STROMBERG TIME STAMP

REQUIREMENTS AND ADJUSTING PROCEDURES

1. GENERAL

1.01 This section covers the Stromberg Time Stamp.

1.02 This section is reissued to incorporrate material from the addendum in its proper location.

1.03 Reference shall be made to Section 020-010-711 covering General Requirements and Definitions for additional information necessary for the proper application of the requirements listed herein.

1.04 Requirements are marked with an asterisk (*) when to check for them would necessitate the dismantling or dismounting of apparatus, or would affect the adjustment involved or other adjustments. No check need be made for these requirements unless the apparatus or part is made accessible for other reasons or its performance indicates that such a check is available.

1.05 Normal Position of Time Stamp: The time stamp is said to be in the normal position when with the cover in place the printing head rests against the under surface of the cover.

1.06 Operated Position of Time Stamp: The time stamp is said to be in the operated position when with current connected to the printing head magnet the printing head has moved sufficiently to stamp a ticket inserted between the platen and printing head.

1.07 Normal Position of Timing Mechanism: The timing mechanism is said to be in the normal position when the timing magnet armature cushioning spring is resting against the magnet backstop and the armature lever rests against the armature lever banking pillar.

1.08 Operated Position of Timing Mechanism: The timing mechanism is said to be in the operated position when with current connected to the timing magnet winding, the timing magnet armature has moved all the way up to the core and advanced the timing armature lever pawl to the next ratchet wheel tooth.

1.09 One dip of oil for the purpose of this section is the amount of oil re-

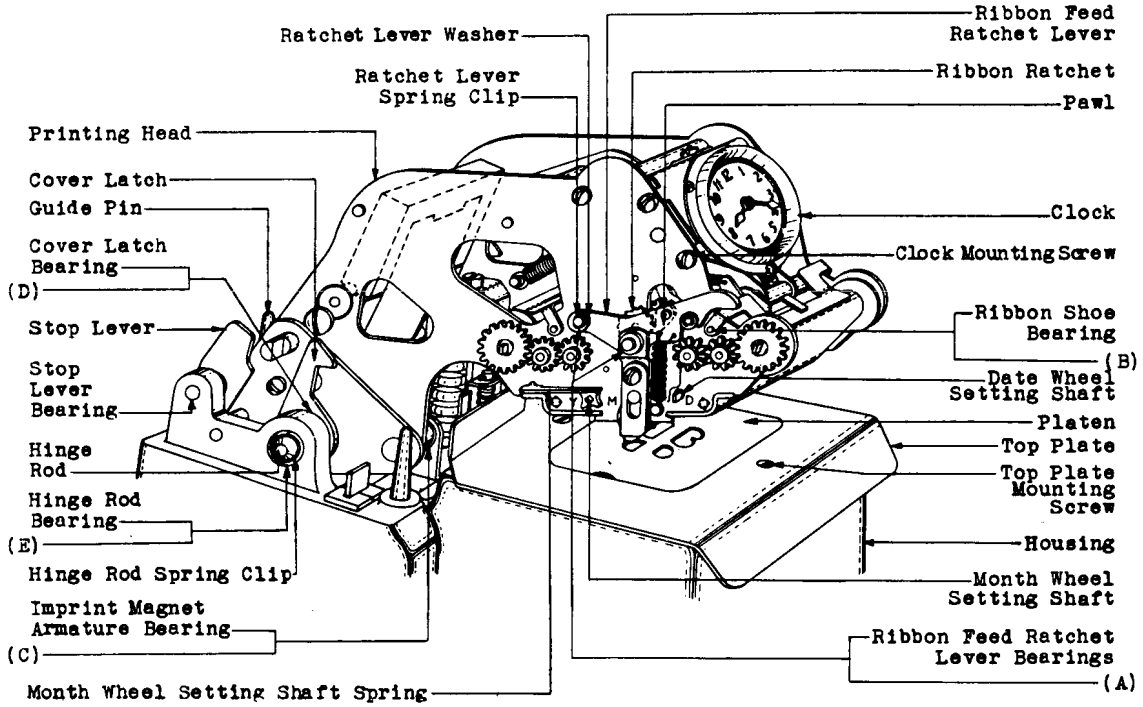

Fig. 1 - Stromberg Time Stamp

1.09 (Continued)

tained on the R-1575 No. 4 Artist's Show Card brush after being dipped into the oil to a depth of 3/8" and then scraped on the edge of the container to remove the surplus oil. There should not be sufficient oil adhering to the brush to form one drop on the end of the bristles.

