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223 North 38 Street
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INSTRUCTION MANUAL FOR TELETYPE PERFORATOR SET

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BARRY CHAPMAN - W4IBI
223 North 38 Street
Paducah, Kentucky



TELETYPE MODEL 14 PERFORATOR SET

GENERAL DESCRIPTION
TELETYPE MODEL 14
PERFORATOR SET

The Teletype perforator set consists of a Model 14 keyboard tape perforator complete with table, including electrical receptacles wired for convenient connection to the power source. A rectifier is mounted on the table shelf at alternating current stations to supply direct current for operation of the perforator.

The perforator keyboard may be arranged for use on ordinary message communication circuits or on weather report circuits; and is equipped with a repeat mechanism which provides means for rapidly spacing out tape perforated with any code combination on the keyboard by merely actuating the particular key lever and the repeat key. An end-of-line warning lamp lights when the number of characters perforated in a given line approaches the number which will print on a Teletype page printer.

REC-11 rectifiers are used on 110 volt 50 or 60 cycle power supplies and REC-19 rectifier on 110 volt 25 cycle installations.

INSTRUCTIONS FOR INSTALLING AND
ADJUSTING THE 98157 SET OF TAPE STOP
PUNCH PARTS ON MODEL 14 TAPE PERFORATOR

The 98157 set of parts provides mechanism for perforating the edge of the tape to permit actuation of the tape stop mechanism on a transmitter distributor, without ending the tape.

The 98157 set of parts consists of the following:

2	33-193	Screw
1	1164	Screw
2	2191	Lock Washer
1	2653	Spring
2	8330	Washer
1	76768	Thumb Nut
1	93118	Lock Washer
1	97935	Tape Stop Punch Block
1	97936	Punch
1	97937	Tape Guide Spring
4	97939	Shim

For part numbers referred to in the following text but not included in the above list, refer to the perforator parts bulletin.

INSTALLATION

Remove and discard the 2410 tape guide spring. Remove the chad chute and the punch block. Retain these parts as they are to be reinstalled on the machine after the base casting has been worked over.

Work over the base casting as shown on Figure 1 to add two 6-32 tapped holes and one 1/2" hole using a 97938 template for locating the holes. Care should be taken when adding these holes so that the parts in the immediate vicinity on the under side of the machine are not damaged.

Reinstall the punch block and chad chute previously removed.

Install the tape stop punch parts (furnished) as shown on Figure 2.

ADJUSTMENTS

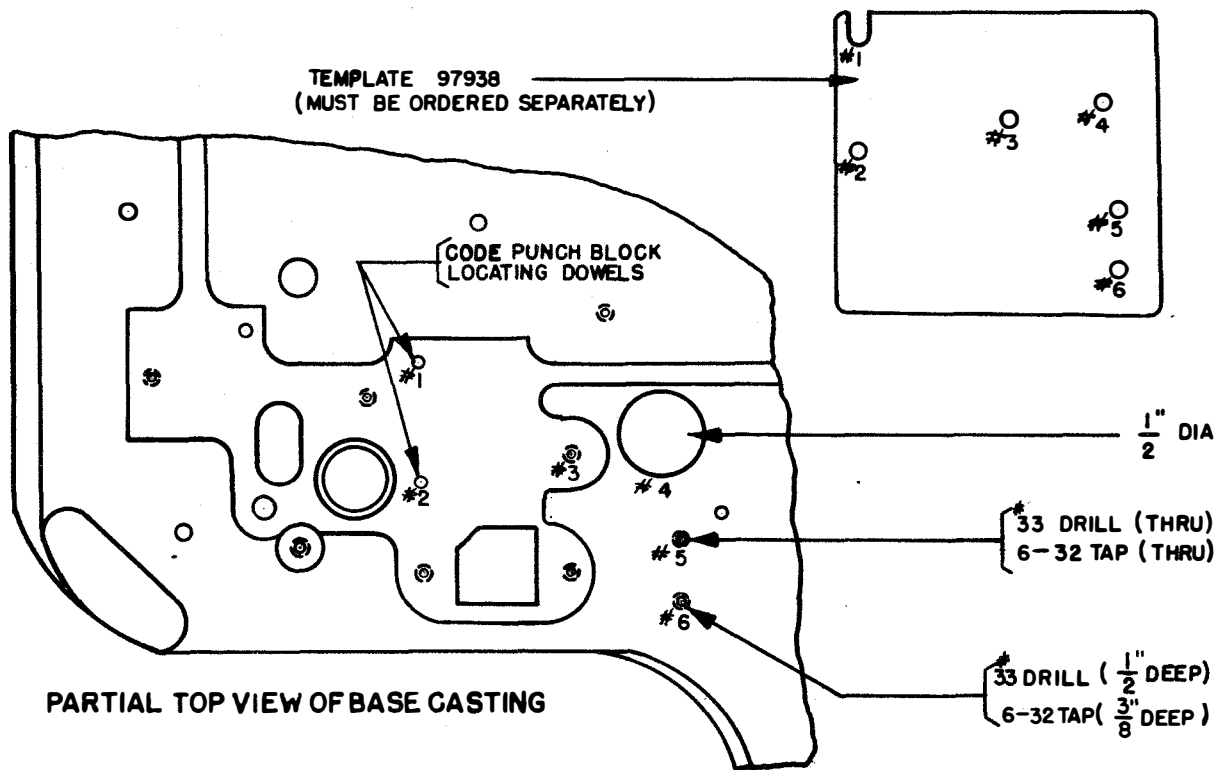
- (1) Adjust the height of the tape stop punch block by means of shims, so that the tape guide spring is depressed approximately 1/16" when a piece of tape is in place in both the tape stop punch block and the code punch block.

- (2) Position the tape stop punch block toward the front or rear, by means of its enlarged mounting holes, so that the rear wall of the slot in the tape stop punch block lines up with the center of the tape slot in the code punch block.
- (3) Thread a piece of tape through both of the punch blocks and operate the BLANK keylever until the tape feeds normally. Then perform the following operations in the order indicated:

Manually operate the notching punch.
Operate the LETTERS keylever.
Operate the BLANK keylever four times.
Operate the LETTERS keylever twice.

- (a) Operate the BLANK keylever sufficiently to feed out the tape previously perforated and check it as follows:
 - (b) The center of the notch in the lower edge of the tape shall be between the centers of the two adjacent LETTERS combinations. Position the tape stop punch block to right or left on its enlarged mounting holes. Recheck adjustment (2).
 - (c) The notch in the lower edge of the tape shall be sufficiently wide to completely obliterate the fifth pulse code holes in the two adjacent LETTERS combinations. This requirement is controlled by the shims referred to in adjustment (1).
- (4) Repeat the above check (paragraph 3) at least five times.

* * *



- (A) PLACE THE TEMPLATE OVER THE CODE PUNCH BLOCK LOCATING DOWELS INDICATED AS NO.1 AND 2.
- (B) MOUNT THE TEMPLATE USING ONE OF THE CODE PUNCH BLOCK MOUNTING SCREWS AND HOLE NO.3.
- (C) DRILL HOLE NO. 4 USING DRILL NO.24 (.152). DRILL THRU CASTING.
- (D) DRILL HOLES NO.5 AND 6 USING DRILL NO. 33 (.113). DRILL HOLE NO.5 THRU THE CASTING AND HOLE NO.6 $\frac{1}{2}$ " DEEP.
- (E) REMOVE THE TEMPLATE AND ENLARGE HOLE NO.4 TO $\frac{1}{2}$ " AND TAP HOLES NO.5 AND 6 USING A 6-32 TAP

FIGURE 1

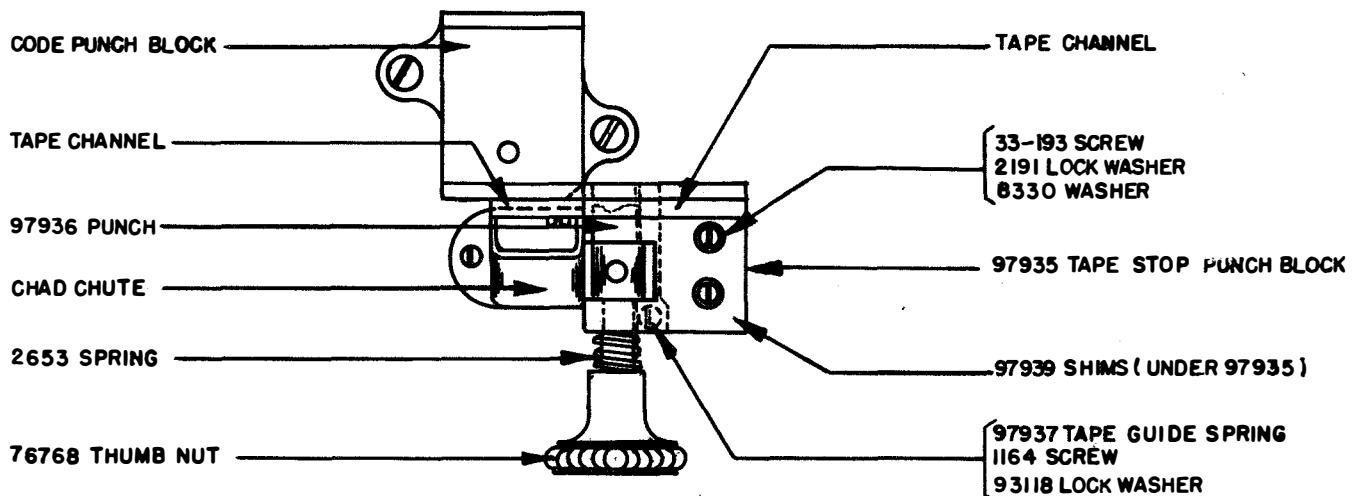


FIGURE 2

CHANGES IN BULLETIN 167, ISSUE 1, MARCH, 1941
ADJUSTMENTS OF TAPE PERFORATOR (FIVE-UNIT)

The changes outlined in this correction sheet apply only to perforators equipped with an adjustable end-of-line indicating mechanism, as indicated by the two asterisks preceding the title of the adjustment.

Page 5

Add the following adjustment after - ****Release Rod Holding Pawl Spring Tension:**

****Stop Screw Bracket Yield Spring Tension**

Unhook the stop screw bracket yield spring from its bracket. Hook a 32-oz. scale in the spring eye and pull up vertically. It should require from 15 to 19 ozs. to extend the spring to 1-5/8 in. The end of the scale used to measure the length just mentioned should rest against the top of the formed section of the stop screw bracket. Rehook the spring.

Page 6

Substitute the following in place of - ****Release Rod Holding Pawl Stop Screw Adjustment (Figure 9) :**

****Release Rod Holding Pawl Stop Screw and Bracket Adjustment**

There should be from .065" to .080" clearance between the engaging peak of the release rod holding pawl and the release rod when the pawl is held against its stop screw and the stop screw is held against its post.

To adjust, loosen the stop screw bracket mounting screws, loosen the stop screw lock nut, and adjust the screw to meet the foregoing requirement. Check to see that after the stop screw lock nut is tightened, a flat on the stop screw will bear against the stop post. Also, check to see that the spring washer assembled on the stop screw bracket mounting screw nearest the stop is around its bushing. This may be determined by moving the stop screw bracket after its mounting screws have been carefully tightened. The bracket should be free to move with an appreciable amount of friction.

Hold the stop screw bracket as far as it will go away from the stop post, position the contact screw bracket so that the contact screw is in alignment with the contact on the contact operating lever, and tighten the stop screw bracket mounting screws. Recheck the clearance between the engaging peak of the release rod holding pawl and the release rod.

Page 10

Substitute the following in place of - ****Indicator Gear Stop Plate Adjustment (Figure 6):**

****Indicator Gear Stop Plate Adjustment - See Note (A)**

The adjustable plate on the indicator gear provides for varying the

starting position of the gear so that the lamp contact will be closed on the 64th to 70th character perforated. When it is desired to close the contacts on the 70th character, move the plate in a counterclockwise direction, and when it is desired to close the lamp contacts on the 64th character, move the plate in a clockwise direction.

Adjust as follows: With the idler pinion fully in mesh with the tape feed roll pinion, position the stop plate so that the 7th tooth, for 65 characters, or 12th tooth, for 70 characters, etc., on the indicator gear is fully in mesh with the idler pinion. With the stop screw bracket held against its stop post, and with the release rod holding pawl held against the stop screw, move the stop plate toward the release rod holding pawl so that there is from .010" to .025" clearance between the formed projection on the stop plate and the pawl.

With power on the perforator, fully depress and slowly release the carriage return key lever. Operate a key lever, other than the carriage return key lever, the desired number of times to see that the lamp lights on the proper character.

Note: If readjustment of the stop plate is necessary, remove power from the perforator.

After the correct position of the stop plate has been determined, carefully move the plate as far as it will go toward the center of the gear and securely tighten the adjustable plate clamping screws. Recheck this adjustment several times, with power on the perforator, normally operating the carriage return key lever.

CHANGES IN BULLETIN 167, ISSUE 1
DESCRIPTION AND ADJUSTMENTS
TAPE PERFORATOR
(5 UNIT)

Page 11

PUNCH MAGNET YOKE CONTACT SPRING ADJUSTMENT (Figure 18)

Change the clearance requirement in Paragraph (b)
to read ".020" to ".030" instead of ".015" to ".020."

REPEAT RELAY ADJUSTMENTS (Figure 19)

Change the clearance requirement in Paragraph (b)
to read ".015" to ".018" instead of ".012" to ".015."

Change the spring tension requirement in Paragraph (c)
to read "2-1/4 to 3 ozs." instead of "1-1/2 to 1-3/4 ozs."

Change the spring tension requirement in Paragraph (d)
to read "1-3/4 to 2 ozs." instead of "1 to 1-1/2 ozs."

CHANGES IN
BULLETINS 108, ISSUE 2, and 167, ISSUE 1
DESCRIPTION AND ADJUSTMENTS
OF THE FIVE UNIT TAPE PERFORATOR

In order to prevent disengagement of the loops from the bell cranks during shipment, the 122-25 loop bearing (left) has been provided with a tapped hole and fitted with a 1035 adjusting screw and a 34-9 nut. This screw may be adjusted to hold the loops toward the right and prevent their disengagement from the bell cranks. The following adjustment applies to perforators so equipped:

BULLETIN 108, PAGE 5 - immediately preceding the LOOP SPRING TENSION
(Figure 6)

BULLETIN 167, PAGE 4 - immediately preceding the LOOP SPRING ADJUSTMENT
(Figure 7)

Add the following adjustment:

LOOP ADJUSTING SCREW ADJUSTMENT

There should be some clearance, not more than .015", between the outer surface of the power loop and the end of the adjusting screw at the bell crank end. To adjust, turn the adjusting screw to meet the requirement and position the lock nut.

NOTE

When making this adjustment a moderate force should be applied to the loops in the direction to make this clearance a maximum. Avoid bending or forcing the loops which may result in a false adjustment.

* * *

Teletype Corporation
Chicago, Illinois, U.S.A.

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CHANGES AND ADDITIONS
TO BULLETIN 108 (ISSUE 2)
DESCRIPTION AND ADJUSTMENTS
OF THE FIVE UNIT TAPE PERFORATOR
AND
BULLETIN 167 (ISSUE 1)
DESCRIPTION AND ADJUSTMENTS
TAPE PERFORATOR (FIVE UNIT)

PAGE 5, Bulletin 108
PAGE 5, Bulletin 167

LOOP STOP SHIMS ADJUSTMENT

Add the following to the first sentence in this adjustment:

"----- except in the case of the power loop."

PAGE 9, Bulletin 108
PAGE 7, Bulletin 167

PUNCH MAGNET CONTACT SCREW ADJUSTMENT

Add the following additional requirement to this adjustment:

"When the LETTERS keylever is fully depressed, there should be at least .002" clearance between the power loop and the loop stop."

* * *

CHANGES IN ADJUSTMENT BULLETINS

- 164, Issue 1 -- Tape Perforator, Page 5
- 147, Issue 2 -- Nontyping Reperforator, Page 11
- 148, Issue 2 -- Perforator Transmitter, Page 16
- 165, Issue 3 -- Typing Reperforator, Page 2-14
- 166, Issue 2 -- Perforator Transmitter, Page 18
- 171, Issue 2 -- Typing Reperforator, Page 14
- 178, Issue 1 -- Reperforator Transmitter Distributor, Page 25
- 193, Issue 1 -- Reperforator Transmitter Distributor, Page 22
- 203, Issue 1 -- Reperforator Transmitter Distributor, Page 2-15
- 167, Issue 1 -- Tape Perforator, Page 6

Bulletins 178, 193, and 203 - PREPUNCH TAPE TENSION LEVER STUD ADJUSTMENT
Bulletins 147, 148, 165, 166, and 171 - TAPE TENSION LEVER STUD ADJUSTMENT

Change these adjustments to read as follows:

The tape tension lever stud should be centrally located with respect to the feed roll pins. This requirement should be measured as follows:

- (a) Take up the feed roll end play towards the star wheel and the tension lever end play towards its adjusting nut. The edge of the lever slot may touch the feed roll pins on the side of the pins nearest the ratchet but there must be clearance on the other side.
- (b) Take up the feed roll end play away from the star wheel and the tension lever end play away from the tension adjusting nut. The edge of the lever slot may touch the feed roll pins on the side farthest away from the ratchet but there must be clearance on the other side.

