

BELL SYSTEM PRACTICES
Teletypewriter and Manual
Telegraph Station and P.B.X.
Installation and Maintenance

SECTION P40.620
Issue 2, March, 1938
AT&T Co. Prov. Std.

TELETYPEWRITER—BASE

26 TYPE

REQUIREMENTS AND PROCEDURES

1. GENERAL

1.01 This section outlines the apparatus requirements and adjusting procedures for the maintenance of bases of 26 type teletypewriters. It is reissued to cover bases for use with latest design type wheel page typing units. Previous issue covered earlier design (24 type) which has been replaced by the 26 type.

1.02 The following general requirements and procedures shall be followed in the application of the requirements and procedures listed herein.

(a) Springs which do not meet the requirements specified and for which no adjustment is provided shall be replaced by new springs.

(b) In ordering replacement parts always refer to the Ordering Information for the part name and number, as the designation used herein may differ from that used in the Ordering Information.

(c) After changing the adjustment of any part, check adjustments of related parts which may possibly have been disturbed.

(d) Dimensions and spring tension requirements shall be checked with appropriate gauges and scales unless otherwise specified in the requirement. In checking spring tensions the following Teletype scales shall be used as the tension values specified herein (including gram equivalents) are the values indicated by these scales when used in the position described herein.

When Max. Spec. Tension Is	Teletype Scale to Be Used
Up to 8 ozs.	138-55
Above 8 ozs. up to 32 ozs.	138-58
Above 32 ozs. up to 64 ozs.	82711
Above 4 lbs. up to 12 lbs.	4841
Above 12 lbs. up to 25 lbs.	2727

(e) Before attempting to readjust any part which is held by clamping screws, mounting screws, or locknuts, be sure to loosen the locking device. After readjusting is completed be sure to reset locking device.

(f) If any part is dismantled to facilitate checking or making an adjustment, be sure to reassemble dismantled part after the checking or readjustment is completed.

2. CLEANING

2.01 If necessary, bases shall be cleaned in accordance with the general section P30.010 covering Cleaning Teletypewriter Apparatus.

3. LUBRICATION

3.01 Bases shall be lubricated in accordance with Section P40.601 covering Lubrication of 26 Type Teletypewriters.

4. REQUIREMENTS AND PROCEDURES

4.01 **Lock loop spring** shall have a tension of Min. 4 ozs. (115 gms.), Max. 5 ozs. (140 gms.) measured as in Fig. 1 when lock loop roller is on low part of its cam.

4.02 **Locking levers** shall travel equally on either side of lock loop blade, as gauged by eye, when "Letters" and "Blank" key levers are depressed alternately and shall clear contact levers by not more than .010" as in Fig. 1 when locking levers are on left side of lock loop, contact levers are on high part of their cams, and play in locking levers is taken up to make clearance a minimum.

(a) To adjust, reposition locking lever bracket to obtain equal travel and add or remove shims under bracket to increase or decrease clearance.

