

INSTRUCTIONS FOR INSTALLING AND ADJUSTING
THE 110352 SET OF PARTS FOR ADDING
THE RIBBON REVERSE ARM YIELD
SPRING AND BACKSTOP FEATURE ON
MODEL 15 AND 20 PRINTERS

DESCRIPTION

The 110352 set of parts for Model 15 and 20 printers provides a yield to prevent excessive pressure on the ribbon reverse arms when they are operated manually. The adjustment of the ribbon reverse mechanism can thus be held without excessive tightening of the screws which results in stripping of the threads.

The 110352 set of parts consists of the following:

1	107273	Spring-Left
1	107274	Spring-Right
2	110350	Spring Block-With Pin
2	1176	Screw
2	110351	Backstop

INSTALLATION

- (1) Remove the ribbon from the type bar carriage.
- (2) Remove the type bar carriage. Refer to the Adjustment Bulletin for Model 15 and 20 printers. ("Instructions for Removing the Type Bar Carriage from the Typing Unit.")
- (3) Loosen the set screws in the left and right 74384 spur gears on the ribbon spool shafts and remove the gears.
- (4) Remove the 2201 bushing nut, 4814 lock washer, and the 3288 washer from the left and right ribbon cup bushings and substitute a 110351 backstop (furnished) for the 70793 washer under each ribbon spool cup. (The backstops are to be installed so that the formed projections extend downward and so that the projections are in front of the ribbon reverse arms when the ribbon spool bracket assemblies are viewed from the rear.) See figure 1.
- (5) Replace the 3288 washer, the 4814 lock washer and the 2201 nut on the left and right ribbon spool cup bushings.
- (6) Replace the 74384 spur gears on the left and right ribbon spool shafts with the flat face of the shafts opposite the set screws and tighten.
- (7) Remove and discard the set screws and locknuts from the left and right ribbon reverse arms.

- (8) Loosen the set screws in the ribbon reverse shaft collars and the ribbon reverse links on the left and right ribbon reverse shafts. Lower the shafts and remove the ribbon reverse arms. See figure 1.
- (9) Install one of the two 110350 spring blocks (furnished) on each of the left and right ribbon reverse shafts. Position the spring block so that the spring post is on top and tighten the set screws. (Each spring block is equipped with two set screw mounting holes so that the spring block can be used on the left or right by placing the 1176 set screws (furnished) in the proper mounting holes.) See figure 1.
- (10) Place the coil ends of the 107273 left and the 107274 right yield springs (furnished) between the "U" shaped pivot ends of the respective ribbon reverse arms and place the hooked ends so that they may be hooked on the rear of each of the ribbon reverse arms.
- (11) Replace the left and right ribbon reverse arms on the ribbon reverse shafts with the coil portion of the yield springs between the "U" shaped pivot. Hook the short extension of the yield springs on the spring block posts, then hook the long extension of the yield springs on the ribbon reverse arms.
- (12) Replace the ribbon reverse shafts in the spool brackets and position the ribbon reverse collars and the ribbon reverse shaft links on the left and right ribbon reverse shafts and tighten the set screws.

ADJUSTMENTS

Check the standard adjustments as specified in the Adjustment Bulletin for Model 15 and 20 printers except for the following changes:

- (1) Omit the "Ribbon Spool Cups Adjustment."

MAKE ALL THE FOLLOWING ADJUSTMENTS WITH THE TYPE BAR CARRIAGE REMOVED.

(2) RIBBON REVERSE SHAFTS ADJUSTMENTS

There should be .040" to .060" clearance between the bottoms of the ribbon spool cups and the upper ends of the ribbon reverse shafts when the ribbon reverse arms are held up against the ribbon spool brackets.

To adjust, loosen the set screw of the spring block on the left ribbon reverse shaft, and if necessary, the set screws of the ribbon reverse shaft collar and link. Position the shaft while holding the ribbon reverse arm up against the ribbon spool bracket and the spring block up against the reverse arm. Then tighten the spring block set screw. Adjust the right ribbon reverse shaft in the same manner.

NOTE: The following adjustment should be made immediately following the "Ribbon Reverse Shafts Links Adjustment."

(3) RIBBON SPOOL CUPS AND RIBBON REVERSE ARM BACKSTOPS ADJUSTMENTS

The centers of the ribbon rollers should be $3/4$ " to $7/8$ " in front of a line through the centers of the ribbon spool shafts. With the ribbon reverse arms held against their backstops, approximately $3/4$ of the tooth on each ribbon reverse pawl should be in a position to be engaged by the ribbon reverse bail. There should be no bind between the ribbon spool shaft spur gears and the vertical ribbon feed shaft spur gears at any point in their engagement.

To adjust, position the ribbon spool cups and ribbon reverse arm backstops by means of the nuts on the ribbon spool cup bushings. When tightening the nuts, take up the play between the ribbon spool cup bushings and the ribbon spool brackets in a direction to make the play between the spur gears a maximum.

