

INSTRUCTIONS FOR INSTALLING THE 311456 OR 333520
(LP843) MODIFICATION KIT TO PROVIDE A UNIVERSAL
PAPER JAM ALARM FOR MODEL 28 OR 35 SPROCKET
FEED TYPING UNITS

1. GENERAL

1.01 The 311456 modification kit is used on the Model 28 and 35 sprocket feed typing units to sense malfunctions of the paper travel which results in paper jams. It will not sense a torn sprocket hole condition unless the tearing results in buckling of the paper.

1.02 The 311456 modification kit is a universal kit for use with the following paper widths: 9 inch, 8-1/2 inch, 8 inch, 7-1/2 inch, 7 inch, 6-1/2 inch, 6-3/8 inch, 6-1/4 inch, 6 inch, 5-3/4 inch, 5-1/2 inch, 5 inch, 4-1/2 inch, 4-5/16 inch, 4-1/4 inch, 4 inch, and 3-5/8 inch.

1.03 This kit is not compatible with the old style 153772 paper guide bracket. It is necessary to replace the 153772 guide and associated 153721 and 153722 arms with the new style 155896 and 155897 paper fingers, 155565 and 155566 arms, and 153685 paper strippers. (See Bulletin 1149B.)

Note: Maximum current carrying capacity of paper jam alarm circuitry is one ampere.

1.04 This kit replaces the 194995 and 199245 modification kits for 8-1/2 inch and 6-1/4 inch paper width respectively and is compatible with the improved manual platen line feed modification kits.

1.05 Customer supplied electrical components used to complete the paper jam alarm circuitry must not draw more than one ampere.

1.06 The 333520 modification kit is similar to kit 311456 except for the switch arrangement, wiring, and modified switch mounting plate and operating lever. Kit 333520 is for use on typing unit LP843.

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1.07 The 311456 kit consists of:

<u>Qty</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>	<u>Part No.</u>	<u>Description</u>
3	2191	Lockwasher	1	152425	Post, spring
2	3624	Washer, flat	2	156971	Screw
1	3640	Lockwasher	1	170282	Nut
1	6807	Screw	2	173940	Terminal
3	7002	Washer, flat	1	194998	Plate, mounting
1	83877	Spring	1	194999	Cable, with switches
1	90581	Collar	1	195000	Lever, operating
2	93117	Lockwasher	3	195001	Insulator
2	102999	Screw	1	306098	Wire, guide
2	130663	Lockwasher	1	311457	Bracket, bail
1	150436	Bushing	1	312980	Bail, right
1	151152	Screw	1	312981	Bail, left with tubing
3	151657	Screw			

1.08 The 333520 kit consists of:

<u>Qty</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>	<u>Part No.</u>	<u>Description</u>
3	2191	Lockwasher	1	151152	Screw
2	3624	Washer, flat	2	151354	Screw
1	3640	Lockwasher	3	151657	Screw
1	6807	Screw	1	152425	Post, spring
3	7002	Washer, flat	1	158317	Insulator
1	83877	Spring	1	170282	Nut
1	90581	Collar	1	306098	Wire, guide
2	93117	Lockwasher	1	311457	Bracket
2	102999	Screw	1	312980	Bail
1	104751	Spring	1	312981	Bail
2	122136	Washer, flat	1	332813	Plate
2	130663	Lockwasher	1	332814	Cable
1	150436	Bushing	1	332815	Lever