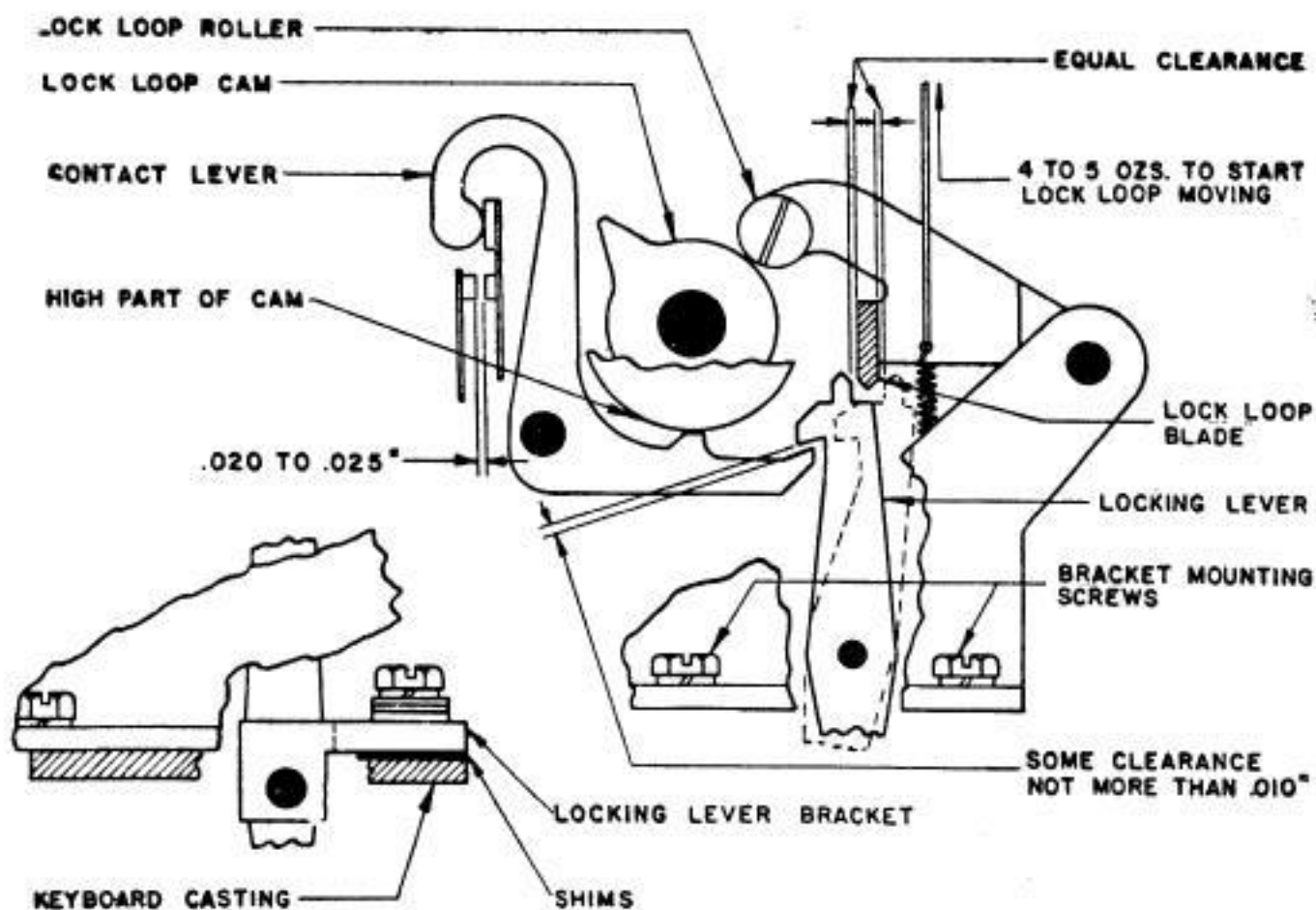


Fig. 1

4.03 **Lock loop** shall clear locking levers by Min. .008", when cam shaft clutch is disengaged and lock loop is pressed downward until horizontal camming surfaces of clutch driven member and its throw-out lever are engaged. If roller has adjustable pivot stud, clearance shall not be greater than .015".

(a) To adjust, reposition lock loop roller pivot stud if adjustable otherwise replace lock loop.

4.04 **Sending contact springs** shall meet the following requirements:

(a) Gap between contacts shall be Min. .020", Max. .025", as in Fig. 1, when the corresponding contact lever is on high part of cam.

(1) To adjust, bend short contact spring as follows: to increase gap, place small end of 72003 tool between long and short contact springs with straight side against long spring adjacent to pileup insulator and twist tool counterclockwise; to decrease gap, press end of 72003 tool against short spring adjacent to insulator.

(b) Pressure between contacts shall be Min. 4-1/2 ozs. (130 gms.), Max. 5-1/2 ozs. (155 gms.) measured as in Fig. 2 as contacts open when corresponding contact lever is on low part of cam.

(1) To adjust, bend long contact spring as follows: to decrease pressure, place small end of 72003 tool between long and short contact springs with straight side against short spring adjacent to pileup insulator and twist clockwise; to increase pressure, press end of 72003 tool against long spring adjacent to insulator, using contact lever bracket as a fulcrum.