To adjust, add or remove shims between the shoulder on the tape tension lever stud and its mounting bracket.

Bulletins 164 and 167 - TAPE TENSION LEVER STUD ADJUSTMENT

Insert the above adjustment immediately before the TAPE TENSION LEVER SPRING TENSION ADJUSTMENT.

* * *

CHANGES IN LUBRICATION SPECIFICATIONS
WHICH APPLY TO ALL TELETYPE APPARATUS

The following lubricants have been standardized for use on all types of Teletype apparatus. These lubricants supersede those referred to in preceding Teletype specifications. The lubricants can be ordered from Teletype as follows:

88970	1QT. 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 bearing. 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

* Indicates change

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EE-358
Issue 4, Page 2
November, 1940

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.

CHANGES IN TELETYPE
PART AND ASSEMBLY NUMBERS

In order to facilitate the use of automatic business machines in the conduct of its business, Teletype Corporation finds it necessary to eliminate all of its present part and assembly numbers containing dashes and/or letter prefixes. Such numbers have been replaced by others having 3 to 6 digits which may have a one-letter or a two-letter suffix.

The prefixes used with magnet, packing material, raw material such as wire in bulk, Teletype literature and wiring diagram numbers have been changed to suffixes, and in the case of bulletins and instruction manuals a suffix has been added to identify the items without reference to descriptions as shown in the following illustrations:

<u>Old Designation</u>	<u>New Designation</u>	<u>Description</u>
M121	121M	Magnet
PK10718	10718PK	Carton
RM31571	31571RM	Wire
121	121B	Bulletin
EE121	121EE	Correction Sheet
121	121MA	Instruction Manual
WD2186	2186WD	Wiring Diagram
S5037	5037S	Specification
S5333A	5333SA	Specification
S5333B	5333SB	Specification

All Teletype parts bulletins and price lists will eventually be changed to show the new as well as the old numbers for the convenience of Teletype Corporation customers.

*When an item is ordered under an old number, the new number will be substituted for the old one and the old number will be shown immediately after the description of the items on all shipping papers and invoices.

Attached are two conversion lists of the active numbers involved; one with the old numbers and descriptions arranged numerically and the other with the new numbers arranged numerically. It is to be noted that some of the new numbers have already been used in Teletype parts catalogs.

**Many numbers containing dashes cover parts considered obsolete and are not included in the attached lists. Occasionally one of these parts is reinstated, in which case the part will be shipped under the new number with the dash number shown immediately after the description. It is not intended to add such numbers to the correction sheet lists unless the part is to be commonly used.

*Indicates change
**Indicates addition

OLD TO NEW NUMBER CONVERSION LIST

Old No.	New No.	Description	Old No.	New No.	Description	Old No.	New No.	Description
4-8	74879	Stud	33-224	125178	Screw	35-33	112632	Spring
23-8	125105	Terminal	33-225	125179	Screw	35-34	125243	Spring
33-1	1157	Screw	33-227	125180	Screw	35-40	125244	Spring
33-2	125108	Screw	33-234	1177	Screw	35-42	110436	Spring
33-3	1158	Screw	33-238	1179	Screw	35-47	125246	Spring
33-4	1263	Screw	33-240	86850	Screw	35-52	4702	Spring
33-5	1159	Screw	33-252	125189	Screw	35-53	125248	Spring
33-6	1160	Screw	33-253	125190	Screw	35-54	112633	Spring
33-7	1161	Screw	33-254	125191	Screw	35-58	3608	Spring
33-8	125109	Screw	33-255	125192	Screw	35-68	125250	Spring
33-9	125110	Screw	33-257	125193	Screw	35-69	125251	Spring
33-10	1162	Screw	33-270	87636	Screw	35-70	110437	Spring
33-11	1163	Screw	33-271	125195	Screw	35-71	125252	Spring
33-12	125111	Screw	33-276	125197	Screw	35-72	125253	Spring
33-13	5740	Screw	33-278	125199	Screw	35-78	125254	Spring
33-14	1164	Screw	33-280	125005	Screw	35-80	125255	Spring
33-15	125112	Screw	33-282	125200	Screw	35-85	125257	Spring
33-16	1165	Screw	33-283	125201	Screw	35-86	4703	Spring
33-17	1166	Screw	33-296	125205	Screw	35-87	4708	Spring
33-18	125113	Screw	33-333	125006	Screw	35-88	110438	Spring
33-21	112620	Screw	33-334	112622	Screw	35-89	112634	Spring
33-22	125114	Screw	33-335	112623	Screw	35-99	125258	Spring
33-29	125116	Screw	33-336	125206	Screw	35-116	125262	Spring
33-32	125117	Screw	33-337	112624	Screw	35-126	3610	Spring
33-35	1168	Screw	33-341	125209	Screw	35-132	125267	Spring
33-37	1169	Screw	33-344	125211	Screw	35-133	125268	Spring
33-38	125119	Screw	33-346	125212	Screw	35-134	4705	Spring
33-39	1222	Screw	33-348	125213	Screw	35-137	112635	Spring
33-41	125120	Screw	33-350	125215	Screw	*35-140	112636	Spring
33-43	125122	Screw	33-360	1181	Screw	36-24	125272	Pin
33-49	1170	Screw	33-362	125217	Screw	36-28	125273	Pin
33-50	125124	Screw	34-1	125218	Nut	36-39	125276	Pin
33-53	1171	Screw	34-2	3595	Nut	36-45	125277	Pin
33-54	1172	Screw	34-4	112626	Nut	36-51	125278	Pin
33-57	125126	Screw	34-5	5475	Nut	36-56	3614	Pin
33-58	125127	Screw	34-6	3597	Nut	36-73	125280	Pin
33-63	125130	Screw	34-7	70073	Nut	36-80	125281	Pin
33-64	1173	Screw	34-8	3598	Nut	36-110	125288	Pin
33-65	125131	Screw	34-9	3599	Nut	36-114	125290	Pin
33-69	1223	Screw	34-10	125220	Nut	36-120	125269	Pin
33-70	125132	Screw	34-11	112627	Nut	*36-131	125092	Dowel
33-85	125138	Screw	*34-12	55257	Nut	36-132	125292	Pin
33-86	125139	Screw	34-13	125221	Nut	36-137	3614	Pin
33-89	125141	Screw	34-14	5815	Nut	36-147	125296	Pin
33-98	125142	Screw	34-16	125222	Nut	36-150	125297	Pin
33-101	125143	Screw	34-19	125223	Nut	36-153	110440	Pin
33-110	110434	Screw	34-24	125224	Nut	36-164	125300	Pin
33-111	49054	Screw	34-25	3600	Nut	43-10	125306	Stop
33-114	125146	Screw	34-27	125225	Nut	*43-12	71047	Washer
33-130	125149	Screw	34-28	3602	Nut	46-3	125307	Washer
33-132	125001	Screw	34-29	3603	Nut	61-7	3618	Insulator
33-153	125154	Screw	34-39	125227	Nut	61-10	125314	Screw
33-156	1162	Screw	34-41	125228	Nut	61-24	125010	Washer
33-157	1174	Screw	34-48	125229	Nut	61-25	125317	Insulator
33-158	125155	Screw	34-50	3604	Nut	100-74	5816	Washer
33-163	125157	Screw	*34-51	1036	Nut	100-75	3620	Washer
33-168	125159	Screw	34-55	3606	Nut	100-80	125328	Bushing
33-170	112621	Screw	34-56	110435	Nut	100-84	125330	Screw
33-179	125002	Screw	34-58	125231	Nut	100-85	3621	Terminal
33-180	125162	Screw	34-59	125009	Nut	100-96	110441	Shim
33-185	125163	Screw	34-61	125233	Nut	100-108	3624	Washer
33-193	125164	Screw	34-64	112628	Nut	100-112	125339	Terminal
33-194	125165	Screw	34-66	125235	Nut	100-120	125341	Bushing
33-195	1176	Screw	35-1	112629	Spring	103-27	125011	Washer
33-197	125167	Screw	35-2	112630	Spring	112-7	125373	Screw
33-198	125168	Screw	35-8	112631	Spring	122-5	125379	Post
33-206	125003	Screw	35-13	125236	Spring	122-11	125380	Chute
33-207	125170	Screw	35-24	125239	Spring	122-12	125381	Stud
33-208	125171	Screw	35-27	125241	Spring	122-18	125382	Cable
33-213	125176	Screw	35-28	125242	Spring	S-122-19	125383	Bracket
						S-122-20	125384	Bracket
						S-122-21	125385	Bracket

*Indicates change

Old No.	New No.	Description	Old No.	New No.	Description	Old No.	New No.	Description
S-122-22	125386	Bracket	122-194	125463	Disk	122-511	125594	Guide Assem.
S-122-23	125387	Bracket	122-195	125464	Disk	122-528	125596	Key Lever Assem.
S-122-24	125388	Bracket	122-196	125465	Bezel	122-529	125597	Key Lever Assem.
122-25	125389	Bracket	S-122-234	3627	Bar	122-530	125598	Key Lever Assem.
122-26	125390	Washer	122-242	125467	Lever Assem.	122-531	125599	Key Lever Assem.
122-27	125391	Shaft	122-244	125468	Post	122-532	125600	Key Lever Assem.
122-28	125392	Stop	122-245	125469	Pawl	122-533	125601	Key Lever Assem.
122-29	125393	Pin	122-246	125470	Post	122-534	125602	Key Lever Assem.
122-35	125394	Plate	122-247	125471	Disk Assem.	122-535	125603	Key Lever Assem.
122-36	125395	Pin	122-249	125472	Stud	122-536	125604	Key Lever Assem.
S-122-37	125396	Guide	122-259	125479	Disk	122-537	125605	Key Lever Assem.
S-122-38	125397	Bar	122-275	125481	Bracket	122-538	125606	Key Lever Assem.
S-122-39	3625	Shaft	122-276	125013	Plate	122-539	125607	Key Lever Assem.
S-122-40	125398	Bracket	122-350	125487	Tape Reel	122-540	125608	Key Lever Assem.
122-42	125400	Gear	122-357	125488	Spacer	122-541	125609	Key Lever Assem.
122-43	125401	Gear	122-359	125490	Ratchet	122-542	125610	Key Lever Assem.
122-46	125402	Post	122-364	125492	Bracket	122-543	125611	Key Lever Assem.
122-48	125012	Socket	122-365	125493	Punch Pin	122-544	125612	Key Lever Assem.
122-49	125403	Fitting	122-366	125494	Punch Pin	122-545	125613	Key Lever Assem.
122-50	125404	Lamp	122-369	125495	Guide Plate	122-546	125614	Key Lever Assem.
122-51	125405	Bell Crank	122-374	125499	Punch Bar	122-547	125615	Key Lever Assem.
122-52	125406	Bell Crank	122-375	125500	Punch Bar	122-548	125616	Key Lever Assem.
122-53	125407	Bell Crank	122-376	125501	Punch Bar	122-549	125617	Key Lever Assem.
122-54	125408	Bell Crank	122-377	125502	Punch Bar	122-550	125618	Key Lever Assem.
122-55	125409	Bell Crank	122-378	125503	Punch Bar	122-551	125619	Key Lever Assem.
122-56	125410	Bushing	122-380	125504	Lever	122-552	125620	Key Lever Assem.
122-57	125411	Bushing	122-381	125505	Contact	122-553	125621	Key Lever Assem.
122-58	125412	Stud	122-382	125506	Bail	122-554	125622	Key Lever Assem.
122-60	125413	Ratchet	122-383	125507	Key Lever	122-555	125623	Key Lever Assem.
122-61	125414	Post	122-384	112640	Die Block	122-556	125624	Key Lever Assem.
122-62	125415	Pin	122-386	125508	Bail Assem.	122-557	125198	Key Lever Assem.
122-63	125416	Post	122-389	125511	Pawl Assem.	122-558	125625	Key Lever Assem.
122-65	125417	Stud	122-390	125512	Contact Assem.	122-559	125626	Key Lever Assem.
122-67	125418	Post	122-396	125514	Hammer Assem.	122-567	125631	Hammer Assem.
122-68	3626	Foot	122-431	125548	Paper Keytop	122-571	125633	Guide Plate
S-122-69	125419	Stop	122-432	125549	Paper Keytop	122-575	111019	Block
122-84	125421	Pin	122-433	125550	Paper Keytop	122-576	125636	Plate Assem.
122-86	125422	Pin	122-434	125551	Paper Keytop	122-577	125637	Ratchet Assem.
122-88	125423	Solenoid Assem.	122-435	125552	Paper Keytop	122-580	125638	Paper Keytop
122-89	125424	Bracket	122-438	125555	Head	122-581	125639	Paper Keytop
122-94	125425	Terminal Brd.	122-451	125560	Lever Assem.	122-582	125640	Paper Keytop
122-95	125426	Insulator	122-452	125561	Lever Assem.	122-586	125642	Bracket Assem.
122-97	125427	Bushing	122-453	125562	Cable Assem.	122-589	125643	Washer
122-100	125428	Plate	122-454	125563	Cable	122-592	125645	Guide
122-101	125429	Head	122-459	125565	Paper Keytop	122-593	125646	Plate
122-102	125430	Post	122-460	125566	Paper Keytop	122-594	125647	Plate
122-106	125431	Bracket Assem.	122-461	125567	Paper Keytop	122-596	125648	Key Lever
122-107	125433	Bracket	122-462	125568	Paper Keytop	122-597	125649	Key Lever
122-108	125434	Bushing	122-463	125569	Paper Keytop	122-598	125650	Key Lever
122-113	9575	Screw	122-464	125570	Paper Keytop	122-599	125651	Key Lever
122-116	125438	Lever Assem.	122-465	125571	Paper Keytop	122-600	125652	Key Lever
122-117	125439	Lever	122-466	125572	Paper Keytop	122-601	125653	Key Lever
122-118	125440	Terminal	122-467	125573	Paper Keytop	122-602	125654	Key Lever
122-119	125441	Contact Assem.	122-468	125574	Paper Keytop	122-603	125655	Key Lever
122-121	125443	Contact	122-469	125575	Paper Keytop	122-604	125656	Key Lever
122-124	125444	Spring	122-470	125576	Paper Keytop	122-605	125657	Key Lever
122-126	125445	Insulator	122-471	125577	Paper Keytop	122-606	125658	Key Lever
122-127	125446	Stud	122-472	125578	Paper Keytop	122-607	125659	Key Lever
122-128	125447	Bracket Assem.	122-473	125579	Paper Keytop	122-608	125660	Key Lever
122-129	125448	Bracket	122-474	125580	Paper Keytop	122-609	125661	Key Lever
S-122-130	125449	Lever Assem.	122-475	125581	Paper Keytop	122-610	125662	Key Lever
122-133	125450	Post	122-476	125582	Paper Keytop	122-611	125663	Key Lever
S-122-134	125451	Bell Crank	122-477	125583	Paper Keytop	122-612	125664	Key Lever
122-135	125452	Washer	122-478	125584	Paper Keytop	122-613	125665	Key Lever
S-122-136	125453	Bracket	122-479	125585	Paper Keytop	122-614	125666	Key Lever
122-137	125454	Gear Assem.	122-480	125586	Paper Keytop	122-615	125667	Key Lever
122-140	125456	Stud	122-481	125587	Paper Keytop	122-616	125668	Key Lever
122-143	125457	Connector	122-482	125588	Paper Keytop	122-617	125669	Key Lever
122-146	125458	Bearing	122-483	125589	Paper Keytop	122-618	125670	Key Lever
122-147	125459	Bushing	122-484	125590	Paper Keytop	122-619	125671	Key Lever

