

TM 11-352

WAR DEPARTMENT  
WASHINGTON, DECEMBER, 1943

TECHNICAL MANUAL

for

PRINTERS TG-7-A, TG-7-B & TG-37-B  
CHESTS CH-50-A & CH-50-B  
CHESTS CH-62-A & CH-62-B

This technical manual, published by the Mergenthaler Linotype Corporation, is furnished for the information and guidance of all concerned.

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U. S. ARMY SIGNAL CORPS  
PRINTERS TG-7-A, TG-7-B AND TG-37-B  
CHESTS CH-50-A AND CH-50-B  
CHESTS CH-62-A AND CH-62-B

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U. S. ARMY SIGNAL CORPS  
PRINTERS TG-7-A, TG-7-B AND TG-37-B  
WITH CHESTS CH-50-A AND CH-50-B  
AND CHESTS CH-62-A AND CH-62-B

General Description

The U. S. Army Signal Corps, portable sending-receiving printing telegraph sets, TG-7-A, TG-7-B, and TG-37-B, herein described each include a printer and two carrying cases. The printer consists of a Teletype Model 15 printer base, keyboard, with radio filter, typing unit, motor unit with radio filter, and cover. A radio filter connected in the power leads of all TG-37-B printers, and TG-7-B printers of later manufacture, provides additional radio interference suppression. The base, keyboard, motor unit and cover, are carried in chest CH-50. The typing unit, is carried in chest CH-62.

The TG-7-A and TG-7-B printers are arranged for ordinary message communication service and the TG-37-B printers are arranged for weather report service.

For ordinary message communication service, (TG-7-A and TG-7-B), the "upper case" (or "figures") positions of the printer type and keyboard keys carry the ten digits and customary abbreviation and punctuation marks. The printer is adjusted to print 72 characters per line. An automatic remote motor control feature is provided whereby the motors of all printers on the circuit may be started by momentarily opening the signal line and stopped by transmitting the "upper case H" signal combination from the keyboard at any station. Printing on "upper case H" is suppressed.

For weather report service, (TG-37-B), the "upper case" (or "figures") positions of the printer type and keyboard keys carry the ten digits and necessary weather symbols. The printer is arranged to print and space on the "upper case blank" combination, and suppresses printing and spacing on "lower case blank." The "carriage return" and "line feed" functions are effective in the "lower case" (or "letters") positions only. The printer is adjusted to print 76 characters per line. The automatic remote motor control feature on this printer is arranged so that all motors on the circuit may be started by momentarily opening the signal line as in the TG-7 printers. However, to stop the motors it is necessary to transmit "upper case BLANK and H" combinations from the keyboard at any station. The "minus or hyphen" on "upper case BLANK" and the north wind symbol on "upper case H" will be printed.

Note: The manual includes two issues of Specification S-5408. Issue 1 covers the instructions for use of printers TG-7-A and TG-7-B of earlier manufacture in which the typing unit is attached to chest CH-62-B base by means of 4 mounting screws. Issue 2 covers the TG-37-B and those TG-7-B printers having three clamps and locating blocks on the mounting frame substituted for the 4 screws.

2.

Two line cords attached to the printer base are provided for connection to a line box (Signal Corps BE-77 or equivalent, not furnished by Teletype Corporation) and a third cord is for connection to the power outlet. A switch, accessible through a hole in the front of the printer cover, is provided for controlling the power to the printer motor.

A resistor assembly with switch is located on the right side of the printer base. These resistors may be switched in series with the motor power to permit operation on various power supplies, as follows:

<u>TG-7-A</u>	<u>Position of Switch</u>
115 volts DC or AC 25 cycles, or 115 volts AC 50-60 cycles	up down
<u>TG-7-B and TG-37-B</u>	
115 volts AC 40 cycles, or 115 volts DC or AC 25 cycles, or 115 volts AC 50-60 cycles	up center down

The following features, present on printers TG-7-A have been omitted from printers TG-7-B and TG-37-B:

1. Motor control relay for separate line motor control.
2. Polar neutral switching key.
3. Line relay mounting with associated resistors, spark suppression condenser and radio filter.
4. Tuning fork (for setting motor speed) with holder.

These features are not normally required in the service for which printers TG-7 and TG-37, with chests, are intended. However, in case need should arise, the procedure for operation of printer TG-7-A (with features Nos. 2 and 3 restored) with Teletype RY-30 (W.E. Co. 255-A) or RY28 (W.E. Co. 215-H) relays and other fixed station equipment (metal tables and dry disc rectifiers) is covered in Specification S-5346.

The procedure for operation of printers TG-7-B or TG-37-B in a like manner, requires the installation of a set of parts and is covered by Specification S-5404.

CUT ALONG THIS LINE BEFORE CEMENTING TO CHEST COVER

TELETYPE CORPORATION  
CHICAGO, ILLINOIS, U.S.A.

**INSTRUCTIONS FOR USE OF SIGNAL CORPS PRINTER TG-7-A**

**CHEST CH-50-A (TELETYPE IO3370)**

**CHEST CH-62-A (TELETYPE IO3368)**

**TO PREPARE PRINTER SET FOR OPERATION**

1. SET CHEST CH-50-A BASE ON CHEST CH-50-A COVER AS SHOWN IN FIGURE 2.
2. REMOVE PRINTER COVER AND REMOVE THE THREE KNURLED THUMB SCREWS FROM PRINTER BASE.
3. REMOVE TYPING UNIT FROM CHEST CH-62-A BASE BY REMOVING THE FOUR MOUNTING SCREWS USING WRENCH SHOWN IN FIGURE 4.
4. PLACE TYPING UNIT ON PRINTER BASE AND SECURE WITH THE THREE KNURLED THUMB SCREWS.
5. REPLACE THE FOUR MOUNTING SCREWS AND WRENCH IN CHEST CH-62-A BASE.
6. REPLACE PRINTER COVER AND INSTALL PLATEN CRANK ON PLATEN SHAFT.
7. PLACE CHEST CH-62-A COVER ON CHEST CH-62-A BASE. POSITION CHEST AS SHOWN IN FIGURE 1.
8. POSITION THE AC-DC SWITCH FOR AVAILABLE POWER SUPPLY.

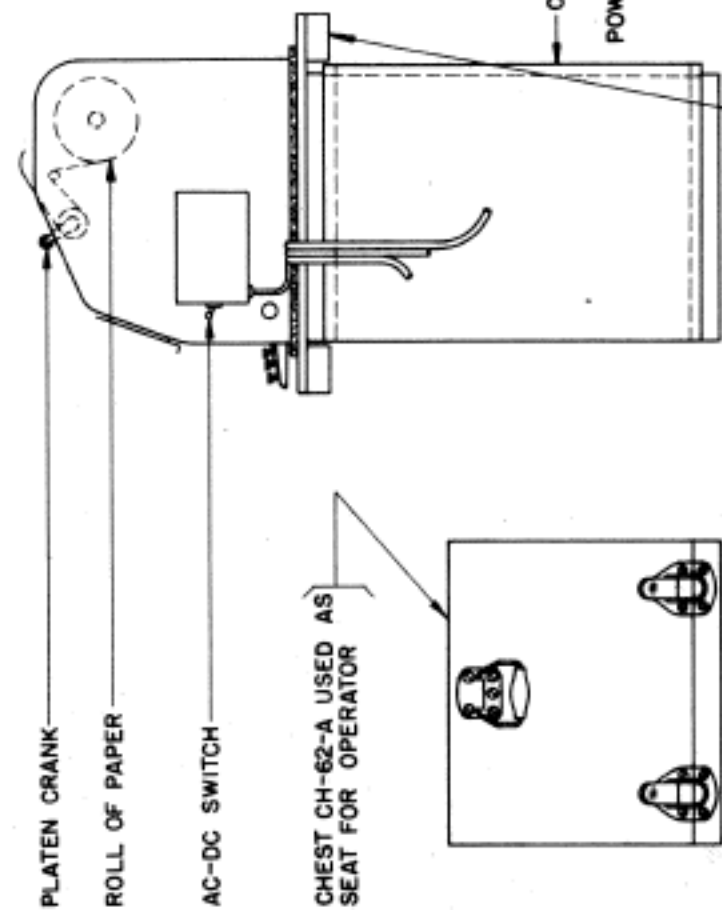


FIGURE 1.

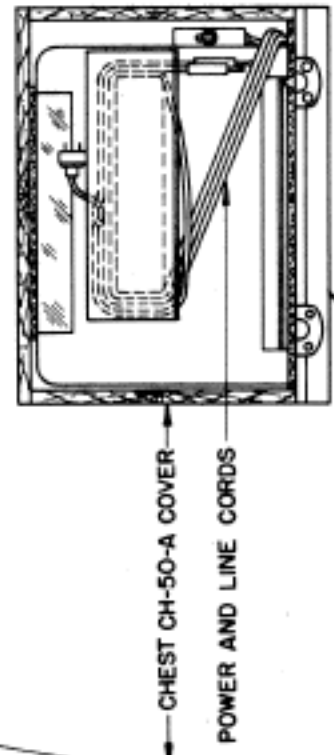


FIGURE 2.

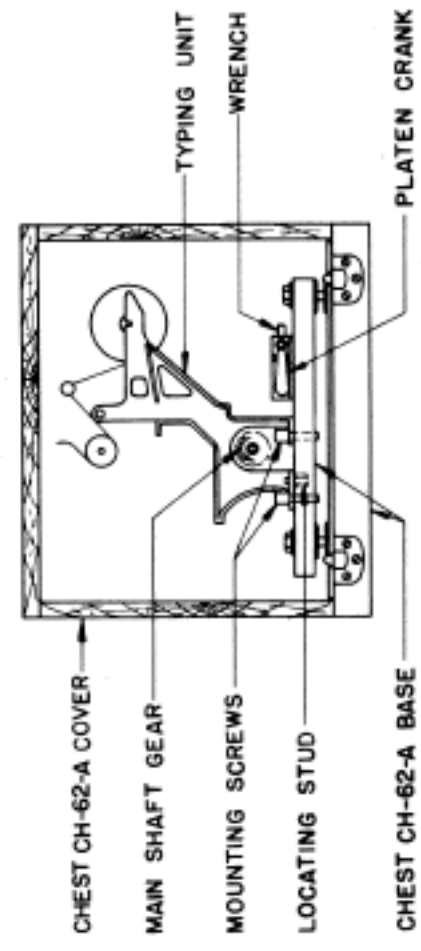


FIGURE 3.

SPECIFICATION S-5341  
ISSUE 2  
JANUARY, 1942

**TO PREPARE PRINTER SET FOR TRANSPORTATION**

1. REMOVE COVER OF CHEST CH-62-A.
2. REMOVE PLATEN CRANK FROM PLATEN SHAFT AND PLACE ON CHEST CH-62-A BASE AS SHOWN IN FIGURE 4.
3. REMOVE THE FOUR MOUNTING SCREWS FROM BASE OF CHEST CH-62-A.
4. REMOVE PRINTER COVER AND REMOVE THE THREE KNURLED THUMB SCREWS SECURING TYPING UNIT.
5. PLACE TYPING UNIT ON CHEST CH-62-A BASE AS SHOWN IN FIGURE 4, AND INSTALL THE FOUR MOUNTING SCREWS. TIGHTEN MOUNTING SCREWS WITH WRENCH AND REPLACE WRENCH IN HOLDER ON BASE.
6. PRESS CARRIAGE RETURN LOCK BAR (AT LEFT REAR OF TYPING UNIT) TO RETURN TYPE BASKET TO EXTREME LEFT POSITION. TURN MAIN SHAFT GEAR BY HAND AT LEAST ONE FULL TURN IN COUNTERCLOCKWISE DIRECTION (VIEWED FROM GEAR END), TO ASSURE PROPER POSITIONING OF ALL PARTS WHICH LOCK THE TYPE BASKET SECURELY IN PLACE.
7. REPLACE THE THREE KNURLED THUMB SCREWS IN PRINTER BASE AND REPLACE PRINTER COVER.
8. WRAP POWER AND LINE CORDS AROUND COPYHOLDER AS SHOWN IN FIGURE 3.
9. PLACE EACH CHEST COVER OVER PROPER BASE AND LATCH.

CUT ALONG THIS LINE BEFORE CEMENTING TO CHEST COVER

TELETYPE CORPORATION  
CHICAGO, ILLINOIS, U. S. A.

INSTRUCTIONS FOR USE OF SIGNAL CORPS PRINTER TG-7-B

CHEST CH-50-B (TELETYPE IO5229)

CHEST CH-62-B (TELETYPE IO5367)

TO PREPARE PRINTER SET FOR OPERATION

1. SET CHEST CH-50-B BASE ON CHEST CH-50-B COVER AS SHOWN IN FIGURE 2.
2. REMOVE PRINTER COVER.
3. REMOVE TYPING UNIT FROM CHEST CH-62-B BASE BY REMOVING THE FOUR MOUNTING SCREWS USING WRENCH IN ACCESSORY BOX ON CHEST CH-62-B BASE SHOWN IN FIGURE 4.
4. PLACE TYPING UNIT ON PRINTER BASE AND SECURE WITH THE THREE KNURLED THUMB SCREWS IN ACCESSORY BOX.
5. PLACE THE FOUR MOUNTING SCREWS AND WRENCH IN ACCESSORY BOX ON CHEST CH-62-B BASE AND REMOVE THE PLATEN CRANK FROM THE BOX.
6. REPLACE PRINTER COVER AND INSTALL PLATEN CRANK ON PLATEN SHAFT.
7. LATCH CHEST CH-62-B COVER ON CHEST CH-62-B BASE. POSITION CHEST AS SHOWN IN FIGURE 1.
8. BEFORE STARTING THE PRINTER MOTOR POSITION AND LOCK AC-DC SWITCH TO MATCH THE AVAILABLE POWER SUPPLY.

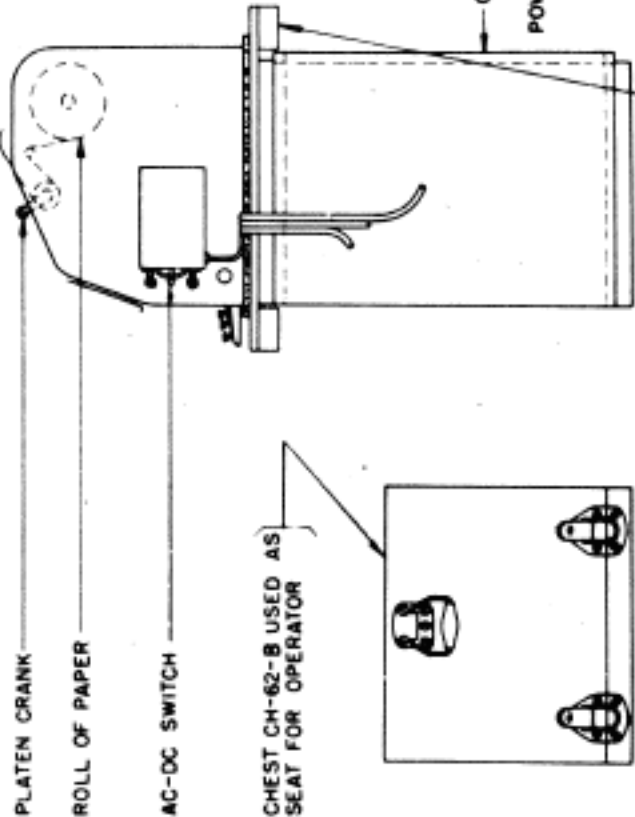


FIGURE 1.

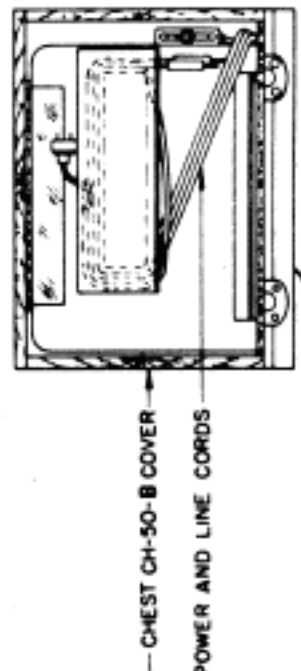


FIGURE 2.

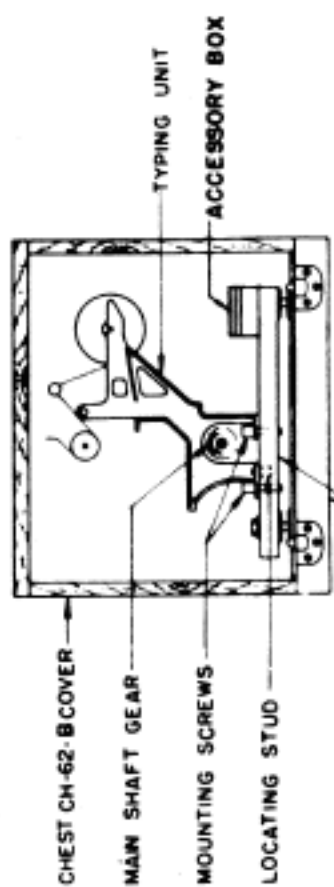


FIGURE 4.

SPECIFICATION S-5408  
ISSUE 1  
JANUARY, 1943

TO PREPARE PRINTER SET FOR TRANSPORTATION

1. REMOVE COVER OF CHEST CH-62-B.
2. REMOVE PLATEN CRANK FROM PLATEN SHAFT AND PLACE IN ACCESSORY BOX ON CHEST CH-62-B BASE SHOWN IN FIGURE 4. ALSO REMOVE THE FOUR MOUNTING SCREWS AND WRENCH FROM THE BOX.
3. REMOVE PRINTER COVER AND REMOVE THE THREE KNURLED THUMB SCREWS SECURING TYPING UNIT AND PLACE THE THUMB SCREWS IN ACCESSORY BOX.
4. PLACE TYPING UNIT ON CHEST CH-62-B BASE AS SHOWN IN FIGURE 4 AND INSTALL THE FOUR MOUNTING SCREWS. TIGHTEN MOUNTING SCREWS WITH WRENCH AND REPLACE WRENCH IN ACCESSORY BOX.
5. PRESS CARRIAGE RETURN LOCK BAR (AT LEFT REAR OF TYPING UNIT) TO RETURN TYPE BASKET TO EXTREME LEFT POSITION. TURN MAIN SHAFT GEAR BY HAND AT LEAST ONE FULL TURN IN COUNTERCLOCKWISE DIRECTION (VIEWED FROM GEAR END), TO ASSURE PROPER POSITIONING OF ALL PARTS WHICH LOCK THE TYPE BASKET SECURELY IN PLACE.
6. REPLACE PRINTER COVER.
7. WRAP POWER AND LINE CORDS AROUND COPYHOLDER AS SHOWN IN FIGURE 3.
8. PLACE EACH CHEST COVER OVER PROPER BASE AND LATCH.



CUT ALONG THIS LINE BEFORE CEMENTING TO CHEST COVER

TELETYPE CORPORATION  
CHICAGO, ILLINOIS, U.S.A.

### INSTRUCTIONS FOR USE OF SIGNAL CORPS PRINTERS TG-7-B AND TG-37-B

CHEST CH-50-B (TELETYPE IO5229)

CHEST CH-62-B (TELETYPE IO5367)

#### TO PREPARE PRINTER SET FOR OPERATION

1. SET CHEST CH-50-B BASE ON CHEST CH-50-B COVER AS SHOWN IN FIGURE 2.
2. REMOVE PRINTER COVER.
3. REMOVE TYPING UNIT FROM CHEST CH-62-B BASE AFTER LOOSENING THE THREE WING NUTS AND MOVING THE MOUNTING CLAMPS AWAY FROM THE PRINTER FEET.
4. PLACE TYPING UNIT ON PRINTER BASE AND SECURE WITH THE THREE KNURLED THUMB SCREWS IN ACCESSORY BOX ON CHEST CH-62-B BASE SHOWN IN FIGURE 4.
5. REMOVE RIGHT CARRIAGE RETAINING HOOK WHILE HOLDING CARRIAGE WITH LEFT HAND. RELEASE CARRIAGE TO LEFT AND REMOVE LEFT CARRIAGE RETAINING HOOK. PLACE HOOKS IN ACCESSORY BOX ON CH-62-B BASE. REMOVE PLATEN CRANK FROM THE BOX.
6. REPLACE PRINTER COVER AND INSTALL PLATEN CRANK ON PLATEN SHAFT.
7. LATCH CHEST CH-62-B COVER ON CHEST CH-62-B BASE. POSITION CHEST AS SHOWN IN FIGURE 1.
8. BEFORE STARTING THE PRINTER MOTOR, POSITION AND LOCK AC-DC SWITCH TO MATCH THE AVAILABLE POWER SUPPLY.

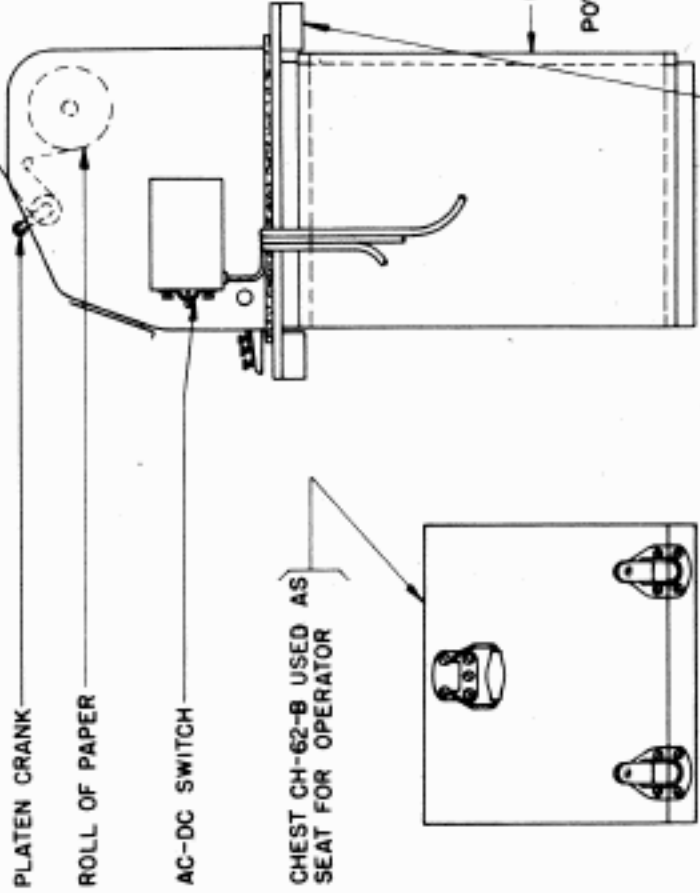


FIGURE 1.

SPECIFICATION S-5408  
ISSUE 2  
AUGUST, 1943

#### TO PREPARE PRINTER SET FOR TRANSPORTATION

1. REMOVE COVER OF CHEST CH-62-B.
2. REMOVE PLATEN CRANK FROM PLATEN SHAFT AND PLACE IN ACCESSORY BOX ON CHEST CH-62-B BASE SHOWN IN FIGURE 4.
3. REMOVE PRINTER COVER AND REMOVE THE THREE KNURLED THUMB SCREWS SECURING TYPING UNIT AND PLACE THUMB SCREWS IN ACCESSORY BOX.
4. PLACE TYPING UNIT ON CHEST CH-62-B BASE AS SHOWN IN FIGURE 4 AFTER MOVING MOUNTING CLAMPS TO ONE SIDE. THEN POSITION CLAMPS ON FEET OF PRINTER AND TIGHTEN WING NUTS. (IMPORTANT: POSITION THE STUDS ON THE TWO SHORT CLAMPS IN PROPER LOCATING HOLES BEFORE TIGHTENING.)
5. PRESS CARRIAGE RETURN LOCK BAR BUTTON (AT LEFT REAR OF TYPING UNIT) TO POSITION CARRIAGE IN ITS LEFT HAND POSITION. HOOK THE LARGE END OF THE "S" SHAPED HOOK ON THE LEFT CARRIAGE ROLLER MOUNTING STUD FROM UNDER SIDE. PRESS THE CARRIAGE RETURN LOCK BAR BUTTON AGAIN AND AT THE SAME TIME MOVE THE CARRIAGE TO THE RIGHT UNTIL THE SMALL END OF HOOK ENGAGES THE LEFT FRONT CARRIAGE TRACK SUPPORT. HOLD CARRIAGE IN THIS POSITION AND HOOK THE LARGE END OF THE OTHER HOOK ON THE RIGHT CARRIAGE ROLLER MOUNTING STUD AND PRESS DOWN ON OTHER END UNTIL HOOK SNAPS INTO PLACE ON THE RIGHT FRONT CARRIAGE TRACK SUPPORT AS SHOWN IN FIGURE 4.
6. REPLACE PRINTER COVER.
7. WRAP POWER AND LINE CORDS AROUND COPYHOLDER AS SHOWN IN FIGURE 3.
8. PLACE EACH CHEST COVER OVER PROPER BASE AND LATCH.

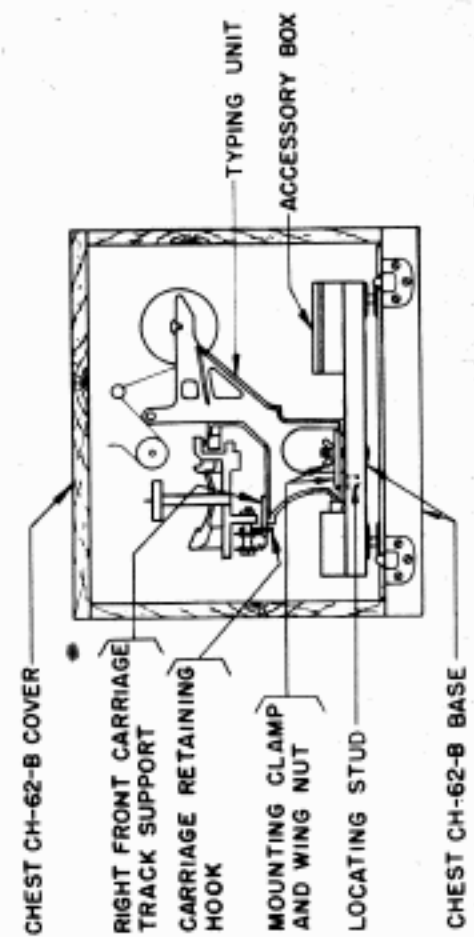


FIGURE 3.

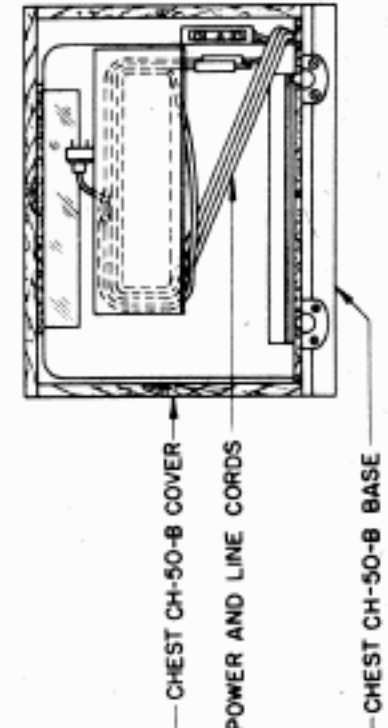


FIGURE 4.



CHANGES AND ADDITIONS  
IN BULLETIN NO. 1110, ISSUE 2, JANUARY, 1943

This correction sheet covers changes and additions to the TG-7-A and TG-7-B printer sets and the special parts applying to the TG-37-B printer sets.

The Following Changes Apply Only to the TG-7-A Printer Sets:

Page 15

A 2191 lock washer has been added to each of the two 74059 screws on the 99744 resistor.

The 75436 resistor (3000 ohms), illustrated at the top of the 99816 relay base, has been replaced by a 74614 resistor (2600 ohms).

The 3438 washers, listed with the 6810 screws at the top of the 99816 relay base, are no longer used.

Page 18

The power supply name plate, located on the front of the 103524 resistor cage, may be ordered as "103604 name plate" and is mounted by means of four 103782 drive screws.

The Following Changes Apply to the TG-7-A, TG-7-B and TG-37-B Printer Sets:

Page 13

The small cable clamp, located on the underside of the 103378 base, below the control switch, may be ordered as "8254 cable clamp" and is mounted by means of a 1176 screw, 2191 lock washer, and 7002 washer.

The 103288 fusatron (1.4 amp.) has been replaced by a 103286 fusatron (1.6 amp.)

The 5599 nuts, used with the 33-179 screws for mounting the 74425 receptacle, have been omitted.

Page 15

The 73175 lock washer, used with the 70892 nut for mounting the 70893 nipple of the lamp socket to the 74421 bracket, has been replaced by a 105912 lock washer.

Pages 17 and 22

The F-3 Filter Unit (assembly) listed at the foot of pages 17 and 22 should read "99250 motor - governor filter unit (assembly)."

Page 19

In order to refine the adjustment of the 7396 and 7397 brackets and the 9203 brackets (with rollers), 93737 shims (.004 thick) are now used with the 3458 shims (.015 thick).

Page 20

In order to refine the adjustment of the 7372 bearing bracket, 107112 shims (.002 thick) are now used with the 74891 shims (.004 thick).

Page 22

The 2846 washers, used with the 74567 screws, for mounting the motor, have been replaced by 76555 washers.

Page 25

The page number in the notation under the 80466 platen crank (assem.) should read "7" instead of "17".

A note reading "used on CH-62-A" should be added under the 103620 screw (with washer).

The Following Changes Apply to the TG-7-B and TG-37-B Printer Sets:

Page 18

The power supply name plate, located on the right side of the 103524 resistor cage, may be ordered as "105235 name plate" and is mounted by means of four 49158 screws and four 34-11 nuts.

The cable, for the resistors in the 103524 cage, may be ordered as "105526 cable - resistor."

Page 25

In order to improve the mounting arrangement of the typing unit for transportation purposes, the sub-base of the CH-62-B chest has been redesigned, employing locating blocks and the use of a clamping device instead of the No. 103620 screws and associated No. 103621 wrench. The parts embodied in the new mounting device are as follows:

107078	Channel Clamp - Short	2)	) Left Side
107080	Clamp Plate	2)	
107079	Channel Clamp - Long	1)	) Right Side
107081	Clamp Plate	1)	
107083	Bolt	3	
107082	Wing Nut	3	
107084	Lock Washer	3	

In order to hold the type bar carriage securely in a central position when being transported, spring hooks are provided to be hooked around the carriage roller mounting studs and the front carriage track supports. These spring hooks may be ordered as follows:

91239 Spring Hook - Left  
91240 Spring Hook - Right

To add a margin of safety to the CH-62-B chests furnished in the future, the 102510 lord mountings have been replaced by 107091 lord mountings which are of a higher impact rating and eliminate the use of the 103377 washer between the 2920 lock washer and the 103611 spacer. The 102510 lord mountings, however, may still be furnished on sub-bases with the new clamping device until the 107091 lord mountings are available.

The Following Changes Apply only to the TG-37-B Printer Sets

Except as hereinafter enumerated, all parts designated for use on TG-7-B in Bulletin No. 1110, are also used on TG-37-B printer sets, including the various cables which, however, are wired in accordance with wiring diagram No. W.D. 2217 for TG-37-B.

Page 6

The 81956 blocking bail has been replaced by a 105381 blocking bail.

The 74127 function lever #12, line feed, and the 74131 function lever #2, carriage return, have been replaced by 84928 function lever #12, line feed, and 84927 function lever #2, carriage return, which operate in the "letters" position only.

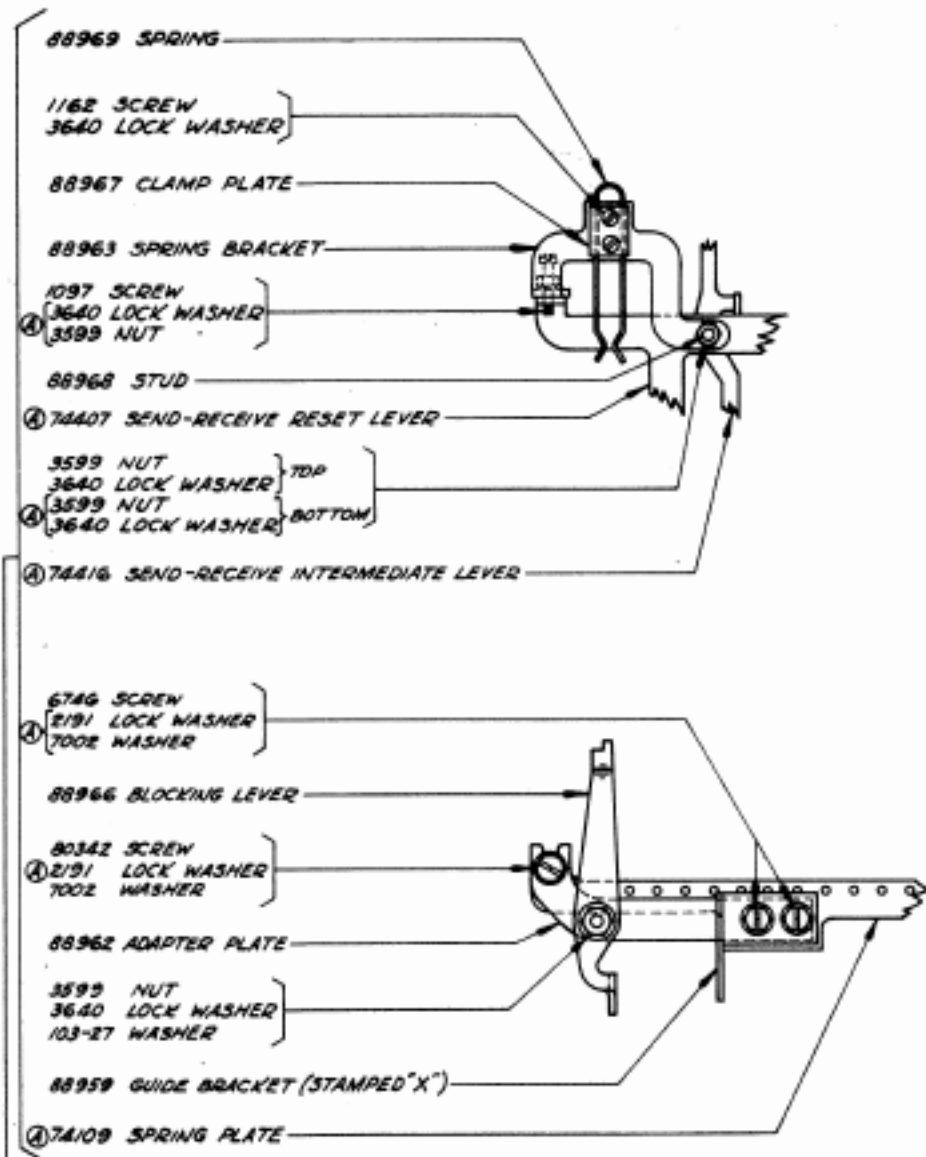
The 74932 function lever #7, blank, and its associated 87402 spring have been replaced by 84060 function lever #7, blank, and its associated 4708 spring, which suppresses printing and spacing in "letters" position only. This function lever and spring may be ordered under one number as 84061 function lever #7, blank (with spring).

A set of parts for converting TG-7-B printer sets to TG-37-B printer sets may be ordered as "81123 set of parts" and consists of the following items:

74202	"Blank" selection type bar	1
74185	"Blank" selection pull bar	1
7634	"Blank" selection pull bar spring	1
84061	Function lever #7 Blank (with spring)	1
84927	Function lever #2 Carriage Return	1
84928	Function lever #12 Line Feed	1
*82750	Set of type bar pallets	1
96559	Type bar pallet	1
*106040	Set of spring cushion keytops	1
99564	Spring cushion keytop	1
*87403	Set of mechanical motor stop parts	1
105381	Blocking bail	1

\*See following page for component parts.

The illustrations on the following page cover additional special parts applying to the TG-37-B printer set.