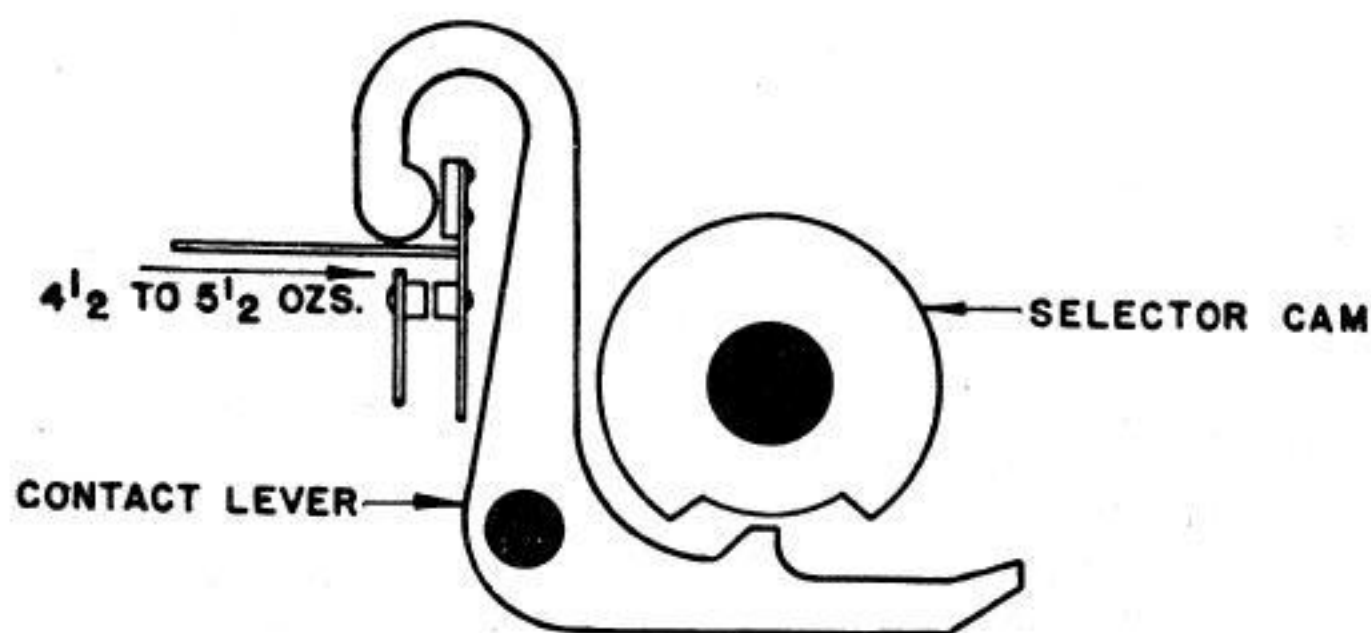


Fig. 2

4.05 **Clutch spring** shall have a tension of Min. 9 ozs. (255 gms.), Max. 12 ozs. (340 gms.) measured as in Fig. 3 as the clutch teeth start to separate when clutch throw-out lever is held clear of the driven clutch member.

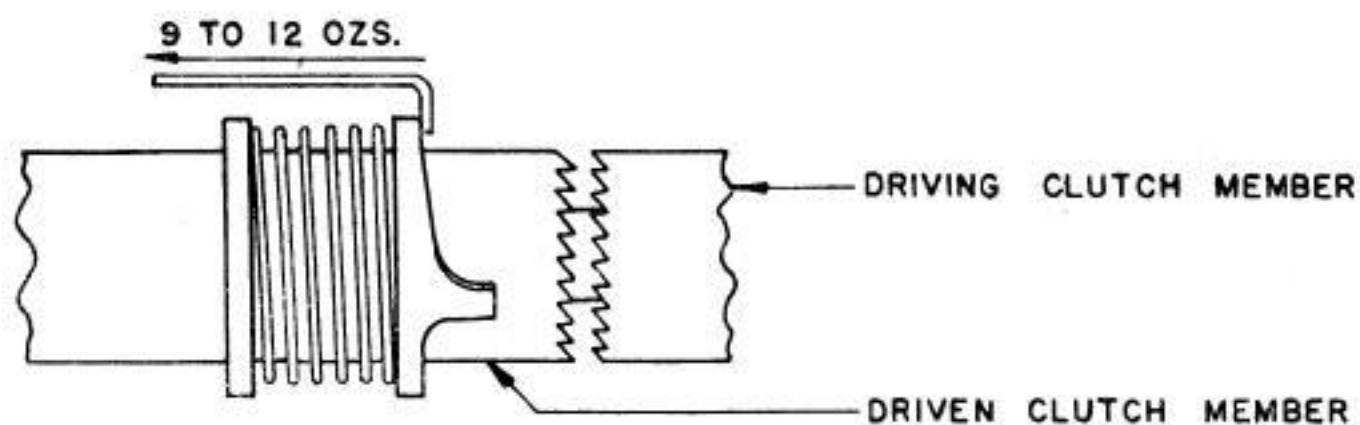


Fig. 3

4.06 **Clutch teeth** shall clear each other by Min. .005", Max. .015" as in Fig. 4, when clutch is fully disengaged manually.

(a) To adjust, add or remove shims between clutch throw-out lever post and the bracket.