Old No.	New No.	Description	Old No.	New No.	Description	Old No.	New No.	Description
122-620	125672	Key Lever	138-44	126243	Gauge	400-3	125903	Brush
122-621	125673	Key Lever	138-55	110443	Scale	400-218	125914	Terminal
122-622	125674	Key Lever	138-58	110444	Scale	500-205	125935	Spring
122-623	125675	Key Lever	138-100	88993	Burnisher	700-55	125947	Screw
122-624	125676	Key Lever	138-125	126245	Gauge	700-59	125948	Screw
122-625	125677	Key Lever	138-126	126246	Gauge	700-71	3650	Washer
122-626	125678	Key Lever	138-127	125775	Wrench	W-1238	126234	Pin
122-697	125683	Bushing	138-128	125776	Wrench	* 55083-1	126096	"T" Bar
122-698	125684	Lever Assem.	138-129	125777	Wrench	* 55083-2	126097	"T" Bar
122-699	125685	Stud	138-137	110445	Tool	* 55083-3	126098	"T" Bar
122-700	125686	Lever Assem.	138-139	125783	Stone	* 55083-4	126099	"T" Bar
122-702	125687	Bushing	200-20	3639	Washer	* 55083-5	126100	"T" Bar
122-703	125688	Bracket Assem.	200-153	3640	Washer	* 55083-6	126101	"T" Bar
122-704	125689	Paper Keytop	200-214	125789	Shim	* 55083-7	126102	"T" Bar
122-705	125690	Paper Keytop	200-1032	3646	Washer	* 55083-8	126103	"T" Bar
122-706	125691	Paper Keytop	200-1134	125793	Pin	* 55083-9	126104	"T" Bar
122-707	125692	Paper Keytop	200-1139	3647	Insulator	* 55083-10	126105	"T" Bar
122-708	125693	Paper Keytop	200-1177	126251	Insulator	* 55083-11	126106	"T" Bar
122-709	125694	Paper Keytop	200-1348	125802	Washer	* 55083-12	126107	"T" Bar
122-710	125695	Paper Keytop	200-2212	3649	Washer	* 55083-13	126108	"T" Bar
123-7	3628	Bushing	300-106	125814	Guide	* 55083-14	126109	"T" Bar
123-8	71444	Bushing	300-107	125815	Contact Assem.	* 55083-15	126110	"T" Bar
123-36	3630	Bushing	300-108	125816	Mounting Bar	* 55083-16	126111	"T" Bar
123-37	125696	Post	300-109	125817	Mounting Bar	* 55083-17	126112	"T" Bar
123-164	3633	Bushing	300-110	125818	Insulator	* 55083-18	126113	"T" Bar
123-165	3634	Bushing	300-113	125820	Disk	* 55083-20	126114	"T" Bar
123-166	3635	Washer	300-121	125828	Shaft	* 55083-21	126115	"T" Bar
123-167	3636	Washer	300-128	125829	Lever	55084-A2	126156	Bar
123-244	125015	Washer	300-137	125833	Lever Guide	55084-A4	126157	Bar
123-308	125703	Terminal	300-152	125844	Adj. Lever	55084-A6	126158	Bar
125-9	3638	Condenser	300-170	125848	Cont. Lever	55084-A8	126159	Bar
125-176	125716	Switch Box	300-171	125849	Cont. Lever	55084-A10	126160	Bar
125-197	125097	Nipple	300-172	125850	Cont. Lever	55084-A12	126161	Bar
125-198	125098	Nut	300-173	125851	Cont. Lever	55084-A14	126162	Bar
125-208	125719	Nipple	300-174	125852	Cont. Lever	55084-A16	126163	Bar
125-209	125720	Nut	300-178	125855	Terminal	55084-A18	126164	Bar
125-237	125723	Fuse	300-179	125856	Terminal Block	55084-A20	126165	Bar
125-238	125724	Fuse	300-181	125858	Feed Pawl	55084-B1	126166	Bar
126-123	125016	Grommet	300-201	125860	End Bracket	55084-B3	126167	Bar
138-22	110442	Screw Driver	300-301	5556	Top Plate	55084-B5	126168	Bar
138-23	125752	Wrench	300-302	125861	Feed Wheel	55084-B7	126169	Bar
138-25	125754	Wrench	*300-303	125862	Bearing	55084-B9	126170	Bar
138-26	125755	wrench	300-312	125867	Bracket	55084-B11	126171	Bar
138-27	125756	Wrench	300-314	125868	Detent Assem.	55084-B13	126172	Bar
138-28	125757	Wrench	300-319	125871	Bracket	55084-B15	126173	Bar
138-30	125758	File	300-320	125872	Shaft	55084-B17	126174	Bar
138-33	125760	Wrench	300-322	125873	Latch			
138-34	125761	Wrench	300-400	125874	End Bracket			
138-36	125763	Wrench	300-506	4707	Washer			
138-43	126242	Gauge	300-510	125882	Terminal			

NEW TO OLD NUMBER CONVERSION LIST

New No.	Old No.	New No.	Old No.	New No.	Old No.	New No.	Old No.
*1036	34-51	9575	122-113	125138	33-85	125258	35-99
1157	33-1	49054	33-111	125139	33-86	125262	35-116
1158	33-3	*55257	34-12	125141	33-89	125267	35-132
1159	33-5	70073	34-7	125142	33-98	125268	35-133
1160	33-6	*71047	43-12	125143	33-101	125269	36-120
		71444	123-8				
1161	33-7	74879	4-8	125146	33-114	125272	36-24
1162	(33-10)	86850	33-240	125149	33-130	125273	36-28
	(33-156)	87636	33-270	125154	33-153	125276	36-39
1163	33-11	88993	138-100	125155	33-158	125277	36-45
1164	33-14	110434	33-110	125157	33-163	125278	36-51
1165	33-16	110435	34-56	125159	33-168	125280	36-73
1166	33-17	110436	35-42	125162	33-180	125281	36-80
1168	33-35	110437	35-70	125163	33-185	125288	36-110
1169	33-37	110438	35-88	125164	33-193	125290	36-114
1170	33-49	110440	36-153	125165	33-194	125292	36-132
1171	33-53	110441	100-96	125167	33-197	125296	36-147
1172	33-54	110442	138-22	125168	33-198	125297	36-150
1173	33-64	110443	138-55	125170	33-207	125300	36-164
1174	33-157	110444	138-58	125171	33-208	125306	43-10
1176	33-195	110445	138-137	125176	33-213	125307	46-3
1177	33-234	111019	122-575	125178	33-224	125314	61-10
1179	33-238	112620	33-21	125179	33-225	125317	61-25
1181	33-360	112621	33-170	125180	33-227	125328	100-80
1222	33-39	112622	33-334	125189	33-252	125330	100-84
1223	33-69	112623	33-335	125190	33-253	125339	100-112
1263	33-4	112624	33-337	125191	33-254	125341	100-120
3595	34-2	112626	34-4	125192	33-255	125373	112-7
3597	34-6	112627	34-11	125193	33-257	125379	122-5
3598	34-8	112628	34-64	125195	33-271	125380	122-11
3599	34-9	112629	35-1	125197	33-276	125381	122-12
3600	34-25	112630	35-2	125198	122-557	125382	122-18
3602	34-28	112631	35-8	125199	33-278	125383	S-122-19
3603	34-29	112632	35-33	125200	33-282	125384	S-122-20
3604	34-50	112633	35-54	125201	33-283	125385	S-122-21
3606	34-55	112634	35-89	125205	33-296	125386	S-122-22
3608	35-58	112635	35-137	125206	33-336	125387	S-122-23
3610	35-126	*112636	35-140	125209	33-341	125388	S-122-24
	(36-56)	112640	122-384	125211	33-344	125389	122-25
3614	(36-137)	125001	33-132	125212	33-346	125390	122-26
		125002	33-179	125213	33-348	125391	122-27
		125003	33-206				
3618	61-7	125005	33-280	125215	33-350	125392	122-28
3620	100-75	125006	33-333	125217	33-362	125393	122-29
3621	100-85	125009	34-59	125218	34-1	125394	122-35
3624	100-108	125010	61-24	125220	34-10	125395	122-36
3625	S-122-39	125011	103-27	125221	34-13	125396	S-122-37
3626	122-68	125012	122-48	125222	34-16	125397	S-122-38
3627	S-122-234	125013	122-276	125223	34-19	125398	S-122-40
3628	123-7	125015	123-244	125224	34-24	125400	122-42
3630	123-36	125016	126-123	125225	34-27	125401	122-43
3633	123-164	*125092	36-131	125227	34-39	125402	122-46
		125097	125-197				
3634	123-165	125098	125-198	125228	34-41	125403	122-49
3635	123-166	125105	23-8	125229	34-48	125404	122-50
3636	123-167	125108	33-2	125231	34-58	125405	122-51
3638	125-9	125109	33-8	125233	34-61	125406	122-52
3639	200-20	125110	33-9	125235	34-66	125407	122-53
3640	200-153	125111	33-12	125236	35-13	125408	122-54
3646	200-1032	125112	33-15	125239	35-24	125409	122-55
3647	200-1139	125113	33-18	125241	35-27	125410	122-56
3649	200-2212	125114	33-22	125242	35-28	125411	122-57
3650	700-71	125116	33-29	125243	35-34	125412	122-58
4702	35-52	125117	33-32	125244	35-40	125413	122-60
4703	35-86	125119	33-38	125246	35-47	125414	122-61
4705	35-134	125120	33-41	125248	35-53	125415	122-62
4707	300-506	125122	33-43	125250	35-68	125416	122-63
4708	35-87	125124	33-50	125251	35-69	125417	122-65
5475	34-5	125126	33-57	125252	35-71	125418	122-67
5556	300-301	125127	33-58	125253	35-72	125419	S-122-69
5740	33-13	125130	33-63	125254	35-78	125421	122-84
5815	34-14	125131	33-65	125255	35-80	125422	122-86
5816	100-74	125132	33-70	125257	35-85	125423	122-88

*Indicates change

<u>New No.</u>	<u>Old No.</u>	<u>New No.</u>	<u>Old No.</u>	<u>New No.</u>	<u>Old No.</u>	<u>New No.</u>	<u>Old No.</u>
125424	122-89	125566	122-460	125651	122-599	125833	300-137
125425	122-94	125567	122-461	125652	122-600	125844	300-152
125426	122-95	125568	122-462	125653	122-601	125848	300-170
125427	122-97	125569	122-463	125654	122-602	125849	300-171
125428	122-100	125570	122-464	125655	122-603	125850	300-172
125429	122-101	125571	122-465	125656	122-604	125851	300-173
125430	122-102	125572	122-466	125657	122-605	125852	300-174
125431	122-106	125573	122-467	125658	122-606	125855	300-178
125433	122-107	125574	122-468	125659	122-607	125856	300-179
125434	122-108	125575	122-469	125660	122-608	125858	300-181
125438	122-116	125576	122-470	125661	122-609	125860	300-201
125439	122-117	125577	122-471	125662	122-610	125861	300-302
125440	122-118	125578	122-472	125663	122-611	125862	300-303
125441	122-119	125579	122-473	125664	122-612	125867	300-312
125443	122-121	125580	122-474	125665	122-613	125868	300-314
125444	122-124	125581	122-475	125666	122-614	125871	300-319
125445	122-126	125582	122-476	125667	122-615	125872	300-320
125446	122-127	125583	122-477	125668	122-616	125873	300-322
125447	122-128	125584	122-478	125669	122-617	125874	300-400
125448	122-129	125585	122-479	125670	122-618	125882	300-510
125449	S-122-130	125586	122-480	125671	122-619	125903	400-3
125450	122-133	125587	122-481	125672	122-620	125914	400-218
125451	S-122-134	125588	122-482	125673	122-621	125935	500-205
125452	122-135	125589	122-483	125674	122-622	125947	700-55
125453	S-122-136	125590	122-484	125675	122-623	125948	700-59
125454	122-137	125594	122-511	125676	122-624	126096	55083-1
125456	122-140	125596	122-528	125677	122-625	126097	55083-2
125457	122-143	125597	122-529	125678	122-626	126098	55083-3
125458	122-146	125598	122-530	125683	122-697	126099	55083-4
125459	122-147	125599	122-531	125684	122-698	126100	55083-5
125463	122-194	125600	122-532	125685	122-699	126101	55083-6
125464	122-195	125601	122-533	125686	122-700	126102	55083-7
125465	122-196	125602	122-534	125687	122-702	126103	55083-8
125467	122-242	125603	122-535	125688	122-703	126104	55083-9
125468	122-244	125604	122-536	125689	122-704	126105	55083-10
125469	122-245	125605	122-537	125690	122-705	126106	55083-11
125470	122-246	125606	122-538	125691	122-706	126107	55083-12
125471	122-247	125607	122-539	125692	122-707	126108	55083-13
125472	122-249	125608	122-540	125693	122-708	126109	55083-14
125479	122-259	125609	122-541	125694	122-709	126110	55083-15
125481	122-275	125610	122-542	125695	122-710	126111	55083-16
125487	122-350	125611	122-543	125696	123-37	126112	55083-17
125488	122-357	125612	122-544	125703	123-308	126113	55083-18
125490	122-359	125613	122-545	125716	125-176	126114	55083-20
125492	122-364	125614	122-546	125719	125-208	126115	55083-21
125493	122-365	125615	122-547	125720	125-209	126156	55084-A2
125494	122-366	125616	122-548	125723	125-237	126157	55084-A4
125495	122-369	125617	122-549	125724	125-238	126158	55084-A6
125499	122-374	125618	122-550	125752	138-23	126159	55084-A8
125500	122-375	125619	122-551	125754	138-25	126160	55084-A10
125501	122-376	125620	122-552	125755	138-26	126161	55084-A12
125502	122-377	125621	122-553	125756	138-27	126162	55084-A14
125503	122-378	125622	122-554	125757	138-28	126163	55084-A16
125504	122-380	125623	122-555	125758	138-30	126164	55084-A18
125505	122-381	125624	122-556	125760	138-33	126165	55084-A20
125506	122-382	125625	122-558	125761	138-34	126166	55084-B1
125507	122-383	125626	122-559	125763	138-36	126167	55084-B3
125508	122-386	125631	122-567	125775	138-127	126168	55084-B5
125511	122-389	125633	122-571	125776	138-128	126169	55084-B7
125512	122-390	125636	122-576	125777	138-129	126170	55084-B9
125514	122-396	125637	122-577	125783	138-139	126171	55084-B11
125548	122-431	125638	122-580	125789	200-214	126172	55084-B13
125549	122-432	125639	122-581	125793	200-1134	126173	55084-B15
125550	122-433	125640	122-582	125802	200-1348	126174	55084-B17
125551	122-434	125642	122-586	125814	300-106	126234	W-1238
125552	122-435	125643	122-589	125815	300-107	126242	138-43
125555	122-438	125645	122-592	125816	300-108	126243	138-44
125560	122-451	125646	122-593	125817	300-109	126245	138-125
125561	122-452	125647	122-594	125818	300-110	126246	138-126
125562	122-453	125648	122-596	125820	300-113	126251	200-1177
125563	122-454	125649	122-597	125828	300-121		
125565	122-459	125650	122-598	125829	300-128		

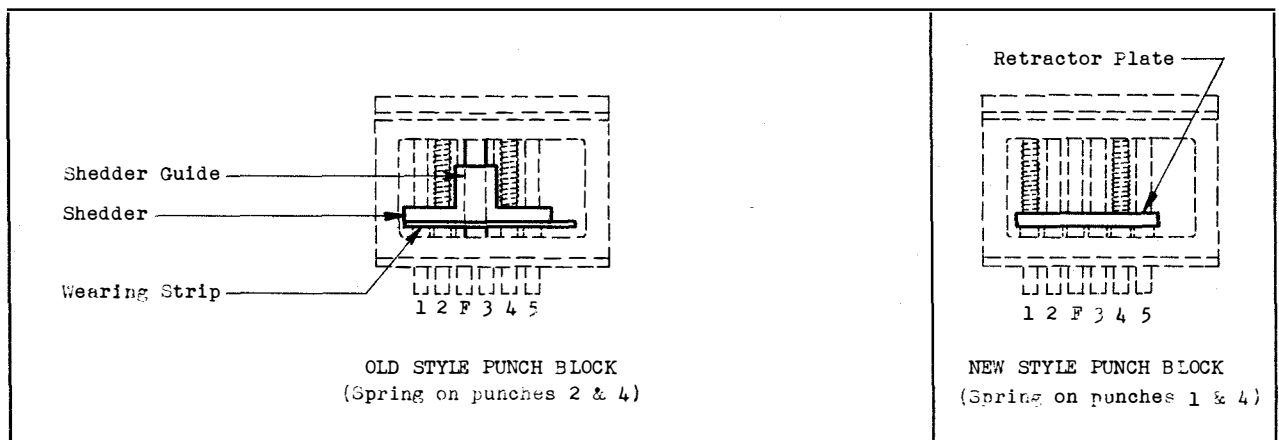
CHANGES AND ADDITIONS
TO PARTS BULLETINS

1001	Issue 1	1067	Issue 2	1090	Issue 2
1012	Issue 2	1080	Issue 1	1093	Issue 1
1038	Issue 2	1082	Issue 2	1100	Issue 2
1052	Issue 1	1088	Issue 2	1117	Issue 2
1064	Issue 2	1089	Issue 1		

The punch block assemblies shown in the above bulletins have been redesigned and assigned new assembly numbers. Old style punch block assemblies are no longer furnished. On orders for old style blocks, new style assemblies which are fully interchangeable with the old style will be furnished.

