FOREWORD

This instruction book is intended primarily for mechanics, but it can be studied to 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.

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.

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

* * * * * *

This instruction book covers the major changes and improvements that have been incorporated in the new style Remington Electric Typewriter.

The first major change was moving the Impression Control Dial from the center to the left side of the machine. During this time there were also some minor improvements incorporated in the Shift Mechanism. These should not be confused with the improvements which were later added to the machine such as Shift Shaft Assembly and additional minor changes to the Impression Control Feature.

This instruction book also covers the Improved Frame Back and Related Parts, Improved Carriage and improvements to the Carbon Ribbon Mechanism, new style Power Arms, etc., etc. Parts not listed in this manual indicate that no changes were made. These parts can be ordered from Parts Catalog EP-90.

Adjustments not covered in this book means that there has been no change and that they can be made as shown in Mechanical Instruction Book EM-87.

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The following material has been compiled, primarily to show changes in both construction and adjustments which affect methods of dismantling, reassembling and adjusting.

It is to be used in conjunction with the mechanical instructions for the Remington Electric Typewriter, and General Mechanical Service Instruction Letters pertaining to changes and improvements issued from time to time.

TOP COVER
No Change - Remove

FRONT PANEL
The Front Panel 4-14376 is held in place by Front Panel Screw 4-14280 in the Side Frame Right 4-10726 and by the Manifold Control Dial Shaft 4-10440 in the Side Frame Left 4-10724.

The Front Panel 4-14376 is removed by first taking the Switch Key Cap 4-19199, Tabulator Clear Key Cap 4-11400, Tabulator Set Key Cap 4-11401, and the Margin Key Cap 4-13926 off their respective Key Levers 4-13824.

Next remove the Ribbon Reverse Marker 4-11262 and the Ribbon Color Marker 4-11430 by releasing the Clips 4-11263.

The Front Panel 4-14376 can now be removed by forming the extensions away from the Front Panel Screw 4-14280 and tip of Manifold Dial Shaft 4-10440.

SIDE PANELS
The rear holes located in the Right 4-10726 and Left 4-10724 Side Frames, for the Side Panel Screws 4-14258 and Grommets 4-14259, have been slotted to facilitate removal of the Side Panels, Right 4-14270 and Left 4-14271.

To remove the Side Panels 4-14270 and 4-14271, take out Side Panel Screws 4-14257. Push Panels 4-14270 and 4-14271 toward rear of machine, sliding the screws 4-14258 and grommets 4-14259 out of slotted holes.

POWER ARM SHIELD COVER
The Power Arm Shield Cover 4-10573 is held into position by the Power Arm Shield Cover Rods, Front and Rear 4-10572.

The Rear Cover Rod 4-10572 hooks into extensions located on both the Right 4-11267 and Left Ribbon Spool Brackets 4-11266.

The Front Cover Rod 4-10572 is supported by the Left Power Arm Fulcrum Wire Clamp 4-10318 and Right Power Arm Fulcrum Wire Clamp 4-10319.
There are two methods by which the Power Arm Shield Cover can be removed. In both methods it is advisable to remove the Dust Covers Right 2-46953 and Left 2-46954.

1. A hole is provided in the Right Side Frame 4-10726 through which the Rear Power Arm Shield Cover Rod 4-10572 can be pulled. Unclamp Front Power Arm Shield Cover Rod 4-10572, and remove Power Arm Shield Cover 4-10573 through front of machine.

2. Unhook Rear Power Arm Shield Cover Rod 4-10572 from the Ribbon Spool Brackets 4-11266 and 4-11267. Release Front Power Arm Shield Cover Rod 4-10572 from the Right Power Arm Fulcrum Wire Clamp 4-10319 and the Left Power Arm Fulcrum Wire Clamp 4-10318 and remove the Power Arm Shield Cover with the Rear and Front Power Arm Shield Cover Rods 4-10572 intact, through front of machine.

POWER ROLL AND POWER ROLL SHAFT

It is no longer possible to remove the Power Roll 4-10504 through the bottom of the machines having the new style Power Arms 4-10360.

To remove the Power Roll 4-10504 and Power Roll Shaft 4-10528 use the following procedure:

Turn the Manifold Control Dial 4-10415 to #1 Position.

Remove Power Roll Gear 4-10580.

Loosen Power Roll Pulley 4-10555.

(CAUTION: Mark the Power Roll Shaft Bearing Left, Assem. 4-10571 before removing, as the Power Roll Shaft 4-10528 has been line reamed to its original position.)

Remove Power Roll Shaft Bearing, Left, Assem. 4-10571 by its two screws 4-10575.

Remove Power Roll 4-10504 and Power Roll Shaft 4-10528 as a unit, through Left Side Frame 4-10724.

NEW STYLE POWER ARM

When a Key Lever is depressed, the Type Bar Power Trip Bellcrank raises lower trip of Power Arm, which in turn pulls the Upper Trip out of slot of Nylon Cam.

The Lower Trip actuates starter, which moves Nylon Cam into contact with Power Roll.

As the Power Roll revolves, it turns the Nylon Cam which raises the rear end of the Power Arm upward. The Roll at Rear End of Power Arm drives the Type Bar Bellcrank toward front of machine, raising Type Bar through Type Bar Link.

NOTE: Instead of the new style Power Arm Cam dropping to contact Power Roll, it is the starter which engages the cam positively with the Power Roll.
The design of starter is slightly different for Repeat Power Arms than those of Regular Power Arms. On Repeat Power Arms, the starter is not part of Lower Trip but is actuated by a spring connected between it and Upper Trip. When a Key Lever is depressed, Lower Trip moves Upper Trip out of slot of Nylon Cam. As Upper Trip is moved out of slot of Nylon Cam, tension is placed on spring which causes starter to snap Nylon Cam into contact with Power Roll. As Nylon continues to turn for repeat operations, starter pivots on Frame of Power Arm without stalling Nylon Cam.

IMPRESSION CONTROL

The Power Arm Fulcrum Bracket 4-10320 is now one piece (Refer to Sketch) and contains all the Power Arms. It is adjusted for a clearance of .007 to .012 between the Nylon Cams of the Power Arms and the Power Roll.

The clearance of .007 to .012 is adjusted by loosening both screws 4-10123 located in each end of Power Arm Fulcrum Bracket 4-10320 and both Power Arm Fulcrum Bracket Eccentric Screw Nuts 2-40410. Turn Eccentric Screws 4-10445 to obtain proper clearance. Tighten Eccentric Screw Nuts and Power Arm Fulcrum Bracket Screws securely when adjustment is completed.

Impression is gain through the Sub Lever Link of the Power Arm limiting against Type Bar Power Arm Sub Lever Link Stop 4-10438.

Location of Type Bar Power Arm Sub Lever Link Stop in relation to Power Arm Sub Lever Link determines the time Power Arm will actuate Type Bar Bell Crank. The sooner Power Arm Sub Lever Link contacts Sub Lever Link Stop as Power Arm is
IMPRESSON CONTROL
TYPE ACTION & MANIFOLD DIAL
actuated, the more force will be transmitted to Type Bar.

The operator can change the universal impression by turning the Manifold Control Dial 4-10415 from its #1 to #11 position.

The lowest impression resulting at #1 position and the heaviest at #11 position.

By turning Manifold Control Dial 4-10415 through the Manifold Control Roll Arm and Link Assem. 4-10323 the Power Arm Sub Lever Stop Bracket Assembly 4-10433 pivots between the Power Arm Sub Lever Link Stop Bracket, Short, Right 4-10317 and the Power Arm Sub Lever Link Stop Bracket, Short, Left 4-10316, adjusting the Type Bar Power Arm Sub Lever Link Stops 4-10438 either closer or farther away from the Power Arm Sub Lever Links changes the impressions.

If the Universal Impression has to be changed beyond the movement of the Manifold Control Dial 4-10415, it can be gained by adjusting impression Control Link Eccentric 2-57524.

Individual impressions can be changed by moving the Type Bar Power Arm Sub Lever Link Stops 4-10438 closer or farther away from their respective Power Arm Sub Lever Links.

(CAUTION: Too much pressure applied to the Power Arm Sub Lever Link Stop Screws 4-10351 will tend to either break or bend the Power Arm Sub Lever Link Stops 4-10438. However, care must be used to see that these screws are reasonably tight, otherwise, they may loosen up and fall out.)

POWER ARM SUB LEVER LINK STOP BRACKET ASSEM.

Remove Power Arm Sub Lever Link Stop Bracket Assem. 4-10433 as follows:

Remove Power Roll Shaft 4-10528 and Power Roll 4-10504 as a unit. This will permit Power Roll Pulley to be raised, making the Power Arm Sub Lever Link Stop Bracket, Right, Screws 4-10567 more accessible.

Remove Impression Control Link Eccentric Screw 4-10418 and Impression Control Link Eccentric 2-57524.

Take out the Power Arm Sub Lever Link Stop Bracket Left and Right Screws 4-10567.

This will enable the removal of all three Power Arm Sub Lever Link Stop Brackets 4-10316, 4-10433 and 4-10317 at the same time.

