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Specification S-5407  
Issue 3, Page 1  
June, 1948

INSTRUCTIONS FOR INSTALLING AND ADJUSTING THE 105382  
SET OF PARTS OR THE 106044 SET OF PARTS ON A MODEL 15 PRINTER  
TO PROVIDE AUTOMATIC CARRIAGE RETURN AND LINE FEED AT END OF  
LINE AND TO PROVIDE COMBINED CARRIAGE RETURN AND LINE FEED UPON  
RECEPTION OF CARRIAGE RETURN SELECTION

1. DESCRIPTION

a. The 105382 and 106044 sets of parts each provide combined carriage return and line feed operation on receipt of carriage return combination and prevent character pile-up by applying these functions as an emergency feature at the end of the line in case carriage return combination has not been received. Any character received during the operation of these functions will be displaced. Send-receive-break mechanism and/or shift-blank-stop motor control mechanism do not interfere with installation.

b. The 105382 set of parts, which is intended for communication service machines only, is designed so that the carriage return and line feed function levers may be operated when the platen is in either the LETTERS or the FIGURES position. The 106044 set of parts, which is intended for weather service machines only, is designed so that the carriage return and the line feed function levers may be operated only in the LETTERS position.

c. Automatic carriage return and line feed is accomplished by a bail assembly, a trigger assembly, and a bell crank retainer assembly (Figures 1 and 2). When the type bar carriage reaches the end of a line, a yield lever on the lower end of the bell crank retainer (Figure 1) engages a screw on the trigger of the trigger assembly thereby moving the trigger (along with its extension) to the right. When this occurs, the automatic carriage return and line feed function lever (Figure 1) of the bail assembly, normally blocked by the trigger extension, is unblocked. This function lever then moves forward and operates a bail, whose rearward extensions (Figure 2) move the carriage return latch bar and the line feed push bar into their selected positions.

d. Combined carriage return and line feed, upon reception of the carriage return selection, is accomplished by operating the specially designed carriage return function lever which, in turn, operates the same bail mentioned in the preceding paragraph. Thus the bail may be operated by the automatic carriage return and line feed function lever and/or the specially designed carriage return function lever.

e. The 105382 set of parts consists of the following:

1	105274	Line Feed Function Lever
1	107101	Bail Assembly
2	74705	Spring
1	107102	Trigger Assembly
2	80342	Screw
2	7002	Washer
1	107103	Bell Crank Retainer Assembly

1	106038	Blocking Bail
1	74255	Function Lever Comb
1	88959	Guide Bracket
2	6746	Screw

f. The 106044 set of parts is identical with the 105382, except that the following part numbers are substituted for parts of corresponding names in the above list:

1	105381	Blocking Bail
1	106279	Line Feed Function Lever
1	107105	Bail Assembly

## 2. INSTALLATION

a. Remove the type bar carriage from the typing unit. Install a handwheel on the right-hand end of the main shaft. Replace the present blocking bail with the 106038 or the 105381 blocking bail furnished with the set of parts. Remove the function lever comb and the latch-bar latches (Figure 2) as an assembly. Unhook, from the spring plate, the springs of the carriage return and line feed function levers and also the springs of the function levers that fit in slots 3 and 4 of the vane frame. Keep the springs in their proper order. Then remove these four function levers. Discard the carriage return function lever and the line feed function lever, but retain the other two function levers.

b. With the main bail in its rearmost position, install the 105274 or the 106279 line feed function lever in the position that was formerly occupied by the line feed function lever just removed. Rehook its spring.

c. With the main bail in its rearmost position, place the 107101 or the 107105 bail assembly so that the function levers fit over slots 2 and 6 of the vane frame and so that the ends of their U-shaped portions just fit over the function bail roller. It should be noted that the bail assembly is not to be mounted in slots 2 and 6 of the vane frame at this time. Position the bail assembly in approximately the same position it will finally occupy. This step is necessary in order to reinstall the function levers that fit in slots 3 and 4 of the vane frame. Replace the function levers, that mount in slots 3 and 4 of the vane frame, and their respective springs.

d. Install the 107101 or the 107105 bail assembly so that the function levers fit in slots 2 and 6 of the vane frame. Make certain that the lower left-hand extension (line feed extension) of the bail assembly is under the line feed push bar and that the lower right-hand extension (carriage return extension) of the assembly is under the carriage return latch bar. Adjust these two extensions by means of their mounting screws so that the assembly moves freely and without bind in the vane frame slots. Then install one of the two 74705 springs furnished with the set of parts, on the specially designed carriage return function lever and the other on the automatic carriage return and line feed function lever.

