

CUSTOMER ENGINEERING

# news LETTER

January 31, 1956

## OUR NEW LOOK

Ever since its inception back in July, 1953,

The ET News Letter has received tremendous Field response.

News items furnished by the Field have benefited the

Entire Customer Engineering Organization and we are grateful!

We hope you like our 'New Look' and we will do our best to

Supply you with the type of news you can use.

Let's all work together in the new year, making every

Effort to improve the News Letter over any previous year.

This can be done only through the combined efforts of

The Field and Plant. Considerable benefits, proven by

Experience, can be derived through Suggestions and the

Reassurance --- of a job 'well done'!

MONTHLY SUGGESTION AWARD  
RELEASE DATE CHANGE

Effective January 1956 and thereafter, the Field and WHQ Suggestion Award releases will be made on or about the 15th of each month instead of at the end, as has been the practice.

Additional information showing the description of each award winning suggestion will also be given in the award listing sent for posting in all Field and WHQ offices.

You can help us expand these releases!

NOTE: Beginning January 1, 1956 all suggestions pertaining to the typewriter will have a 'T' prefix on the suggestion number.

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FLOATING INTERPOSER CAGE

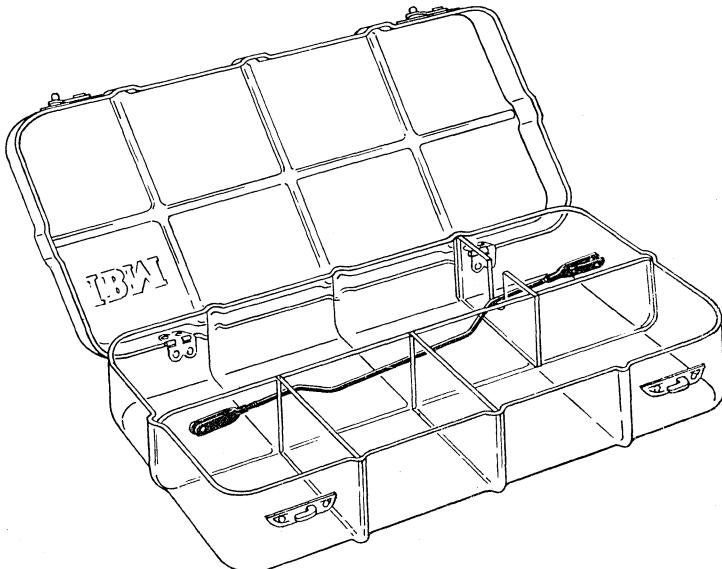
Three-unit interposers are now being equipped with a spring of greater tension effective with Executives above approximate serial #134144. Use of this spring will eliminate the possibility of the three-unit interposer creeping forward occasionally resulting in an extra unit of space following a two-unit operation. The improved spring is available under part #1109670 (price .10) and may be ordered from Poughkeepsie as required. Add this spring number to ET CEM #425, and Parts Price Lists.

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### PARTS BOX

The large plastic parts box can be made to accommodate long links by cutting a hole or, preferably, a slot in one of the plastic partitions.



The cut can easily be made by using a pen knife or razor blade.

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### CE SERVICE CODE REVISIONS

The following revised definitions of Customer Engineering Service Codes 22, 30, 31 and 38 replace those currently contained in the CE Service Code Folder, form 10-4112.

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Code 22 Discontinuance of Equipment

EAM Disassembling machines, supervising packing and completing Discontinuance Report prior to shipment of machine to other field location or return to Plant.

The above service code was formerly Service Code 30. With this change in numbering, Service Code 30 will remain unassigned.

Code 31 Sales Change - Installed Machines

EAM Installation or discontinuance of Sales features on installed machines after first 120 days of installation.  
Refer: Codes 38, 41

ET-TE Change of machine specifications required by the customer and authorized by the Branch Manager. No charge to customer.  
Refer: Codes 26, 38

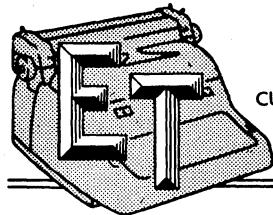
Code 38 Equipment Order Changes - New Machine

EAM Installation or discontinuance of Sales features on installed machines within 120 days of installation.  
Refer: Codes 31, 41

ET Installing attachment or making specification changes ordered by customer. Billable by Plant.  
Refer: Code 29

Service Code 38 has been expanded to include EAM in addition to ET. This service code will be recoverable in both divisions.