REMOVAL OF POWER ARMS

Remove the following parts as in previous instructions:

- Top Cover 4-14276
- Rear Panel 4-14381
- Right Side Panel 4-14270
- Left Side Panel 4-14271

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(NEW STYLE)

Right Dust Cover 2-46953
Left Dust Cover 2-46954
Power Arm Shield Cover 4-10573
Right Ribbon Spool Brkt. 4-11267
Left Ribbon Spool Brkt. 4-11266
Ribbon Reverse Detent Support Bar 4-11261
Ribbon Drive Shaft 4-11223

It is advisable to remove the Type Bar Cushion Basket 4-11008 if any of the Center
Power Arms 4-10360 are to be taken out.

Loosen Screws 3-7023 in the Power Arm Fulcrum Wire Clamp Left 4-10318, Center 4-10262,
and Right 4-10319.

Insert Follow Up Wire into Power Arm Fulcrum Bracket 4-10320 and Drive Power Arm
Fulcrum Wire 4-10258 out of Power Arm Fulcrum Bracket 4-10320 until Power Arm to be
removed is reached. Back out Follow up Wire until the Power Arm is free in Power
Arm Fulcrum Bracket 4-10320.

Remove Type Bar Power Arm Sub Lever Link Spring 4-10359 from Sub Lever Link and
leave Spring 4-10359 attached to Type Bar Bellcrank Spring Anchor 4-10199.

Remove Power Arm Sub Lever Link Stop Screws 4-10351.

Remove Sub Lever Link Stop.

NOTE: After installing Power Arm, its respective Sub Lever Link Stop must be adjusted to obtain correct impression of Type.

Lift up on Power Arm, at the same time releasing the rear portion of Power Arm from
back of Type Bar Bellcrank. Pull Power Arm toward front of machine.

Therefore, if any great number, or all the Power Arms are to be removed, do not
loosen the Power Arm Sub Lever Link Stops 4-10438 but use the added procedure.

Remove the Power Roll 4-10504 and Power Roll Shaft 4-10528.

Remove the Power Arm Sub Lever Link Stop Bracket, Short, Left 4-10316, Power Arm
Sub Lever Link Stop Bracket Assem. 4-10433 and Power Arm Sub Lever Link Stop Bracket
Short, Right 4-10317.

Unhook the Type Bar Power Arm Sub Lever Link Springs from the Type Bar Bellcrank
Spring Anchor 4-10199 and retain on Power Arms 4-10360.

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KEY LEVER DIP

Position Key Lever Comb 4-10194 to the point where the Type Bar Trip Bellcranks 4-10291 latch under lower trip of Power Arms 4-10360 just before the Key Levers limit on the Up Stop.

Set the Key Lever Down Stop 4-10067 to the point where the Power Arms trip just before the Key Levers limit on the Down Stop 4-10067.

If the Down Stop is set too low, the Power Trip Bellcrank 4-10291 will try to move the Lower Trip of the Power Arm beyond its limit causing two things to happen:

First, the Power Arm will be lifted away from the Power Roll.

Secondly, the Starter of the Power Arm will limit in the Slot of the Nylon Cam, causing the Power Arm to stall.

Since the Power Arm Fulcrum Bracket no longer moves when turning the Manifold Control Dial, the dip is not effected by different settings of the Dial.

The Repeat Key Lever Down Stop Screws for the Back Space Key Lever, Repeat Under-score Key Lever and the Carriage Return Lever have been redesigned to accommodate Compression Spring 4-10429.

Compression Spring is not used on Repeat Key Lever Down Stop Screw 2-40088 for Space Bar Operating Lever.

The purpose of the Spring 4-10429 is to make a single action and a repeat action position of the Key Levers more positive, thus eliminating the chance of a repeat action when a single action is desired.

The New Style Repeat Key Lever Down Stop Screws 4-13233 are so adjusted that the single action takes place just as the Key Levers contact the Repeat Key Lever Down Stop Spring 4-10429. The repeat operation to take place only after the operator depresses the Key Levers far enough to compress the Springs 4-10429.

The Space Bar Key Lever Down Stop Screw 2-40088 is adjusted low enough to permit a repeat action.

The Repeat Space Key Spring 4-12550 is removed from the Left Boss of the Frame Front and is replaced by the Space Key Down Stop 2-40163.

The Right Space Key Down Stop 2-40163 is replaced by Repeat Space Key Down Stop, Right 4-12549 and Repeat Space Key Down Stop Spring 4-12550. Adjust the Repeat Space Key Down Stop 4-12549 so a single action takes place just as the Space Bar contacts the Spring 4-12550. Repeat action to take place after the Spring 4-12550 is compressed.
SHIFT MECHANISM
The Power Trip Bellcrank Spring Anchor 4-10313 has been reformed to eliminate the possibility of having it limit the movement of the Power Trip Bellcranks 4-10291.

The Key Lever Fulcrum Bracket 4-10363 and Key Lever Fulcrum Bracket Support are now made as one piece.

SHIFT MECHANISM

The following changes have been incorporated to eliminate sticking Shift and produce easier operating Shift action.

Shift Lock Bellcrank 4-12269 has been redesigned with an Extension to which Spring 2-58132 is connected. The other end of Spring 2-58132 is fastened in hole in Shift Lock 4-12190.

Shift Lock Link Latch Spring 4-12226 is replaced with a lighter Spring 4-12278.

The following Springs are not used with the New Style Shift Lock Bellcrank 4-12195 N.S. and are to be removed:

- Shift Lock Link Spring 4-12225
- Shift Power Trip Bellcrank Spring 4-12236
- Shift Lock Bellcrank Spring 4-12272

It will be necessary when ordering either the Shift Lock Bellcrank 4-12269 or the Shift Lock Link 4-12190 to specify, after the Part Number, New Style (N.S.) or Old Style (O.S.).

The position of the Roll on the Shift Lock Lever Assem. 4-12193 has been relocated to eliminate sticking Shift.

Eccentric "B" 4-12218 and Shift Power Bellcrank 4-12189 have been eliminated. The Segment Shift Rocker 4-12267 and Type Bar Segment 4-10987 are actuated through the Power Arm 4-12265 contacting Shift Rocker Power Arm.

A Segment Shift Stop Spring 4-12277 is reinstated under Segment Shift Stop 4-12247 which acts as a silencer - Noisy Shift can be caused also by Power Arm driving Segment too far. This can be corrected by altering Shift Rocker Power Arm 4-12266.

NEW PARTS

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NEW STYLE TYPE BAR BELLCRANK AND BELLCRANK FULCRUM BRACKET

It was necessary for the factory to make a complete set of new Type Bar Bellcranks 4-10370 thru 4-10413.

When making new dies for the Bellcranks, a provision was made for a shaving at the point where the Power Arm Rear Roll contacts the Bellcranks. This gives a smoother action than in the past, which should have a tendency to improve impressions.

To further assist and maintain impressions, the Type Bar Bellcrank Fulcrum Bracket 4-10255 has \( \frac{3}{4} \)" stock added to its top side making a deeper slot which provides more guiding surface for the Bellcranks. This will considerably help to eliminate the side motion of the Bellcranks and prevent colliding of the Type Bar Links.
TABULATOR POWER ARM 4-11965
1-Long Power Arm Sub Lever Link.
2-Narrow Nylon Cam.
3-No Toggle. The Starter is actuated by Lower Trip to move Nylon Cam into contact with Power Roll.

TYPE BAR POWER ARM #0 to #43 Incl. 4-10360
1-Short Power Arm Sub Lever Link.
2-Narrow Nylon Cam.
3-No Toggle. The Starter is actuated by Lower Trip to move Nylon Cam into contact with Power Roll.

SHIFT POWER ARM 4-12265
1-Long Power Arm Sub Lever Link.
2-Wide Nylon Cam.
3-Straight Power Arm Sub Lever.
4-Power Arm Frame is shorter than for all the other Power Arms.
5-No Toggle. The Starter is actuated by Lower Trip to move Nylon Cam into contact with Power Roll.

SPACE KEY REPEAT POWER ARM 4-12554
1-Long Power Arm Sub Lever Link.
2-Narrow Nylon Cam.
3-Repeat Bell Crank Support Stud on rear of Power Arm Frame.
4-No Toggle. The Starter snaps Nylon Cam into contact with Power Roll. The Starter is not connected to Lower Trip but a Spring is attached between it and Upper Trip.
BACK SPACE REPEAT POWER ARM 4-12742
1-No Sub Lever Link.
2-Large Diameter Nylon Cam.
3-No Toggle. The Starter snaps Nylon Cam into 
    contact with Power Roll. The Starter is not 
    connected to Lower Trip but a Spring is 
    attached between it and Upper Trip.
4-Eccentric pressure adjustment on Power Arm. 
5-This Power Arm is identical to Carriage 
    Return & Repeat Line Space Power Arm.

CARRIAGE RETURN & REPEAT LINE SPACE POWER ARM 4-12742
This Power Arm is identical to Back Space 
Repeat Power Arm.

Some machines will contain Power Arm 4-13225 
which was in use prior to Power Arm 4-12742. 
It is advisable to use Power Arm 4-12742 in 
place of 4-13225 which makes it necessary to 
install Bell Crank 4-13115 in place of 4-13204. 
The old style Sub Lever Link Guide can be 
filed out to accommodate Power Arm Spring 
4-12739 or New Style Guide 4-10469 can be 
installed. The Power Arm 4-12742 provides an 
easier and more positive adjustment of Carriage 
Return Mechanism in the Field.