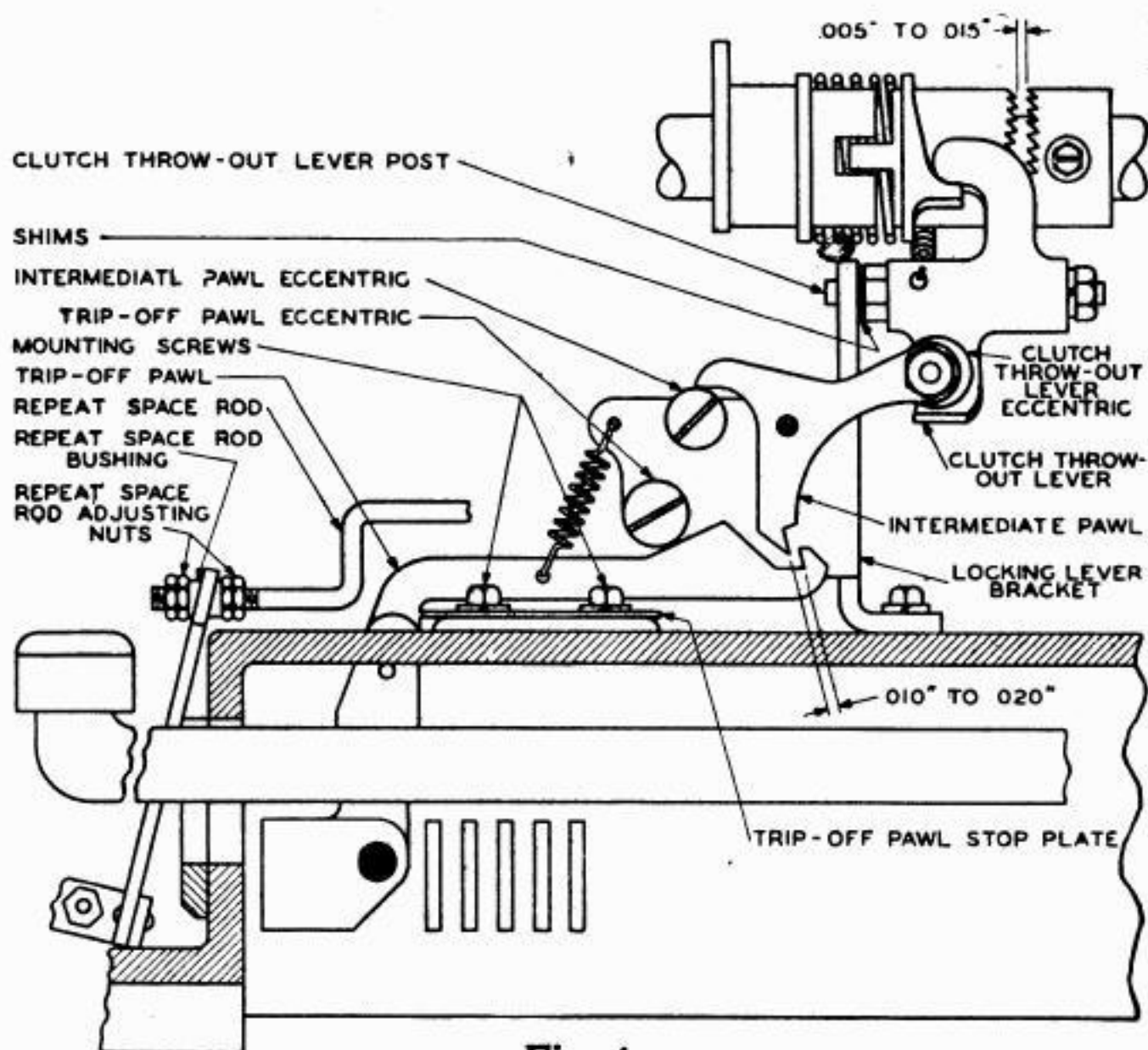


Fig. 4

4.07 **Selector bars** shall be located so that inclined surfaces of the front selector bar saw teeth shall clear the lower edges of the undepressed key levers by Min. .010", Max. .030" as in Fig. 5 when "B" key lever is depressed. Check at least two key levers near each side of keyboard.

(a) To adjust, use shims between the right and left selector bar brackets and the base casting.

Note: Normally there should be one No. 3458 shim and five No. 93737 shims at these points.

