

MECHANICAL INSTRUCTIONS

FOR

Standard Typewriter

Remington Rassel

315 FOURTH AVENUE

NEW YORK, N.Y.

FOREWORD

This Instruction Book is intended primarily for mechanics, but it can be studied to a very good advantage by salesmen. This book is not an Operator's Instruction Book and should not be given to customers.

The drawings contained in this book should be studied in connection with the reading matter and are of great assistance in learning the functions and adjustments of the various mechanical units.

For those in the Foreign field who do not read English, a careful study of the drawings will give helpful fundamental information.

Study one unit thoroughly before going on to another.

To obtain the best results, learn the adjustments pertaining to a unit from the book and then make them on the machine.

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REMOVING PANELS AND SPLITTING MACHINE

The Standard Machine has been designed for easy accessibility to all working parts. Removal of the Machine Panels is accomplished by first lifting straight upward on Top Cover 2-51447. The Side Panels 2-51459 and 2-51460 may be removed by loosening Side Cover Screw 2-40111 and pulling outward on top of Panels and lifting them upward off of Dowel Pins. The Rear Panel Screws 2-51443 must then be removed and the Rear Panel 2-51363 lifted off the Dowel Pin.

The machine may be split for access to parts located under the carriage, etc. by removing three (3) Screws, "A", from each side of the Frame Back 2-51395. (See Line Lock and Bell Illustration). First, the two (2) Frame Back Anchoring Screws 2-55008, these are located between the Carriage Bed Rails on right and left side of carriage. Care must be used to prevent damage to the teeth on the Carriage Roll Retainer Fixed Rack 2-55151 when removing Screws 2-55008. Second, remove the two (2) Top Screws 2-48072 "A", on right side that hold the Frame Back 2-51395 to the Side Plate. Repeat this operation on left side. Loosen the two (2) Bottom Screws 2-48072 on each side of Frame Back 2-51395. Move entire Frame Back to rear to split the machine.

The entire machine may be removed from the Frame Base 2-51351 by removing the four (4) Screws 2-51360, Nuts 2-40428 and Washers 2-51376.

When folding the Frame Back (2-51395) into position, keep the Spring Drum Pinion (2-46601) disengaged from Spring Drum Assembly (2-53711).

This prevents the Spring Drum Pinion release from limiting on end of Spring Drum Pinion Shaft (2-58110), and also eliminates possibility of damage to the teeth of both the Pinion (2-46601) and Spring Drum Assembly (2-53711), by having them meet tooth on tooth.

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BACK SPACE MECHANISM

This mechanism is very simple in construction and will require very little adjusting. It is necessary as in all parts of the machine to have free moving parts.

If the back space fails to operate check the following:

See that the Back Space Pawl Spring 2-53518 has sufficient tension to hold the Back Space Pawl 2-53511 clear of the Escapement Wheel Teeth. Also see that the pawl is free in movement and that the Back Space Key Lever Roll is in alignment with the Back Space Lever Arm 2-53502 as illustrated.

The Escapement Rocker Body should be located so that the Loose Dog holds the Escapement Wheel in such a position that the tooth of the Escapement Wheel will be fully engaged by the Back Space Pawl when the Back Space is operated. The location of the Escapement Rocker Body is described in the text covering the escapement mechanism.



SPACE KEY MECHANISM

The Space Key Shaft is supported in the machine by Space Key Shaft Pivot Screws-2-40002 and Nuts 2-40411 and when the Space Bar 2-51867 is depressed, it causes the Space Key Shaft Arm, to which the Space Key Push Link 2-41138 is attached, to move upward. The Space Key Push Link Roll contacts Arm "C" on the Escapement Rocker Body, causing the Escapement to take place. When the Escapement is complete, the Space Key Spring 2-51866 returns the key to its normal rest position.

On machines above J-2456650 the Frame Base has been changed to increase space -between top of Space Bar when in down position and top of Frame Base (2-51351) -Front Rail.

ADJUSTMENTS

First, the Space Key Shaft Assembled 2-51811 should be free but without end play between its pivots. If there is end play, remove by adjusting pivot Screw 2-40002 making sure that the Lock Nut 2-40411 is securely tightened after making this adjustment.

The height of the Space Bar 2-51867 is correct when the top of Space Bar is level and 5/16" below tops of lower bank of alphabet keys. This adjustment is made by forming the Space Key Upstop 2-41158. After forming Space Key Upstop for Space Bar height, check Line Lock for proper locking of Space Key.

With the Space Bar 2-51867 depressed, the top of the Space Bar should be about flush with top of machine Frame Base 2-51351 (Refer to Panel Sketch). This adjustment is made by adjusting Space Key Downstop Screws 2-40163. Refer to illustration.

The Space Key Push Link Guide (2-41124) Screw Hole is elongated to enable adjustment of the Push Link (2-41138) to its proper position. Locate the Push Link Roll near the front end of Arm "C". This provides easier operation and prevents the Push Link Roll from limiting on Arm "C" when the Space Key is at normal position. Unhook the Space Key Spring 2-51866 and test Space Key Mechanism for freedom of movement. The Space Key Push Link 2-41138 must be free in its Guide 2-41124. When testing the Space Key Mechanism for freedom of movement hold forward on the lower part of the Escapement Rocker Body, noting carefully if any bind exists. If the mechanism seems to be sluggish or binding, check again for freedom as already explained. Hook up the Space Key Spring 2-51866.

Adjust the Push Link Eccentric 2-41127 until the Escapement takes place when the Space Bar is within 1/16" of the Space Key Downstop Screws 2-40163. If the eccentric does not give enough movement to the push link to get this condition, it will be necessary to maul or pein the Space Key Shaft Arm at point "A" to lower it, or at point "B" to raise it.

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ADJUSTMENTS (Cont.)

When the Space Key is depressed against Downstop Screws 2-40163 the Escapement Rocker Body 2-42776 must not limit against Upper Rocker Body Stop Screw 2-40100 shown on Escapement Illustration (Rear View).

Machines above J-2438618 use the Model 17 "Space Bar Shim" 2-41136 as a downstop. Each Space Key Lever is attached to the Space Bar with one instead of two screws.

This change was made to reduce noise in Space Bars.

When replacing Space Key Assembly on machine prior to J-2438618 the Spacer and Downstop Shim will have to be used.

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RIBBON DRIVE MECHANISM

The drawings covering this mechanism show in detail the assembly of the parts which govern the Ribbon Drive and Reverse. The movement of the parts originate at the Carriage Spring Drum, which through the Spring Drum Pinion 2-46601, Spring Drum Pinion Shaft 2-58110 and Ribbon Drive Gear 2-58122 drives the Ribbon Drive Shaft 2-58098.

On the Ribbon Drive Shaft 2-58098 are mounted two (2) Ribbon Reverse Cams 2-46536 (right or left). Make certain that the cam surface of these cams is set opposite to each other on shaft. The reason for this is in case an operator should take the ribbon completely off the machine, it would permit both ribbon reverse plungers to engage both ribbon reverse cams which would lock up the machine unless the cams were set opposite. Also, on the Ribbon Drive Shaft is the Ribbon Drive Shaft Detent Collar 2-58081. The Ribbon Reverse Detent Plate Assembled 2-58100 controls the right and left positions of the Ribbon Drive Shaft 2-58098. When the Left Ribbon Driving Gear 2-46537 is in mesh with Left Ribbon Spool Shaft Pinion 2-42310 the ribbon will wind onto the left spool until the right spool is empty. At this point, the Ribbon Reverse Tripping Lever raises and allows the Right Ribbon Reverse Plunger to drop and engage the Right Ribbon Reverse Cam 2-46536 which cause the Ribbon Drive Shaft 2-58098 to be shifted to the right which reverses the travel of the Ribbon onto the right or empty spool.

REMOVAL OF RIBBON DRIVE SHAFT 2-58098

The Ribbon Drive Shaft (2-58098) can, if desired, be removed with all component parts intact.

First, remove Left and Right Ribbon Spool Shaft Brackets (2-58039).

Loosen Screws (2-40016), left and right in the Tabulator Key Up Stop (2-54044) and raise the Ribbon Reverse Detent Plate (2-58100) out of slot of Ribbon Driving Gear, right (2-46538).

Slide Shaft (2-58098) as far as possible to the right.

Disconnect Ribbon Drive Shaft Shift Lever (2-58064) from Ribbon Drive Shaft Detent Collar (2-58081).

Place Left End of Shaft (2-58098) into elongated hole located in Left Side Plate (2-51438), above the Ribbon Drive Gear (2-58122).

Slide Shaft (2-58098) as far as possible to the left. This permits the Ribbon Reverse Detent Plate (2-58100) to be lowered below the Shaft (2-58098).

Slide Right End of Shaft (2-58098) out through front of machine.

To replace, reverse procedure.

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SPRING DRUM PINION SUPPORT BRACKET ASSEMBLED

The Spring Drum Pinion Shaft (2-58110) and the Spring Drum Pinion Support Bracket (2-58113) can be removed as a unit, as follows:

Loosen Set Screw (2-40110) in Ribbon Drive Gear Pinion (2-46537).

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Remove the two Mounting Screws (2-40216) for Spring Drum Pinion Support Bracket (2-58113), in Left Side Frame (2-51438).

Employ Fold-A-Matic principle, split machine and pull Spring Drum Pinion Shaft (2-58110) and Assembly complete with Spring Drum Pinion Support Bracket (2-58113) back and out of machine.

When replacing Ribbon Drive Gear Pinion (2-46537) on Spring Drum Pinion Shaft (2-58110) make certain Set Screw (2-40110) in Pinion (2-46537) is on flat of Shaft (2-58110).

Correct mesh between Ribbon Drive Gear Pinion (2-46537) and Ribbon Drive Gear (2-58122) must be obtained, otherwise there is a possibility of having the Ribbon Drive Mechanism lock-up after either tabulating or releasing the carriage through the Carriage Release Levers Right (2-55198) or Left (2-55197).

RIBBON REVERSE

Before attempting to adjust the Ribbon Reverse, it will be necessary to have the proper ribbon spool shaft clearance and tension.