2. REQUIREMENTS

2.01 Cleaning When necessary the time stamp shall be cleaned in accordance with approved procedures.

2.02 Lubrication

(a) The following points shall be adequately lubricated with KS-6232 oil. When lubrication is necessary, one dip shall be applied to each 4 or 5 of the following points.

Ribbon Feed Ratchet Lever Bearings and Associated Gear Train Bearings - Fig. 1 (A)
Ribbon Shoe Bearing - Fig. 1 (B)
Timing Armature Lever Bearings - Fig. 2 (A)
Bearing Surface of Timing Armature Extension - Fig. 2 (B)
Stamping Mechanism and Clock Gear Shaft Bearings - Fig. 3 (A)
Imprint Magnet Armature Bearings - Fig. 1 (C)
Contact Slide Bearing Surfaces - Fig. 4 (A)
Contact Lever Bearings - Fig. 4 (B)
Lift Lever Bearings - Fig. 3 (B)
Tripping and Locking Lever Bearings - Fig. 4 (C)

(b) The following points shall be adequately lubricated with KS-6232 oil.

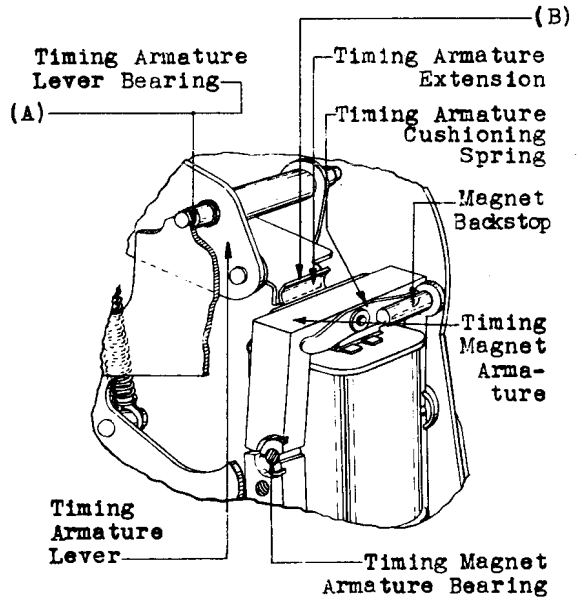

Fig. 2

When lubrication is necessary, two drops shall be applied to each of the following points.

Cover Latch Bearings - Fig. 1 (D)
Hinge Rod Bearings (at housing and printing lead) - Fig. 1 (E)

