COVER PLATES:

1. The Typebar Cover (Cowl) and the Rear Housing are removed as on the previous models.

2. To remove Front Name Plate:
   A. Disconnect Tab. Stop Set/Clear Lever from Tabulator Stop Set Arm (rear) by removing cotter and moving end of Lever off Arm Stud.
   B. Disconnect Line Lock Release Lever from Line Lock Release Bracket by removing Cotter and moving end of Lever off stud. Depress Shift Lock Key to make cotter accessible.

C. Remove (turn counter-clockwise) Touch Adjustment Knob, Manual Ribbon Reverse Knob and Ribbon Adjuster Knob.

D. Remove two (2) Front Name Plate bottom binding screws.

E. Press Front Name Plate downward (to disengage top edge of plate from under front edge of Top Plate) and outward.

3. To replace Front Name Plate: Reverse above instructions.
CARRIAGE—RING AND CYLINDER

MAIN CARRIAGE:

1. The Carriage used in the New Woodstock Segment Shift Model (above 830,000 serial) is of built-up construction utilizing a Main Carriage Rail Casting with end plates and other mechanism assembled thereto. Rear and front top plate rails attach to the Top Plate as on the previous models. The Carriage is removed in the same manner employed on the previous models.

2. ADJUSTMENTS:

A. In replacing Main Carriage to Top Plate, the Anti-creep Rack Pinion must be positioned accurately centered between the ends of the Anti-creep racks in order to maintain the end roller retainer bearings within the ends of the Carriage Rails when the Carriage is moved to extreme right and left.

B. The Drawband Anchor Stud on the Main Frame is located under the right Top Plate edge. The metal end of the Drawband attaching to the right under end of the Carriage should be formed downward slightly to prevent its contacting or binding on Roller Retainer Frame Cross member when Carriage is moved to the extreme left end of its rails.

C. The Margin Stop Release Lever must be positioned to move the Margin Stop Release Bracket Blade clear of L. H. Margin Stop when the Carriage (Rack) Release lever is depressed. The Margin Stop Release Bracket should be adjusted (with its positioning screw after releasing Lock Nut) to position Margin Stop Release Bracket Blade centrally on Margin Stop Adjusting Screw.

D. Clearance of rear rail with rear Top Plate bosses should be uniform on both bosses in order to maintain a parallel platen.

RING & CYLINDER:

1. Platen parallel and Ring & Cylinder Adjustments are performed by movement of the Carriage and Top Plate Rails forward or rearward as may be necessary. Adjustment is limited by the forming of Top Plate casting. It is essential that the Platen be of proper diameter and be concentric in its entire length.
MOTION & SHIFT MECHANISM:

1. The Shift Keys, left and right, form a part of the Shift Bail. As the Shift Key is depressed the Shift Link, which is attached to the upright arm of the Right Hand Shift Key, is drawn forward drawing the Segment Carrier Rock Shaft which in turn draws the Segment Frame downward. Shift Balance Springs return the Segment to lower case (normal) position when the Shift Key is released.

2. ADJUSTMENTS: It should be determined that the Shift Rock Shaft is free on its pivots, Shift Bail is free but snug on its pivots, Shift Balance Springs properly connected and provide proper tension (there is no tension adjustment) and that Shift Keylevers are free in the front comb and Shift Lock Cams are uniformly and properly adjusted so that there is no play downward in the Segment when the Shift Locks are both locked, or when either is locked.

A. Segment Latch (Lower case latch):

(1) With Segment in non-shift position there must be no up/down play of the Segment. The face of the Latch Lever must be positioned fully flat and flush on the Latch face of the Segment Carrier Rock Shaft Arm in which position there must be no up/down play in Segment. Adjustment is made with Shift Latch Eccentric Adjustment Screw, after loosening Lock Nut. Care should be taken in adjusting Eccentric that the Segment Carrier is not moved and that Shift Link Eccentric Screw just clears Latch Release Lever. Shift Link Eccentric Screw is adjustable, after loosening Lock Nut, to provide this clearance. The two eccentrics must be uniformly adjusted to provide a synchronized action which may require simultaneous adjustment of both parts.
B. Segment Ball Race:

(1) The Shift Segment Frame (Segment Carrier) must be fitted freely but snug in Ball races. End shake or looseness of Segment Carrier in Ball Races may be adjusted, after loosening Segment Carrier Outer Rail Screws (2) by turning adjusting screws uniformly clockwise. To remove bind, turn adjusting screws counter-clockwise. Adjustment should be made uniformly on both right and left Segment Carrier Outer Rails to maintain Segment Carrier and Segment centrally between outer rails.