Position the Right Ribbon Spool Shaft Pinion (2-42310) on the Right Ribbon Spool Shaft (2-46612) to have .008 clearance between the top of the Ribbon Spool Shaft Space Collar (4-11080) and Bottom of the Ribbon Spool Shaft Bracket (2-58039). Repeat the same adjustment for the left Ribbon Spool Shaft (2-46613).

The Ribbon Spool Shaft Spring (2-40369) should be compressed just enough, through the position of the Ribbon Spool Shaft Tension Spring Collar (2-40861) on the Ribbon Spool Shaft, to support the weight of a full spool of ribbon and Ribbon Winding Disc (3-1102).

Too much tension can cause poor Ribbon cover and not enough tension will allow the ribbon to wind too loosely on the spools.

Check Screws (2-40214) in both the right and left Ribbon Reverse Cams (2-46536) to see that they are tight. Also make certain that the cam surface of the Cams (2-46536) are set on opposite sides of the Ribbon Drive Shaft (2-58098).

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RIBBON REVERSE (Cont.)

Loosen Set Screw (2-40110) in Right Ribbon Driving Gear (2-46538).

Loosen the two Ribbon Reverse Detent Screws (2-40216). Also have Ribbon Reverse Detent Stud engaged in slot of the Right Ribbon Driving Gear (2-46538).

Set Ribbon Reverse Detent Toggle to the rear.

Move the Ribbon Detent Plate on the Tabulator Up Stop (2-54044), to gain correct mesh between the Right Ribbon Driving Gear (2-46538) and the Right Ribbon Spool Shaft Pinion (2-42310). Tighten the two Ribbon Reverse Detent Plate Screws (2-40216).

With high point of Right Ribbon Reverse Cam (2-46536) up, position Ribbon Drive Shaft (2-58098) so there is a slight clearance between the high point of the Right Cam (2-46536) and the Ribbon Reverse Plunger of the Right Ribbon Spool Shaft (2-46612). Tighten Screw (2-40110) in the Right Ribbon Driving Gear (2-46538).

Shift Ribbon Reverse Detent (2-58100) Toggle to front of machine and check for same clearance between high point of Left Ribbon Reverse Cam (2-46536) and the Ribbon Reverse Plunger of the Left Ribbon Spool Shaft (2-46613). This clearance should be the same as on the right.

NOTE: Position Left Ribbon Drive Gear (2-46537) on Ribbon Drive Shaft (2-58098) for proper mesh between it and the Left Ribbon Spool Shaft Pinion (2-42310).

The Ribbon Drive Shaft (2-58098) must be so positioned so neither the right or left Ribbon Reverse Cam (2-46536) tries to move the Drive Shaft (2-58098) beyond the limits of the Ribbon Reverse Detent Toggle. If this condition exists the Ribbon Drive Shaft (2-58098) will become locked at time of Ribbon Reverse.

If the Shaft is properly positioned, the Toggle will just be pulled over center of its detent, in either direction.

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RIBBON COVER MECHANISM

In describing the movement of this mechanism, we will assume that all parts are free and that the adjustments are correct. The Ribbon Universal Bar 2-58107 is supported by the Ribbon Universal Bar Pivot Screws Right and Left 2-40259 under the key levers.

When the Key Lever is depressed, the Ribbon Universal Bar moves downward and as the Universal Bar is on a pivot, Arm "A" moves upward. As upward motion is transferred thru the Ribbon Lift Push Link Bell Crank 2-58037 pivots on the Tabulator Bell Crank Shaft 2-42353, the Ribbon Push Link Stud "D", which enters the Slot "C" of the Ribbon Actuator Arm 2-46569, raises the Ribbon Carrier 2-46570 to the desired height.

When the Ribbon Control Lever 2-58038 located on right side of machine and attached to the outside of Right Side Plate 2-51503 is in its upward position, it will cause the Ribbon Lift Push Link Stud "D" to be in the front end of the Slot "C" in Ribbon Actuator Arm 2-46569; this causes the type to print on the upper half of ribbon. When the Ribbon Control Lever is set to its lower position, it causes the Ribbon Control Shaft Lever 2-58024 to move the upper end of the Ribbon Lift Push Link Bell Crank 2-58037 to the rear, positioning Ribbon Lift Push Link Stud "D" to rear end of Slot "C". This causes the type to print on the lower half of the ribbon.

When the Ribbon Control Lever 2-58038 is set at white dot or stencil position, the Control Shaft will hold the Ribbon Lift Push Link in a central position, so that the Ribbon Lift Push Link Stud "D" will move up and down in Slot "C" without operating the Ribbon Carrier 2-46570. When Ribbon Universal Bar and all parts related to the Ribbon Cover are in normal position, the Ribbon Actuator Arm 2-46569 limits on Ribbon Actuator Arm Stop on Ribbon Actuator Arm Bracket 2-58000.

ADJUSTMENTS

We will assume that the machine has been adjusted for "on feet" and motion, and that the machine is equipped with 1/2 inch black and red ribbon. (Machines with larger type are equipped with 9/16 inch ribbon carrier). The black or upper half of the ribbon is adjusted for cover first.

Check the Ribbon Universal Bar 2-58107 for end play on pivots. Excess play should be removed by loosening the Ribbon Universal Bar Pivot Screw Nut 2-40410 and tightening the Pivot Screw 2-40259. Tighten nut when adjustment is completed.

It is important that all play be removed and that the Ribbon Universal Bar is perfectly free. Excess end play in the Ribbon Universal Bar will result in the ribbon not throwing the same distance at all times.

See that the Ribbon Universal Bar 2-58107 is level; this can be tested by depressing key levers z, n and / -- all three type bars should travel same distance before key levers contact Ribbon Universal Bar.

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RIBBON COVER MECHANISM

RIBBON COVER MECHANISM (Cont.)

Loosen the Ribbon Universal Bar Eccentric Screw 2-40065 and set the Ribbon Universal Bar Eccentric 4-12216 with big side to front. Lock the Eccentric in this position with the Ribbon Universal Bar Eccentric Screw 2-40065. This is a temporary setting and it may be necessary to adjust it again later.

NOTE: There are certain adjustments pertaining to the Ribbon Covering Mechanism that are more accessible with the Typewriter Frame Back open such as adjusting the Ribbon Control Shaft by Set Screws 2-40240.

Set the Ribbon Control Lever 2-58038 in its stencil position, which is white dot on front panel. Loosen the two (2) Ribbon Control Shaft Arm Set Screws 2-40240 in Hub 2-58021 at right end of Ribbon Control Shaft Arm 2-58024 and move the Arm "F" until when a Key Lever is depressed Stud "D" will enter directly into center of vertical slot at top of Slot "C". The closer this adjustment is made the better other ribbon covering adjustments will come out. While holding Arm "F" as described tighten the two (2) Ribbon Control Shaft Arm Set Screws 2-40240.

Set Ribbon Control Lever 2-58038 to top position which is blue dot. Form lower Extension "E" making sure that stud in Ribbon Control Lever 2-58038 sets securely in its position in Ribbon Control Lever Detent Spring 2-42887. Depress the shift lock key and test the black cover by striking off a few capital "HHHHH". They should strike in the center of the black or upper half of ribbon. If the type strikes high on the ribbon, it will be necessary to turn the Ribbon Lift Push Link Bell Crank Eccentric 4-12216 toward the bottom; after adjusting the Eccentric, lock its position with Ribbon Universal Bar Eccentric Screw 2-40065 and try the cover again with the capital "H". If the type is striking too low on the ribbon, reverse this procedure. Test black covering by typing the alphabet and numerals in both upper and lower cases. It will be found that Eccentric 4-12216 must be correctly adjusted to prevent overthrow and printing bottom of characters red.

Set the Ribbon Control Lever 2-58038 to red dot which is lower half or red ribbon position. Form Upper Extension "E" making sure that Stud in Ribbon Control Lever 2-58038 sets securely in its position in Ribbon Control Lever Detent Spring 2-42887. Strike off the alphabet and numerals of both upper and lower cases. Loosen two (2) Screws 2-40065 and adjust the Ribbon Actuator Arm Stop 2-46602 until the Ribbon Actuator Arm 2-46569 almost limits against it when the key lever is depressed. This stop prevents the ribbon from overthrowing and failing to print the bottom of red characters. If the ribbon carrier goes up and does not drop back down it is an indication that the Ribbon Actuator Arm Stop 2-46602 is adjusted too far to rear.

When Ribbon Control Lever 2-58038 is set at white dash (-) on front panel the face of type will strike in center of ribbon, therefore if a solid black ribbon is used the customer can obtain more wear from a ribbon by using the center of ribbon. There is no adjustment on this as it is automatically accomplished if black and red portion of ribbon is covering correctly.

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BLACK UPSTOP SCREW 2-40230

The Black Upstop Screw 2-40230 which is located in center of Frame Back 2-51395 directly above long end of stud in Ribbon Push Link Arm and will limit the upward throw of Ribbon Push Link Stud "D" when Ribbon Control Lever 2-58038 is set in upper or black position. The screw should be adjusted to just clear top of stud when a type bar is held to the platen by hand.

When shifting the Ribbon Control Lever 2-58038 from black to red or vice versa, there should be no movement or flutter in the Ribbon Carrier 2-46570. If the Ribbon Carrier moves it indicates that the top of Stud is rubbing the top of Slot "C".

Check the following adjustments in regard to movement in the Ribbon Carrier 2-46570 when shifting the Ribbon Control Lever: Ribbon Universal Bar 2-58107 limiting against under sides of key levers, which could be caused by improperly adjusted Ribbon Universal Bar Eccentric 4-12216 or one of the individual fingers "G" on the Ribbon Universal Bar may be formed higher than necessary. The fingers "G" on the Universal Bar provide an individual adjustment in case the ribbon carrier does not raise the proper height on 2 or 3 characters.

The Ribbon Universal Bar, Ribbon Carrier, Ribbon Lift Push Link, etc., are restored to their normal position by the Ribbon Universal Bar Spring 2-58132.

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IMPROVED KEY TENSION AND TYPE ACTION

A change in design of the Key Tension Mechanism eliminates the Key Tension Spring Hook Assembly 2-51919 and changes Side Plate Left Assem. 2-51438, all Key Levers 2-51816 thru 2-51857 and all Bell Cranks 2-52661 thru 2-52702, Key Lever and Type Bar Bell Crank Bracket 2-51801, and Escapement Rocker Spring 2-40300.