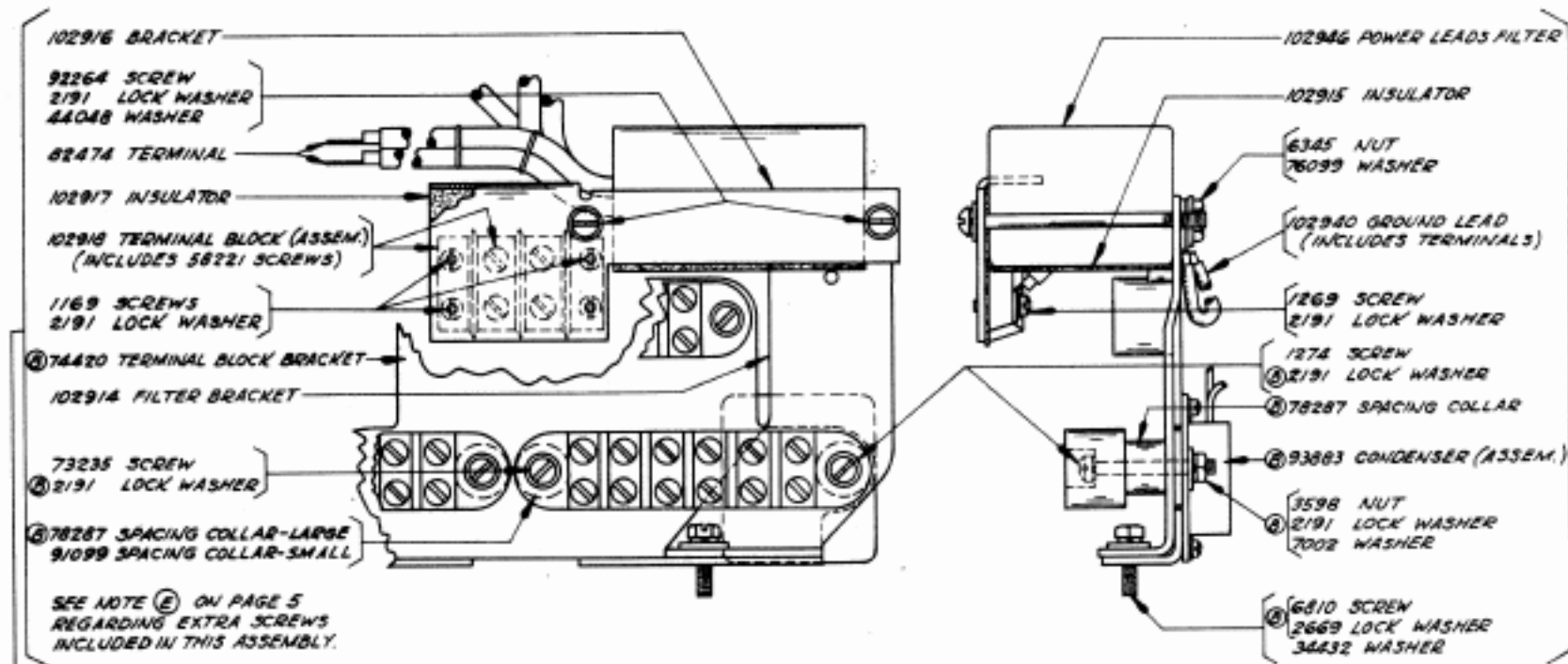


87403 SET OF MECHANICAL MOTOR STOP PARTS  
OPERATING ON "SHIFT-BLANK-STOP"  
(EXCLUDES PARTS MARKED (A))

TYPE BAR PALLETS		TYPE BARS (WITH PALLETS)		SPRING CUSHION KEYTOPS	
DESCRIP-TION	CATALOG NUMBER	NUMBER STAMPED ON TYPE BAR	CATALOG NUMBER	DESCRIP-TION	CATALOG NUMBER
-	(C) 84025	2	84734	-	(D) 89413
Z +	(C) 82751	3	84735	Z +	(D) 89422
K ←	(C) 82153	4	84736	K ←	(D) 89420
B ⊕	(C) 82420	5	84737	B ⊕	(D) 89425
P ♂	96559	6	102985	P ♂	99564
Y 6	74307	7	74647	Y 6	78969
M .	74308	8	74648	M .	78958
U 7	74309	9	74649	U 7	78965
L ↖	(C) 82154	10	84738	L ↖	(D) 89421
H ↓	(C) 82151	11	84740	H STOP	(D) 106019
O 9	74312	12	74652	O 9	78960
I 8	74313	13	74653	I 8	78954
N ⊕	(C) 84069	14	84742	N ⊕	(D) 89426
E 3	74315	15	74655	E 3	78950
T 5	74316	16	74656	T 5	78964
A ↑	(C) 82147	17	84743	A ↑	(D) 89414
J ↙	(C) 82152	18	84745	J ↙	(D) 89419
R 4	74319	19	74659	R 4	78963
D ↗	(C) 82148	20	84746	D ↗	(D) 89415
C ○	(C) 82423	21	84747	C ○	(D) 89423
F →	(C) 82149	22	84749	F →	(D) 89416
W 2	74323	23	74663	W 2	78967
G ↘	(C) 82150	24	84750	G ↘	(D) 89417
V ⊕	(C) 82421	25	84752	V ⊕	(D) 89424
Q 1	74326	26	74666	Q 1	78962
X /	74327	27	74667	X /	78968
S †	74328	28	74668	S BELL	78980
				FIGS.	78972
				LTRS.	78973
				CAR. RET.	78976
				LINE FEED	78978
105230 SET OF TYPE BAR PALLETS.				107005 SET OF SPRING CUSHION KEYTOPS.	

(C)-82750 SET OF TYPE BAR PALLETS.  
(CONSISTS OF PARTS MARKED (C))

(D)-106040 SET OF SPRING CUSHION KEYTOPS.  
(CONSISTS OF PARTS MARKED (D))



102874 POWER LEADS FILTER (ASSEM.) - SEE NOTE (E) ON PAGE 5.  
(EXCLUDES PARTS MARKED (B))  
(ALSO APPLICABLE TO TG-7-A & TG-7-B)

NOTE (E) (See Page 4)

In addition to the parts illustrated, the 102874 power leads filter (assembly) includes one each of the following screws: 1226, 1269, 75400, and 93115 for mounting this assembly to Model 15 printer bases of types other than those standardized for U. S. Government service. For use of these extra screws refer to Specification S-5311, furnished with each 102874 power leads filter (assembly).



# TELETYPE

PRINTING TELEGRAPH SYSTEMS

## *PARTS*

*U.S. ARMY SIGNAL CORPS  
PRINTERS TG-7-A & TG-7-B  
(TELETYPE MODEL 15)*

*U.S. ARMY SIGNAL CORPS  
CHESTS CH-50-A & CH-62-A  
(TELETYPE #103370 & #103368)*

*CHESTS CH-50-B & CH-62-B  
(TELETYPE #105229 & 105367)*



CORPORATION

SUBSIDIARY OF

*Western Electric Company*

CHICAGO, U.S.A.

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II  
(B-1110)

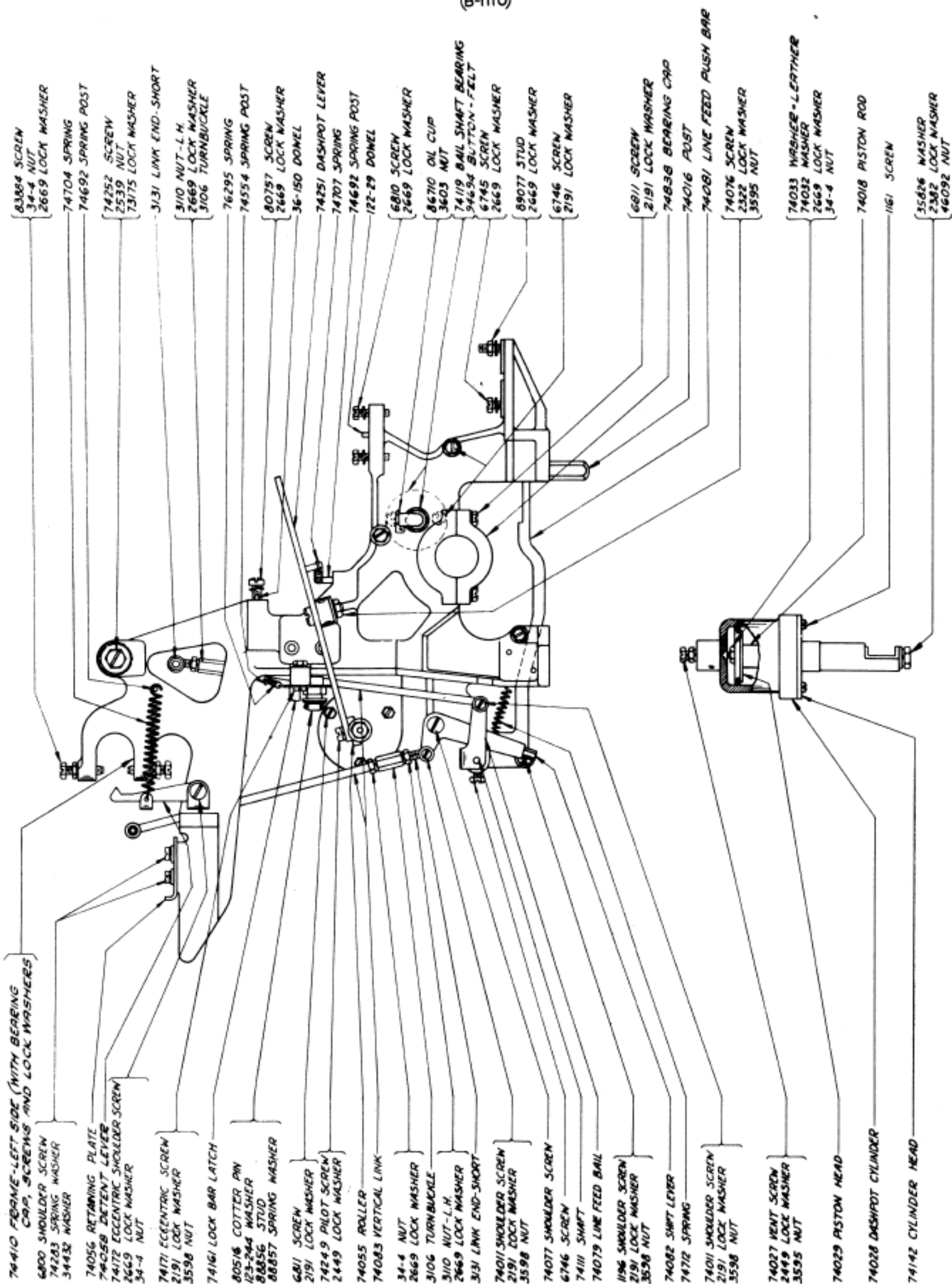
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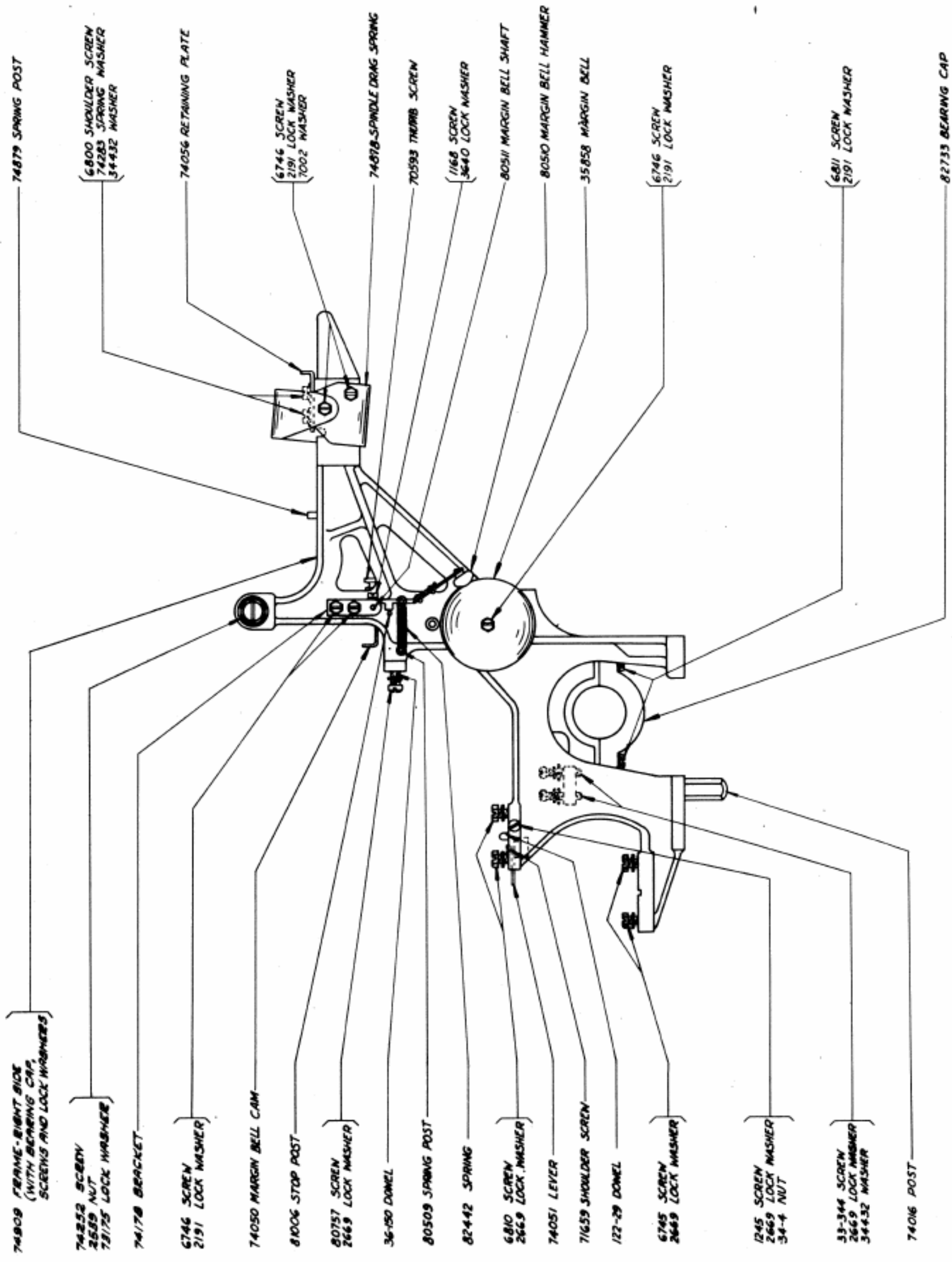
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74809 FRAME-EIGHT SIDE  
(WITH BEARING CAP,  
SCREWS AND LOCK WASHERS)

74252 SCREW  
2559 NUT  
78175 LOCK WASHER

74178 BRACKET

6746 SCREW  
2191 LOCK WASHER

74050 MARGIN BELL CAM

81006 STOP POST

80757 SCREW  
2669 LOCK WASHER

36-150 DONEL

80509 SPRING POST

82442 SPRING

6810 SCREW  
2669 LOCK WASHER

74051 LEVER

71659 SHOULDER SCREW

122-29 DONEL

6745 SCREW  
2669 LOCK WASHER

1245 SCREW  
2669 LOCK WASHER  
34-4 NUT

33-344 SCREW  
2669 LOCK WASHER  
34432 WASHER

74016 POST

74879 SPRING POST

6800 SHOULDER SCREW  
74283 SPRING WASHER  
34432 WASHER

74056 RETAINING PLATE

6746 SCREW  
2191 LOCK WASHER  
7002 WASHER

74878-SPINDLE DRAG SPRING

70593 THUMB SCREW

1168 SCREW  
3640 LOCK WASHER

80511 MARGIN BELL SHAFT

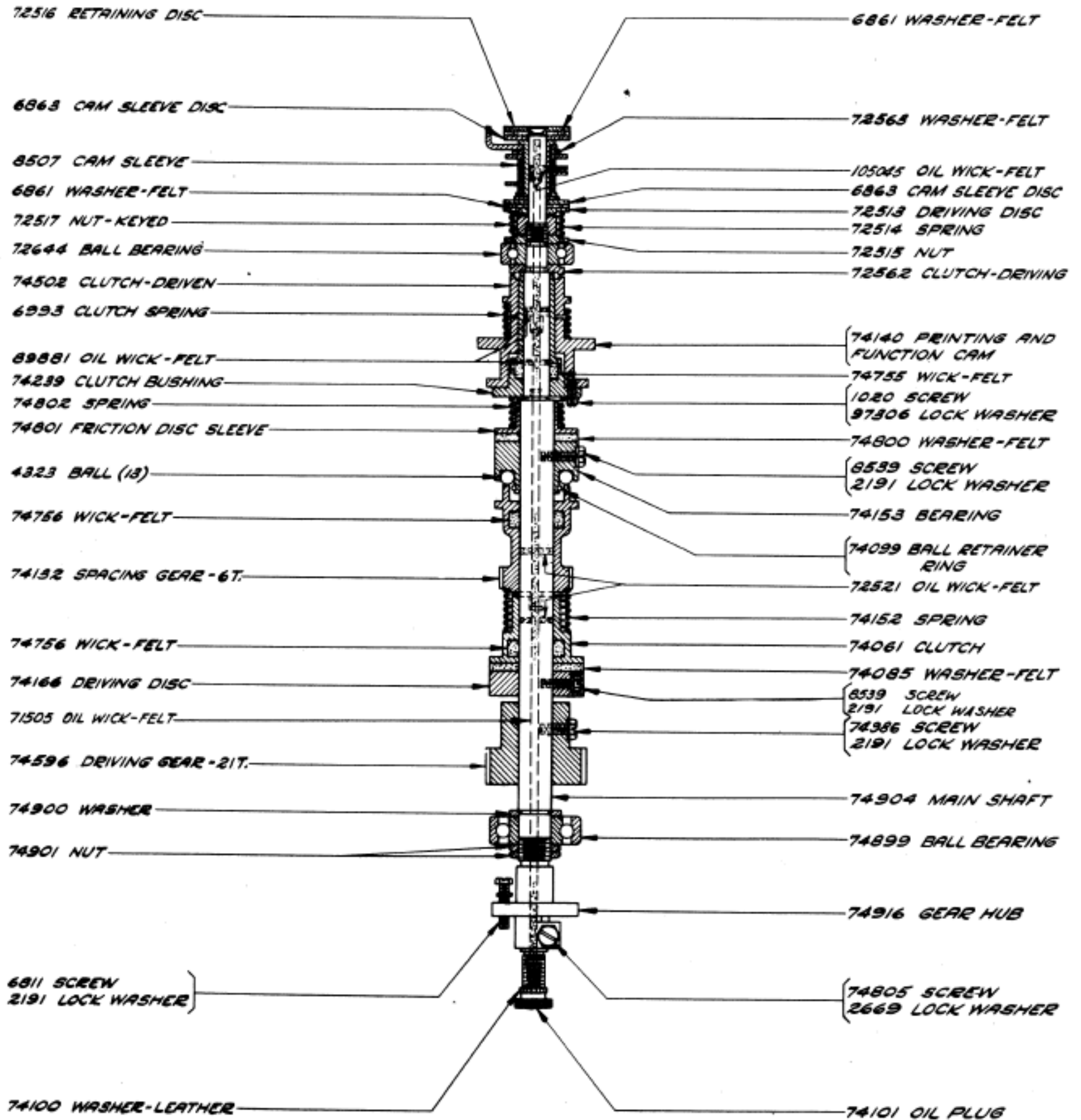
80510 MARGIN BELL HAMMER

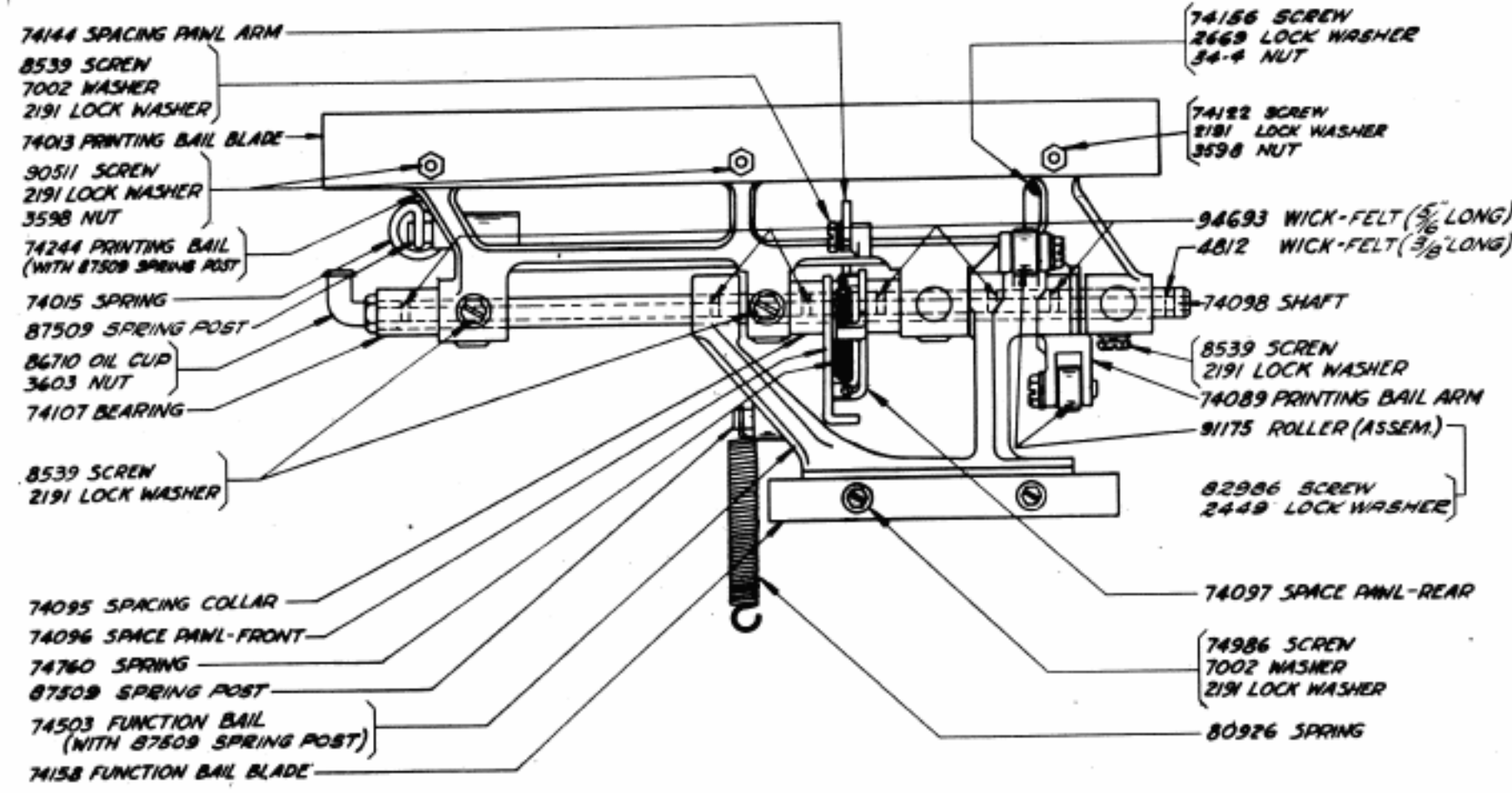
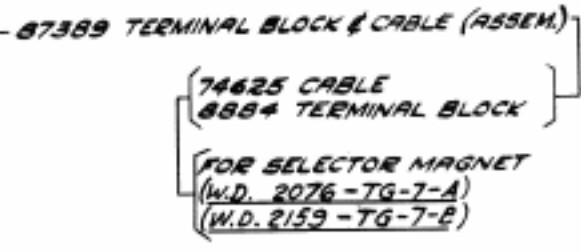
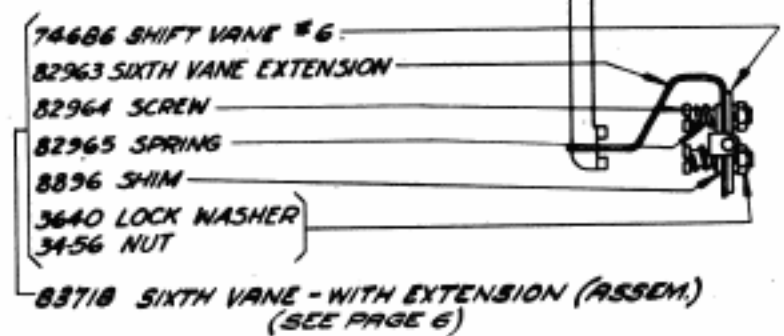
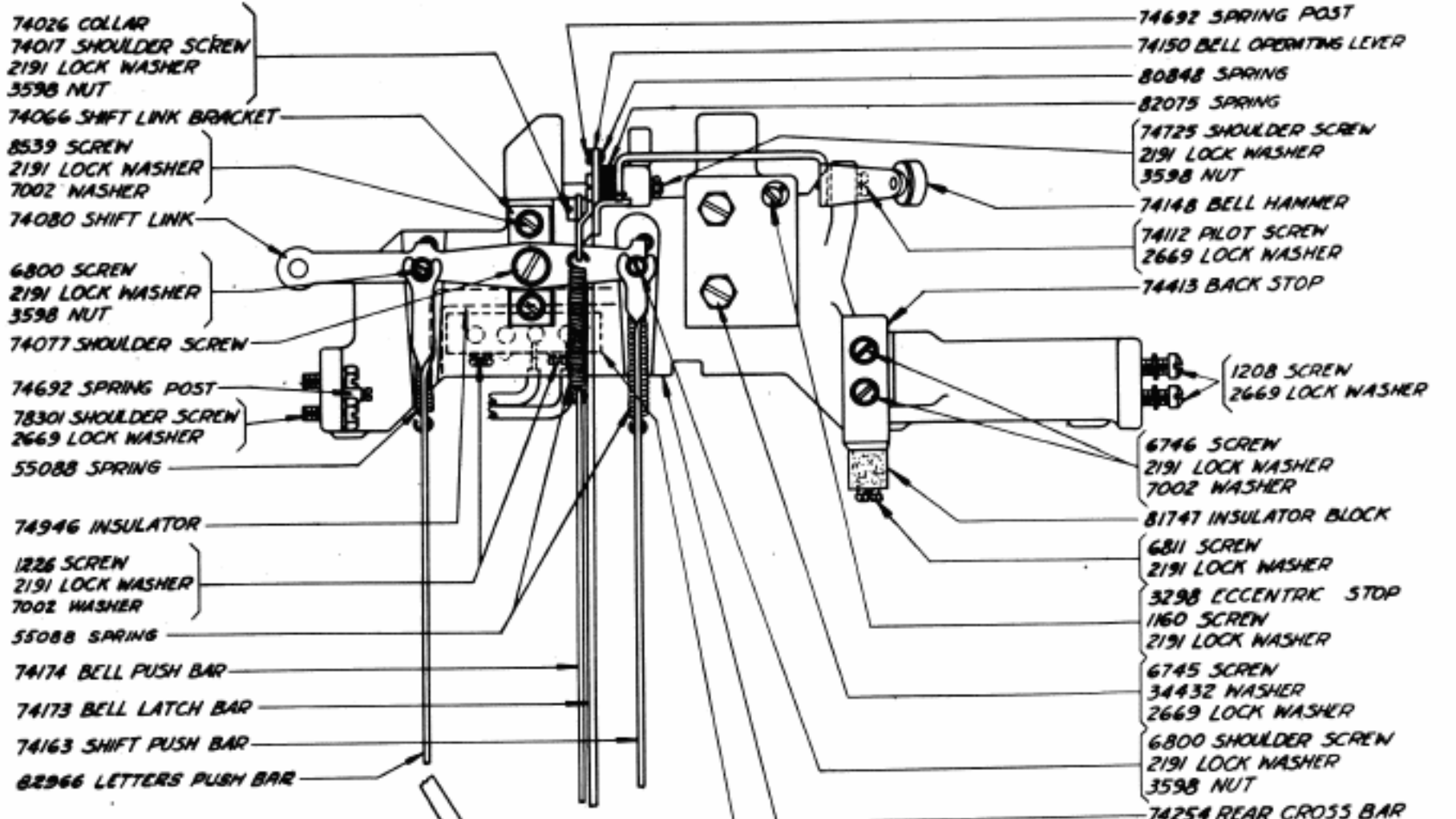
35858 MARGIN BELL

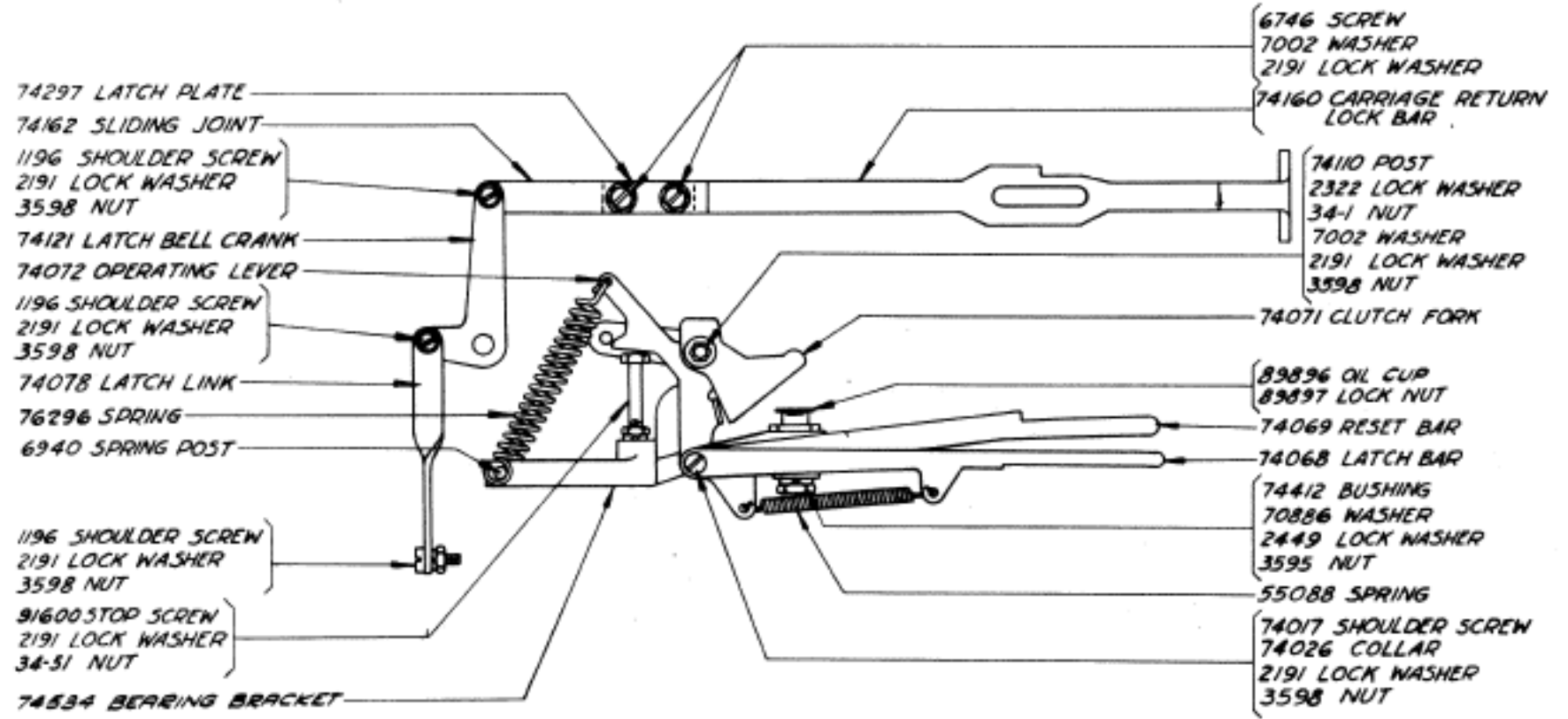
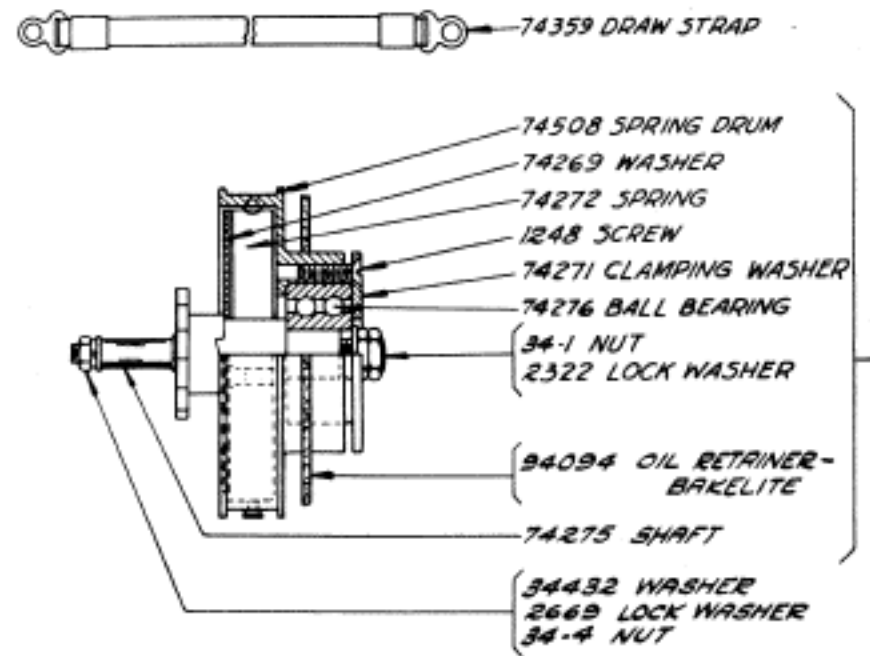
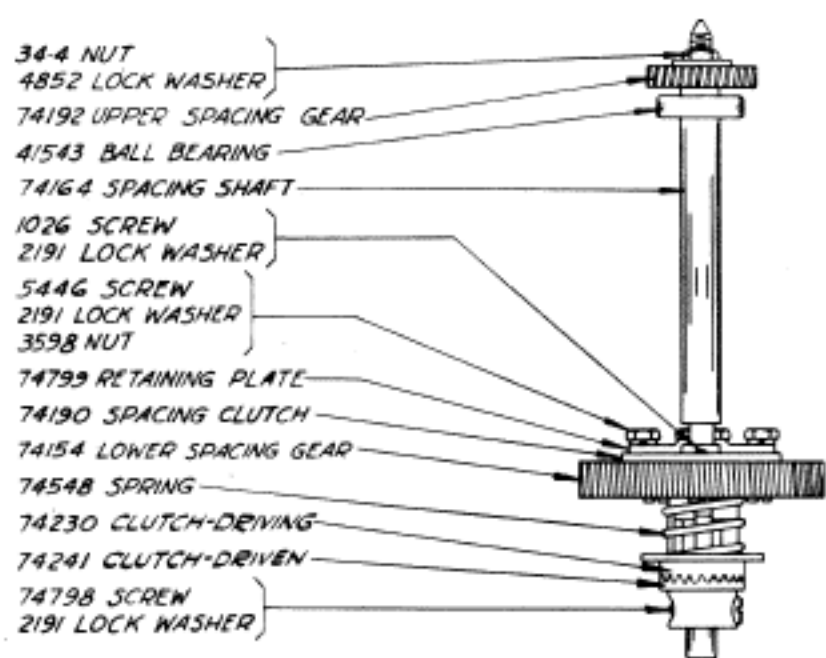
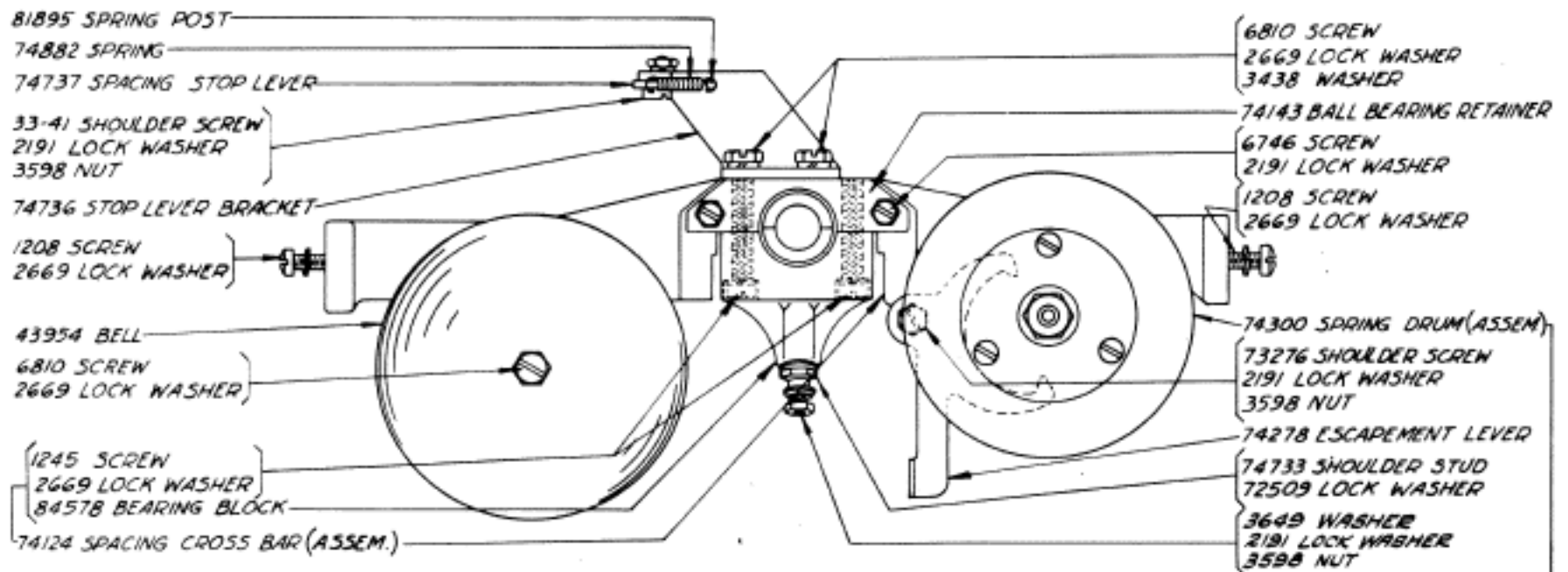
6746 SCREW  
2191 LOCK WASHER