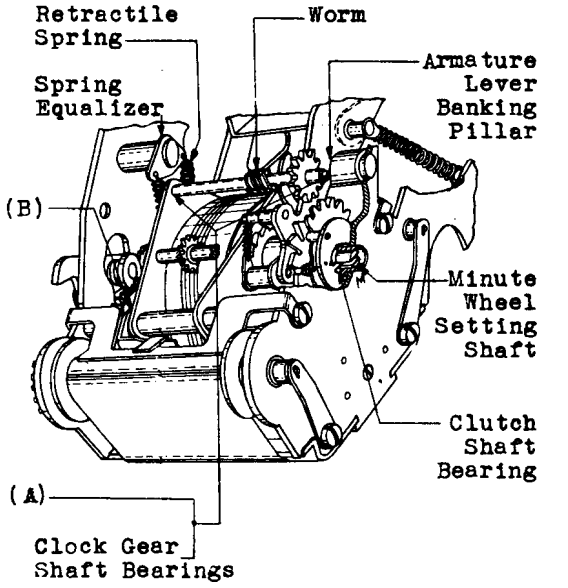

Fig. 3

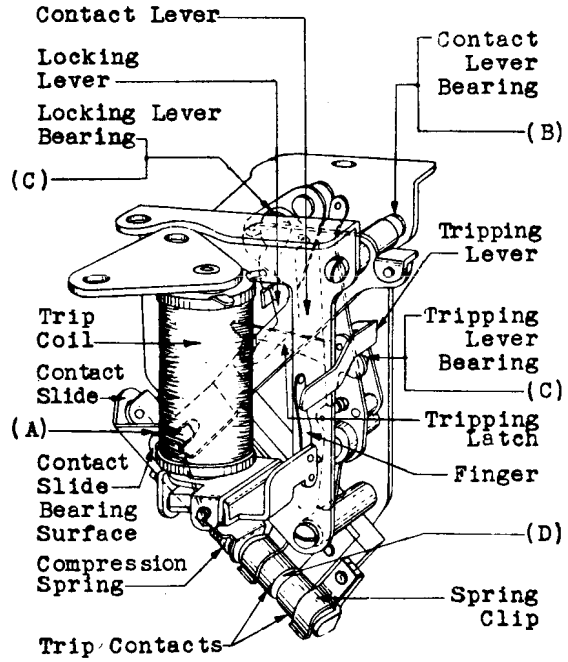

Fig. 4

2.02 (Continued)

(c) Recommended Lubrication Intervals After turnover, it is recommended that the parts listed above be lubricated at intervals of one year. These intervals may be extended if periodic inspections have indicated that local conditions are such that the requirements will be met during the extended interval.

2.03 Record of Lubrication During the period of installation a record shall be kept of the lubrication of the time stamp, and this record shall be turned over to the Telephone Company with the equipment. If no lubrication has been done it shall be so stated.

2.04 Freedom of Movement

(a) All moving parts shall be free from bind. Gauge by feel.

(b) The hour and minute hands shall not interfere with each other or with the dial or crystal in any position. Gauge by eye.

2.05 Inking No ink shall be applied to the ribbon.

2.06 Imprint The printing head shall be so positioned that a clear imprint is obtained when the printing head is operated.

2.07 Cover Latch Spring Tension The cover latches shall have sufficient pressure against the cover to hold the cover securely in position. Gauge by feel.

2.08 Synchronism of Time of Day Stamp and Hands The time registered by the time of day stamp and the hands of the clock shall agree.

2.09 Accuracy of Date Stamp The date stamp shall agree with the calendar date.

2.10 Tension of Ribbon Shaft Retainer - Fig. 5 (A) - The tension of the ribbon shaft retainer shall be sufficient to hold the ribbon shaft in position but shall not be such as to interfere with the free movement of the ribbon spool. Gauge by eye and feel.

2.11 Movement of Ribbon Spool - Fig. 6 (A) The ribbon feed ratchet lever shall advance the ribbon spool each time the printing head is operated and released. Gauge by eye.

2.12 Ribbon Reversing Mechanism The ribbon reversing mechanism shall reverse the direction of the ribbon when approximately 6" of ribbon remains on the unwound spool.

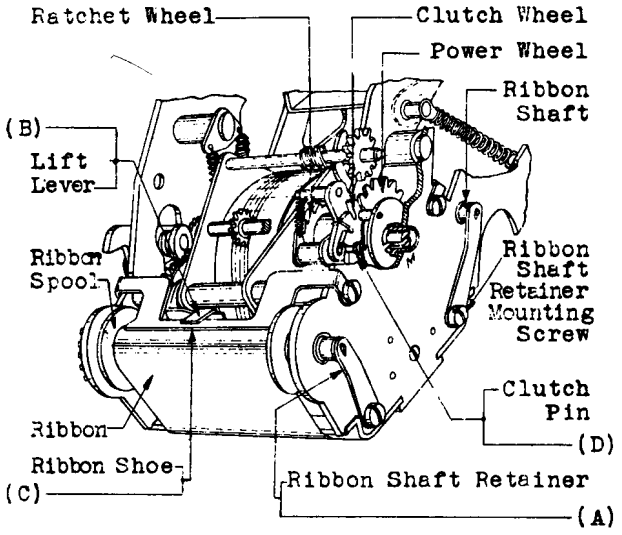

Fig. 5

2.13 Tension of Lift Lever - Fig. 5 (B) The lift lever shall be tensioned against the ribbon shoe sufficiently to hold the shoe against the ribbon. Gauge by eye and feel.

2.14 Position of Ribbon Shoe - Fig. 5 (C) The ribbon shoe shall lie flat against the entire width of the ribbon. Gauge by eye.