The sketches below illustrate the difference between the old and new style assemblies, and it should be noted that the shedder and wearing strip are replaced by a retractor plate, and the shedder guides are not used. The shedder and wearing strip are no longer being furnished. When it is desired to replace a shedder or wearing strip, a retractor plate should be ordered instead.

The chart below may be used to determine the new style punch block assembly number which replaces an old style, and which retractor plate must be ordered to replace the old style shedder, and/or wearing strip.



Old Style Assembly Number	Apparatus Used On	Type of Punch Block			Shedder	Wearing Strip	New Style Assembly Number	Retractor Plate
		Number of Code Punch Holes	Type of Feed Hole	Grinding on Punches				
122-384	Perf. & nontyp. Reperf. (5 mag.)	5	Advanced	Cup Ground	122-367	122-368	112640	110902
122-575	Perf. & nontyp. Reperf. (5 mag.)	5	Straight	Cup Ground	122-367	122-574	111019	110901
77987	Perforator	6	Straight	Cup Ground	75121	77986	112642	110903
81510	Perforator	6	Advanced	Cup Ground	75121	75120	112643	110904
81792	Perf. Trans.	5	Straight	Cup Ground	75121	77986	111020	110901
85356	Nontyp. Reperf.	6	Advanced	V Notch	75121	75120	112645	110904
86113	Nontyp. Reperf.	5	Straight	V Notch	75121	77986	111021	110901
89504	Perf. Trans.	5	Straight	Cup Ground	75121	77986	111022	110901
91114	Perf. Trans.	5	Advanced	Cup Ground	75121	75120	112646	110902
94904	Perforator	7	Advanced	Cup Ground	94948	94950	112647	110905
95451	Typ. Reperf.	5	Straight	Cup Ground	122-367	122-574	111023	110901
97472	Nontyp. Reperf.	5	Advanced	V Notch	75121	75120	112648	110902
102790	Typ. Reperf.	5	Straight	Cup Ground	122-367	122-574	111024	110901
104573	Typ. Reperf.	5	Advanced	Cup Ground	122-367	122-368	112649	110902

CHANGES AND ADDITIONS TO BULLETIN NO. 1093, ISSUE 1
PARTS - PERFORATOR

Page 1

The 33-14 screw used to mount the 122-380 tape tension lever should read "33-114 screw."

Page 3

The plunger rod illustrated between the two M-25 magnet coils may be ordered as "75789 plunger rod" and is a part of the 122-88 punch magnet bracket (assem.)

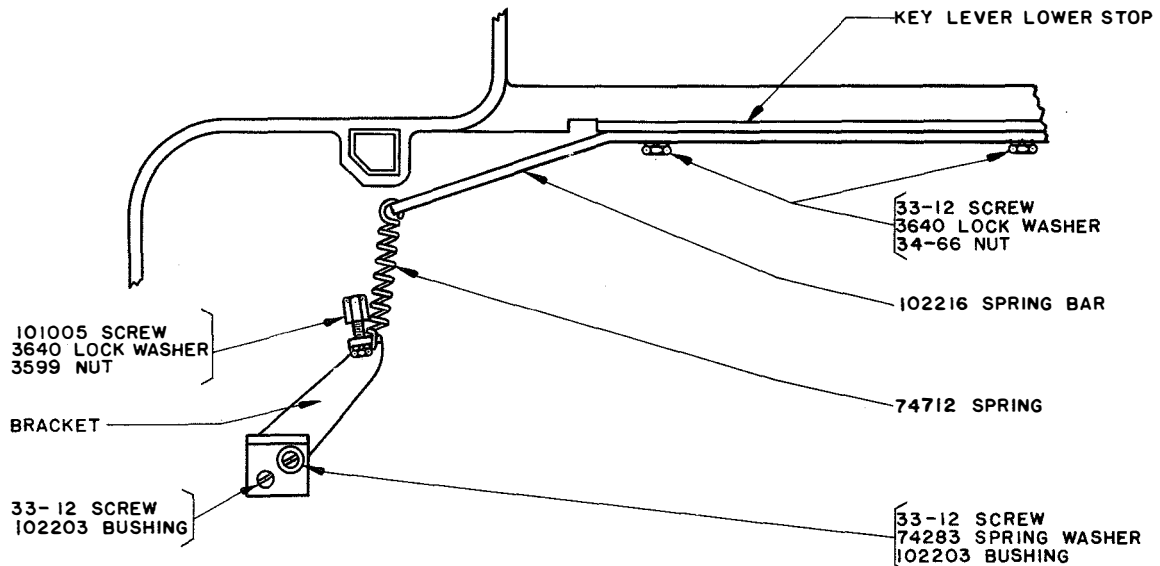
Page 6

The 35-86 spring for the 7103 pawl has been replaced by a 35-70 spring.

The 3598 nut used with the 101005 screw on the 99829 bracket should read "3599 nut."

The 103-102 screw-contact and 34-13 nut are not included in the 122-128 lamp contact bracket (assem.) as indicated by the bracket.

The design of the end-of-line indicating mechanism has been changed to provide a slight yield in the mounting of the 99829 bracket. The following figure shows the new parts introduced by this change:



Page 7

To improve operating margins, a 103965 relay support has been added. This support is mounted on top of the 99961 relay bracket and requires the use of the 1161 mounting screws instead of the 1176 screws formerly used to mount the 99961 relay bracket.

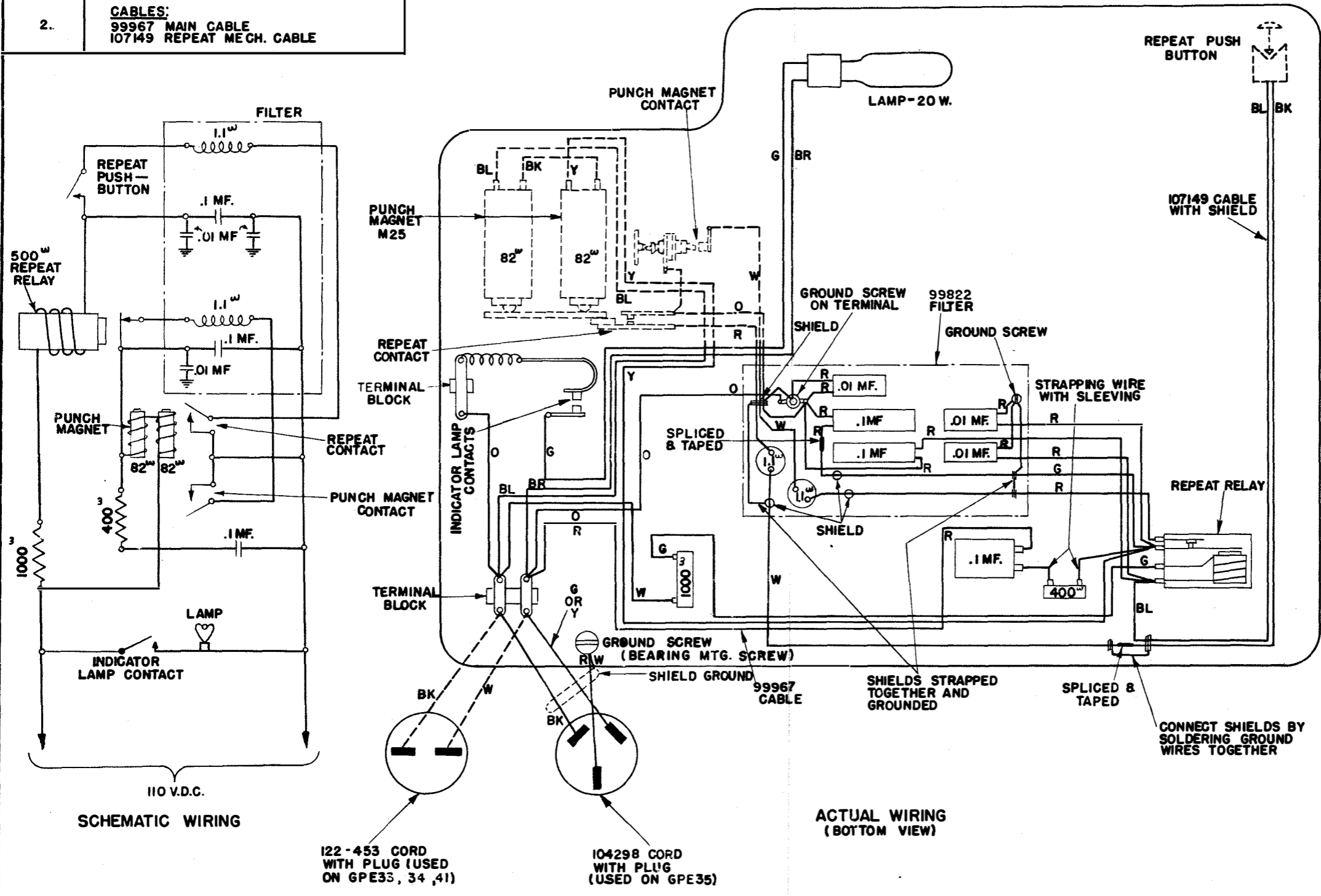
The 72570 strap used to mount the 101089 condenser has been replaced by a 104284 strap.

Page 9

The 103-102 screw-contact and 34-13 nut are not included in the 122-128 lamp contact bracket (assem.) as indicated by the bracket.

NO.	NOTES			
	WIRE COLOR CODE			
1.	CODE	SOLID COLOR OR TRACER IN WHITE WIRE	CODE	SOLID COLOR OR TRACER IN WHITE WIRE
	BL	- BLUE	O	- ORANGE
	BK	- BLACK	P	- PURPLE - RED & BLUE TRACER
	R	- RED	BR	- BROWN
	Y	- YELLOW	W	- WHITE
	G	- GREEN		
2.	CABLES: 99967 MAIN CABLE 107149 REPEAT MECH. CABLE			

REVISIONS		
(F)	REDRAWN. 3-30-44	33850
(G)	7-7-44	35007
(H)	6-21-46	40419
(I)	7-7-47	42530
(J)	8-1-47	42606
(K)	1-16-48	43703
(L)	3-16-50	49231



FILE: G-28 AAA

WD-1987-L
9-25-43

WIRING DIAGRAM
MODEL 14 PERFORATOR
WITH RADIO FILTER

GPE33,34,35,39,41

DRAWN V.RE.	APPROVED
ENG'R'D BW	<i>Rab</i>

TELETYPE CORPORATION

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.

CHANGES AND ADDITIONS
BULLETIN NO. 1077 (ISSUE 3)
PARTS - TABLE

This correction sheet covers parts ordering information for the Model 15 or 26 send-receiving printer metal table (XRT-115) having all the electrical service parts housed in a metal container on the underside of the table.

Also covered herein is parts ordering information for the 19 type set metal table (XRT-116) designed for use with multi-voltage, multi-frequency rectifiers.

Pages 1 and 2

XRT-115 is a metal table (black wrinkle), without the "Lord Mounting" features, designed to mount either a Model 15 or 26 send-receiving printer. This table is similar to the one illustrated on pages 1 and 2, but differs in that all the electrical service parts shown on the underside of the table are mounted in a metal container. This container, and all the parts mounted therein, are shown in the 105014 electrical service (Assem.) shown on page 3 of this correction sheet.

The XRT-115 table consists of one table, one 105014 electrical service (Assem.), one 91863 pad and four 91095 feet. For wiring data, see wiring diagram W.D.-2146.

Pages 11 and 12

XRT-116 is a metal table (black wrinkle) without the "Lord Mounting" features, designed to mount a 19 type set. This table is similar to the one illustrated on pages 11 and 12, plus the additional parts listed below:

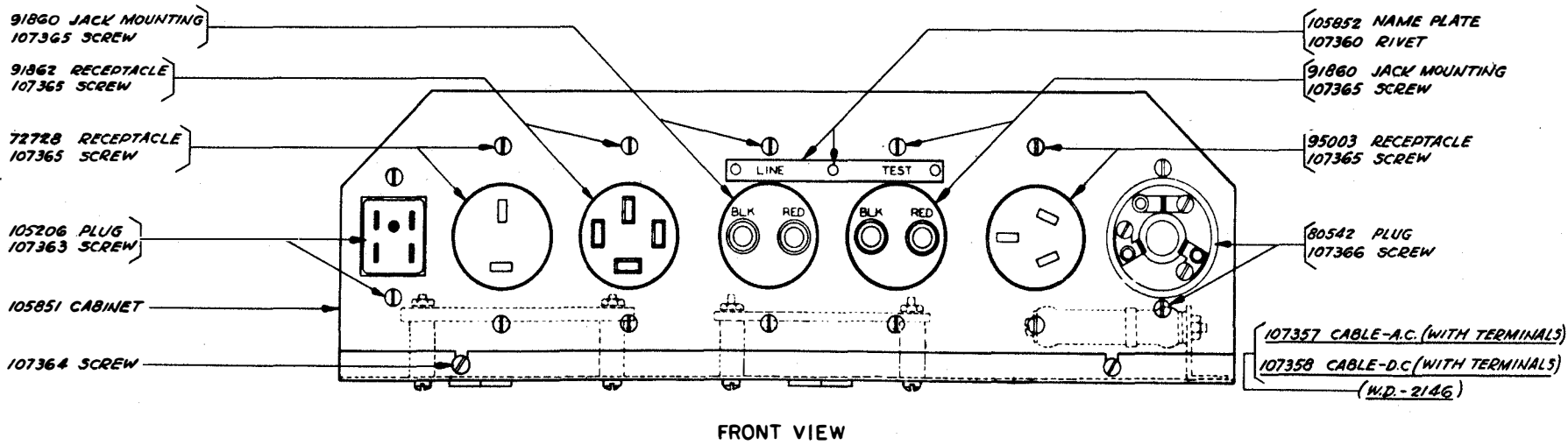
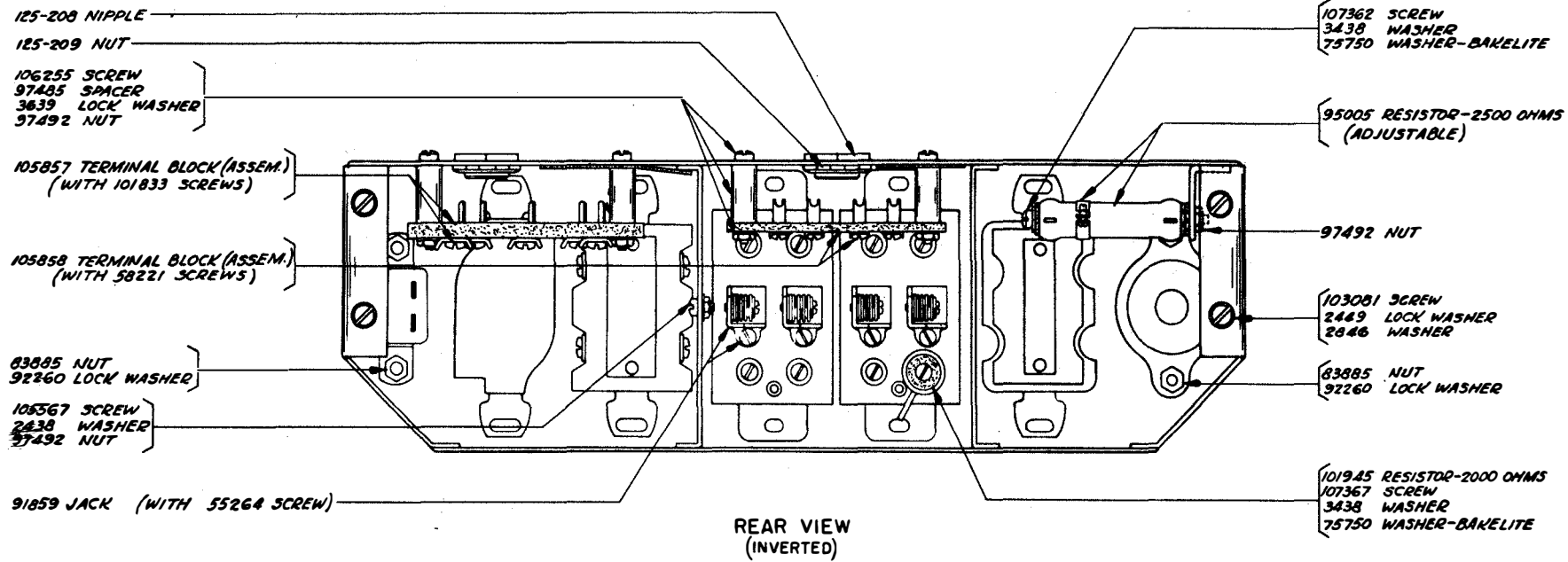
(95005 Resistor (2500 ohms)		2
(92271 Screw)		2
A(76099 Washer (Steel))	For 95005	2
(75750 Washer (Bakelite))		10
(2191 Lock Washer)		2
(105855 Terminal Strip		2
B(200-148 Spacer)	For 105855	4
(73235 Screw)		4
(105205 Plug Mounting Bracket		1
(33-4 Screw)		4
(7002 Washer)	For 105205	4
(2191 Lock Washer)		4
C(105206 Plug - 4 Prong		1
(1176 Screw)	For 105206	2
(2191 Lock Washer)		2
(105391 Knife Switch - 4 P.D.T.		1

(	80757	Screw	)		2
C	(	2669	Lock Washer	) For 105391	2
	(	34-58	Nut	)	2
	(106067	Connector (with terminals)			2
	(103287	Fusetron (1.25 amp.)			1
D	(103288	Fusetron (1.40 amp.)			1
	(105387	Cable			1
	(105392	Cable			1
	(105393	Cable			1

- (A) Parts in Group A are mounted behind the "line jack" mounting panel.
- (B) Parts in Group B are mounted on top of the three short terminal blocks.
- (C) Parts in Group C are mounted between the two long terminal blocks and the three lower receptacles.
- (D) For location of parts in Group D refer to wiring diagrams W.D.-2161 and W.D.-2162.