#23 REPEAT UNDERSCORE POWER ARM 4-10456
1-Short Power Arm Sub Lever Link.
2-Narrow Nylon Cam.
3-Repeat Bell Crank Support Stud on rear of 
    Power Arm Frame.
4-No Toggle. The Starter snaps Nylon Cam into 
    contact with Power Roll. The Starter is not 
    connected to Lower Trip but a Spring is 
    attached between it and Upper Trip.
5-This Power Arm is used in #8,32,36,38,41,42 
    or 43 Key Positions when these Keys are to 
    be repeat.
The following instruction material is an explanation of adjustments and outlines proper sequence adjustments must be made.

CARRIAGE RETURN CONTROL SHAFT

It is through Carriage Return Control Shaft (5) that Line Lock, Carriage Return Clutch Release, Tabulator Blade Release, Escapement Loose Dog Release and Margins are controlled. The Control Shaft must be correctly positioned before adjustments pertaining to above items can be made.

1. Disconnect Line Lock Actuating Bell Crank Pull Wire (1) from Rear Line Lock Bell Crank, also Carriage Return Clutch Toggle Release Lever Pull Wire (2) from Carriage Return Clutch Toggle Release Lever (14).

2. Loosen following on Control Shaft: Carriage Return Control Shaft Stop Collar, Carriage Return Escapement Loose Dog Release Cam, Tabulator Blade Latch Restoring Lever Cam, and Carriage Return Control Shaft Stabilizer.

3. Hold Line Lock Actuating Bell Crank (25) against its stop located on Left Control Shaft Bracket (4) and move Control Shaft (5) over until it just contacts Line Lock Actuating Bell Crank. With Control Shaft in this position, temporarily Lock Control Shaft Stop Collar (3) against Left Control Shaft Bracket.

4. Position Control Shaft Stabilizer Collar (7) on Shaft so it just limits against Buffer Spring (15) without compressing Spring and its stud passes through hole in Margin Release Lever Link (12). Rotate Control Shaft (5) so there is .015 clearance between rear of Left Margin Stop and Control Shaft Arm (6). Tighten Carriage Return Control Shaft Stabilizer Collar (7) Screws. After adjusting Stabilizer Collar loosen Control Shaft Stop Collar (3) Screws.

NOTE: Control Shaft Arm is pinned to Control Shaft

MARGIN RACK AND MARGIN STOP RELEASE MECHANISM

Carriage End Stops left (8) and right (9) are mounted on ends of Margin Rack and replace Carriage End Stop Screws which were located in Carriage Lower Rail.

1. Place Front Panel on machine and adjust Margin Release Key Lever Pull Wire to have Margin Release Key Lever just limit in top of slot of Front Panel.

2. Loosen the four Margin Stop Rack Adjusting Bracket Screws and Margin Stop Rack Adjusting Bracket Eccentric Screw. Turn Eccentric until there is .005 clearance between Left Margin Stop and Control Shaft Arm (6). Tighten screws.

3. Lock Left Margin Stop to its extreme left position and move Carriage to right until Left Margin stop just contacts Control Shaft Arm (6) and set Carriage Scale to Zero.

NEW STYLE REMINGTON ELECTRIC TYPEWRITER
BACK PLATE AND RELATED PARTS

5. Carriage End Stops must be low enough to safely contact Control Shaft Arm. Form Stops (8) and (9) so tops of Stops are even with top of Control Shaft Arm (6).

CARRIAGE RETURN CONTROL SHAFT STOP COLLAR

The Carriage Return Control Shaft Stop Collar (3) keeps Control Shaft (5) from moving out of Right Control Shaft Bracket (10) and also makes it possible to backspace after typing or tabulating into Right Margin.

1. Position Right Margin Stop to its extreme right and actuate Escapement Rocker until only the Nylon Stop (11) of Control Shaft (5) is exposed beyond the right side of Right Control Shaft Bracket (10) and Stud of Stabilizer Collar (7) is still safely in hole of Margin Release Link (12).

2. Move Control Shaft (5) to left (facing rear of machine) so there is approximately .040 clearance between tooth of Escapement Wheel (13) and Back Space Pawl (Not Shown). Set Control Shaft Stop Collar (3) to compress Control Shaft Stop Cushion against Left Control Shaft Bracket. Tighten Control Shaft Stop Collar (3) Screws.

NOTE: The above tolerance of .040 can vary according to type of Letter Spacing Rack and Escapement Wheel used. The position of Stop Collar depends upon reliable backspacing out of right margin.

CARRIAGE RETURN CLUTCH TOGGLE RELEASE LEVER (14)

When Carriage Return Key is depressed and Clutch is engaged, upright extension of Clutch Toggle Release Lever (14) is rotated toward Nylon Shaft End Stop (11). As Carriage returns to left margin, Left Margin Stop contacts Control Shaft Arm (6) and Control Shaft (5) is driven to the right, rotating Clutch Toggle Release Lever which disengages Carriage Return Clutch through its Pull Wire (2). The Buffer Spring (15) acts as a shock absorber which relieves strain on Left Margin Stop and reduces noise.

1. Set Carriage Return Clutch manually and adjust Carriage Return Clutch Toggle Release Lever Pull Wire (2) so there is .045 clearance between Clutch Toggle Release Lever (14) and Nylon Shaft End Stop (11). Release Clutch.

NOTE: If Clutch Toggle Release Lever Pull Wire is too short, repeat vertical Line Spacing will be rapid and erratic. If Wire is too long, there will be undue strain on Carriage Return Tape and Motor.

ESCAPEMENT LOOSE DOG RELEASE MECHANISM

When Carriage moves to the right beyond Left Margin Stop setting during Carriage Return operation, Carriage Return Escapement Loose Dog Release Cam (16) moves to the right with Control Shaft and depresses Carriage Return Loose Dog Release Cam Follower (17). The Release Cam Follower depresses Carriage Return Loose Dog Release Slide (18). The lip at bottom of Release Slide (18) contacts and holds Loose Dog (19) away from teeth of Escapement Wheel (13) until Carriage returns from its overthrow position to Left Margin setting.

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BACK PLATE AND RELATED PARTS

NOTE: Lip "F" (Not Shown) of Escapement Bail releases Loose Dog (19) from Escapement Wheel during Tabulating and Carriage Release Lever operations same as on previous machines.

1. Loosen Carriage Return Escapement Loose Dog Follower Eccentric Screw (20) and turn Eccentric to have Loose Dog Release Cam Follower (17) clear bottom of Control Shaft Arm (6) and extension of Loose Dog Release Slide (18). Tighten screw.

2. Lip of Loose Dog Slide (18) must clear top of Loose Dog (19) by .020. Form Lip if necessary.

3. Set Carriage Return Escapement Loose Dog Release Cam (16) to just contact Loose Dog Follower (17) without depressing it.

NOTE: When moving Carriage beyond Left Margin Stop setting and compressing Buffer Spring (15), Loose Dog Follower (17) must ride over beveled edge and onto outer diameter of Loose Dog Release Cam (16).

LINE LOCK ACTUATING BELL CRANK PULL WIRE (1)

1. The Line Lock Actuating Bell Crank Pull Wire should be of such length that all Keys with the exception of Feature Keys will be locked by either Right Margin Stop or Right Carriage End Stop.

CARRIAGE RETURN LINE LOCK LEVER (21) AND LEVER ARM (22)

1. With Motor Cord removed from wall plug and Motor Switch on, engage Carriage Return Clutch.

2. Loosen Lever Arm (22) Screws. Have Carriage Return Line Lock Lever (21) limit against Clutch Toggle and position Lever Arm (22) so it will move Rear Line Lock Bell Crank upward far enough to cause Line Lock Bail to lock entire Keyboard with exception of Tabulator Key. Tighten Lever Arm Screws.

TABULATOR BLADE LATCH RESTORING LEVER (23)

The Tabulator Blade Latch Restoring Lever (23), is adjusted to restore Tabulator Blade when Tabulator Key is depressed at the time Carriage is one or more spaces away from Right Margin Stop or Carriage End Stop.

1. Type into Right Margin Stop to lock Keyboard.

2. Set Tabulator Blade Latch Restoring Lever Cam (24) on Control Shaft so there is no play between Tabulator Blade Latch Restoring Lever (23) and Tabulator Blade Latch Restoring Bell Crank. After making this adjustment move Carriage away from Right Margin Stop and latch Tabulator Blade manually while at same time, keep Carriage from moving. There should be some play between Tabulator Release Lever Cam (24) and Tabulator Blade Latch Restoring Lever (23). If there is no clearance, reset above adjustment. If there is no play between these two points the Tabulator Blade will not be permitted to latch.

NOTE: The Tabulator Release Lever Cam (24) could be set without having Carriage to the Right Margin but there is danger of this Cam being positioned too far to right.

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BACK PLATE AND RELATED PARTS

(rear view) on the Control Shaft (5) which would limit Shaft travel and cause failure of Line Lock Bail to lock Keyboard at right margin.

Tabulate into Right Margin Stop, operate Back Space one time - tabulate into Right Margin Stop - Repeat this operation several times. The Tabulator Blade should release each time when tabulating one space into Right Margin Stop. If preceding adjustments were correctly performed, this test should prove satisfactory.

REMOVAL OF CARRIAGE

The new style Frame Back and component parts simplifies removal and replacing of Carriage.