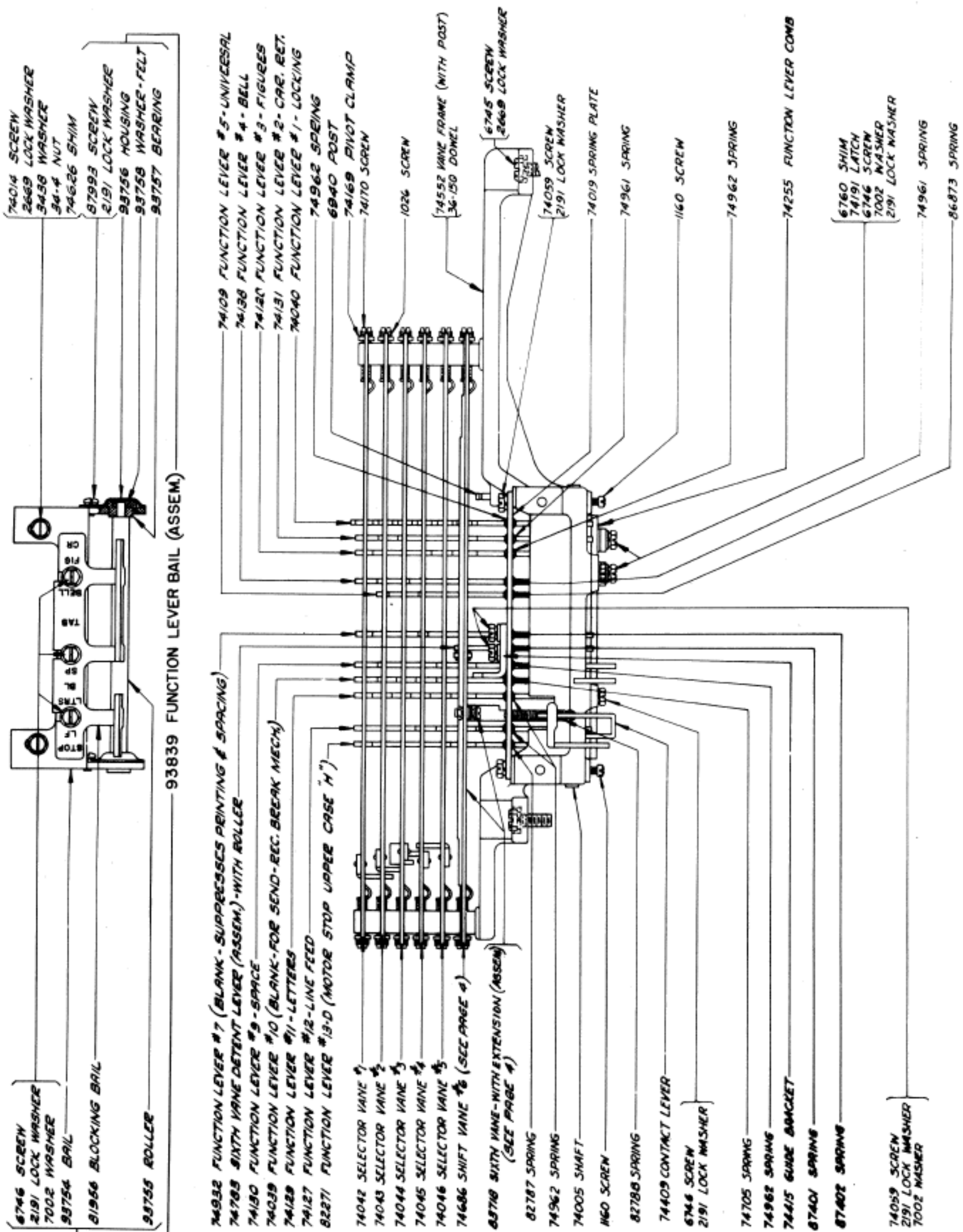
6811 SCREW  
2191 LOCK WASHER

82733 BEARING CAP

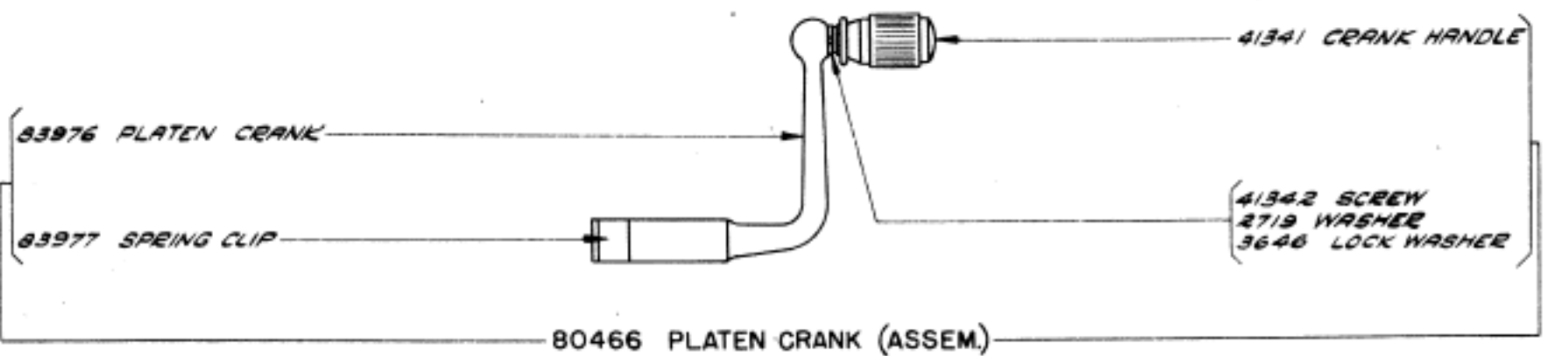
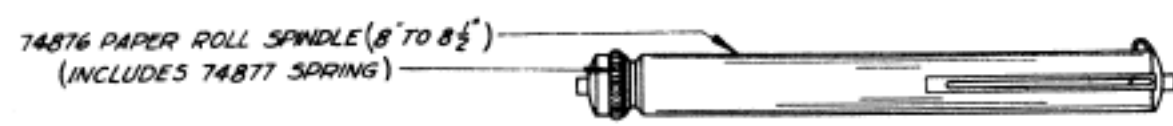
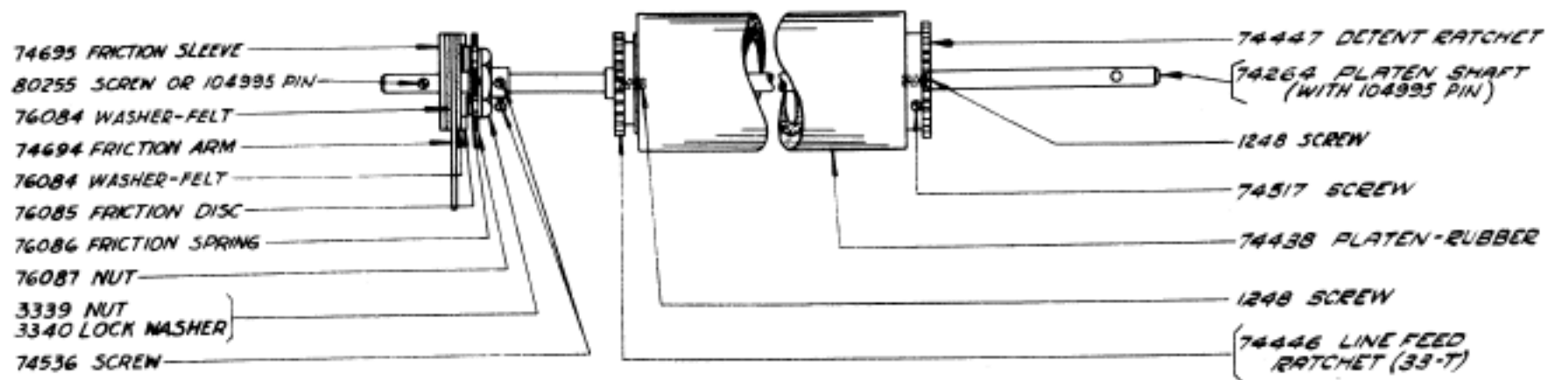
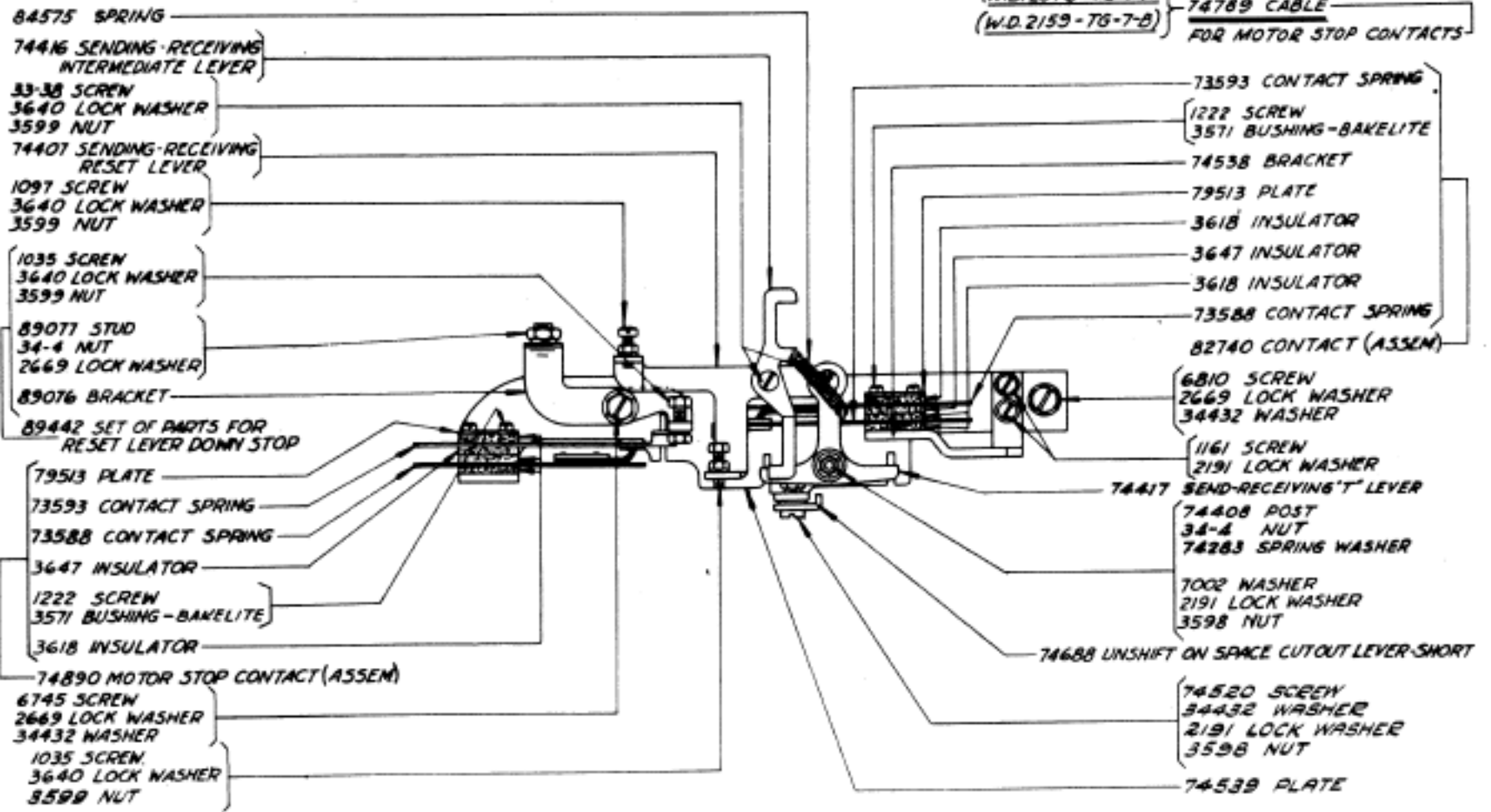


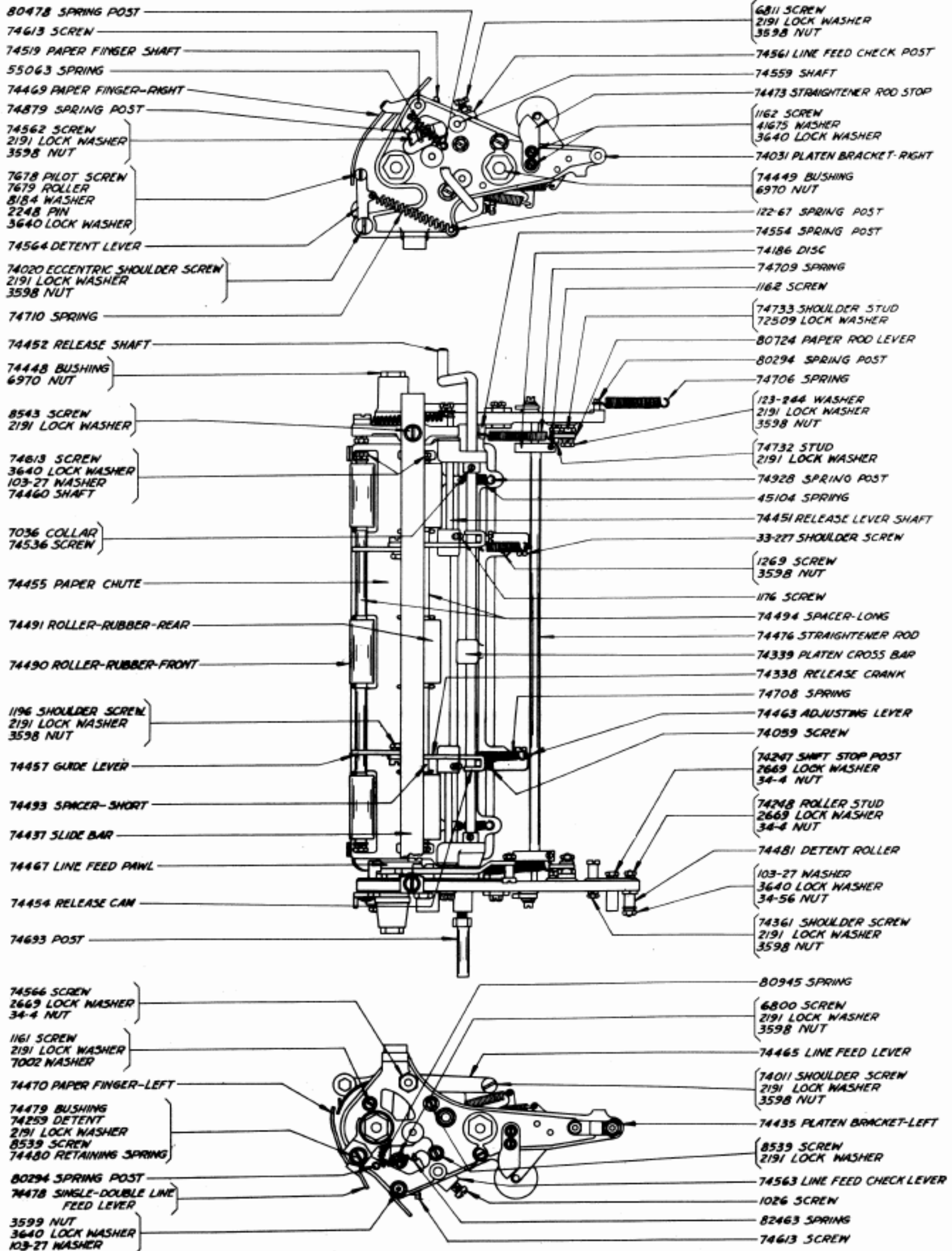


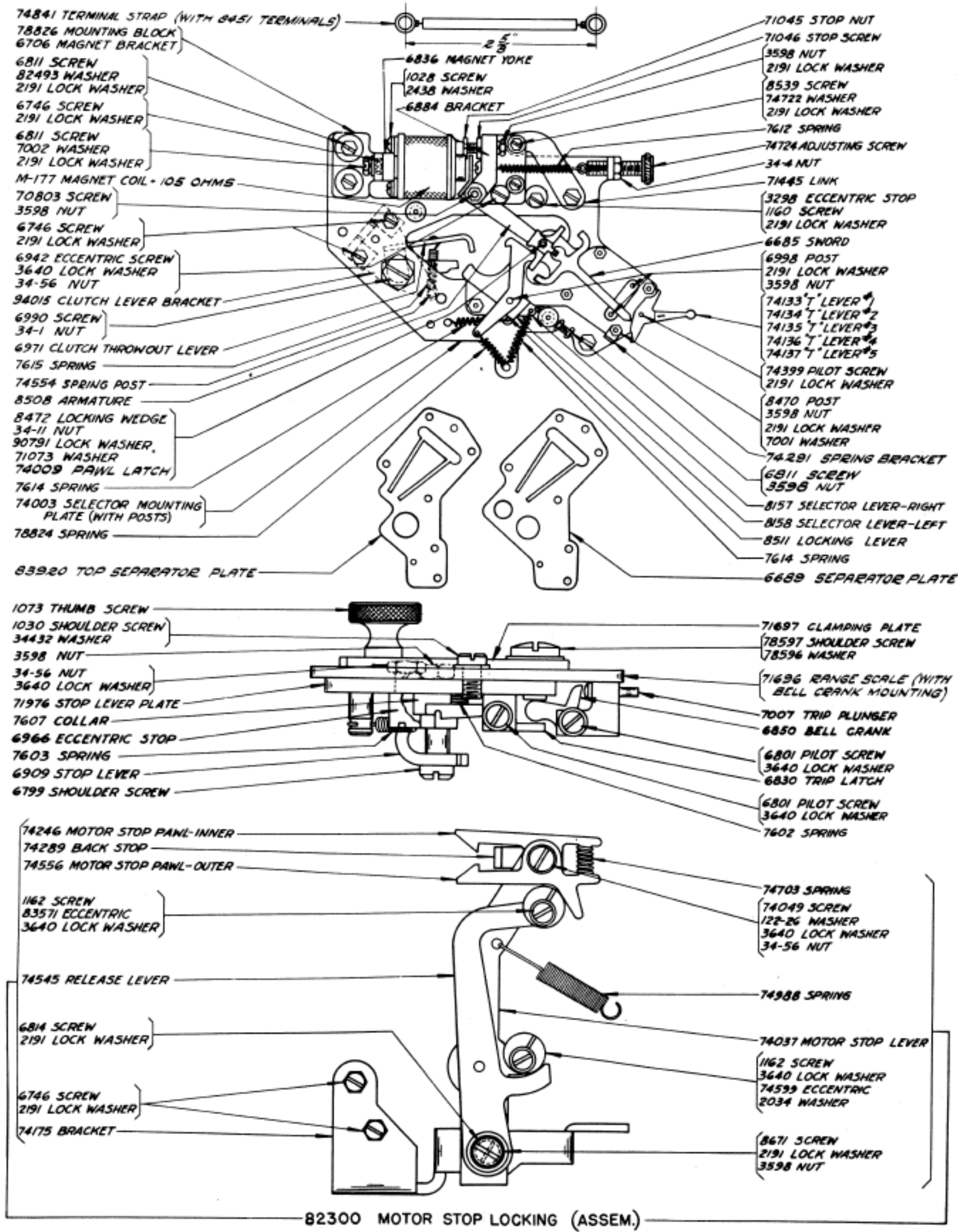


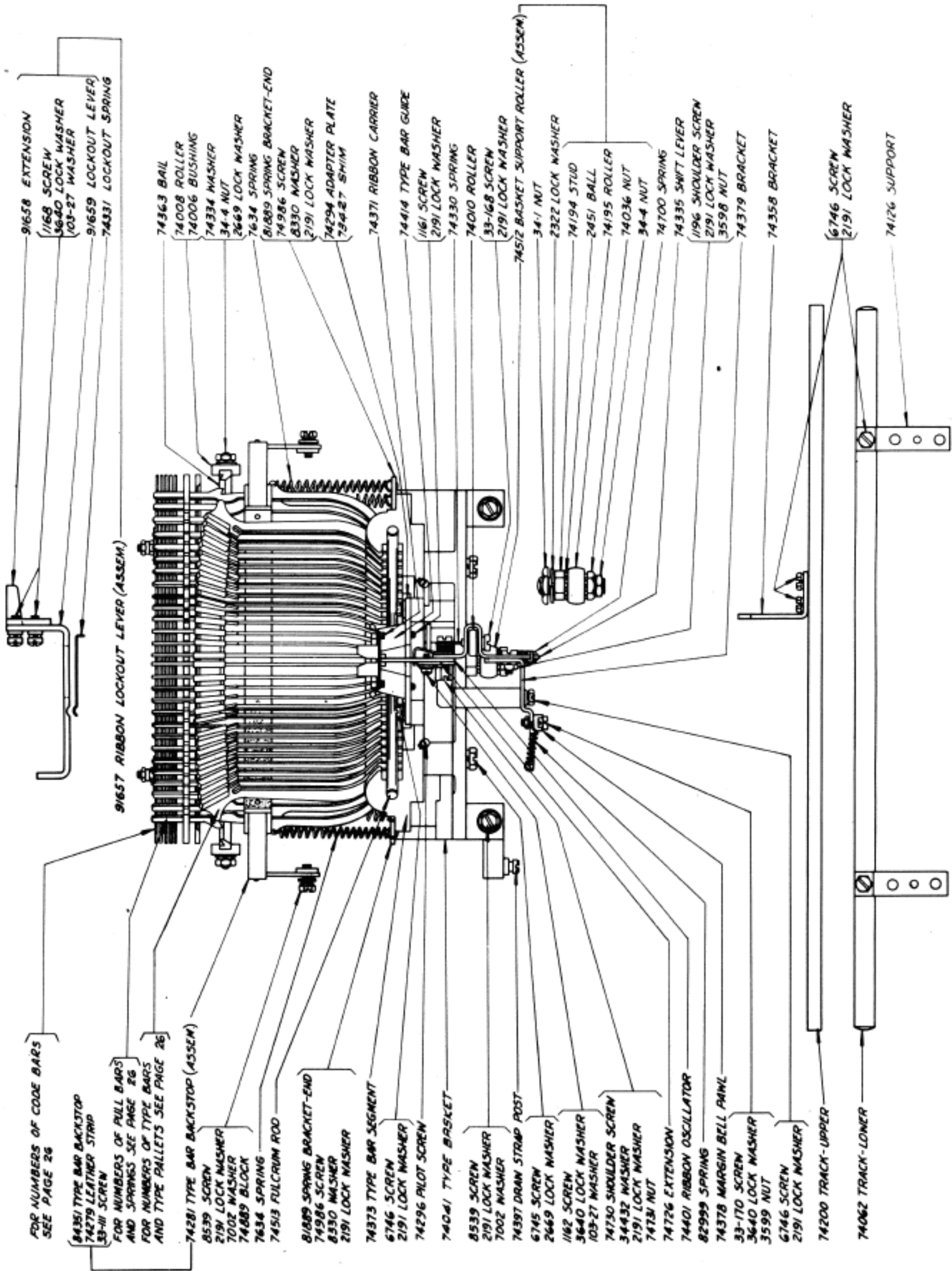




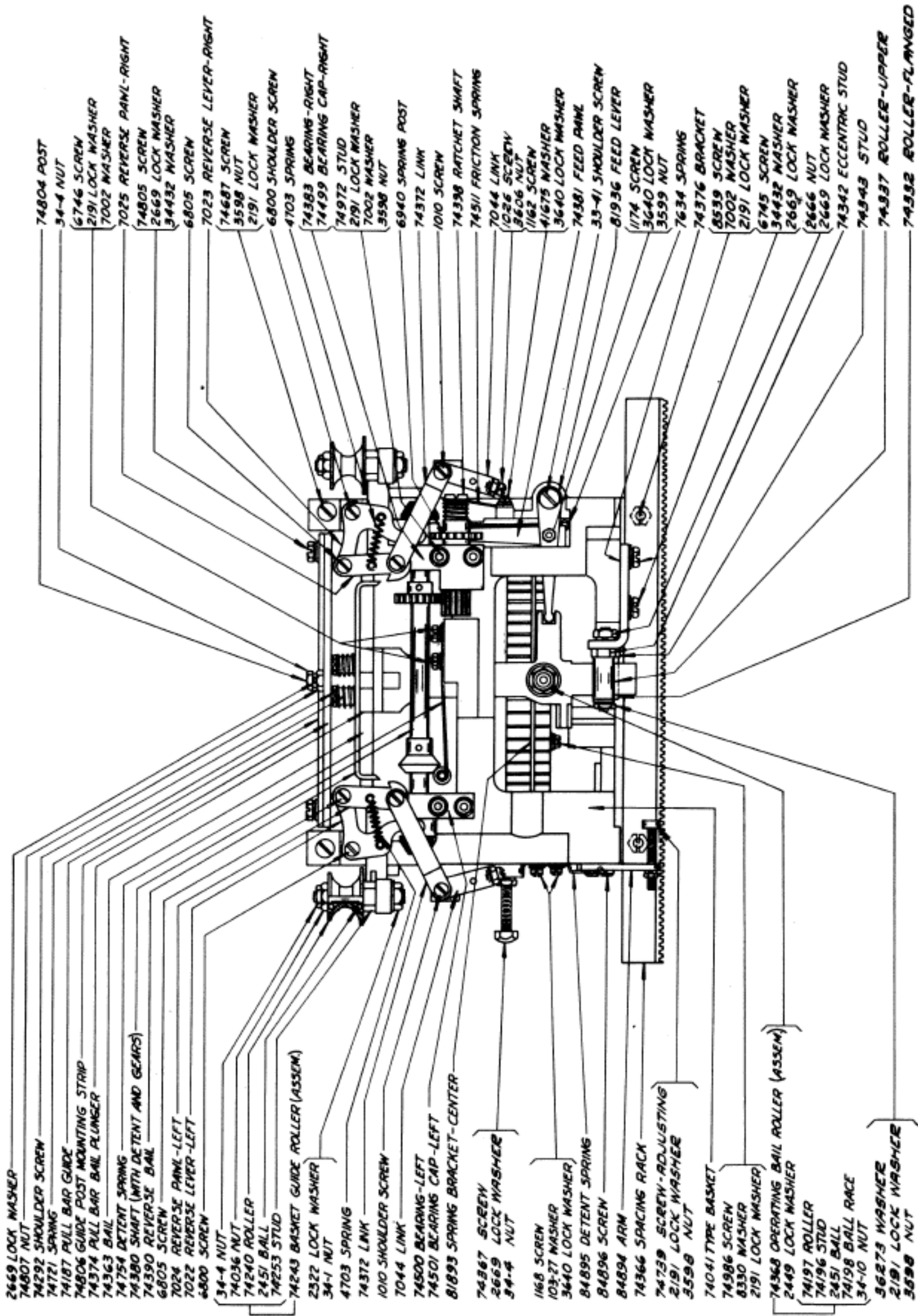




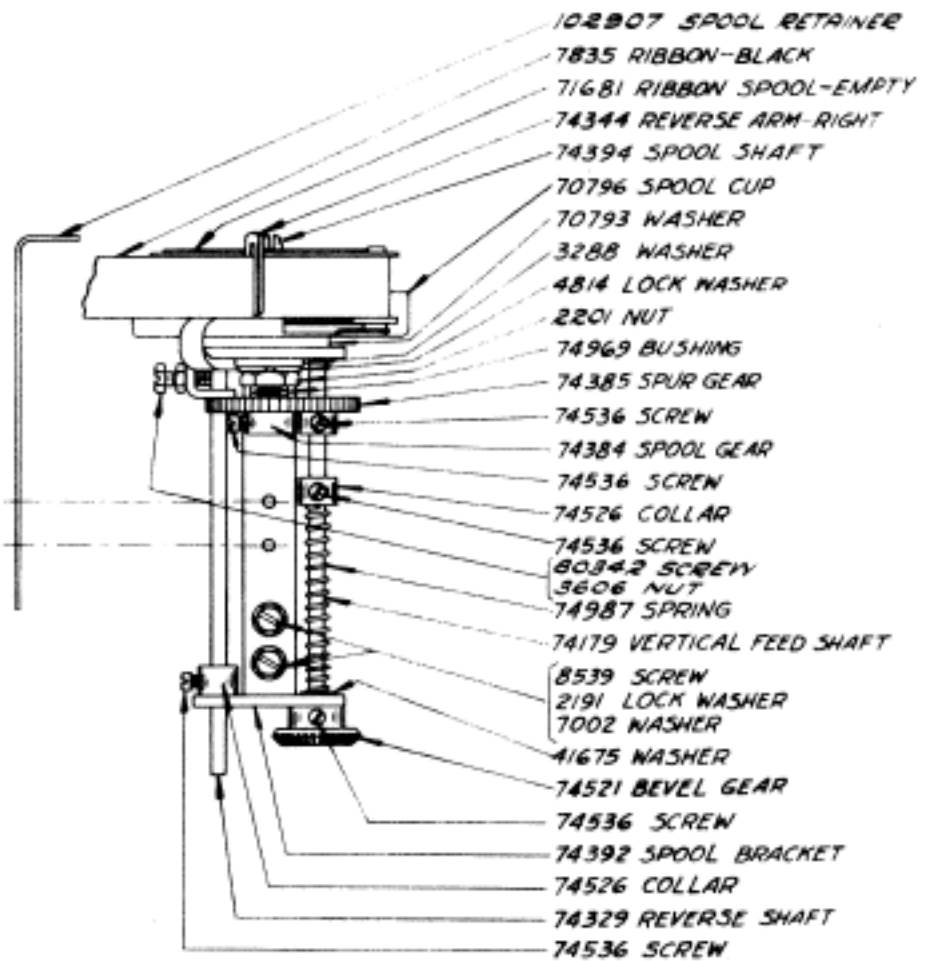
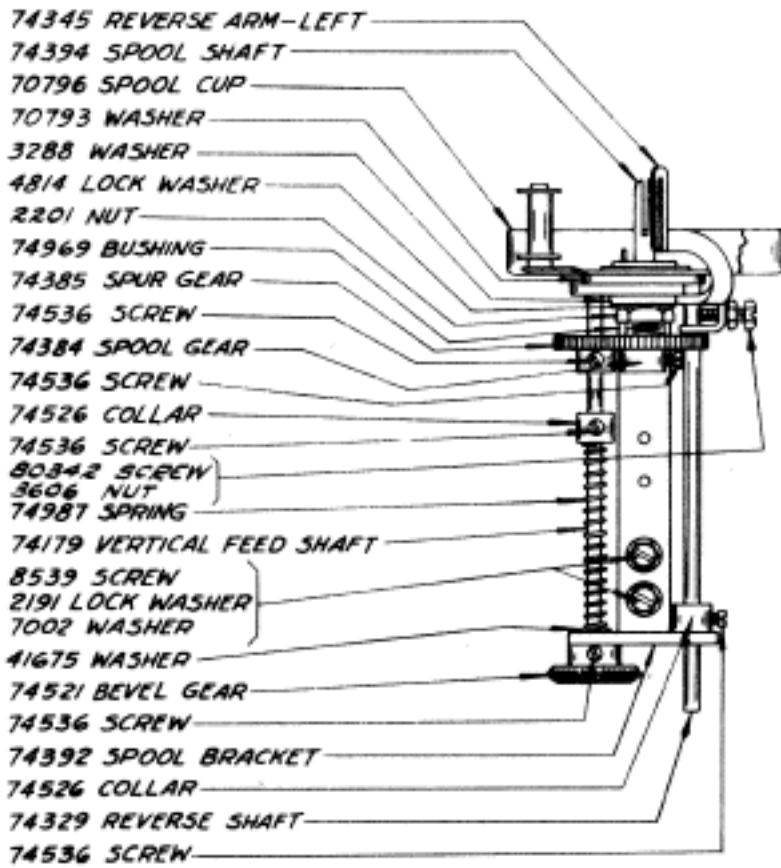
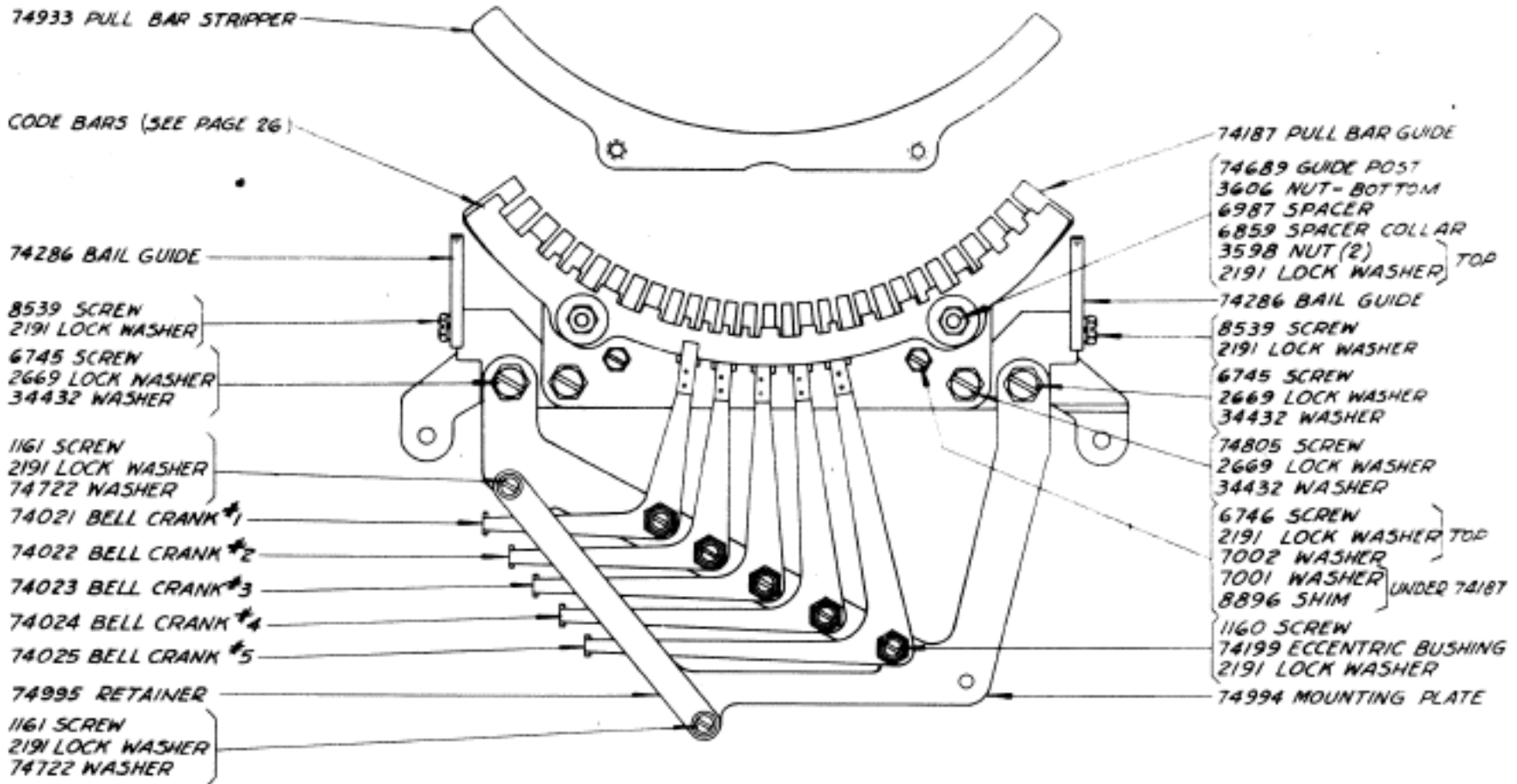












6810 SCREW  
2669 LOCK WASHER

91767 CABLE CLAMP

80342 SCREW  
2191 LOCK WASHER

80342 SCREW  
2191 LOCK WASHER  
7002 WASHER

90273 CORD CLAMP

103378 BASE-BLACK GLOSS

74628 FUSE BLOCK  
103288 FUSETRON-1.4 AMR  
1193 SCREW  
90752 WASHER-FELT

6745 SCREW  
2669 LOCK WASHER  
74422 RELAY  
MOUNTING BRACKET  
(ALSO SEE PAGE 15)

8539 SCREW  
2191 LOCK WASHER  
1245 SCREW  
2669 LOCK WASHER

74551 COVER-BAKELITE  
1160 SCREW  
2191 LOCK WASHER

83413 BUFFER  
83412 LOCATING STUD  
4814 LOCK WASHER  
74621 COVER LOCATING  
STUD (ASSEM.)

74898 STUD

74720 SCREW-THUMB

74588 TERMINAL BLOCK (ASSEM.)  
6811 SCREW  
7094 CONNECTION SPRING  
7095 SPRING PLATE  
74568 TERMINAL BLOCK

2291 CONTACT SPRING-LOWER  
2924 CONTACT SPRING-UPPER  
7399 SPRING STIFFENER  
4293 INSULATOR

72508 SCREW  
7096 BUSHING-BAKELITE  
2191 LOCK WASHER  
7398 SPRING PLATE

103378 BASE  
103542 BASE PLATE  
103376 STUD  
85595 NUT  
103779 WASHER  
103877 WASHER  
2920 LOCK WASHER  
85595 NUT  
6035 SCREW  
2449 LOCK WASHER

78301 SCREW  
34-4 NUT  
2669 LOCK WASHER  
1224 ADJUSTING SCREW STUD  
2191 LOCK WASHER  
3598 NUT

74567 SCREW  
2846 WASHER  
2449 LOCK WASHER  
74091 MOTOR PLATE  
(FOR MOTOR SEE PAGE 22)

74014 SCREW  
2669 LOCK WASHER

1226 SCREW  
78287 SPACING COLLAR  
2191 LOCK WASHER

73670 TERMINAL BLOCK (ASSEM.)

1028 SCREW  
3650 WASHER  
74489 SCREW  
34-4 NUT

99818 CORD GUARD

6810 SCREW  
2669 LOCK WASHER  
1160 SCREW  
7002 WASHER } GROUND  
74425 RECEPTACLE

33-179 SCREW  
5599 NUT

74420 BRACKET  
74531 SWITCH COVER  
74776 INSULATOR  
74620 CONTROL SWITCH  
1166 SCREW

74059 SCREW  
2191 LOCK WASHER  
7002 WASHER

103542 BASE PLATE  
FOR MOUNTING 103542  
6035 SCREW  
2449 LOCK WASHER  
82474 TERMINAL

1026 SCREW  
2191 LOCK WASHER

102610 LORD MOUNTING

103148 PAD-FELT

{ CH-50-A }  
{ CH-50-B } CHEST (ASSEM.)