Page 13

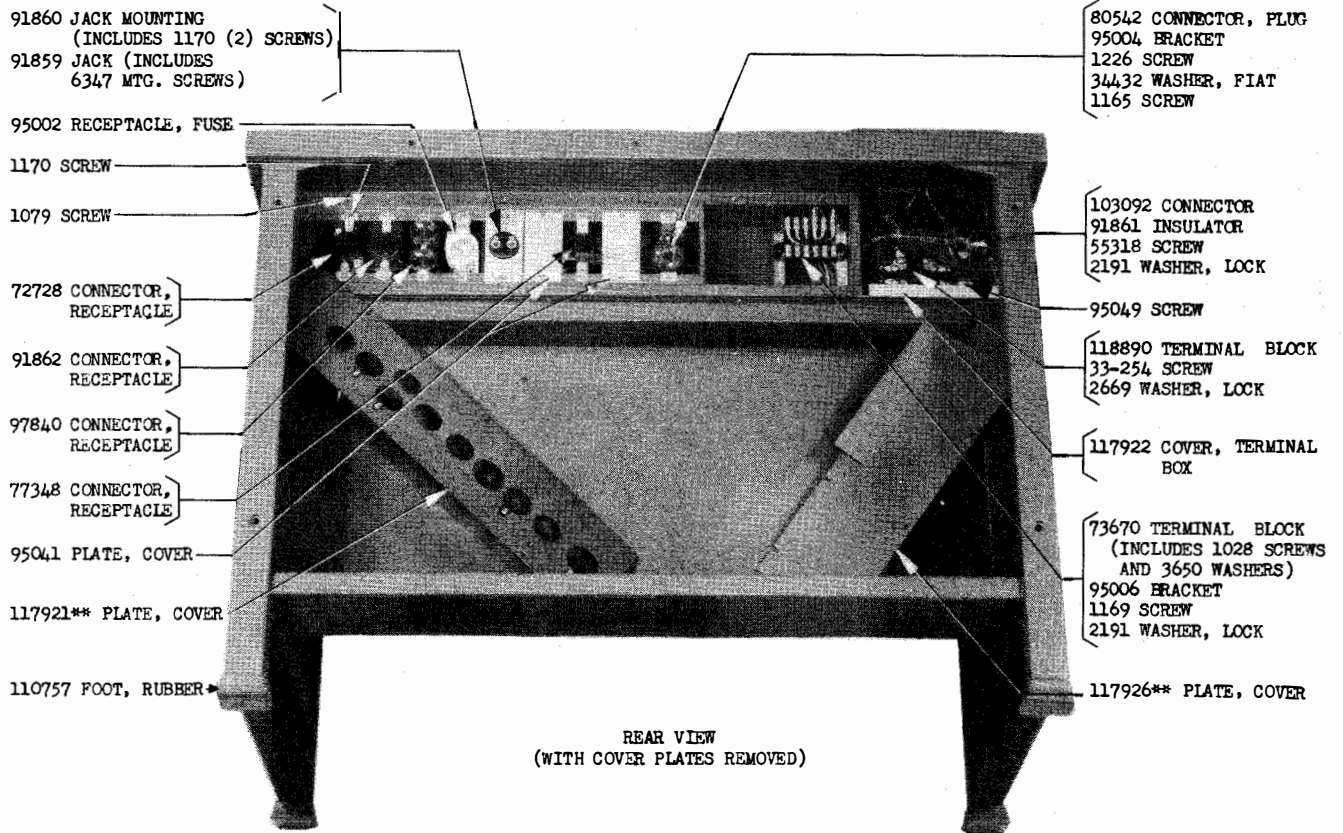
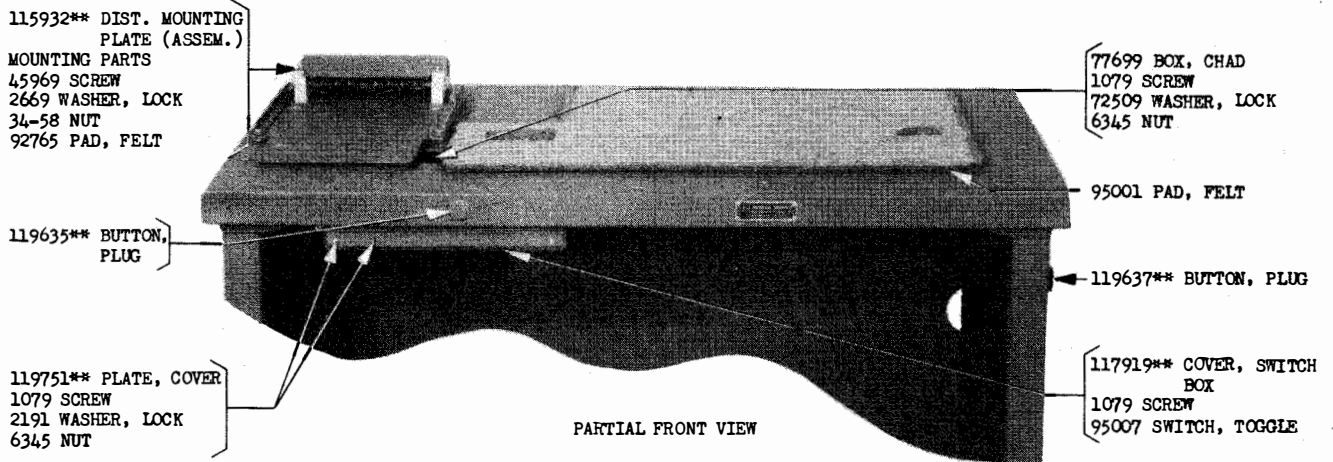
Two guards have been added under the 77625 slip connection guard of the 84103 mounting plate (Assem.). These two guards may be ordered as 105187 Guard - left and 105188 guard - right.



105014 ELECTRICAL SERVICE (ASSEM.)-BLACK WRINKLE
(PART OF XRT115 TABLE)

CHANGES AND ADDITIONS
TO BULLETIN NO. 1077 (ISSUE 3)

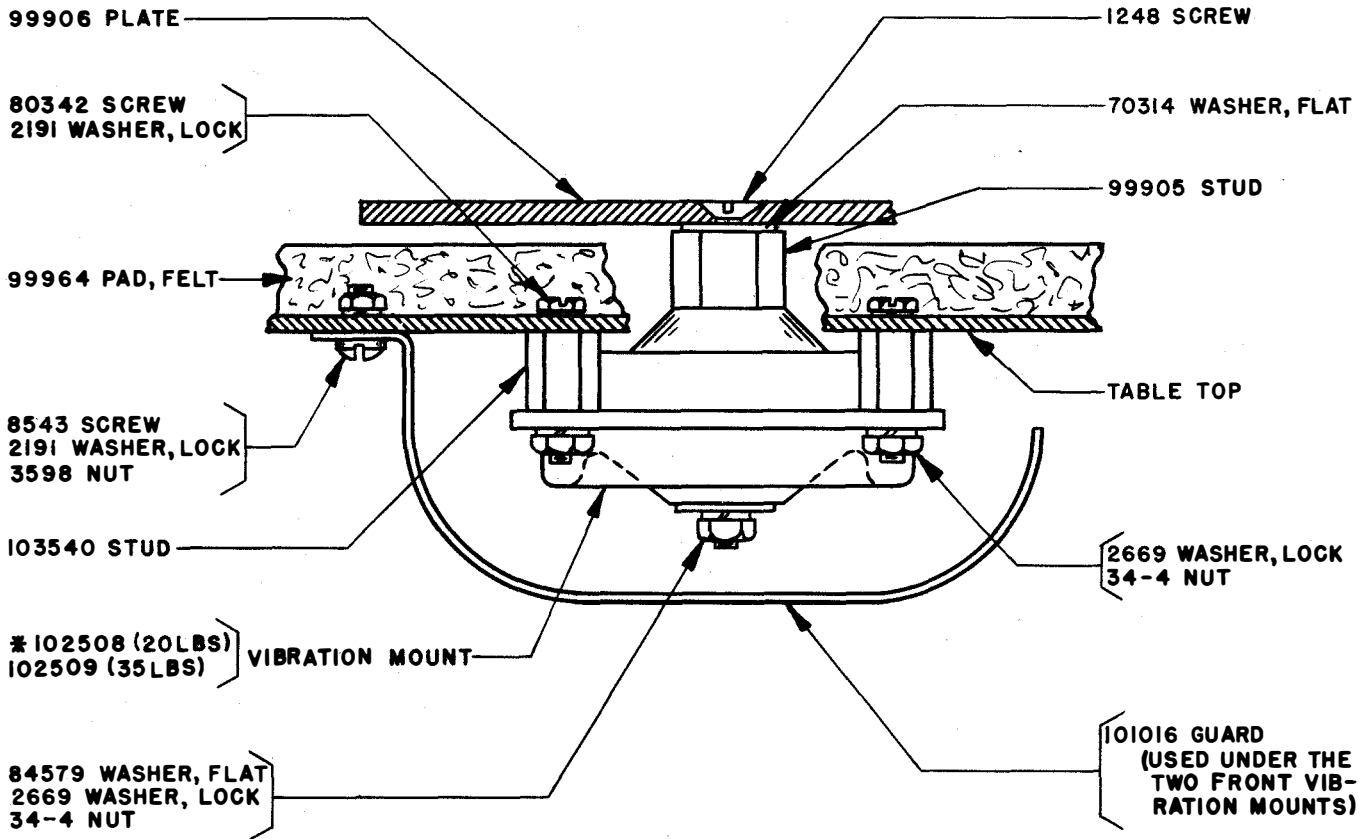
PARTS ORDERING INFORMATION FOR
MODEL 19 TABLES XRT205** AND XRT206**



NOTE: THE DOUBLE ASTERISK (**) DESIGNATES A TWO-LETTER SUFFIX WHICH INDICATES THE TEXTURE AND COLOR OF THE PAINT FINISH. THE FOLLOWING FOUR STANDARD WRINKLE FINISHES ARE NOW AVAILABLE:

AA - BLACK	AC - LIGHT BROWN
AB - GRAY GREEN	AD - DARK BROWN

CUSHION MOUNTING PARTS FOR MODEL 19 TABLE



VIBRATION MOUNT AS VIEWED
FROM RIGHT SIDE OF TABLE

THE XRT205 METAL TABLE WHEN EQUIPPED WITH THE 117082 SET OF PARTS (SHOWN ABOVE) CONVERTS IT TO AN XRT206.

* THE 102508 (20 LBS.) VIBRATION MOUNT IS TO BE PLACED AT THE LEFT REAR SIDE AS VIEWED FROM FRONT OF TABLE.

CHANGES AND ADDITIONS
BULLETIN 1077 (ISSUE 3) PARTS - TABLES

This correction sheet covers parts ordering information for the XT201** Table with the 97414** Shelf. XT201** Table supersedes the XT39 Table.

On page 3 of this correction sheet, the 115932** Distributor Mounting Plate Assembly (Six Unit) supersedes the 84103 Mounting Plate Assembly (Five Unit) shown on page 13 of the bulletin.

Note:

The double asterisk (**) designates a two-letter suffix which denotes the paint finish. The following finishes are now available on the finished parts listed in this correction sheet:

AA - Black Wrinkle
AB - Gray Green Wrinkle

AC - Light Brown Wrinkle
AD - Dark Brown Wrinkle

90109 FUSETRON 3.2 AMP
91589 ADAPTER - FUSE
92256 RECEPTACLE - FUSE
5547 RECEPTACLE

97620 PLATE
5668 SWITCH BOX (3)
125200 SCREW
2382 LOCK WASHER
125231 NUT
FOR SECURING SWITCH
BOX TO THE TABLE

RECEPTACLE - DUPLEX
(SEE PAGE 4)