1. Score Typewriter Side Frames in relation to Carriage Lower Rail to preserve Cylinder and Anvil adjustment.

2. Remove Carriage Tape from Carriage and hook on Stud.

3. Remove Carriage Return Tape End from Clutch Spring Drum.

4. Disconnect Line Lock Actuating Bell Crank Pull Wire (1) from Rear Line Lock Bell Crank.

5. Disconnect Carriage Return Clutch Toggle Release Lever Pull Wire (2) from Clutch Toggle Release Lever.


7. Remove Carriage Roll Rail Lower Screws and Eccentrics and lift Carriage from Typewriter.

After Carriage is properly installed on typewriter, both Line Lock Actuating Bell Crank Pull Wire and Carriage Return Clutch Toggle Release Lever Pull Wire must be checked for proper length.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
BACK PLATE AND RELATED PARTS

REMOVAL OF FRAME BACK

1. Remove Motor and Mounting Bracket Complete.

2. Disconnect following Pull Wires:
   Tabulator Clear Key Pull Wire
   Tabulator Set Key Pull Wire
   Space Bar Pull Wire
   Tabulator Blade Pull Wire
   Back Space Bail Pull Wire

3. Disconnect Carriage Tape from Carriage and place on Stud located on Frame Back.

4. Remove Bell.


6. Disconnect:
   Carriage Return Clutch Toggle Release Lever Pull Wire (2). Line Lock
   Actuating Bell Crank Pull Wire (1).

7. Take out the five Frame Back Screws and remove Frame Back from machine.

8. Dismantle Frame Back completely and show Instructor.

9. Reassemble Frame Back complete and have Instructor check it before proceeding.

INSTALL FRAME BACK

1. Place Frame Back on machine, and make certain that Back Space Bail Pull Wire is in correct position to be connected to Back Space Bell Crank. Also see that Clutch Toggle Release Lever Pull Wire (2) is through lower opening in Frame Back; Margin Release Lever Link (12) is on stud of Stabilizer Collar (7); Tabulator Blade Latch Restoring Lever (23) is in position; and Rear Line Lock Bell Crank extends through cut-out in Frame Back and is over Line Lock Lever Arm (22). Mount Frame Back to machine with its Five Screws.


3. Connect Carriage Return Clutch Toggle Release Lever Pull Wire (2); Line Lock Actuating Bell Crank Pull Wire (1); and mount Bell to Carriage Lower Rail Adjustments for these items must be checked after completing installation of Frame Back.

4. Remove Carriage Tape from stud on Frame Back and attach to Carriage Tape Hook Arm.

5. Connect Back Space Bail Pull Wire to Back Space Bell Crank and adjust as follows: The Back Space Pull Wire should be adjusted to allow the Back Space Pawl to throw Escapement Wheel one space when Power Roll is operated by hand. Do not throw limit into Escapement Wheel when Back Space Pawl is at high point of travel.
Check Back Space operation in both upper and lower cases. Caution: When at rest position, the tooth of the Back Space Pawl must clear the teeth of the Escapement Wheel. When adjustment is made, check Back Space for operation by power.

6. Connect following Pull Wires to their respective parts and check adjustments concerning each Pull Wire as follows:

A. Tabulator Clear Key Pull Wire. Adjust Tabulator Clear Key Pull Wire to fully reset Stops into Tabulator Stop Rack. The Front Panel must be assembled to machine before this adjustment is made to insure that Tabulator Clear Key will not limit before Stop is fully cleared. If Tabulator Clear Key Pull Wire is adjusted too short, it will cause Tabulator Stop Clear Blade to rest above tops of Tabulator Combs, in normal position, this condition would cause interference resulting in uneven tabulation and piling of characters.

B. Tabulator Set Key Pull Wire. Adjust Tabulator Set Key Pull Wire to fully depress Tabulator Stops in Tabulator Stop Rack. The Front Panel must be assembled to machine before this adjustment is made to insure that Tabulator Set Key Lever will not limit before Tabulator Stops are fully depressed. If too short, Pull Wire may not allow Tabulator Set Key Blade to restore high enough above Tabulator Stop Rack to clear Tabulator Stop. Tabulator Set Key Bracket must be adjusted to position Tabulator Set Key centrally over Tabulator Stop through Bracket Mounting Screws. If not correctly located, Tabulator Set Key might be depressed between two Stops and lock Carriage or depress two Stops.

C. Space Bar Pull Wire. Adjust Space Key Pull Wire to allow Arm on Space Key Shaft to just trip Escapement Rocker when turning Power Roll slowly by hand. If throw is too great, Escapement Rocker will limit. Avoid this.

D. Tabulator Blade Pull Wire. Adjust Tabulator Blade Pull Wire to operate Tabulator Blade Bell Crank Actuator Arm to raise Tabulator Blade .128 to .130 above top of Tabulator Combs when the high point of Power Arm Nylon Cam is on Power Roll, as Power Roll is rotated by hand. As Power Roll continues to revolve Tabulator Blade should drop into notch of Tabulator Blade Latch.

7. Mount Motor Unit Complete in machine.

8. Check Carriage Return Clutch Toggle Release Pull Wire (2) and Line Lock Actuating Bell Crank (1) for proper length. Adjust Bell.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
SHIFT CAM MECHANISM

OPERATION

The Shift Shaft (8) Plate 3 rotates in Bearings "B", mounted in Right and Left Typewriter Side Frames. On right end of Shaft are mounted both Intermediate Pulleys and the Shift Cam Assembly (17) is mounted on left end just inside of Left Side Frame.

The Shift Cam Ratchet (7) turns with Shaft. The Shift Shaft also passes through Bearing of Shift Cam (15), but does not directly turn it. Shift Cam (15) rotates within Segment Shift Crank "D". When Cam Ratchet Pawl "E", which pivots on Shift Cam (15), engages rotating Cam Ratchet (7), the Shift Cam (15) turns with Shift Shaft (8).

NOTE: When released, the Cam Ratchet Pawl "E" engages Cam Ratchet (7), the Segment Shift Crank "D" and Shift Cam (15) work as a unit and through Segment Shift Bracket Connecting Link Assembly (17) Plate 3 and Segment Shift Bracket (18) Plate 2 will raise or lower Type Bar Segment.

When Shift Key is depressed, both Upper (1) and Lower (2) Release Levers operate. The Upper Release Lever is moved upward from Shift Cam Ratchet Pawl "E" and the Lower Release Lever (2) will move in an upward position to intercept Ratchet Pawl "E" on half cycle position. Shift Cam Ratchet Pawl "E" being released by Upper Lever will engage Shift Cam Ratchet (7). The rotating Shift Cam Ratchet (7), through Shift Cam Ratchet Pawl "E" will turn Shift Cam (15) Plate 3 within Segment Shift Crank "D" and as mentioned before, both Shift Cam and Segment Shift Crank will function as a unit to lower Type Bar Segment into Shift position. The Type Bar Segment will continue to be lowered until Lower Release Lever (2) Plate 2 intercepts Cam Ratchet Pawl "E" and releases it from Cam Ratchet (7).

When Shift Key is released both Upper and Lower Release Levers will again be operated. The Lower Release Lever (2) will move downward, releasing Shift Cam Ratchet Pawl "E" permitting it to engage Shift Cam Ratchet (7) causing Cam Shift Assembly (17) Plate 3 to operate as previously described. The Upper Release Lever (1) Plate 2 will be in a position to intercept Shift Cam Ratchet Pawl "E" and disengage it from Shift Cam Ratchet (7) at the time Type Bar Segment reaches its normal upward position.

The Shift Cam (15) Plate 3 and Segment Shift Crank "D" are designed to operate as a Ball Clutch (refer to "F" Plate 3) similar to those in Carbon Ribbon and Ribbon Drive mechanism. The purpose of this arrangement is to keep Cam Ratchet Pawl "E" in contact with Release Levers (1) and (2) Plate 2 to prevent Shift Cam (15) Plate 3 from backing up which would allow Cam Ratchet Pawl "E" to drag on Shift Cam Ratchet (7) resulting in clicking noise.

The Shift Cam (15) is Eccentric and is made up in two sizes. One is for .262 motion, the other is for .300 motion Type. The Shift Cam Back Plate (18) is stamped .262 or .300. Actual movement up or down that the Shift Cam stamped .300 transmits to segment is .320, Shift Cam stamped .262 will move Segment .282. The style of Type i.e., .262 or .300 motion will determine which style Cam is used. Yield Spring (16) Plate 2 Mechanism of Segment Shift Crank Linkage permits adjusting of motion, which will be explained later.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
SHIFT CAM MECHANISM

REMOVAL OF SHIFT SHAFT:

NOTE: Remove Motor Unit Complete.

1. Remove Nut (1) and Washer (2) Plate 3 holding Outside Intermediate Pulley (3) (small) to right end of Shift Shaft.

2. Loosen Allen Set Screw (4) holding Inside Intermediate Pulley (5) (large).

3. Loosen two screws holding Collar (6) on right side of Shift Cam Assembly.

4. Remove Yield Spring (16) Plate 2 from Shift Cam Assembly Linkage.

5. Remove two Allen Set Screws holding Shift Cam Ratchet (7) Plate 3 on left side of Shift Cam Assembly.

6. Remove Shift Cam Shaft (8) by pulling to the left on Collar (9) on left end of Shaft as follows:

7. Pull Shaft out a little and remove Intermediate Pulley (3) together with Pulley Key (10) and Metal Washer (11) next to Bearing "B".