C. Shift Lock: The Segment Latch must not be confused with the Shift Lock. Shift Lock Cams, right and left, should be adjusted so that both Shift Lock Keys may be depressed and lock simultaneously and release freely and there must be no additional downward movement of the Segment when pressed by the finger, whether both or either Shift Key is locked. Additional downward movement would indicate that the Shift Lock Cams were not adjusted deep enough to eliminate movement of the Segment and would affect motion adjustment when Shift Lock depressed. Check alignment of capital letters with Shift Key held depressed and Shift Keys (either) locked.

D. Segment: The Segment is removed in the same manner used on previous models. Segments in this model are drilled and tapped for use on either model.

E. On-Feet Adjustment: On Feet Adjustment is made with the Top (On-Feet) Adjusting Screws, right and left, and should be made uniformly on both sides, after loosening lock nuts. Determine that Shift Stop Plate binding screws and Sub-Frame Binding Screws are tight before attempting adjustments. The front Sub-Frame Binding Screws, right and left, are located behind the front of the side frame.

F. Motion Adjustment: After On-Feet Adjustment has been made, placing the small letters on their feet, the Motion adjustment, bringing the Capital letters into alignment with the small letters is made with the lower (motion) adjusting screws, after loosening Lock Nuts.

G. Shift Lock and Segment Latch Adjustments must be re-adjusted after changing On-Feet and Motion Adjustments (see Paragraph 2A and 2C above).
3. TO REMOVE SEGMENT-KEYLEVER UNIT:

A. Remove Top Plate:

TO REMOVE TOP PLATE:

Disconnect Tabulator Link from Tabulator Second Lever by spreading to remove Stud of Tabulator Link from Pivot hole in Second Lever. Disconnect Line Lock Lever from Line Lock Bellcrank by opening Turnbuckle freeing Stud from Bellcrank. Disconnect Touch Adjustment Link by removing cotters, moving Link off Studs. Disconnect Ribbon Shift Link by removing cotters moving Link off Studs. Remove Front Name-Plate (see cover plates). Remove Universal Bar Buffer Spring Lock Nut and Nut, removing Spring. Remove Tabulator Set Lever Bracket Binding Screws (2) and Tabulator Set Lever Stabilizing Bracket Binding Screws (2). Remove Dog Rocker Link Adjusting Screw Lock Nut and Adjusting Screw. Disconnect Tab Set Lever from Set Lever Arm Stud, by removing cotter. Disconnect Back Space Lever from Back Space Link by removing cotter, sliding Lever off Link Stud. Remove four (4) Top Plate Binding Screws. The Top Plate may be maneuvered free of the base frame. Remove carefully, checking mechanism to determine that there are no remaining connections attaching Top Plate to Base Frame.

B. To Remove Unit from Base Frame (with top plate removed):

(1) Remove Tabulator Keylever Fulcrum Screw, moving Keylever off its fulcrum and upward. Remove Back Space Keylever Fulcrum Screw moving Back Space Keylever off its fulcrum and upward. Remove cotter connecting Line Lock Link to Line Lock Bellcrank. Remove four rubber feet. Remove Shift Lock Cam Studs, right and left. Remove Space Bar Stop Bracket. Place rubber band around Segment over Space Link, Dog Rocker Link and Spring Tension Link holding these parts upward. Place rubber band around Tabulator Lever and rear right hand Frame Post. Remove four (4) Sub-Frame Binding Screws, inserting them, as removed into under side of Sub-Frame in tapped holes to act as feet for the unit. The Unit may be maneuvered free of the Frame.

