

33 AND 35 TELETYPEWRITER STATIONS
FOR "DATREX*" SERVICE
INSTALLATION AND CHECKOUT

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		USOC CODE 35 SETS	
		HOGDX ASR-Friction Feed	
		HOLDX -Sprocket Feed	

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SECTION 591-810-210

USOC CODE

35 SETS

HOHDX
HOPDX

KSR-Friction Feed
-Sprocket Feed

2.03 Following are USOC codes for data sets and data facilities:

USOC CODE

DATA SET AND
DATA FACILITIES

WES33
(M33 and M35)

Data Set 109C-L1

WES34
(M33 only)

TP186627 Set Logic Assembly
Data Set 108A1
Data Auxiliary Set 820D-L1A
Circuit Pack AR430
Data Auxiliary Set Mounting
Bracket 102A

WES35
(M33 only)

TP186627 Set Logic Assembly
Data Set 108C1
Data Auxiliary Set 820D-L1A
Circuit Pack AR430
Data Auxiliary Set Mounting
Bracket 102A

WES36
(33 and 35 sets)

Data Set 109C-L1/2

WES3B
(35 set only)

TP186627 Set Logic Assembly
Data Set 108A1
Data Auxiliary Set 820D-L1A
Circuit Pack AR430
Backboard 180A
Mounting Bracket 96A

WES3C
(35 set only)

TP186627 Set Logic Assembly
Data Set 108C1
Data Auxiliary Set 820D-L1A
Circuit Pack AR430
Backboard 180A
Mounting Bracket 96A

WES38
(33 and 35 sets)

TP186627 Set Logic Assembly
1A Data Station

2.04 Following are USOC codes for available options:

USOC CODE

OPTIONS

2JLDX
(33 and 35 sets)

Motor stop on EOT (for use with data set 109C-L1/2).

8FYDX
(33 and 35 sets)

TP186630 Modification Kit to provide timed break recognition, break lamp and release key, and circuitry to stop tape reader.

3. ASSEMBLY OF UCC29 CALL CONTROL UNIT

33 TELETYPEWRITER SETS

3.01 Normally the UCC29 call control unit is shipped already assembled in the set. However, in some cases it may be necessary to install the UCC29 call control unit in the set.

3.02 If assembly is required and set cover is in place follow steps 1 thru 9. If cover is removed follow steps 7 thru 9.

(1) Remove faceplate by pulling outward and down.

(2) Remove four (4) front cover screws.

(3) Remove three (3) rear cover screws.

(4) On ASR sets remove setscrew from left rear cover of the tape reader.

(5) Remove platen knob on friction feed set by pulling knob to the left. For sprocket feed, remove platen knob screw. Remove knob by pulling it to the left.

(6) Carefully lift cover from subbase.

(7) Mount UCC29 call control unit on right side of subbase with four (4) screws supplied.

(8) Connect copper ground strap from rear post of typing unit casting to rear left screw of UCC29 call control unit base plate.

(9) Mate all set plugs at rear of UCC29 call control unit.

35 TELETYPEWRITER SETS

3.03 To assemble the UCC29 call control unit on 35 sets, certain modifications must be made to the set. TP336474 modification kit provide these.

3.04 Remove two (2) TP192274 pan head screws which secure the cover latch and replace them with two (2) shorter TP129505 screws (Figure 1).

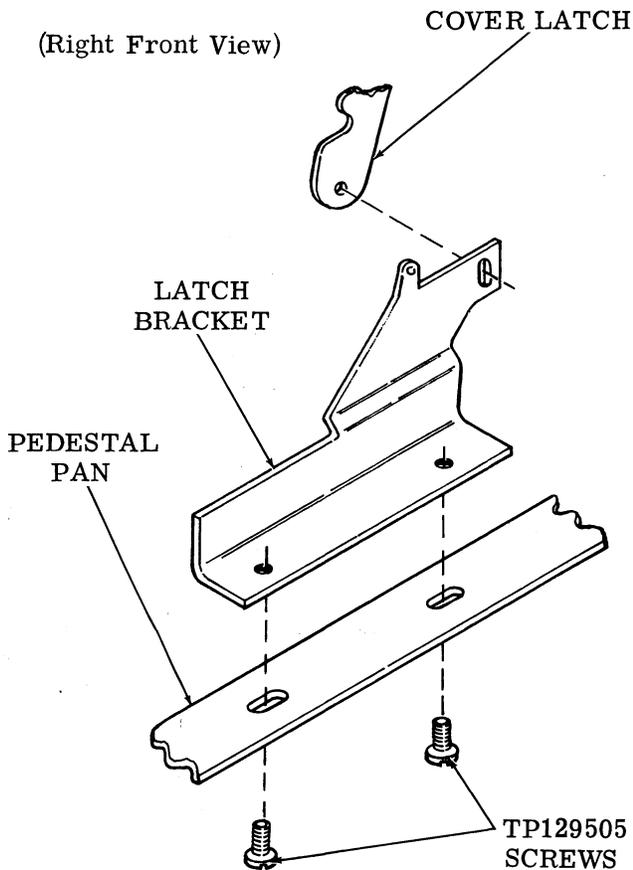


Figure 1 - Cover Latch Assembly

3.05 Remove and discard the elapsed time indicator and bracket from the UCC29.

3.06 Remove power cord from UCC29 by disconnecting three (3) terminals from the CZ terminal strip (Refer to 8162WD):

Black wire - CZ-4
 White wire - CZ-2
 Green wire - CZ-1 ground screw

Slip TP103092 cord connector on power cord. Reconnect power cord to terminal strip CZ.

3.07 Install the TP185718 diode assembly on the UCC29 in series with the motor control relay (CV) by:

- (1) Removing the metal jumper between terminals 5 and 6 on CZ terminal strip.
- (2) Move black and slate wires on CZ-6 to CZ-5.

(3) Move black wire on CZ-8 to CZ-6.

(4) Place the TP185718 diode assembly between CZ-6 and CZ-8 with the cathode end on CZ-6.

