

**\*INSTRUCTIONS FOR INSTALLING THE 152917 OR 157510 AND 152918, 154146 OR 199999 MODIFICATION KIT ON A MODEL 28 OR 35 TYPING UNIT AND KEYBOARD TO PROVIDE LOCAL BACKSPACE MECHANISM**

**1. GENERAL**

\*a. The 152917 (for LP4) or 157510 (for LP10 and up) Modification Kit when installed on a Model 28 or 35 Typing Unit provides the local backspace mechanism. The mechanism will move the type box carriage to the left one space at a time when the associated keyboard mechanism is actuated by depressing the backspace keylever.

\*b. The 152918 (for LK4 and LK5), 154146 (for LK6 and up or LAK) or 199999 (for LAK803) Modification Kit when installed on a Model 28 or 35 Keyboard provides the local backspace mechanism. The keyboard mechanism will operate the space clutch trip lever on the typing unit following the positioning of the typing unit backspace camming bail for pivoting the spacing feed pawls. The action is initiated by depressing the backspace keylever.

c. The Modification Kit consists of:

			152917	157510
3	2191	Washer, Lock	X	X
1	7002	Washer, Flat	X	X
1	110743	Washer, Lock	X	X
1	119652	Ring, Retaining	X	X
1	125011	Washer, Flat	X	X
1	151073	Screw	X	X
3	151657	Screw	X	X
1	153254	Bracket	X	X
1	153255	Bail	X	
1	153256	Bracket	X	
1	153257	Bail	X	X
1	153258	Bushing	X	X
1	153259	Arm	X	X
1	153260	Plate	X	X
1	153261	Bushing, Threaded	X	X
1	153262	Arm	X	X
1	153263	Arm, Stop	X	X
1	153288	Spring	X	X
1	155091	Lever	X	

d. The 152918 Modification Kit consists of:

4	2191	Washer, Lock	1	82860	Spring
2	7002	Washer, Flat	1	93758	Washer, Felt

1	7603	Spring	1	108891	Screw
2	73035	Spring	1	119651	Ring, Retaining
3	119652	Ring, Retaining	1	153271	Bail, Operating
3	151692	Screw	1	153273	Link, Trip
1	151853	Lever, Function	1	153274	Lever, Adjusting
1	153248	Bushing, Shoulder	1	153276	Bracket, Adjusting
1	153265	Bracket	1	153277	Bail, Transfer
1	153266	Lever, Trip	1	153284	Keylever (LOC B SP)

\*e. The 154146 or 199999 Modification Kit consists of:

			154146	199999
10	2191	Washer, Lock	X	X
1	7002	Washer, Flat	X	X
*1	7656	Spring		X
2	73035	Spring	X	X
1	82860	Spring	X	
1	93758	Washer, Felt	X	X
1	119651	Ring, Retaining	X	X
1	119653	Ring, Retaining	X	X
1	151630	Screw	X	X
9	151722	Screw	X	X
1	153248	Bushing	X	X
1	153273	Link, Trip	X	X
1	153266	Lever, Trip	X	X
1	153284	Keylever (LOC B SP)	X	
1	154064	Bracket, Adjusting	X	X
1	154065	Bail	X	X
1	154097	Lever	X	X
1	154098	Bail	X	
1	154107	Bracket	X	X
1	154133	Bracket	X	X
1	154227	Bracket, Support	X	X
*1	170396	Bail w/Stud		X
*1	170413	Contact Assembly		X

\*f. For part numbers referred to and for parts ordering information see Teletype Model 28 or 35 Printer Parts Bulletin 1149B or 1187B.

## 2. INSTALLATION

a. 152917 (for LP4) or 157510 (for LP10 and up) Modification Kit for Typing Unit.

(1) Remove the stunt box assembly in accordance with standard practice.

(2) Insert the 153262 Slide Arm in the slot of the 150894 Bar that aligns with Position No. 9 of the stunt box and position the arm in a manner similar to that of the local carriage return arm. Secure the arm in its slot with the 153254 Bracket, two 151657 Screws and 2191 Lock Washers. Replace the stunt box.