8. Pull Shaft out a little further and remove Intermediate Pulley (5) and Motor Belt (13).

9. Pull Shift Shaft further to left and remove Collar (6) and Nylon Washer (14) from Shift Shaft next to Shift Cam.

10. Continue to pull Shaft through Shift Cam Assembly (17) and also Shift Ratchet (7). Remove Ratchet (7) and remove Shift Shaft from the machine. Do not lose Nylon Washer (16) which must be placed between Ratchet (7) and Shift Cam (15).

11. Remove Screw (15) Plate 2, holding Release Levers to left side frame.

12. Hold Release Lever (1) to left slightly and disengage Shift Cam Assembly (17) complete from Stud "A" (upper view) Plate 3.

DISASSEMBLING SEGMENT SHIFT CRANK ASSEMBLY (17) Plate 3

1. Remove Shift Cam Back Plate (18) and carefully slip Shift Cam Assembly (15) out of Segment Shift Crank "D" to keep from losing Clutch Springs and Balls "F".

2. Remove Shift Cam Ratchet Pawl Stop Pin (19) from Cam Shift Assembly (15).

3. It is not necessary to remove Segment Shift Ball Retainer (20) from Segment Shift Ball Clutch Plate (21) to take out Clutch Springs and Clutch Balls "F". Place Assembly on a flat surface and loosen three Segment Shift Crank Screws (22) and carefully remove Clutch Springs and Clutch Balls "F". By removing three Segment Shift Crank Screws (22), both Retainer (20) and Ball Clutch Plate (21) can be removed from Segment Shift Crank "D".

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SHIFT CAM MECHANISM

REASSEMBLING SEGMENT SHIFT CRANK ASSEMBLY (17) Plate 3

1. Place Ball Clutch Plate (21) and Ball Retainer (20) on Segment Shift Crank so their flat sides will line up with flat of Segment Shift Crank "D", and mount to Shift Crank by three Segment Shift Crank Screws (22).

2. Insert one Segment Shift Ball Clutch Spring in dwell of Segment Shift Ball Clutch Plate and then place Clutch Ball to left of Spring. Use same procedure to install the other Clutch Springs and Clutch Balls.

3. To place Shift Cam Assembly (15) in Segment Shift Crank "D", turn Shift Cam Assembly in same direction as it would be rotated by Shift Shaft and at the same time gently press Shift Cam Assembly (15) into Segment Shift Crank "D".

4. Insert Shift Cam Ratchet Pawl Stop Pin (19) in its hole in Shift Cam Assembly (15) so grooved end extends beyond left side of Shift Cam (15). Immediately mount Shift Cam Back Plate (18) on Shift Cam Assembly by two Plate Screws (23) to retain Assembly within Segment Shift Crank.

REPLACING SHIFT SHAFT

1. Hold Shift Cam Assembly (17) Plate 3 (upper view) in your hand with Ratchet Pawl "E" facing upward. Hold Ratchet Pawl clear of Pivot Bushing and place Nylon Washer (16) on top of Pivot Bushing. Place Ratchet (7) with hub facing upward on top of Nylon Washer (16). While holding these parts in this position, slip the eraser end of a pencil through this Assembly. With parts still assembled on pencil, hold Release Lever (1) Plate 2, to left slightly and attach the Shift Cam Assembly to Stud "A" Plate 3 (upper view), leaving the pencil still in the parts.

NOTE: To make the insertion of the Shift Shaft easier, it is better to push the Segment down about 3/4" and block it in this position.

2. Insert threaded end of Shift Shaft (8) Plate 3, through its Bearing "B" in Left Side Frame into Ratchet (7), Nylon Spacing Washer (16) and through Shift Cam (15), being careful not to lose the Nylon Washer (16) while the Shaft is pushing the pencil through these parts.

3. Place Nylon Washer (14) on Shift Shaft next to Shift Cam Back Plate (18). Place Collar (6) next to Nylon Washer.

4. Hold Shift Cam Mechanism from sliding to the right and push Shift Shaft (8) about 3/4 of the way through the machine and put Motor Belt (13) around Shaft. Slide Shaft through a little further and put on large Intermediate Pulley (5) with set screw (4) in Hub on left side. Hold Shift Cam Assembly parts to left and push Shift Shaft so it protrudes outside of Bearing in right Side Frame slightly.

5. Put Metal Washer (11) on Shift Shaft next to Bearing "B". Plate Intermediate Pulley (3) (small) over threaded end of Shift Shaft and push Shift Shaft to the right until Collar (9) limits against Bearing "B" in Left Side Frame.

6. Rotate Shift Shaft and Intermediate Pulley (3) (small) until Key Way slots are aligned and push Key (10) into place. Plate Washer (2) on threaded end of Shift Shaft and put on Nut (1) to hold it in place.
7. Tighten Set Screw (4) in large Intermediate Pulley (5) to flat on Shift Shaft. Hold the Intermediate Pulley (5) by hand and tighten Nut (1) on right end of Shift Shaft (8).

8. The end play in the Shift Shaft is controlled by adjusting Collar (9) on left end of Shaft. The Shift Shaft should be held to the left and the Collar (9) moved to the right after which its screws must be tightened. We did not remove this Collar (9) when the Shift Shaft was taken out, therefore, if the end play in the Shift Shaft was correct, this adjustment should not have been disturbed. Shift Shaft should be free to rotate but should not have more than .005 end play between its right and left Bearings "B".

9. Line up the Shift Ratchet (7) with the hold in the Shift Shaft (8) and replace the two Allen Set Screws. The hole is slightly counter-bored so that the set screws will enter the hole slightly when tightened. Refer to "C" (upper view) Plate 3.

10. Slide Collar (6) next to Shift Cam Assembly. Place .005 feeler gage between the Collar and the Nylon Washer (14). Hold the Collar to the left against the feeler gage and tighten its two set screws.

11. Replace Yield Spring (16) Plate 2 on Shift Cam Assembly Linkage.


14. If the segment was blocked down from normal position when installing the Shift Shaft, remove the blocks.

15. Place Power Roll Pulley Belt on Pulleys.

SHIFT ADJUSTMENTS

The Shift Adjustments are separated into two categories, one dealing with the Shift Mechanism that raises and lowers Type Bar Segment, the other with positioning Type Bar Segment to obtain "On Feet" and "Motion" of Type. Adjusting Shift Mechanism will be explained first.

Before adjusting Shift Power Trip Bell Crank Pull Wire (9) Plate 2, which is first adjustment in the sequence, two primary settings must be made. The high point of Shift Cam Ratchet Lower Release Lever Eccentric (10) must be positioned toward rear of machine. Otherwise Shift Cam Assembly (17) Plate 3 would not be permitted to travel far enough, in which case the Segment would not be held maximum distance downward during a Shift operation.

Before attempting to adjust the Shift Mechanism, adjustments concerning Dip must be previously set as follows:

Position Key Lever Comb to the point where the Type Bar Trip Bellcranks latch under lower trip of Power Arms just before the Key Levers limit on the Up Stop.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
SHIFT CAM MECHANISM

Set the Key Lever Down Stop to the point where the Power Arms trip just before the Key Levers limit on the Down Stop.

SHIFT MECHANISM ADJUSTMENTS

1. Set high point of Shift Cam Ratchet Release Lever Down Stop (8) Plate 2 to front of machine. This is only a temporary adjustment.

2. Adjust Shift Power Trip Bell Crank Pull Wire (9) so Upper Release Lever (1) will release Shift Cam Ratchet Pawl "E" when Shift Key is depressed, and top of Shift Lock Key Cap is approximately even with tops of Key Caps of second row of Keys.

3. Loosen Shift Cam Ratchet Release Lever Down Stop Screw. Position Shift Cam Ratchet Release Lever Down Stop (8) to limit Upper Release Lever (1) at the time Lever releases Cam Ratchet Pawl "E". Tighten Screw. If Stop (8) is too low, Shift Key Lever will be able to travel its full distance without yielding Shift Lock Yield Spring "G" making Shift Key Locks ineffective. If Stop (8) is too high, it will limit Upper Release Lever (1) and prevent releasing of Cam Ratchet Pawl "E" when Shift Key is depressed.

4. Have high point of Shift Cam Ratchet Lower Release Lever Eccentric (10) toward rear of machine. This Eccentric Controls amount of hold Lower Release Lever (2) has on Shift Cam Ratchet Pawl "E", in Shift position. If high point of Eccentric is too low, when Shift Key is depressed the Shift Ratchet Cam Pawl will by-pass Lower Release Lever and Type Bar Segment will bounce. If high point of Eccentric is too high, when Shift Key is released the Lower Release Lever will not release Shift Cam Ratchet Pawl and Type Bar Segment will remain in Shift position. Loosen Shift Cam Ratchet Lower Release Lever Eccentric (10) Screw. Adjust Eccentric (10) to have Lower Release Lever (2) release Cam Ratchet Pawl "E" as quickly after Shift Key Lever begins to raise as possible but at the same time the Lower Release Lever (2) must have a positive hold on Shift Cam Ratchet Pawl "E" when Shift Key is depressed. Tighten Screw.

5. Adjust Right and Left Shift Lock Plates (H) for following condition:
Lock both Shift Key Levers down. Release Locks by depressing Left Shift Key Lever. The Lock on the left should release first and the right immediately after. Make same test by locking both Shift Key Levers down and depress Right Shift Key. The Lock on right should release first and then the left Lock.