3.08 On ASR sets solder the slate lead of TP336958 wire assembly to break detector card connector (CN), terminal A, if UCC29 is not already so equipped. Route the slate lead along the left side of the UCC29, to pin CAA7 (connector no. 4). On KSR sets do not solder the slate lead.

3.09 Mount the UCC29 on the right side of the set with five (5) TP181241 screws with lockwashers. Connect the ground lead from the UCC29 to the cabinet.

3.10 Relieve strain on signal line cord coming out of the UCC29 with a TP181241 screw with lockwasher and a TP125015 flat washer securing the TP121245 cable clamp in the tapped hole through the base plate.

3.11 Remove the relay rack from the pedestal to ease assembly of TP336497 cable.

3.12 Interconnect the LESU and the UCC29 call control unit as follows:

(a) Mate connectors 3, 4, 5, 6, 7, and 8 of TP336497 cable with corresponding connectors on UCC29.

(b) Push the Molex connectors of both the LESU349 cable and the TP336497 cable through the right rear hole of the cabinet into the pedestal.

(c) On ASR sets, mate the connectors of the LESU cable with connector 3, 4, 6, 7, and 8 of cable TP336497.

(d) On KSR sets with LESU300, mate plugs 6, 7, and 8 only.

(e) Position cables so that the set cover can be freely closed. Replace relay rack.

3.13 For ASR sets, remove the 3.2 ampere fuse and label on the UCC29 and replace with 6.25 ampere fuse (SL-BL) TP161136 and label TP185686. For KSR sets, remove the 3.2 ampere fuse and label from the UCC29 and replace with 4 ampere SL-BL fuse TP129919 and label TP185684.

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3.14 Mount the TP181879 transformer and fuse as follows:

- (a) Mount transformer TP181879 loosely to mounting plate TP336495 with four (4) screws with lockwashers TP181241 and four (4) flat washers TP125015.
- (b) Insert fuse holder TP182182 in hole on mounting plate. Insert 1/2 ampere SL-BL fuse in fuse holder and affix fuse label TP185679.
- (c) Connect transformer cable TP336498 to terminals (Figure 2).
- (d) Connect fuse (Figure 3). Use two insulated slip on terminals on transformer cable assembly TP336498 for the fuse.
- (e) Place insulator TP336496 under the four (4) mounting plate flat washers and tighten screws.
- (f) Mount assembled plate with transformer at center of relay rack with two (2) screws TP165103 and speed nuts TP153017.
- (g) Route the transformer cable TP336498 thru the left rear opening in the cabinet and also through the LESU container. Con-

nect these leads to the "C" wiring field of the ASR and KSR as follows:

<u>ASR*</u>	<u>KSR</u>
P to 3R	P to 3L
S to 1T	S to 1N
G to 7L	G to 2G
Y to 5E	Y to 4AA
O to 6E	O to 5AA
	R to 2E

*Disconnect, tape and tie back the green slate lead from E2 on the ASR and connect the red lead to 2E.

(h) Disconnect W-R-S wire from C-7E, reroute wire through cutout on the H thru T terminal board, and connect it to C-3P.

3.15 Modify the LP831 DC/AVA or the LP846 DC/AUZ typing unit for the reader stop on EOT feature by assembling the following parts:

- (a) Install TP192466 EOT function bar, one (1) TP153604 function pawl, one (1) TP4703 spring, one (1) TP157240 spring, and one (1) TP72522 wick in slot number 24 of AVA stunt box.

Note: Install the TP153604 function pawl with the long arm first.

- (b) Replace the TP152653 function pawl in slot 25 with the TP153598 function pawl.

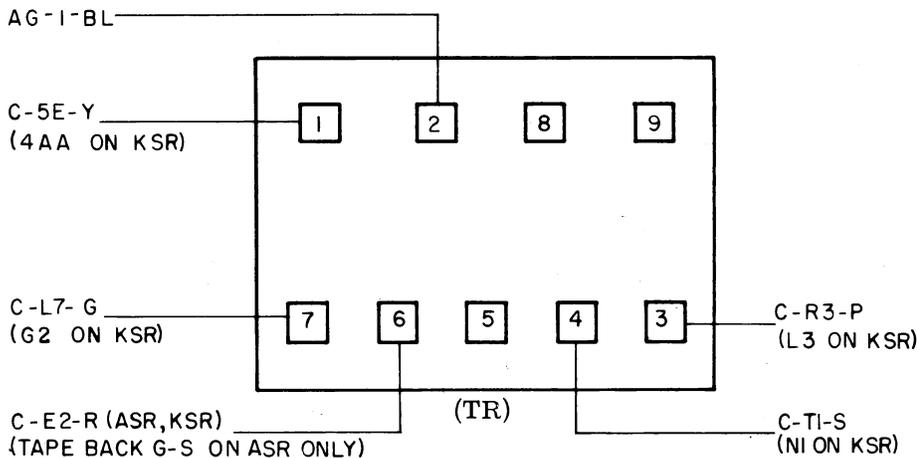


Figure 2 - TP181879 Transformer Connections (10-14-48 v ac)

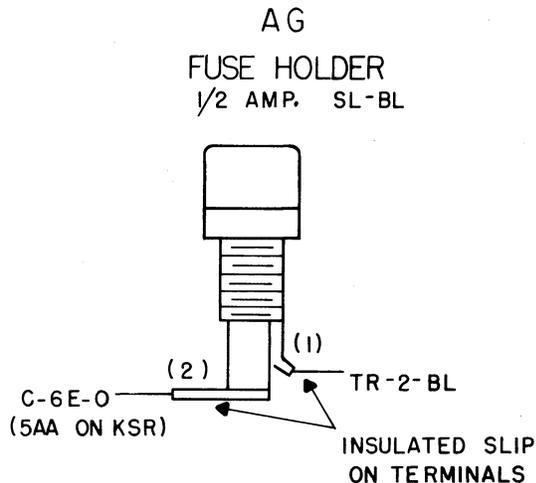


Figure 3 - Fuse Holder (AG)

3.16 Modify the 35 set for new line feature. Modification kit TP336474 includes function bar TP192471, and Modification kit TP334884. Modify sprocket feed set with Modification kit TP334884; modify friction feed set with Modification kit TP334884 except omit function bars in the kit and replace them with function bar TP192471. Modify sprocket feed set as follows:

- (a) Remove the stunt box per Section 574-220-702.
- (b) Remove CR function bar TP192459 from slot 5 and retain associated parts.
- (c) Install CR-FF function bar TP192477 and associated parts in slot 5.
- (d) Install LF-VT function bar TP192472 in slot 4.
- (e) Install lever TP152298, pawl TP152653, latch TP154613, spring TP157240, spring TP90517, wick TP72522, spring TP4703, and disabling clip TP157274 in slot 4.
- (f) Remount stunt box.