91858 CONNECTING BLOCK
1179 SCREW
2191 LOCK WASHER
7002 WASHER
3598 NUT

DISTRIBUTOR PLATE
(ASSE.M.) - SEE PAGE 3

97414 ** SHELF
8185 SCREW
2449 LOCK WASHER
3292 NUT

55309 SCREW (6)

1284 SCREW

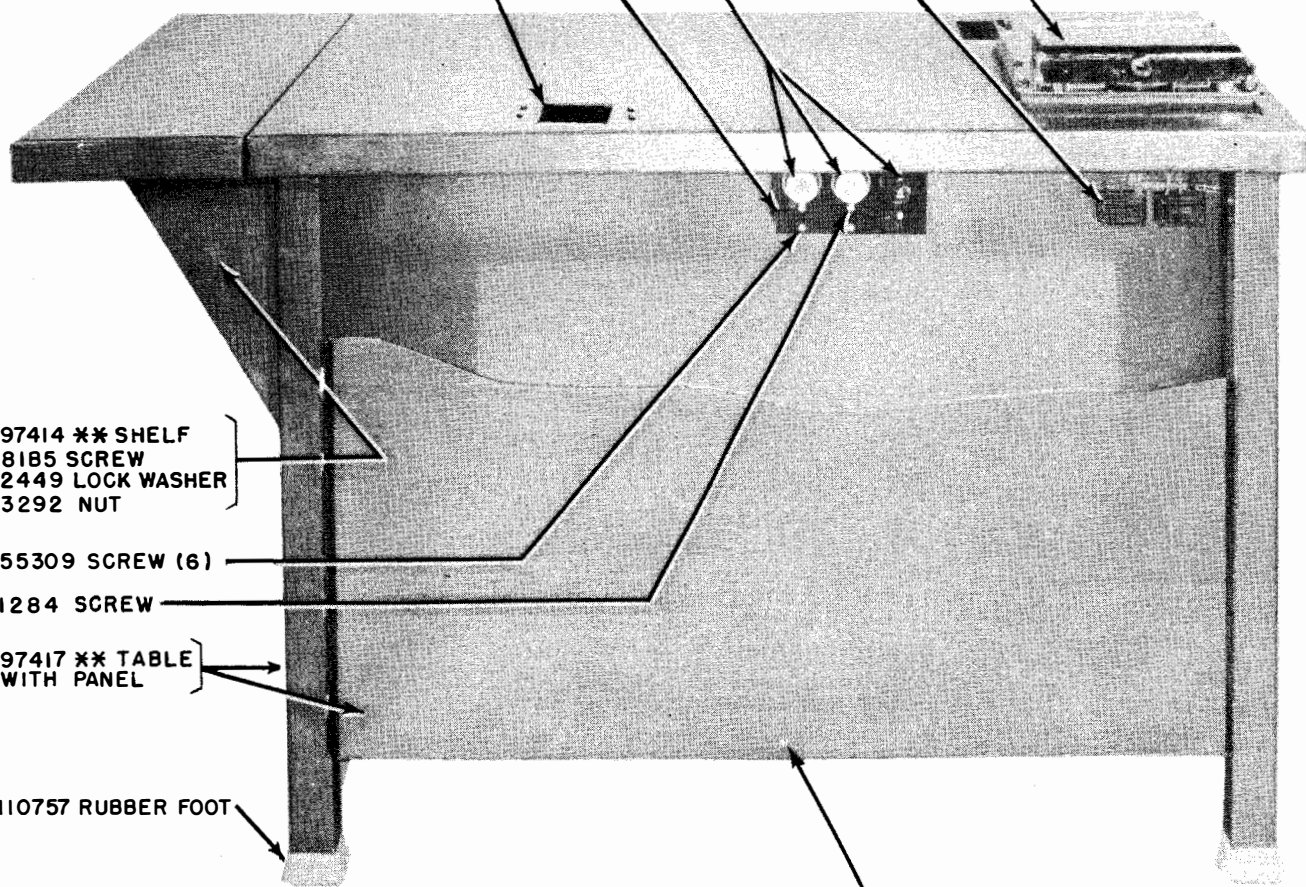
97417 ** TABLE
WITH PANEL

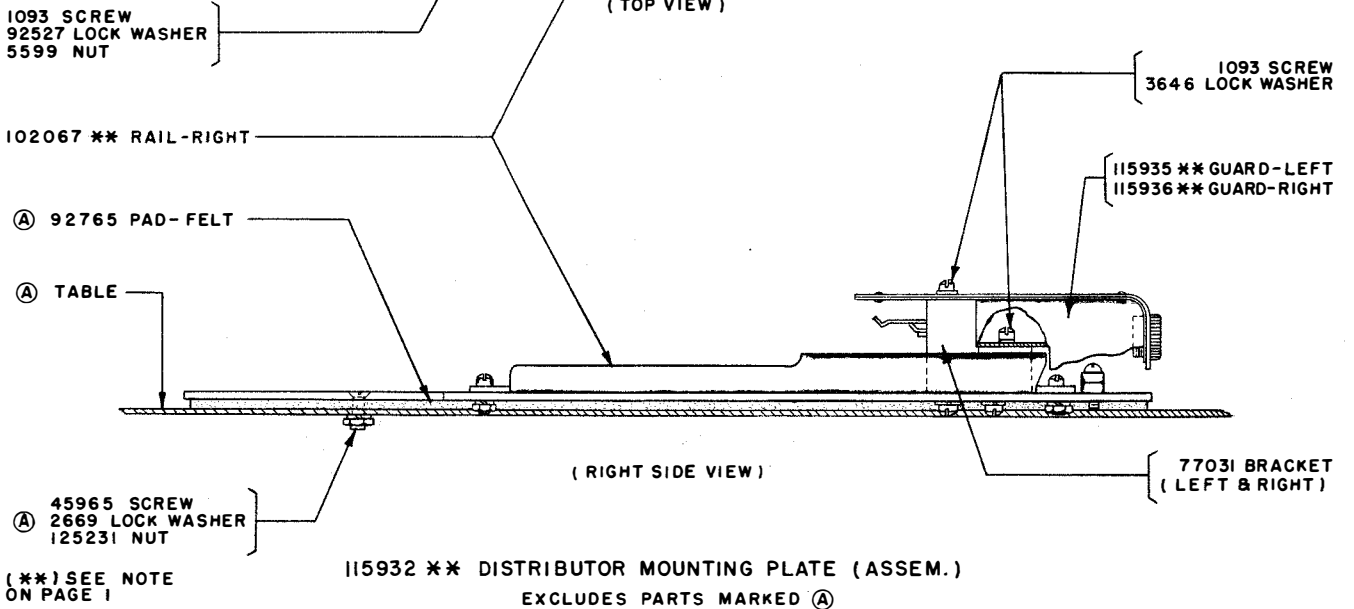
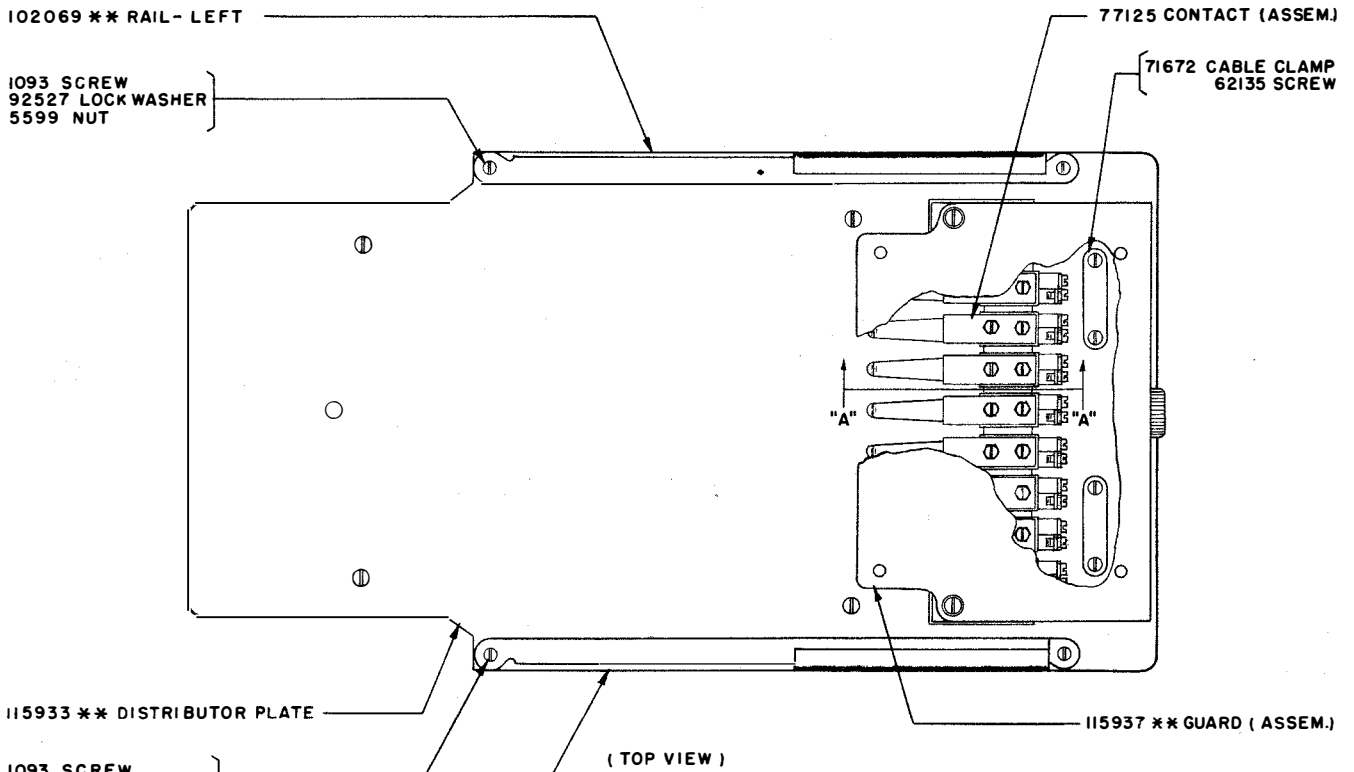
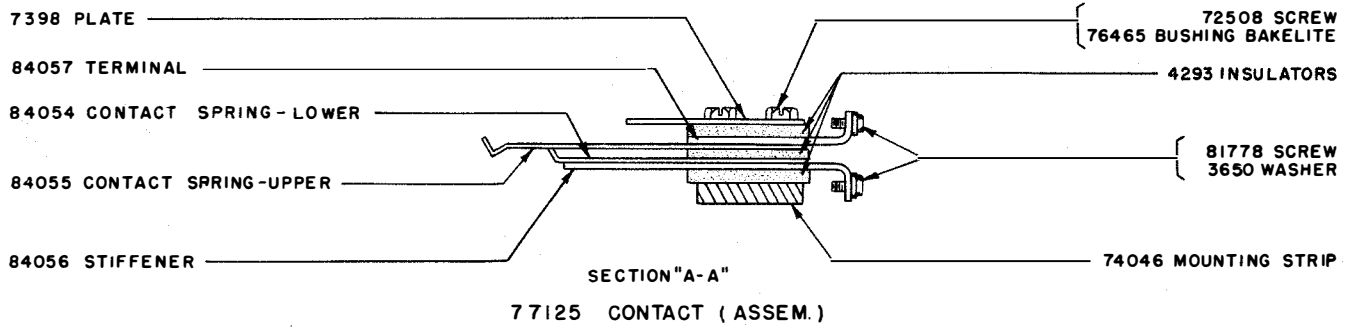
110757 RUBBER FOOT

8333 SCREW

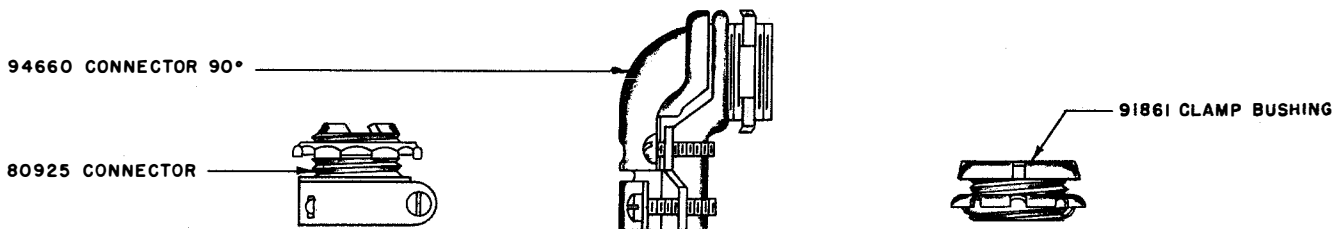
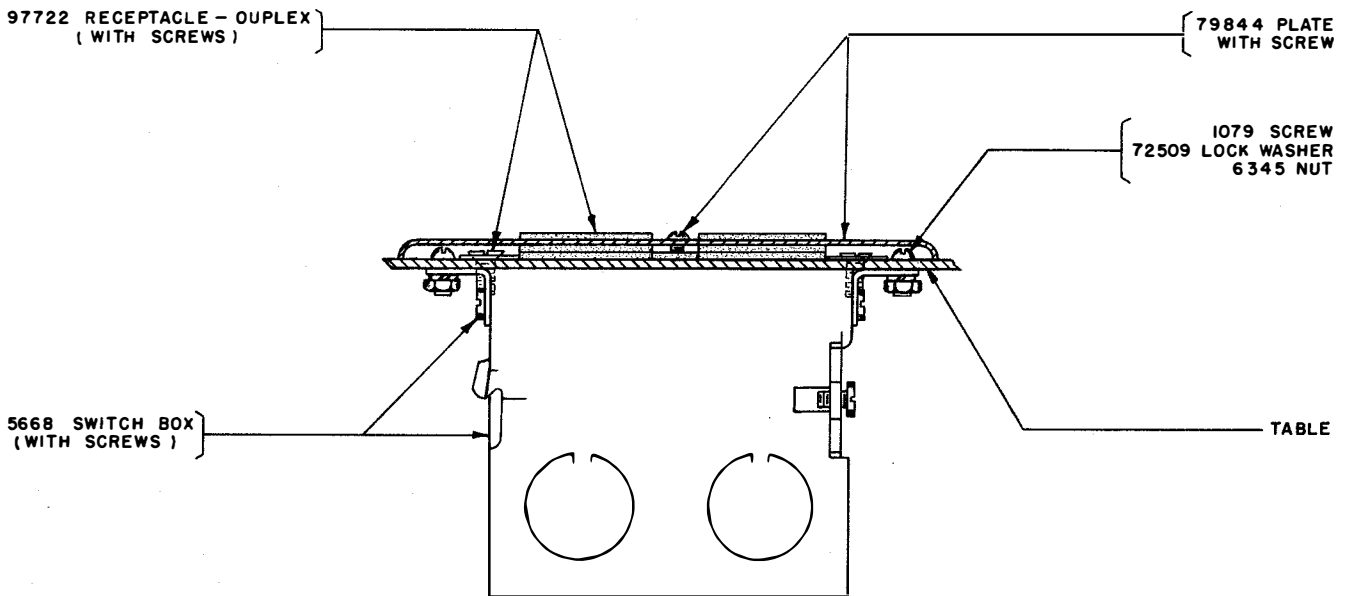
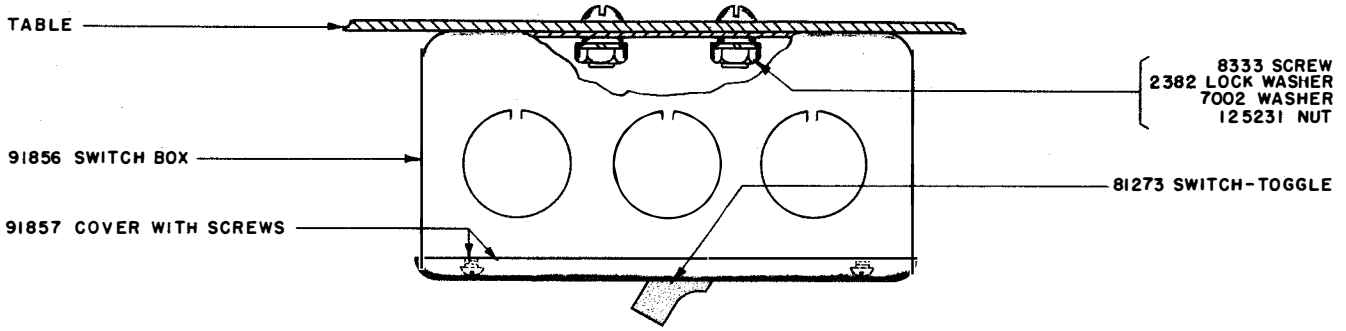
(REAR VIEW)

XT201 ** TABLE
(EXCLUDES 97414 ** SHELF & MOUNTING PARTS)