(2) To replace, reverse these procedures, guiding Back Space Lever and Tabulator Lever as well as Line Lock Link to the clear above the unit as the frame is slipped over the unit.
LINE LOCK:

1. The right hand Margin Stop controls the bell trip and Line Lock through contact of the Line Lock Trip on the Line Lock Lever as in older model Woodstocks, however, the mechanism of the Line Lock Bail and release mechanism has been changed as indicated in drawing. The Line Lock Link, when the Line Lock Trip depresses the Line Lock Lever, is drawn forward positioning the Line Lock Bail under the Keylever protrusions. As the Link is drawn rearward the Line Lock Latch (which pivots on a stud in the side unit frame) is pivoted, the top part moving rearward as the Blade of the Latch is pivoted forward. The blade of the Latch is positioned between the Tabulator Lever and the Side Frame of the Unit. As the Link moves rearward the Latch Blade contacts the stud on the right arm of the Line Lock Bail moving the Bail forward into position under the Keylever protrusions. When the Line Lock Release Key is depressed, the Line Lock Release Bellcrank lifts the Line Lock Latch upward to disengage the Line Lock Latch Blade from contact with the Line Lock Bail Stud permitting the Line Lock Bail to be withdrawn from contact with Keylever protrusions by the Line Lock Spring, freeing the Keylevens and permitting of escapement action.

2. ADJUSTMENTS: By comparing movement of the Keylever and Typebar (when the Line Lock is operated) of the older model Woodstock with the new Segment Shift model it will be seen that the new Line Lock Bail Blade is positioned into closer proximity to the Keylever on the new model than it is on the old and therefore the fast operator (who holds keylevens partially depressed at all times in fast typing) will prevent the Line Lock Bail Blade from arresting movement of the keylevens, causing piling at the time the keylevens should be locked. In such instances it may be necessary to remove the Line Lock Bail, grinding the blade down to provide greater freedom of movement of the Keylevens before contacting the blade, which will permit the blade to slip in under the keylevens held partially depressed.

The position of the Line Lock Latch Blade between the Tabulator Lever and the side frame of the unit and the clearance necessary of the Line Lock Bail Stud with the Tabulator Keylever necessitates that there be no bind of the Keylever on the Stud or on the Latch Blade. The Latch Blade must contact the stud and the Line Lock Latch Spring must provide tension to draw the Line Lock Latch downward (position the Blade of the Latch into contact position with the Line Lock Bail Stud) after the Margin Release Key has been depressed.

A. The Line Lock Latch must be free for up/down movement: Line Lock Latch Spring properly connected and providing proper tension to return the Latch to active position after Line Lock has been released by depression of Margin Release Key.

B. Line Lock Bail must be free on its fulcrums and Bail Spring and Line Lock Bellcrank Spring must be connected and provide proper tension to return their parts to inactive position after Margin Release.

C. The pull of the Line Lock Link positioning the Bail Blade under the Keylevens should be sufficient to move the Bail forward for contact with Keylever protrusions. It may be necessary to kink (shorten) the Line Lock Link in order to position the Bail properly, but the link should be checked to ascertain that it is not binding other mechanism after forming.
RIBBON BICHROME:

1. The Ribbon Bichrome mechanism is similar to the old model, with the exception of the stud of the Ribbon Guide which is positioned in a different location than the stud of the guide on preceding models and they are not interchangeable.

2. ADJUSTMENTS:
   A. Ribbon Throw:
      (1) Adjust maximum throw of Ribbon Vibrator Arm and Ribbon Guide so that when Key on top bank of keyboard is held fully depressed the type-bar must not be choked and will just reach its maximum throw without excess up/down movement of Guide but no choking or snubbing of typebar. Adjust with Ribbon Shift Lever Bracket (by loosening screw) drawing Yoke forward or moving it rearward as may be necessary, then tighten Bracket Screw.