2.15 Engagement of Clutch Wheel and Power Wheel - Fig. 5 (D) - The tension of the clutch spring shall be sufficient to allow the clutch wheel and power wheel to reengage after these parts have been manually disengaged and the clutch wheel is allowed to restore unrestrained. Gauge by eye and feel.

2.16 Position of Month Wheel Setting Shaft Spring - Fig. 6 (B) - The month wheel setting shaft spring shall rest firmly against the month wheel setting shaft. Gauge by eye.

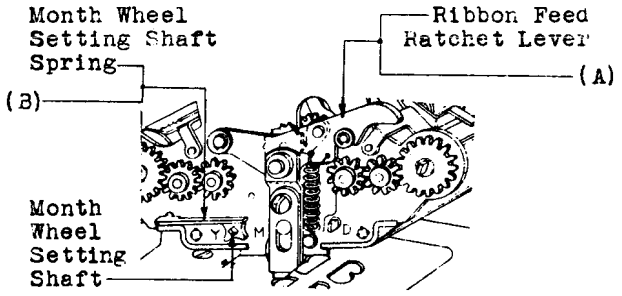

Fig. 6

*2.17 Contact Separation - Fig. 4 (D) - With the time stamp in the normal position, there shall be a separation between the trip contacts of
Approx. 1/32".
Gauge by eye.

3. ADJUSTING PROCEDURES

3.001 List of Tools and Materials

Code No.	Description
Tools	
417A	Wrench 1/4" and 3/8" Hex. Open Double-End Flat
422A	Screw-driver Double-End Offset
423A	Screw-driver Double-End Offset
KS-6015 (2 reqd.)	Duckbill Pliers
-	Bell System Regular Screw-driver 4" per A.T.&T.Co. Drawing 46-X-34
-	Bell System Diagonal Pliers - 5" per Specification No. 6136N
- (2 reqd.)	Bell System P-Long Nose Pliers - 6-1/2" per Specification No. 6267
R1575	No. 4 Artist's Show Card Brush
-	Stromberg Time Stamp Key
Materials	
KS-2423	Cloth
KS-6232	Oil
KS-7860	Petroleum Spirits
-	Toothpicks, Hardwood, Flat at One End and Pointed at the Other
-	Small Flat Piece of Wood

3.002 In order to make any adjustments, remove the cover. To do this, insert the slotted end of the time stamp key in the key hole, turn the key to release the cover latch and remove the cover. After the stamp is satisfactorily adjusted, set the cover over the guide pins in the base and press down on the cover until the spring latch catches. In some cases it will be necessary to remove the bottom plate in order to check the requirements. To do this remove the bottom plate mounting screws with the 4" regular screw-driver and remove the bottom plate.

3.01 Cleaning (Rq.2.01)

(1) Clean the external parts of the time stamp with a clean, dry KS-2423 cloth.

(2) To clean the dial, wipe it with a clean, dry KS-2423 cloth.

(3) Clean the bearings of the timing magnet armature, armature lever, ribbon shoe, ribbon spools and associated gears of the ribbon reversing mechanism by flushing them with petroleum spirits applied with clean toothpicks. Operate and release the ribbon feed lever to work the petroleum spirits around the bearing.

(4) Remove the spring clip from around one end of the hinge rod with the long nose pliers, and remove the hinge rod. Clean the rod with a KS-2423 cloth moistened with petroleum spirits. Clean the cover latch bearings with petroleum spirits applied with a clean toothpick. Insert the rod through its bearings and remount the spring clip.

(5) Clean the platen with a KS-2423 cloth moistened with petroleum spirits. Then wipe it dry with another KS-2423 cloth. If the platen is hard, torn or cracked, replace it with a new one.

(6) To clean the bearings of the stamping mechanism and clock movement, remove the clock mounting screws with the 4" regular screw-driver, and remove the clock and clock movement from the printing head. Flush the bearings with petroleum spirits applied with a clean toothpick. Remove the petroleum spirits and all the old oil from the parts with a clean KS-2423 cloth wrapped around a small flat piece of wood.

(7) To clean the contact slide and contact lever bearings and bearing surfaces, remove the terminal mounting screws with the 4" regular screw-driver and remove the washers and wires. Remove the trip mechanism mounting screws with the 4" regular screw-driver and remove the mechanism from the housing. Clean the contact slide bearings and contact slide bearing surfaces with petroleum spirits applied with a clean toothpick.