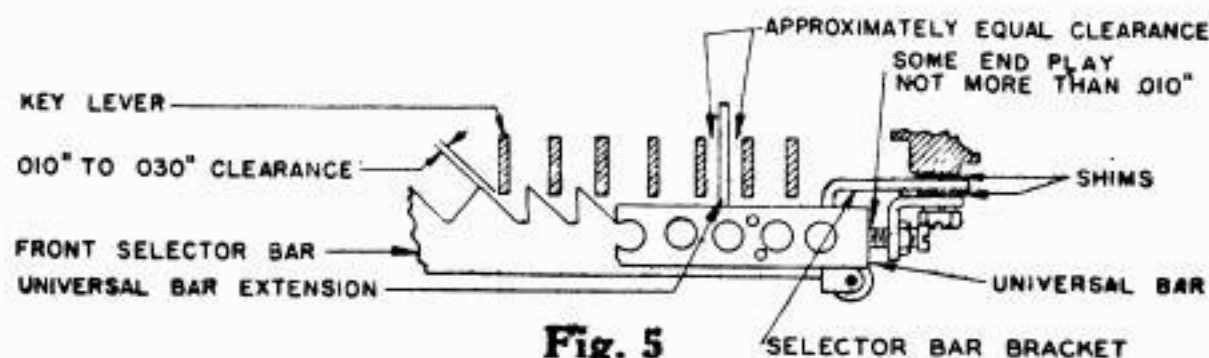


Fig. 5

Note: Remove keyboard base plate.

4.08 **Universal bar** shall be within .004" of touching the nearest keylever and the trip-off pawl shall be within .004" of touching its stop plate when the keyboard clutch is disengaged and the "line feed", "letters" and "M" keylevers are depressed simultaneously with an "R" wrench. Check also when "figures", "Z" and "X" keylevers are depressed simultaneously with an "R" wrench.

(a) To adjust, reposition trip-off pawl stop plate. If necessary use shims between universal bar brackets and selector bar brackets. Check 4.10 to 4.13 inclusive.

Note: Normally there should be one No. 3458 shim and four No. 93737 shims at these points.

4.09 Universal bar shall have not more than .010" end play and shall be located so that its extension is centered between the "P" and "Carriage Return" key levers as in Fig. 5 and the trip-off pawl clears the sides of the stop plate mounting screws and the locking lever bracket when the trip-off pawl is operated by depressing any key lever. Gauge by eye.

(a) To adjust, reposition universal bar pivot screws.

Note: Reassemble keyboard base plate.

4.10 **Intermediate pawl** shall clear trip-off pawl by Min. .010", Max. .020" as in Fig. 4 when intermediate pawl is held against its eccentric and the "letters", "line feed" and "M" key levers are depressed simultaneously with an "R" wrench.

(a) To adjust, move trip-off pawl stop plate to rear, position trip-off pawl eccentric so that center of eccentric head is to rear of screw body with the screw-driver slot lined up with the center of the intermediate lever pivot screw, and reposition the intermediate pawl eccentric keeping the center of eccentric head to front of screw body.

4.11 Intermediate pawl shall have no play between clutch throw-out lever and intermediate pawl eccentric, gauged by eye and feel, when throw-out lever is resting on low parts of clutch driven member.

(a) To adjust, reposition clutch throw-out lever eccentric.

Note: Clutch throw-out lever eccentric should be assembled with head on left side of intermediate pawl viewed from front of keyboard.

4.12 **Trip-off pawl** shall clear intermediate pawl by not more than .004", as in Fig. 6, when clutch throw-out lever is held against the high surface of the clutch driven member, clutch throw-out lever eccentric is held against clutch throw-out lever and any key lever is depressed.

(a) To adjust, reposition trip-off pawl eccentric.

Note: Center of eccentric head shall be swung to rear rather than to the front of the screw body.

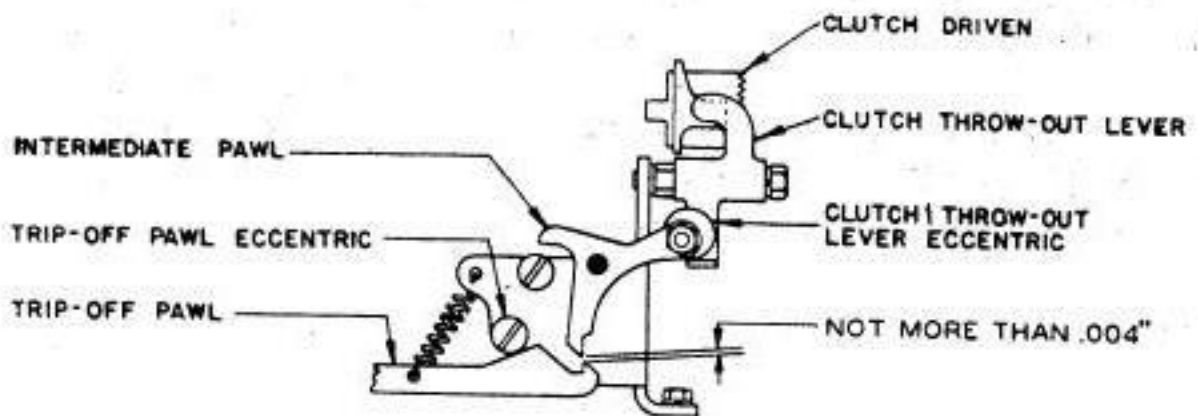


Fig. 6

4.13 Trip-off pawl shall be within .004" of touching its stop plate and the universal bar shall be within .004" of touching the nearest keylever when the keyboard clutch is disengaged and the "letters," "line feed" and "M" key levers are depressed simultaneously with an "R" wrench.