The New Key Tension Mechanism is not interchangeable on machines produced before Machine J-2243928 as the new mechanism requires new Type Bar Bell Crank Bracket 2-51943 with holes for Key Tension Regulator Lever Slide, Mounting Screws 2-40210, and Left Side Frame 2-51472.

When the Key Tension Regulator Lever 2-51861 is at its upper position the Key Tension Regulator Lever Slide 2-51944 is to the front of the machine. Spring 2-52612 which is a 12 oz. Spring will overcome the tension of Spring 2-42924 which is a 5 oz. Spring. Therefore the Key Lever will only have 5 ozs. of Spring Tension until such time as the Type Bar Bell Crank Spring Arm 2-51949 contacts the Key Tension Regulator Lever Slide 2-51944 the Key Lever then has 12 oz. of tension.

When the Key Tension Regulator Lever 2-51861 is at its down position the Key Tension Regulator Lever Slide 2-51944 moves to the rear .075. As a result the Type Bar Bell Crank Spring Arm contacts the Slide sooner and increases Key Tension.

This mechanism went into Production Solid on Machine J-2243928.

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KEY RESTORE MECHANISM

The Type Bar Restorer (2-52422) is for the purpose of releasing and restoring collided type bars which are sticking near the Type Bar Guide (2-41799).

This feature eliminates operator getting hands dirty by touching the face of the type.

The Restorer (2-52422) pivots on studs located on the left (2-51472) and right (2-51503) side plates, and is retained on the studs by keepers (2-50006). It is held to its forward rest position by the Type Bar Restorer Spring (2-52402).

The Restorer (2-52422), in its normal position should neither limit against the Ribbon Drive Shaft (2-58098) nor the Center Type Bar Bell Cranks.

In either case, this condition can be corrected by forming the Type Bar Restorer Key Lever (2-52397) where it contacts the Restorer (2-52422).



SHIFT MECHANISM

SHIFT MECHANISM

It is very important that in adjusting the shift mechanism to hold all pivot points and connecting adjustments to a minimum of end play yet still be free in their movement. Any excess play will result in poor alignment and shift motion.

Check the Shift Rocker Shaft 2-53304 for end play between pivot points, play to be removed by Shift Rocker Pivot Screw 2-40002 on right side of machine. Tighten Nut 2-40411 securely after adjusting. The end play of the Shift Lever Shaft 2-41808 is removed in the same manner.

We will assume that all adjustments of the shift mechanism are out except those mentioned above. It is important that the adjustments are made in the order listed below:

- 1. Loosen Segment Shift Stop Screw Nut 2-40410 front and rear and raise Segment Shift Stop Screws 2-53300 out of position so they will not limit the segment while shifting.
- 2. Turn Shift Toggle Link Eccentrics "A" and "B" (Shift Mechanism Illustration) so that the high side of the eccentric is at its lowest position. The high side of these eccentrics must always favor the lower half of the eccentric when adjustment is completed.
- 3. Adjust both Shift Toggle Cushion Eccentrics 2-53330 so that in either upper or lower case the shift toggle links do not travel past a straight line or break center.
- 4. Adjust Eccentric "A" for capital letters "on feet", by moving the eccentric toward front of machine the segment is raised. Check preceding adjustment after moving Eccentric "A".
- 5. Adjust the front Segment Shift Stop Screw 2-53300 until there is no noticeable up and down play in segment when shift keys are depressed.
- 6. Adjust Eccentric "B" for motion.
- 7. Recheck Shift Toggle Cushion Eccentrics to make sure their adjustments were not changed by adjusting "on feet" and motion.
- 8. Adjust Rear Segment Stop Screw 2-53300 until there is no noticeable up and down play in segment when in normal position. Test by trying to move segment up and down by holding to Type Guide 2-41799.
- NOTE: Do not run Screw 2-53300 in too far as it will cause a bind in shift keys near latching point.

Check carefully the two (2) Shift Toggle Lever Eccentric Screws 2-40133 and 2-40066 to see that they are tight. If loose, the eccentrics will move causing motion and "on feet" adjustments to be thrown out.

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SHIFT MECHANISM (Cont.)

Adjust height of shift keys by eccentric directly below the Shift Yielding Spring 2-53334. Shift Key Tops 2-52016 should be 1/16" above regular keyboard.

The Shift Lock Lever Plates (2-41829) Left, and (2-53314) Right, are mounted to the Key Lever Comb (2-51809) with two Mounting Screws Left (2-40174) and two Mounting Screws Right (2-40013).

The holes in these plates are elongated. The shift lock latch plates should be set low enough so there will be no variation in the motion of upper and lower case letters: To be tested by locking right and left shift key locks separately and striking off motion (HhHhHhHhHh).

Shift lock plates must also be set even. Make the test for this by locking both shift lock keys. Now release the locks by depressing the left shift key. The lock on the left should release first and the one on the right immediately after. Make this same test by releasing the locks by depressing the right shift key lever. Tighten the Shift Lock Latch Plate Screws 2-40013 and 2-40174 after the adjustments have been made.

The tension of the shift mechanism is controlled by the two (2) Shift Balance Springs 2-40364 which are hooked to the lower front part of the Type Bar Segment 2-52406. The upper ends of these springs are hooked to the Top Cover Apron Brackets (right and left). The Shift Toggle Spring 2-53345 helps to restore the shift mechanism and prevents segment from rebounding.

ESCAPEMENT AND TYPE BAR UNIVERSAL BAR

It will be found that the Escapement mechanism of this machine is a part of the Escapement Rocker Bracket 2-57229. It is possible to remove the Escapement Rocker Body 2-42776 from the Escapement Rocker Bracket 2-57229 by loosening one (1) Pivot Screw 2-40164 and Nut 2-40407 and loosening Link Lock Arm Screw 2-40114 and allow Link Lock Arm 2-42605 to drop releasing Trip Pull Wire and carefully removing the Rocker Body 2-42776 from machine. Do not lose Rocker Body Tension Spring 2-57205 on removal.

To remove the Escapement Rocker Bracket Assembled (2-57229) from the rear of Frame Back (2-51395) use the following procedure:

Remove Keeper (2-50006) from Lower Stud Holding Back Space Pawl (2-53511). Disconnect Pawl (2-53511) from Stud and Back Space Pawl Spring (2-53518) from Tabulator Blade Lower Comb (2-54189).

Remove Carriage Tape (2-42033) from Carriage and the Feed Rack (2-55487) from the Carriage Support Rail Rear (2-55476).

NOTE: The only adjustment disturbed is the mesh of the Feed Rack (2-55487) with the Escapement Wheel Pinion. This adjustment will be explained under the paragraph pertaining to the replacing of the Escapement Rocker Bracket (2-57229).

Loosen Escapement Link Lock Arm Screw (2-40114) and allow Escapement Link Lock Arm (2-42605) to release Escapement Trip Pull Wire.

Remove Line Lock Operating Lever (2-58511).

Remove Margin Release Blade Link (2-57666) from Margin Stop Release Blade (2-57667) and allow Link (2-57666) to hang downward.

Take out the three Escapement Rocker Bracket Mounting Screws (2-57202).

Raise Escapement Rocker Bracket Assembled (2-57229) up and off Frame Back (2-51395). Care should be taken not to bend Back Space Pawl (2-53511).

To replace mechanism reverse the above procedure, making sure the extension on the Tabulator Friction Bail (2-42382) is placed in hole in lower end of Tabulator Friction Stud Arm (2-54033), (as shown in Tabulator illustration).

Place Escapement Link in Escapement Rocker retaining it with Escapement Link Lock Arm (2-42605).

Adjust the Feed Rack (2-55487) to mesh evenly and fairly deep in the teeth of the Escapement Wheel Pinion. This is accomplished by moving the Feed Rack (2-55487) up or down on the Feed Rack Mounting Screws (2-40170). Feed Rack (2-55487) should never bottom in teeth of the pinion as this would cause piling of letters and cause carriage to be noisy.

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ESCAPEMENT AND TYPE BAR UNIVERSAL BAR (Cont.)

There are certain adjustments pertaining to this Escapement which should be made when Escapement Mechanism is out of the machine. Remove one of the Escapement Rocker Pivot Screws 2-40164 and take out the Escapement Rocker 2-42776 complete. (Do not loose the Escapement Rocker Spring 2-57205). Remove the Escapement Loose Dog Silencer Stop Screw 2-40081 and Nut 2-40409 from the Tabulator Friction Bracket 2-54000. Remove the Escapement Wheel 2-57221 by taking out the Escapement Wheel Bearing Screw 2-57226, Nut 2-40411 and Lock Washer 2-40958.

On the rear side of the Escapement Wheel 2-57221 will be found the Loose Dog Silencer 2-42623, Silencer Friction Spring 2-42606 and Friction Spring Collar 2-40919. The purpose of the Loose Dog Silencer 2-42623 is to eliminate noise by holding the Loose Dog clear of the Escapement Wheel teeth as the Carriage is being returned, therefore, only enough tension should be put on the Silencer Friction Spring 2-42606 to obtain this result.

The correct tension can be obtained by loosening (2) Set Screws 2-40115 and adjusting Collar 2-40919 which is threaded. Care should be taken on this adjustment, if collar is screwed on too far it will slow down carriage speed and make carriage return heavy. After adjusting the collar make sure that rear side of collar does not extend beyond back edge of Escapement Wheel 2-57221, also see that Set Screws 2-40115 in collar are tight.

A small amount of typewriter oil should be placed on Escapement Wheel Bearing Screw 2-57226 before mounting Escapement Wheel to Bracket.

Hold Escapement Wheel 2-57221 onto the Escapement Rocker Bracket 2-57229 by Escapement Wheel Bearing Screw 2-57226 and hold its position by Lock Washer 2-40958 and Nut 2-40411. Escapement Wheel must be free to turn on screw but have no noticeable end play. Wheel should also run true.