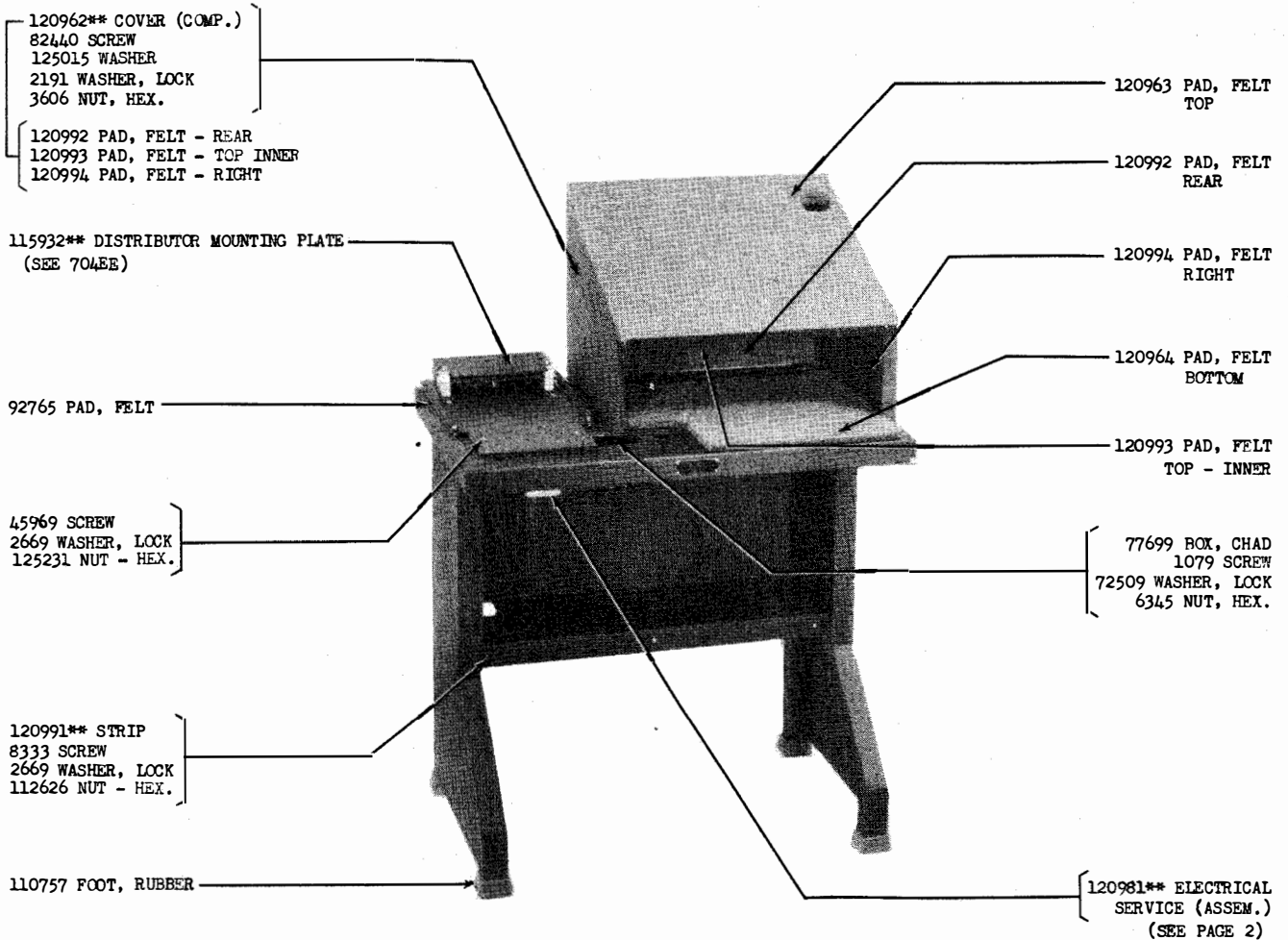


(**) SEE NOTE
ON PAGE 1



ELECTRICAL FEATURES

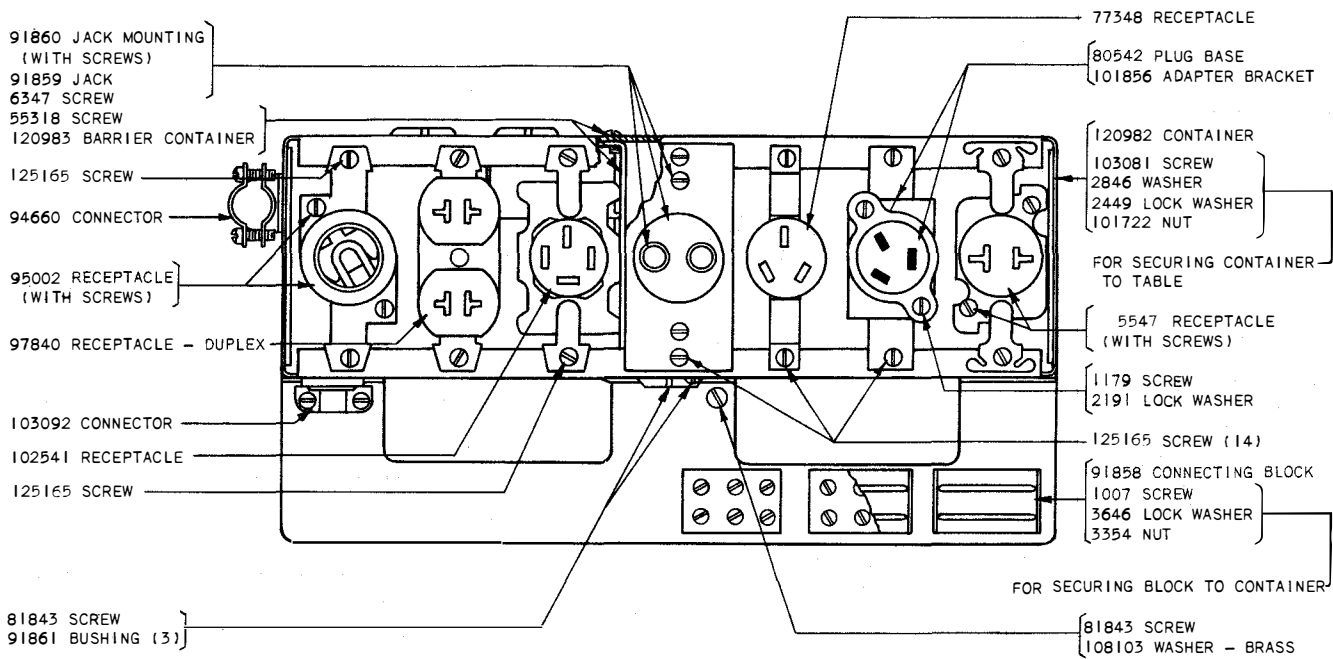
CHANGES AND ADDITIONS
TO PARTS BULLETIN B-1077, ISSUE 3
TO PROVIDE PARTS ORDERING INFORMATION
FOR XT202** TABLE



XT202** TABLE

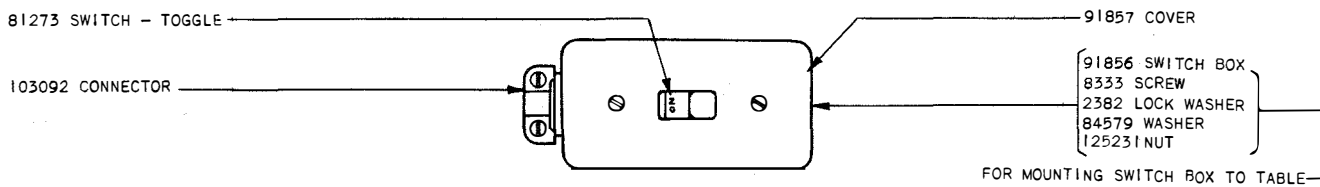
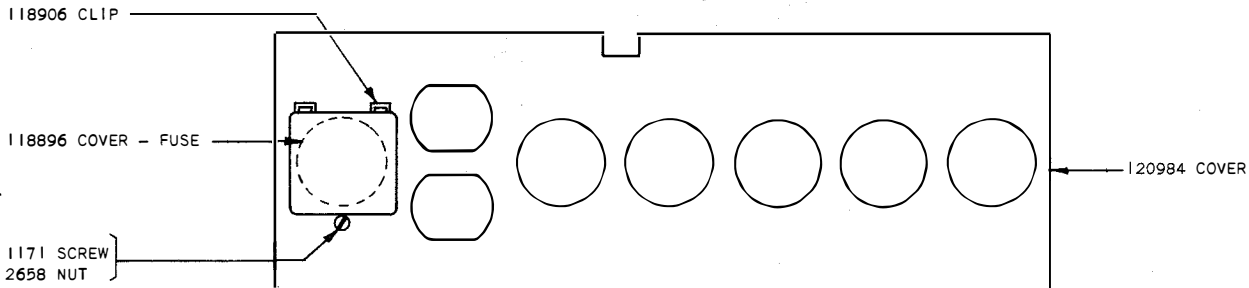
NOTE: THE DOUBLE ASTERISK (**) DESIGNATES A TWO-LETTER SUFFIX WHICH DENOTES THE PAINT FINISH. THE FOLLOWING FINISHES ARE NOW AVAILABLE ON THE FINISHED PARTS LISTED ABOVE:

AA - BLACK WRINKLE	AC - LIGHT BROWN WRINKLE
AB - GRAY GREEN WRINKLE	AD - DARK BROWN WRINKLE



TOP VIEW COVER REMOVED

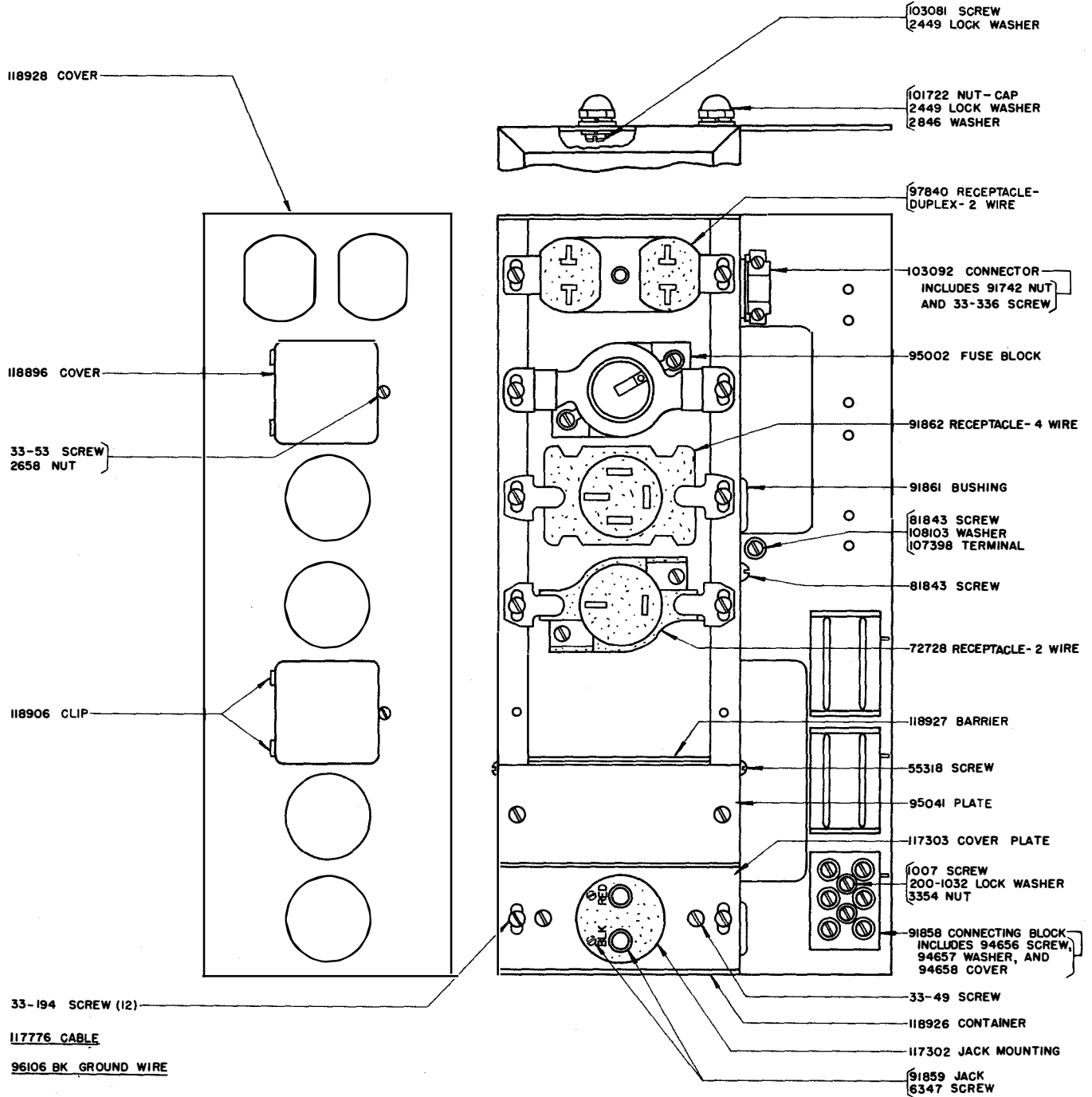
120985 CABLE (ASSEM.)
120986 CABLE (ASSEM.)
(SEE 2613WD.)

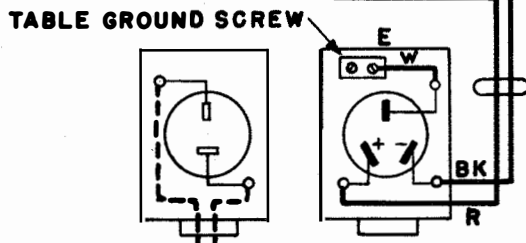
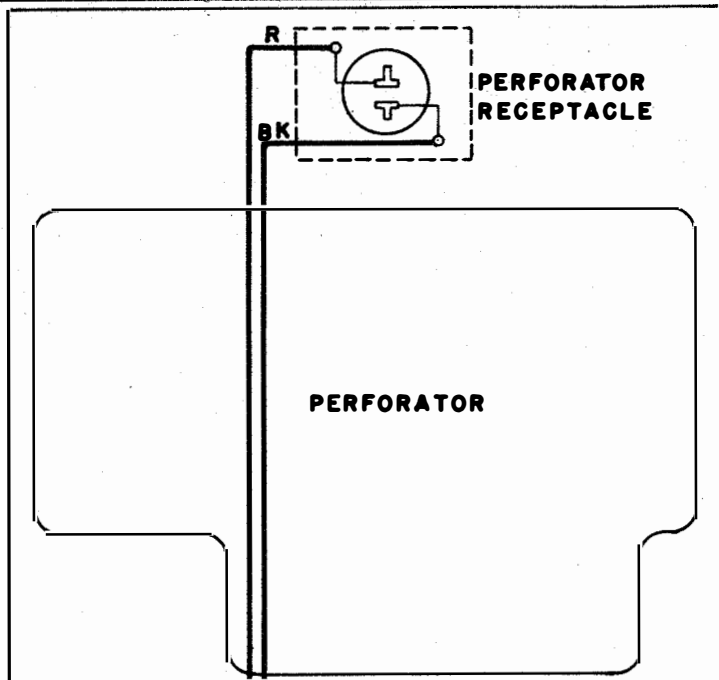


120981 ELECTRICAL SERVICE ASSEMBLY

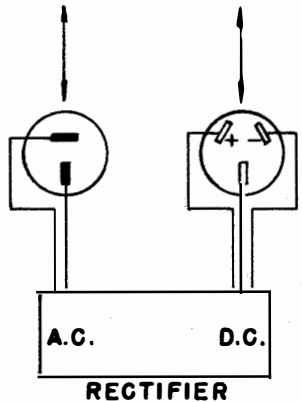
CHANGES AND ADDITIONS
TO BULLETIN NO. 1077 (ISSUE 3)
PARTS-TABLES

PARTS ORDERING INFORMATION
FOR THE 117852 ELECTRICAL SERVICE UNIT





110 V. A.C. ♪



WIRE COLOR CODE	
CODE	SOLID COLOR OR TRACER IN WHITE WIRE
R	RED
W	WHITE
BK	BLACK

----- POWER LEADS
 ———— TABLE WIRING
 ○ DENOTES WIRES IN BX

TELETYPE CORPORATION
 WD-2051
 4-24-41

TABLE CONNECTIONS FOR VARIOUS POWER SUPPLIES		
A R R I T	POWER SUPPLY FOR PERFORATOR	POWER CONNECTIONS SEE NOTE C
1	RECTIFIER ON TABLE	CONNECT AS SHOWN
2	110 V. D.C. POWER SUPPLY EXTERNAL TO TABLE (EITHER + OR - GROUNDED)	DISCONNECT R & BK WIRES FROM RECEPTACLE E. SPLICE & TAPE R & BK WIRES TO + & - 110 V. D.C.

NOTES-

- A - RECEPTACLES AND PLUGS SHOWN FROM SLOT AND PRONG FACES.
- B - ALL WIRES #18 C.G. DELTABESTON.
- C - POWER WIRING MAY BE BROUGHT INTO OUTLET BOXES THRU BUSHINGS AS SHOWN, OR IN CONDUIT TO KNOCKOUTS. HOLES ARE PROVIDED IN REAR PANEL FOR ACCESS TO REAR KNOCKOUTS.

WIRING DIAGRAM TABLE FOR PERFORATOR PET-2

DRAWN *Rue*
 TRACED
 CHECKED
 ENG'R'D *Q.P.N.*
 APPROVED *R.L.M.*

DESCRIPTION, ADJUSTMENTS AND PARTS CATALOG
OF THE TELETYPE REC11 RECTIFIER

DESCRIPTION

The REC11 rectifier is designed to deliver continuously 0.6 ampere at 120 volts D.C. from 105 to 125 volt 50-60 cycle A.C. single phase power supply. The direct current from this rectifier is suitable for operation of Teletype perforator punch magnets but is NOT suitable for use in the signaling or local relay and selector magnet circuits of Teletype apparatus.

This rectifier consists of an insulated type input transformer with variable secondary taps, a full wave selenium rectifying element, a power factor correction condenser, a filter consisting of a choke and a condenser, and a bleeder resistor. All parts are secured to a metal base which has feet for shelf mounting. The rectifier is furnished complete with cover, cords, and plugs for making A.C. and D.C. connections.

The metal cover which is fastened to the base by means of screws has a black wrinkle finish.

The approximate dimensions of the rectifier are 11-7/8" long, 8-1/2" deep, and 8" high.

RATING

Input: 105 to 125 volts, 50 to 60 cycles A.C., single phase.

Output: 0.6 ampere at 120 volts D.C.

No load D.C. voltage when new: Not over 145 volts.

A.C. component in D.C. output voltage not more than 6 volts R.M.S. at .6 ampere load.

ADJUSTMENTS

The secondary of the transformer is provided with taps so that the output voltage of the rectifier can be adjusted to suit requirements and to compensate for voltage drop resulting from aging of the rectifying assembly. These taps are equipped with leads which connect to eight terminals on a panel. Three terminals provide coarse voltage adjustment and are labeled L, M, and H. Five terminals provide fine voltage adjustment and are labeled 1, 2, 3, 4, and 5. Connections to these terminals are made by means of pin plugs or spade terminals attached to flexible leads. The plugs or terminals are connected, at the factory, to terminals M and either 1, 2, or 3 to deliver .6 ampere at 120 volts D.C.

The method normally employed in checking the D.C. output of this rectifier is to disconnect all apparatus from the D.C. side and connect a 60 watt lamp in series with a suitable ammeter across the output. For correct adjustment of the output, the flexible leads should be connected to those taps which will cause the ammeter to register a current flow which is nearest but not less than 0.5 ampere. This adjustment should be checked when the rectifier is installed and periodically thereafter. The amount of aging

will be somewhat greater during the first few months of use. After this, the rectifier should operate for long periods without the necessity of readjustment.