(a) To adjust, reposition trip-off pawl stop plate.

4.14 Clutch throw-out lever spring shall have a tension of Min. 1-1/2 ozs. (45 gms.), Max. 2-1/2 ozs. (70 gms.) measured on clutch throw-out lever just above spring hole as lever starts to move from low part of driven clutch member when the clutch teeth are engaged and intermediate pawl is held against its eccentric.

4.15 Trip-off pawl spring shall have a tension of Min. 2-3/4 oz. (80 gms.), Max. 3-3/4 ozs. (105 gms.) measured as in Fig. 7 when stretched to position length.

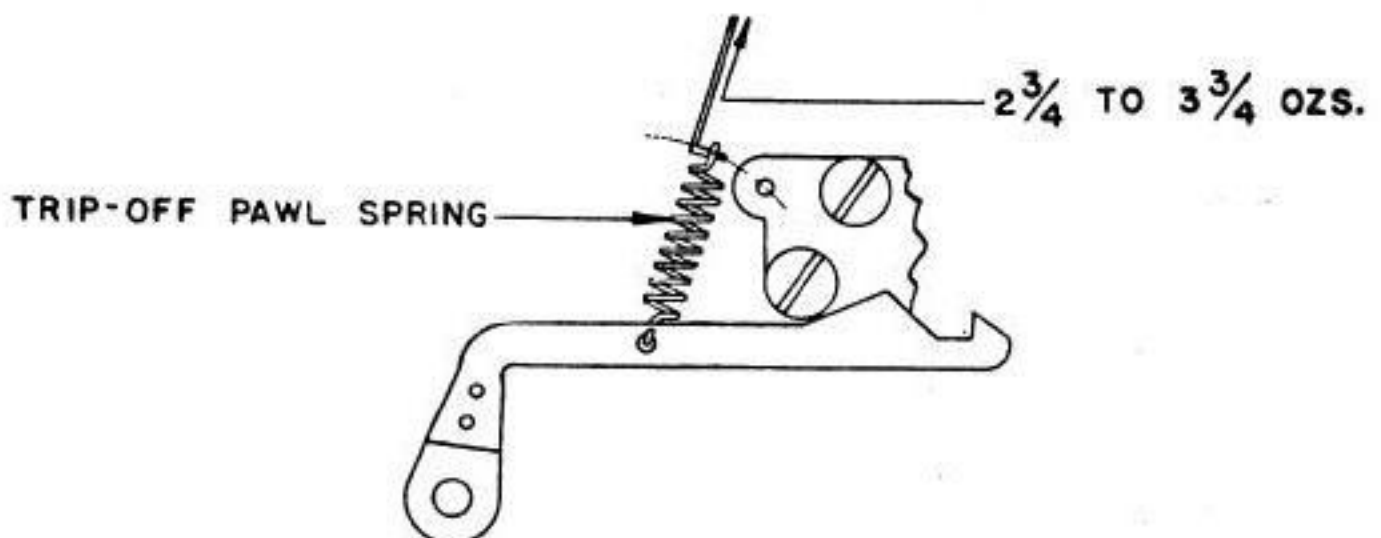


Fig. 7

4.16 **Transmitting cam sleeve** shall have end play not to exceed .002" as in Fig. 8.

(a) To adjust, reposition rear bearing bushing.