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CUSTOMER ENGINEERING

# news LETTER

March 2, 1956

## DON'T LIVE WITH TROUBLE

It is extremely important that everyone be sensitive to troubles which may result in eventual customer complaint and dissatisfaction. It is important that our communications be strengthened in this respect. Whenever machine performance is not responding to your efforts in the normal manner, do not hesitate to communicate promptly with your immediate Supervisor. Assistance should always be requested in advance of the time when machine performance may deteriorate to the point where our customers find it necessary to complain.



We are sure that you do not want to 'live with trouble' but prefer to live with customers who are satisfied because we were dissatisfied first and did something about it.

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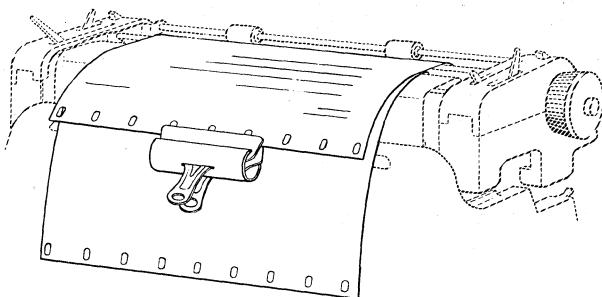
### KEY BUTTON REMOVAL

The Segment Pick, Tool #9900004, can be used to remove the new style key button, part #1105000, from below. The new key buttons have a circular hole which may break if removed with a screwdriver.

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### OFFSET PAPER MASTERS

Some heavy stock offset paper masters have a tendency to bulge, particularly at the top. This causes the master to drag on the paper bail shaft and/or line gage card holders resulting in smudged copy. This condition can be alleviated by weighting the master at the leading edge. As illustrated, a heavy paper clamp works very effectively in accomplishing this.



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### WIRE BOUND MANUALS

To avoid personal injury or tearing of clothing due to the exposed ends of the coil on wire bound manuals, form the cut-off ends back under the coil which will serve as a guard.

\* \* \* \*

### ET FIRST IN '56

We have been informed that the top Field Suggestion award for January 1956 was shared by Mr. W. Gray, ET Field Supervisor in Detroit and Mr. G. I. O'Brien, former ET Field Supervisor, now in the Detroit ET Sales Department. Our congratulations to these men!

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### SPRING STUD CHANGE

The diameter of the tenon of the shift toggle spring stud, part #1071461 L. H. and #1071462 R H , has been increased to insure a stronger part. Replacement of spring studs on Standard ET's below approximate serial #427926 or Executives below approximate serial #134633 will necessitate enlarging the hole in the side frame. Use a #22 drill for this purpose.

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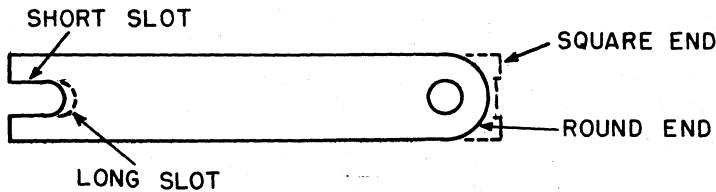
### SEGMENT GUIDE SPRINGS

The current ET Parts Catalog (Shift Mechanism) and ET Parts List and Reference Material Booklet (Page 23) provides part numbers for the various types of segment guide springs used in Model A and B ET's. Due to differences in dimensions and design, it is most important that the proper spring be used. (See chart) Springs carried by the Customer Engineer should be packaged separately, or clearly marked, to avoid mixing.

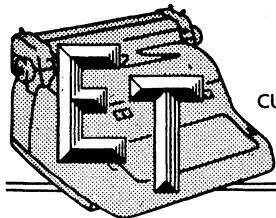
Several changes are now in effect which should reduce spring breakage considerably. The depth of the slots has been reduced to allow more stock between the slot and the area where flexing occurs. The rear shim (#1077799) is rectangular to equalize the strain across the slotted area of the spring. Front shims (#1104493) are of a circular slotted design. When replacing segment guide springs, the rear rectangular shim should be installed wherever the former partially round shim is found.