Modify friction feed set the same as the sprocket feed set except install LF function bar TP192471 in slot 4. Replace the LINE FEED keytop with the NEW LINE keytop TP185227.

3.17 Secure the lower edge of the faceplate to the cabinet with the following hardware:

TP199309 Stud
TP198654 Locating Bracket

TP194819 Spring Clip
TP7002 Flat Washer
TP119649 Retaining Ring

3.18 Secure the TP301664 plate over the hole in the cabinet reserved for the speaker with two (2) TP194776 screws.

3.19 Remove and discard the TP199353 SPKR-VOL control plate and replace it with the blank TP199359 plate.

4. ASSEMBLY OF TP186627 SET LOGIC ASSEMBLY

33 TELETYPEWRITER SETS

4.01 The TP186627 set logic assembly mounts in front of the UCC29 call control unit and is housed under the set cover.

4.02 The TP186627 assembly mounts on the UCC29 base plate by means of three (3) TP181241 screws with washers, and three (3) TP336493 posts.

4.03 A TP336464 cable interconnects the TP186627 assembly and the UCC29 call control unit. Connectors 1 and 2 of the TP336464 cable mate with connectors 1 and 2 at the rear of the call control unit. Connectors J4 and J5 of the TP336464 cable mate with connectors J4 and J5 of the TP186627 set logic assembly.

4.04 Connect the TP311605 connector of the TP336601 cable coming out of the TP186627 to the data set.

35 TELETYPEWRITER SETS

4.05 The TP186627 set logic assembly mounts in front of the UCC29 call control unit.

4.06 It may be necessary to remove the TP303826 circuit card and the smaller piggy back card from the TP186627 assembly to facilitate mounting it in a 35 set. If so, proceed as follows:

- (1) Remove the Molex connector from the TP303826 circuit card.
- (2) Remove the four (4) mounting screws from the TP303826 card.
- (3) Carefully remove the two (2) circuit cards from the mounting bracket.

4.07 Position the TP336459 "T" shaped plate on the base of the 35 set towards the right front end. Mount the TP186627 on top of the TP336459 plate. Insert the TP192271 nut plate between the base of the TP186627 assembly and the TP303826 circuit card. Align the two (2) holes of the nut plate with the two (2) holes of the T-plate and secure with two (2) TP55320 screws.

Note: Remove and discard the TP192270 bracket which is attached to the base of the model 35 set in the front area of the call control unit when installing the TP186627 assembly.

4.08 A TP336464 cable interconnects the TP186627 assembly and the UCC29 call control unit. Connectors 1 and 2 of the TP336464 cable mate with connectors 1 and 2 at the rear of the call control unit. Connectors J4 and J5 of the TP336464 cable mate with connectors J4 and J5 of the TP186627 assembly.

4.09 Connect the TP311605 connector of the TP336601 cable coming out of the TP186627 assembly to the data set.

5. ASSEMBLY OF DATA SETS

33 TELETYPEWRITER SETS — DATA SET 109C-L1

5.01 Data set 109C-L1 mounts in front of the UCC29 call control unit and is housed under the set cover.

5.02 Data set 109C-L1 mounts on the UCC29 base plate by means of three (3) TP181241 screws with washers, and three (3) TP336493 posts.

5.03 A local cable (CA1) interconnects the circuit board (EU1) of data set 109C-L1 and the key strip. Refer to Table A for wiring interconnections.

5.04 A TP336463 cable interconnects data set 109C-L1 and the UCC29 call control unit. The cable has two (2) pin connectors which plug into connectors 1 and 2 at the rear of the UCC29 and leads with spade terminals which terminate at the data set. Connect the wires of the TP336463 cable to the terminals of the 109C-L1 data set (Table A).

5.05 Refer to Table B for option settings on data set 109C-L1.

5.06 For other adjustments on data set 109C-L1 refer to Section 591-031-201.

TABLE A
WIRING INTERCONNECTIONS FOR
DATA SET 109C-L1

INTERCONNECTING WIRES	EU1 CIRCUIT BOARD SCREW TERMINALS
<u>LOCAL CABLE CA1</u>	
G-W	2
BR-W	3
O-W	12
G-R	14
BL-W	15
O-R	16
BR-R	17
BL-BK	17
S-W	18
BL-R	20
S-R	22
BR-BK	22
R-BL*	
R-O*	
R-G*	
R-BR*	
<u>TP336463 CABLE</u>	
W-O-G	1
R	1
W-BK-P	5
W-P	9
W-O-BL	10
W-BK-O	10
BL	11
W-O-BR	13
S	14
O	15
R-Y	19
W-R-G	19
R-BL	21
R-G	21
W-G	23

* CA1 may include these wires; if present, tape and store.

33 TELETYPEWRITER SETS — DATA SET 109C-L1/2

5.07 Data set 109C-L1/2 is a data set 109C-L1 to which an ET1 circuit pack has been mounted piggyback to the EU1 circuit board. The ET1 circuit pack provides the options shown in

Table C. Wiring interconnections for the data set 109C-L1/2 are given in Table D.

