	Std. 2BA Lock M.S.	5
PN1509-1	Std. 4BA Lock M.S.	3
PN1514-15	Std. 6BA Lock Brass	8

SCREWS

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/144	Signal Plate	5	D	/9	Tape Reel Plate C.P.	15	AX		
/146	Resistor Unit C.P.	7	D	/11	Front Cover C.P.	7	C		
/148	Resistor Bracket	7	D	/12	Driving Shaft C.P.	12	AB		
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		13	CM
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BO 7607/5	24-way Socket	13	CM
BO 7607/9	24-way Plug Cover	13	CK
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PK1142	Cable Clip	13	CN
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PN5110	6-40 Nut	19	CK
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PS5424	10-32 x 3/4" Hex.Hd. M.S.	11	N
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