(3) For the 152917 Modification Kit, install the 153255 Bail on the 150399 Shaft. Position the 153255 Bail inside the 150392 Carriage Return Bail with one 90361 Felt Washer between the carriage return bail and the left side of the 153255 Bail; place the other washer on the inside of the 153255 Bail next to the right side of the bail. Insert the upper end of the 153262 Slide Arm. To install the bail, first remove the 150399 Shaft then position both the 153255 and 150392 Bails in the unit until the shaft can be inserted through the bails. As the shaft is inserted, install the felt washers, compression spring, shim and retainer ring in the proper locations. Next, move the bails and shaft into their installed positions. The upper ends of the bails go into the holes in their corresponding slide arms while the front ends of the bails go through the opening in the front plate. Make sure that the 150392 Carriage Return Bail properly engages the parts on the front plate assembly. Replace the 151657 Shaft Mounting Screws and the 90260 Spring from the carriage return bail to the spring post.

(4) For the 157510 Modification Kit, remove and discard the 152893 Screw, 3640 Lock Washer, and 125011 Washer from the 153255 Bail.

(5) Remove the spacing feed pawl eccentric assembly from the spacing shaft and the 150196 Carriage Return Latch Bail Assembly from the 152540 or 153256 Bracket Assembly. For the 152917 Modification Kit, replace the 152540 Bracket Assembly with the 153256 Bracket. Install the 150196 Carriage Return Latch Bail and the 153257 Bail on the 153256 Bracket. Place the 153257 Bail inside the 150196 Carriage Return Latch Bail with the rear surface adjacent to the spacing drum and the spring hole downward. Install the 119652 Retaining Ring so that the 153257 Bail is held toward the rear. Secure the 150196 Latch Bail Assembly with the 119652 Retaining Ring and attach the 125238 Spring to the latch bail.

(6) Place the 153259 Arm, 153260 Plate and 153261 Threaded Bushing respectively on the 153258 Bushing. The 153260 Plate is fastened to the 153259 Arm with the 151073 Screw, 110743 Lock Washer and 125011 Flat Washer. Position the plate in the center of its adjusting range. Attach the parts to the front surface of the front plate assembly with the 151657 Screw and 2191 Lock Washer. The mounting hole is located approximately one inch upward and to the right of the spacing eccentric assembly. Insert the screw from the rear of the front plate to engage the 153261 Threaded Bushing. The 153260 Plate should contact the upper surface of the projection on the 153257 Bail and the 153259 Arm should engage the lower surface of the 153255 Bail that extends through the front plate. Attach the 153288 Spring from the 153257 Bail to the 150667 Dashpot Slide Stud. Replace the 125238 Spring from 150667 Stud to the 150196 Carriage Return Latch Bail.

(7) Mount the 153263 Stop Arm around the 150672 Spacing Shaft bearing casting in front of the 152586 Bracket using the upper left mounting screw. Install the 7002 Flat Washer over the elongated hole in the 153263 Arm and under the 2191 Lock Washer.

(8) For the 152917 Modification Kit, replace the 150889 Spacing Clutch Trip Lever with the 155091 Lever. Remove the adjusting screw and lock nut from the 150889 Lever and install on the 155091 Lever. Make the spacing clutch trip lever adjustment.

b. 152918 Modification Kit for Keyboard LK4, LK5

(1) Remove and discard the 153116 Plug Button and the 117608 Speed Nut from the ninth keylever position from the left in the top row of keys.

(2) Mount the 153265 Bracket across the opening on the base immediately in front of the motor. The main portion of the bracket should extend upward through the opening and to the right. Use the two 151692 Screws and 2191 Lock Washers to mount the bracket. Mount the 153266 Lever to the 153265 Bracket using the 153248 Bushing, 151692 Screw and 2191 Lock Washer. The larger portion of the lever should be upward and toward the rear so that the lever is guided on both ends into the bracket slots. Install the 93758 Felt Washer in the notched portion of the 153266 Lever.

(3) Remove the code bar unit (in accordance with standard practice) to facilitate installation of the function lever. Install the 151853 Function Lever in Position No. 33 of the code bar assembly. Attach the 7603 Spring from the function lever to the code lever guide. Install the 153284 Keylever on the 151853 Function Lever through the corresponding hole in the keytop guide plate.

(4) Remove the three screws mounting the 153268 Bracket and lower the bracket. Remove the 119652 Retainer Rings that secure the 153264 Shaft to the 153268 Bracket. Remove the shaft and insert the 153271 Bail so that one arm of the bail rests on the top edge of the 151832 Function Lever (previously installed) and the arm with the grooved pin extends up through the opening in the base. Replace the shaft and secure it to the 153628 Bracket with the 119652 Retainers previously removed. Install one 119652 Retainer Ring on each side of the bail arm that is in line with the function lever. Slide the 153274 Lever on the stud of the 153268 Bracket so that the end with the elongated hole extends through the opening in the vertical wall of the base and out the opening above the code lever bail. Replace the 153268 Bracket and tighten the mounting screws.