33 TELETYPEWRITER SETS — DATA SET 108 TYPE

5.08 Table E shows the options for the DAS 820D-L1A and Table F shows the options for the AR430 CP.

TABLE B

DATA SET 109C-L1 OPTIONS

OPTION	FEATURE	CROSSOVER SHIFT SCREW Y	CROSSOVER SHIFT SCREW Z
Z	Space Crossover Shift	Open	Closed
Y	Mark Crossover Shift	Closed	Open
X	No Crossover Shift	Open	Open

TABLE C

OPTIONS PROVIDED BY ET1 CIRCUIT PACK

OPTION	FEATURE	FUNCTION
R*	EOT	EOT disconnect - receipt of EOT will stop teletypewriter set motor, disconnect the data set from line, and illuminate OFF lamp.
T	SST	Send-Space Timer - Prevents sending spaces longer than required for normal data or break signal. This protects quasi-ternary channels from false operation.
S	EOT and SST	Provides both EOT disconnect and send-space timer.

* Factory wired option.

Note: The ET1 circuit pack can be ordered separately and can be assembled in piggy-back fashion to the data set 109C-L1. To assemble the ET1 circuit pack to the EU1 circuit board of the data set 109C-L1 align the four (4) standoffs with the holes in the EU1 circuit board and press into place.

TABLE D
WIRING INTERCONNECTIONS FOR DATA SET 109C-L1/2

	EU1 CIRCUIT BOARD WIRING OPTIONS (SCREW TERMINALS)			ET1 CIRCUIT PACK WIRING OPTIONS (SCREW TERMINALS)		
	R	T	S	R	T	S
TP336463 CABLE (TTY SET)						
W-O-G	1	1	1			
R	1	1	1			
W-BK-P	5	5	5			
W-P	9	9	9			
W-O-BL	10				33	33
W-BK-O	10	10	10			
BL	11	11	11			
W-O-BR	13				31	31
S	14	14	14			
O	15	15	15			
W-R-G	17	19	17			
R-BL	21	21	21			
R-G	21	21	21			
W-G	23	23	23			
R-Y				36	36	36
ET1 CP SPADE LUGS						
37	9	9	9			
38		10	10	31		
39		13	13	31		
40	4	4	4			
41	14		14		35	
42	2		2		32	
43	19		19		32	
CA1 DATA SET LOCAL CABLE						
BR-W	3	3	3			
O-W	12	12	12			
G-R		14			35	35
BL-W	15	15	15			
O-R	16	16	16			
BR-R	17	17	17			
BL-BK		17		34		34
S-W	18	18	18			
G-W	19	2	19			
BL-R	20	20	20			
BR-BK	22	22	22			
S-R	22	22	22			
R-BL*						
R-O*						
R-G*						
R-BR*						

*CA1 may include these wires; if present, tape and store.

Note: Data Transmission Line Loop: Terminals 8 and 20 of EU1 CP.

TABLE E
DAS 820D-L1A

OPTIONS	FUNCTION	STRAP TERMINALS ON TB-1
ZC*	CD control of transmission supervision	9 and 10

*Factory wired option

TABLE F
AR430 CP

OPTION	FEATURE	OPEN SCREWS OR LINKS	CLOSE SCREWS OR LINKS
H*	CA looped to CB	G	H
E*	Camp-on detector	F	E
A*	CC turned off by CD	-	A

*Factory wired option

5.09 Refer to Section 591-023-210 for desensitizing pad and hybrid network strapping, and any other adjustment for proper data set operation.

5.10 After the various options and strappings are completed assemble the data set 108 type and the AR430 circuit pack to the data auxiliary set.

5.11 Remove the rear panel of the 33 teletypewriter set by removing two (2) top screws.

5.12 For the data set 108 type install the 102A bracket, 180A backboard, and DAS 820D-L1A inside the pedestal as follows (Figure 4):

- (a) Position the 102A bracket inside the pedestal and tighten the screws.
- (b) Mount the 180A backboard on the 102A bracket and tighten the screws.
- (c) Check that data set and AR430 circuit pack are firmly seated.

(d) Loosen spring clips on 180A backboard and position DAS 820D-L1A as shown in Figure 4.

(e) Check that the DAS base pair is under the spring clips and tighten the spring clip screws.

Note: If the 33 set had a data set 101C type previously installed in it, retain slide brackets and mount the DAS 820D-L1A on them.

5.13 Wiring Connections:

CAUTION: DISCONNECT THE TELETYPE-WRITER POWER PLUG BEFORE MAKING ANY CONNECTIONS.

Connect the end of the M3AY data set power cord to the terminal strip at the right rear of the teletypewriter call control unit as follows:

Green lead to terminal 1
White lead to terminal 2
Black lead to terminal 4

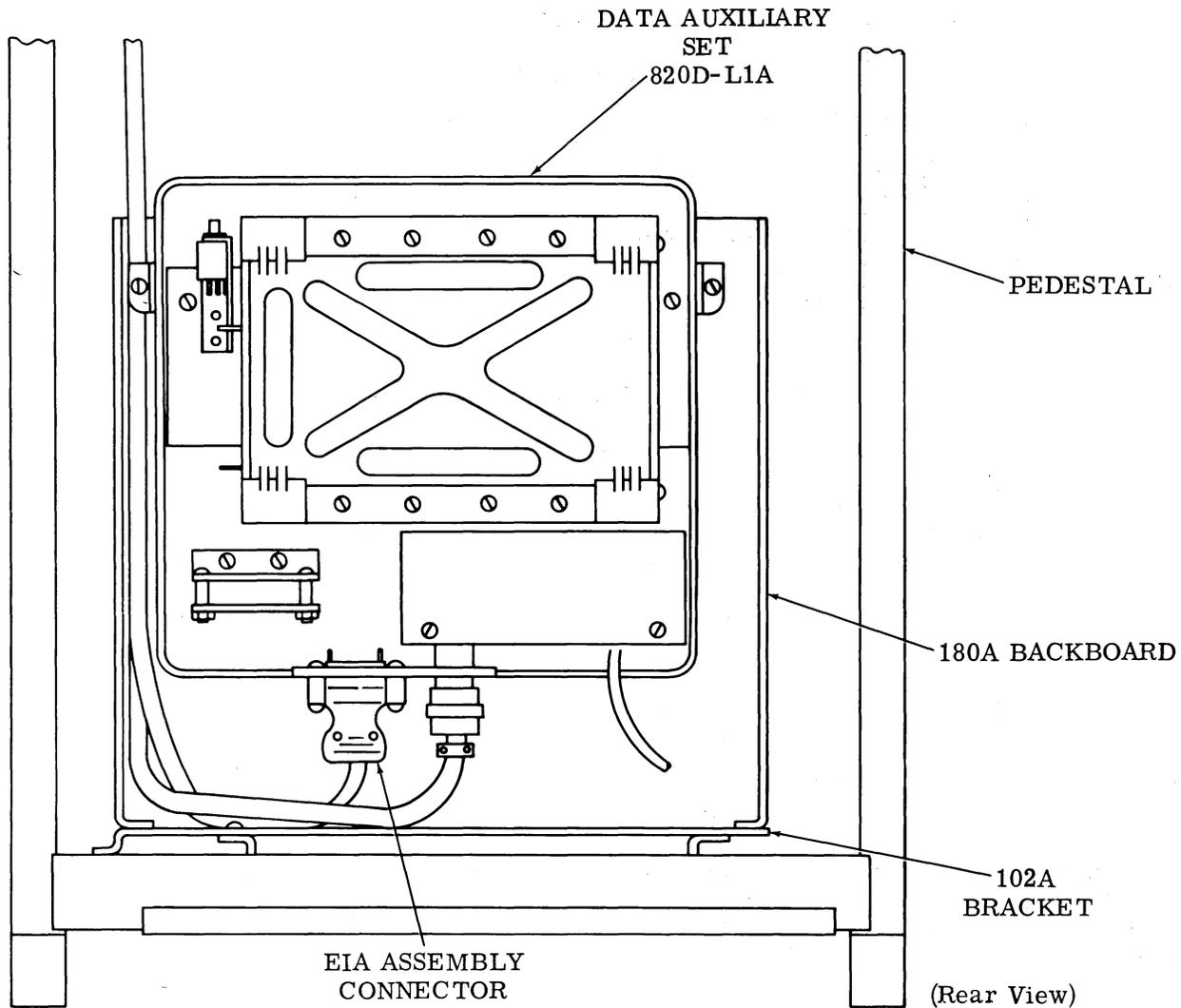


Figure 4 - Mounting of DAS 820D-L1A on M33 Set

5.14 Replace cover by reversing procedure given in 3.02 and connect the other end of the M3AY data set power cord to the DAS 820D-L1A.

5.15 Connect interface cable TP336601 to connector J3 of DAS 820D-L1A (Figure 5). For the connection of the remote test key and lamp refer to Section 591-023-210.

35 TELETYPEWRITER SETS — DATA SETS 109C-L SERIES

5.16 The data set 109C-L type mounts in front of the UCC29 call control unit.

5.17 It may be necessary to remove the EU1 board on the data set 109C-L type to facilitate mounting it in a model 35 set.

5.18 Remove and discard the TP192270 bracket which is attached to the base of the model 35 set in the front area of the call control unit when installing the data set.

5.19 Position the "T" shaped plate on the base of the 35 set towards the right front end. Mount the data set 109C on top of the T plate. Insert the TP192271 nut plate between the base of the data set 109C and the EU1 board. Align the two (2) holes of the nut plate with the two (2) holes of the T plate and secure with two (2) TP55320 screws.

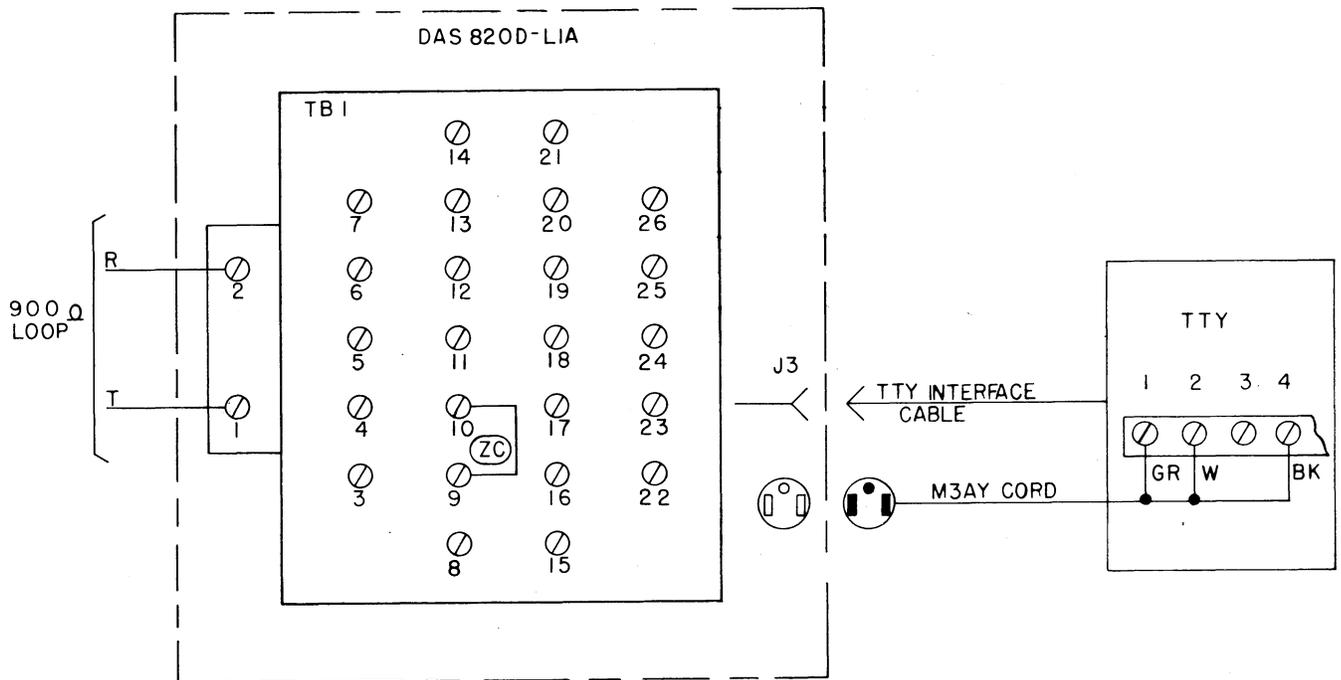


Figure 5 - Wiring Connections to DAS 820D-L1A for Data Set 108 Type

5.20 All wiring and options for the data sets 109C-L1 and 109C-L1/2 mounted in a 35 teletypewriter set are similar to the 33. Refer to 5.01 thru 5.07, including tables A, B, C, and D.