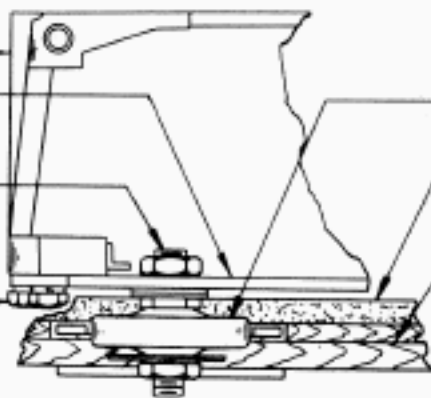
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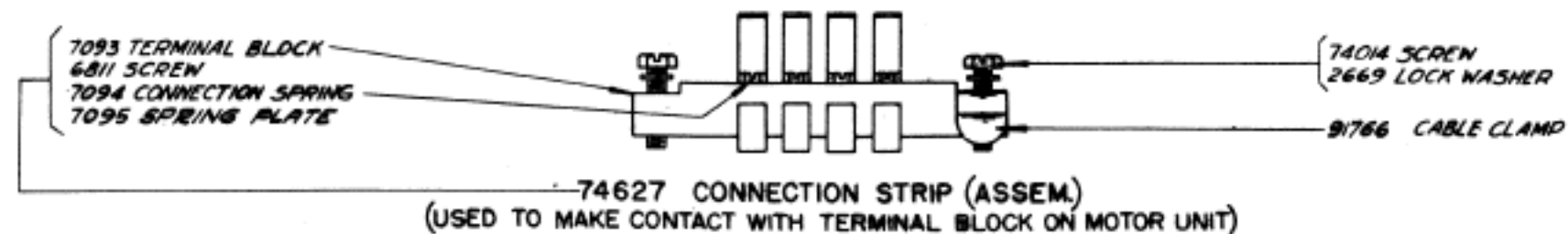
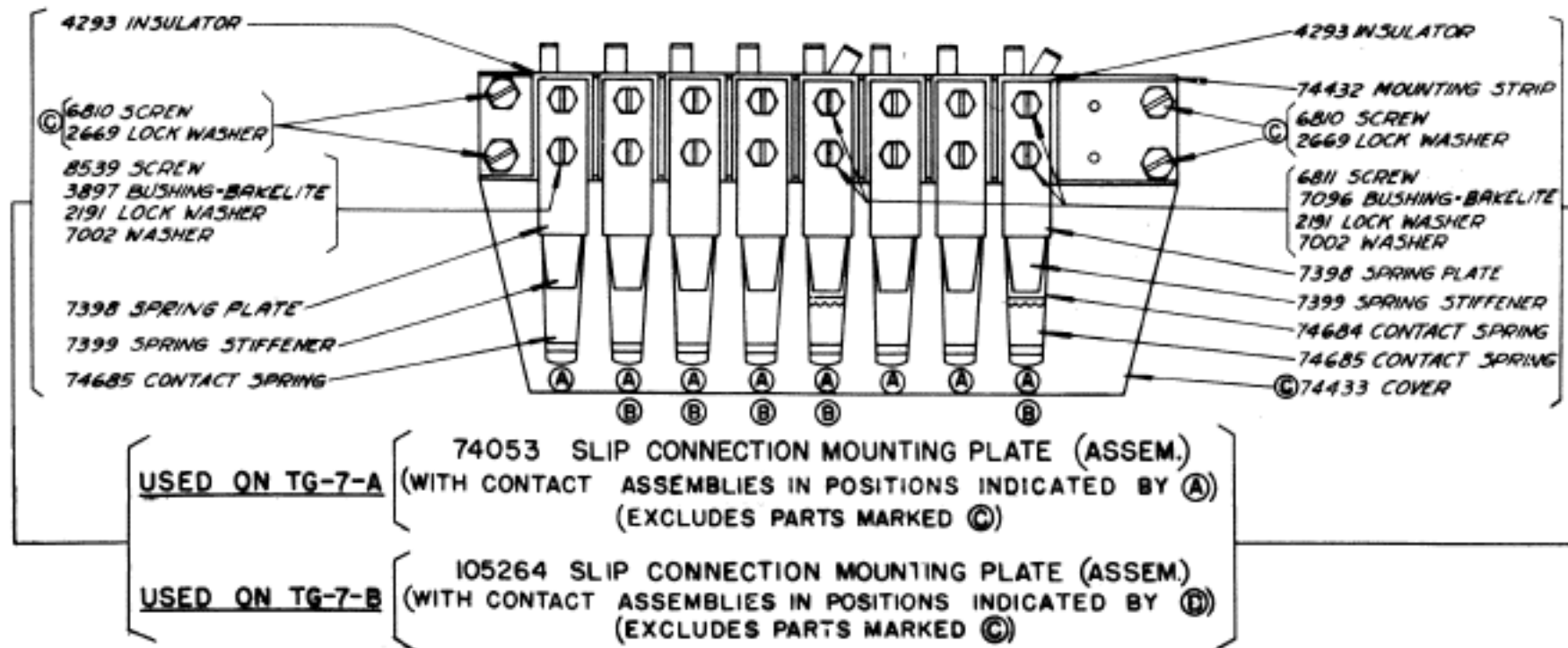
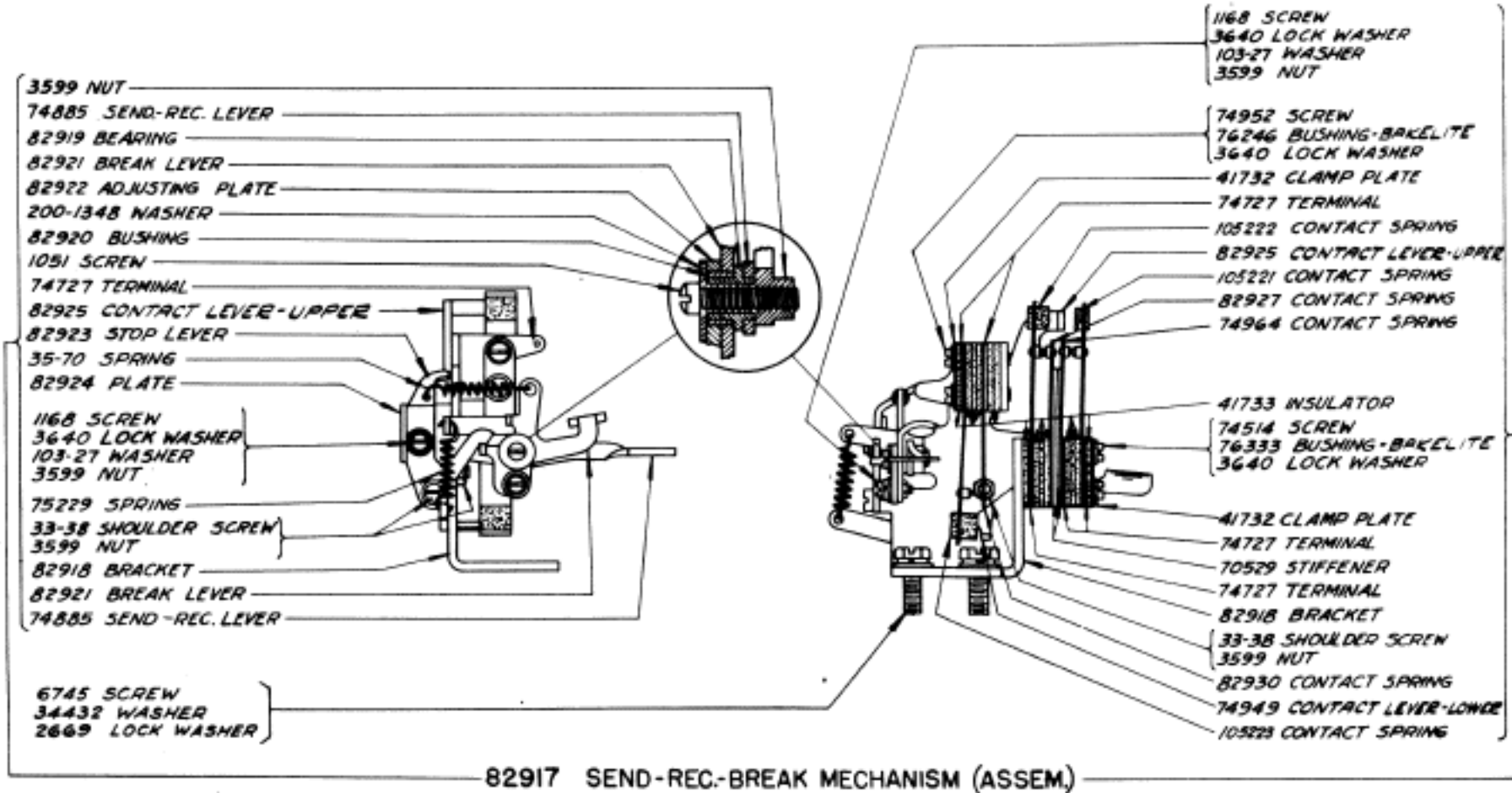
(W.D. 2076-TG-7-A)

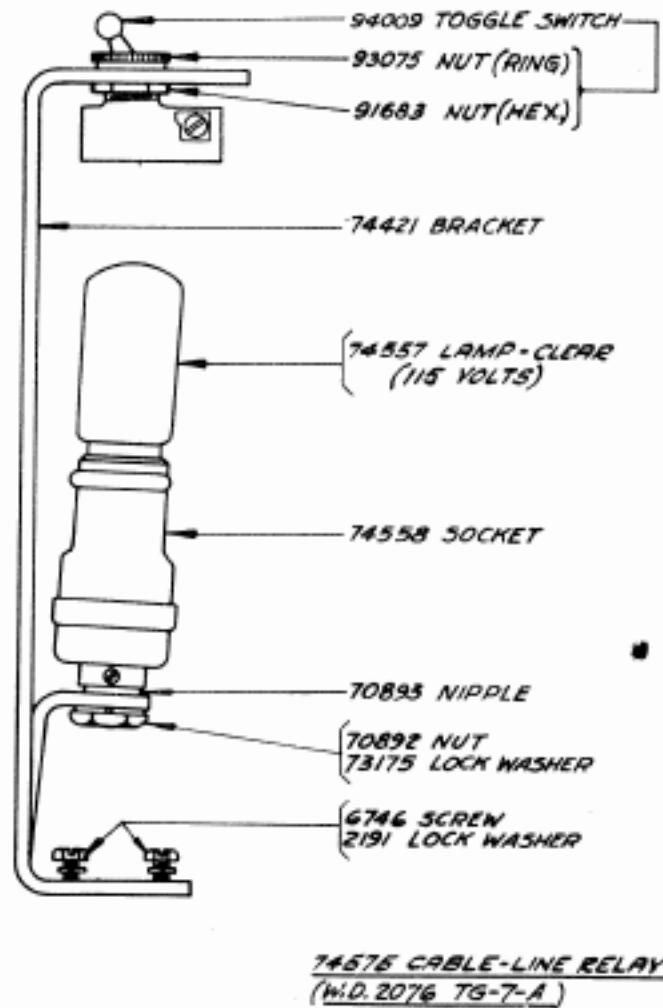
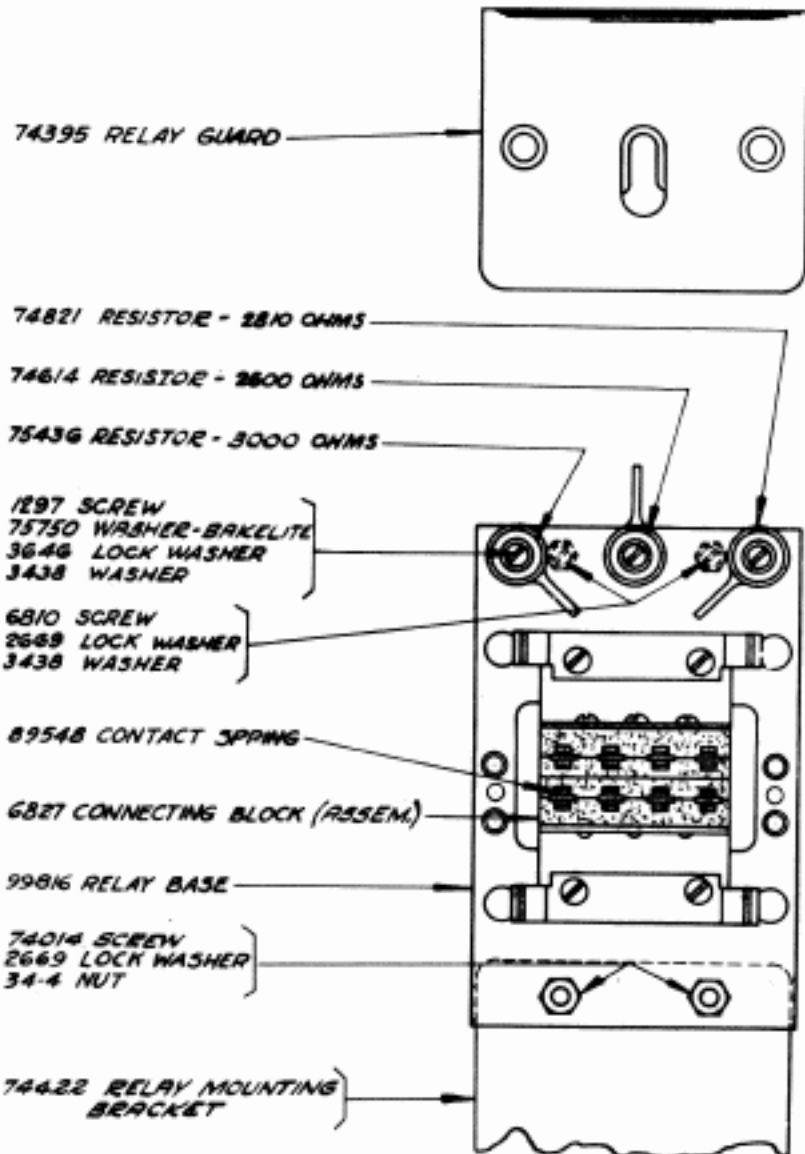
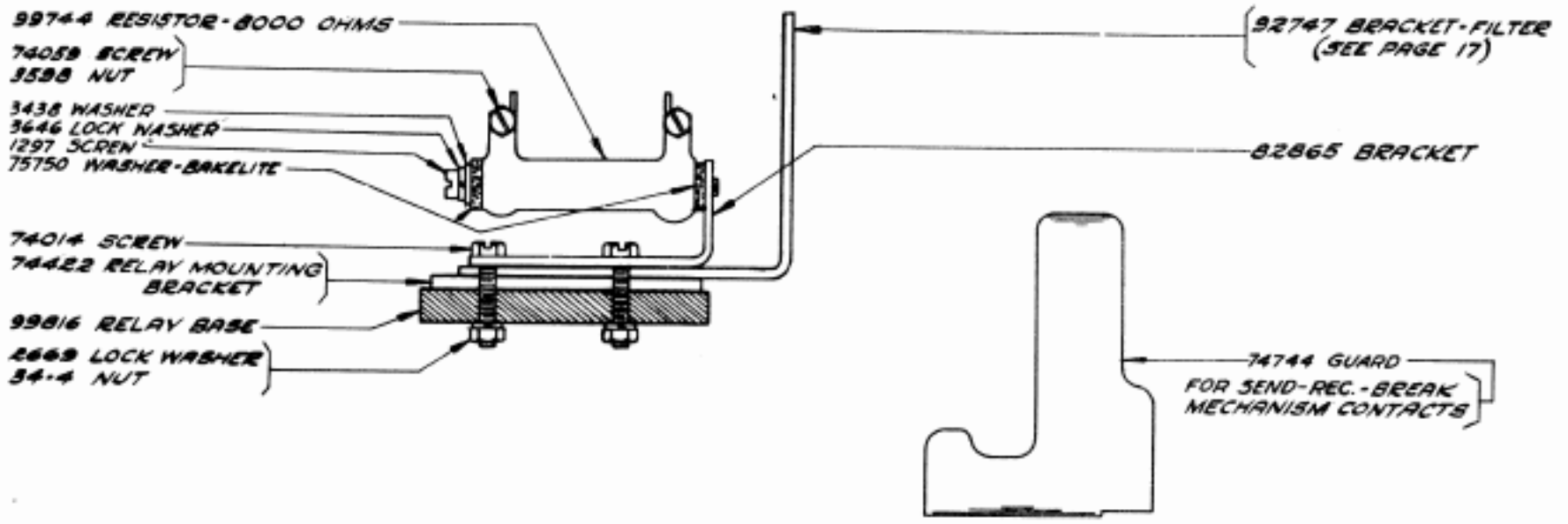
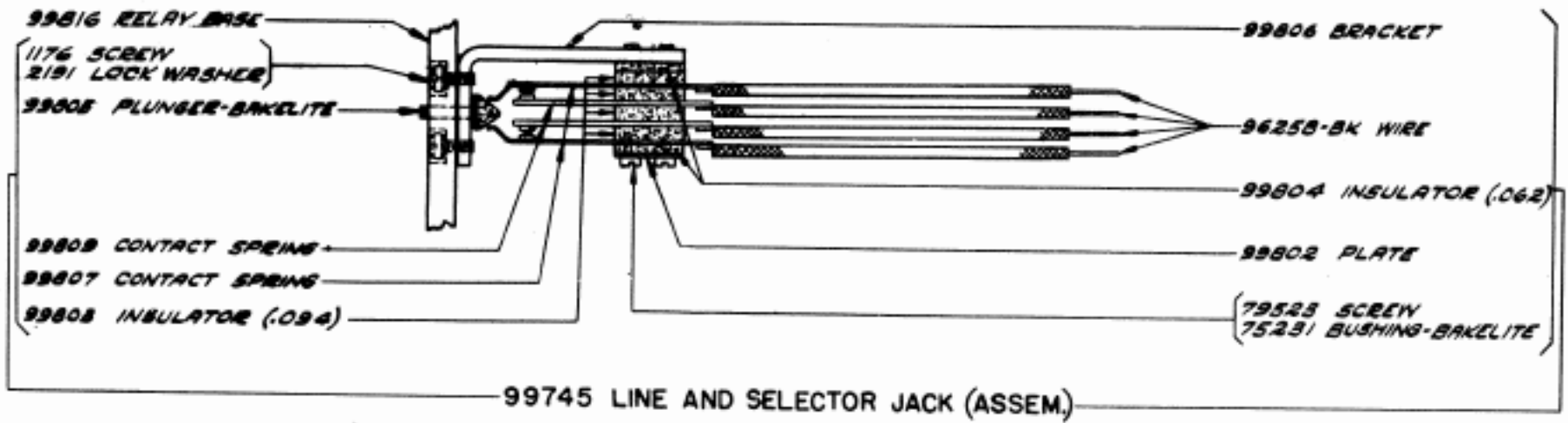
74573 POWER CABLE (IN BASE)  
74574 LINE CABLE (IN BASE)  
92814 CABLE-BASE

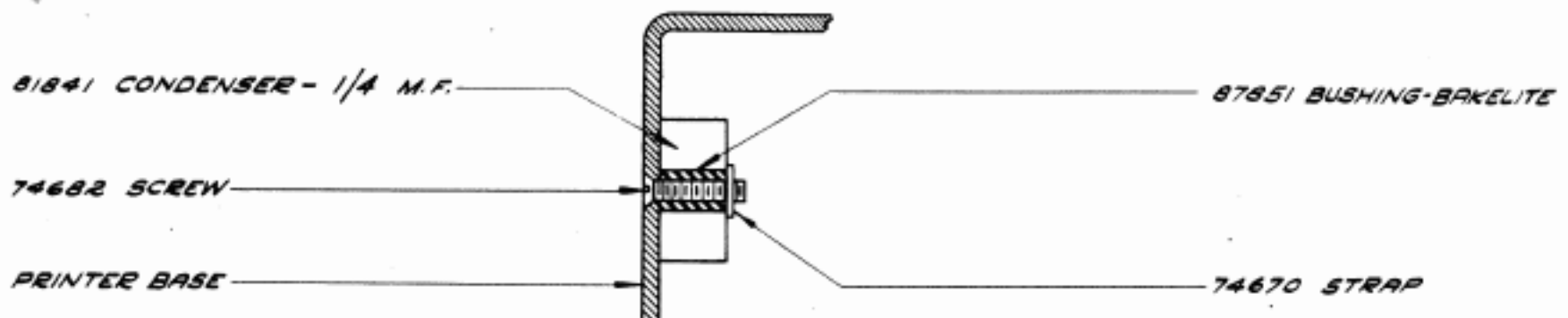
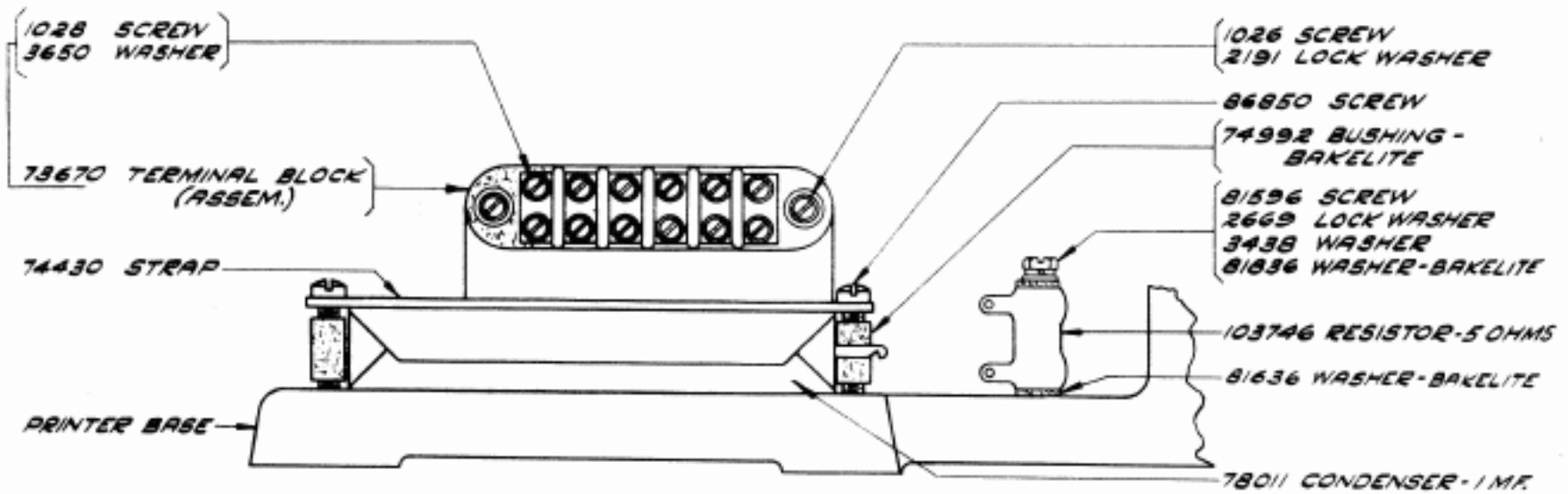
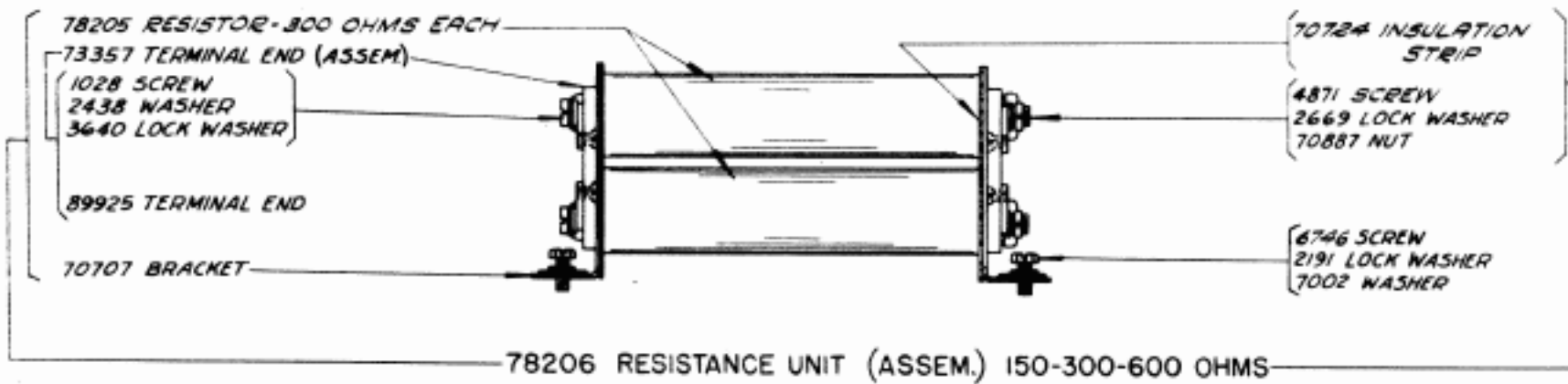
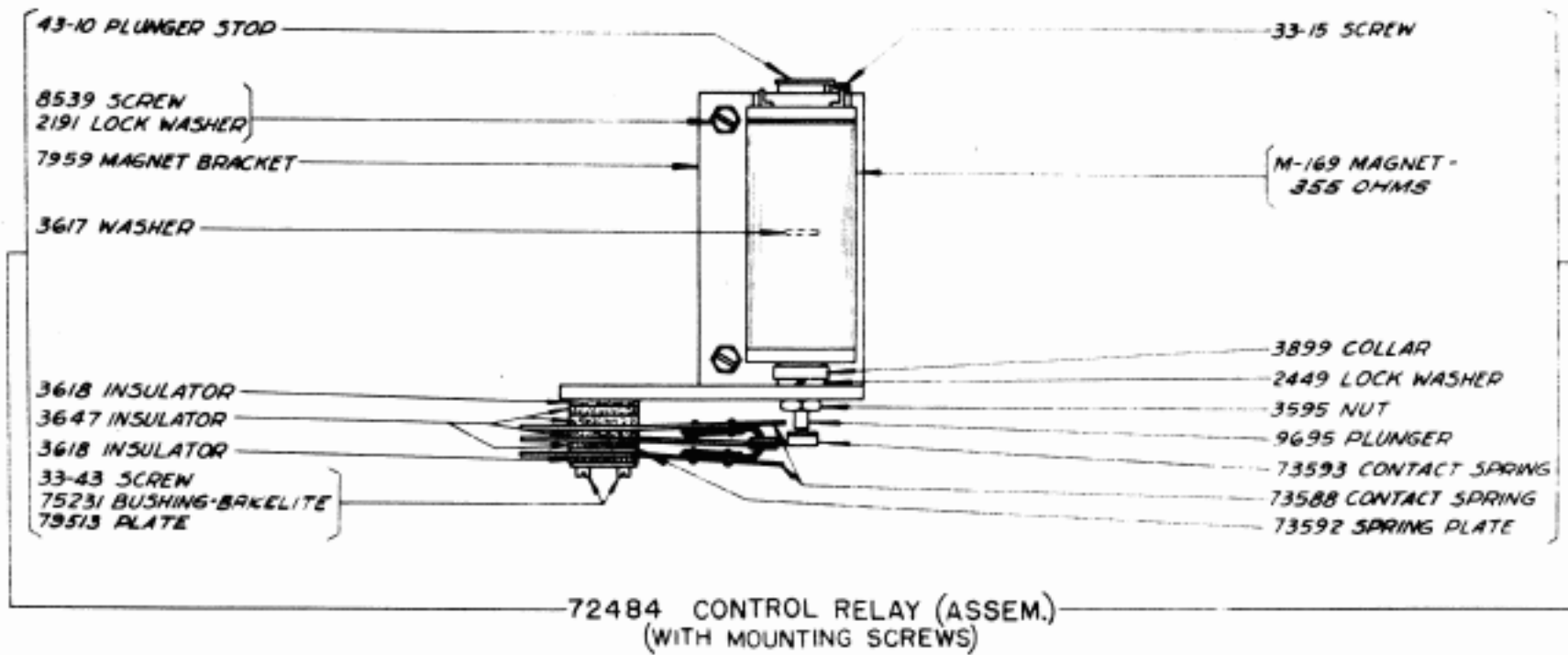
(W.D. 2159-TG-7-B)

105241 POWER CABLE (IN BASE)  
105242 LINE CABLE (IN BASE)

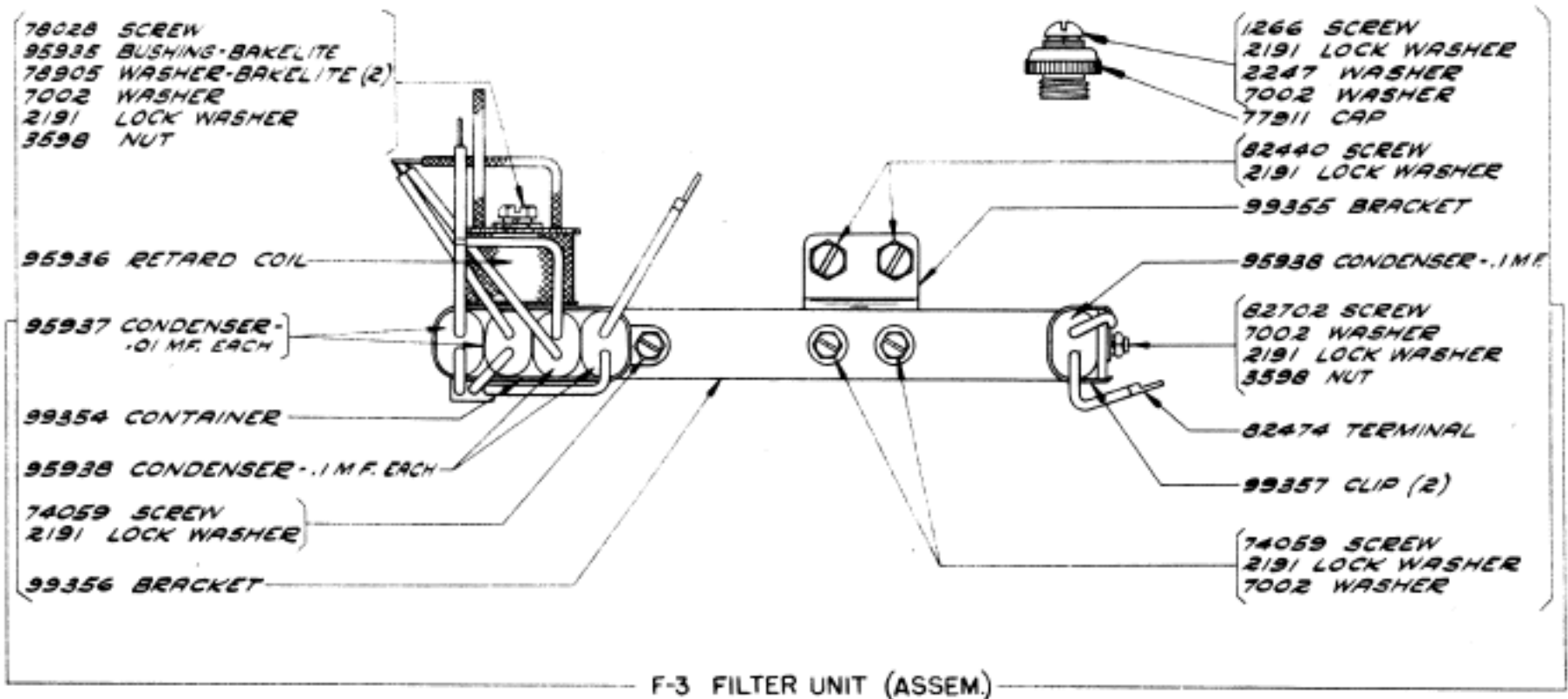
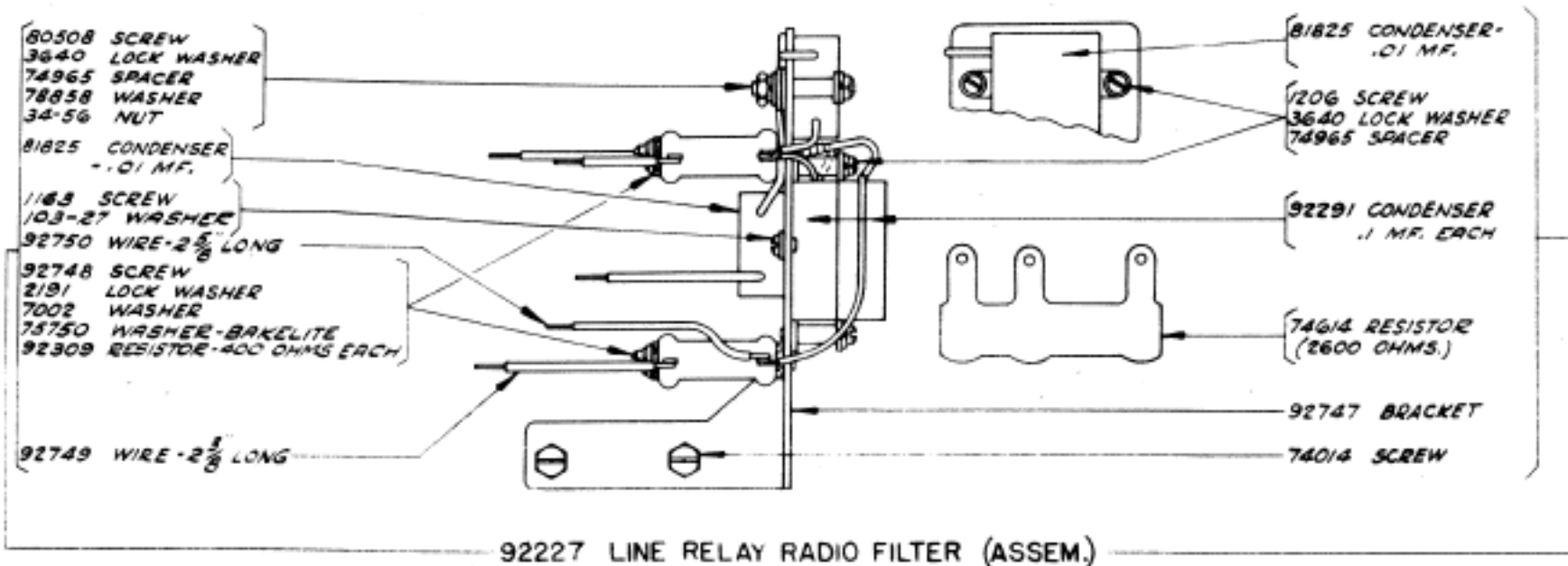
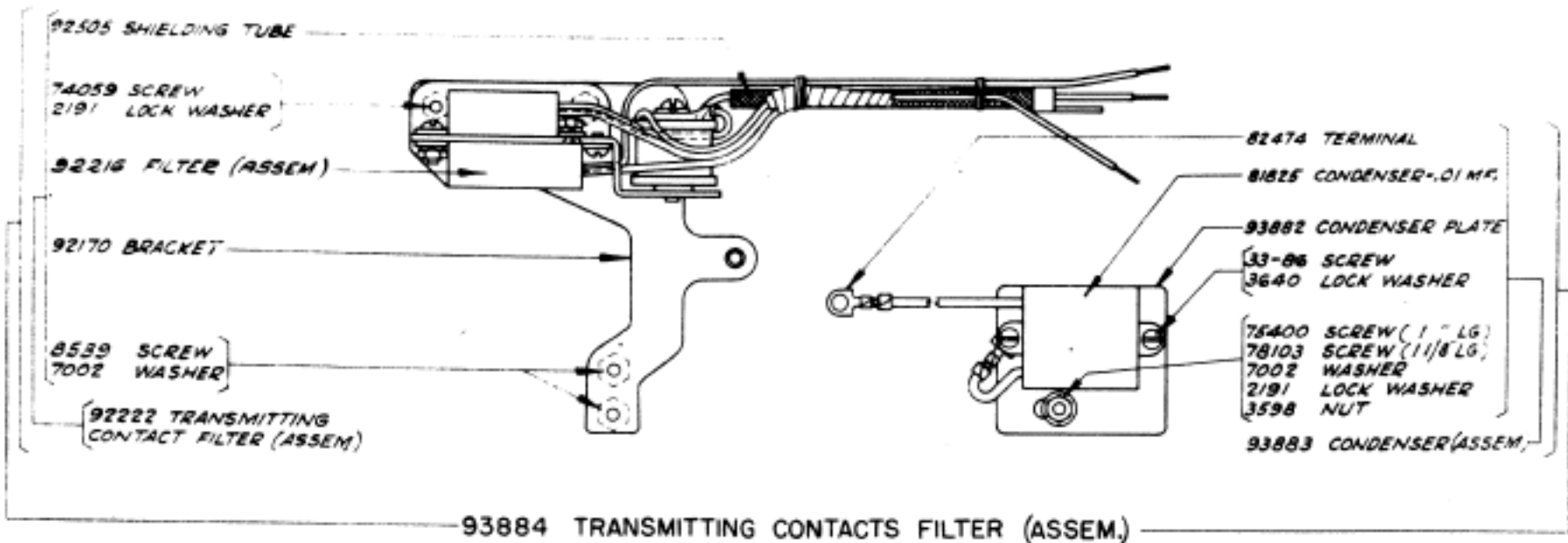