### NOTE

If the right-hand boss on the vane frame interferes with the movement of the automatic carriage return and line feed

function lever of the bail assembly, the interfering edge of the boss should be filed until the lever moves freely.

e. Remove the latch bar latches (Figure 2) from the function lever comb (removed per paragraph a) and mount them on the 74255 function lever comb furnished with the set of parts by means of the screws and lock washers just removed. Then install the new function lever comb assembly with the screws that formerly mounted the old function lever comb removed per paragraph a.

\*f. Remove and discard the 74415 guide bracket and 74059 screws. Disengage all function lever springs from the spring plate and then remove the two 6746 screws and the 2191 lock washers from the spring plate. Replace the two 6746 screws with the two 80342 screws furnished with the set of parts and then place on these screws two 2191 lock washers previously removed, and two 7002 washers furnished with the set of parts. Install the 107102 trigger assembly furnished with the set of parts immediately above the spring plate (Figure 1) and secure it with the two screws, washers, and lock washers that mount the spring plate. Rehook all function lever springs to the spring plate. Install the 88959 intermediate lever guide furnished with the set of parts in the position that was formerly occupied by the 74415 guide bracket. Use the two 6746 screws furnished with the set of parts and the two 2191 lock washers and the two 7002 washers (which were used to help mount the 74415 guide bracket) for this purpose.

g. Replace the type bar carriage and lock it in its extreme left-hand position. Remove and discard the present bell crank retainer and replace it with the 107103 bell crank retainer assembly (Figure 1). Make certain that the spacers which were just removed are reinstalled in their proper place and that the screws and lock washers just removed are used to mount the 107103 bell crank retainer assembly.

### 3. ADJUSTMENTS

a. Installation of the automatic carriage return and line feed mechanism may have disturbed some of the standard adjustments of the 15 printer typing unit; therefore, the following standard procedures are included for purpose of verification or readjustment:

#### (1) BLOCKING PLATE ADJUSTMENT

(a) The position of the blocking plate should be as follows:

1. With the FIGURES combination selected and the main shaft rotated until the figures function lever is drawn completely into selection with the vanes, the travel of the function lever bail should be blocked by the selected function lever and the front edge of the right projection of the blocking plate should be flush within .005" of the top front edge of the rear prong of the figures function lever.

2. Remove the line feed push bar. Then with the LINE FEED combination selected and the main shaft rotated until the line feed function lever is drawn completely into selection with the vanes, the travel of the function lever bail should be blocked by the selected function lever and the front edge of the left projection of the blocking plate should be flush within .005" of

\*Indicates change

the top front edge of the rear prong of the line feed function lever.

(b) To adjust, position the blocking plate by means of its slotted holes to meet the foregoing requirements. Replace the line feed push bar.

(2) CARRIAGE RETURN LATCH-BAR LATCH SHIMS ADJUSTMENT

(a) Remove the spring of the automatic carriage return and line feed function lever.

(b) Set the typing unit on its right side. With the letter O combination selected and the main shaft rotated until the printing bail is in its extreme forward position, there should be .004" to .010" clearance between the carriage return latch bar and the lobe on the carriage return extension of the bail assembly. When checking this clearance, the shoulder on the carriage return latch bar should be fully latched on the latch. To adjust, add or remove shims between the carriage return latch-bar latch and the function lever comb.

(c) Replace the automatic carriage return and line feed function lever spring.

(3) CARRIAGE RETURN LATCH-BAR LATCH ADJUSTMENT

With the main shaft rotated until the function bail is in its extreme rear position, there should be .010" to .020" clearance between the shoulder on the carriage return latch bar and the latch. When checking this clearance, the shoulder on the carriage return reset bar should be fully engaged with function bail blade. To adjust, position the latch to front or rear by means of its elongated mounting holes.