1.09 For parts ordering information, see appropriate Teletype Parts Bulletins.

2. INSTALLATION (Figures 1, 2, and 3)

MODIFICATION KIT 311456

2.01 Remove and save the 55063 spring from the 153678 paper finger shaft.

- 2.02 Remove and save the 76800 spring and the 154519 latch.
- 2.03 Remove and save the 128357 retaining ring from the 153678 paper finger shaft.
- 2.04 Loosen the 153839 clamping screws on the paper finger arms.
- 2.05 Remove the stripper arms and the paper fingers from the shaft by withdrawing the shaft to the right. Do not completely remove the shaft from the right frame.
- 2.06 Insert the shaft into the right side of the 304779 or 304778 bail assembly. The wire portion of the bail is to the front.
- 2.07 Place the 90581 collar on the shaft.
- 2.08 Typing Unit Using 3-5/8 Inch to 8-1/2 Inch Wide Paper: Insert the shaft into the right side of the 312980 right bail. Re-install the 155565 right paper finger arm and the right side 153685 paper strippers. Continue to push the shaft to the left through the left side of the 312981 left bail with tubing. Re-install the left side 153685 paper strippers and the 155566 left paper finger arm on the 153678 shaft, in that order, by pushing the shaft to the left across the top of the platen. Make certain that the shaft passes through the slotted ends of the 153699 and 153698 feed cams. Assemble the 311457 bail with tubing to the 312980 bail using two 102999 screws and 130663 lockwashers. The tubular portions of the 312981 and 311457 bails with tubing should be above the paper finger arm assemblies.

Note: Typing Units Using 8-1/2 Inch or 9 Inch Wide Paper: When assembling the 311457 bail with tubing to the 312980 bail or the 312981 bail, insert the desired length of 306098 guide wire into the tubular portion of the 312980 left bail with tubing and into the 311457 right bail with tubing.
- 2.09 Typing Units Using 9 Inch Wide Paper: Same as 2.08 except discard the 312980 bail, the 151152 mounting screw, 3640 lockwasher, and 7002 flat washer. Mount the 311457 bail with tubing to the 312981 left bail with tubing using two 102999 screws and 130663 lockwashers.
- 2.10 Continue to push the 153678 shaft to the left and into the hole in the left side frame. Replace the 128357 retaining ring at the right end of the shaft.
- 2.11 Replace the 55063 spring on the shaft and the 76800 spring on the latch.

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- 2.12 Position the 90581 collar so one tapped hole is upward and the other is to the front of the unit. Place the 6807 setscrew in the upper hole.
- 2.13 Place the 170282 nut on the 152425 spring post. Thread the spring post into the forward hole in the 90581 collar and run it in as far as possible without securing the collar to the shaft. Tighten the nut against the collar.
- 2.14 Tighten the 6807 setscrew in the collar. Install the 83877 spring between the 152425 spring post and 312981 bail with tubing.
- 2.15 Assemble the two switches to the 194998 plate using the 156971 screws, 93117 lockwashers, and the 3624 flat washers. Place a 195001 insulator between the switches, between the inner switch and the plate, and on the outside of the outer switch.
- 2.16 Assemble the 195000 operating lever to the 194998 mounting plate, the 150436 shoulder bushing, 151657 screw, and 2191 lockwasher.
- 2.17 Fasten the plate with switches and lever to the right side frame of the typing unit with two 151657 screws, 2191 lockwashers, and 7002 flat washers using the hole at the upper rear corner of the frame and the rearmost of the two tapped holes which are approximately in line with the 154519 latch mounting hole.
- 2.18 On Model 35 units equipped with paper-out alarm, route the main body of the cable along the 151627 tie rod to the 192336 paper-out alarm and the single white wire to the receptacle on the right frame. Remove the pin with the orange wire from position 35 on this receptacle and replace with the white wire. Cut off or tape the orange wire removed. At the paper-out alarm, remove and tape the orange wire from terminal N-4. Connect the yellow wire in the cable to N-4. Connect the white-brown wire to terminal N-6. When used with the 304776 paper-out and low-paper alarm, connect the yellow-green wire to terminal N-8, and the white-green wire to terminal N-9. When the 311456 modification kit is used in conjunction with the 305080 low-paper alarm only, reroute the yellow-green and the white-brown wires through the same opening in the plastic cable cover as the white wire. Cut the wires to the same length as the white wire, and solder 173940 plugs on the ends and connect the yellow-green to terminal R-39 and the white-green to terminal R-38. Refer to 4787WD, Issue 7, or later.

- 2.19 On units other than above; route the cable to the main receptacle on the right frame, cut the wires to length, and connect to the desired terminals. (Customer must supply own alarm circuitry.)
- 2.20 Cut the 306098 guide wire to length according to paper width of typing unit on which the kit is being used. (See Figure 1.)
- 2.21 Insert left end of 306098 guide wire into the tubular portion of the 312981 bail with tubing and right end into the tubular portion of 311457 bail with tubing.
- 2.22 Typing Units Using 8-1/2 Inch to 3-5/8 Inch Wide Paper: Take up endplay in wire by moving the 311457 bail to the left and fasten bail to 312981 bail by means of the 151152 screw, 3640 lockwasher, and 7002 flat washer.