(8) Allow the parts to dry and then lubricate as outlined in 3.02. After the parts are satisfactorily lubricated, remount the mechanism in the housing and insert and tighten the mounting screws securely. In remounting the clock on the printing head, take care that the worm and worm wheel are in mesh and that the hands of the clock and the time of day stamp are synchronized. Mount the wires and washers in place and insert and tighten the mounting screws securely. Remount the bottom plate and insert and tighten the mounting screws securely.

3.02 Lubrication (Rq. 2.02)

(1) Lubricate the various parts with

3.02 (Continued)

KS-6232 oil applied with the R-1575 No. 4 Artist's Show Card brush. Distribute the oil retained by the brush after each dip as specified.

(2) Take care not to allow any of the lubricant to get onto the magnet coils or armatures.

3.02 Record of Lubrication (Rq.2.03)
No procedure.

3.04 Freedom of Movement (Rq.2.04)

(1) If binding occurs, clean and lubricate the bearings or pivots as outlined in 3.01 and 3.02.

(2) If the hour and minute hand interfere with each other, depress the hour hand slightly at the hub so that it clears the minute hand. If the hour hand binds on the dial, raise the hand until it clears the dial. Take care not to allow the hour hand to bind on the minute hand.

(3) If the minute hand binds on the crystal, adjust it until it clears the crystal. Take care not to adjust the hand to such an extent that it binds either on the other hand or on the dial.

3.05 Inking (Rq.2.05)
3.06 Imprint (Rq.2.06)

(1) Do not apply any ink to the ribbon as it may interfere with the operation of the time stamp. If the ribbon is worn or exhausted, replace it as follows. Free the ribbon shaft retainers from the shafts and allow the retainers to rest against the frame of the printing head. Withdraw the shafts from the spools. Remove the spools from the printing head. Place the new spools in position so that the ribbon shoes rest against them. Slide the shafts back in place with the flat end foremost. Slide the ribbon shaft retainers in place and wind up the ribbon until it is taut by turning one of the shafts with the slotted end of the key.

(2) If the ribbon is satisfactory but a clean imprint cannot be obtained, the position of the printing head is not satisfactory when the tripping contacts open. To correct, remove the top plate mounting screws with the Nos. 422A and 423A offset screw-drivers and remove the top plate. Loosen the eccentric lock nut with the No. 417A wrench and move the eccentric by hand in a clockwise direction until a satisfactory imprint is obtained. With the eccentric satisfactorily located, tighten the lock nut securely, taking care not to move the eccentric. Remount the top plate and insert and securely tighten the mounting screws.

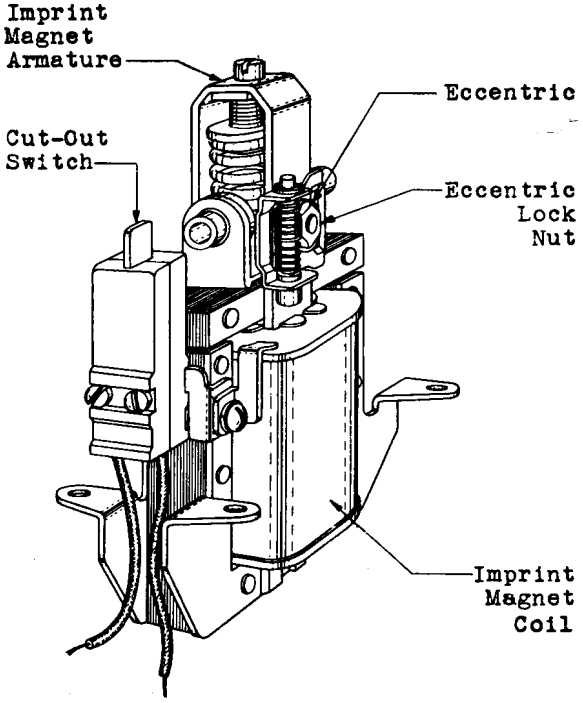

Fig. 7 - Assembly of Imprint Magnet

3.07 Cover Latch Spring Tension (Rq. 2.07)

(1) If the cover latches do not hold the cover securely in place, clean and lubricate the cover latch springs as outlined in 3.01 and 3.02.