Replace the Loose Dog Silencer Stop Screw 2-40081 making sure that it is thru slot of the Loose Dog Silencer 2-42623 and not run in far enough to bind rear side of Escapement Wheel 2-57221. This clearance can be seen by turning the Escapement Wheel until hole is in line with the front end of Loose Dog Silencer Stop Screw 2-40081.

The Escapement Loose Dog Carrying Arm Screw 2-48013 should be adjusted for minimum amount of play. Test the Loose Dog 2-57216 for moving freely in the Loose Dog Guide 2-42630, both up and down and to the right or left, check the Escapement Loose Dog Spring 4-10161 for tension. The correct distance between the Loose Dog and Fixed Dog is from .043 to .045. This clearance will control the safety zone which will be mentioned later.

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ESCAPEMENT AND TYPE BAR UNIVERSAL BAR (Cont.)

Replace the Escapement Rocker 2-42776 on the Escapement Rocker Bracket 2-57229 and insert Pivot Screw 2-40164, remove all end play but have Escapement Rocker free between its pivot points. Insert the Escapement Rocker Spring 2-57205. The Escapement Rocker Spring Adjusting Screw 2-40101 head should be backed out until it is against the Tabulator Friction Bracket 2-54000. If necessary this screw can be adjusted to put more tension on the Escapement Rocker. The Lower Escapement Rocker Stop Screw 2-40088 should be adjusted until the front edge of Loose Dog is set .015 to .020 to the rear of front edge of Escapement Wheel Tooth. At this point turn the Escapement Wheel and observe the amount of hold that the Loose Dog Silencer 2-42623 has on rear edge of Loose Dog. If the Loose Dog is adjusted too far forward on the Escapement Wheel Teeth the silencer will not be able to engage Loose Dog correctly, and also, Type Bars would pick up the Escapement Universal Bar too soon which affects the key touch.

Hold the Escapement Wheel 2-57221 against the Loose Dog, causing Loose Dog to limit against the Escapement Rocker and see that the face of the Loose Dog, where it contacts the teeth of the Escapement Wheel, are flush against each other. This condition is commonly known as six o'clock and is adjusted by moving the Escapement Rocker Pivot Screws 2-40164 to the right or left to get the desired results. After this condition is obtained check Escapement Rocker 2-42776 for free with no end play.

Replace the Escapement Rocker Bracket Assembled (2-57229) on the machine making sure the extension on the Tabulator Friction Bail (2-42382) is placed in hole in Lower End of Tabulator Friction Stud Arm (2-54033), (as shown in Tabulator illustration).

Place Escapement Link in Escapement Rocker, retaining it with Escapement Link Lock Arm (2-42605).

Raise the "H" Type Bar to the ribbon, the Escapement Trip should take place as face of type touches ribbon. Adjust by loosening Escapement Link Nut 2-40408 and adjust Escapement Link Sleeve 2-42629 until desired result is obtained. Lock sleeve with nut.

After obtaining trip, hold Type Bar against cylinder and test lower part of Escapement Rocker for small additional movement forward. The Upper Escapement Stop Screw 2-40088 should not limit movement of Escapement Rocker 2-42776. Make this test for same condition with Space Bar depressed against its downstops. If not the same, check carefully the Space Bar Adjustments and if rocker still limits against Upper Stop Screw 2-40088, back it out slightly.

Next, test the escapement safety zone. Raise the "H" Type Bar slowly by hand until Escapement Trip takes place at the ribbon, then allow the Type Bar to restore to front of machine slowly, the second trip of escapement should occur when the face of type is 1/2" to 9/16" away from the ribbon. This as mentioned before is controlled entirely by distance between Loose Dog and Fixed Dog which is .043 to .045. If the distance is more than 9/16" there is danger of the operator piling one letter on top of another. If less than 1/2" there is danger of skipping between letters. If the Escapement Loose Dog Carrying Arm Screw

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ESCAPEMENT AND TYPE BAR UNIVERSAL BAR (Cont.)

2-48013 is too tight it will prevent Loose Dog from stepping to the left thereby causing machine to pile letters occasionally.

The Pica (10 Space) Escapement has 15 teeth on the Escapement Wheel and 15 teeth on the Pinion. The Elite (12 Space) has 18 teeth on the Escapement Wheel and 18 teeth on the Pinion.

TYPE BAR UNIVERSAL BAR

With all the Escapement Adjustments made, we will now test the machine to see if the Type Bar Universal Bar 2-41647 is correctly adjusted.

We will assume that the Type Bar Universal Bar Oscillator Bracket Screws 2-40128 are tight. Also that the Type Bar Universal Bar Oscillator Pivot Screws 2-40060, Adjusting Bushing 2-52300 and Lock Nut 2-40411 are tight but free with no end play and adjusted in such a position that the Type Bar Universal Bar Guide Stud will be free in guide hole of Type Bar Segment. The Type Bar Universal Bar Oscillator Spring 2-52420 gives the oscillator sufficient tension to hold the Type Bar Universal Bar to its forward position. A Spring (2-52441) is located on the Universal Bar Guide Stud. Its purpose is to cushion the return of the Type Bar Universal Bar to the segment.

To test, raise the Type Bar "H" and see that the Escapement takes place as face of type touches ribbon, (as previously instructed). This being correct we will raise by hand Type Bars #1 and #42 to see that the escapement takes place as face of type touches ribbon. If all three type bars escape at the ribbon the Universal Bar is correctly adjusted.

Example #1: We will assume that the Escapement on the "H" Type Bar is correct, but on the #1 Type Bar the Escapement takes place 1/8" before it touches the ribbon. It will be necessary in this case to loosen the Left Type Bar Universal Bar Oscillator Pivot Screw 2-40060 and Lock Nut 2-40411 and move to rear slightly. This will make the Escapement on the #1 Type Bar closer to the ribbon. After locating the Left Type Bar Universal Bar Oscillator Pivot Screw and Bushing, always check the #42 Type Bar.

When removing the Left Type Bar Universal Bar Oscillator Pivot Screw to the rear the Escapement on the #42 Type Bar will occur a little sooner than it did before, likewise, if the Left Type Bar Universal Bar Oscillator Pivot Screw had been moved forward to make the Escapement on the #1 Type Bar escape sooner, it would have caused the Escapement on the #42 Type Bar to escape later.

Adjusting Pivot Screws 2-40060 are provided at both ends of the Type Bar Universal Bar Oscillator Bracket 2-52419 and if the Escapement on the #42 Type Bar is not taking place at the ribbon after locating the Left Type Bar Universal Bar Oscillator Pivot Screw we will follow the same procedure in locating the Right Type Bar Universal Bar Oscillator Pivot Screw.

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TYPE BAR UNIVERSAL BAR (Cont.)

Example #2: We will assume that the Escapement on Type Bars #1 and #42 are escaping at the ribbon and the Center Type Bar "H" is escaping too late. This condition can be corrected by slightly loosening the two (2) Type Bar Universal Bar Oscillator Bracket Screws 2-40128 and moving downward slightly the Type Bar Universal Bar Oscillator Bracket.

The holes in the Type Bar Universal Bar Oscillator Bracket 2-52419 are oversized for their bracket mounting screws 2-40128, which makes it possible to locate this bracket either up or down. Moving the bracket down will cause the Escapement on the Center Type Bars to occur sooner and at the same time the Escapement on the End Type Bars #1 and #42 will take place later, therefore, a very slight movement of the Oscillator Bracket 2-52419 is necessary. If the Escapement on the Center Type Bars was taking place before the End Type Bars, it would have been necessary to move the Type Bar Universal Bar Oscillator Bracket up instead of down.

It will be necessary to lower the Frame Back 2-51395 to make the proper adjustments to the Type Bar Universal Bar 2-41647. As the Frame Back is hinged it will be found possible to adjust the Type Bar Universal Bar 2-41647 and check the adjustment by raising the frame back into position. This will eliminate the use of a gauge and the result will be a more accurate adjustment.

Inasmuch as the Type Bar Segment can be removed and washed without disturbing the Universal Bar, it should seldom need adjusting.

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TABULATOR MECHANISM

The depressing of the Tabulator Key Bar 2-54186 through Connecting Link 2-42440 causes the rear end of Tabulator Bell Crank 2-42414 (left) to move upward. The Tabulator Bell Crank Adjusting Screw 2-40118 contacts the bottom of the Tabulator Stop Blade 2-48601 and as the Tabulator Blade moves upward it carries the Tabulator Friction Bail 2-42382, which transmits a downward movement to lip "B" on the Escapement Loose Dog Release 2-46530 which lowers the Escapement Loose Dog 2-57216 out of the Escapement Wheel 2-57221, permitting the carriage to tabulate until Tabulator Stop 2-48500 (which is depressed) limits against the top of Tabulator Stop Blade 2-48601, stopping the Carriage.

When the Tabulator Bar is released the Escapement Loose Dog 2-57216 is allowed to restore into the Escapement Wheel 2-57221, before the Tabulator Stop Blade 2-48601 clears the Tabulator Stop, thus preventing the Carriage from tabulating further.

The speed of the carriage on tabulation is controlled by Friction Type Brake. The Tabulator Friction Screw Arm 2-54033 has a friction stud in it, near the center, with the leather headed portion of the stud facing rear side of Escapement Wheel. The movement of the friction screw arm is controlled by the Tabulator Friction Bail 2-42382, as shown on illustration. The amount of brake or friction is controlled by the Tabulator Friction Spring 2-42867 and Friction Spring Screw 2-40101.

When the Tabulator Set Key 2-42459 is operated, the Tabulator Stop directly above the Clear Key will be depressed, therefore, it may be cleared out again in case of error by depressing the Tabulator Clear Key 2-42460.

The Tabulator Stops may be restored by depressing the Clear Key and moving the Carriage to the right.

ADJUS TMENTS

The Tabulator Key Bar 2-54186 (or Tabulator Keys on Ten Key Machine) Tabulator Clear Key 2-42460 and Tabulator Set Key 2-42459 are held against the Tabulator Key Upstop 2-54044 by their Springs 2-54040 and 2-40329.