5.21 On both the KSR and the ASR sets remove the TP323609 signal regenerator card on the electrical service unit (LESU) and replace it with strapping card TP177564.

5.22 On ASR sets only make the following wiring changes on the LESU349 to blind the reperforator when the set is in the "T" or "TTS" mode as follows:

- (a) Solder a strap across the 1.8K ohms resistor between terminals 3 and 4B of the MSR wire spring relay.
- (b) Move the R-Y and O wires on the "C" wiring field from position C-3H to position C-1J.
- (c) Strap C-3H to C-2P on the "C" wiring field with TP307219 strap provided.

5.23 When a hand held receiver is used with the data set 109 type, slip the TP154697 grommet over the coiled core before running it through the bell ringer adjustment slot.

35 TELETYPEWRITER SETS — DATA SET 108 TYPE

5.24 Options on data set 108 type for 35 set are same as for 33 set (5.08, Tables E and F).

5.25 Refer to Section 591-023-210 for desensitizing pad and hybrid network strapping, and any other adjustment for proper data set operation.

5.26 After the various options and strappings are completed assemble the data set 108 type and the AR430 circuit pack to the data auxiliary set.

5.27 Remove the pedestal panel by depressing and twisting the two spring loaded latches at the top of the panel.

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5.28 Assemble the 96A brackets to the 180A backboard using four (4) TP143442 screws, four (4) TP2669 lockwashers, and four (4) TP112626 nuts.

5.29 Mount the backboard and bracket assembly to the relay rack in the set cabinet. Secure with four (4) TP153442 screws, four (4) TP2669 lockwashers, and four (4) TP3538 flatwashers (Figure 6).

5.30 Mount the 820D-L1A data auxiliary set to the 180A backboard securing with the two (2) clamps on each side of the backboard (Figure 6).

5.31 Remove the ac power cord knock-out plate from the lower right end of the cabinet. Remove the two sections of the left knock-out. Place the M3AY cord thru the opening. Reinstall the plate.

5.32 Make all wiring connections same as for model 33 set (refer to 5.13 thru 5.15).

5.33 Replace pedestal panel.

6. STATION OPTIONS

BREAK DETECTOR AND INDICATOR

6.01 Modification kit TP186630 provides the break detection and indication feature for both 33 and 35 stations (8162WD).

6.02 The TP336462 bracket mounts on the UCC29 call control unit base plate (refer to Figure 7). The TP303833 break detector card is part of the TP186630 modification kit but mounts in the card connector (CN on 8162WD) on the UCC29 call control unit.

6.03 Make the following connections:

(a) Remove the yellow strap on CN connector between CN-F and CN-H.

(b) Connect the following leads of the break detector indicator lamp cable TP336471 to the terminal board TB of TP186627 set logic assembly as follows:

R-S to TB 13
R-BR to TB 6
BL to TB 12
O-G to TB 9

7. CHECKOUT PROCEDURES

33 STATIONS

7.01 The following procedures apply to 33 KSR and ASR sets equipped with data sets 109C and 109F type, or with TP186627 set logic assembly.

7.02 Connect the station plug to the ac power source.

7.03 On data sets 109C or 109F types, or on the TP186627 assembly, depress the LOCAL key. The LOCAL key should remain depressed and become illuminated; the set motor should start, the typing unit should run closed, and the elapsed time indicator should operate.

7.04 Operate all character and function keytops on the keyboard. The typing unit should print the proper characters and perform the proper functions. If the new line feature is not disabled, the typing unit should line feed (form feed for sprocket feed units) and carriage return when the NEW LINE keytop is depressed. On sprocket feed sets, simultaneously depress CTRL and L keytops. Typing unit should form feed. Check for proper form feed.

7.05 Depress RETURN and NEW LINE keytops on keyboard. Depress 1 through 0 keytops seven times, then depress keytops 1, 2, and 3. The number 3 should overprint the 2 indicating that there are 72 characters per line. The bell should ring at about the 60th character.

7.06 On ASR sets, depress the ON button of the tape punch. Depress various characters and function keytops on keyboard. The typing unit should print and the tape punch should punch the appropriate characters (except the typing unit will not print functions).