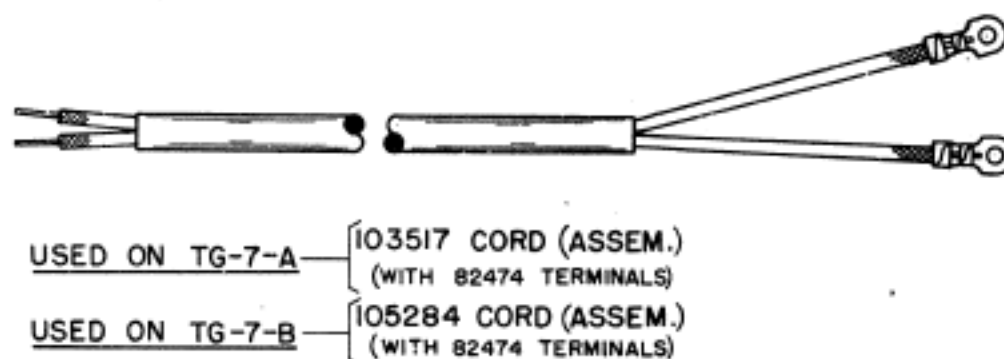
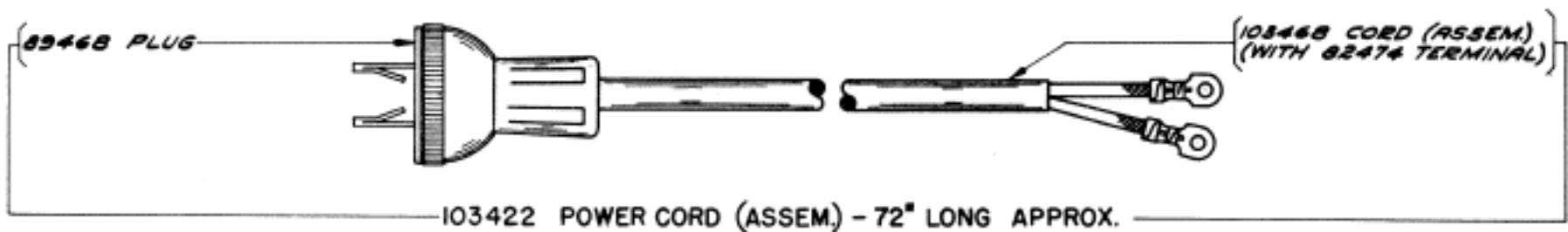
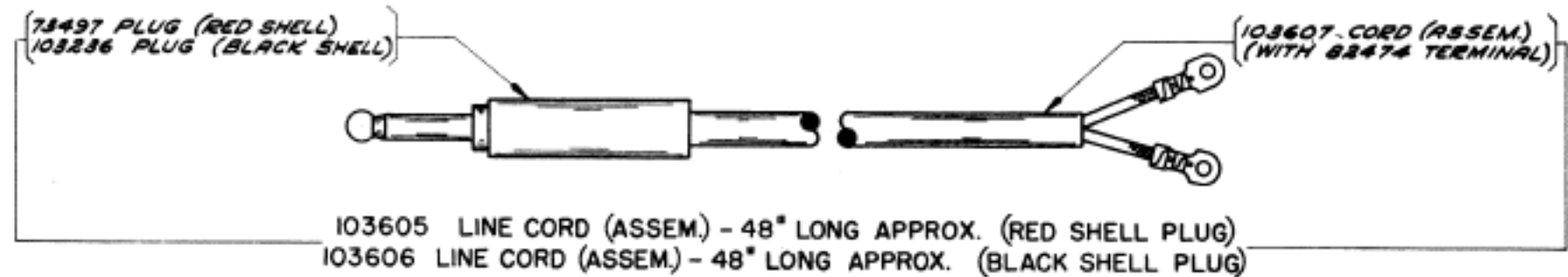
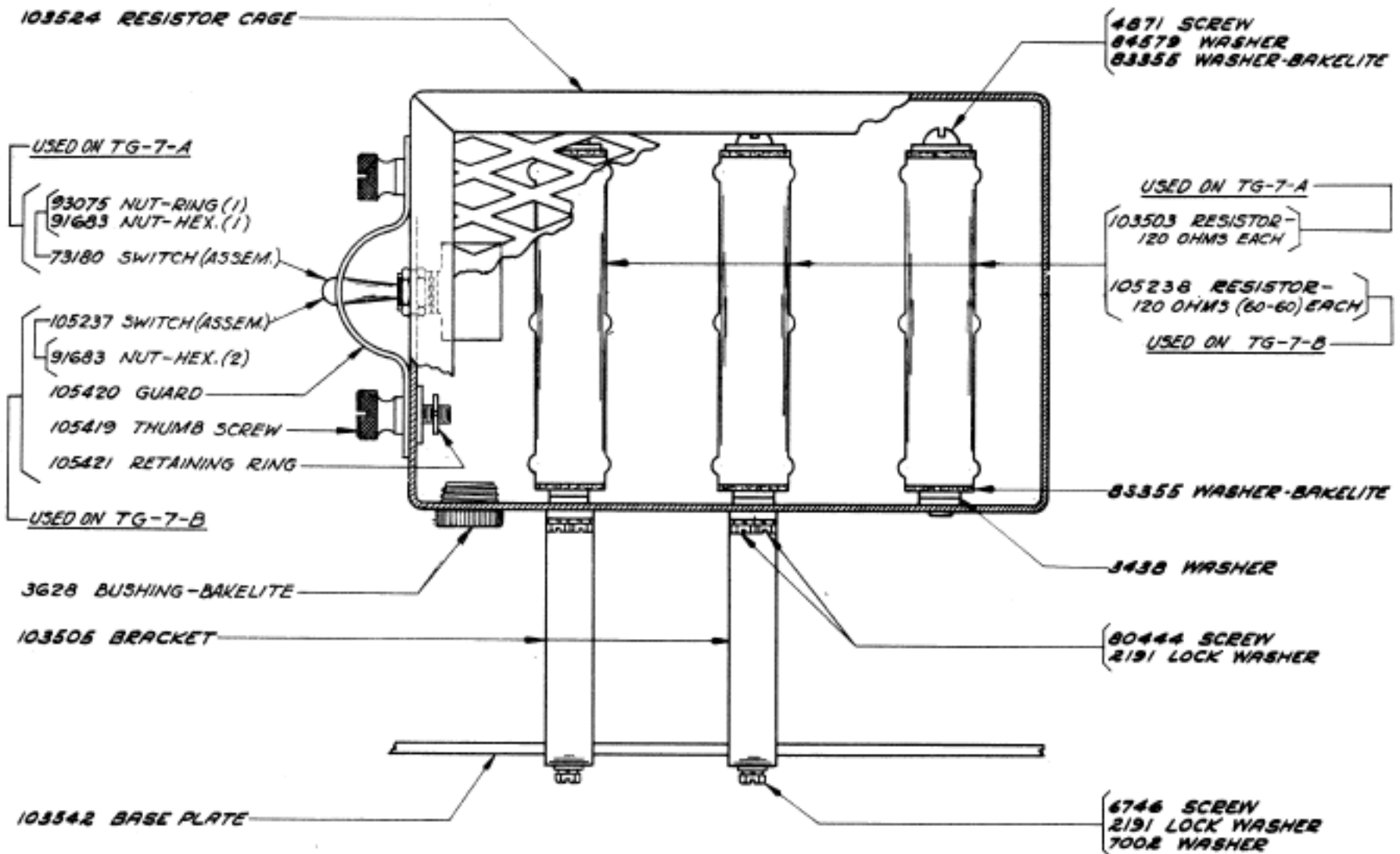


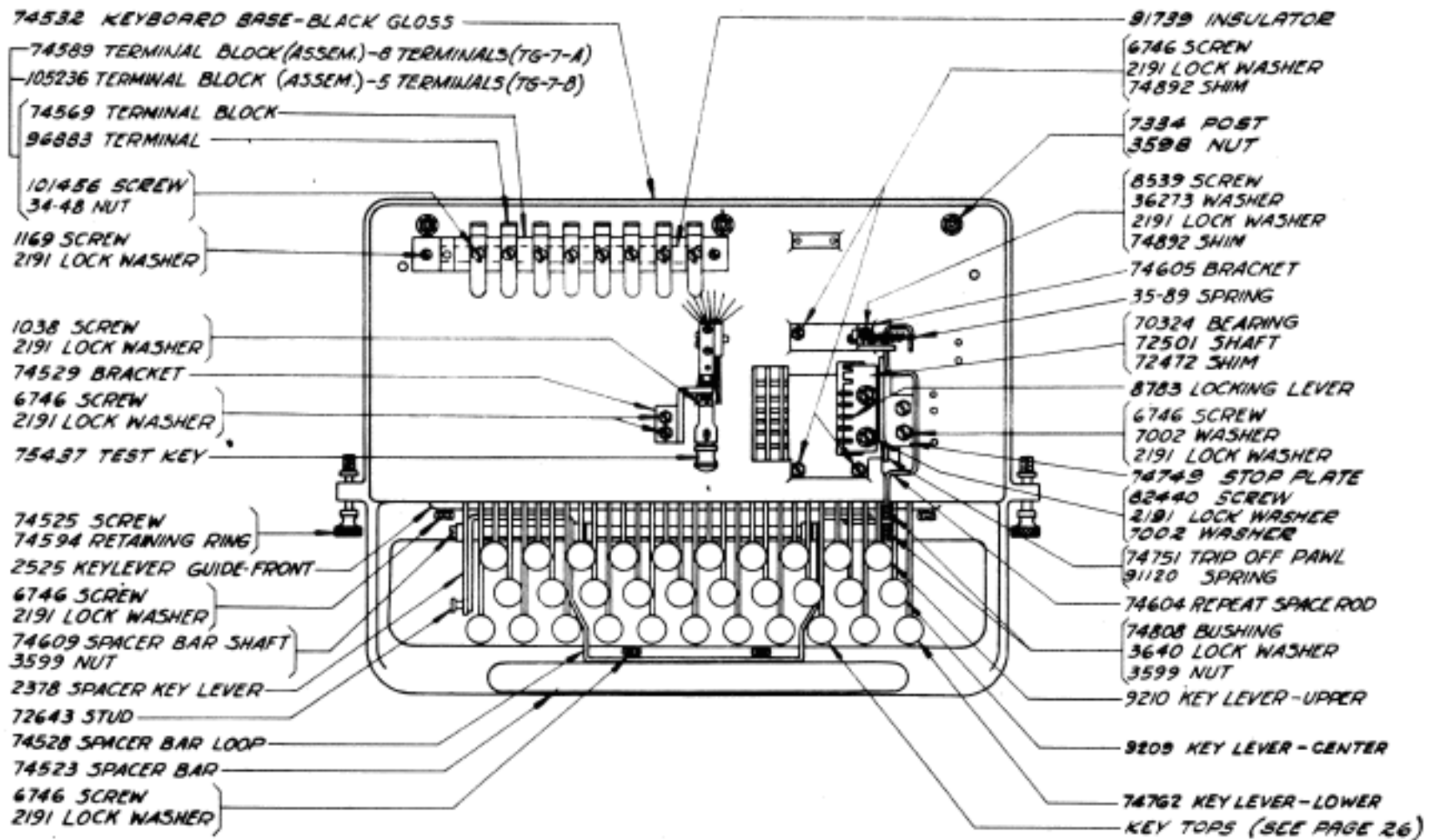




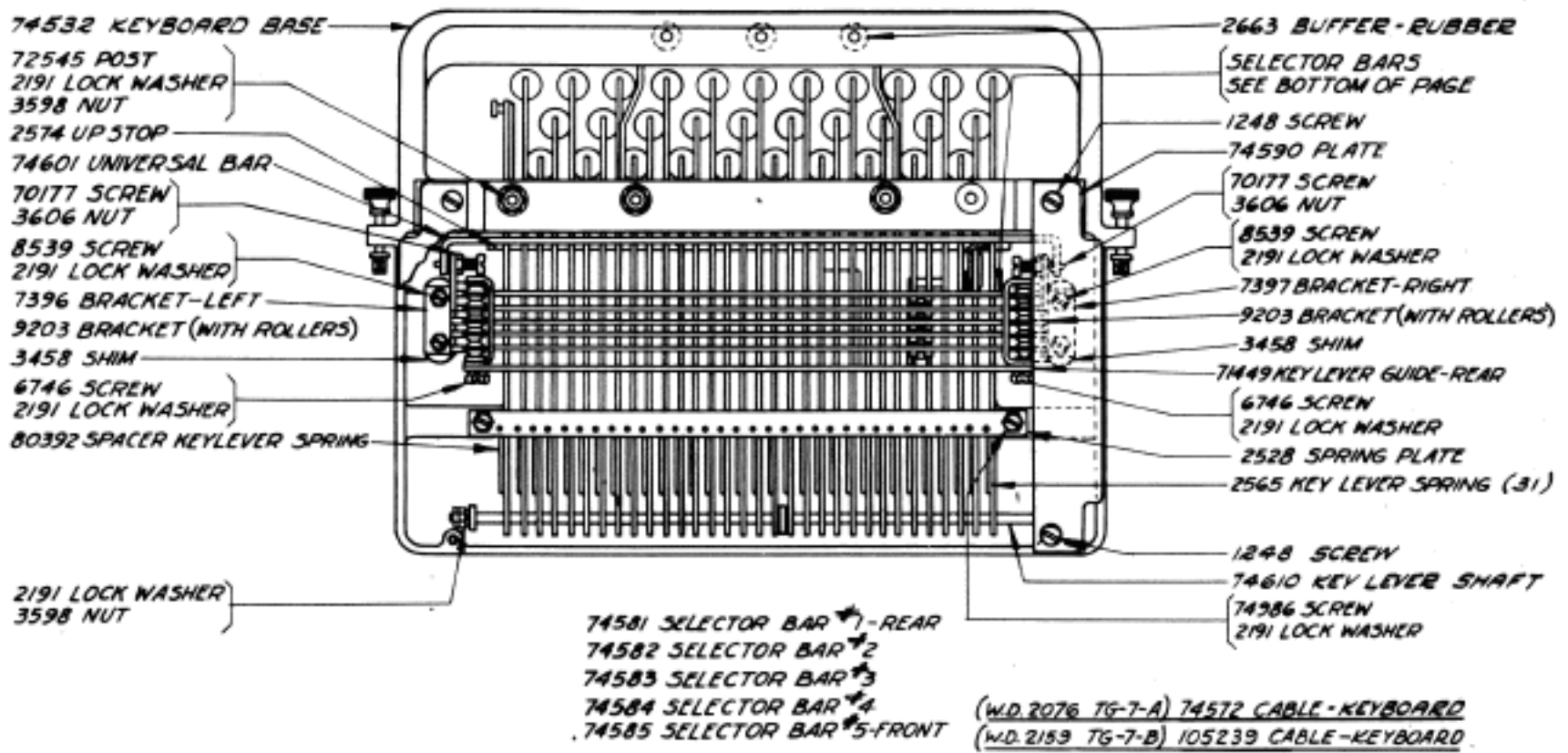




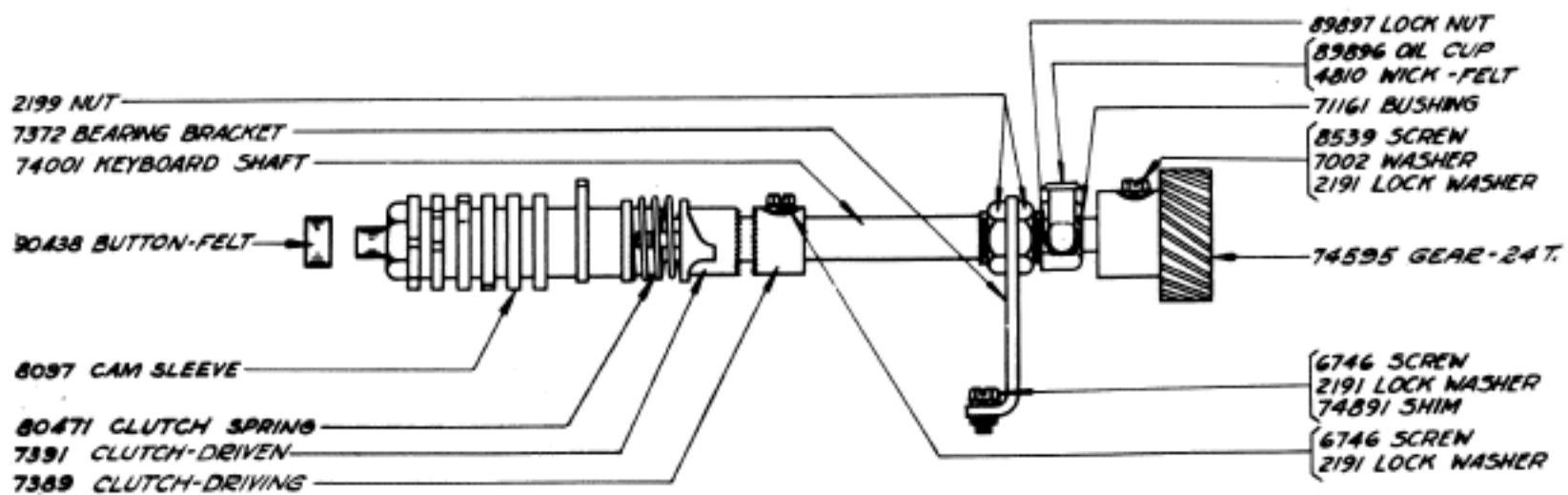
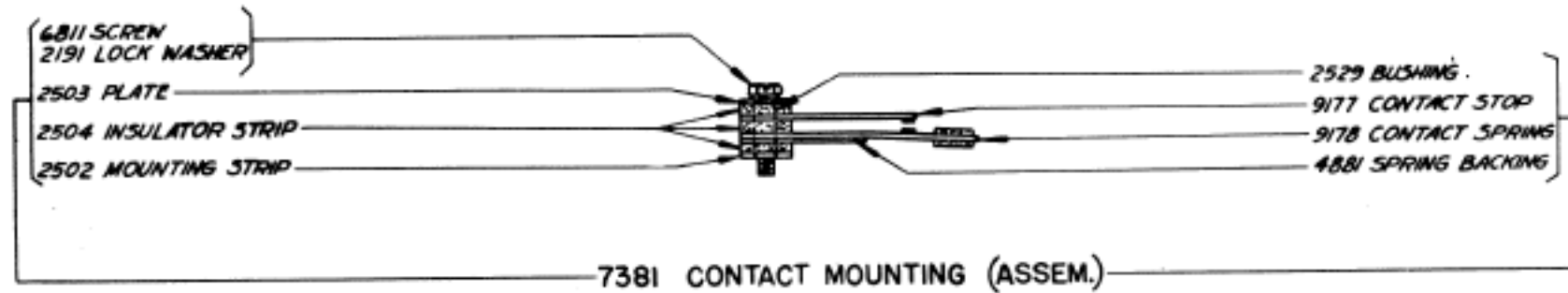
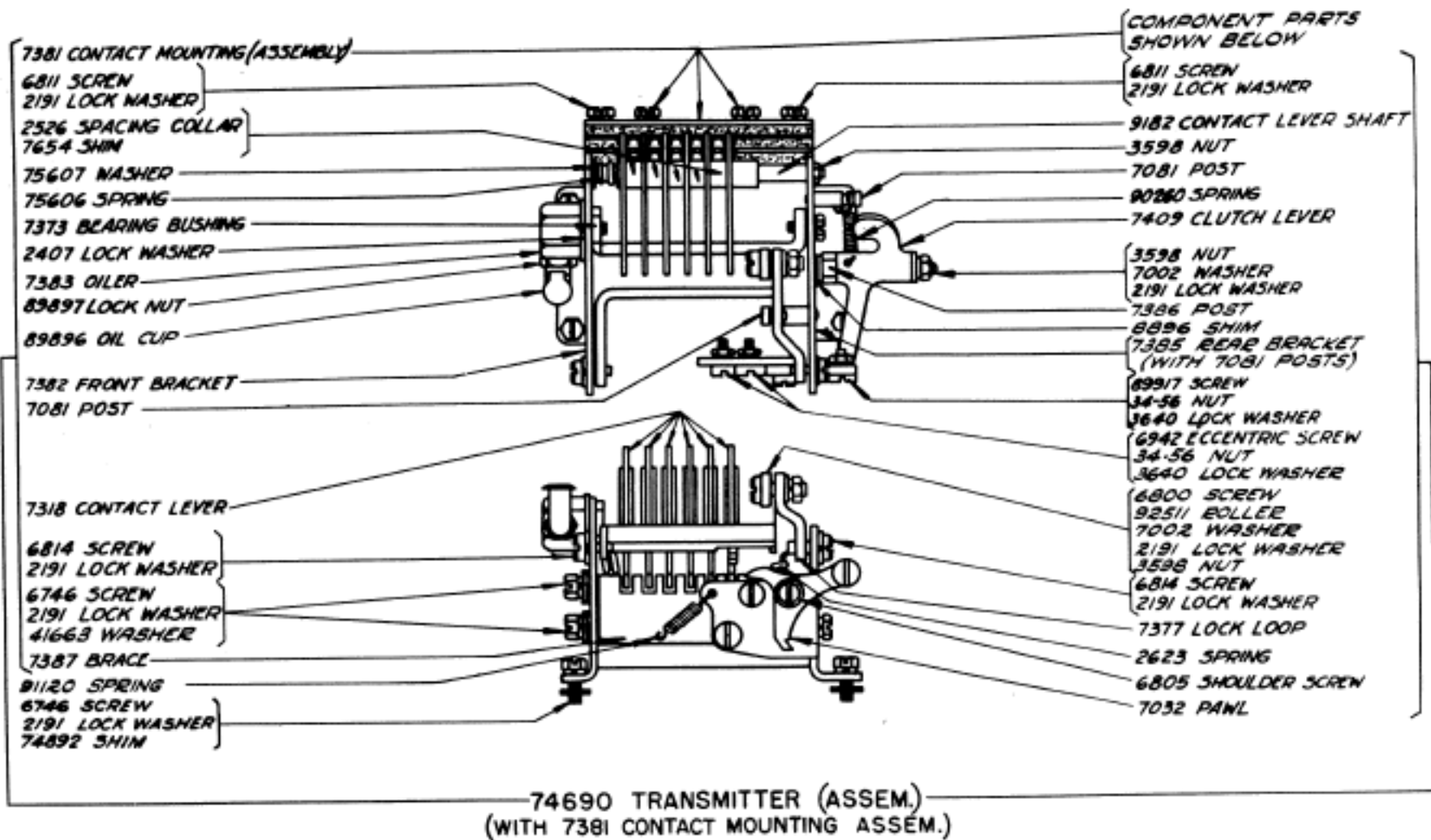


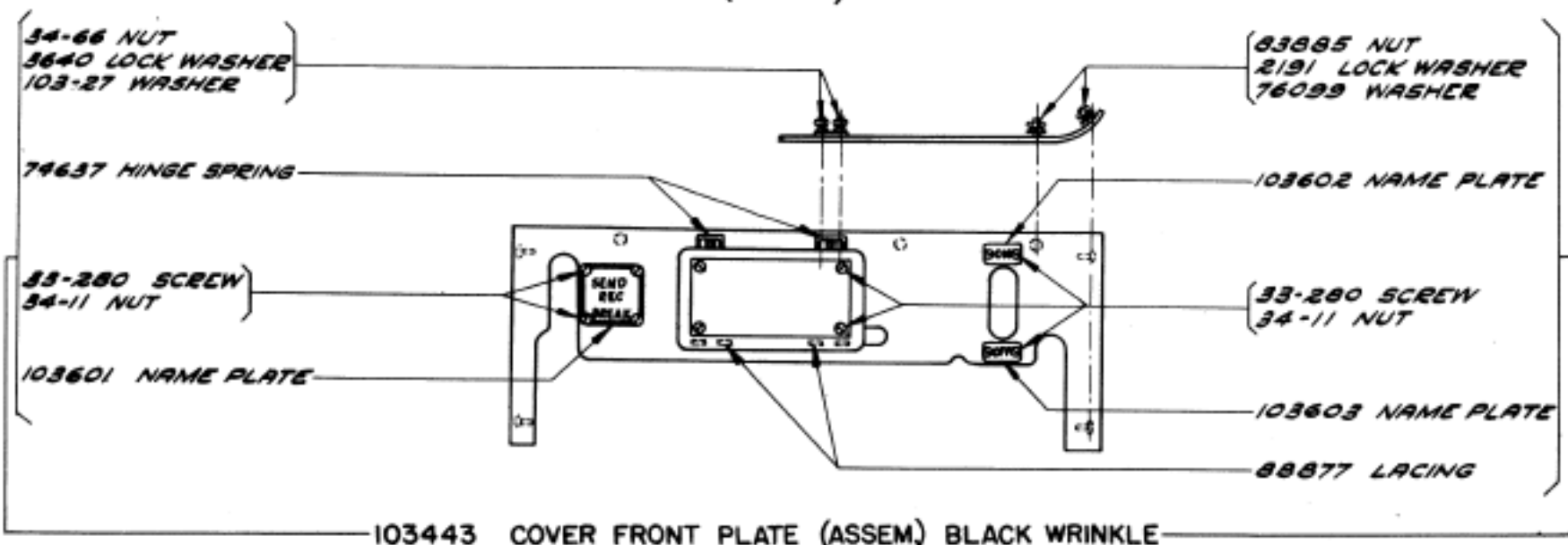
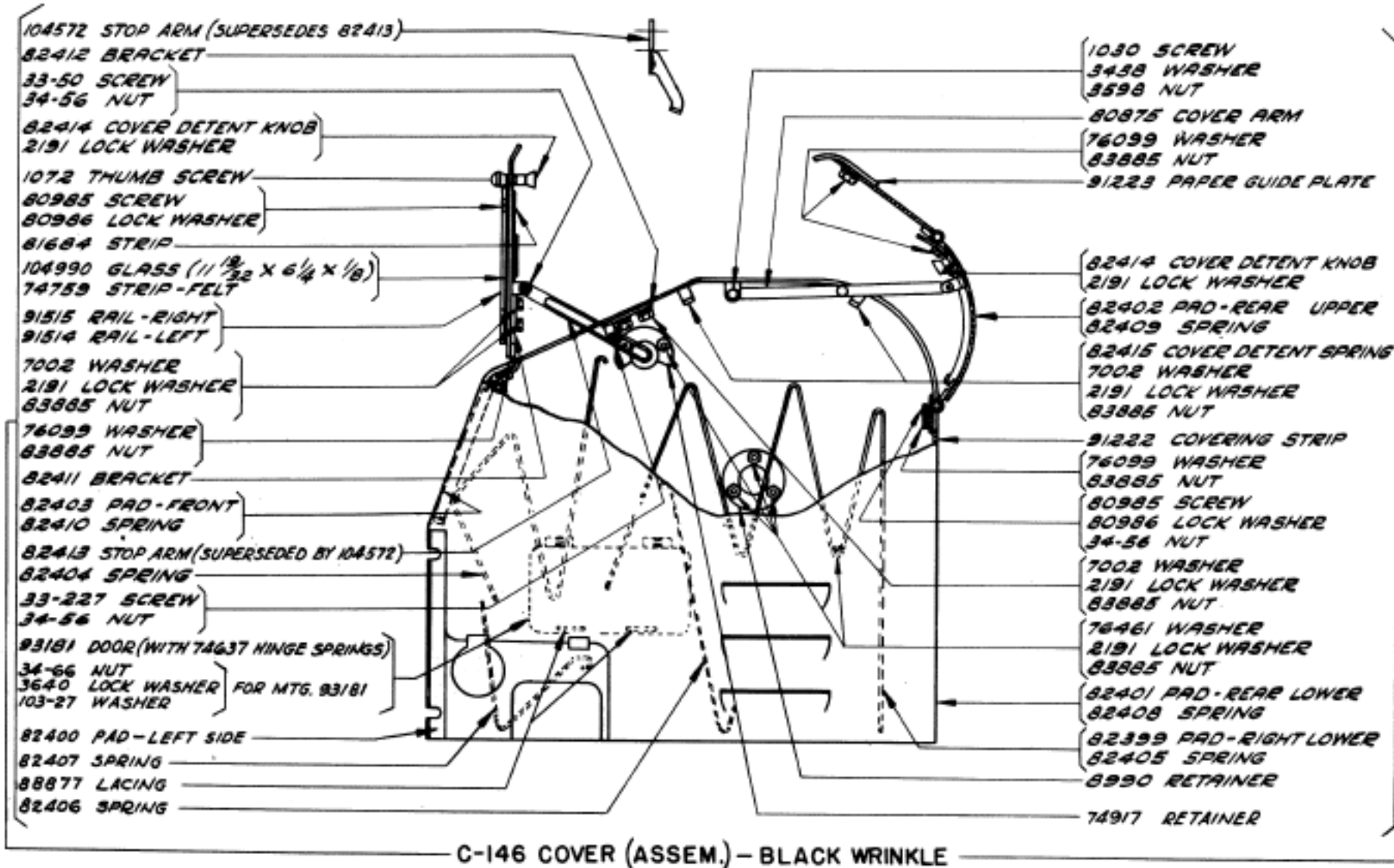
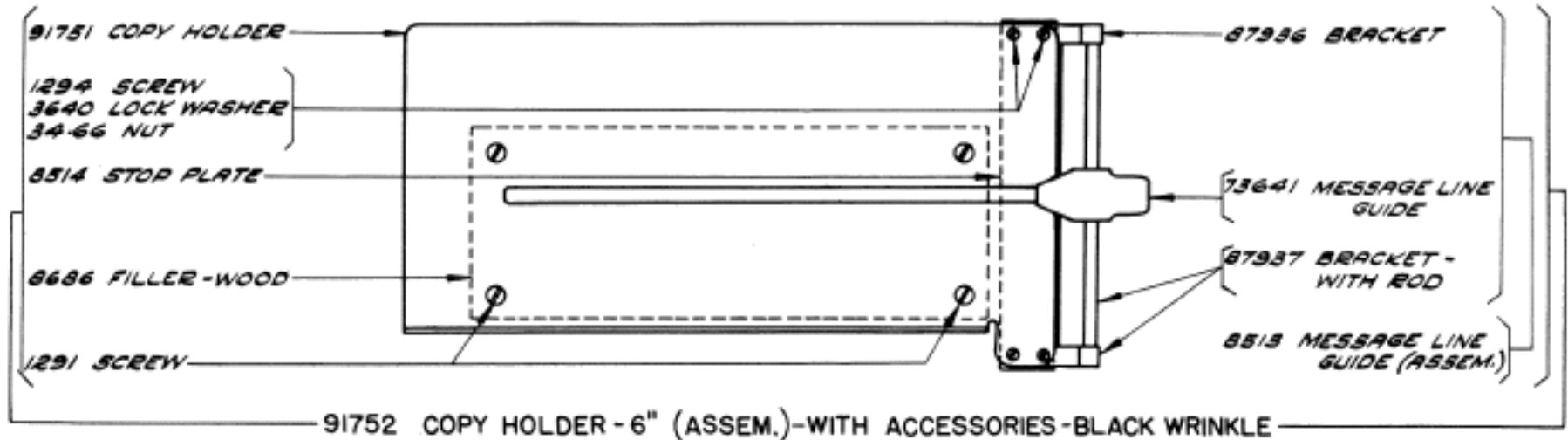


KEYBOARD BASE  
TOP VIEW

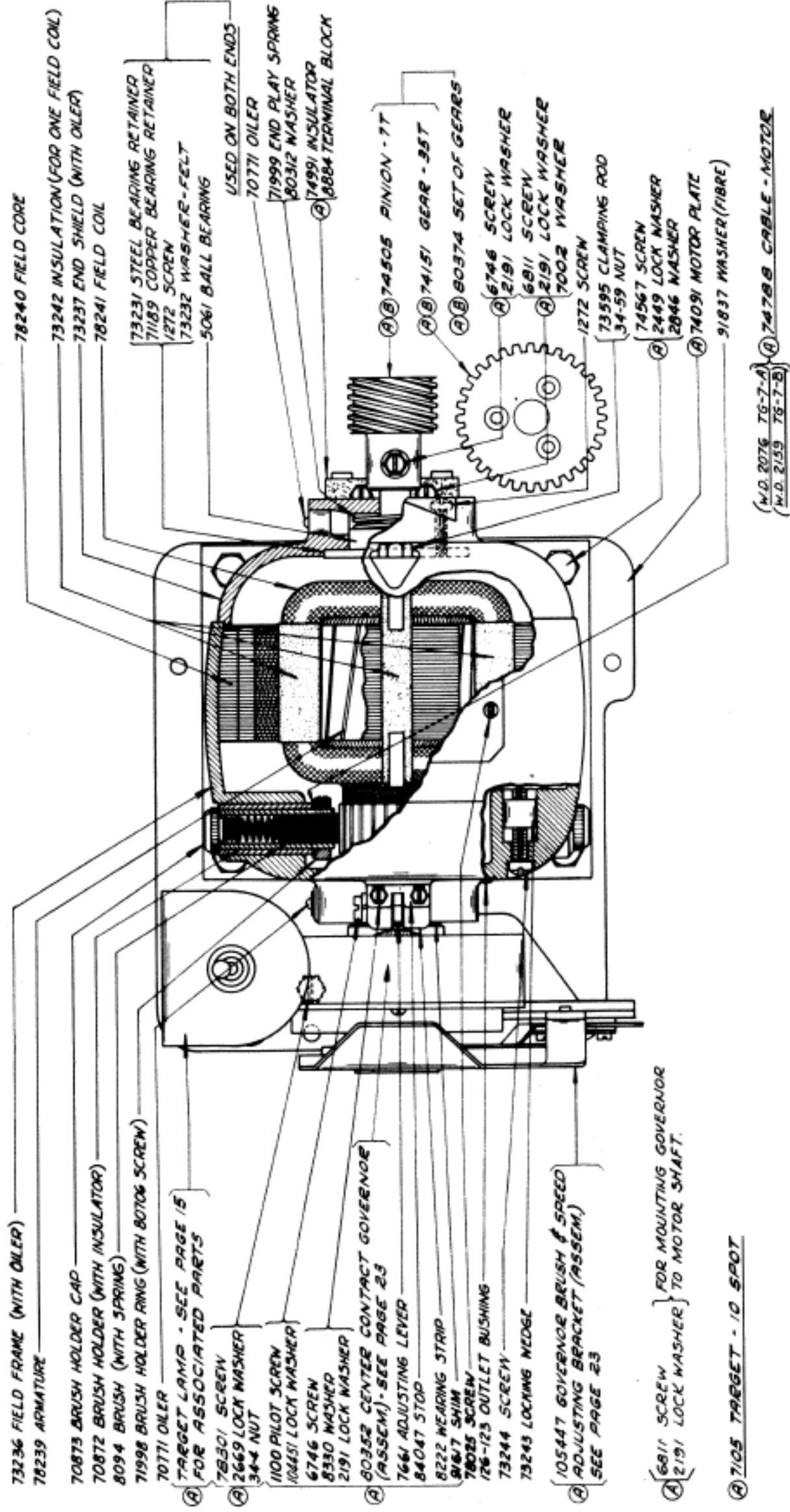


KEYBOARD BASE  
BOTTOM VIEW



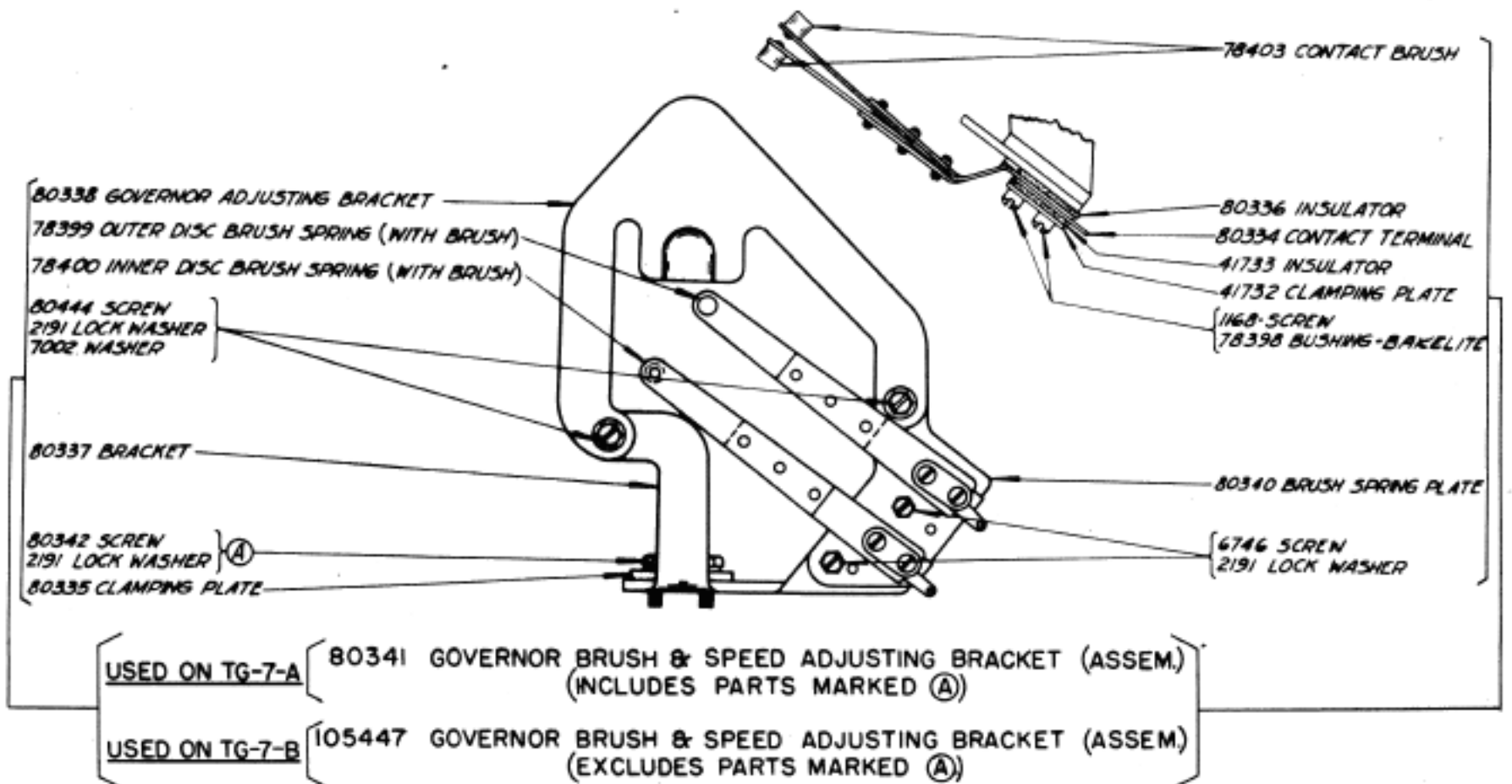
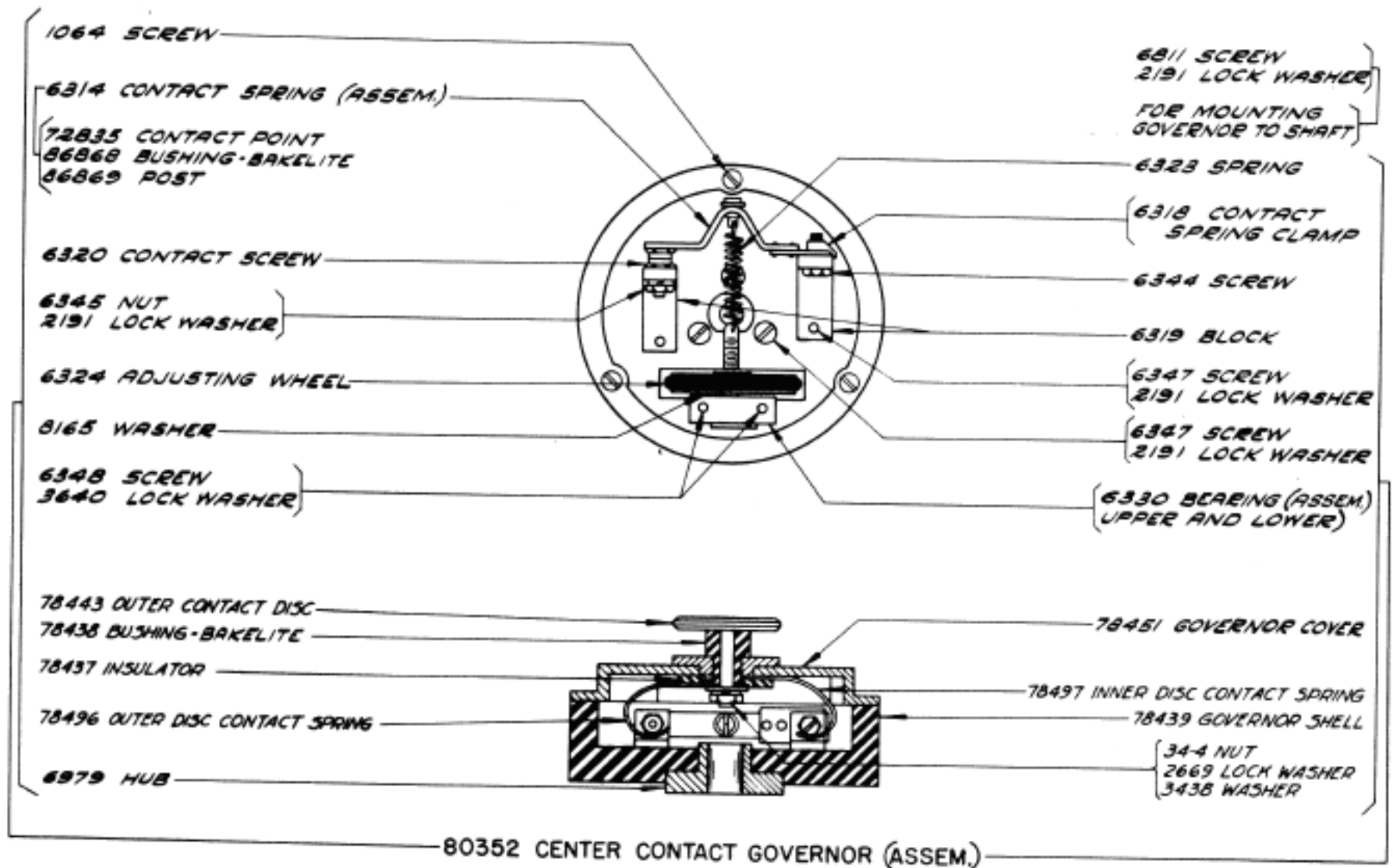