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WHERE USED				DESCRIPTION *			
Serial No.	Model	Seg. Supp.	Upper or Lower	Part No.	Slot	Hole End	Form
Above 169156	Std. & L. P.	Cast	U & L	1107959	Long	Round	None
Above 22300	Exec.	Cast	U & L	1100980	Long	Round	1/8"
90000 to 169156	Std. & L. P.	Cast	U & L	1071718	Long	Round	1/16"
Prior to Spring Rest	Std., L. P. Exec.	Cast	L	1072934	Short	Round	None
Prior to Spring Rest	Std., L. P. Exec.	Cast or Steel	U	1073870	Short	Square	3/32"
Initial Model A	Std., L. P. Exec.	Steel	L	1071719	Short	Round	1/16"



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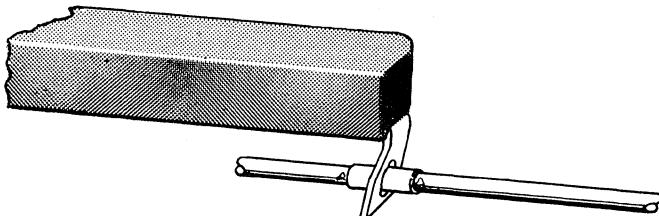
CUSTOMER ENGINEERING

# news LETTER

March 30, 1956

## SPACE BAR BRACKETS

Here is a method that may be employed to reduce space bar noise in case of equalizing rod rebound. Form the R. H. space bar bracket to one side to reduce clearance to the plastic bushing. The L. H. bracket slot may be closed slightly if required. Be certain the space bar does not bind as a result of these forming operations.



## FLASH

Reports have indicated that the two-unit space bar may cause an escapement of three units if depressed immediately after operation of a three-unit type bar. This has occurred only with the floating interposer mechanism. Before making any changes, be certain that the heavier spring (1109670) has been installed on the three-unit interposer. (Serials 125846 to 134144 did not have this spring installed at the Plant.) Lengthen the link between the space bar cam and the escapement lever end plate to cause the escapement to trip at the high point of the cam. Interposer overthrow after the escapement has been tripped by the space bar cam should be kept to a minimum.

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Adjust the three unit interposer bell crank link to cause three-unit selection when the type bar is 2/3 of the distance to the platen rather than 1/2 the distance. Check operation of the three-unit space bar following the previous adjustments.

\* \* \* \*

### CARRIAGE STEEL ROLLERS

An improved type of steel is now being used in carriage steel rollers, and the thickness of the roller wall has been increased. These changes provide more impact resistance. It was important to include the improved rollers in typewriters as soon as possible to reduce breakage during shipment, but a quantity of the former rollers will be used for field replacements until stock is depleted.

\* \* \* \*

### MODEL B DESK MOUNT CLIPS

The left hand typewriter desk mount clip should be pushed on only as far as the first notch, not to the large hole in the end of the slot. This will prevent interference with the driven belt.

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### ET DIRECT-TO-PLATE ALIGNMENT

Formerly all ET's ordered for Direct-to-Plate alignment were shipped with a #1 platen, acetate ribbon, and an IBM Backing Sheet. This was done temporarily to acquaint our personnel and customers with this improved method of preparing high quality masters.

Typewriters shipped for Direct-to-Plate Alignment now will include only the #1 platen. The local Sales Department will sell the customer acetate ribbons and IBM Backing Sheets to complement the application.

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### MODEL A FEED ROLL RELEASE LEVER

When replacing a Model A feed roll release lever, you may find it convenient to replace the platen after removing the L. H. carriage end cover. The actuating shaft and feed roll tension springs will be held in place while the feed roll release lever is replaced.

\* \* \* \*

### SPACE BAR HEIGHT

If a customer experiences difficulty with the space bar being too low in the repeat position and all adjustments are in order, it may be mounted higher. Insert washers (suggested part 1090047) between the space bar and space bar brackets.

\* \* \* \*

### MODEL A DEFLECTOR SUPPORT

The deflector support, part 1100745, is no longer available. It has been replaced by an improved support, part 1260163 which may be installed wherever the former part was used. All records should be corrected to this change.

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### FLOATING INTERPOSER CAGE

The spring bracket of the floating interposer cage is part of the interposer cage and is hardened. Forming this part to change interposer spring tension should not be attempted as it may result in breakage.

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## STANDARD PIN FEED PAPER RELEASE LEVER SPRING

Failure of the paper release lever spring (CEM #433) to stay in place may be overcome in many cases by installing it upside down. Remove the projection at the rear of the spring if it contacts the carriage end cover.