NOTE: Adjusting Shift Power Trip Bell Crank Pull Wire (9) will affect Lower Release Lever (2) as well as the Upper Release Lever (1).

"ON FEET" AND "MOTION" ADJUSTMENTS

The capital letters are put "On Feet" and small letters brought into "Motion".

The Segment Shift Bracket Adjustable Plate (11) Plate 2 and Segment Shift Bracket Connecting Link ECCENTRIC (12) permits Type Bar Segment to be raised or lowered independently of Segment Shift Crank Assembly (17), Plate 3 to place capital letters "On Feet".

The Segment Shift Bracket Connecting Link (13) Plate 2 pivots on Segment Shift Bracket Adjustable Plate (11) which permits Type Bar Segment to be positioned by

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Segment Shift Stop Screw (14) to place small letters in "Motion", even though Segment Shift Crank Assembly (17) Plate 3 does not move when Type Bar Segment is raised or lowered by Segment Shift Stop Screw (14) Plate 2.

To better understand the mechanism, perform the following operations, before setting "On Feet" and "Motion". With Shift Key in normal position, turn in and out on Segment Shift Stop Screw (14) Plate 2. Notice that Segment Shift Bracket Connecting Link (13) pivots backward and forward on Segment Shift Bracket Adjustable Plate (11), allowing Type Bar Segment to be raised and lowered without movement of Segment Shift Crank Assembly (17) Plate 3. The Segment Shift Bracket Connecting Link Yield Spring (16) Plate 2 tends to hold Segment Shift Bracket Connecting Link (13) toward rear of machine, this condition plus tension of Shift Balancing Springs keeps Type Bar Segment in contact with Segment Shift Stop Screw (14) when typing small letters. Run Segment Shift Stop Screw in several turns to have Yield Spring (16) yield and notice position of Segment Shift Bracket Connecting Link (13) in relation to Segment Shift Bracket Adjustable Plate (11). Remove Motor Cord from wall plug and turn Motor Switch "On". Depress and lock Shift Key Lever and manually turn Power Roll Pulley. It will be noted, as Type Bar Segment is lowered by Segment Shift Crank Assembly (17) Plate 3 that Yield Spring (16) Plate 2 pulls Segment Shift Bracket Connecting Link (13) to rear of machine and the only way in which Type Bar Segment can now be moved independently of Segment Shift Crank Assembly (17) Plate 3 is by raising or lowering Segment Shift Bracket Adjustable Plate (11) Plate 2 by turning Segment Shift Bracket Connecting Link Eccentric (12).

The high point of Segment Shift Bracket Connecting Link Eccentric (12) should be placed to the rear of machine as a starting point.

NOTE: Check machine for Cylinder and Anvil position before proceeding, if not correct, it must be adjusted.

"ON FEET" ADJUSTMENTS

1. Lock Shift Key down.

2. Make Segment Shift Bracket Connecting Link Screws (two) (17) Plate 2 just friction tight. Loosen Segment Shift Bracket Connecting Link Eccentric Screw (19) and turn Eccentric (12) to place capital letters "On Feet".

3. While holding Eccentric (12) in position tighten Upper Segment Shift Bracket Connecting Link Screw (17). Then tighten Eccentric Screw (19) and Lower Segment Shift Bracket Connecting Link Screw (17).

4. Set Impression Control Dial for light impression, strike off alphabet in caps and check sample for uniform impression top and bottom of characters.

"MOTION" ADJUSTMENTS

1. With Segment in normal position, loosen Segment Shift Stop Screw Nut and position Screw (14) to adjust small letters in "Motion" with capital letters. Tighten Nut and strike off "Motion" sample (HhHhHhHh).
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
RIBBON WIND-OFF MECHANISM

The purpose of the Ribbon Wind-Off Mechanism is to rewind the ribbon onto Left Spool automatically making it unnecessary for the operator to perform this operation manually when a ribbon is to be replaced.

The Ribbon Wind-Off Arm Roll is mounted on Ribbon Wind-Off Arm which pivots on screw in Left Side Frame. When Ribbon Wind-Off Key is pressed, the Ribbon Wind-Off Roll which is in constant contact with Ribbon Wind-Off Power Pulley Hub contacts Ribbon Drive Shaft Wind-Off Pulley which is mounted on left end of Ribbon Drive Shaft, and rotates Shaft to wind ribbon on Spool.

ADJUSTMENTS

1. Position Ribbon Wind-Off Power Pulley Hub on left end of Power Roll Shaft to ride centrally on Ribbon Wind-Off Arm Roll.

2. Locate Ribbon Drive Shaft Wind-Off Pulley on Ribbon Drive Shaft to safely roll on Ribbon Wind-Off Arm Roll when ribbon is winding on either right or left Ribbon Spools.

3. Adjust Ribbon Wind-Off Arm Eccentric Stop so there is .025 clearance between Ribbon Wind-Off Arm Roll and Ribbon Drive Shaft Wind-Off Pulley.

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The purpose of Carriage Return Tape Take-Up Arm Assembly is to reduce the back-lash in Carriage Return Tape between Carriage Return Tape Roller Bracket and swinging member "A" of Carriage Return Tape Bracket.

As noted in drawing, the Tape is on left side of Upper Roll and to right of Lower Roll of Assembly. Also that Tape Idler and Stud have been removed from Carriage Return Tape Roller Bracket. Both Rolls of Carriage Return Tape Take-Up Arm Assembly and Roll of Carriage Return Tape Roller Bracket must be absolutely free.
IMPRESSION CONTROL
TYPE ACTION & MANIFOLD DIAL

PLATE 4
Since there is no need for Sub Lever Link Stops for the Shift and Back Space Mechanism, the only purpose that Power Arm Sub Lever Link Stop Bracket Left (4-10316) (Plate 4) serves as a support for the Sub Lever Link Stop Bracket Assembly. Therefore, the extended portion of the Bracket which was used to hold the Sub Lever Link Stops in machines prior to E-2198100 has been removed.

POWER ARM POWER TRIP BELL CRANKS

Machines above E-2198100 contain new style Power Trip Bell Cranks which are designed to produce a lighter key touch. In an emergency, a new style Power Trip Bell Crank could be used in machines below E-2198100 but it would cause that particular Key for which it is installed to have a lighter tension than the others.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
CARBON RIBBON DRIVE

CARBON RIBBON DRIVE ADJUSTMENTS

1. Adjust Tape Drive Shaft Pivot Arm Adjusting Screw (1) Plate 5 so Tape Drive Shaft Pinion Gear (2) meshes as deep as possible with Carriage Spring Drum Gear Teeth (3) without bottoming. Test all around Spring Drum. (This adjustment is only on machines below E-2198100). Screw (1) is not used on late machines.

2. Turn Pinion Release Link Adjusting Eccentric (4) to have its high point toward bottom of machine. It is through this Eccentric that the throw can be decreased or increased, if need be, after Spring Drum Pinion Release Bell Crank Adjusting Screw (5) has been positioned.

3. Adjust Spring Drum Pinion Release Bell Crank Adjusting Screw (5) to disengage Pinion (2) from Spring Drum during a tabulating operation or when using Carriage Release Levers.

4. The Tape Drive Shaft Gear (10) and Tape Drive Roll Shaft Pinion (11) must mesh as deep as possible and still be free to feed in all positions.

5. Play in Drive Shaft (8) should be held to a minimum by Drive Shaft Collar (9) to prevent Gears (10 and 11) from locking when Pinion (2) is disengaged from Carriage Spring Drum (3).

6. The Tension Roll Assembly (12) must be adjusted to Tape Drive Roll (13) to insure proper feed and prevent "creeping" of Ribbon.

Threads on Tension Roll Post (14) permits vertical adjustment so Flanges (8) on Tension Roll Assembly are in correct relation to guide Ribbon Tape Drive Roll and to turn Post enough to place sufficient tension on Tension Roll to drive Ribbon for correct spacing.
The purpose of the Audible Spool Indicator is to indicate to the operator when the Right Carbon Ribbon Tape Spool is empty.

When in operating position Outer Spool Indicator Lever (1) Plate 6 rides on outer diameter of Ribbon. The Inner Spool Indicator Lever (3) is mounted to same Shaft as the Outer Lever and its movement is controlled by Outer Lever. As the amount of Ribbon decreases, the Outer Lever moves closer to the hub of Carbon Ribbon Tape Spool which permits Inner Lever to contact Audible Spool Indicator Bracket (4). The Audible Bracket pivots on Screw located in Right Side Frame. Just as Right Ribbon Spool becomes empty Inner Lever actuates Audible Bracket and causes Indicator (5) to contact Power Roll Pulley, which creates a whirring noise indicating that Carbon Ribbon Tape supply has been exhausted.

ADJUSTMENTS

The adjustments are very few and are easy to obtain.

1. Indicator (5) is adjusted on its Bracket (4) to contact Power Roll Pulley just before Carbon Ribbon Spool is empty.

2. Outer Indicator Lever (1) must never act as a brake against Tape as this would cause it to break. Check to see that Outer Indicator Lever Spring Clip (2) does not force Outer Lever against Ribbon. This condition can only occur with a full Spool of Tape. The Clip can be formed to keep from forcing Outer Lever against Tape.