When the above keys are in position just described, adjust the Tabulator Bell Crank Adjusting Screw (2-40118) in the Tabulator Bell Cranks (2-42372, 2-42373, and 2-42414) until the Screws (2-40118) just clear the Tabulator Stop Clear Blade (2-42431), Tabulator Stop Blade (2-48601), and Tabulator Stop Set Blade (2-42356). When the Tabulator Key Bar (2-54186) or Tabulator Stop Clear Key (2-42460) are depressed their respective Tabulator Blades limit at Point "X" (shown on illustration).

When the Tabulator Key Bar (2-54186) and Tabulator Clear Key (2-42460) are depressed separately, the tops of the Tabulator Stop Blade (2-48601) and Tabulator Stop Clear Blade (2-42431) should clear stops in Tabulator Stop Rack (2-54139) about 1/32".

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TABULATOR MECHANISM (Cont.)

If this condition does not exist and Tabulator Blades are limiting at point "X", shown on illustration; then loosen the two Tabulator Stop Rack Mounting Screws 2-40011 and hold Tabulator Stop Rack to position and tighten screws. Depress Set Key 2-42459 and set up a continuous number of Tabulator Stops 2-48500 in Tabulator Rack. Depress the Tabulator Key Bar 2-54186 slowly and observe whether the Tabulator Stop Blade 2-48601 comes up centrally between two (2) Tabulator Stops 2-48500. This adjustment is obtained by loosening the two (2) Tabulator Rack Mounting Screws 2-40011 and screwing in or out of the Tabulator Stop Rack Adjusting Screw 2-54041. Be sure that the right end of Tabulator Stop Rack is against this adjusting screw and that the two (2) Tabulator Stop Rack Screws 2-40011 are tight and Lock Nut 2-40409 for Adjusting Screw 2-54041 is set when adjustment is completed.

After locating the Tabulator Stop Rack 2-54139 set the Tabulator Stop Set Arm Bracket 2-54184. Lip "A" on top of the Tabulator Set Arm Bracket must contact the tops of Tabulator Stops 2-48500 centrally, and should not set up more than one stop at a time. To adjust, loosen the two (2) Tabulator Set Arm Bracket Screws 2-40065 and locate Set Bracket or left as desired. Tighten the two (2) Tabulator Set Arm Bracket Screws 2-40065.

When Tabulator Set Key 2-42459 is operated and Tabulator Stop Set Blade 2-42356 limits at point "X" but the Tabulator Stops are not fully depressed, it indicates that Lip "A" should be formed down slightly. Do not form Lip "A" too low as it may rub on the tops of Tabulator Stops.

Tabulator Key Bar 2-54186 depressed, Loose Dog 2-57216 should clear Escapement Wheel but not limit Loose Dog in bottom of its guide, adjust by forming Loose Dog Release 2-46530 at point "C". Point "B" on Escapement Loose Dog Release should not limit and prevent Loose Dog 2-57216 from coming to correct height.

Adjust Tabulator Friction Arm Support Mounting Screw 2-40230 so that head of friction stud will contact rear side of Escapement Wheel flush when Tabulator Bar 2-54186 is depressed. Tabulator Friction Bail 2-52382 when in normal position must hold friction stud clear of Escapement Wheel. Adjust by forming the lower end of Tabulator Friction Screw Arm 2-54033 toward front of machine. Friction stud must clear the Escapement Wheel 2-57221 slightly, otherwise it would cause a sluggish moving carriage when operator is typing. If friction stud clears Escapement Wheel too much, it may not move forward and engage escapement when tabulating. The amount of brake or friction is controlled by the Tabulation Spring 2-42867 and Friction Spring Screw 2-40101.

In case Tabulator Stop Blade hangs on Tabulator Stop 2-48500 and does not restore, loosen Nut 2-40409 on Tabulator Friction Arm Support Screw 2-40230 and back screw toward front of machine slightly - this will relieve pressure and allow Tabulator Blade to restore. Lock Nut 2-40409 after adjustment is completed and check Tabulator Brake Adjustments.

TABULATOR MECHANISM (Cont.)

When Tabulator Key, Set Key or Clear Keys are depressed and blades limit at point "X" the lips on Key Lever Comb 2-51809 should be formed upward to limit at approximately the same time.

10 KEY AND PALM TABULATOR ATTACHMENTS

Machines equipped with Ten Key Tabulation (see illustration) have ten Tabulator. Stop Blades which operate the same as the Single Key Tabulator Stop Blade, but are used to automatically position the carriage to the proper dollar denomination to the left of the decimal point.

Since the Ten Key Tabulator Set Blade, Clear Blade, and the Ten Tabulator Stop Blades work the same as the Single Key Tabulator the adjustments are alike.

Some Single and Ten Key Tabulator Machines may be equipped with a Palm Tabulator.

In case of the Single Key Tabulator, the Palm attachment contacts the Tabulator Bar Key Lever.

On the Ten Key Tabulator, the Palm attachment contacts the decimal point key lever (see illustrations).

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MARGIN RELEASE, LINE LOCK & BELL MECHANISM

MARGIN RELEASE, LINE LOCK AND BELL

Both the Bell Slide (2-53910) and the Striker (Roll) must be perfectly free.

The Bell Slide Cam (2-53911) is adjustable to the right and left and its position determines the number of spaces from the time the bell rings until the Keyboard is locked by the Line Lock.

It may be necessary to form the Bell Slide (2-53910) slightly (at point X) for easier movement of the slide when contacted by the Right Margin Stop, or returning the Carriage toward zero after the stop has been by-passed through the use of the Margin Release.

The Mounting Hole of the Bell (2-43704) is located off center and is adjusted to the Bell Striker as an eccentric.

If the Bell Striker rests against the Bell (2-43704), the Bell will produce a dull sound. Oil on the Bell Striker or if it is binding will result in the same condition.

The Margin Stops (2-57602) left and (2-57603) right are not interchangeable but are used for all space machines

NOTE: Present Stops (2-57602) and (2-57603) cannot be used on K.M.C. models of the Standard Machine.

The Margin Stop Release Blade (2-57667) should limit upward on the Escapement Rocker Bracket (2-57229). It may be necessary to pien the arm on the Margin Release Shaft (2-57665).

In the event that the Carriage by-passes the left Margin Stop when the Carriage is returned to the left Margin, check the above adjustment and also see that the Margin Release linkage is free.

The Margin Stop Rack (2-57574) is adjusted to the right or left through its Mounting Screws (2-40133) and the Adjusting Screws (2-40113) located at each end of the Margin Stop Rack.

NOTE: The Margin Stop Rack (2-57574) should not be adjusted until 6 o'clock position of the Escapement has been established.

Move the Margin Stop Rack (2-57574) to the right or left so the Carriage has from .050 to .060 back drop at the left margin. Check for zero setting of the Margin Rack.

Adjust the Rubber Eccentric (2-57541) at the right of the Margin Stop Release Blade to help prevent rebound at the left margin and to absorb the shock of the Carriage at the left margin.

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LINE LOCK & BELL MECHANISM

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MARGIN RELEASE, LINE LOCK AND BELL (Cont.)

Align the Scales to the left margin position of the Carriage at zero.

NOTE: It must be possible to <u>back space</u> into the <u>left</u> margin position. Check for underthrow and overthrow of Carriage at left margin.

When the Carriage spaces to the left and the right, Margin Stop (2-57603) contacts the Margin Stop Release Blade (2-57667) and moves same to left, it actuates the Line Lock Operating Lever (2-58511).

The Line Lock Operating Lever (2-58511) pulls the Line Lock Bell Crank (2-58500) away from rear end of Line Lock Push Bar (2-58502) which permits Spring (2-58510) to pull Line Lock Universal Bar under extensions of Key Levers.

Spring (2-58509) on Line Lock Bell Crank (2-58500) must be strong enough to push Line Lock Push Bar (2-58502) and also over-come tension of Line Lock Universal Bar Spring (2-58510) to hold Line Lock Universal Bar clear of the Key Levers when typing.

In case the operator tabulates into the right Margin Stop (2-57603), the Margin Stop Release Blade (2-57667) will limit against the Line Lock Adjusting Plate (2-58512).

With Carriage in this position, try back spacing from Right Margin Stop (2-57603). If the Escapement Wheel is not in correct position for Back Space Pawl to engage tooth properly, loosen the Line Lock Adjusting Plate Mounting Screw (2-40020), also Line Lock Adjusting Plate Eccentric Screw (2-40011) and adjust Eccentric (2-58507)until Line Lock Adjusting Plate (2-58512) is properly positioned. This adjustment is necessary because the same Margin Stop (2-57603) is used for all machines regardless of spaces per inch.

The Bell should ring between 6 and 8 spaces before the Line Lock takes place. This is to warn the operator that she is nearing the end of the writing line and will give her ample space to either complete or hyphenate the word.

Depressing the Margin Release Key unlocks the Keyboard and at the same time releases the Margin Stop Release Blade from the Right Margin Stop, making it possible to complete words or write beyond the Margin Stop. Otherwise the Margin Release mechanism is self-explanatory.

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PLATEN ROLL, LINE SPACE MECHANISM

In case of trouble with the Variable Line Space Mechanism, see that the parts of the mechanism are lubricated and that the Variable Line Space Clutch Dogs 2-45122, Variable Line Space Clutch Ball 2-40478 and Variable Line Space Clutch Ball Spring 2-42906 are in good condition and functioning properly and Ratchet 2-45040 Teeth are in good condition and not loose on its Variable Line Space Cover 2-45036.

When adjusting the Line Space Mechanism, see that there is no overthrow or underthrow of the Platen Roll after the line space has been completed. To prevent this condition the position of the roll of the line Space Ratchet Detent Arm (30 Tooth Ratchet) 2-58769 is correct when the roll is setting between two teeth of Ratchet 2-45040 at the time that the Line Space Lever 2-45137 has reached its full travel to the right and the Line Space Pawl is limiting on the Variable Line Space Ratchet 2-45040.

Adjustment is made with the Ratchet Detent Arm Eccentric Screw 2-57090 on which the Line Space Ratchet Detent Arm 2-58769 is mounted. Tighten the Line Space Ratchet Detent Arm Eccentric Screw 2-57090 and Nut 2-40407 when the adjustment has been properly made.