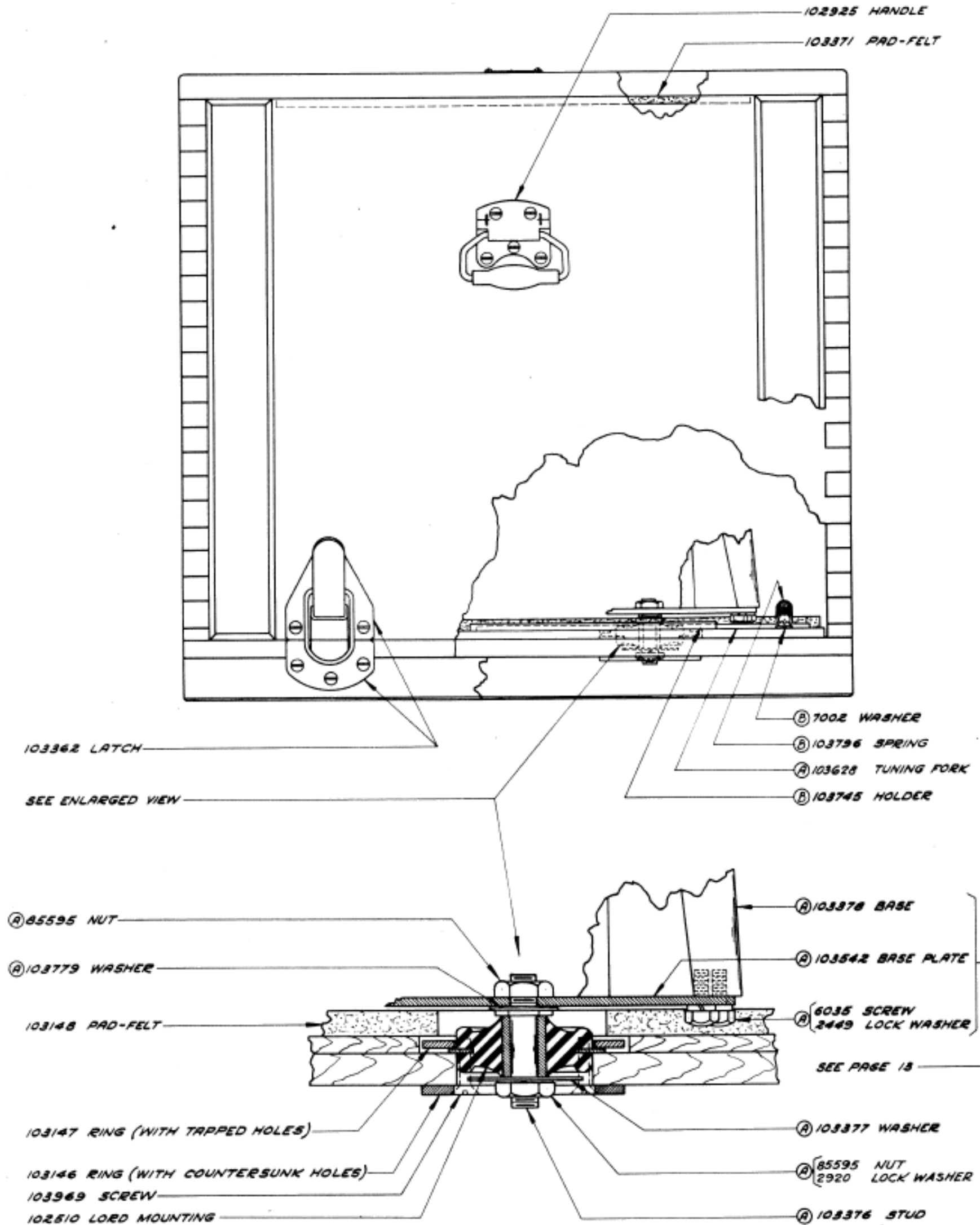




77953 SERIES MOTOR, 1/25 HP., 115 V., A.C. 60 CYCLE (G. E. MODEL 32989 OR 58A65AA29), - EXCLUDES PARTS MARKED (A)

MU-27 MOTOR UNIT (ASSEM.) INCLUDES F-3 FILTER UNIT (ASSEM.) SHOWN ON PAGE 17 AND ALL PARTS LISTED ON THIS PAGE EXCEPT PARTS MARKED (B)

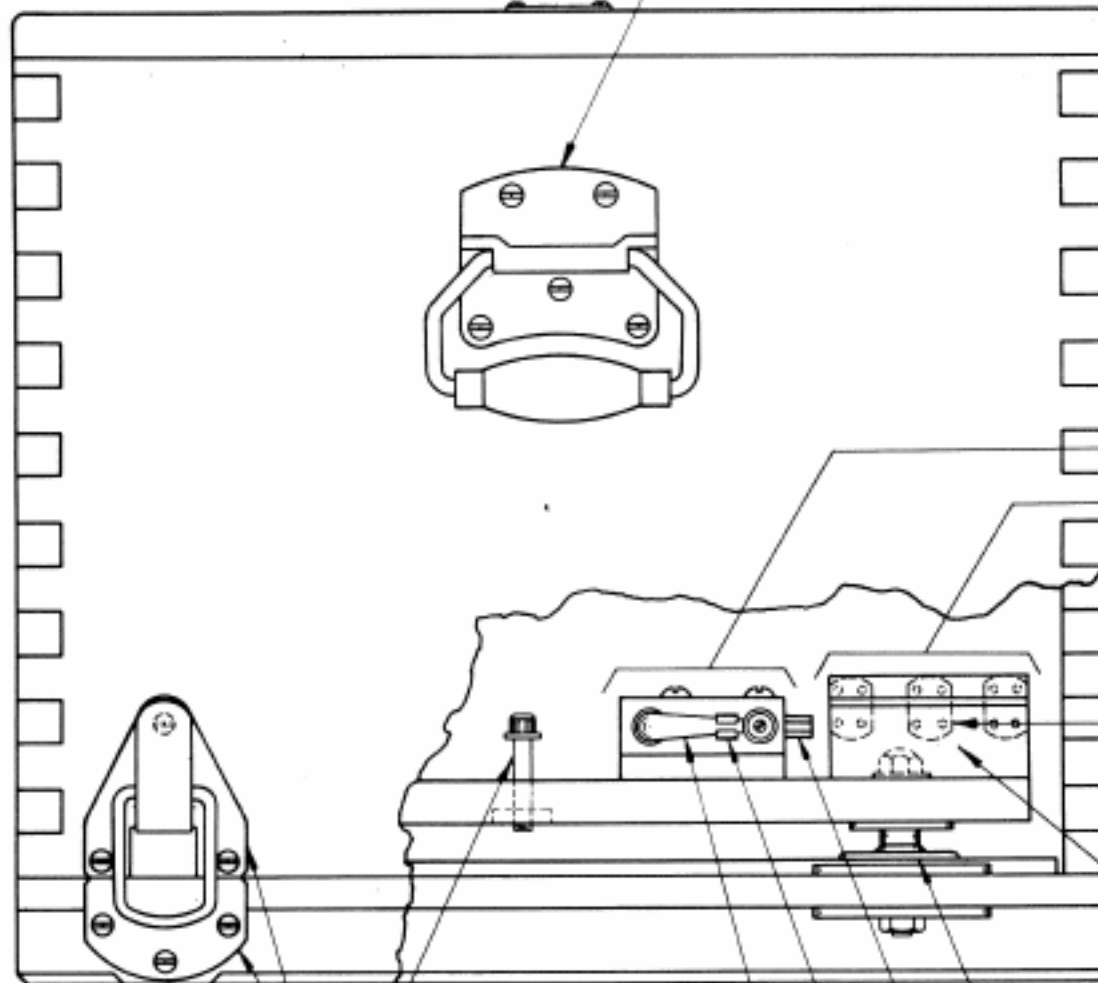




CH-50-A CHEST (ASSEM.)-TELETYPE 103370  
(EXCLUDES PARTS MARKED (A))

CH-50-B CHEST (ASSEM.)-TELETYPE 105229  
(EXCLUDES PARTS MARKED (A) & (B))

102925 HANDLE



USED ON CH-62-A

USED ON CH-62-B

(A) 105399 HINGE

ACCESSORY BOX, FOR

103620 SCREW (WITH WASHER)

(A) 103621 WRENCH

(B) 80466 PLATEN CRANK (ASSEM.)

(B) 74720 THUMB SCREW

103362 LATCH

SEE ENLARGED VIEW

(A) 103620 SCREW (WITH WASHER)

(A) 103621 WRENCH

(B) 103364 CLIP

(A) 80466 PLATEN CRANK (ASSEM.)  
(SEE PAGE 17 FOR DETAILS)

103608 SCREW - 3" LONG  
103609 SCREW - 2 1/4" LONG  
103610 WASHER

103377 WASHER

103611 SPACER

102510 LORD MOUNTING

103147 RING (WITH TAPPED HOLES)

(103146 RING (WITH COUNTERSUNK HOLES)

103612 NUT  
2920 LOCK WASHER

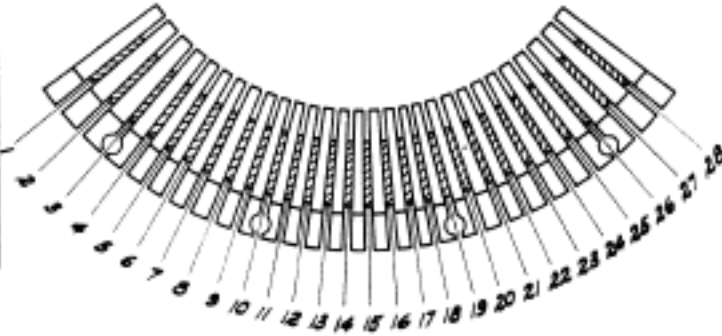
103969 SCREW

103377 WASHER

CH-62-A CHEST (ASSEM.) TELETYPE 103368  
(EXCLUDES PARTS MARKED (A))

CH-62-B CHEST (ASSEM.) - TELETYPE 105367  
(EXCLUDES PARTS MARKED (B))

CODE BARS	
NO. STAMPED ON CODE BAR	CATALOG NO.
1 D	74180
2 D	74181
3 D	74182
4 D	74183
5 D	74184



**- NOTE -**  
CHECK CAREFULLY THE ARRANGEMENT OF PULLBARS IN SEGMENT AND THE ARRANGEMENT OF THE TYPE PALLETS ON THE TYPEBARS. IF THESE DIFFER IN ANY WAY WITH THE ARRANGEMENT SHOWN ON THIS PAGE, THE FOLLOWING PARTS SHOULD BE ORDERED BY NAME. FOR EXAMPLE ORDER:-  
TYPE PALLET (A-)  
TYPE BAR #17 WITH PALLET (A-)  
SPRING CUSHION KEYTOPS (A-)

103652 SET OF KEYTOPS (CONSISTS OF ALL KEYTOPS LISTED IN CHART)  
103651 SET OF TYPE BAR PALLETS (CONSISTS OF ALL TYPE BAR PALLETS LISTED IN CHART)

NUMBER OF POSITION IN SEGMENT	PULL BARS		TYPE BARS (WITHOUT PALLETS)		TYPE BAR PALLETS		TYPE BARS (WITH PALLETS)		PULL BAR SPRING	KEYTOP DESCRIPTION	SPRING CUSHION KEYTOPS CATALOG NUMBER
	DESCRIPTION	CATALOG NUMBER	NUMBER STAMPED ON TYPE BAR	CATALOG NUMBER	DESCRIP-TION	CATALOG NUMBER	NUMBER STAMPED ON TYPE BAR	CATALOG NUMBER			
1											
2											
3	STANDARD	74185	3	74203	Z "	74303	3	74643	7634	Z "	78970
4	"	74185	4	74204	K (	74304	4	74644	7634	K (	78956
5	"	74185	5	74205	B ?	74305	5	74645	7634	B ?	78947
6	"	74185	6	74206	*P Ø	36559	6	102985	7634	*P Ø	59564
7	"	74185	7	74207	Y 6	74307	7	74647	7634	Y 6	78969
8	"	74185	8	74208	M .	74308	8	74648	7634	M .	78958
9	"	74185	9	74209	U 7	74309	9	74649	7634	U 7	78965
10	"	74185	10	74210	L )	74310	10	74650	7634	L )	78957
11	"	74185	11	74211	H Ø	74311	11	74651	7634	H STOP	82607
12	"	74185	12	74212	O 9	74312	12	74652	7634	O 9	78960
13	"	74185	13	74213	I Ø	74313	13	74653	7634	I Ø	78954
14	"	74185	14	74214	N 1	74314	14	74654	7634	N 1	78959
15	"	74185	15	74215	E 3	74315	15	74655	7634	E 3	78950
16	"	74185	16	74216	T 5	74316	16	74656	7634	T 5	78964
17	"	74185	17	74217	A -	74317	17	74657	7634	A -	78946
18	"	74185	18	74218	J 1	74318	18	74658	7634	J 1	78955
19	"	74185	19	74219	R 4	74319	19	74659	7634	R 4	78963
20	"	74185	20	74220	D \$	74320	20	74660	7634	D \$	78949
21	"	74185	21	74221	C ;	74321	21	74661	7634	C ;	78948
22	"	74185	22	74222	F !	74322	22	74662	7634	F !	78951
23	"	74185	23	74223	W 2	74323	23	74663	7634	W 2	78967
24	"	74185	24	74224	G &	74324	24	74664	7634	G &	78952
25	"	74185	25	74225	V ;	74325	25	74665	7634	V ;	78966
26	"	74185	26	74226	Q I	74326	26	74666	7634	Q I	78962
27	"	74185	27	74227	X /	74327	27	74667	7634	X /	78968
28	"	74185	28	74228	S 1	74328	28	74668	7634	S BELL	78980
										FIGS.	78972
										LTRS.	78973
										CAR. RET.	78976
										LINE FEED	78978
										BLANK	78971

\* P Ø SUPERSEDES P O



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33-38	Screw (4-40 Shoulder), 7,14	2322	Lock Washer, 1,5,10,11	6746	Screw (6-40 x 5/16), 1, 2,4,5,6,9,10,11,12,15, 16,18,19,20,22,23
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1051	Screw (4-40 x 1/2), 14		Nut (6-40 Hex.), 11,12,19	7095	Spring Plate, 13,14
1064	Screw (6-32 x 1/4), 23	3603	Washer, 16	7096	Bushing - Bakelite, 13,14
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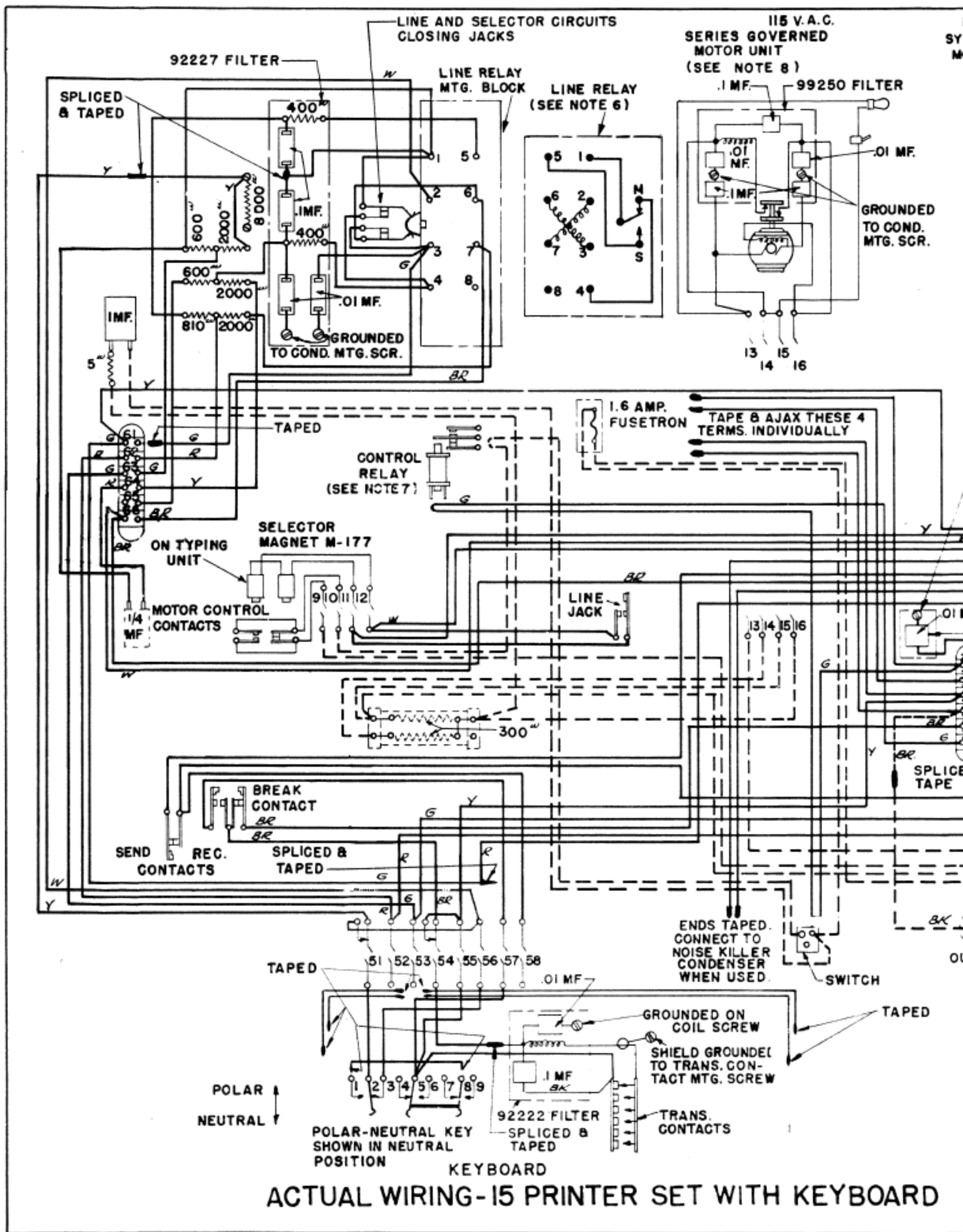
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92511	Roller, 20	103603	Name Plate, 21
92747	Bracket, 15,17	103605	Line Cord (Assem.) - 48" Long Approx. (Red Shell Plug), 18
92748	Screw (6-40 x 1-7/16), 17	103606	Line Cord (Assem.) - 48" Long Approx. (Black Shell Plug), 18
92749	Wire, 17	103607	Cord (Assem.) (with 82474 Terminal), 18
92750	Wire, 17	103608	Screw (3/8-16 x 3), 25
92814	Cable - Base, 13	103609	Screw (3/8-16 x 2-3/4), 25
93075	Nut (15/32-32 Ring), 15,18	103610	Washer, 25
93181	Range Finder Door, 21	103611	Spacer, 25
93754	Bail, 6	103612	Nut (3/8-16 Hex.), 25
93755	Roller, 6	103620	Screw (1/4-20 Special), 25
93756	Housing, 6	103621	Wrench, 25
93757	Bearing, 6	103628	Tuning Fork, 24
93758	Washer - Felt, 6	103651	Set of Type Bar Pallets, 26
93839	Function Lever Bail (Assem.), 6	103652	Set of Keytops, 26
93882	Condenser Plate, 17	103745	Holder, 24
93883	Condenser (Assem.), 17	103746	Resistor - 5 Ohms, 16
93884	Transmitting Contacts Filter (Assem.), 17	103779	Washer, 13,24
94009	Toggle Switch, 15	103796	Spring, 24
94015	Clutch Lever Bracket, 9	103969	Screw (10-32 x 7/8 Flat Head), 24,25
94094	Oil Retainer - Bakelite, 5	104451	Lock Washer, 22
94693	Wick - Felt (5/16" Long), 4	104572	Stop Arm, 21
94694	Button, Felt, 1	104990	Glass (11-19/32 x 6-1/4 x 1/8), 21
95935	Bushing - Bakelite, 17	104995	Pin, 7
95936	Retard Coil, 17	105045	Oil Wick - Felt, 3
95937	Condenser - .01 M.F., 17	105221	Contact Spring, 14
95938	Condenser - .1 M.F., 17	105222	Contact Spring, 14
96258-BK	Wire, 15	105223	Contact Spring, 14
96559	Type Bar Pallet (P $\phi$ ), 26	105229	Chest (Assem.) (CH-50-B), 24
96883	Terminal, 19	105236	Terminal Block (Assem.) - 5 Terminals, 19
97306	Lock Washer, 3	105237	Switch (Assem.), 18
99354	Container, 17	105238	Resistor - 120 Ohms (60-60) each, 18
99355	Bracket, 17	105239	Cable - Keyboard, 19
99356	Bracket, 17	105241	Power Cable (In Base), 13
99357	Clip, 17	105242	Line Cable (In Base), 13
99564	Spring Cushion Keytop (P $\phi$ ), 26	105264	Slip Connection Mounting Plate (Assem.), 14
99744	Resistor - 8000 Ohms, 15	105284	Cord (Assem.) - with 82474 Terminals, 18
99745	Line and Selector Jack (Assem.), 15	105367	Chest (Assem.) (CH-62-B), 25
99802	Plate, 15	105399	Hinge, 25
99803	Insulator (.094), 15	105419	Screw (10-32 Thumb), 18
99804	Insulator (.062), 15	105420	Guard, 18
99805	Plunger - Bakelite, 15	105421	Retaining Ring, 18
99806	Bracket, 15	105447	Governor Brush and Speed Adjusting Bracket (Assem.), 22,23
99807	Contact Spring, 15		
99809	Contact Spring, 15		
99816	Relay Base, 15		
99818	Cord Guard, 13		
101456	Screw (6-32 x 9/32), 19		
102510	Lord Mounting, 13,24,25		
102907	Spool Retainer, 12		
102925	Handle, 24,25		
102985	Type Bar (with Pallet) #6, (P $\phi$ ), 26		
103146	Ring, 24,25		
103147	Ring, 24,25		
103148	Pad - Felt, 13,24		
103236	Plug (Black Shell), 18		
103288	Fusetron - 1.4 Amp., 13		
103362	Latch, 24,25		
103364	Clip, 25		
103368	Chest (Assem.) (CH-62-A), 25		
103370	Chest (Assem.) (CH-50-A), 24		
103371	Pad - Felt, 24		
103376	Stud, 13,24		



ACTUAL WIRING-15 PRINTER SET WITH KEYBOARD

V.A.C.  
RNED

115 V. A. C.  
SYNCHRONOUS  
MOTOR UNIT

99250 FILTER

.01 MF.

GROUND TO  
COND.  
MTG. SCR.

STARTING WINDING

CENTRIFUGAL SWITCH

RUNNING WINDING

13 14 15 16

MAX THESE 4  
INDIVIDUALLY

GROUND TO  
COND. MTG. SCR.

103605 CORD WITH  
PLUG - RED SHELL

RECEIVING  
LINE

93883 CONDENSER ASSEM.  
USED WITH 92222 FILTER

103606 CORD WITH  
PLUG - BLACK SHELL

TRANSMITTING  
LINE

SPLICE &  
TAPE

120 Ω  
EACH

115V.D.C.  
115V.A.C.-25 ~  
115V.A.C.-60 ~

103517 CORD

115V.D.C.  
115V.A.C.-25 ~  
115V.A.C.-60 ~

103422 CORD - WITH PLUG

OUTLET

SWITCH

TAPED

KEYBOARD

8000 Ω

51 52 53 54 55 56 57 58

POLAR  
NEUTRAL

POLAR-NEUTRAL  
KEY SHOWN IN  
NEUTRAL POSITION

92222 FILTER  
.01 MF.  
.1 MF.  
(1.1 μ)

.01 MF.  
.1 MF.

UNIVER  
SERIES GOV  
MOTOR

A.C.  
SYN. MOTOR  
UNIT

SCHEMATIC WIRING



### NOTES

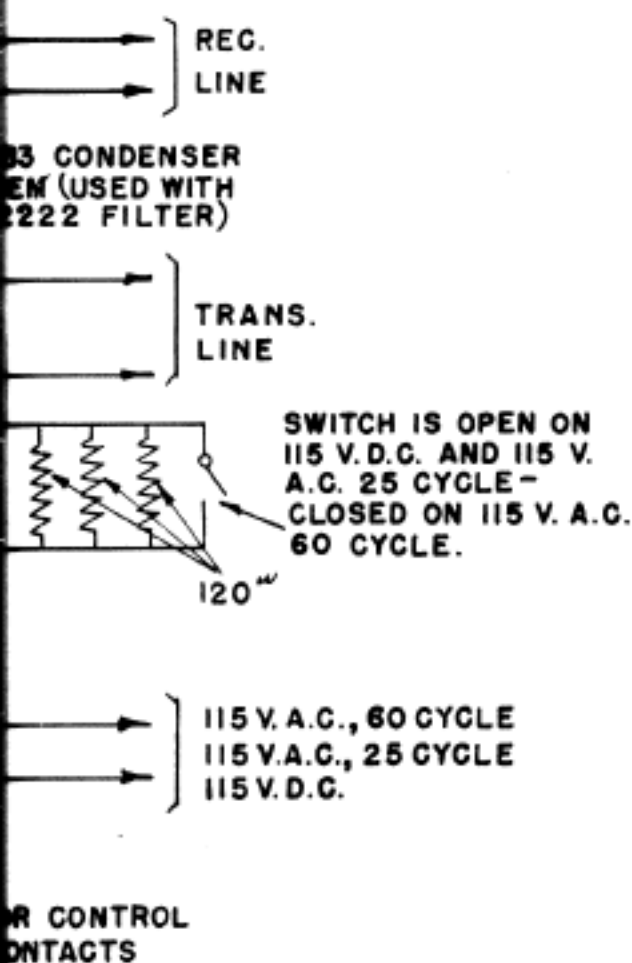
- 1 - EQUIPMENT SHOWN DOTTED IS UNDERNEATH UNITS.
- 2 - THIN LINES INDICATE WIRES NOT IN CABLE.
- 3 - ALL WIRES ARE NO. 18 DELTABESTON COTTON COVERED FIXTURE WIRE, EXCEPT MOTOR LEADS.
- 4 - ASSOCIATED CABLES:
 

74573 BASE (POWER)	74788 A.C. MOTOR UNIT
74574 BASE (LINE)	74572 KEYBOARD & PERF. TRANS.
74575 LINE RELAY UNIT	74625 SELECTOR MAGNET
92814 BASE	74789 MOTOR CONTROL CONTACTS
- 5 - COLOR CODE:
 

W - WHITE	Y - YELLOW	S - SLATE	BK - BLACK
R - RED	O - ORANGE	BR - BROWN	
G - GREEN	P - PURPLE	LB - LIGHT BLUE	
- 6 - PRINTER BASE IS WIRED FOR OPERATION WITHOUT USE OF LINE RELAY IN PRINTER RELAY MOUNTING. FOR WIRING MODIFICATIONS NECESSARY TO PERMIT USE OF LINE RELAY, SEE SPECIFICATION S-5346.
- 7 - MOTOR CONTROL RELAY IS NOT NORMALLY WIRED FOR OPERATION. FOR WIRING MODIFICATIONS NECESSARY TO PERMIT THE USE OF THIS RELAY SEE SPECIFICATION S-5346.
- 8 SET INCLUDES RESISTORS AND SWITCH TO PERMIT OPERATION OF 115 VOLT 60 CYCLE A.C. SERIES MOTOR, ON 115 VOLTS 25 CYCLE A.C. AND 115 VOLTS D.C., IN ADDITION TO 115 VOLT 60 CYCLE A.C. OPERATION.

### REVISIONS

- (B) NOTE ADDED REGARDING SWITCH. 11-26-41 J.J.F.
- (C) NOTE 8 ADDED 8-13-42 P.M.B.
- (D) ADDED LEAD FROM TERM. #3 ON LINE RELAY MFG. IN SCHEMATIC ON ACTUAL, SHOWED 1/4 M.F. CONDENSER & CONVENIENCE OUTLET DOTTED. 10-21-42 G.J.K.
- (E) TITLE CHANGED. 1-4-43 J.J.F.
- (F) 1.4 AMP FUSE TRON CHANGED TO 1.6 AMP. 5-13-43 J.J.F.
- (G) CHOKE COIL LEAD CONNECTED TO OUTER BRUSH SPRING 7-24-43 G.G.



TELETYPE CORPORATION

~~WD-2076-A~~  
9-3-41

~~WD-2076-B~~

WD-2076-G

WIRING DIAGRAM  
U.S. ARMY SIGNAL CORPS  
PRINTER TG 7-A  
(MODEL 15 PRINTER  
WITH KEYBOARD,  
INCLUDING RADIO  
FILTERS)

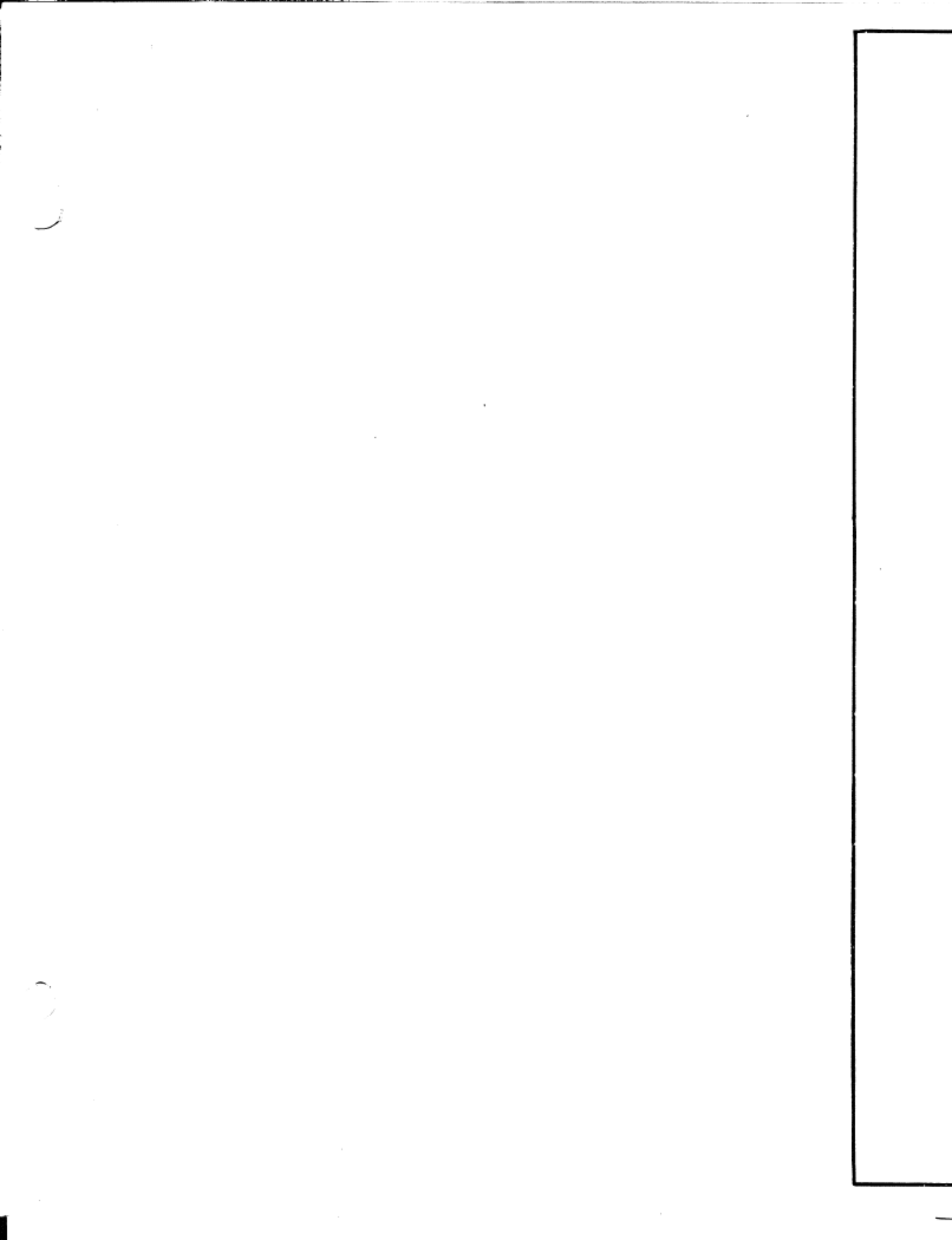
BP-108

BB-42

BK-12

DRAWN H.J.K.  
TRACED  
CHECKED W.H.  
ENG'R'D.  
APPROVED *[Signature]*

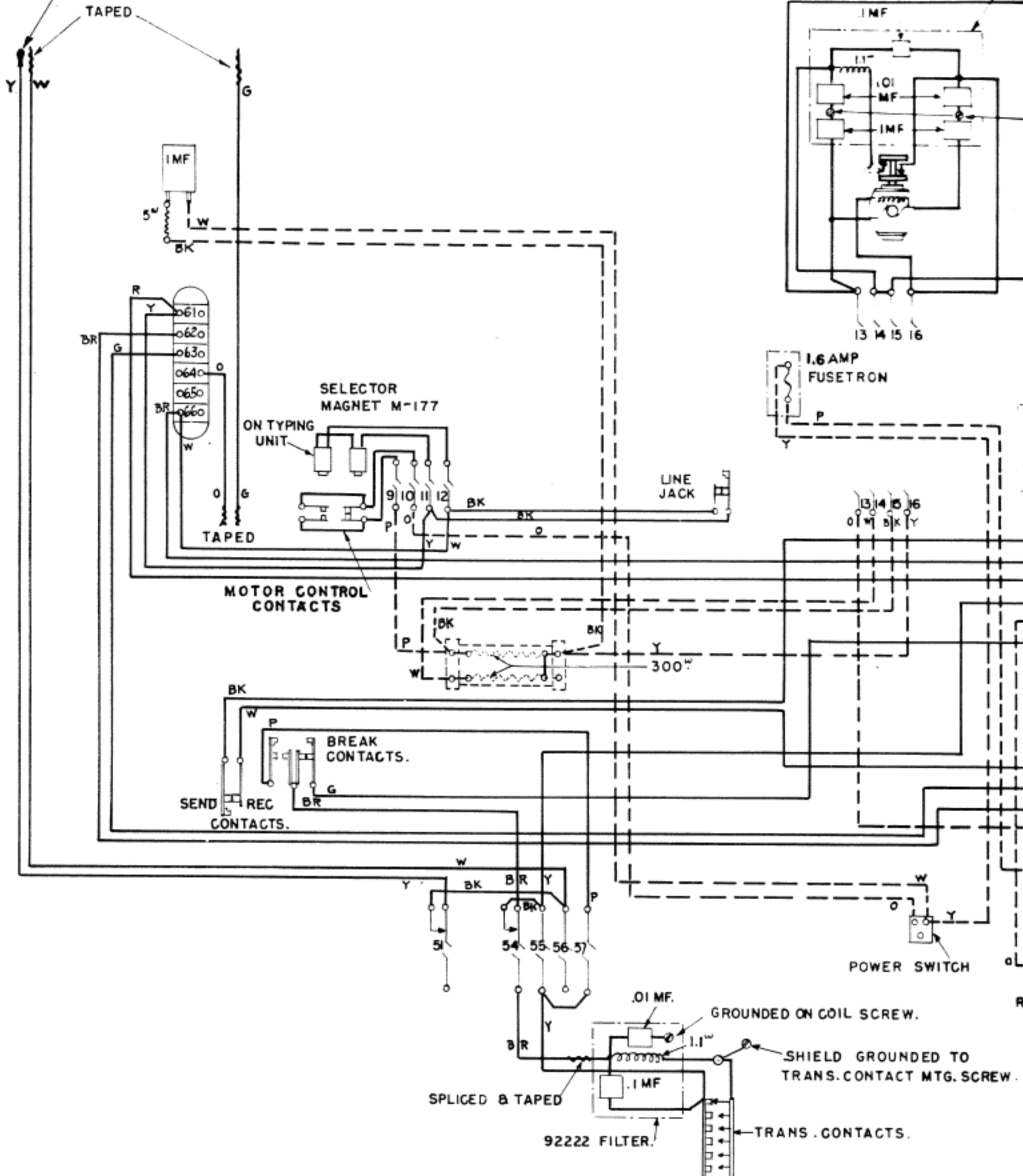




THIS LEAD TO BE EQUIPPED WITH  
82474 TERMINAL & TAPED

115 V.A.C.  
SERIES GOVERNED  
MOTOR UNIT  
(SEE NOTE 5)

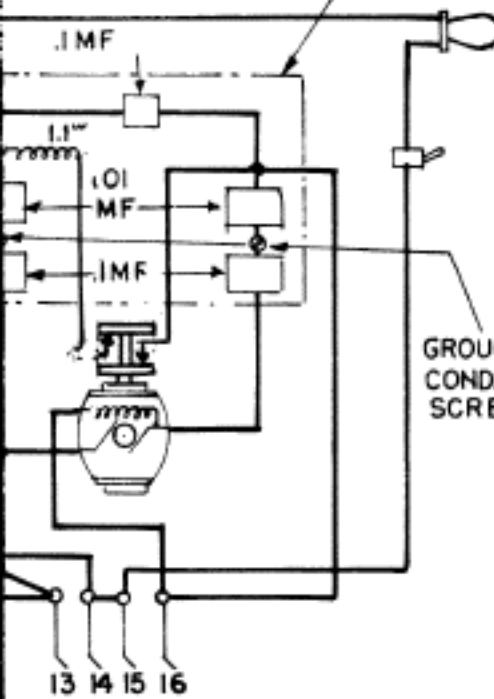
99



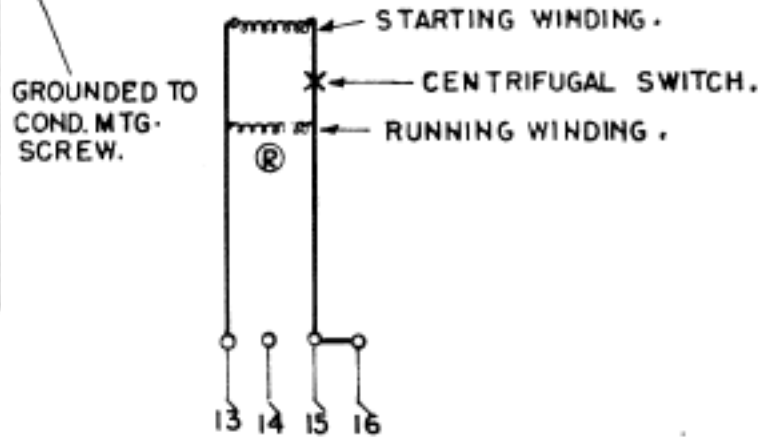
ACTUAL WIRING - 15 PRINTER SET WITH KEYBOARD

115 V.A.C.  
 LINES GOVERNED  
 MOTOR UNIT  
 (SEE NOTE 5)

99250 FILTER



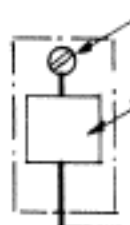
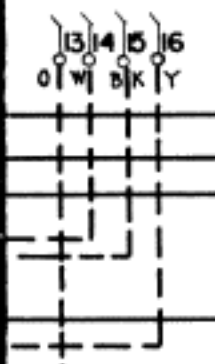
115 V.A.C SYNCHRONOUS  
 MOTOR UNIT.