Be sure that the spring cannot move far enough to the right to become disengaged from the paper release lever.

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## EXTRA MARGIN STOPS

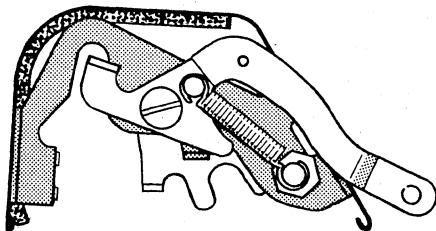
Extra margin stops requested on special ET orders will be shipped with the typewriter. They may be field installed to match the customer's application.

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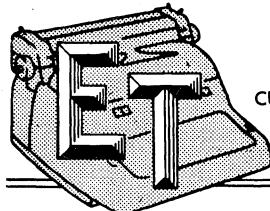
## STANDARD PIN FEED CAM ANCHOR ROD

A tendency for the Model B cam anchor rod to lift out of the pin wheel yokes may be caused by a bind in the pin wheels. If the pin wheels are free of binds and the cam anchor rod still comes out of the yokes, additional tension may be applied to it in the following manner:

1. Replace the two paper table mounting plate screws (#196299) with two of the studs for mounting the rear line lock bell-crank to the left side frame (part #1096742).
2. Remove the bottom of the cam anchor rod springs from the paper table mounting plates and hook them in the slot of the studs installed above.



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CUSTOMER ENGINEERING

## NEWS LETTER

May 10, 1956

# A B C

ALWAYS BE CAREFUL

While engaged in your daily work it is necessary to realize the importance of all of the safety rules. Remember--Presence of mind means Absence of accidents.

While servicing machines, place the tool bag under the desk or in a location that will prevent someone from tripping over it.

When appropriate, wear your safety glasses. Smarter guys protect their eyes.

When working with the electrical parts, unplug the machine--play safe.

While driving your car from one office to another on service calls, don't gamble in traffic! The cars may be stacked against you.

Inspect your tools (screw drivers, punches, wrenches and pliers) for wear on the working surfaces. A good tool allows you to work faster, better and safer.

Why overload your tool kit? Remember a strong back is a pleasant companion to a strong mind. Take good care of yours.

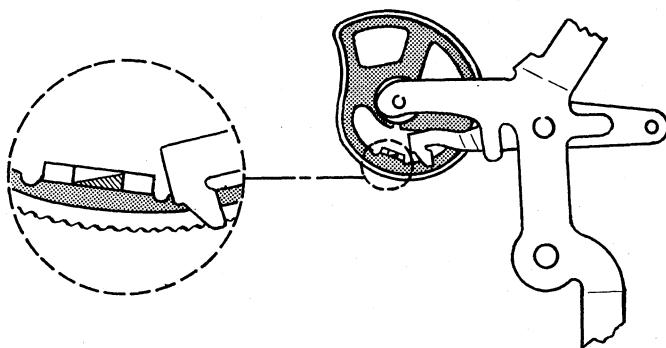
Report all accidents to your Supervisor or Manager. No matter how minor, give every cut and scratch the proper medical care. Injuries are painful and costly. A Little Care Makes Mishaps Rare.

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### CARRIAGE RETURN CAM LOCK-UP

It has been found occasionally on special machines, such as Toll Billers and Partial Carriage Return typewriters, that operator timing can cause carriage return cam lock-up. This lock-up occurs if the carriage return key is operated at the precise instant the cam lug is in the path of the non-repeat lug of the release lever. The symptom of this trouble is a cam that is found locked up because the non-repeat lug of the release lever is engaged on the end of the cam lug. To overcome this situation, the lug may be ground as shown. Remove the triangular shaded area in the illustration. This helps the cam to be moved back into the power roll and prevents this lock-up. The most practical method of accomplishing this is with a small electric hand grinder with a flat abrasive disc.



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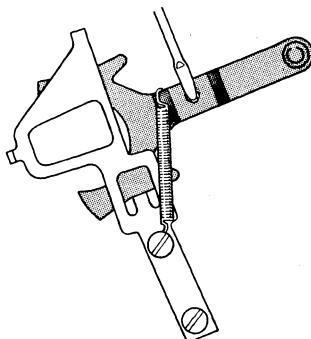
### UNIVERSAL BAR

A new style universal bar incorporating a fiber washer under the rivet heads of the front spring is now being field-tested on 5,000 machines. It is hoped that this new method of riveting the front spring will completely eliminate broken U bars. If you should encounter trouble with any of these parts in your territory, please inform the Plant Customer Engineering Department and send the broken part with serial number of ET from which part is removed to us promptly.