The pressure of the roll on the Line Space Ratchet Detent Arm 2-45126 against the Variable Line Space Ratchet 2-45040 can be adjusted by the Line Space Detent Spring Anchor Eccentric 2-40994 which will locate the Line Space Detent Spring Anchor Plate 2-57004 to front or rear until the desired pressure is obtained.

Platen Roll is to turn freely with no noticeable end play; end play is controlled by the Right Platen Thumb Wheel 2-56103 which is locked in position by Platen Thumb Wheel Locking Screw 2-45054 after adjustment is made.

When the left Platen Thumb Wheel 2-56103 is tight, the Variable Line Space Knob 2-56010 must have end play. Test with the Variable set in various positions. No end play in this part would indicate that the Variable Line Space Clutch Ball Spring 2-42906 is sticking which does not allow Variable Line Space Clutch Ball 2-40478 to restore and force the Variable Line Space Clutch Dogs 2-45122 into the ratchet securely, which is necessary to obtain even spacing between lines.

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CARRIAGE

CARRIAGE

To remove Carriage complete from machine, use the following procedure.

Unhook Carriage Tape (2-42033) from the Carriage Tape Hook (2-55460).

<u>Mark the Frame in front of the Carriage</u> Support Brackets right (2-55005) and left (2-55004). This mark facilitates relocating carriage for proper anvil and cylinder position.

Remove Carriage Rail Roller Stud (2-55484) with Roller Upper (2-55485) attached.

Remove Screws (2-55008) and Eccentrics (2-55324) (one screw between Bed Rails and at each end. One screw and eccentric at the rear of the Carriage Support Bracket (2-55004) left, and (2-55005) right.) Remove Carriage and Rails as a unit.

Carriage Mounting and Adjustments:

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1.

Install the Carriage and Bed Rails to the Frame for proper cylinder and anvil position.

After cylinder and anvil has been established, loosen all Mounting Screws (2-40170) of the Feed Rack (2-55487) and raise Feed Rack (2-55487). Tighten Screws (2-40170).

With Feed Rack (2-55487) meshed shallow with the Escapement Wheel Pinion, adjust the Carriage Support Rail (2-55476) to just touch the Carriage Support Rail Roller Lower (2-55501) full length of writing line. This is accomplished by raising or lowering Carriage Support Rail on its Mounting Screws (2-40133).

> NOTE: If Carriage Support Rail (2-55476) rides too hard on Carriage Support Rail Roller Lower (2-55501), the Carriage will be sluggish and heavy to return.

After Carriage Support Rail has been positioned, adjust Feed Rack (2-55487) to mesh evenly and fairly deep in the teeth of the Escapement Wheel Pinion. Adjust through Feed Rack Screws (2-40170). Feed Rack (2-55487) should never bottom in Escapement Wheel Pinion, as this will result in piling of letters and cause Carriage to be noisy.

Replace Carriage Rail Roller Stud (2-55484) with Carriage Support Rail Roller Upper (2-55485) assembled to it, on Escapement Rocker Bracket (2-57229) and hold in place with Mounting Nut (2-40410) and Lock Washer (2-40947).

Adjust Carriage Support Rail Roller Upper (2-55485) by loosening Mounting Nut (2-40410) and turning Carriage Rail Roller Stud (2-55484) (this Stud is Eccentric) until Carriage Support Rail Roll Upper just barely clears top of Carriage Support Rail (2-55476). Clearance should be maintained at .002 in order for Carriage Support Rail Roll Upper to be of any value.

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CARRIAGE (Cont.)

To remove Carriage from Carriage Rails (2-55038) remove Carriage complete as previously explained. Turn Carriage over and mark around the Tab Set Arm Bracket (2-54184) before removing. This will enable the Bracket (2-54184) to be replaced to correct position in relationship to the Tab Stop Rack (2-54139). Loosen two Screws (2-55233) holding Carriage Support Bracket (2-55005) right. Then carefully move Carriage Rails (2-55038) to right from Carriage.

To replace Carriage Rails (2-55038) reverse above procedure.

NOTE: Carriage Retainers (2-55184) must be centrally located so they will not extend beyond end of Rails at either end of writing line.

CARRIAGE MOUNTING AND CYLINDER ANVIL POSITION

The Carriage Support Bracket Left 2-55004 and Carriage Support Bracket Right 2-55005 are mounted to the underside of the Bed Rail by two (2) Screws 2-55233. It will be noticed that the inside slot of these support brackets have an elongated hole for Screws 2-55008. Also at the rear of these support brackets will be found Eccentrics 2-55324 which are used to adjust the carriage to the front or back to obtain cylinder and anvil position. They are correctly adjusted when the Carriage is parallel to the machine and when the type bars are held at anvil position, one sheet of paper in Carriage for steel anvil and two sheets of paper for rubber anvil, the type should bite strip of paper at the platen and anvil.

ALIGNING SCALE AND CARD FINGERS

The Aligning Scale Bracket Assembled 2-55461 (with card tension fingers attached) is held to the Carriage Rail Front 2-55024 by Screws 2-48054. The Aligning Scale 2-45606 is attached to the Aligning Scale Bracket by two (2) Screws 2-40277.

To align the scale to the line of writing, write a full line of small (i's) on the paper across the width of the platen roll. The aligning scale should be lever with the line of writing, just a very fine line or space between the top of the Carriage Aligning Scale 2-45606 and the bottom of the written line. If high on one side, loosen Screw 2-40277 on the high side and adjust the scale downward slightly. If low, raise the scale in the same manner. This applies to both right and left sides.

The white lines on the scale should be in line with the vertical lines of the letter (i). The side alignment of the scale is obtained by loosening the two (2) screws holding the Aligning Scale 2-45606 to the Aligning Scale Bracket 2-55461.

The aligning scale should be just far enough from the platen that six (6) sheets of paper can be inserted between the aligning scale and platen, and also card tension fingers when up. To obtain this condition, form the Aligning Scale Bracket 2-55461.

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PAPER FEED ROLLS

The Paper Feed Rolls (front) 2-57126 and (rear) 2-46483 are adjusted through their Tension Springs 2-57109 (front) and 2-57111 (rear) for correct tension to Platen 2-56060. Check the tension of Paper Feed Rolls by placing a small strip of paper between the Platen and each end of the Feed Rolls and without turning the Platen, pull strip of paper out, tension should be even; if not, adjust the tension spring for the particular roll to be adjusted. Tension should be even at both ends and center on both front and rear feed rolls.

The Feed Rolls (front and rear) must be free to spin on Shaft and held correctly in Feed Roll Hanger Brackets (2-57128) (front) and (2-57130) (rear).

PLATEN LOCKS

When Platen Locks 2-56002 left and 2-56003 right are holding Platen Shaft Bushings 2-56016 left and 2-56017 right in place, there should be no bind in Platen Roll 2-56040 when Paper Feed Rolls and Platen Ratchet Roll is released. To obtain this condition, relocate Platen Roll End Bushing Support 2-56012 and Platen Lock Eccentrics 2-56014.

PAPER BAIL SCALE

It will be noticed that the Paper Bail Scale 2-55268 starts at "O" in the center graduating upward on either side. The purpose of the scale being manufactured in this way is to facilitate centering up headings. The Paper Scale Bail 2-55268 is adjustable laterally.



TYPE ALIGNMENT

To align a Type, there are so many different ways that this work can be done, that it would be too numerous to write about, but an attempt will be made to give the fundamental descriptions as to how a new Type Bar is replaced, how to solder on a Type and to align the Type with the rest of the Characters.

There are Right and Left Type Bars, 2-41783 and 2-41784 that can be ordered from the Factory for the Repairmen. These Type Bars will have a "start of a bend" to indicate a Right or Left Bar, where they enter the Type Bar Guide 2-41799 but this "bend" will have to be completed by mechanic to suit the Type Bar's location in the Segment 2-52406.

<u>Soldering Type on Type Bars</u>: For example, we will assume that the Type Bar for the Letter "Rr" must be replaced. Select the proper Type Bar, take off Top Cover, both Top Cover Aprons, and Front Panel. Remove the Old Type Bar.

<u>NOTE</u>: Select a Type Bar that will fit snug in Slot in Type Bar Segment 2-52406 and see that it will return freely to rest position and this is determined by the Type Bar Swinging on its Fulcrum Wire 4-10958. If the Bar is too loose in Slot, good Alignment cannot be procured.

As illustrated with Three Prong Pliers, ST-9029 Figure 5, bend this Type Bar until it will enter its slot in Type Bar Guide as 2-41799; at the same time, it will be necessary to bend this Bar into proper angle to enter the Guide with the pair of Tools ST-96292, Figure 5 as indicated, using the narrow slots of these Tools. The "Fin" of the Type Bar must enter straight in the Type Bar Guide 2-41799 which is accomplished by holding the Type Bar steady in narrow slot of lower Tool ST-96292, Figure 5 and twist this Bar into shape with narrow slot of the other Tool ST-96292. When this Type Bar is perfectly formed and working nicely in and out of Type Bar Guide and is a good fit in slot of Segment, then it is ready to receive its Type, remove this Type Bar to do this work.

The bottom of the Capital and Small "Rr's" must come in Alignment, the same as for instance, the "NnN" Figure 7; but as this New Type Bar has never been gauged for the setting of its Type, it will be necessary to select a Type Bar out of the same Machine whose Type is in <u>perfect</u> Alignment and this Bar with its Aligned Type, should be of one next to the one that is being replaced; and in this case, we will select the "Ff" Type Bar. In the Type Soldering Fixture ST-96004 Figure 1 and as illustrated, insert the perfect "Ff" Type Bar. The Wire "A" acts as the Type Bar Fulcrum Wire 4-10958, the upper edge of Fixture ST-96004 Figure 1 at point "J", would be the Anvil position at "G" and the Plate "F" Figure 1 would be the Platen 2-56203 position.