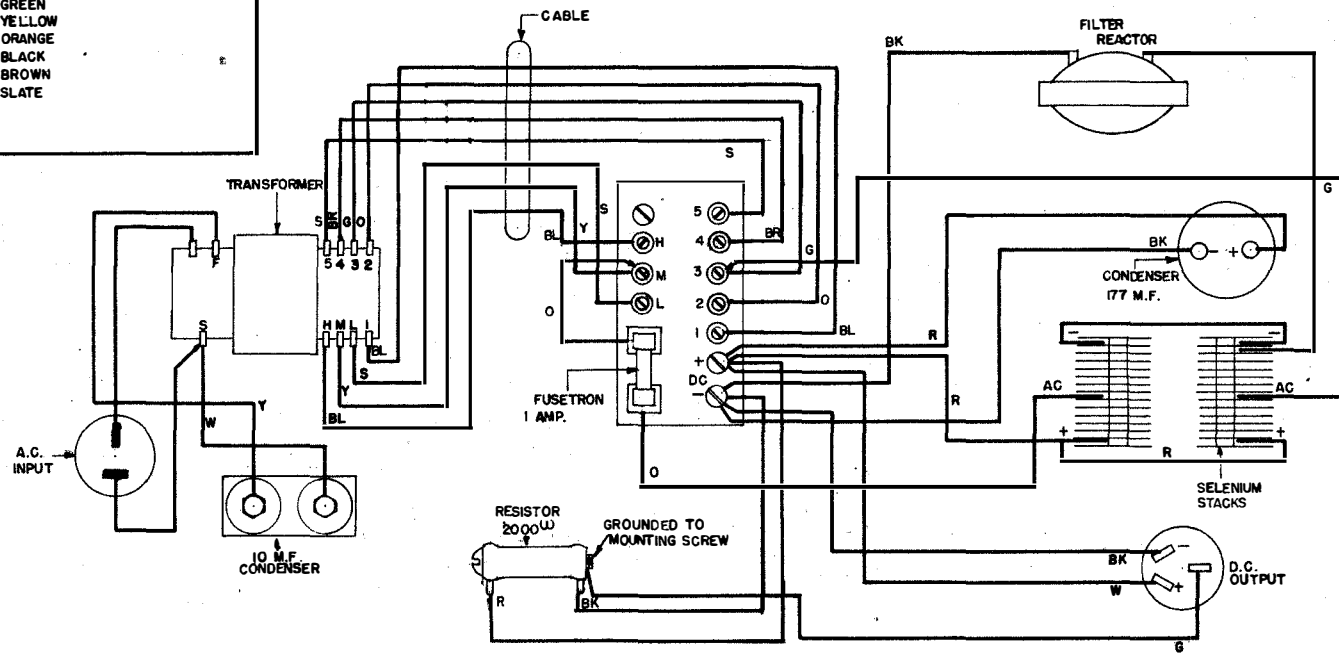
If at any time it is necessary to use the maximum regulating taps to obtain the proper output current, the rectifier should be withdrawn from service and repaired.

Wiring diagram W.D. 2050 which forms a part of this specification shows the actual and schematic wiring of this rectifier. An assembly drawing is also furnished showing names and teletype part numbers of the component parts of the rectifier.

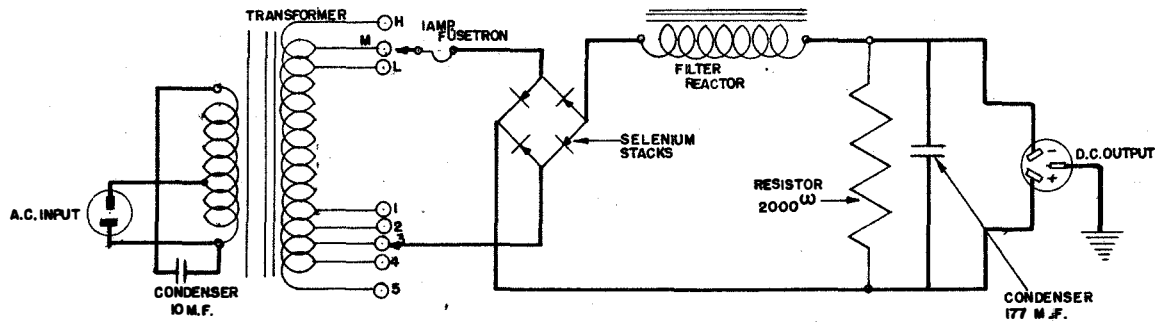
* * *

WIRE COLOR CODE	
CODE	SOLID COLOR OR TRACER IN WHITE WIRE
R	RED
W	WHITE
BL	BLUE
G	GREEN
Y	YELLOW
O	ORANGE
BK	BLACK
BR	BROWN
S	SLATE

REVISIONS
(A) SPADE TERMINALS SHOWN 11-9-43 32642
(B) 2-15-44 33447
(C) 8-30-44 36430
(D) 10-20-44 35863
(E) 4-12-45 37540

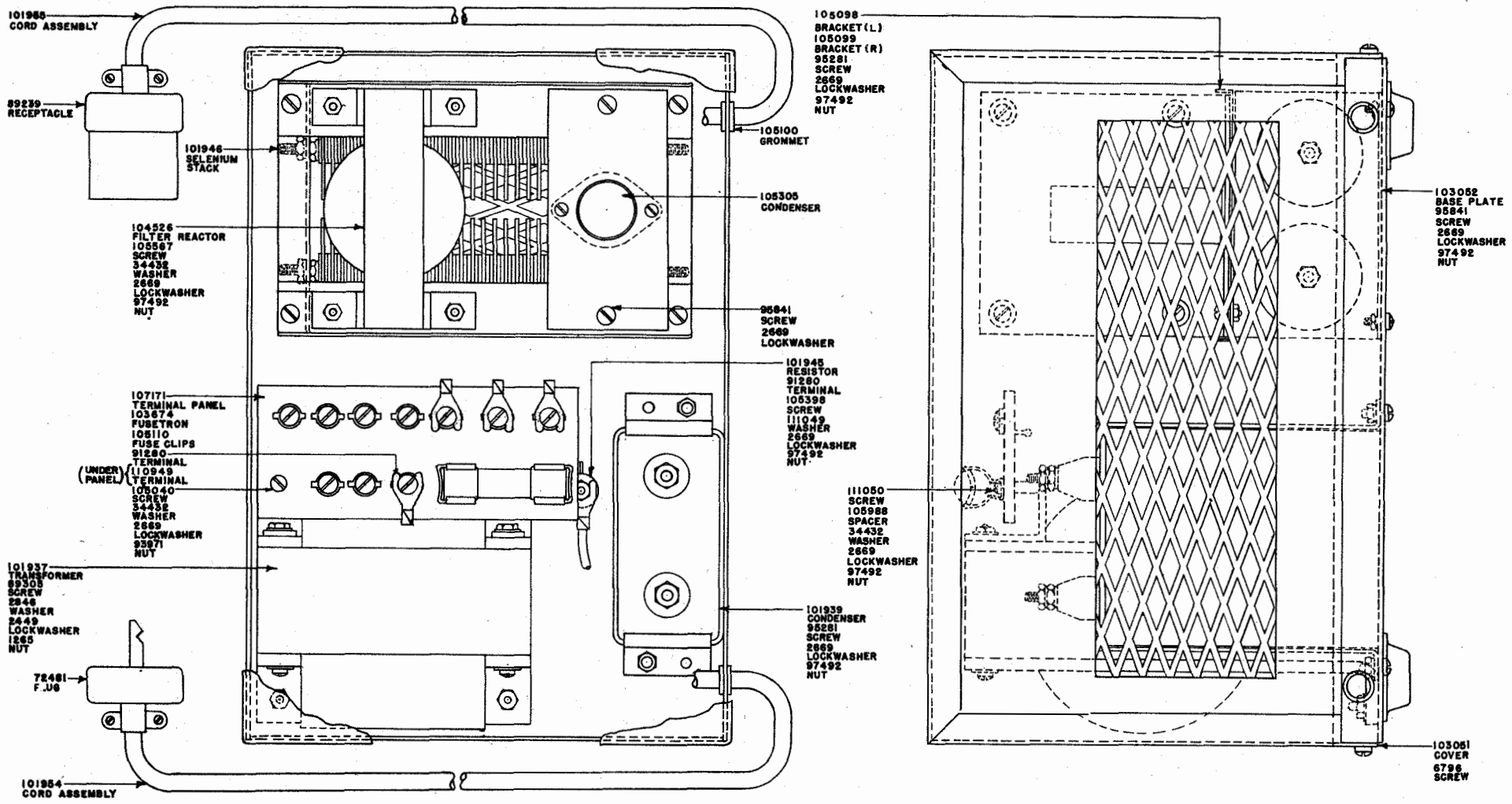


ACTUAL



SCHMATIC

WD 2050 E	
10-16-41	
WIRING DIAGRAM REC11 & REC19 RECTIFIERS	
DRAWN A.G.C.	APPROVED
ENG'D B.W.	<i>FAB</i>
FILE 19-33AAA	
TELETYPE CORPORATION	



DESCRIPTION, ADJUSTMENTS, AND ORDERING INFORMATION
TELETYPE MODEL REC19 RECTIFIER

DESCRIPTION

The model REC19 rectifier is designed to deliver continuously .6 ampere at 120 volts D.C. when operated on a 105 to 125 volt 25 cycle A.C. single phase power supply. The direct current output of this rectifier is satisfactory for the operation of Teletype perforator punch magnets but it is NOT suitable for use in the signaling, local relay, or selector magnet circuits of Teletype apparatus.

The rectifier consists essentially of a transformer, a full wave rectifying assembly utilizing selenium coated discs, a condenser for correcting the power factor, a filter consisting of a choke and a condenser, and a bleeder resistor. These parts are mounted on a metal base which is provided with feet. The rectifier is furnished complete with cover, cords, plug, and receptacle for making A.C. and D.C. connections.

The metal cover, which is fastened to the base by means of screws, is finished in black wrinkle enamel.

The approximate dimensions of the rectifier are as follows: length, 11-7/8"; depth 8-1/2"; height 8".

RATING

Input: 105 to 125 volts, 25 cycles A.C., single phase.
Output: 0.6 ampere at 120 volts D.C.
No load D.C. voltage when new: Not over 145 volts.
A.C. component in D.C. output voltage not more than 6 volts
R.M.S. at .6 ampere load.

ADJUSTMENTS

The secondary of the transformer is provided with taps so that the output voltage of the rectifier can be adjusted to suit requirements and to compensate for voltage drop resulting from aging of the rectifying assembly. These taps are equipped with leads which connect to eight terminals on a panel. Three terminals provided coarse voltage adjustment and are labeled L, M, and H. Five terminals provide fine voltage adjustment and are labeled 1, 2, 3, 4, and 5. Connections to these terminals are made by means of pin plugs or spade terminals attached to flexible leads. The plugs or terminals are connected, at the factory, to terminals M and either 1, 2, or 3 to deliver .6 ampere at 120 volts D.C.

The method normally employed in checking the D.C. output of this rectifier is to disconnect all apparatus from the D.C. side and to connect a 60 watt lamp in series with a suitable ammeter across the output. For correct adjustment of the output, the flexible leads should be connected to those taps which will cause the ammeter to register a current flow which is nearest but not less than 0.5 ampere. This adjustment should be checked when

the rectifier is installed and periodically thereafter. The amount of aging will be somewhat greater during the first few months of use. After this, the rectifier should operate for long periods without the necessity of readjustment.

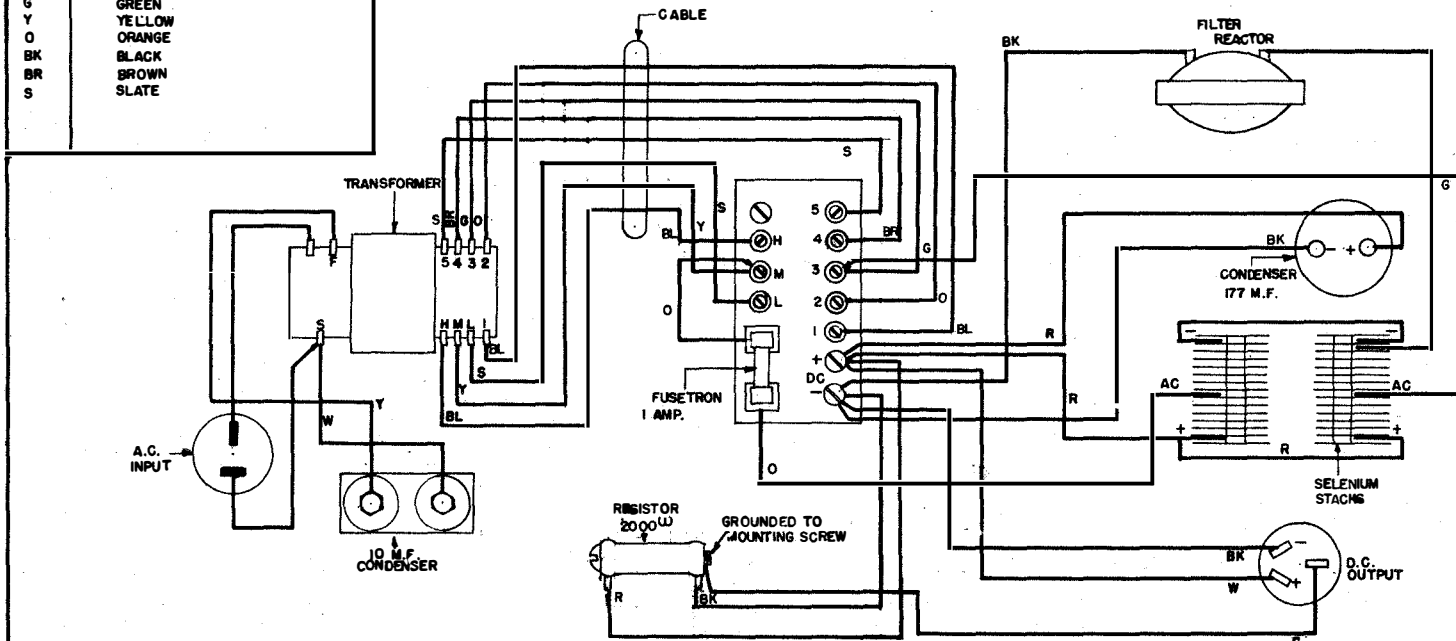
If at any time it is necessary to use the maximum regulating taps to obtain the proper output current, the rectifier should be withdrawn from service and repaired.

Wiring diagram W.D. 2050 which forms a part of this specification shows the actual and schematic wiring of this rectifier. An assembly drawing is also furnished showing names and Teletype part numbers of the component parts of the rectifier.

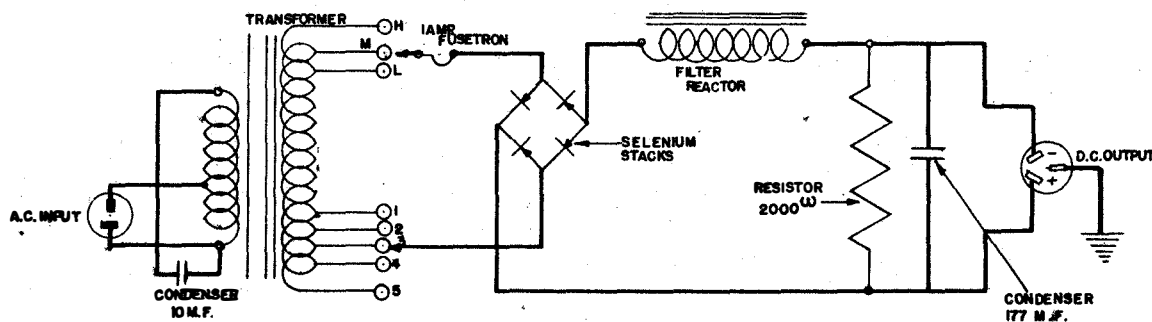
* * *

WIRE COLOR CODE	
CODE	SOLID COLOR OR TRACER IN WHITE WIRE
R	RED
W	WHITE
BL	BLUE
G	GREEN
Y	YELLOW
O	ORANGE
BK	BLACK
BR	BROWN
S	SLATE

REVISIONS
(A) SPADE TERMINALS SHOWN 11-9-43 32642
(B) 2-15-44 33447
(C) 8-30-44 35430
(D) 10-20-44 35863
(E) 4-12-45 37540



ACTUAL



SCHEMATIC

WD 2050 E	
10-16-41	
WIRING DIAGRAM REC 11 & REC 19 RECTIFIERS	
DRAWN A.G.C.	APPROVED
ENGR'D B.W.	<i>[Signature]</i>
FILE 19-33AAA	
TELETYPE CORPORATION	

BARRY CHAPMAN - W4IBI
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