AMP  
 METRON

GROUND TO COND. MTG. SCREW.

.01 MF. - 93883 CONDENSER ASSEM.  
 USED WITH 92222 FILTER.



103605 CORD WITH PLUG  
 RED SHELL.

RECEIVING LINE

TRANSMITTING LINE

103606 CORD WITH PLUG.  
 BLACK SHELL

105284 CORD

SWITCH POSITIONS

- (A) 115 V.A.C. 40~
- (B) 115 V.A.C. 25~
- (C) 115 V.A.C. 50/60~

- 115 V.A.C. - 50/60~
- 115 V.A.C. - 40~
- 115 V.A.C. - 25~
- 115 V.D.C.

103422 CORD WITH PLUG.

POWER SWITCH

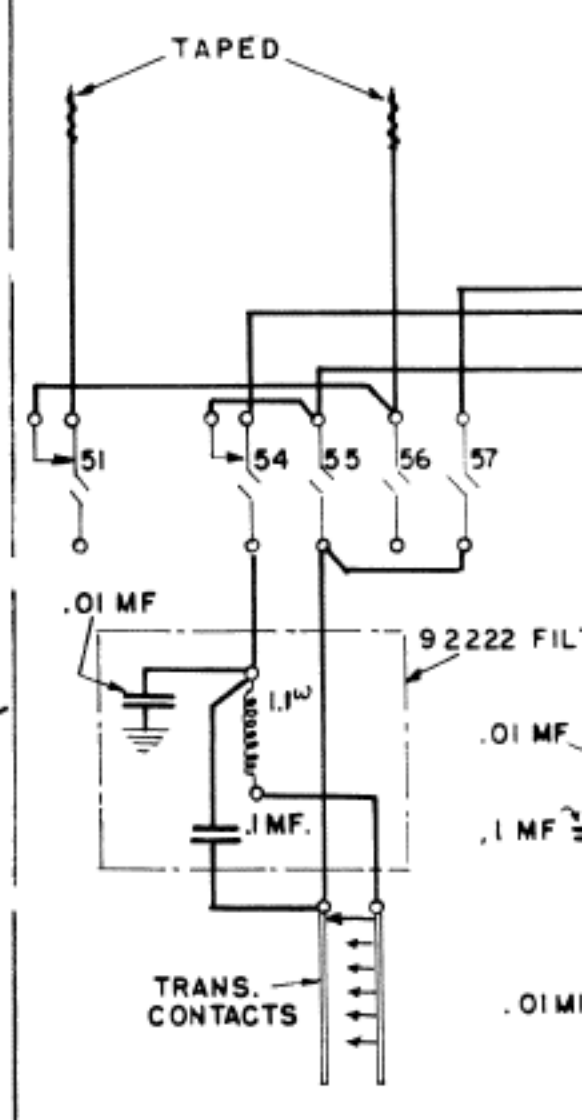
RECEPTACLE

OIL SCREW.

GROUND TO COND. MTG. SCREW.

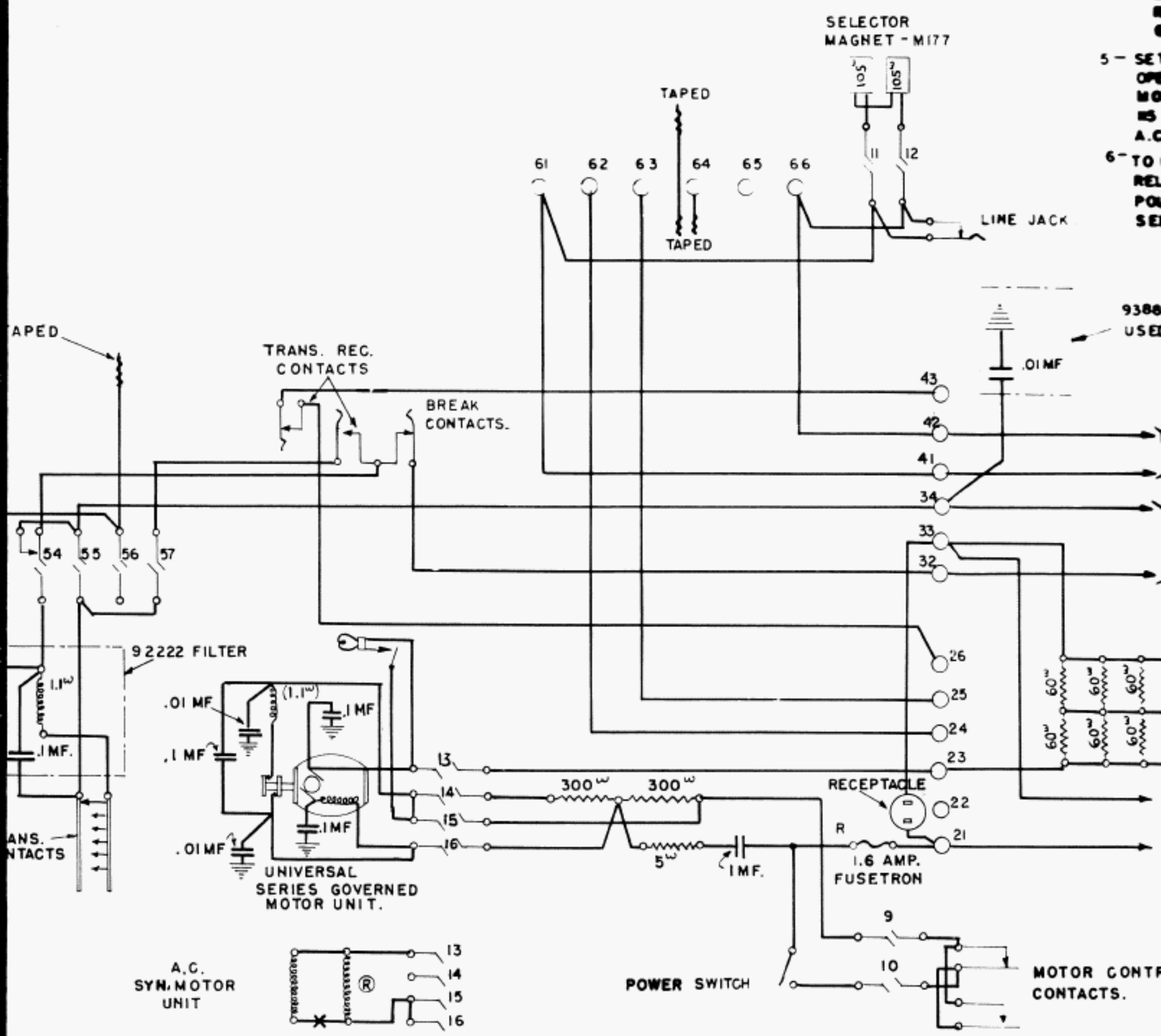
CONTACTS.

KEYBOARD



A.C.  
 SYN. MOTOR  
 UNIT

- 1 - EQU
- 2 - ALL
- FIXT
- 3 - ASSC
- 10
- 74
- 74
- 4 - COL
- 5 - SET
- OP
- MO
- IS
- A.C.
- 6 - TO
- REL
- PO
- SE



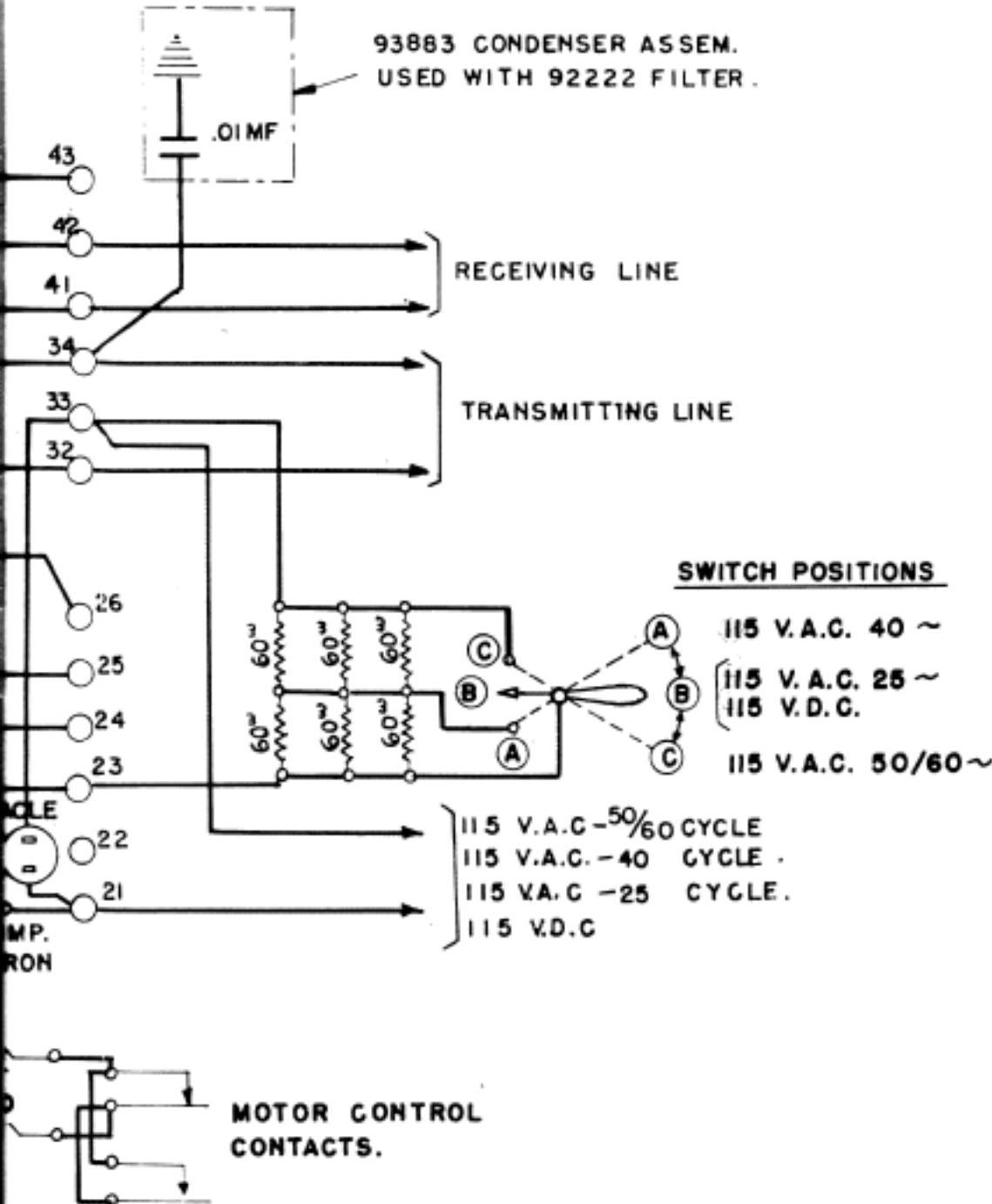
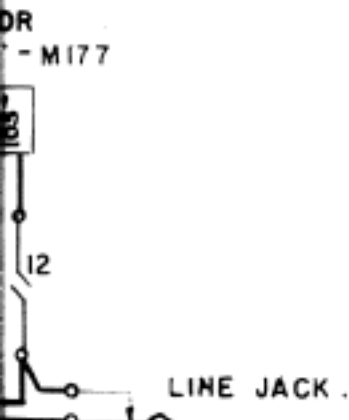
SCHMATIC WIRING-15 PRINTER SET WITH KEYBOARD.

~ NOTES ~

- 1- EQUIPMENT SHOWN DOTTED IS UNDERNEATH UNITS.
- 2- ALL WIRES ARE NO.18 DELTABESTON COTTON COVERED FIXTURE WIRE, EXCEPT MOTOR LEADS.
- 3- ASSOCIATED CABLES -  
 105241 BASE (POWER)      74788 A.C. MOTOR UNIT.  
 105242 BASE (LINE)      105239 KEYBOARD.  
 74625 SELECTOR MAGNET 105526 RESISTOR CAGE.  
 74789 MOTOR CONTROL CONTACTS.
- 4- COLOR CODE -  
 W- WHITE      Y- YELLOW      BK- BLACK  
 R- RED      O- ORANGE      BR- BROWN  
 G- GREEN      P- PURPLE
- 5- SET INCLUDES RESISTORS AND SWITCH TO PERMIT OPERATION OF 115 VOLT  $50/60$  CYCLE A.C. SERIES MOTOR, ON 115 VOLTS 25 AND 40 CYCLE A.C. AND 115 VOLTS D.C., IN ADDITION TO 115 VOLTS  $50/60$  CYCLE A.C. OPERATION.
- 6- TO EQUIP BASE WITH MOUNTING FOR LINE RELAY AND RELAY RADIO FILTER, AND TO EQUIP KEYBOARD WITH POLAR- NEUTRAL KEY FOR USE WITH LINE RELAY, SEE SPEC. S-5404

REVISIONS

- (B) 82474 TERMINAL ADDED.  
10-31-42 J.J.F.
- (C) 103517 CORD CHANGED TO 105284  
12-19-42 J.J.F.
- (D) TITLE CHANGED.  
1-4-43 J.J.F.
- (E) 105526 RESISTOR CAGE CABLE, ADDED  
1-20-43 F.J.H.
- (F) 1.4 AMP. FUSE TRON CHANGED TO 1.6 AMP.  
5-13-43 J.J.F.
- (G) CHOKE COIL LEAD CONNECTED TO OUTER BRUSH SPRING  
7-24-43 G.G.



KEYBOARD.

TELETYPE CORPORATION

WD 2159-G  
10-17-42

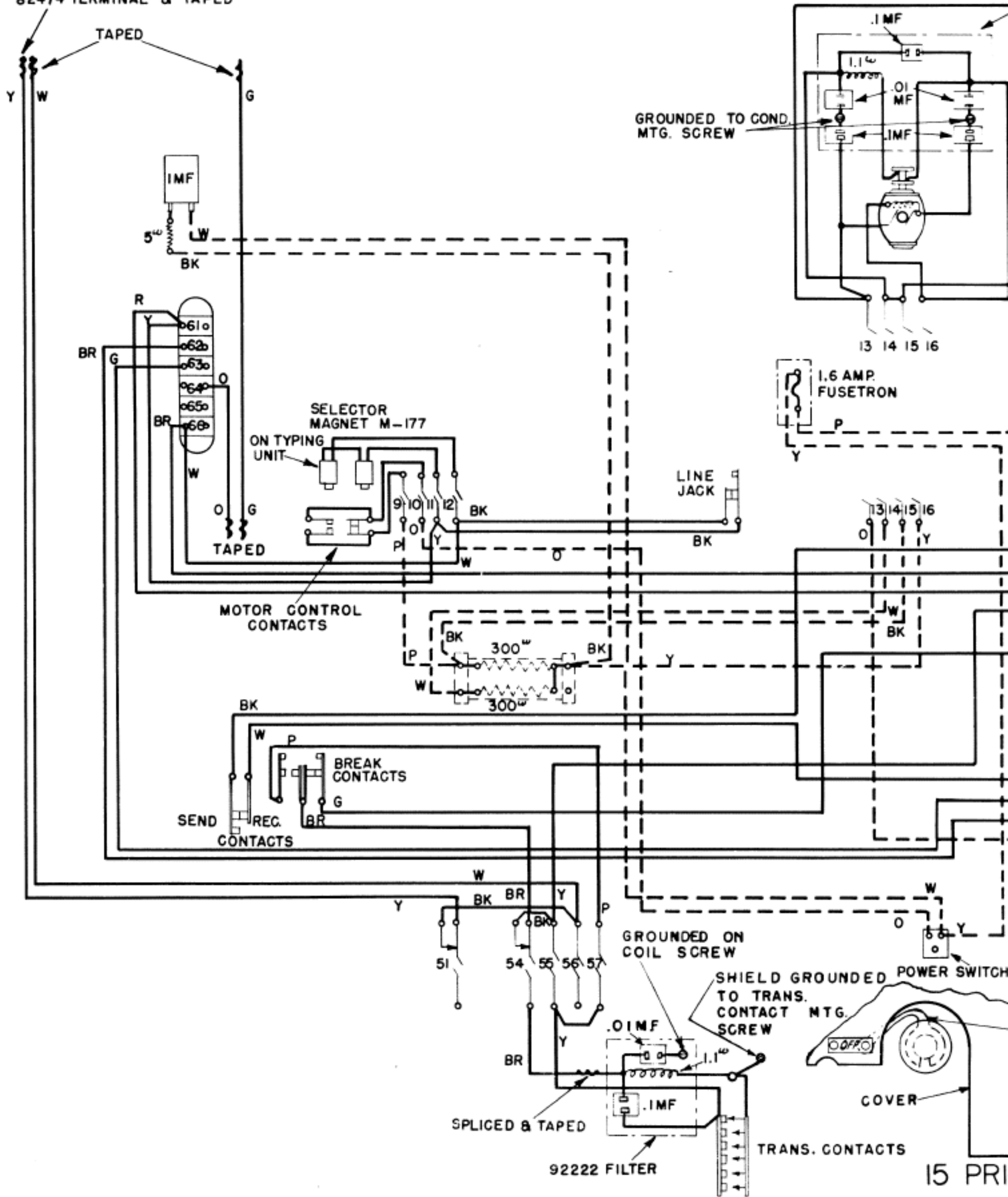
WIRING DIAGRAM  
U.S. ARMY SIGNAL CORPS  
PRINTER TG 7-B  
(MODEL 15 PRINTER  
WITH KEYBOARD,  
INCLUDING RADIO  
FILTERS)

BPI14  
BB45  
BK23

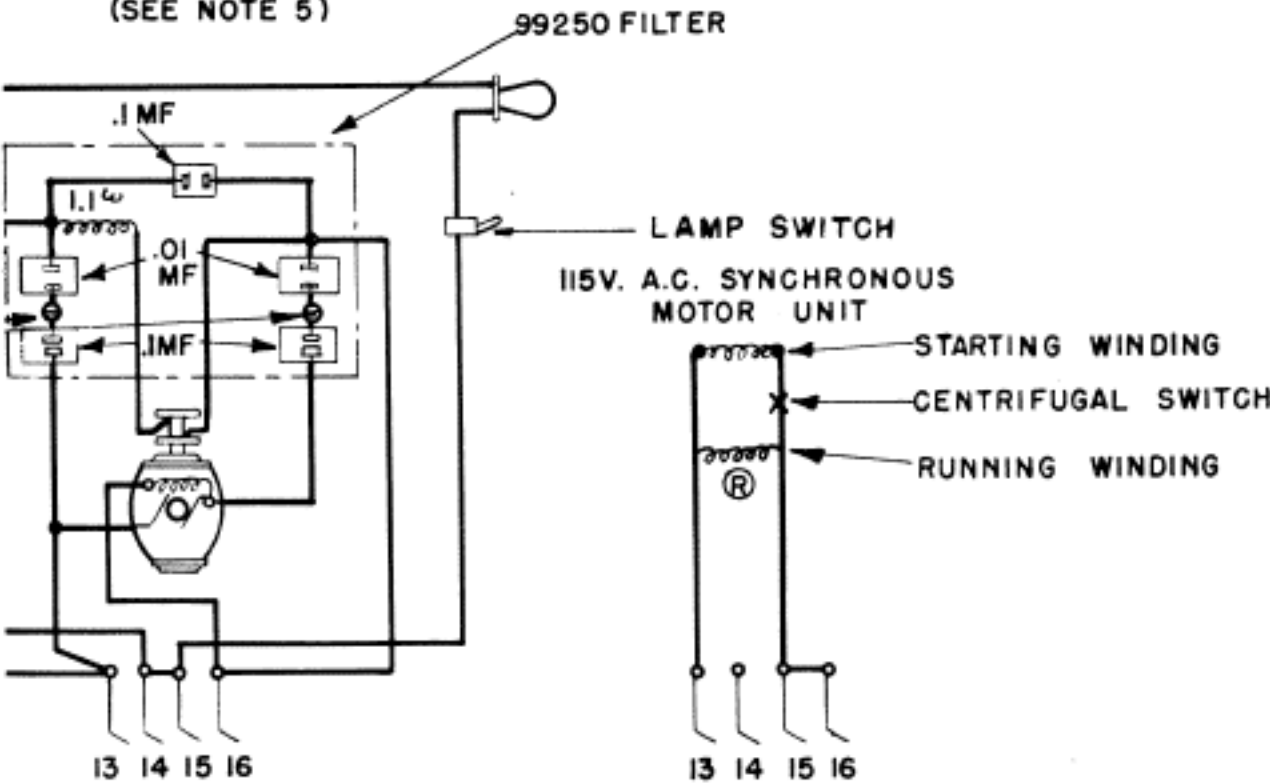
DRAWN } N.D.S.  
TRACED }  
CHECKED }  
ENG R.D. } H.W.P.  
APPROVED } *[Signature]*



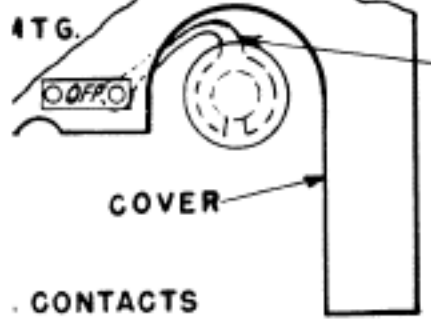
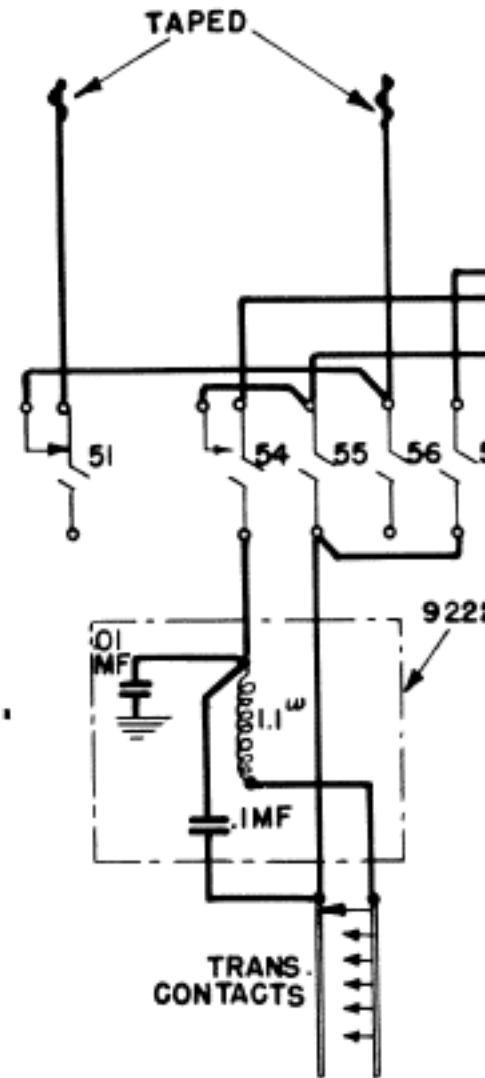
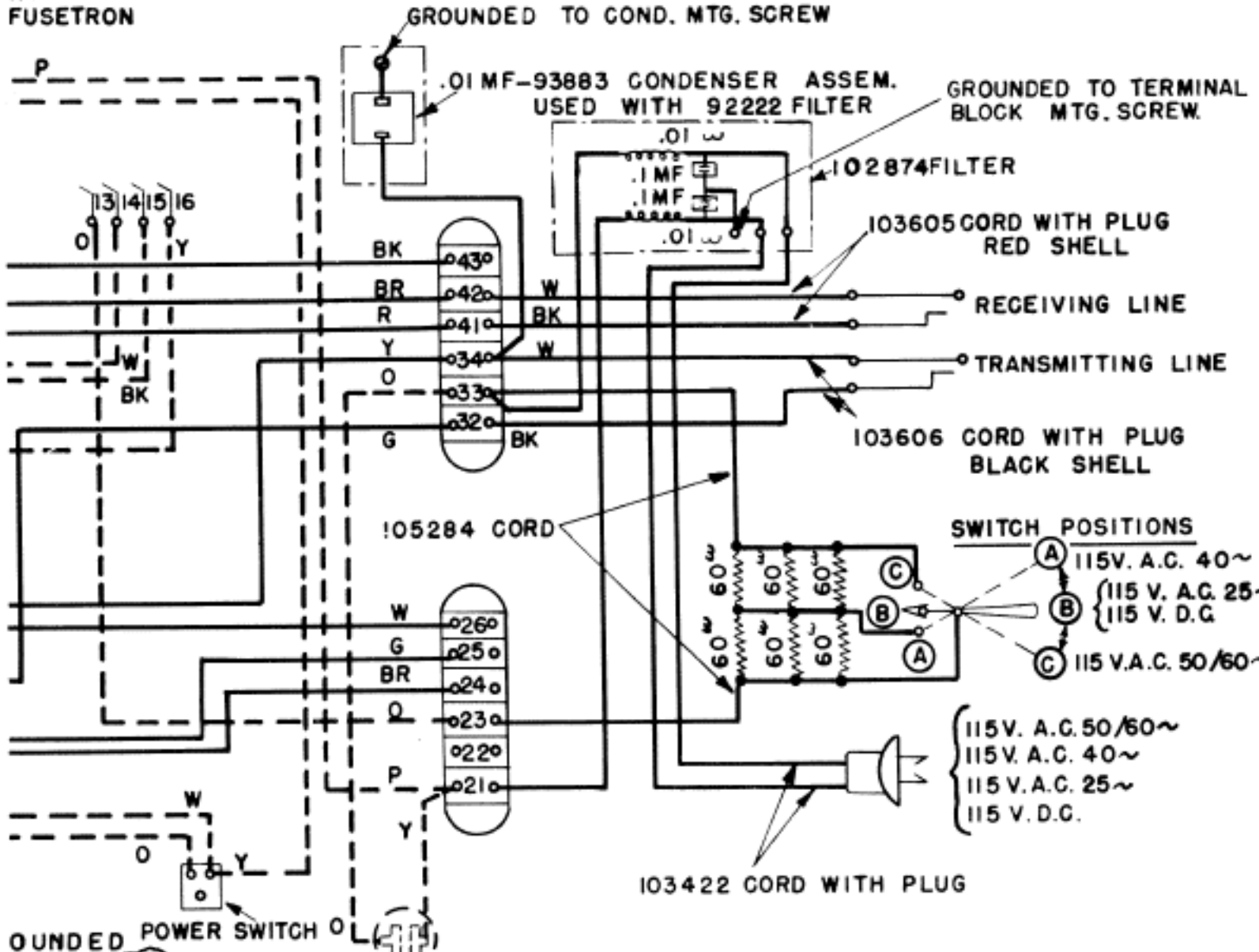
THIS LEAD TO BE EQUIPPED WITH  
82474 TERMINAL & TAPED



V. A.C. SERIES GOVERNED MOTOR UNIT  
(SEE NOTE 5)



1.6 AMP  
FUSETRON

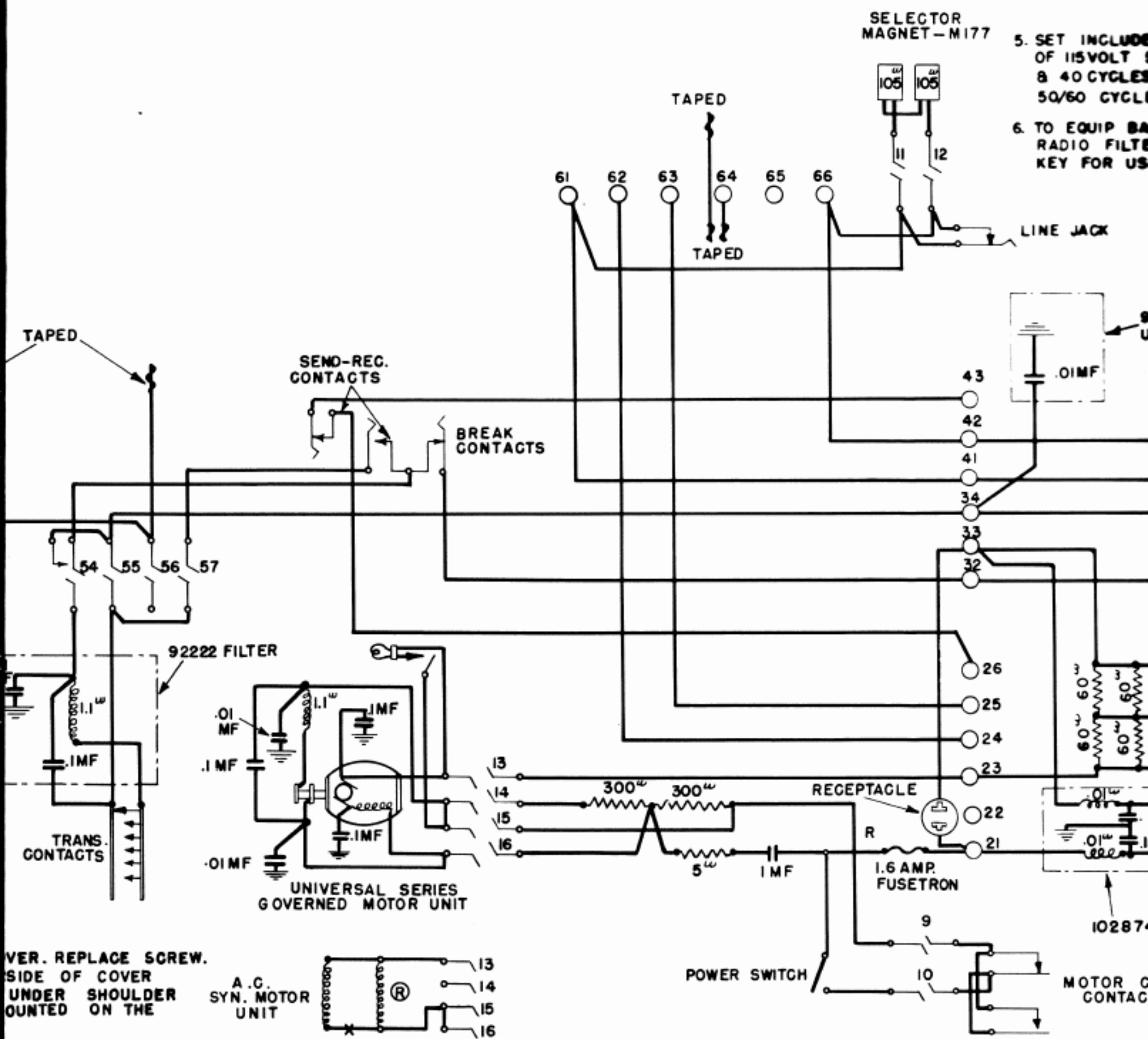


TO GROUND COVER - REMOVE "OFF" NAME PLATE RIGHT MTG. SCREW AND NUT. SCRAPE PAINT FROM AREA SURROUNDING HOLE ON UNDERSIDE OF COVER. REPLACE SCREW MOUNT CLOSED TERMINAL END OF 102940 GROUND LEAD TO UNDERSIDE OF COVER USING 76099 WASHER AND NUT. PLACE OPEN TERMINAL END OF WIRE UNDER SHOULDER OF KYBD. MTG. SCREW. WHEN NOT USED THE 102940 GROUND WIRE IS MOUNTED ON THE POWER LEADS FILTER CLAMPING SCREW.