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### "BEATING THE SHIFT"

When all adjustments are correct but trouble persists, service calls resulting from the operator 'beating the shift' may often be solved in the following manner. First, remove the right hand shift key lever spring. Second, attach a cam spring, part #1107795, from the top of the pusher lever, (in front of pusher link) down to the top screw of the pusher retainer. It will be necessary to form one loop of the spring to hook over the pusher lever.



\* \* \* \*

### CUSTOMER \$AVING\$

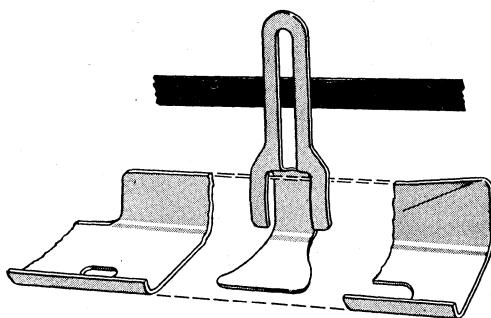
As you may have noticed in a recent addition to the Parts Catalog, a replacement core and rubber is available for the Card Positioning Platen. This makes it possible to replace the rubber without extra expense for the other parts. Bill of Material #1270689 consists of a 12" #1 core and rubber assembly. Transfer the R.H. knob, card holding blade, card stop pin, and all parts on the left end of the replaced platen to the new core and rubber assembly. It will not be necessary to return the used core and rubber to Poughkeepsie as these parts can not be used again.

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### ACETATE RIBBON FEED

After an acetate ribbon has been struck by several type bars it assumes a static charge and may cling to the platen; sometimes causing smearing and erratic ribbon feed. In order to overcome this difficulty, a pin feed finger, Part No. 304786, may be formed and attached to the left side of the front rail dust cover, as shown in the illustration. Locate it above the segment guide spring. This will prevent the ribbon from clinging to the platen and improve acetate ribbon performance.



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### IMPORTANT: RECONDITIONED PLATENS

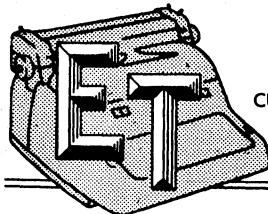
In order to expedite the shipping of reconditioned platens to the field, it is necessary to return all used platens, (taken in exchange for reconditioned platens), to the plant immediately. A continuous return of used platens is vital to the success of the platen reconditioning program.

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### ADDITIONAL INFORMATION

On page 5 of Customer Engineering Memorandum #425, under Machines Affected, add: "serial #134373(1/45), "after: "serial numbers for 1/45 escapement will be furnished later".

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CUSTOMER ENGINEERING

# NEWS LETTER

June 8, 1956

## READYING FOR 'M' DAY

It won't be long now before the big move will be under way--- moving ET from Poughkeepsie to Kingston. The distance is relatively short, about 25 miles, and packing up, loading, unloading, and unpacking has been planned for many months.

The Kingston ET Plant is progressing on schedule. At this writing, the floors have been installed and the interior construction is nearly complete. From the outside, the Plant appears to be almost finished. Attractive appearance --- long low lines in plate glass, modern buff brick with aluminum trim, and to make the setting even more attractive, Mother Nature provides the Catskills as an appropriate background.



The move is planned down to the smallest detail. Thanks to the experience gained in making the pilot assembly line move from Poughkeepsie to Kingston early last Autumn. That move also had plenty of planning behind it and the results were most gratifying.