3. The Spring Clip (2) must have enough tension on its fingers to hold Outer Lever (1) away from Spool when either a new Tape is being placed on Spool or operator does not have a Tape on machine.
CARBON RIBBON MECHANISM
PLATE 7
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
VISIBLE CARBON RIBBON REWIND SPOOL INDICATOR

The purpose of the Visible Carbon Ribbon Rewind Spool Indicator (1) Plate 7 is to provide a visible means of indicating to operator when Rewind Spool is full to capacity.

The Visible Indicator pivots on its Support Screw mounted in Left Side Cover and is visible through Window (2) in front of Left Tape Spool Cover. When Carbon Ribbon Rewind Spool is not full, the White portion (upper) shows in Window. When Carbon Ribbon Rewind Spool is full, the Tape contacts Extension (A) on rear of Indicator and pivots Indicator so Red portion (lower) appears in Window, indicating that Carbon Ribbon Rewind Spool is full.

ADJUSTMENTS

1. Indicator (1) must be free to pivot on its Support Screw.

2. Extension (A) of Indicator so formed to have Red portion exposed in Window when Rewind Spool is full.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
CARBON RIBBON KICK-OFF MECHANISM

The purpose of the Carbon Ribbon Kick-off Mechanism is to disengage both Carbon Ribbon Drive and Carbon Ribbon Rewind Spool Drive when either a stencil is to be cut or in the absence of a Tape on machine.

When Carbon Ribbon Kick-off Lever Key (6) Plate 8 is pressed, Notch (B) in front end of Lever (7) latches in Manual Kick-off Arm Bracket (8). This positions Lever toward rear of machine. The Kick-off Lever Spool Stop Arm (9) contacts Stud (C) of Carbon Ribbon Tape Rewind Power Pulley (3) and stops Power Pulley from driving Carbon Ribbon Rewind Spool. The rear portion of Kick-off Lever is cammed to the left by Kick-off Lever Cam (10) and disengages Carbon Ribbon Tape Drive Shaft Pinion (13) from Carriage Spring Drum (14).

The Carbon Ribbon Tape Rewind Power Pulley (3), Carbon Ribbon Power Pulley Felt (2) and Power Pulley Friction Spring (4) together with Ribbon Wind-off Power Pulley Hub (1) form a friction clutch. The Carbon Ribbon Rewind Power Pulley (3) is mounted on Threaded Extension (A) of Ribbon Wind-off Power Pulley Hub. The Power Pulley Felt fits between Power Pulley (3) and Ribbon Wind-off Power Pulley Hub (1). The Power Pulley Friction Spring (4) is held against left side of Power Pulley (3) by Power Pulley Nuts (5). The Power Pulley Nuts are adjusted to have Power Pulley Friction Spring force Power Pulley and Power Pulley Felt against Ribbon Wind-off Power Pulley Hub and the three turn as a unit with the Power Roll. The Stud (C) which is located on left side of Power Pulley will contact Stop Arm (9) when Kick-off Lever is latched. The Stop Arm overcomes the tension which the Power Pulley Friction Spring is applying to the Power Pulley and will stop it from turning with Ribbon Wind-off Power Pulley Hub. Since it is by Power Pulley that Ribbon Rewind Spool is operated, the Spool will then stop rotating.

This Kick-off mechanism does not eliminate the need for the Carbon Ribbon Tape Spool Drive Spring (D) as this Spring is still needed to prevent Carbon Ribbon Rewind Spool from turning when the Tape is not being driven by Carbon Ribbon Drive Mechanism.

ADJUSTMENTS


2. Adjust Kick-off Lever Spool Stop Arm (9) to reliably contact Stud (C) of Carbon Ribbon Tape Rewind Power Pulley (3) when Kick-off Lever is latched. The Stop Arm must safely clear Stud (C) when Kick-off Lever is not latched.

3. The Kick-off Cam (10) is positioned to have Kick-off Lever (7) disengage Carbon Ribbon Drive Pinion (13) from Spring Drum (14) when Kick-off Lever is latched. The Cam must permit Pinion to properly engage Spring Drum when Kick-off Lever is not latched.

4. Adjust Power Pulley Nuts (5) to have Power Pulley (3) and Power Pulley Felt (2) turn with Ribbon Wind-off Power Pulley Hub (1) as a unit when Kick-off Lever is not latched.
The purpose of Carbon Kick-off Arm (15) is to dis-engage Carbon Ribbon Tape Drive Shaft Pinion (13) from Carriage Spring Drum (14) as Carriage is returning from yield position beyond Left Margin Stop setting. This prevents the sudden short drives of Tape during Repeat Vertical Line Spacing and Carriage Return operations.

As Carriage yields beyond Left Margin Stop setting, Control Shaft Stop Collar (16) actuates Kick-off Arm (15). The lower end of Kick-off Arm contacts end of Carbon Ribbon Drive Pinion Shaft (12) and moves Shaft to the left which dis-engages Pinion (13) from Spring Drum (14) until Carriage returns from yielding position to Left Margin Stop setting.

The purpose of the Carbon Ribbon Kick-off Arm Stop Collar (17) is to prevent Kick-off Arm from camming off Carbon Ribbon Drive Pinion Shaft which would make Kick-off Arm ineffective in its operation.

ADJUSTMENTS

1. The bottom of Kick-off Arm (15) is so formed that it will dis-engage Carbon Ribbon Drive Shaft Pinion (13) from Carriage Spring Drum (14) when Carriage is yielding beyond Left Margin Stop setting. When Control Shaft (18) is in normal position there should be enough clearance between Kick-off Arm and Carbon Ribbon Shaft to allow Pinion to fully restore to its normal position.

2. Type into Right Margin Stop, so Keyboard is locked, and position Kick-off Arm Stop Collar (17) so there is approximately .030 clearance between it and Kick-off Arm (15).

NOTE: This adjustment is very important as it can limit movement of Control Shaft if Collar (17) is set too close to Kick-off Arm.
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
TYPEWRITER PARTS LIST

4-10121  Tape Spool Cover Bracket Washer
4-10148  Margin Stop Plate Mounting Screw
4-10161  Key Lever Line Lock Pawl Spring
4-10504  Power Roll
4-10529  Power Roll Gear

4-10544  Shift Shaft Collar Set Screw
4-10552  Motor Intermediate Pulley 1725 R.P.M.
4-10554  Power Roll Intermediate Pulley
4-10555  Power Roll Pulley
4-10556  Power Roll Belt

4-10560  Power Roll Intermediate Pulley Key
4-10561  Power Roll Intermediate Pulley Nut
4-10566  Power Roll Intermediate Pulley Washer
4-10581  Power Roll Shaft
4-10674  Top Cover Apron Bracket Left

4-10950  Top Cover Apron Bracket Screw, Left
4-10954  Type Bar Segment
4-10969  Segment Shift Bracket Screw
4-11063  Carbon Ribbon Roller Guide Bracket Mounting Screw Washer
4-11081  Ribbon Spool Shaft Bracket

4-11151  Tape Spool Cover Grommet
4-11172  Tape Rewind Spool Shaft Assembly
4-11173  Tape Rewind Spool Disc Outer Complete
4-11212  Carbon Ribbon Roller Guide Bracket Right Assembly
4-11213  Carbon Ribbon Roller Guide Bracket Left Assembly

4-11222  Ribbon Drive Ratchet Assembly
4-11244  Carbon Ribbon Tape Spool Right Assembly
4-11227  Carbon Ribbon Tape Spool Disc Outer Right
4-11228  Carbon Ribbon Tension Roll Post
4-11231  Carbon Ribbon Tension Roll Complete

4-11232  Carbon Ribbon Tape Drive Shaft Pinion
4-11233  Carbon Ribbon Tape Drive Shaft Pinion Release Link
4-11234  Carbon Ribbon Tape Drive Roll Shaft Bracket
4-11235  Carbon Ribbon Tape Drive Roll Shaft
4-11236  Carbon Ribbon Tape Drive Roll

4-11237  Carbon Ribbon Tape Rewind Spool Drive Pulley Bracket Assembly
4-11238  Carbon Ribbon Tape Drive Roll Shaft Pinion
4-11240  Carbon Ribbon Tape Rewind Power Pulley
4-11241  Carbon Ribbon Tape Rewind Idler Pulley Assembly
4-11244  Carbon Ribbon Tape Rewind Spool Drive Pulley

4-11245  Carbon Ribbon Top Cover Detent Left
4-11246  Carbon Ribbon Tape Shaft Pivot Arm
4-11247  Carbon Ribbon Tape Rewind Spool Drive Pulley Bearing Support Assembly
4-11248  Carbon Ribbon Tape Drive Shaft Gear
4-11249  Carbon Ribbon Tape Drive Ball Clutch Assembly
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
TYPEWRITER PARTS LIST

4-11252 Carbon Ribbon Tape Drive Shaft Collar
4-11253 Carbon Ribbon Tape Shaft Pivot Arm Screw
4-11254 Carbon Ribbon Tape Shaft Pivot Arm Spring
4-11255 Carbon Ribbon Tape Rewind Spool Driving Spring
4-11276 Ribbon Drive Shaft Wind Off Pulley

4-11277 Ribbon Wind Off Power Pulley Hub
4-11278 Ribbon Wind Off Arm Post Screw
4-11280 Ribbon Wind Off Arm Eccentric Stop
4-11281 Ribbon Wind Off Arm Spring
4-11286 Ribbon Wind Off Arm Complete