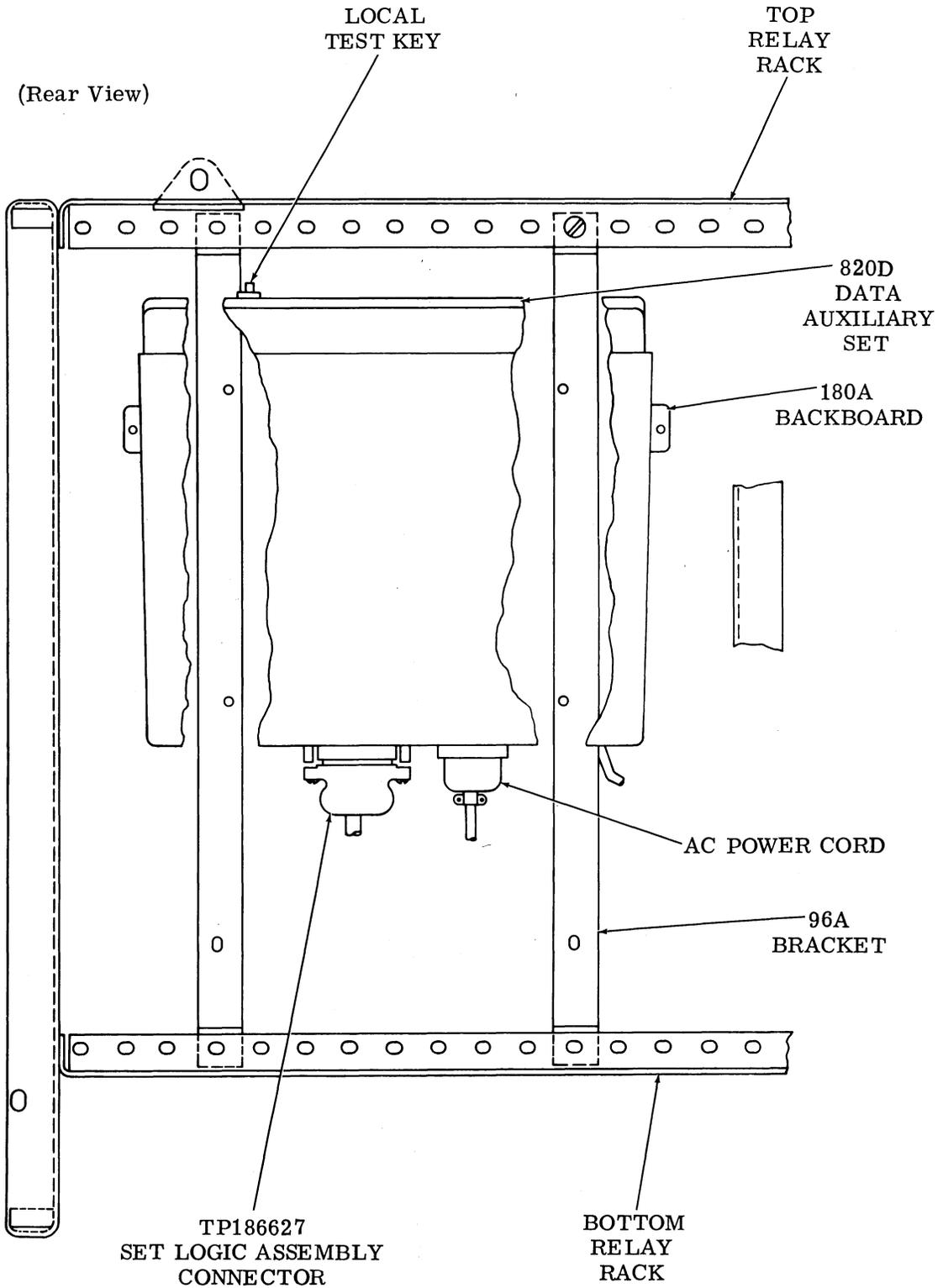


Figure 6 - Mounting of DAS 820D-L1A on M35

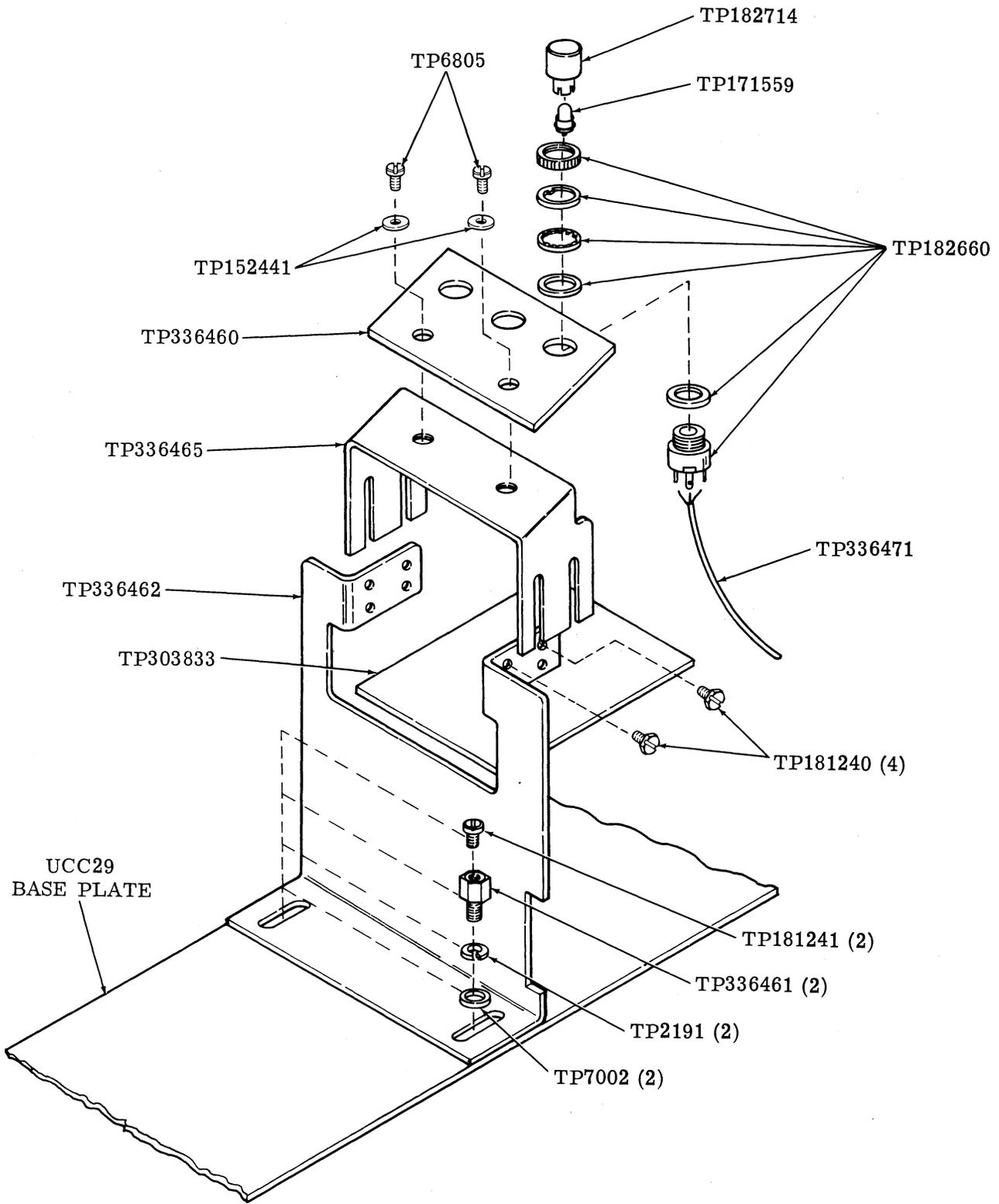


Figure 7 - Break Detector and Indicator

- 7.07 Check punched code combinations in tape to make certain the keyboard is transmitting the parity bits.
- 7.08 Depress B. SP. button on tape punch several times. Tape should backspace each time button is depressed.
- 7.09 Depress RUB OUT keytop several times. Depress REL. button on tape punch and pull tape forward. Check tape for correct over-punching and make certain holes are not elongated. Depress OFF button.
- 7.10 Remove tape from tape punch and place in tape reader. Move control lever on tape reader to MANUAL START position. Tape reader should operate. Monitor message being locally transmitted to typing unit.
- 7.11 Move the tape reader control lever first to MANUAL START and then to MANUAL STOP. The tape reader should start and stop without transmitting errors.
- 7.12 Move control lever to MANUAL START position. While tape reader is operating, open tape lid. Tape reader should stop. Close tape lid and again move the control lever to the MANUAL START position. Move control lever to the FREE position. Tape should move freely when pulled.
- 7.13 Move control lever to MANUAL START position and allow tape to run. Hold back end of tape as it feeds into reader. When tape becomes taut, reader should stop. Release tape and allow reader to process remaining tape. Reader should stop when tape runs out.
- 7.14 On stations with set logic assembly TP186627 and answer-back feature, depress HERE IS keytop. The station answer-back should operate and the answer-back sequence should be printed on the typing unit. Simultaneously depress CTRL and WRU keytops. The answer-back should not operate.
- 7.15 Depress BREAK keytop. Typing unit should continue to run closed.
- 7.16 On stations with either data set 109C type or TP186627 set logic assembly, depress OFF button. Lamp should not illuminate; LOCAL key should release and its lamp should go off; the motor should turn off.
- 35 STATIONS
- 7.17 The following procedures apply to 35 KSR and ASR sets equipped with data sets 109C or 109F types, or with set logic assembly TP186627.
- 7.18 Connect station plug to ac power source.
- 7.19 On data set 109C or 109F, or set logic assembly TP186627, depress LOCAL key. The copy lamp on teletypewriter set should light, the T lamp should light, the motor should start. Depress K button; its lamp should light, and the T lamp should extinguish. Operate all characters and functions on keyboard. The typing unit should print the proper characters and perform the proper functions. Check form out, horizontal tab, and vertical tab on sets so equipped.
- 7.20 Depress RETURN and NEW LINE keytops. Depress 1 through 0 keytops seven times, then depress keytops 1, 2, and 3. The number 3 should overprint 2 indicating that there are 72 characters per line.
- 7.21 Check that character counter operates properly. The EOL lamp should light about 4 to 7 characters before end-of-line.