<u>NOTE</u>: The Screw "C" Figure 1 was used to be set for Anvil position to solder Type on Remington Model 16 Type Bars. Do not have this Screw "C" extend beyond the face of Fixture at Point "J" when soldering Type for KMC Typewriters. Loosen Screw "D" and set the fixture "E" until the "Fin" of Type Bar will enter its slot in this Fixture "E", which is the same as the slot in Type Bar Guide 2-41799, then make

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TYPE ALIGNMENT (Cont.)

sure the Screw "D" Figure 1 is absolutely tight. With left thumb bearing down on Type Bar at Anvil position, Point "J", loosen Screw "B" and set the Plate "F" (an Eyeglass comes in handy) until the ridge "H" comes against the bottom of the Small Letter "f" and the face of Plate "f" is flat against the Capital and Small Letters "Ff's" then securely tighten the Screw "B". Be sure this setting of this Fixture ST-96004 is absolutely correct, for the finer this Adjustment is made with the perfect Aligned Type and its Bar, the better Alignment of the New Type Bar and its Type will be had. Carefully replace this perfect Type Bar that the Fixture was gauged with, with the New Type Bar, care being taken that the Plate "F", does not become disturbed; then carefully loosen Screw "D" until the "Fin" of the New Type Bar will conform with the slot in Fixture "E", then securely tighten the Screw "D" again. Place the New Type with the bottom of the Small Letter "r" to come against the ridge "H" on Plate "F" and at this same time, the Capital and Small Letters of the "Rr's" to be flat against the face of this Plate "F" and of course, the Type Bar itself in the slot of the Type, then hold down firmly at Anvil position, Point "J" and solder this Type to the Type Bar while being heated by an Alcohol or Gas Flame. Just feed enough solder so that the slot in Type will be full and see that no solder gets on the Characters of the Type as this may spoil the Type. Carefully examine to see that the Type did not move out of its gauged position during this operation.

If the Type happens to be of such a Character, say the "Yy", then select the Type Bar "Hh" as it is next to the "Yy" and set the Fixture ST-96004 Figure 1 to conform to the gauging of the "Hh" Type, the same as was done for the "Ff", but in this case of the "Hh", have the Capital Letter "H" come against the ridge "G" instead of ridge "H" on Plate "F" so that the Capital Letter "Y" of the New Type will also come against this ridge "G"; for in this case, the ridge "H" cannot be used as the "tail" of the Small Letter "Y" extends below the Alignment as illustrated by the "HhH" and Yy" Figure 7, for if we were to use the ridge "H" on Plate "F" Figure 1 to Align the Small Letter "y", then the "Yy" Characters would be too high, out of Alignment with the rest of the Alphabet.

When a Type has been soldered to a Type Bar, replace this and other Type Bars that may have been removed back into the Machine but do not replace Front Panel, Top Cover Aprons or Top Cover at this time. It is customary to Align Type between the "Nn's". Test the Type that was just resoldered of which the "Rr" was used as an example, to see that it is in Alignment by printing on Paper: NRN and nrn. If this "Rr" is much too low or too high with the "Nn's", then the gauging of this "Rr" Type with the Fixture ST-96004 Figure 1 was not fine enough and will have to be done all over again. If the "Rr" happens to be in good Alignment as far as the bottom of these Characters are concerned, then Test the Platen and Anvil position. With Finger pressing lightly this "Rr" Type Bar against the Anvil "G" position (do not have Finger above Anvil position) after placing a strip of paper between this Type Bar at this Anvil position and note the pressure of Type Bar holding this strip of paper. Release this Type Bar and place this strip of paper between the Ribbon and Paper in Carriage, then lightly press again this Type Bar with Finger at Anvil position (do not have Finger above Anvil position) and note the amount of bite or hold that the face of Type has at this Platen position.

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TYPE ALIGNMENT (Cont.)

There should be equal bite or hold at both the Platen and Anvil positions. If there is bite at Anvil position and none at Platen position and this condition at the Platen is not too bad, the Type can be brought a little closer to the Platen by bending the Type Bar with the Tool ST-40120 as arranged and indicated by Figure 2. If this operation caused the Type to be a little low in Alignment with the "Nn", it could be restored into Alignment by nipping the Type Bar as at "Q" Figure 6 by the Starrett Pliers with Jaws "V". If there is bite at Platen position and none at Anvil position, then bend the Type Bar so that the Type will come away at Platen position to allow its Type Bar to come against the Anvil position by reversing the same Tool ST-40120 as shown in Figure 3. If this operation caused the Type to be a little high in Alignment with the "Nn", it could be restored into Alignment by nipping the Type Bar at "P" Figure 6 by the Starrett Pliers with Jaws "V". However, if this Type and Type Bar were much out of proportion in regards with the Anvil and Platen positions, then the Type with its Type Bar should be re-gauged and re-soldered with Type Soldering Fixture ST-96004 Figure 1.

If a Type needs just a little raising to bring it in Alignment, nip the Type Bar as at "Q" Figure 6 with Jaws "V". If a Type needs just a little lowering, to bring it into Alignment, nip the Type Bar as at "P" with Jaws "V". If the Small Letter only is a little light at its lower part, called "off feet", nip the Type at "T" with Jaws "W". If the top part of this same Small Letter is "off feet", nip the Type as at "S" and in the angle as shown. If the lower part of the Capital Letter is "off feet", nip as at "S", but in this case, reverse this angle. If the top part of the Capital Letter is "off feet", nip as at "R". If the left side of both Capital and Small Letters are "off feet", hold the Type Bar steady with the lower Tool ST-96292 Figure 5 and twist the Type in the proper direction with Tool ST-96276. If this right side of these two Characters are "off feet", then reverse this operation with Tool ST-96276. If left side of the Small Letter happens to be "off feet" while the right side of its Capital Letter is also "off feet", then replace this Type with a new one that does not have this condition. If a particular Type happens to be a little short in its "motion", that is, the Small Letter is a little higher in Alignment with its Capital Letter, carefully nip the Type at about half way between these two Characters. Be careful that this operation is not overdone, for if the Small Letter happens to get lower in Alignment with its Capital Letter, the Type would have to be replaced with a new one.

Taking the Type "Rr" as an example again, print "RrR": The Small "r" should come in the center of the two Capital "R's". If this is not the case, then arrange the two Tools ST-96292 Figure 5-----and bend the Type in the proper direction until results are obtained; this is called "centering of type". When a Type is once centered and its Characters are "on feet" all around, but it is found to be to one side or the other and not in the center of the "Nn's" for good side Alignment, then the Type will have to be "off set" by using the Tool ST-96270 Figure 4. As this Tool is illustrated, it would move the Type towards the left by Jaw "M" while the Type Bar is held by the Jaw "N" which is its Type Bar Guide 2-41799 position. If the Type is to be moved to the right, then turn this Tool around. After using this Tool, center the Type as already instructed, then see how it Aligns between "Nn's". Replace Front Panel Top Cover Aprons and Top Cover.

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TYPE ALIGNMENT (Cont.)



Remove Platen, line finder Scale and Ribbon only. NO NEED TO REMOVE THE RIBBON CARRIER BUT BE SURE TO PLACE RIBBON SWITCH ON STENCIL POSITION. Place the gauge back of the Type Guide and Ribbon Carrier. Use shoulder washer and flat head screw from the front of the Type Guide through the opening of the Guide and Carrier, screw it securely to the bracket of the Gauge using larger hole on bracket. Keep the Gauge in an upright position when tightening the Screw.

It is recommended to place washer and screw near center of the Type Guide opening to prevent having the bracket too high and not permitting the Type Bars entering the Type Guide.

After the Gauge is attached, bring a good Type Bar up, preferably a letter as H, N, or M until it rests on the segment Ring and the Anvil is farther back than the Type Face. Holding the Type Bar against the Segment Ring move the Anvil forward to rest flat on Upper and Lower case and having the bottom of the upper character resting against the upper ridge of the Aligning edge. Lock the Anvil in this position, tightening the Anvil Thumb Screw.

Release the key used for setting the gauge and bring up the Type Bar on which a Type is going to be soldered. Place the new Type on the Anvil in the same position as of the Type used for setting the gauge and then solder.

When soldering more than one Type, it is only necessary to set the gauge once for all the Types with the exception of the few types that may go below the line. For special characters, or numerals, use upper or lower ridge of aligning edge necessary.

It will be found advisable after all preliminary steps have been made to lay machine on its back, to complete the operation of Type Soldering. This will prevent any excess solder from dropping into Type Bar Segment Slots.

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TYPE RESOLDERING WITH FIXTURE #ST-40193

- 1. Use capital "H" or "N" as Master type DO NOT retype "H" until completely finished with all other type.
- 2. Using capital "H" as master, retype (use upper case) ABCDEFGHIJKLMNOPRSTUVWXYZ:@?&

<u>NOTE</u>: The & sign (upper case 7) is the only numeral retyped using "H" as a master.

- 3. Using top of figure "&" (lower case) as a master, retype: 234567890
- 4. Use lower case "P" as a master to retype q (lower case). Lower case "q" aligns to lower case "p".
- 5. Use tail of upper case "Q" (capital) to align: $\frac{1}{4}$
- 6. With anvil set on tail of upper case "Q" per #5 above, position the dash (-) centrally as best you can. (Split the typehead 50-50 over the anvil).

When special characters are required, it should be determined before starting the resoldering operation, the Type Bar they are desired placed on. In cases of unfamiliar signs determine their relation to the writing line by use of a dictionary or the aid of someone familiar with them. In ALL CASES REMEMBER similarity as the watch-word. A letter that extends below the writing line cannot be aligned with a letter that sets on the line, such as "a" cannot be aligned with "j", but the capital "A" can and does align the same as capital "J".

LONGTAIL TYPE

- 1. Retype "7" (& sign) per instruction #2 above.
- 2. Numerals 2 3 5 9 0 align to top of figure "7" (lower case).
- 3. Use the # sign (upper case 3) as master align \$ sign (upper case 4) to the # sign.
- 4. Align 6.8 (lower case) to top of figure "4" (lower case).

RECHECK COMPLETE OPERATION, resoldering for accuracy when necessary.

1. When satisfied with job, retype "H".

<u>NOTE</u>: To avoid having gauge knocked off its setting, recheck the setting with the master key frequently. The master key should be habitually checked each time the setting is changed and about twice on long runs, such as in paragraph #2 above.