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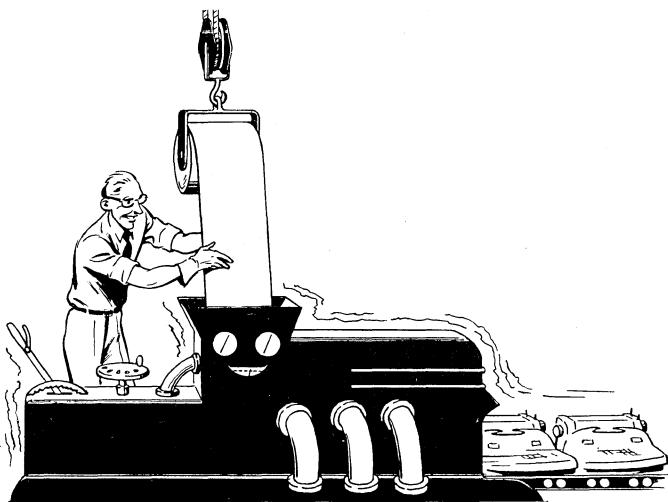
Speaking of planning, the Manufacturing people had the "inside track" on the very early plans to move ET to Kingston as long ago as two years. They were given the green light at that time to start recruiting assembly personnel from the area known as the "Kingston Sector". They began quietly but earnestly hiring new IBM people for ET Assembly who were residents of Kingston and nearby communities. These people were absorbed into the assembly organization in groups of appropriate size for the close supervision necessary to the training of assembly experts.

As the Kingston people were absorbed, the Poughkeepsie people who did not wish to go to Kingston were given comparable jobs and absorbed into other divisions of the business. We doff our hats in tribute to this outstanding example of good planning.

Actual moving began shortly after the first of May. At first, service departments such as the Personnel, Timekeeping, Stationery Stores, etc. moved into their new shining quarters. Other departments are now in the process of moving and we expect the entire move to be completed by August, 1956. The biggest single move, of course will be the Assembly operation. Each move, including Assembly, will take place over a weekend with few exceptions. For example, some of the larger pieces of machinery can be moved over the highways only during the middle of the week because of the normal increase in use of highways by weekend motorists. Parts produced by these machines will be stock-piled prior to the move to provide for this exception.

Many of the ET IBM'ers have purchased homes and moved to Kingston. So you see, to many persons, moving to Kingston will be actually moving home.

Automation is the big new feature of the Kingston ET Plant. The Manufacturing Engineers have really come through with some marvelous new machines which will take the drudgery out of typewriter making. Interior appearance of the Plant by tasteful use of color dynamics will lend a cheerful and attractive atmosphere in keeping with our colors available in the ET line.



Our neighbors in Kingston, the Military Products Division people, are readying their welcome mats for us. They are the "old-timers" in Kingston, having recently celebrated their first anniversary of occupancy of their new building. They have a first-class IBM Newspaper going great guns and know their way

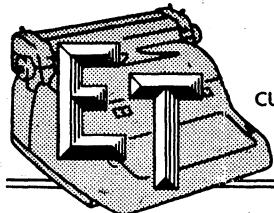
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around remarkably well. Indications are that IBM has definitely taken its place in Kingston civic and social life contributing, as usual, by participation in activities of the community and for the community good.



Prior to the move to Kingston from Poughkeepsie, there will be a formal announcement which will include an accurate schedule for the moving of those departments with which the field is most concerned; such as, Order Department, Customer Engineering Department, field parts stores, etc.

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CUSTOMER ENGINEERING

# news LETTER

June 29, 1956

## CONGRATULATIONS!

--- To Mr. F. H. Dempsey, ET Customer Engineer of Wilmington. We're proud of the fact that Frank's award qualified him for the May Top Award Winner, nationally!

Frank's idea was in connection with the cam lever assemblies. He suggested that all letter cams be made so that they could be used interchangeably in either Standard or Executive Models. This eliminated the necessity of stocking 44 extra parts.

Incidentally, did you know that all suggestions dealing with the ET are handled by the new ET Suggestion Committee? This committee's headquarters are in Kingston. Any suggestion dealing with Electric Typewriters, regardless of the location from which it is submitted, will be their responsibility. This is a great step forward in the campaign to furnish better suggestion answers quicker.

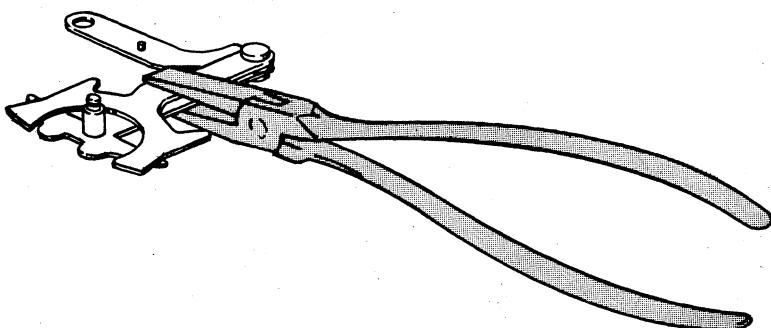
## RIBBON FEED FAILURE

In response to the numerous complaints from Customer Engineers regarding ribbon feed failure as a result of the ribbon feed cam not being held tight enough on the power roll, the spring that supplies this tension is being relocated. The Assembly Dept. is now hooking it on the cam side frame above the hole normally used. This is a temporary measure. A stronger spring will be installed on this cam here at the Plant in the near future.