      (2) The Stop Blade of Ribbon Guide Stop limits the upward movement of the Ribbon Guide by contact of the Ribbon Guide Stop Stud on the blade (ribbon selector in red or black position). If Ribbon Yoke is adjusted as outlined above and ribbon does not raise high enough to cover top of type (cutting off) the Ribbon Guide Stop should be removed and the blade emeryed slightly to permit of higher movement of the Ribbon Guide Stud. Before attempting this adjustment determine that Ribbon Spools are free (no bind of Ribbon Spool Shaft). To make Ribbon Guide Stop accessible, remove Top Plate (see Motion and Shift Mechanism). If ribbon bleeding, check to determine that proper Ribbon Guide is used for this model, as old style guide will permit free play of ribbon guide with Guide Stop Stud not contacting Stop Blade.
TOUCH TENSION ADJUSTMENTS:

1. Touch tension adjustments, to increase or decrease tension on Lower U-Bar is provided by Operator Adjustment (front dash plate) and mechanic adjustment "Universal Bar Buffer Spring" which should be adjusted so that the tension of the spring is applied when face of type is about 1 1/2 inches from the platen, for standard adjustment.

Typebar Rebound Spring (under type guide) may also be adjusted (top pulled forward slightly) to give kick back action to the typebar to prevent shadowing and to expedite return of typebar to nest.
**TABULATOR MECHANISM:**

1. The Tabulator mechanism is similar to previous model. A new Tabulator Bar is utilized not equipped with end adjustment as on preceding models.

2. **ADJUSTMENTS:**
   - Adjust Tabulator Bar for proper position by adding or removing Washers from right end of Bar (facing machine from front).
   - Check Tabulator Stop Bracket for wear in event it fails to hold or passes set tabulator stop. When adjusted properly it should be possible to tabulate to a set tabulator stop, back space once and tabulate to same spot.

**TABULATOR STOP SET-CLEAR MECHANISM:**

1. It is now possible, on this model, to set a tabulator stop (by depressing Tab. Stop Key) and to clear a tabulator stop, individually by pulling forward on the same key.

The Set and clear slides are self-explanatory and require little adjustment (See Vol. 1, Typewriter Mechanical Training Manual).
BACK SPACE:  

1. A new style Back Space Pawl is provided in the new machine, differing from the Pawl used in preceding models. A Back Space Tension Spring is added in addition to Back Space Pawl Spring to return Back Space Bellcrank and Lever to inactive position when Back Space Keylever is released. Other adjustments same as on preceding model.
TYPEBAR (Escapement) ACTION:

1. Dual sublevers (Sublever K-205 and Sublever Arm K-209) with connecting link K-213 function to activate the Typebar in the Segment Shift Model with equalized touch in either upper or lower case without placing stress on the keylevers in shift position. The Sublever Arm (K-209) pivots in the Segment Carrier Casting. The Sublever Links permit up-down movement of Segment Carrier without stress or pull on the Sublever (or Keylevers) in this action.

2. ADJUSTMENTS: Before attempting adjustments, it should be determined that Typebars, Sublever Arms and Sublevers are free in segments; sublevers are aligned with Sublever Arms permitting direct straight forward pull without links binding either Sublever or conflicting with next adjoining links or levers; and the Keylever Tension uniform throughout the Keyboard.

A. Touch Adjustment:

(1) The Keylevers should be uniformly weighed in by adjustment of Keylever Tension Spring Screws. This should be accomplished using 2 ounce weight, holding one typebar to the platen, typebar face should move to within 1½ inches of front prongs of type guide.

(2) Touch Tension Adjustment of lower U-Bar should be made as indicated in that section of these instructions.

(3) Operator may adjust tension on lower U-Bar with Touch Tension Adjuster lever.

Examination will indicate that the lower U-Bar rides, in most cases, just clear of the Keylevers. If lighter and snappier touch is essential, it may be secured by forming tooth of Lower U-Bar operating Commercial @ key upwards slightly which will have the tendency of lowering Lower U-Bar away from the Keylevers, permitting the keylever (and typebar mechanism) to gain some momentum before picking up the weight of the Lower U-Bar. In this adjustment the Prong should not be formed to the extent that the ribbon guide will be moved before keylever action.

B. Escapement Adjustments: Refer to adjustments of previous model.

C. Keylever Lock Plate: On some early machines of this model the Keylever Lock Plate clearance with Keylever rear ends permitted Keylevers to slip out of their segment fulcrum. It may be possible to straighten out the top edge of the Plate to eliminate this difficulty.