(4) SIGNAL BELL LATCH-BAR LATCH SHIMS ADJUSTMENT

(a) Set the typing unit on its right side. With the platen in the LETTERS position (down), the BELL combination selected, and the main shaft rotated until the printing bail is in its extreme forward position, there should be .004" to .010" clearance between the bell latch bar and the lobe on the rear extension of the bell function lever. When checking this clearance, the front shoulder on the bell latch bar should be fully latched on its latch.

NOTE

On typing units which ring the bell on blank, set up the letter T combination and rotate the main shaft until the printing bail is in its extreme forward position.

(b) To adjust, add or remove shims between the latch and the function lever comb.

(5) SIGNAL BELL LATCH-BAR LATCH ADJUSTMENT

With the main shaft rotated until the function bail is in its extreme rear position, there should be a clearance of .010" to .020" between the front

shoulder of the bell latch bar and its latch. When checking this clearance, the shoulder on the bell reset bar should be fully engaged with the function bail blade. To adjust, position the bell latch-bar latch toward the front or rear by means of its elongated mounting holes.

**\*(6) FIGURES, LETTERS AND LINE FEED FUNCTION LEVER SPRING TENSIONS**

Place the typing unit on its right side. Select the BLANK combination and rotate the main shaft until the printing bail is in its extreme forward position. Hook a 32 oz. scale over the rear extension of the figures, letters, and line feed function levers just in front of the lobes which engage the push bars and pull horizontally at right angle to the rear extension. It should require 15 to 19 ozs. to start each of these function levers moving. When checking these tensions, the push bars should be held away from the function levers.

**(7) BLANK PRINTING AND SPACING CUT-OUT FUNCTION LEVER SPRING TENSION**

**NOTE**

The following spring tension applies only to printers equipped with a special function lever to prevent printing and spacing when the BLANK combination is selected.

(a) Rotate the main shaft until the printing bail is in its extreme rear position. Then unhook the blank printing and spacing cut-out function lever spring from the spring plate.

(b) Hook a 32 oz. scale in the spring eye and pull in line with the spring. It should require 22 to 30 ozs. to extend the spring to its position length.

**(8) BELL FUNCTION LEVER SPRING TENSION**

Select any character and rotate the main shaft until the bell function lever rests against the vanes, not selected. Hook a 4 lb. scale over the rear extension of the bell function lever, just in front of the lobe that engages the bell latch bar, and pull at right angle to the lever. It should require 1-3/4 to 2-1/4 lbs. to start the lever moving.

**(9) OPERATING BAIL LINE FEED EXTENSION ADJUSTMENT**

(a) With the printing bail in its extreme rear position and the automatic carriage return trigger held in its operated position, rotate the main shaft until the automatic carriage return and line feed function lever just touches the number one vane. There should be some clearance, not more than .010" between the line feed push bar and the bottom of the function bail blade. To adjust, position the line feed extension by means of its enlarged mounting holes. Reposition the function bail blade if necessary within the limits given in Bulletin 138.

(b) To check the function bail blade adjustment, select the combination for the letter O when the printing bail is in its rearmost position, then rotate the main shaft until the printing bail is in its extreme forward position. There should be some clearance between the upper edge of the line feed extension

\*Indicates change

projection of the bail and the lower edge of the line feed push bar.

(10) AUTOMATIC CARRIAGE RETURN AND LINE FEED FUNCTION LEVER ECCENTRIC SCREW ADJUSTMENT

There should be an equal amount of clearance (within .010") between the bottom edge of the carriage return latch bar and the latch-bar latch when, first carriage return function lever is fully selected and then the automatic carriage return and line feed function lever is fully operated. To adjust, position the automatic carriage return and line feed function lever eccentric shoulder screw.

(11) MOUNTING BRACKET ADJUSTMENT

NOTE

If the shift-blank-stop motor control mechanism is not used on the typing unit on which the automatic carriage return and line feed mechanism is being installed, subsequent references to the motor stop function lever blocking lever may be ignored.

With the trigger guide positioned in approximately the middle of its adjustable range, adjust the mounting bracket (a) approximately parallel to the 74019 spring plate, and (b) so that the clearance between the blocking edge of the motor stop function lever blocking lever and the front edge of the motor stop function lever is approximately .015" to .025" when the main shaft is rotated until the printing bail is in its rearmost position.

(12) TRIGGER GUIDE ADJUSTMENT

With the letter O combination selected and the main shaft rotated until the printing bail is in its extreme forward position, there should be some clearance, not more than .010" between the carriage return latch bar and the lobe on the carriage return extension of the bail assembly. To adjust, position the trigger guide by means of its elongated mounting holes.