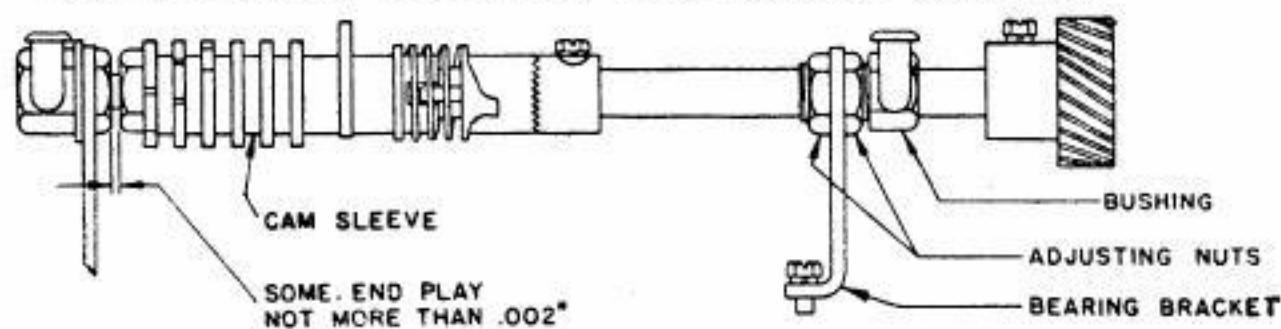
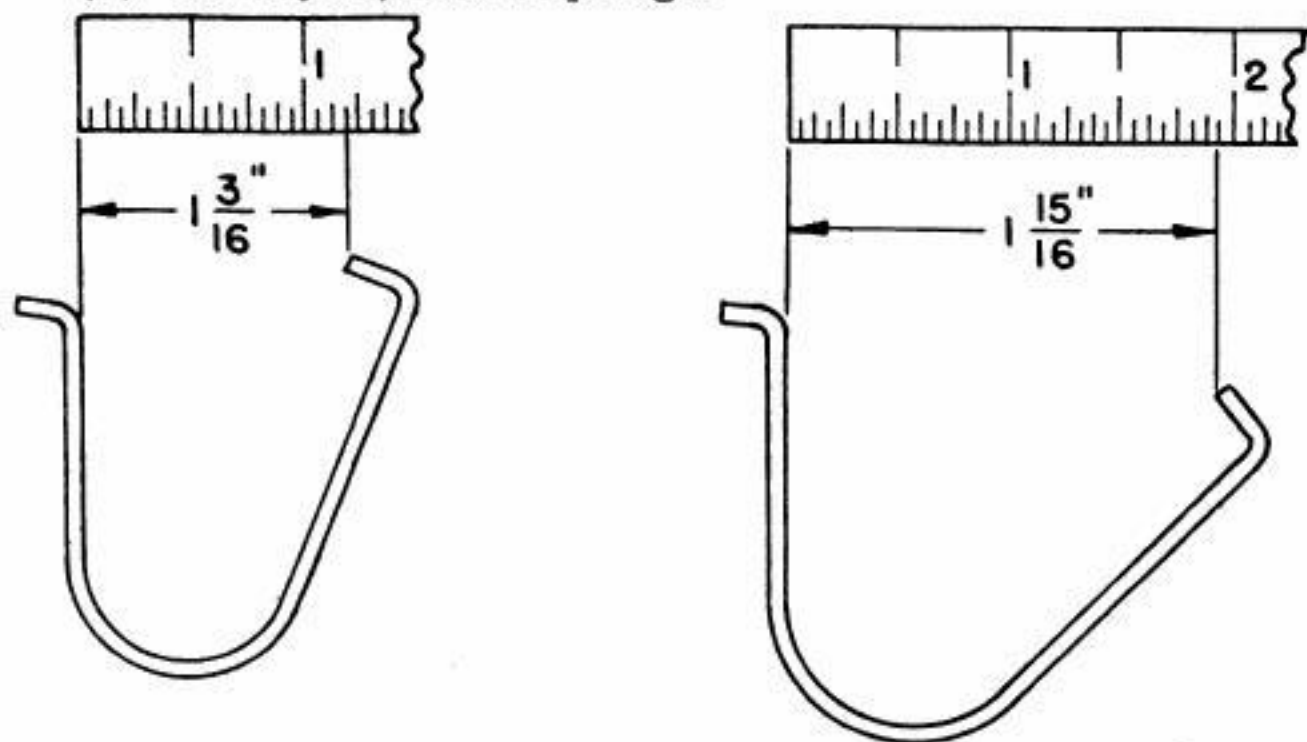


Fig. 8

4.17 **Key Lever Springs:** Spread at ends of key lever springs and spacer lever spring shall be $1\frac{3}{16}$ " and $1\frac{15}{16}$ ", as in Fig. 9 when springs are removed from keyboard.

(a) To adjust, bend springs.



KEY LEVER SPRING

SPACER KEY LEVER SPRING

Fig. 9

4.18 **Clutch throw-out lever** shall clear high part of its cam on the driven clutch member by Min. .010", Max. .020" when space bar is fully depressed by applying pressure at approximately its center.

(a) To adjust, reposition repeat space rod making certain that the bushing has end play not to exceed .002" between adjusting nuts.

4.19 **Repeat space rod** shall clear transmitting shaft rear bracket by not more than .008" and the front face of the rods bracket shall be parallel to rear surface of trans-

mitting shaft rear bracket as in Fig. 10, when space bar is fully depressed.