ACTUAL WIRING  
15 PRINTER SET WITH KEYBOARD

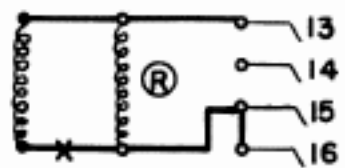
1. EQUIPMENT S...
2. ALL WIRES AS...
3. ASSOCIATED C...
4. COLOR CODE

5. SET INCLUDE...
6. TO EQUIP BA...



VER. REPLACE SCREW.  
SIDE OF COVER  
UNDER SHOULDER  
MOUNTED ON THE

A.C.  
SYN. MOTOR  
UNIT



SC  
15 PRINTER

NOTES

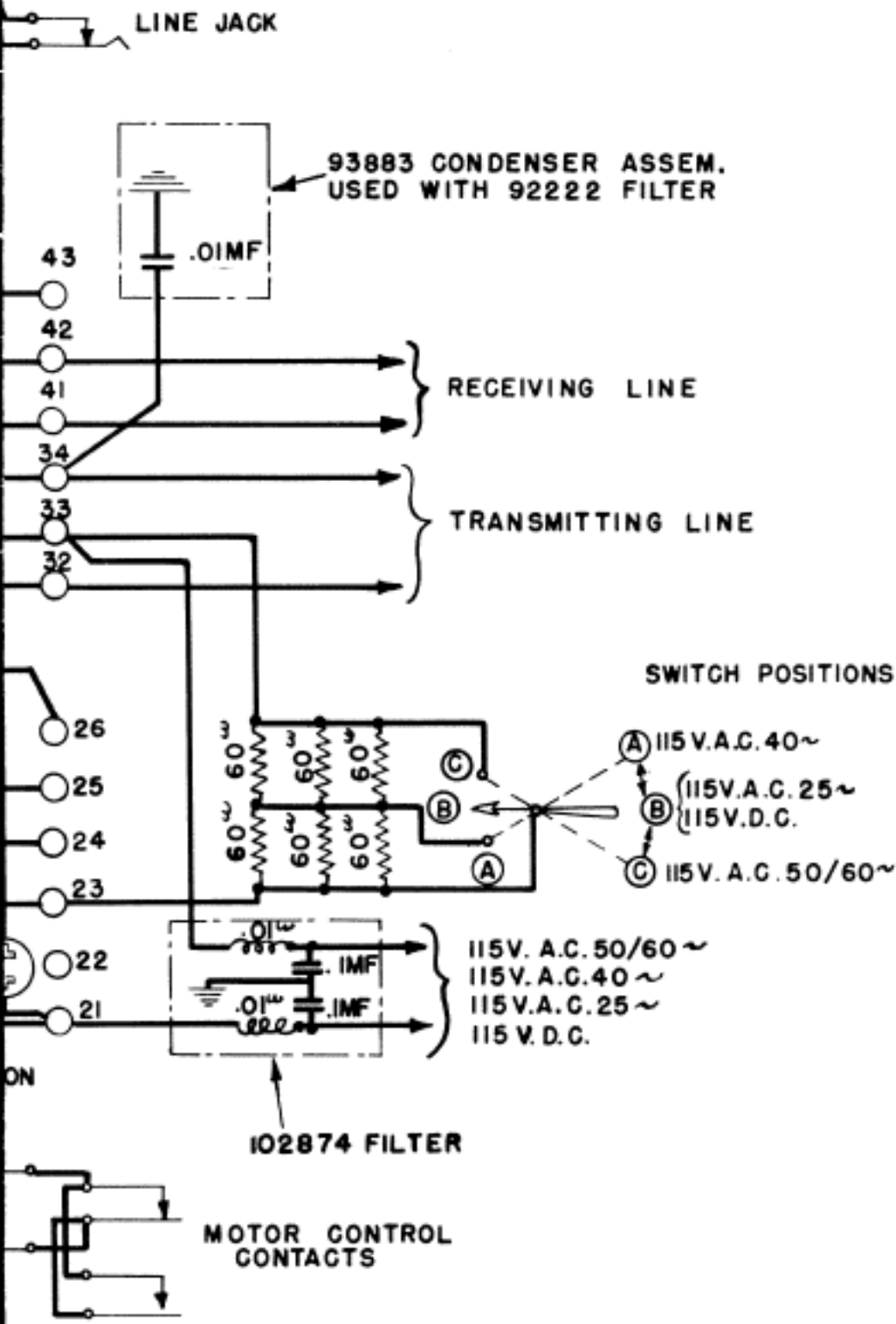
1. EQUIPMENT SHOWN DOTTED IS UNDERNEATH UNITS.
2. ALL WIRES ARE NO.18 DELTABESTON COTTON COVERED FIXTURE WIRE, EXCEPT MOTOR LEADS.
3. ASSOCIATED CABLES —  
 105241 BASE (POWER)                      74788 A.C. MOTOR UNIT  
 105242 BASE (LINE)                      105239 KEYBOARD  
 74625 SELECTOR MAGNET 105526 RESISTOR CAGE.  
 74789 MOTOR CONTROL CONTACTS.
4. COLOR CODE: — W—WHITE    Y—YELLOW    BK—BLACK  
 R—RED            O—ORANGE    BR—BROWN  
 G—GREEN        P—PURPLE
5. SET INCLUDES RESISTORS & SWITCH TO PERMIT OPERATION OF 115VOLT 50/60 CYCLE A.C. SERIES MOTOR, ON 115VOLTS 25 & 40 CYCLES A.C. & 115VOLTS D.C., IN ADDITION TO 115 VOLTS 50/60 CYCLES A.C. OPERATION.
6. TO EQUIP BASE WITH MOUNTING FOR LINE RELAY & RELAY RADIO FILTER, & TO EQUIP KEYBOARD WITH POLAR-NEUTRAL KEY FOR USE WITH LINE RELAY, SEE SPEC. S-5404.

REVISIONS

VIEW OF COVER ADDED	
10-20-43	32322
(B) 11-11-43	32552

OR  
M177

2



SCHEMATIC WIRING  
15 PRINTER SET WITH KEYBOARD

WD-2217-B	
5-4-43	
WIRING DIAGRAM U.S. ARMY SIGNAL CORPS PRINTER TG 37 (MODEL 15 PRINTER WITH KEYBOARD & RADIO FILTERS)	
BP 118 8849 BK 23	
DRAWN L.M.G.	APPROVED
ENG'RD <i>LSR</i>	<i>FR L.M.G.</i>
TELETYPE CORP.	

LUBRICATION SUPPLIES  
AND DIRECTIONS FOR USE

The following lubricants have been standardized for use on all types of Teletype apparatus:

88970	1 Qt. of KS-7470 Oil
88971	1 Gal. of KS-7470 Oil
88973	1 Lb. of KS-7471 Grease
88975	KS-8319 Grease Gun
97116	4-oz. Tube of KS-7471 Grease

The above grease is recommended instead of oil for lubricating motors equipped with ball bearings. The 88975 grease gun should be used for injecting grease into the bearings of Teletype ball bearing motors. The gun may be used also for applying grease to other parts of the apparatus and no other grease container need be carried. If this grease gun is not available, the oil listed in the foregoing should be substituted for lubricating ball bearing motors.

Instructions for Filling the Grease Gun

1. Unscrew the lubricant tube from the cap casting of the grease gun.
2. Insert fresh lubricant through the open end of the tube with the fingers. Apply gradually to eliminate air pockets.
3. Tamp the lubricant down solidly in the tube by pounding the closed end solidly against the palm of the hand. Continue to add lubricant until the tube is completely filled and the metal follower rests against the perforated tube cover.
4. Fill the cap casting with lubricant flush to the bottom side of the tube threads.
5. Screw the lubricant tube into the cap casting part way only. Then insert a pencil or rod through the perforated tube cover and exert pressure against the metal follower so as to expel any entrapped air past the tube threads. When lubricant begins to ooze through the threads, tighten the lubricant tube securely in the cap casting.
6. Operate the handle back and forth for several strokes or until lubricant is pumped from the nozzle. The gun is then ready for use. If the lubricant does not flow from the nozzle in a solid stream, it is an indication that all air has not been expelled from the lubricant tube. Invert the gun and pound the cap casting end against the palm of the hand to jar the lubricant into the pump cylinder.

Instructions for Lubricating Motor Ball Bearings

The motor bearings are packed with grease before the motor leaves the factory and under ordinary operating conditions need no additional lubrication for approximately two months. At the regular lubricating intervals one or two strokes of the plunger of the gun should apply sufficient grease to each bearing. To lubricate, press the nozzle of the gun against the ball oiler and force the grease into the hole by pushing on the plunger of the gun. Care should be taken that the bearings are not overloaded. Overloading will result in the grease oozing out of the end castings and being forced into the motor or being thrown on other parts of the mechanism. After lubricating, the motor should be run for a few minutes and then any excess grease that has been forced out of the ends of the castings should be wiped off. Each time that the gun is used for lubricating a motor bearing, the plunger should first be depressed slightly to make sure that grease will be delivered.



INSTRUCTIONS FOR MODIFICATION OF WIRING OF  
PRINTER TG-7-A (TELETYPE MODEL 15) FOR OPERATION  
WITH A LINE RELAY AND A MOTOR CONTROL RELAY

The Signal Corps TG-7-A printer set (wired in accordance with Teletype wiring diagram W.D. 2076) is wired for operation without the use of a line relay in the printer set. The set will normally be used in conjunction with a BE-77 line unit which contains a line relay. If, however, it is desired to operate the TG-7-A printer set without the BE-77 line unit and with a line relay in the printer set, this can be done by making changes as outlined below.

The TG-7-A set is equipped with an upper case "H" motor control mechanism which is wired for operation. The set is also equipped with a separate line motor control relay which is not wired for operation. The motor control relay may be wired for operation as outlined below.

Line Relay

If it is desired to operate a TG-7-A printer set using a line relay in the printer set, the following procedure is necessary:

1. On the line relay mounting terminal block (see W.D. 2076), move the yellow wire from terminal 61 to 62, move the white wire from terminal 66 to 65, remove the tape from the green wire coming from the line relay mounting terminal 3, and connect to terminal 61.
2. Apply a source of 115 volts D.C. power to terminals 24 and 25, positive to 24, negative to 25.

NOTE: If the TG-7-A printer is to be used in conjunction with a U.S. Government standard Teletype metal table, it will be necessary to use a three-wire, 115 volt D.C. cord (Teletype part No. 95050 or equivalent) for this purpose, since the table is provided with a three-way, 115 volt D.C. receptacle. With the metal table it will also be necessary to use a four-wire motor power cord (Teletype part No. 95052 or equivalent). See Figure 1 for a diagram of these connections.

3. For .060 ampere operation, insert a Teletype RY-28 (W.E. 215-H), or a Teletype RY-30 (W.E. 255-A) relay in the line relay mounting block on the printer. The resistance of the RY-28 relay is 85 ohms per winding, and the resistance of the RY-30 is 136 ohms per winding.
4. If the printer is to be used on a .020 ampere circuit, it will be necessary to shift one end of the jumper on the 8000 ohm resistor from position "A" to position "B." (See Figure 2.) The Teletype RY-30 relay should be used for .020 ampere operation. The RY-28 relay is not satisfactory for this application.

If it is desired to change the wiring of a TG-7-A printer set, from operation with a line relay to operation without a line relay in the printer, for use in conjunction with a BE-77 line unit, the following procedure is necessary:

1. On the line relay mounting terminal block (see W.D. 2076) move the yellow wire from terminal 62 to 61, move the white wire from terminal 65 to 66, remove and tape the terminal 61 end of the green wire coming from terminal 3 on the line relay mounting to terminal 61.
2. Remove the source of 115 volts D.C. power from terminals 24 and 25.

NOTE: If the printer set is equipped with a four-wire motor power cord, such as a Teletype 95052 cord, this cord should be replaced with a two-wire cord connected to terminals 21 and 33, as shown on W.D. 2076.

3. If the printer set has been operating on a .020 ampere circuit, it will be necessary to shift one end of the jumper on the 8000 ohm resistor from position "B" to position "A." (See Figure 2.)

#### Motor Control

1. In order to render the motor control relay operative, wiring changes at the switch and the control relay are necessary, as shown in Figure 3. For "break" operation, invert the power switch to make "on" and "off" designations on cover agree with the operation of the switch. Wiring shown is for "break" operation.
2. If at any time it is desired to disable the upper case "H" motor control, this can be done by strapping terminals 9 and 10 on the printer base.
3. In order to render the motor control relay inoperative, wiring changes at the control relay and switch are necessary, as shown in Figure 4.

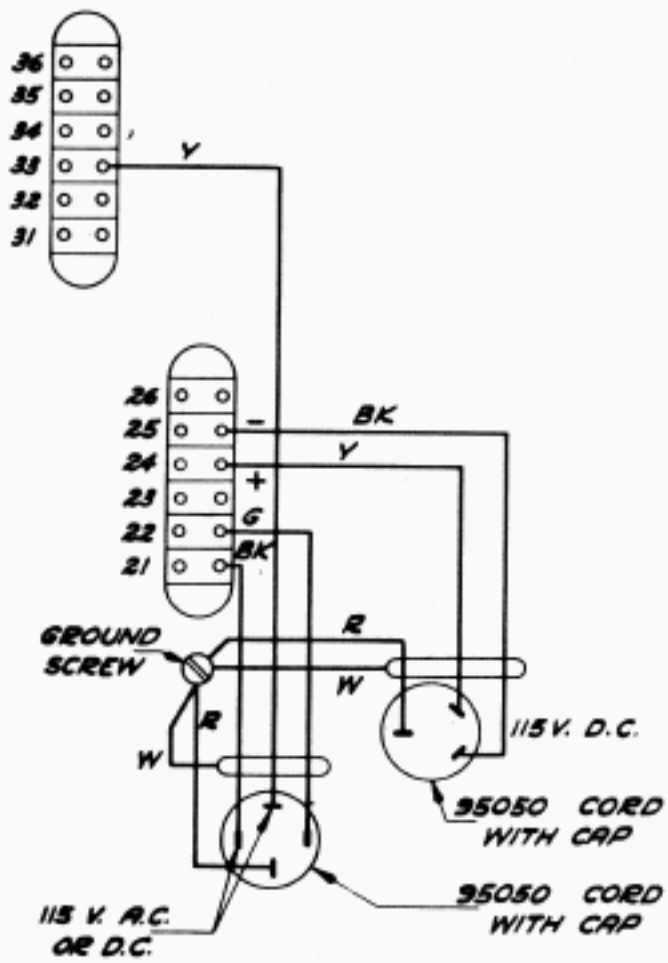


FIGURE 1

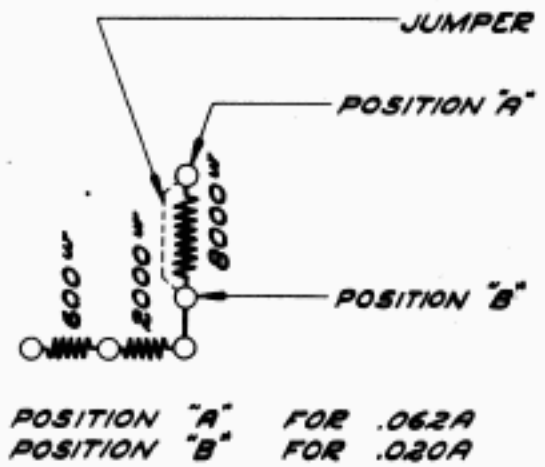


FIGURE 2

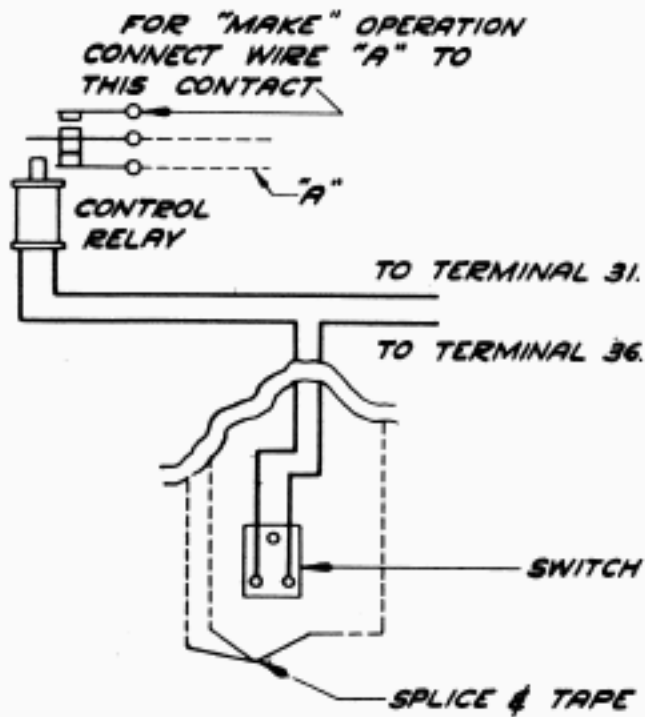


FIGURE 3

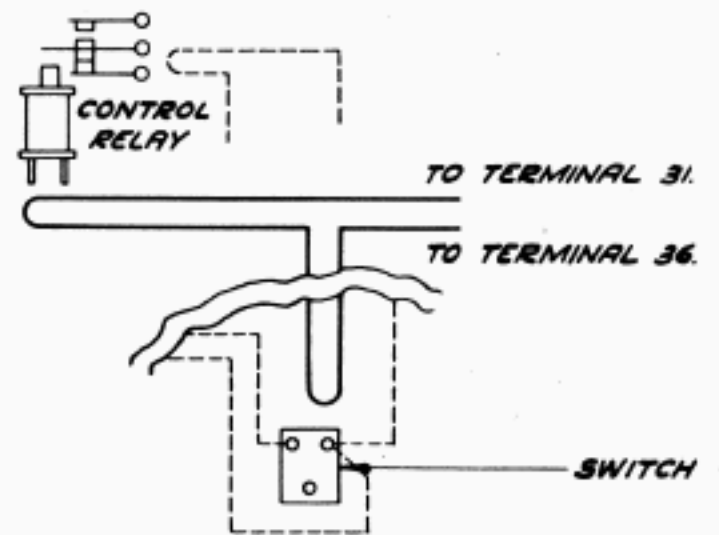


FIGURE 4

INSTRUCTIONS  
FOR INSTALLING AND WIRING  
THE 105402 SET OF PARTS ON  
SIGNAL CORPS TG-7-B AND TG-37-B PRINTERS

The 105402 set of parts provides the parts necessary to convert a Signal Corps TG-7-B or a TG-37-B printer wired for operation without a line relay\* (WD-2159 or WD-2217) to a unit with provision for the use of a line relay including a relay contact radio induction suppressor and a polar-neutral key. It consists of the following parts:

\*WD-2159 without power leads filter. WD-2217 with power leads filter.

1	105486	Relay Mounting (Assembly) - with filter
1	6745	Screw
1	2669	Lock Washer
2	8539	Screw
2	2191	Lock Washer
1	87894	Condenser - 1/4 mf.
2	74682	Screw
2	87851	Bushing
1	74670	Strap
1	105443	Polar-Neutral Key (Assembly)
2	6746	Screw
2	2191	Lock Washer

Installation

1. Secure the relay mounting assembly to the left rear corner of the base by means of the 6745 and 8539 screws and 2191 and 2669 lock washers furnished with the assembly.
2. Connect the terminals of the relay mounting unit cable to the relay terminal block, located under the line relay mounting assembly, as shown in Figure 1. Connect the yellow lead coming from terminal 51 (see WD-2159 or WD-2217) to the rear terminal of the 8000 ohm resistor in the line relay biasing circuit (marked "A"), and connect the white lead coming from terminal 56 to terminal 2 on the line relay mounting block.
3. Remove the tape from the green wire coming from the relay mounting terminal 3, and connect to terminal 61.
4. On the relay mounting terminal block (see WD-2159 or WD-2217), move the yellow wire from terminal 61 to 62; move the white wire from terminal 66 to 65.
5. Secure the 87894 spark suppression condenser (1/4 mf.) furnished, to the inner side of the left side wall of the base, by means of the 74682 screws, 87851 bushings, and 74670 strap furnished. The

condenser should be installed so that its terminals are toward the front of the base. Remove the tape from the ends of the orange and green leads, which terminate at the spark suppression condenser mounting, and connect these leads to the terminals of the condenser just installed.

6. Using the two 6746 screws and 2191 lock washers furnished, secure the 105443 polar-neutral key assembly to the keyboard, utilizing the two tapped holes located to the left of the transmitting contacts. Attach the cable leads which are soldered to contact springs 2 and 3 on the key, to slip connectors 51 and 56 on the keyboard, respectively. (See wiring diagram WD-2159 or WD-2217 for number designations of keyboard slip connectors.)
7. Apply a source of 115 volts D.C. to terminals 24 and 25 of the printer base; positive to 24, negative to 25.

NOTE: If the printer set is to be used in conjunction with a U. S. Government standard Teletype metal table, it will be necessary to use a three-wire cord (Teletype part No. 95050 or equivalent) for this purpose, since the table is provided with a three-way receptacle for 115 volts D.C. With the metal table it will also be necessary to use a four-wire motor power cord (Teletype part No. 95052 or equivalent). See Figure 2-A and WD-2159 for connections without power leads filter and Figure 2-B and WD-2217 for connections with power leads filter.

8. For a .060 ampere signaling, insert a Teletype RY-28 (W.E. 215-H) or a Teletype RY-30 (W.E. 255-A) relay in the line relay mounting block on the printer base. The resistance of the RY-28 relay is 85 ohms per winding, and the resistance of the RY-30 is 136 ohms per winding.
9. If the printer is to be used on a .020 ampere signaling circuit, it will be necessary to move the yellow wire, connected to the 2000-600 ohm resistor, from terminal (A) of the 8000 ohm resistor to terminal (B) of the 8000 ohm resistor. (See Figure 3.) This introduces 8000 ohms additional in the line relay biasing circuit, and reduces the biasing current to approximately .010 ampere. The Teletype RY-30 relay may be used for either .020 or .060 ampere signal line operation. The RY-28 relay is restricted to .060 ampere signal line operation.

To operate printer set with mounting for line relay installed on printer base, but using Signal Corps BE-77 line unit instead of relay on printer base.

1. Remove the line relay from its mounting on the printer base.
2. On the line relay mounting terminal block (see WD-2159 or WD-2217) move the yellow wire from terminal 62 to 61, move the white wire from terminal 65 to 66, and remove and tape the green wire of the line relay mounting cable which is connected to 61. (The other end of this green wire is connected to terminal 3 of the line relay



mounting block.)

- When a line relay is not used on the printer base, 115 volt D.C. power is not required on printer base terminals 24 and 25.

\* \* \*

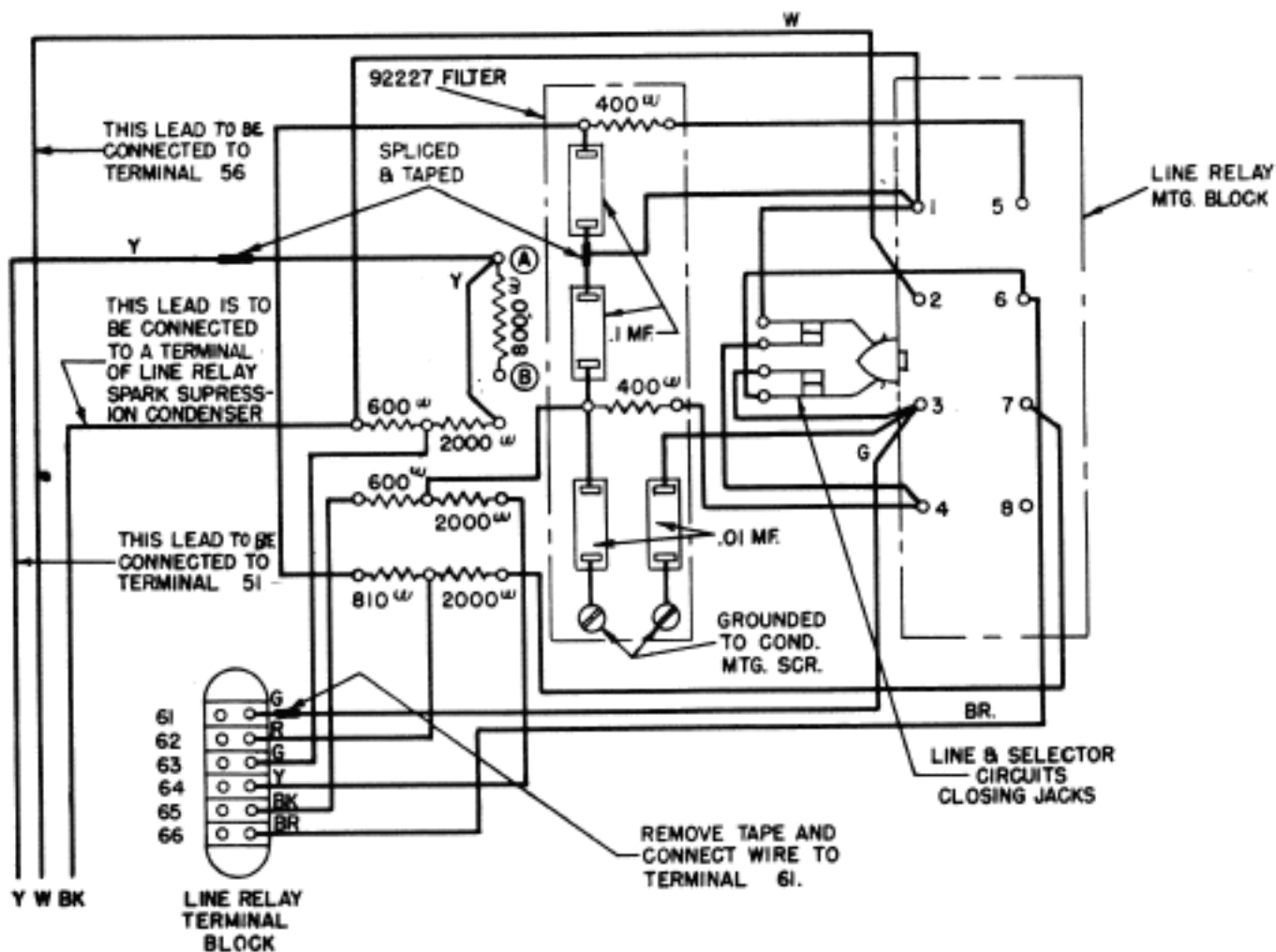


FIGURE 1

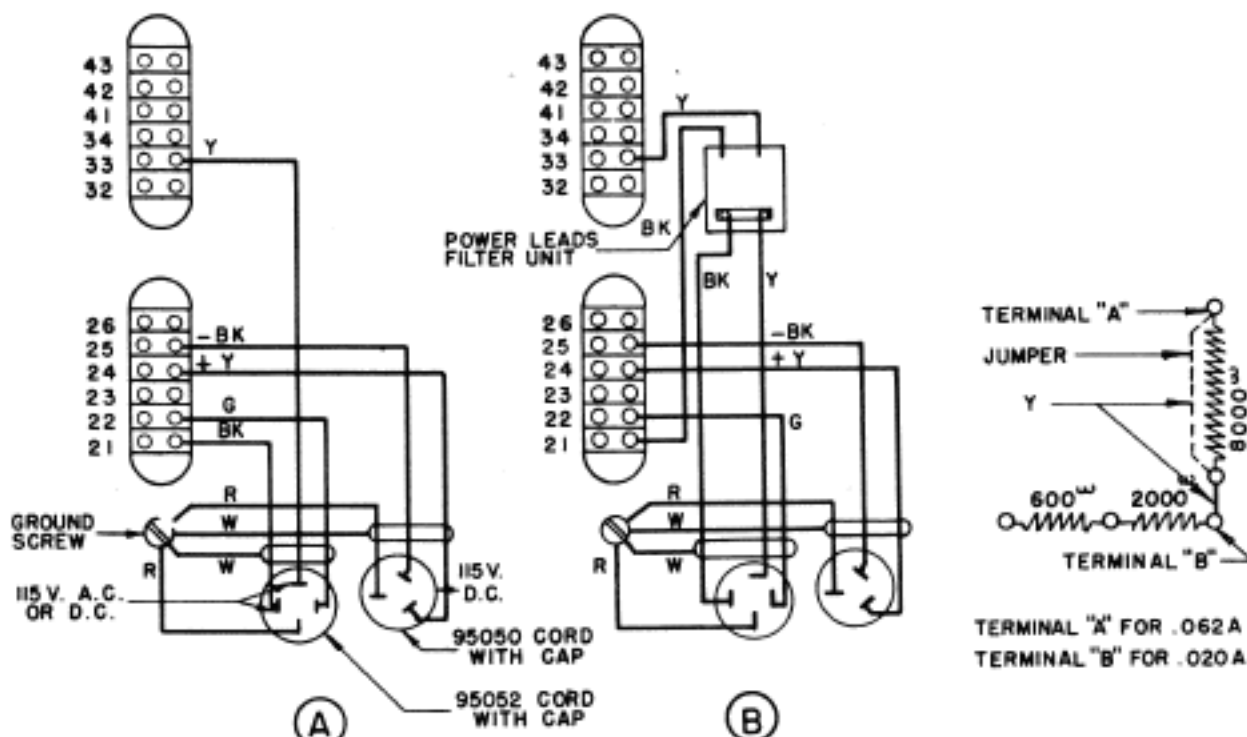


FIGURE 2.

FIGURE 3.

INSTRUCTIONS FOR INSTALLING AND ADJUSTING  
THE 110352 SET OF PARTS FOR ADDING  
THE RIBBON REVERSE ARM YIELD  
SPRING AND BACKSTOP FEATURE ON  
MODEL 15 AND 20 PRINTERS

DESCRIPTION

The 110352 set of parts for Model 15 and 20 printers provides a yield to prevent excessive pressure on the ribbon reverse arms when they are operated manually. The adjustment of the ribbon reverse mechanism can thus be held without excessive tightening of the screws which results in stripping of the threads.

The 110352 set of parts consists of the following:

1	107273	Spring-Left
1	107274	Spring-Right
2	110350	Spring Block-With Pin
2	1176	Screw
2	110351	Backstop

INSTALLATION

- (1) Remove the ribbon from the type bar carriage.
- (2) Remove the type bar carriage. Refer to the Adjustment Bulletin for Model 15 and 20 printers. ("Instructions for Removing the Type Bar Carriage from the Typing Unit.")
- (3) Loosen the set screws in the left and right 74384 spur gears on the ribbon spool shafts and remove the gears.
- (4) Remove the 2201 bushing nut, 4814 lock washer, and the 3288 washer from the left and right ribbon cup bushings and substitute a 110351 backstop (furnished) for the 70793 washer under each ribbon spool cup. (The backstops are to be installed so that the formed projections extend downward and so that the projections are in front of the ribbon reverse arms when the ribbon spool bracket assemblies are viewed from the rear.) See figure 1.
- (5) Replace the 3288 washer, the 4814 lock washer and the 2201 nut on the left and right ribbon spool cup bushings.
- (6) Replace the 74384 spur gears on the left and right ribbon spool shafts with the flat face of the shafts opposite the set screws and tighten.
- (7) Remove and discard the set screws and locknuts from the left and right ribbon reverse arms.

- (8) Loosen the set screws in the ribbon reverse shaft collars and the ribbon reverse links on the left and right ribbon reverse shafts. Lower the shafts and remove the ribbon reverse arms. See figure 1.
- (9) Install one of the two 110350 spring blocks (furnished) on each of the left and right ribbon reverse shafts. Position the spring block so that the spring post is on top and tighten the set screws. (Each spring block is equipped with two set screw mounting holes so that the spring block can be used on the left or right by placing the 1176 set screws (furnished) in the proper mounting holes.) See figure 1.
- (10) Place the coil ends of the 107273 left and the 107274 right yield springs (furnished) between the "U" shaped pivot ends of the respective ribbon reverse arms and place the hooked ends so that they may be hooked on the rear of each of the ribbon reverse arms.
- (11) Replace the left and right ribbon reverse arms on the ribbon reverse shafts with the coil portion of the yield springs between the "U" shaped pivot. Hook the short extension of the yield springs on the spring block posts, then hook the long extension of the yield springs on the ribbon reverse arms.
- (12) Replace the ribbon reverse shafts in the spool brackets and position the ribbon reverse collars and the ribbon reverse shaft links on the left and right ribbon reverse shafts and tighten the set screws.

#### ADJUSTMENTS

Check the standard adjustments as specified in the Adjustment Bulletin for Model 15 and 20 printers except for the following changes:

- (1) Omit the "Ribbon Spool Cups Adjustment."

MAKE ALL THE FOLLOWING ADJUSTMENTS WITH THE TYPE BAR CARRIAGE REMOVED.

#### (2) RIBBON REVERSE SHAFTS ADJUSTMENTS

There should be .040" to .060" clearance between the bottoms of the ribbon spool cups and the upper ends of the ribbon reverse shafts when the ribbon reverse arms are held up against the ribbon spool brackets.

To adjust, loosen the set screw of the spring block on the left ribbon reverse shaft, and if necessary, the set screws of the ribbon reverse shaft collar and link. Position the shaft while holding the ribbon reverse arm up against the ribbon spool bracket and the spring block up against the reverse arm. Then tighten the spring block set screw. Adjust the right ribbon reverse shaft in the same manner.

NOTE: The following adjustment should be made immediately following the "Ribbon Reverse Shafts Links Adjustment."

(3) RIBBON SPOOL CUPS AND RIBBON REVERSE ARM BACKSTOPS ADJUSTMENTS

The centers of the ribbon rollers should be  $3/4$ " to  $7/8$ " in front of a line through the centers of the ribbon spool shafts. With the ribbon reverse arms held against their backstops, approximately  $3/4$  of the tooth on each ribbon reverse pawl should be in a position to be engaged by the ribbon reverse bail. There should be no bind between the ribbon spool shaft spur gears and the vertical ribbon feed shaft spur gears at any point in their engagement.

To adjust, position the ribbon spool cups and ribbon reverse arm backstops by means of the nuts on the ribbon spool cup bushings. When tightening the nuts, take up the play between the ribbon spool cup bushings and the ribbon spool brackets in a direction to make the play between the spur gears a maximum.

(4) RIBBON REVERSE ARM YIELD SPRING TENSION ADJUSTMENT

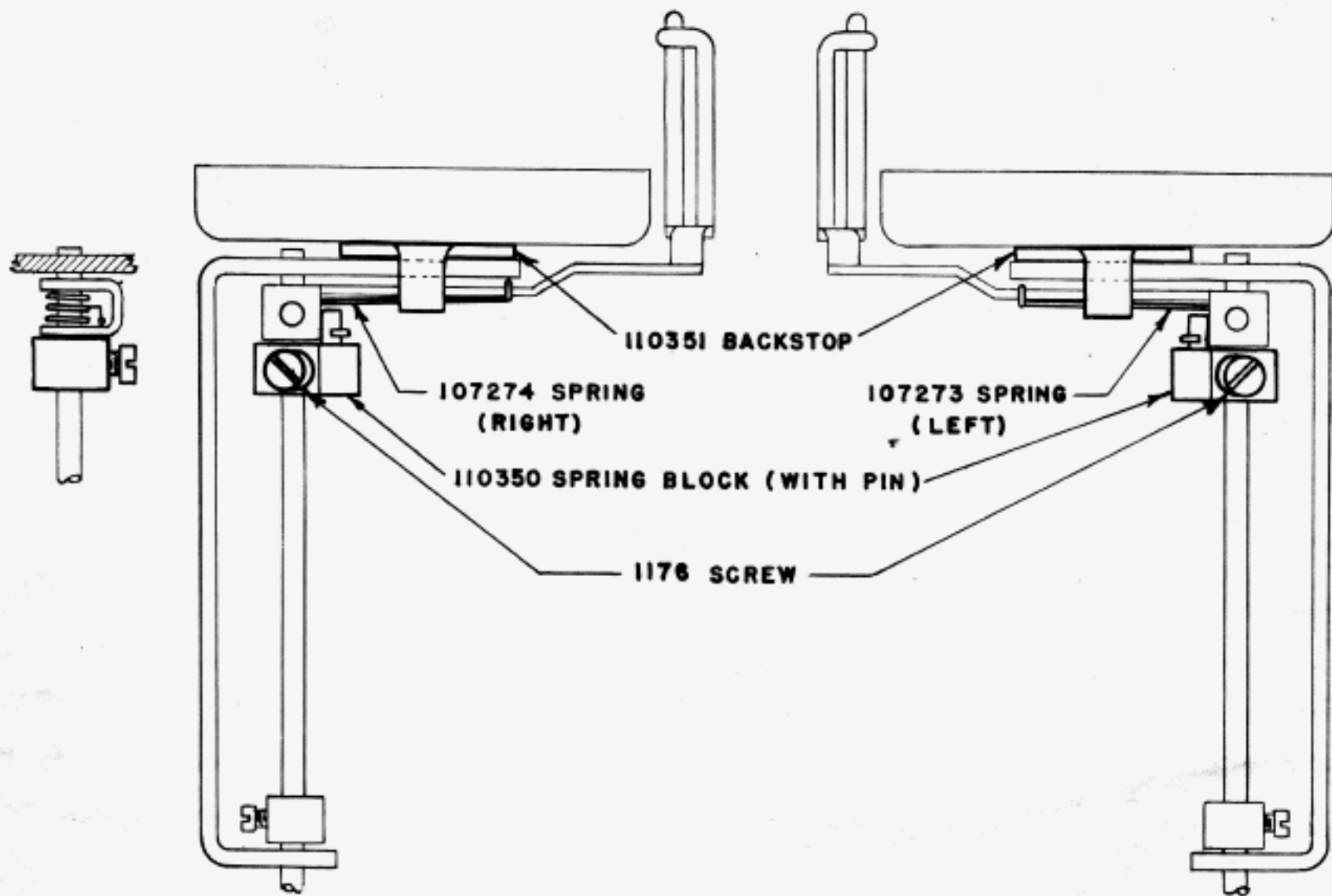
Position the ribbon reverse bail so that it will block the full travel of the ribbon reverse arm, and with the ribbon reverse pawl resting against the ribbon reverse bail, apply the push end of an 8 oz. scale, held at a right angle to the ribbon reverse arm at the center where the ribbon is threaded. It should require  $1\ 1/2$  to  $4\ 1/2$  ozs. to start the ribbon reverse arm moving.

If it is necessary to increase or decrease the tension, remove the spring and adjust by bending.

(5) Replace the type bar carriage, refer to the Adjustment Bulletin ("Instructions for Replacing the Type Bar Carriage on the Typing Unit").

(6) Replace the ribbon on the type bar carriage.

\* \* \*



**RIBBON SPOOL BRACKET  
(ASSEM.)-RIGHT  
REAR VIEW**

**RIBBON SPOOL BRACKET  
(ASSEM.)-LEFT  
REAR VIEW**

**FIGURE 1**