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- 2.23 Follow instructions in 2.01 through 2.14.
- 2.24 Assemble the switch of cable assembly 332814 to the 323813 plate with 158317 insulator, 151354 screws, 93117 lockwashers and 122136 flat washers.
- 2.25 Assemble the 332815 operating lever to the 323813 plate using the 150436 shoulder bushing, 151657 screw and 2191 lockwasher. Install spring 104751 between operating lever and the post of the plate.
- 2.26 Follow instructions given in 2.17.
- 2.27 Route the cable along the side frame and along the 151627 tie rod to the paper alarm assembly. Remove the white-brown wire from the paper-out switch, splice it to the red wire and tape. Solder the orange wire to the terminal vacated by the white-brown wire.
- 2.28 Follow instructions in 2.20 through 2.22.

3. ADJUSTMENTS AND LUBRICATION

- 3.01 For standard adjustments and lubrication procedures, refer to Teletype Bulletin 217B (Model 28) and 280B (Model 35). Make the paper finger adjustment right and left.
- 3.02 Make the following new adjustments:

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(a) CONDITIONING

- (1) Loosen the switch plate mounting screws and rotate the switch and latch to a position where they do not interfere with the bail.
- (2) Position the spring post by means of the set collar so that the spring has some initial tension. The spring post should be approximately 30° from vertical.

(b) WIRE BAIL

- (1) The wire bail should rest on the paper fingers approximately in the radius of the fingers. The bail should touch at least one finger with not more than 0.015 inch gap from the other.
- (2) To adjust, bend the wire bail.

Note: Make certain that there is no bind in the bail when finished with this adjustment.

(c) SWITCH POSITION

- (1) With the wire bail held against the paper fingers and the operating lever latched behind the operating bail, there should be 0.035 inch to 0.065 inch between the top of the bail and the bottom of the step in the lever. The lever should depress the switch plungers sufficiently to operate the switches.
- (2) Position the switch plate by means of the mounting screws.

(d) BAIL SPRING TENSION

- (1) It should require $1/2$ to $1-1/2$ oz to lift the bail high enough to release the operating lever and operate the switches when a 8 oz scale is hooked to the center of the bail and pulled vertically.
- (2) To adjust, position the spring post by means of the set collar, at the same time, positioning the collar laterally to provide some to 0.006 inch endplay for the bail.
- (3) Check that with the play of the bail taken to the right, the left side of the bail clears the left paper finger arm. Refine the left paper finger arm adjustment if necessary.

Note 1: With the typing unit installed in its cabinet, check that when the bail is lifted to its maximum upward position, there is some clearance between the bail and the operating lever.

Note 2: Adjustments (b) WIRE BAIL and (c) SWITCH POSITION may be refined to make the mechanism more or less sensitive to paper buckling.

3.03 Lubricate the following places with one drop of oil:

- (a) Bail pivots
- (b) Spring eyes
- (c) Point of contact of bail with lever
- (d) Point of contact of lever with switch buttons