(5) Attach the 153273 Trip Link to the 153271 Bail using the 119651 Retainer Ring. The forked end of the link fits into the guide slots in the 153265 Bracket. The 153266 Lever rides on the upper surface of the 153273 Trip Link. Attach the two 73035 Springs, one vertically and the other horizontally from the 153273 Link to the bracket.

(6) Mount the 153276 Bracket using the right rear code bar assembly mounting screw. Place the 7002 Washer over the elongated hole in the 153276 Bracket and under the 2191 Lock Washer. Attach the 153274 Lever to the 153276 Bracket using the 108891 Screw, 2191 Lock Washer and 7002 Flat Washer.

(7) Install the 153277 Bail on the stud located on the 153274 Lever. The back-side of the bail is to the rear and the projection with the spring hole is up. The lower end of the bail should be in front of the stud in the 153271 Bail. Install the 119652 Retainer Ring next to the bail and attach the 82860 Spring from the bail to the 153274 Lever.

\*c. 154146 (for Keyboard LK6 and up or LAK) or 199999 (for LAK803) Modification Kit.

NOTE

For the 154146 Modification Kit, 154059 Bracket should be of the latest design which has two 6-40 tapped holes for mounting the 154227 Support Bracket.

(1) For the 154146 Modification Kit, remove and discard the 154197 Plug Button and the 117608 Speed Nut from the ninth keylever position from the left in the top row of keys. Install the 153284 Keylever Assembly on the 154123 Function Lever through the corresponding hole in the keytop guide post.

(2) For the 199999 Modification Kit

(a) Remove the 192538 Plug Button and the 117608 Speed Nut from the middle opening in the bottom right hand side of the keyboard and set aside.

(b) Remove the LOC B SP keytop and 151006 Keylever from its position on the lower left hand side of the keyboard, and insert these parts into the opening vacated, making certain the 151006 Keylever is secured to the 170371 Function Lever. Use the parts previously removed and place into the opening on the left hand side of the keyboard.

(3) Mount the 154107 Bracket with the 154133 Bracket across the opening in the base immediately in front of the motor. The main portion of the 154133 Bracket should extend upward through the opening and to the right. Use the two 151722 Screws and 2191 Lock Washers to mount the bracket. Mount the 153266 Lever to the 154133 Bracket using the 153248 Bushing, 151722 Screw and 2191 Lock Washer. The larger portion of the lever should be up and the rear so that the lever guided on both ends of the bracket slots. Install the 93758 Felt Washer in the notched portion of the 153266 Lever.

(4) Remove the retainer ring on the left end of the 154092 Shaft and slide the shaft to the left out of way. Mount the 154227 Support Bracket in its mounting holes in the middle of the 154059 or 170395 Bracket using two 151722 Screws and 2191 Lock Washers. Install the 154098 or 170396 Bail on the 154092 Shaft so that one arm of the bail rests on the top edge of the 154123 or 170371 Function Lever in Position 33 or 50 respectively. The arm containing the pin with the groove should extend up through the opening in the base. Install the 154097 Adjusting Lever on the shaft, position the arm with the stud in the third slot from the right of the 154059 or 170395 Bracket. The arm with the tapped hole should extend through the opening in the vertical wall of the base and out the opening above the code bars.

(5) Mount the 154064 Bracket under top surface of base using the two mating holes on the right front end, attach the 154097 Adjusting Lever to the 154064 Bracket using 151630 Screw, 2191 Lock Washer and 7002 Flat Washer.

(6) Install the 154065 Bail on the stud located on the 154097 Lever. The projection with the spring hole should be up and to the front. The lower end of the bail shall be in front of the stud in the 154098 or 170396 Bail. Install the 119653 Retainer Ring next to the bail and attach the 82860 or 7656 Spring from the bail to the 154097 Lever.

(7) Position the forked end of the 153273 Trip Link in the guide slots of the 154133 Bracket. Attach the trip link to the 154098 or 170396 Bail using the 119651 Retainer Ring. The 153266 Lever rides on the upper surface of the 153273 Trip Link. Attach the two 73035 Springs, one vertically and the other horizontally from the 153273 Link to the bracket.

(8) For the 199999 Modification Kit, unsolder the cable leads on the backspace switch, route the cable through the keyboard base channels and reconnect to the 170413 Contact Assembly.

### \*3. ADJUSTMENTS AND LUBRICATION

For adjustment and lubrication procedure refer to standardized information, see Teletype Bulletin 217B or 280B. Make the local backspace mechanism adjustments.

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