4-11287 Ribbon Wind Off Key Cap
4-11287 Carbon Ribbon Kick Off Lever Key Cap
4-11288 Ribbon Drive Shaft
4-11290 Carbon Ribbon Kick Off Arm
4-11291 Carbon Ribbon Kick Off Arm Screw

4-11292 Carbon Ribbon Kick-Off Arm Bracket Manual
4-11294 Carbon Ribbon Kick Off Lever Cam
4-11295 Carbon Ribbon Kick Off Lever Guide Stud
4-11299 Carbon Ribbon Kick Off Lever Spool Stop Arm
4-11301 Carbon Ribbon Kick Off Lever Spring Front

4-11302 Carbon Ribbon Tape Drive Shaft
4-11305 Carbon Ribbon Rewind Spool Indicator Visible
4-11306 Carbon Ribbon Rewind Spool Indicator Support Screw Visible
4-11307 Carbon Ribbon Spool Indicator Window
4-11308 Spool Indicator Audible

4-11309 Spool Indicator Bracket Audible
4-11310 Spool Indicator Pivot Screw Audible
4-11311 Spool Indicator Spring Screw Audible
4-11312 Spool Indicator Fulcrum Screw Audible
4-11315 Spool Indicator Lever Outer Audible

4-11316 Spool Indicator Spring Audible
4-11317 Spool Indicator Lever Inner Assembly
4-11318 Spool Indicator Lever Spring Clip
4-11319 Spool Indicator Lever Tension Spring
4-11398 Ribbon Carrier Complete ½" Ribbon

4-11405 Ribbon Carrier Complete 9/16" Ribbon
4-11973 Tabulator Blade Latch Restoring Bell Crank
4-11974 Tabulator Blade Latch Restoring Lever
4-11975 Tabulator Blade Bell Crank Actuator Complete
4-12281 Segment Shift Bracket Connecting Link Assembly

4-12282 Shift Power Trip Bell Crank Pull Wire Assembly
4-12284 Segment Shift Crank Assembly
4-12285 Shift Cam Assembly .262 Motion
4-12286 Shift Cam Assembly .300 Motion
4-12287 Shift Cam Ratchet Pawl Stop Pin

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<td>2-40079</td>
<td>Shift Cam Ratchet Release Lever Lower Eccentric Screw</td>
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<td>Spring Drum Pinion Release Bell Crank Adjusting Screw</td>
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<td>2-40088</td>
<td>Carbon Ribbon Tape Drive Shaft Pivot Arm Adjusting Screw</td>
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<td>Carbon Ribbon Tape Drive Roll Set Screw</td>
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<td>Carbon Ribbon Tape Rewind Spool Drive Pulley Set Screw</td>
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<td>Carbon Ribbon Roller Guide Bracket Assembly Mounting Screw</td>
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<td>Ribbon Spool Shaft Tension Spring Collar Set Screw</td>
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<td>Carbon Ribbon Kick Off Arm Bracket Manual Mounting Screw</td>
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<td>Margin Stop Rack Screw</td>
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<td>Spool Indicator Audible Screw</td>
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<td>Carriage Return Tape Take Up Arm Spring Screw Stud</td>
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<td>2-40369</td>
<td>Ribbon Spool Shaft Spring</td>
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<td>2-40409</td>
<td>Carbon Ribbon Tension Roll Post Nut</td>
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<td>Carbon Ribbon Tape Drive Shaft Pivot Arm Adjusting Screw Nut</td>
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<td>Spring Drum Pinion Release Bell Crank Adjusting Screw Nut</td>
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<td>2-40418</td>
<td>Carbon Ribbon Spool Indicator Fulcrum Screw Nut</td>
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NEW STYLE REMINGTON ELECTRIC TYPEWRITER
TYPEWRITER PARTS LIST

2-40425 Carbon Ribbon Tape Drive Shaft Pinion Release Link Pivot Screw Nut
2-40475 Segment Shift Clutch Ball
2-40861 Ribbon Spool Shaft Tension Spring Collar
2-40971 Carriage Return Tape Take Up Arm Spacer
2-40972 Spool Indicator Fulcrum Screw Washer Audible

2-41142 Carriage Return Escapement Loose Dog Release Cam Follower Eccentric
2-41799 Type Bar Guide
2-42310 Ribbon Spool Shaft Pinion
2-42895 Segment Shift Ball Clutch Spring
2-46501 Escapement Loose Dog Release Assembly

2-46508 Carbon Ribbon Tape Drive Shaft Support
2-46537 Ribbon Driving Gear
2-46565 Carbon Ribbon Tape Drive Shaft Pinion Release Link Pivot Screw
2-46613 Ribbon Spool Shaft Assembly
2-47880 Margin Stop Rack Adjusting Bracket Eccentric

2-48061 Shift Cam Ratchet Set Screw
2-48062 Margin Stop Rack Adjusting Bracket Eccentric Screw
2-48068 Carriage Return Line Lock Lever Arm Screw
2-48072 Margin Stop Rack Bracket Mounting Screw
2-48072 Margin Stop Rack Adjusting Bracket Screw

2-48120 Margin Stop Indicator Screw
2-53327 Segment Shift Bracket Adjusting Plate Eccentric
2-53918 Carriage Return Tape Take Up Arm Spring
2-56013 Segment Shift Bracket Adjusting Plate Eccentric Screw

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CARBON RIBBON KICK-OFF MECHANISM
CARBON RIBBON SPOOL AUDIBLE INDICATOR
FIG. 2
TOOL FOR "TYPE ON PLATEN" "TYPE BAR OFF ANVIL"

FIG. 3
TOOL FOR "TYPE OFF PLATEN" "TYPE BAR ON ANVIL"

FIG. 4
TOOL FOR "OFF SETTING TYPE"

FIG. 5
UNIVERSAL TYPE SOLDERING GAGE ST-40173

FIG. 6
STARRETT NO. 1 ST-40087

FIG. 7
ST-96292

TYPE ALIGNMENT
When the customer purchases a new machine the operator notices the improvements of various features, ease of operation etc. However, the party responsible for the actual purchase of the machine expects to see considerable improvement in the appearance of "LETTERS" he sends out to represent his "BUSINESS".

"LETTERS" are sales representatives for a business. A shabby looking letter is like sending a shabby dressed salesman out to solicit business - - Other businesses get the impression that the concern being represented is not reliable or is sliding backward.

Since "ALIGNMENT" is most important to our customers and salesmen, it is felt that more time should be devoted to this subject.

To start off the discussion regarding alignment, let's consider that we are overhauling a machine about 5 or 6 years old and that we have reached the point where we are ready to consider adjusting and improving the alignment.

First of all, there are numerous items that affect general alignment. These items, of course, should be checked carefully before using regular alignment tools.

They are as follows:

1. Segment shift rocker free but no end play between pivot screws.
2. Segment free in both raceways without end play (upper & lower position).
3. Escapement rocker body free, no end play between pivot points.
4. Letter spacing rack properly meshed with pinion, no apparent wear of letter spacing rack.
5. Escapement wheel pivot screw and nut tight.
6. Platen free to spin but no end play. (Feed Rolls and Detent Released)
7. Check type bar fulcrum wire for grooves, also hole in type bar for wear at fulcrum point.
8. Check heel on type bar that enters type bar guide to see that it is not worn and has not been filed or stoned.
9. Check type bar for sloppy fit in slot of segment.
10. Carriage tight but free full length writing line and proper spring tension.
11. Type guide properly centered and not worn.
12. Platen Locks checked for proper adjustment.
13. Check machine for even impressions with Dial set at #1.
14. Check and adjust Cylinder and Anvil position as follows:
   Place one sheet of paper in machine. With Type Bar raised to Cylinder and with finger pressing lightly against the Anvil Position (do not have finger
NEW STYLE REMINGTON ELECTRIC TYPEWRITER
TYPE ALIGNMENT

above Anvil Position) place a strip of paper between the type bar at its Anvil Position and note bite the Type Bar has on the strip of paper by pulling on paper strip lightly. Release Type Bar and place this strip of paper between the ribbon and the paper in carriage, then press lightly again on the Type Bar with finger at Anvil Position and note the amount of bite or hold that the face of the type has on strip of paper at the Cylinder Position. There should be equal bite or hold at both Cylinder and Anvil Positions. If there is bite at the Cylinder Position and none at the Anvil Position, it indicates that the carriage is located too far forward. Adjust lower carriage bed rail eccentrics moving carriage backward evenly on both sides until you have equal bite at both the Cylinder and Anvil Positions.

NOTE: It is advisable to check a couple of type bars on the extreme right and left sides of the segment, also a couple of type bars in the center of the segment to see that this condition is general and NOT just prevalent on one type bar.

If the above has been checked carefully and adjustments are correct, we are now ready to tackle the job of improving alignment.

The instructors will show each class by testing sample of alignment on your machines, the correct sequence of properly aligning a machine, also how to select the correct aligning tool for the sample of alignment to be corrected.

We in the field do not have to do enough aligning to become really experts at it. However, we are faced frequently with a customer or Salesman that demands perfection.

We all know that alignment can be a time consuming job on some machines unless you adopt a systematic method of approaching the problem -- one can go around in a circle without showing much progress toward improving the print work.

We expect each of you men to pass on the information to personnel under your supervision and also give each man the Alignment Quiz #6, Item VIII on your agenda.

For more details and reference to alignment refer to pages 50 through 56 in Mechanical Instructions for Remington Standard Typewriter SM-93.