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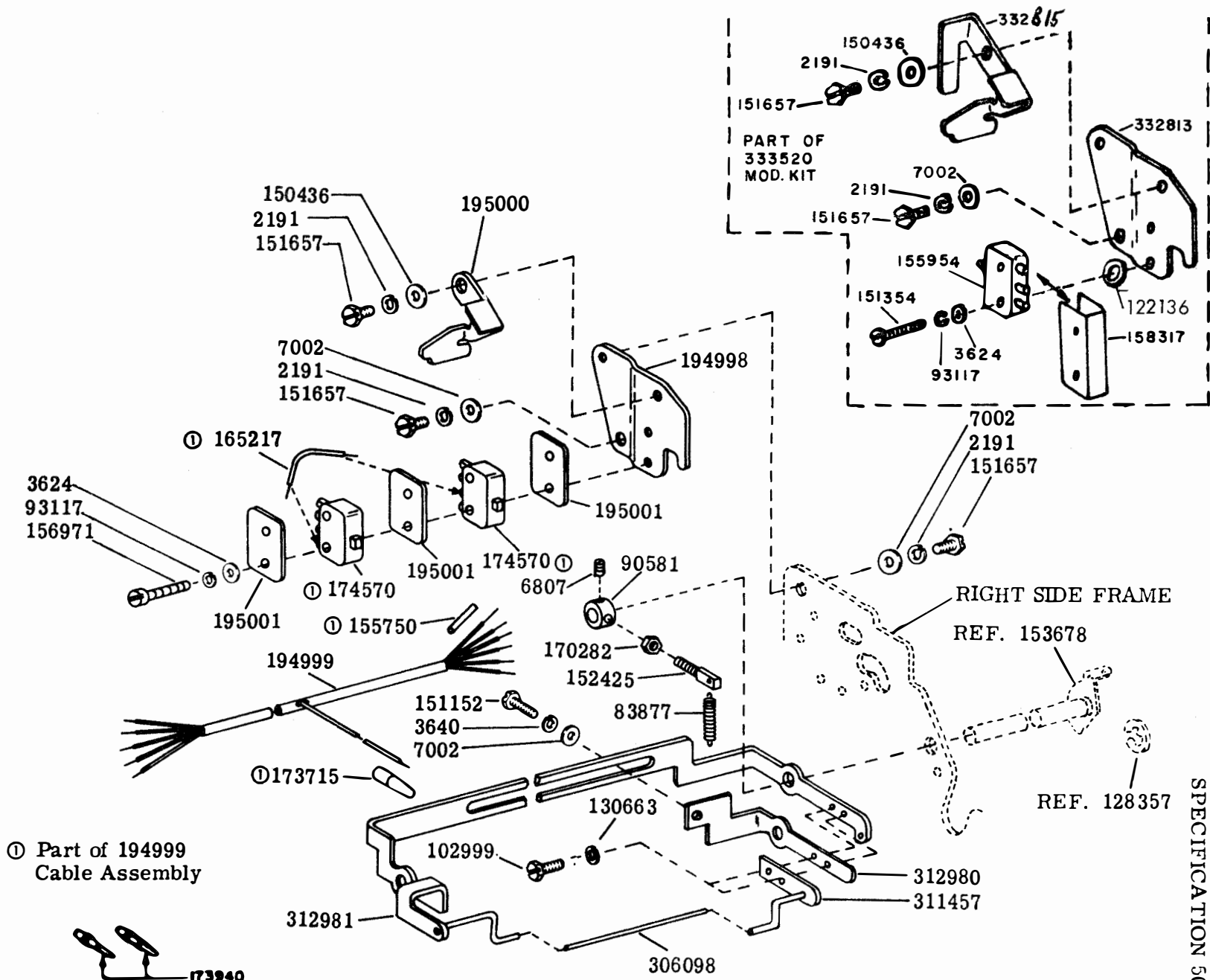
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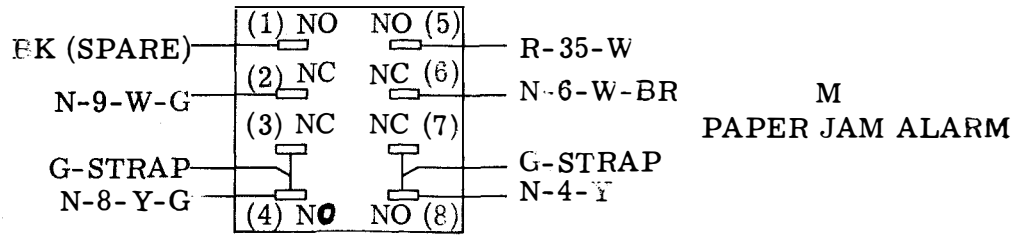
Note: Cut piano wire with proper instrument.

PAPER WIDTH	WIRE LENGTH REQUIRED
3-5/8"	2-1/16"
4"	2-7/16"
4-1/4"	2-3/4"
4-5/16"	
4-1/2"	2-15/16"
5"	3-7/16"
5-1/2"	3-15/16"
5-3/4"	4-3/16"
6"	4-7/16"
6-1/4"	4-11/16"
6-3/8"	4-13/16"
6-1/2"	4-15/16"
7"	5-7/16"
7-1/2"	5-15/16"
8"	6-7/16"
8-1/2"	6-15/16"
9"	NO CUT REQ'D.