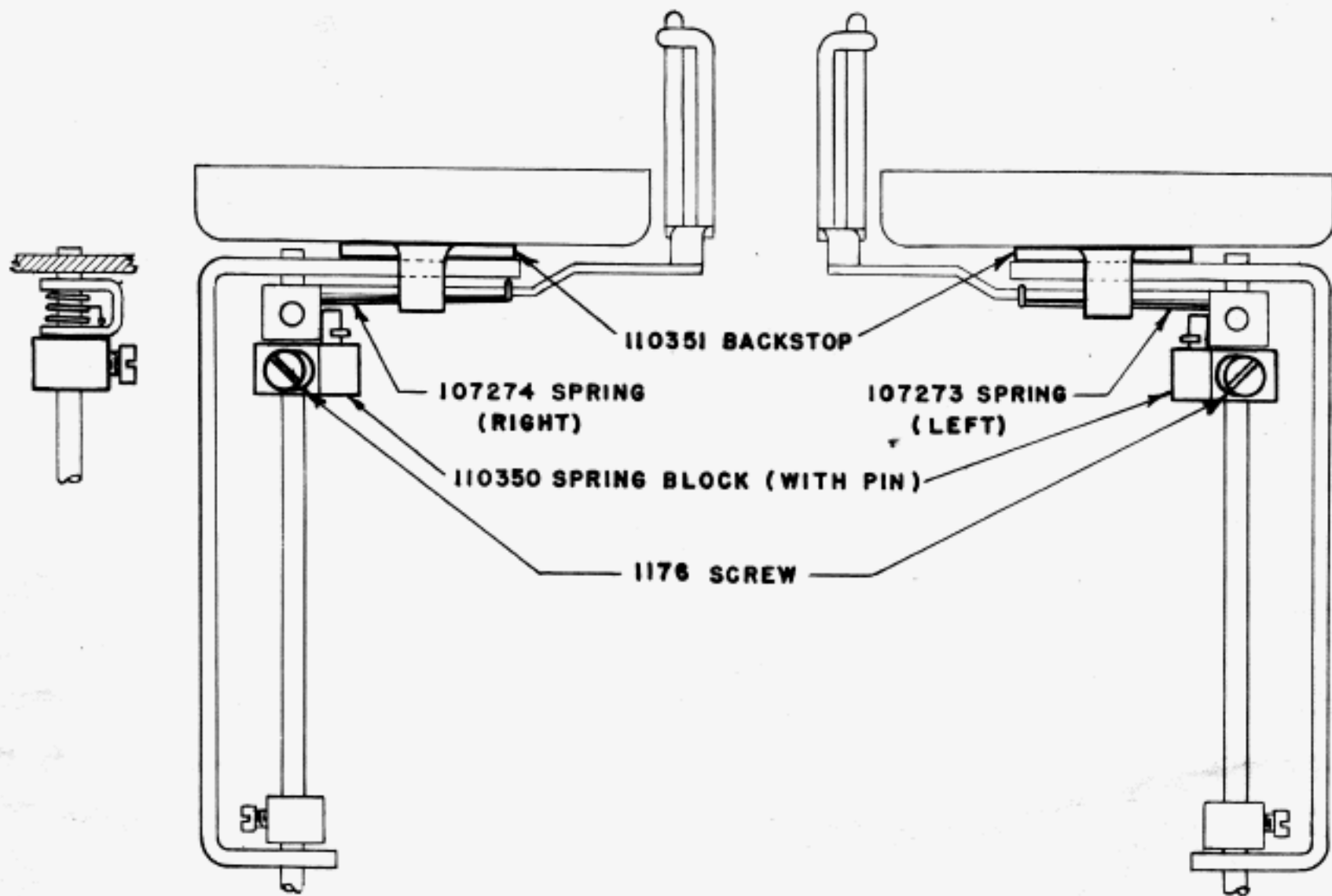
(4) RIBBON REVERSE ARM YIELD SPRING TENSION ADJUSTMENT

Position the ribbon reverse bail so that it will block the full travel of the ribbon reverse arm, and with the ribbon reverse pawl resting against the ribbon reverse bail, apply the push end of an 8 oz. scale, held at a right angle to the ribbon reverse arm at the center where the ribbon is threaded. It should require $1\ 1/2$ to $4\ 1/2$ ozs. to start the ribbon reverse arm moving.

If it is necessary to increase or decrease the tension, remove the spring and adjust by bending.

- (5) Replace the type bar carriage, refer to the Adjustment Bulletin ("Instructions for Replacing the Type Bar Carriage on the Typing Unit").
- (6) Replace the ribbon on the type bar carriage.

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**RIBBON SPOOL BRACKET
(ASSEM.)-RIGHT
REAR VIEW**

**RIBBON SPOOL BRACKET
(ASSEM.)-LEFT
REAR VIEW**

FIGURE 1