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STANDARD KEYBOARD 1 to 42

UPPER:	Q	А	Z	W	S	#	Х	Е	D	\$ С	R	F	%	V	Т	G	В	_	Y	H	&	Ν	U	J	1	Μ	Ι	Κ	(0 1	с))
		Ρ	:	¥	?	긐	tt											-											-		-	

LOWER: qazws 3 xed 4 crf 5 vtg 6 by h 7 nu j 8 mik 9, o 1 0 . p; - $/\frac{1}{2}$ 2

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ATTACHING STROKE COUNTER

COUNTER PART NO.	RATIO OF COUNTER
2-44318	10 TO I
2-44319	100 TO 1
2-44320	240 TO 1

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REMINGTON STANDARD TYPEWRITER INSPECTION

CHECK: CARRIAGE FOR PERFECTLY FREE WITHOUT EXCESS PLAY IN RAILS. TRY WITH DRAW BAND UNHOOKED. PLATEN TO TURN FREELY WITHOUT END PLAY. 2. CYLINDER AND ANVIL POSITION. SEE THAT THE SUPPORT ROLL CLEARS THE 3. REAR RAIL. HAVE ONE SHEET OF PAPER IN CARRIAGE. FEED RACK FOR CORRECT MESH WITH ESCAPEMENT WHEEL PINION AT BOTH 4. ENDS AND CENTER CARRIAGE. N. S. - CARRIAGE RAIL SUPPORT ROLLERS (UPPER AND LOWER) TO JUST 5. CLEAR RAIL FULL LENGTH OF CARRIAGE. O. S. - FEED RACK ECCENTRIC ROLLER FOR .003" CLEARANCE ABOVE SHOULDER ON FEED RACK AND ABOUT .020" FROM REAR OF FEED RACK. CARRIAGE SUPPORT ROLL SHOULD CLEAR REAR RAIL ABOUT .003" AND SUPPORT ROLL BRACKET SHOULD CLEAR TOP OF RAIL ABOUT .003". ROLL ON ESCAPEMENT LOOSE DOG RELEASE FOR CLEARANCE IN CARRIAGE 5. RELEASE BLADE. ESCAPEMENT WHEEL MOUNTING SCREW FOR TIGHTNESS AND WHEEL FOR FREEDOM, 7. WITH ONLY ENOUGH TENSION ON SILENCER SPRING TO HOLD LOOSE DOG OUT WHEN CARRIAGE IS RETURNED. ESCAPEMENT ROCKET FOR FREE, WITHOUT EXCESS END PLAY. 3. LOOSE DOG FOR ABOUT 3/4 HOLD ON TOOTH OF ESCAPEMENT WHEEL. CORRECT 9. SPRING TENSION ON ESCAPEMENT ROCKER. ESCAPEMENT TRIP AT RIBBON WITH TYPE BARS AT BOTH ENDS AND CENTER. 10. ALSO TRIPPING ZONE SHOULD BE 1/2 TO 9/16. WITH TYPE BAR HELD AGAINST PLATEN OR SPACE BAR HELD DOWN, THE 11. ESCAPEMENT ROCKER SHOULD NOT HAVE MORE THAN .005" FURTHER MOVEMENT BUT MUST NOT LIMIT ON STOP SCREW. CARRIAGE RELEASE OR TAB BAR NOT TO LIMIT LOOSE DOG IN GUIDE. 12. 13. TYPE SEGMENT FOR FREE WITHOUT EXCESS PLAY. ALL TYPE BARS FOR FREE AND ENTER TYPE GUIDE PROPERLY. 14. MOTION AND ALL TYPE ON FEET AND GOOD ALIGNMENT. 15. SHIFT KEYS FOR HEIGHT AND LOCK PLATES SET CORRECTLY. 16. RIBBON FOR COVER IN BLACK AND RED AND NO MIXING COLORS. 17. BLACK AND RED RIBBON STOPS FOR FURTHER MOVEMENT OF THE VIBRATOR 18. WHEN TYPE BAR IS HELD AGAINST THE PLATEN. RIBBON DRIVE MECHANISM FOR FREE AND GEARS PROPERLY MESHED. BE 19. SURE THAT SPRING DRUM PINION HAS CLEARANCE ON PINION SHAFT. SET THE REVERSE LEVER IN CENTER POSITION AND TRY WINDING RIGHT AND LEFT SPOOLS. 20. RIBBON REVERSE ON BOTH SIDES. RIBBON DRIVE GEAR FOR DISENGAGING PROPERLY FROM SPRING DRUM WHEN 21. TABULATOR BAR OR CARRIAGE RELEASE LEVERS ARE OPERATED. SPACE BAR FOR HEIGHT AND TRAVEL. SPACE BAR SHOULD TRIP ABOUT 22. 1/16" ABOVE DOWN STOP. TAB RACK FOR HEIGHT AND LEVEL AND POSITIONED END WAYS SO TAB BLADE 23. WILL ENTER BETWEEN STOPS. BLADE MUST HAVE GOOD HOLD ON STOP WHEN ESCAPEMENT TAKES PLACE. TAB SET AND CLEAR KEYS. ALSO PROPER SPRING TENSION ON TAB BRAKE. 24. MARGIN SET AND MARGIN RELEASE. 25. 26. LINE LOCK AND BELL. FEED ROLLS FOR PRESSURE AND EVEN AT BOTH ENDS. 27. LINE SPACE MECHANISM. 28. 29. PLATEN LOCKS - VARIABLE - PAPER RELEASE. 30. PAPER BAIL ROLLERS. <u>31.</u> ALIGNING SCALE FOR HEIGHT AND CENTERED.

TABULATION.

SEQUENCE OF ADJUSTMENT:

1. BELL CRANK ADJUSTING SCREWS.

2. AJUST TAB. RACK LATERALY, BLADE TO COME UP CENTERALY BETWEEN TWO SET STOPS.

3. ADJUST TAB. RACK FOR HEIGHT AND LEVEL. 1/32 IN. CLEARANCE.

4. ADJUST LOOSE DOG RELEASE LIP B.

5. ADJUST TAB. SET BRACKET.

6. CHECK AND ADJUST SPRING DRUM TENSION.

7. ADJUST TAB. BRAKE.

8. ADJUST FRICTION BAIL ROLL, CARRIAGE RELEASE LEVERS.

RIBBON COVER.

SEQUENCE OF ADJUSTMENTS.

- 1. UNIVERSAL BAR PIVOT SCREWS FOR NO END PLAY, LIPS OF UNIVERSAL BAR ALIGNED WITH KEY LEVERS.
- 2. UNIVERSAL BAR FOR LEVEL.
- 3. UNIVERSAL BAR ECCENTRIC WITH LARGE SIDE TO FRONT.
- 4. MOVE BLACK & RED STOPS OUT OF POSITION.
- 5. SET SELECTOR IN STENCIL AND ADJUST FOR PROPER STENCIL OPERATION.
- 6. SET SELECTOR IN BLACK POSITION AND ADJUST LOWER EXTENSION E.
- 7. ADJUST UNIVERSAL BAR ECCENTRIC TO PRINT IN CENTER OF BLACK PORTION OF RIBBON.
- 8. ADJUST BLACK UP STOP SCREW.
- 9. SET SELECTOR IN RED AND ADJUST UPPER EXTENSION E.

10. ADJUST RED UP STOP.

11. CHECK ENTIRE KEYBOARD FOR OVERTHROW OR UNDERTHROW.

12. CHECK RIBBON FOR FLICKER.

P KEMMINSTON STANDARD REMOVING PANELS & SPLITTING MACHINE NOTES! I REMOVING PANELS THE PANELS ARE REMOVEABLE FOR EASY ACCESS THE CARE TO ALL WORKING PARTS. Dayly - C Q. TOP TANEL (1) TOP PANEL 15 REMOVED BY LIFTING. Jon -STRAIGHT UPWARD. ANTIN (1) SIDE PANELS BIEHT SIDE; CEMES ANTIN (1) SIDE PANEL BUSHT SIDE; CEMES OF TOP OF PANE SCREW IN SLOT AT TOP OF PANEL, PUCL OUT WARD AND LIFT UP OUT DOWR PIN - REPEAT ON CEFT MICE IC. REAR PANEL (1) REMOVE SCREWS ON SIDES, CAVE ON EACH SIDE_ (2) PULL BACK AND LIFT UP OFF Dowe Pin . d. REPLACING DE PANELS (i) REVENSE ALL ABOUE PROCOURES The a SPLITTING MACHINE (FOLD-A-MATIC) REMOVE ONE SCREW EACH SIDE \mathcal{L} OF CANNIAGE IN BED CAILS Et ((1) REMOVE TWO SEREWS ON EACH SING OF FRAME E A B (3) GRASP MACHE BY CARRIAGE AND FOLD BACK 6_ (4) REVERSE ABOVE PROCESURES TO ert. SACK TO POSITION -FOLS CAUTION 11 TAKE CARE TO MAKE J. CAR -SURE LING LOCK - CEVER ARM IS UNDER SACK SPACE SHAFET THAT SPRING BCR. Lax. Relevant -DRUM CINION 15-DISENBABED FROM -----SPRING---DROM---ASS4---11111111111111

NOTES. IL : ESCAPEMENT Q. TO REMOVE ESCAPEMENT ASSUL FROM MACHINE COMPLETE 1) (EMOVE REEPER FROM BACK SPACE CAU a REMOVE PAUL FROM STUD. EDE (EMONE SPRING ON COUL. (2) (EMOVE KEEPER FROM LINE LOCIC LEVER. à remove lever complète. 3) REMOVE KEEPER FROM MARSIN RELEASE BUADE . a LET BLADE HANG DOUN APUN ROJIONOL (4) REMOVE TRIP FROM LATCH ON ROCKER FRAME (5) REMOVE (5) SCREWS ON FEED RAC () REMOVE FEED CACK. CEO BACK REMOVE SPRING DRUM TAPE. Cet , . (7) REMOVE TRAREE SCREWS FROM or themet ESCAPEMENT FRAME AND FRAME 13 FREE. Ster Nor UFT NO AND OUT TO CEMOU FRAME 6. TO REMOVE EBCAPEMENT ROCKER BODY (1) LOOSEN ONE NUT ON PIVIOT SCREW ON ROCKER BODY FRAME SUPPORT (SRACKET & ROCKER BODY 19 THEN OFF (2)____ _____



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