(2) If the trouble still persists, remove the associated lug from the hub on the housing and while holding the lug in one hand, stretch the spring until the second full coil can be grapsed with the duck-bill pliers so that the end of the jaws of the pliers just halves the coil. Cut the spring with the diagonal pliers at the top of the coil which extends in front of the pliers, so that one half will remain on the spring in front of the pliers. Grasp the spring with long nose pliers and bend this one half out with the long nose pliers so that a semi-circular loop will be formed at right-angles to the spring. Fasten the spring to the lug and mount the lug on the hub in the housing.

3.08 Synchronism of Time of Day Stamp and Hands (Rq. 2.08)

3.09 Accuracy of Date Stamps (Rq. 2.09)

(1) To synchronize the time of day stamp and the hands, remove the clock as outlined in 3.01. Operate the printing head manually and note the time of day as indicated on the tape. Turn the hands of the clock to the time indicated on the tape and remount the clock as outlined in 3.01. Recheck for synchronization before tightening the mounting screws. If the time of day stamp and hands are synchronized, but the stamping does not agree with the calendar date, hour or minute of day proceed as follows.

(2) If the date stamp does not agree with the calendar date, insert the slotted end of the key over the end of the date wheel setting shaft and turn the shaft in 1/4 turns for each change in the date, until the setting of the wheel is satisfactory. Turning the wheel in a clockwise direction advances the date. It is necessary to do this on all months having less than 31 days.

(3) If the month or year does not agree with the calendar month or year, insert the slotted end of the key over the end of the month wheel setting shaft and turn the shaft in 1/4 turns for each change in the month wheel until the month and year wheels are satisfactory. Turning the wheel in a clockwise direction advances the month. Turning the month wheel from December to January automatically advances the year wheel.

(4) To set the hour to agree with the hour of the day where the difference of the setting and the hour of the day is greater than six hours, insert the slotted end of the key in the end of the hour setting shaft and turn the shaft to the nearest hourly setting. Then proceed as outlined in (5).

(5) If the minute or fractional minute stamp does not indicate the correct time insert the key end of the key in the slotted end of the minute shaft, press inward and turn to the desired time. Remove the key. This shaft is also used in setting hours for periods of less than six hours.

(6) If satisfactory positioning of the wheels cannot be obtained, return the time stamp for repairs in accordance with local instructions.

(7) The characters on the year wheel cover a span of 10 years. When it becomes necessary to replace this wheel return the timer stamp for repairs in accordance with local instructions.

3.10 Tension of Ribbon Shaft Retainer (Rq. 2.10)

(1) To adjust the ribbon shaft retainer, remove the ribbon shaft retainer mounting screw with the 4" regular screwdriver and remove the retainer. Hold the retainer with two duck-bill pliers, one on either side of the bend in the retainer and adjust the retainer so as to increase or decrease the bend slightly. Remount the retainer in position and securely tighten the mounting screws.

3.11 Movement of Ribbon Spool (Rq.2.11)

(1) If the movement of the ribbon feed ratchet lever is not satisfactory, examine the gear train bearings to see whether or not they are engaged with the gear train driven by the ribbon ratchet wheel. If they are engaged and the ribbon does not advance on the operation of the ribbon feed ratchet lever, clean the bearings associated with the ratchet lever, ribbon spool ratchet and ribbon as outlined in 3.01.

(2) Failure to mesh the gears nearest the unwound coil is due to an improperly adjusted lift lever on the opposite side. In this case adjust the lift lever as outlined in 3.13.

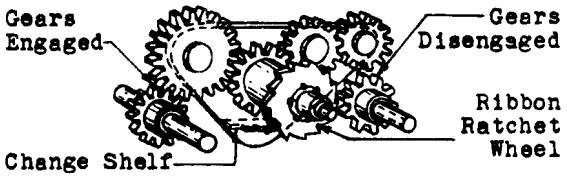

Fig. 8 - Ribbon Reversing Gears

(3) If the movement of the ratchet lever is still not satisfactory, remove the ratchet lever retractile spring from the ratchet lever but do not remove it from the stud on the printing head. Stretch the spring slightly and insert a toothpick between the first and second coils of the spring. Cut the spring with the diagonal pliers so that 1/2 of the top coil will remain on the spring. Bend this half out with the long nose pliers so that a semi-circular loop is formed at right angles to the spring on the ratchet lever. Insert this end of the spring in the ratchet lever.