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## BIND IN SHIFT MECHANISM

Looseness in the pusher and lever assembly, especially in the rivet, may permit the assembly to become locked. This results in the T member hanging on the pusher. If you should encounter this condition, remove the pusher and lever assembly and form as illustrated. This will prevent lock up. This condition is being corrected here at the Plant.



## OPERATIONAL CAMS

We have been notified that the lubricant used by the vendor on operational cam pivot bearings had been drying to a certain extent due to an improved method of assembly called "hot upsetting" of the ends of the cam shaft. A change of lubricant overcame this trouble. If you encounter any machines with sluggish cams manufactured previous to the lubricant change, we recommend that a drop of No. 6 oil be added to the bearing.

## CARBON RIBBON TAKE UP MECHANISM

Currently all typewriters assembled with the Carbon Ribbon mechanisms have the former ball bearing style take up spool arrangement. The sintered bronze bearing magazine plates (Part No. 1109636 and 1109892) have been removed from production. They have been replaced by the ball bearings and hub formerly used. The former shaft and spool flange assembly is also required.

It was found that the tension of the heavy spring belt could introduce a bind in the bronze bearing which prevented spool rotation. In some cases noise was a problem.

If trouble is encountered with bronze bearing magazine plates now in the field, replacement is suggested. Part numbers shown in the Parts Catalog are correct.

## LUBRICATION

Because of widespread reporting that oil was getting on paper, the Assembly Dept. has been lubricating the carriage of all ET's with a mixture of No. 17 grease and IBM Cleaning Fluid. The reason for this type of lubrication is that the cleaner allows the grease to be fluid enough to flow freely into the various close fitting parts and then evaporates, leaving a thin film of grease on the working surfaces. This eliminates necessity of using excessive amounts of grease. The thin film of grease will not migrate and get on paper or other typing materials. If this type of lubricant is used in the Branch Office, we recommend that IBM cleaning fluid and No. 17 grease be mixed in the ratio of 3 pints of IBM cleaning fluid to 1 pound of No. 17 grease or similar lesser proportions. DO NOT USE ANYWHERE THAT YOU WOULD NOT NORMALLY USE STRAIGHT NO. 17 GREASE.

NOTE: This mixture should be agitated occasionally to prevent separation of the solvent and lubricant.

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### PIN FEED PLATEN SCREW

Occasionally the pin locating plates on Pin Feed Platens become loose due to the inability to properly tighten the round head screw. It has been found that the Hex Head Screw, Part No. 1100951, now used to attach the adjusting plate to the typebar universal bar assembly may be used as a substitute for this purpose. This screw may be more easily adjusted and tightened than the presently used round head screw. We are attempting to get this change incorporated here at the Plant.

### CARD POSITIONING PLATEN

To maintain registration of the top writing line with the card positioning platen, the platen ratchet requires positioning.

If the platen detent rests between two ratchet teeth with the platen in position for typing the top writing line, the detent will help maintain this position. If not, irregular line spacing may occur.

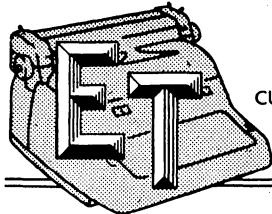
To position the ratchet, rotate the platen backward until it is stopped. While held in this position, depress the platen variable button and allow the ratchet to position itself on the detent.

A carriage steel roller installed behind the variable button will then permanently prevent accidental change.

### PARTIAL CARRIAGE RETURN MARGIN LEVER SCREW

The elastic stop nut part No. 103372 (also used on the paper bail arms) may be used on the margin lever screw of Partial Carriage Return machines if looseness develops from movement of the margin lever.