NOTE

With the main shaft in the stop position, there should be at least .005" clearance between the blocking edge of the trigger extension and the front edge of the automatic carriage return and line feed function lever, when the play is taken up to make this clearance a minimum.

(13) TRIGGER ADJUSTABLE SCREW ADJUSTMENT

(a) The automatic carriage return and line feed mechanism is designed to operate on a 72 to 76 character range. The following procedure assumes a 76-character line range. The procedure for the 72-character line range adjustment is identical to that for 76 characters except that 72 characters is substituted wherever 76 appears.

(b) To check this adjustment, space the carriage one less than the

desired number of characters on the line. There should be a clearance of .015" to .020" between the left-hand edge of the trigger extension and the right-hand edge of the blocking extension on automatic carriage return and line feed function lever when the play in the function lever is taken up to the left. To adjust for this clearance, loosen the lock nut of the trigger adjustable screw and position the screw. Tighten the lock nut.

(14) CARRIAGE RETURN AND AUTOMATIC CARRIAGE RETURN AND LINE FEED FUNCTION LEVER SPRING TENSIONS

(a) With the carriage return combination fully selected and with the carriage return function lever resting against the vanes, unhook the 74705 spring from the spring plate. Insert the hook end of a 12 lb. scale into the free end of the spring and pull in line with the spring. It should require 9 to 11 lbs. to stretch the spring to its position length. Rehook the spring.

(b) Measure the tension of the automatic carriage return and line feed function lever spring in a similar manner, with the function lever unblocked and resting against the vanes.

(15) TRIGGER SPRING TENSION

Hook an 8 oz. scale over the trigger at the spring hole and pull horizontally in line with the spring. It should require a pull of 3-1/2 to 5 ozs. to just start the trigger moving.

\*(16) BELL CRANK RETAINER YIELD LEVER SPRING TENSION

Hook a 32 oz. scale over the end of the yield lever and pull horizontally in line with the spring. It should require 24 to 32 ozs. to start the arm moving.

(17) THE ADJUSTING PROCEDURE FOR THE FOLLOWING ADJUSTMENT MUST BE CHANGED AS INDICATED BELOW:

(a) Refer to Teletype Bulletin 138 for:

1. LINE FEED LINK TURNBUCKLE ADJUSTMENT

(b) Substitute the following for the first sentence:

1. With the single-double line feed lever in the single line feed position, select the LINE FEED combination and rotate the main shaft until the function bail is in its extreme rear position. Then manually move the line feed push bar to a position where it is just about to be disengaged from the function bail.