(4) Failure to advance the ribbon spool may be due to failure of the ribbon ratchet pawl to advance to the next tooth as the printing head is operated. If this condition exists, disconnect the retractile spring and remove the ratchet lever spring clip with the long nose

3.11 (Continued)

pliers, remove the associated washer, and the ratchet lever assembly from the printing head. Pull one end of the ribbon ratchet pawl spring through the hole in the pawl with the long nose pliers and cut off a portion with the diagonal pliers. Bend the end of the spring from which the portion was cut over the side of the pawl to prevent it from becoming loose. Remount the ratchet lever assembly on the printing head taking care that the pawl engages the ratchet. Remount the washer and spring clip that were removed.

3.12 Ribbon Reversing Mechanism (Rq.2.12)
3.13 Tension of Lift Lever (Rq.2.13)

(1) Examine the bearings of the ribbon reversing mechanism and lift lever and if they are dirty, clean them as outlined in 3.01.

(2) If after cleaning the bearings, the ribbon reversing mechanism does not operate satisfactorily, remove the clock as outlined in 3.01 and check the tension of the lift lever against the ribbon shoe by operating and releasing the lift lever several times with the fingers. Note the tension of the lift lever retractile spring and if it does not seem strong enough, remove one or more coils of the spring. To do this, remove the end of the retractile spring that is secured to the spring equalizer with the long nose pliers, stretch the spring slightly and insert a toothpick between the second and third coils of the spring. Cut the spring with the diagonal pliers so that 1/2 of the top coil will remain on the spring. Bend this half out with the long nose pliers so that a semicircular loop is found at right angles to the spring. Remount the spring on the spring equalizer and check the tension of the lift lever against the ribbon shoe.

(3) If the ribbon still does not reverse satisfactorily, the lift lever is probably distorted. The tongue of the lever should be approximately at right angles to the long portion. To adjust the lever, hold the portion that is at right angles to the tongue of the lever with the long nose pliers and grasp the tongue with the duckbill pliers. Adjust the tongue until the angle is satisfactory. To obtain an earlier reversal of the ribbon, adjust the tongue downward and to obtain a later reversal, adjust the tongue upward.

(4) After the lift lever is satisfactorily adjusted, remount the clock as outlined in 3.01.

3.14 Position of Ribbon Shoe (Rq.2.14)

(1) If the ribbon shoe does not lie flat along the entire ribbon, remove the ribbon shoe mounting screw with the 4" regular screw-driver, and remove the shoe from the printing head. Grasp that portion of the shoe that does not rest against the ribbon with the long nose pliers and the short arm that adjoins this portion with another pair of long nose pliers and adjust the shoe as required. Remount it in place and insert and tighten the mounting screws securely.

3.15 Engagement of the Clutch Wheel and Power Wheel (Rq.2.15)

(1) If the clutch wheel does not normally engage the power wheel or reengage the power wheel when the key is removed from the minute wheel shaft, return the time stamp for repairs in accordance with local instructions.

3.16 Position of Month Wheel Setting Shaft Spring (Rq.2.16)

(1) If the month wheel spring does not normally rest against the month wheel setting shaft, adjust the spring as required with the long nose pliers.

3.17 Contact Separation (Rq.2.17)

(1) If the separation is not satisfactory, check the contacts to see whether they are worn or whether they are improperly located in their spring slips. If the contacts are worn replace the contacts. If either contact is improperly located in its spring clip, relocate it as required.

(2) The trouble may be due to dirty tripping or contact assembly bearings or to weak tripping or contact lever retractile springs. If the bearings are dirty, clean them as outlined in 3.01.

(3) If the tension of the compression spring is insufficient, remove the spring from the contact slide with the fingers and stretch the spring sufficiently to obtain the required tension. Remount the spring in place on the contact slide. If the tension of other springs is unsatisfactory, remove the required number of coils from the spring at fault as outlined in 3.11.

3.17 (Continued)

(4) If the finger on the armature of the trip coil is distorted, it may prevent the tripping lever from closing the contacts. To correct, adjust the finger as required with the duckbill pliers.