(a) To adjust, reposition repeat space rod bracket.

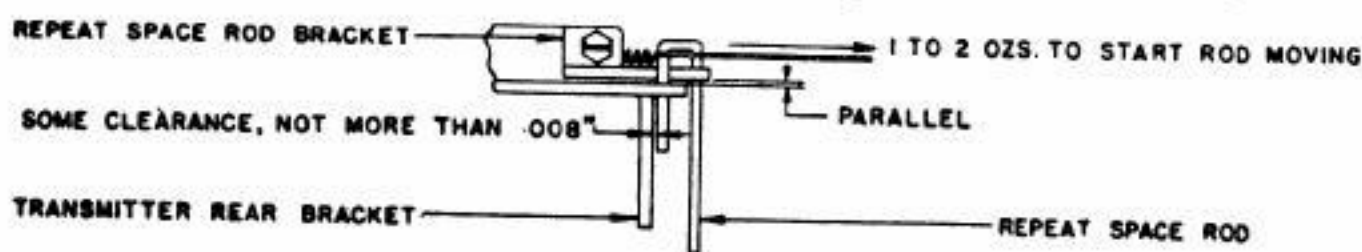


Fig. 10

4.20 Repeat space rod spring shall have a tension of Min. 1 oz. (28 gms.), Max. 2 ozs. (56 gms.) measured as in Fig. 10.

4.21 Intermediate shaft driving gear and transmitting shaft gear shall run with minimum backlash without bind throughout a complete revolution of intermediate shaft gear.

(a) To adjust, reposition intermediate shaft driving gear stud.

4.22 Typing unit main shaft gear and the base intermediate shaft driven (upper) gear shall run with minimum backlash without bind throughout a complete revolution of the main shaft gear.

(a) To adjust, reposition typing unit on base.

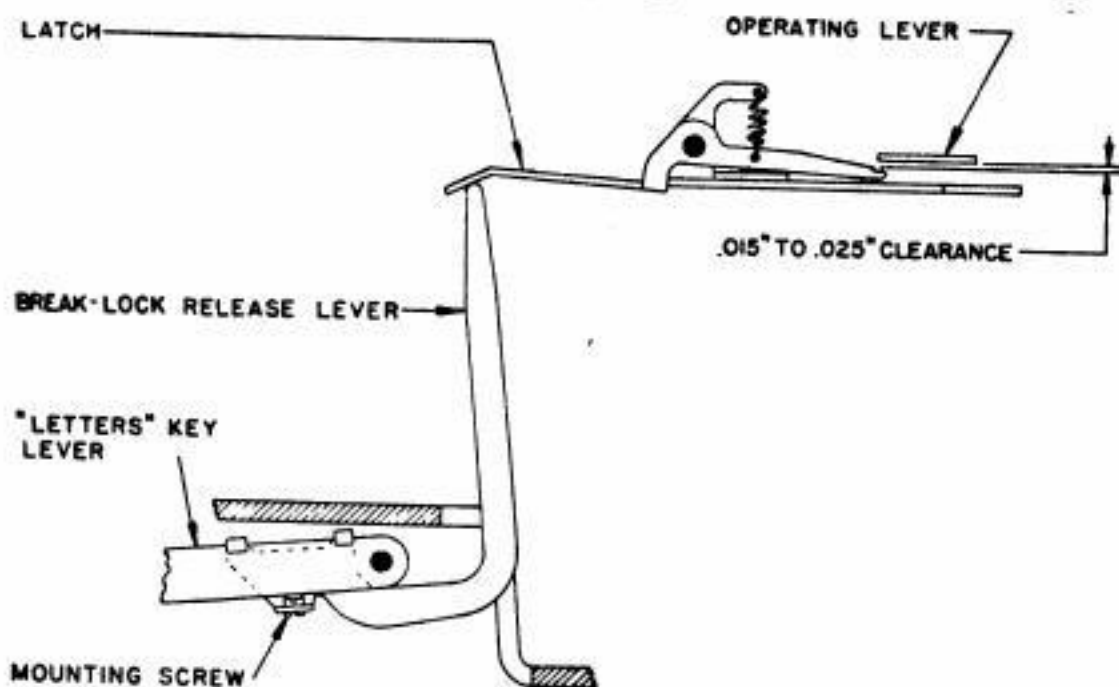


Fig. 11

4.23 Break-lock contact operating lever shall clear its latch by Min. .015", Max. .025", as in Fig. 11, when "Letters" key lever is depressed and operating lever is just opposite shoulder on latch.

(a) To adjust, reposition break-lock release lever on "Letters" key lever.