\*Indicates change

\* \* \*

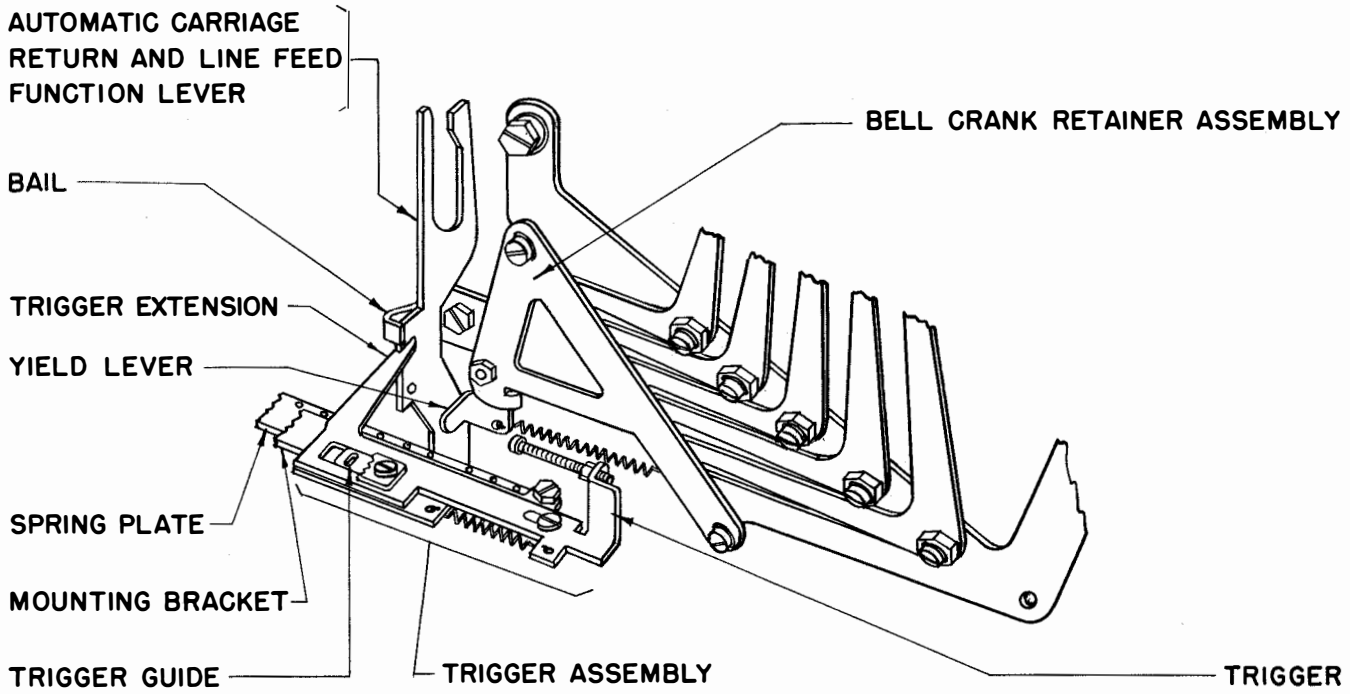


FIGURE 1

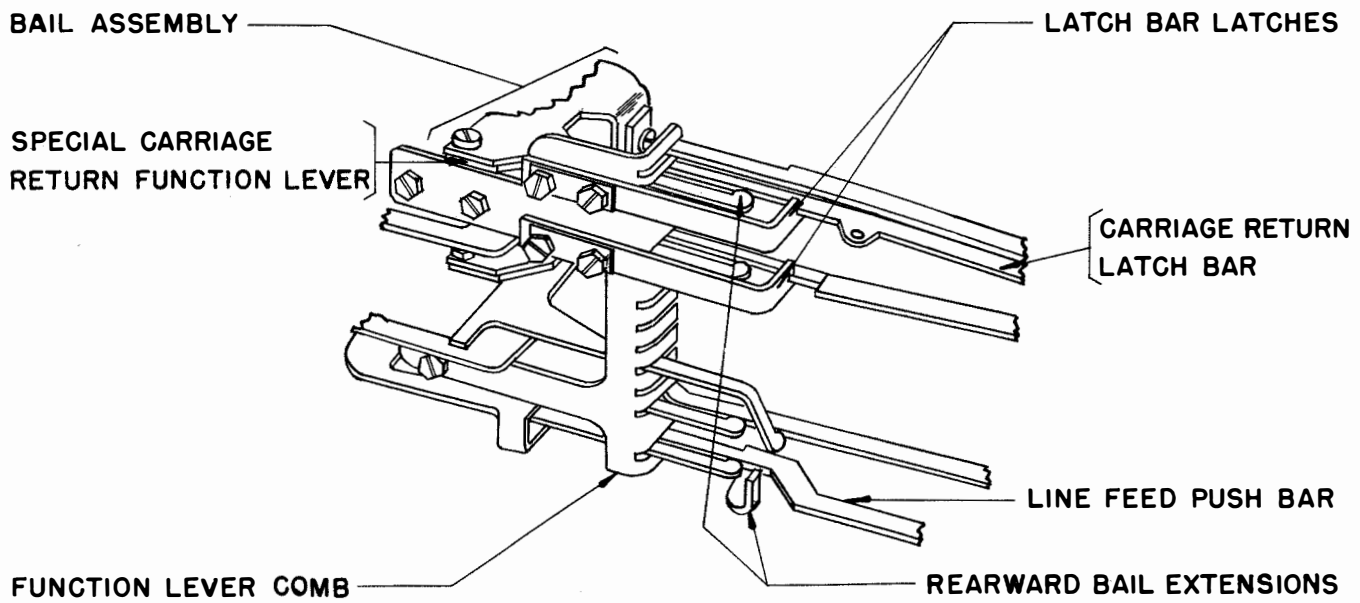


FIGURE 2