- 7.22 In stations with data sets 109C-L, depress T button. Its lamp should light, the K lamp should be extinguished; the keyboard should be blinded, and the typing unit and tape punch should not be operating. For local copy, typing unit should print, reader should be on, and tape punch should be off.
- 7.23 In stations with TP186627 set logic assembly, depress T button. Its lamp should light, K lamp should extinguish, keyboard should operate, tape punch should operate, and typing unit should not print.
- 7.24 Move control lever to RUN position. Punch should operate properly.
- 7.25 On all stations, depress KT button. Its lamp should light, and T lamp extinguishes. Operate all character and function keytops; typing unit should print and function accordingly, tape should be punched, and EOL lamp should be lighted.
- 7.26 On ASR sets depress the ON button of the tape punch. Depress various characters and function keytops. The typing unit should

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print and the tape punch should punch the appropriate characters (except that the typing unit will not print functions).

7.27 Check punched code combinations in tape to make certain keyboard is transmitting the parity bits.

7.28 Depress LOC B SP keytop on keyboard several times. Tape should backspace each time keytop is depressed.

7.29 Depress RUB OUT keytop several times. Check tape for correct overpunching and make certain holes are not elongated.

7.30 Remove tape from tape punch and place in tape reader. Depress the TD ON button. Tape reader should operate. Monitor message being locally transmitted to typing unit, and message being punched by the punch.

7.31 Alternately depress the TD ON and TD OFF buttons. The reader should start and stop without transmitting errors.

7.32 While reader is operating open tape lid. Reader should stop. Close tape lid.

7.33 Operate reader lever to FREE position and allow tape to run. Hold back tape as it feeds into reader. When tape becomes taut, reader should stop. Release tape and allow reader to process remaining tape. Reader should stop when tape runs out.

7.34 On stations with TP186627 set logic assembly, and answer-back feature, place keyboard in each of the K, KT, and T modes and depress HERE IS keytop for each position. The station answer-back should operate and the answer-back sequence should be printed on the typing unit. In the KT mode, the station answer-back should be punched on tape.

7.35 With keyboard in each of the K, KT, and T modes, simultaneously depress CTRL and ENQ keytops. The answer-back should not operate. In the KT mode, the punch will punch the CTRL E.

7.36 On stations with either 109C-L type data sets or TP186627 EIA interface assembly, depress OFF button. Lamp should not come on; LOCAL key should release and its lamp extinguished; motor should turn off.

7.37 For the test procedures concerning data sets 108 and 109 types see Sections 591-023-510 and 591-031-501 respectively.