306098 GUIDE WIRE CHART

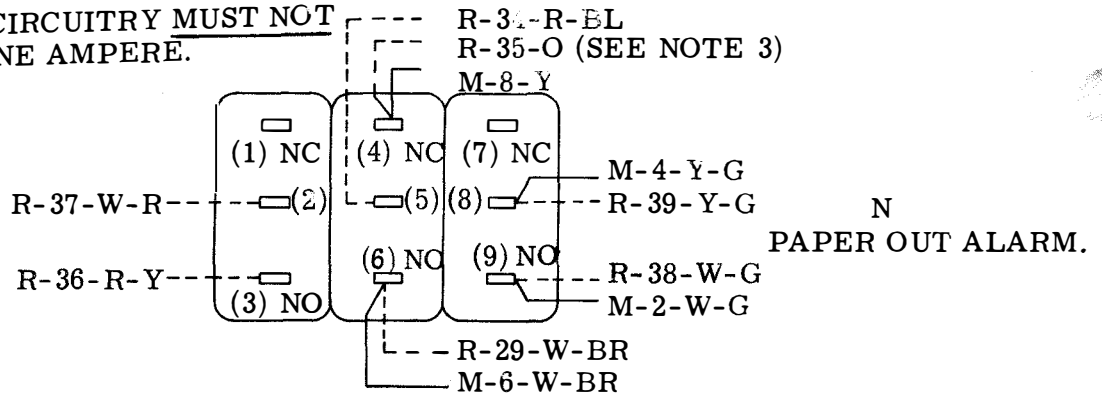
FIGURE 2



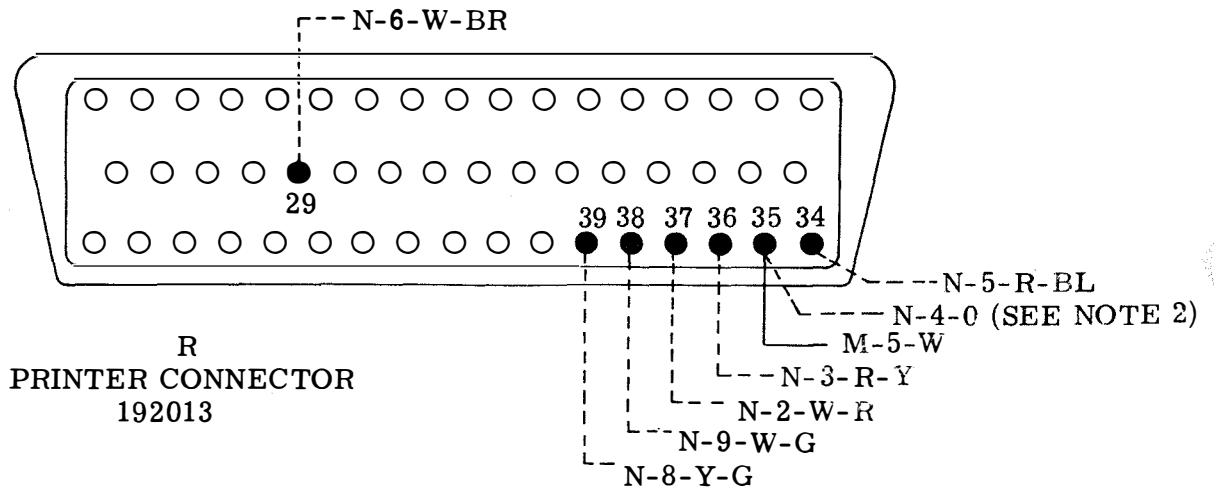


NOTE

PAPER JAM ALARM CIRCUITRY MUST NOT DRAW MORE THAN ONE AMPERE.



1. WIRES SHOWN DOTTED ARE NOT PART OF THE 311456 MODIFICATION KIT BUT ARE INCLUDED FOR REFERENCE PURPOSES ONLY.
2. REMOVE PIN WITH ORANGE WIRE FROM POSITION 35 ON THE PRINTER CONNECTOR AND REPLACE WITH THE WHITE WIRE. CUT OFF OR TAPE BACK THE ORANGE WIRE.
3. AT THE PAPER OUT ALARM REMOVE AND CUT OFF OR TAPE BACK THE ORANGE WIRE ON TERMINAL 4.



311456 MODIFICATION KIT-PAPER JAM ALARM
WIRING INSTRUCTIONS FOR MODEL 35 LP UNITS ONLY

FIGURE 3