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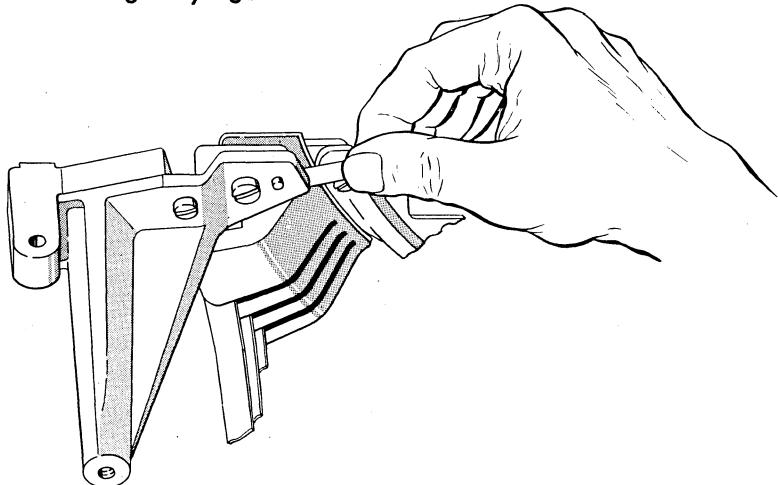
CUSTOMER ENGINEERING

# news LETTER

July 26, 1956

## UPPER AND LOWER CASE IMPRESSION

Earlier this year, we were informed by the Pittsburgh ET Customer Engineers of a more successful method of overcoming this problem. We have since supplied information describing this method to several other Branch Offices and the "feed-back" has been gratifying.



Specifically, the problem involves certain applications, but will improve any application where the results are not up to acceptable standards. One of the most common problems is Elite type with carbon ribbon attachment where the application involves original bond and several carbon copies. This same type with carbon ribbon, where the application involves a thin bond or Airmail original with carbon copies, is another example. The upper-case is too dense and often cuts through the

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original and first carbon while the lower-case types satisfactorily without excessive density or embossing. It is usually most noticeable on characters in the center of the basket.

Here is a description of how to perform this modification:

1. Experimentally, place 1 to 4 thicknesses of ordinary bond paper shims between the segment and segment support. (The shims should be about 1/4" wide by 3/4" long.) As you add shims, test the results of typing on three sheets of bond to determine the proper number of shims to add. Adding the shims causes the lower portion of the segment to move toward the rear of the machine.
2. Adding the shims will upset ring and cylinder. Adjust platen to restore proper ring and cylinder.
3. Addition of shims will probably upset the proper clearance of the shift pusher to pins. Readjust the shift toggle bracket screws to restore proper, equal clearance of shift pusher to pins.
4. Insert normal application for which the ET is used and readjust, wherever necessary, the impression control screws. It is possible that a few characters will require polishing of the type face to completely eliminate excessive cutting or embossing. Reread pages 15-16 of the Model A1 Reference Manual for more details.

It is the consensus of the several Branch Offices who have tried this method that it is superior to shimming the segment guide springs as contained in ET CEM No. 272. We have found that shimming the segment as described above, actually changes the velocity of the typebars so that both upper and lower case characters strike the paper with the desired amount of impact.

## FIELD INSTALLATION OF THE CENTRIFUGAL GOVERNOR ON MODEL A AND MODEL B ET's

Bill of Material numbers for field installation of the Centrifugal Governor will be found in CEM #440. The following is suggested when installing the Centrifugal Governor. (This is not to be installed on Models 01-10 ET's.)

1. Remove all parts pertaining to the friction governor. These include the link and clevis between the governor control lever and tab governor pawl, the tab governor pawl, and the friction governor plate.
2. Install the large plastic gear, cross curve main spring and holder assembly with the same screw formerly used to hold friction governor assembly to frame, using the hole in the power frame.
3. Position the Centrifugal Governor on the power frame so that the small gear meshes with the large plastic gear.
4. Mark position on power frame for holes using governor for guide.
5. Drill 2 holes about 7/8" deep with a #33 drill being certain that holes are centered in the width of the power frame web. Tap with a 6-40 tap.
6. Mount governor with the 2 screws and washers provided and adjust governor by following the instructions contained in CEM #440. The tension tape is fed to the left around the small pulley, then to the right side of the drum.
7. Rubber desk mounts (#1077190) or mounting studs (#1108796) must be mounted in the center holes of the side frames to prevent machine from resting on the governor housing and possibly breaking it.

(over)

### MOTOR MOUNT

To prevent motor mount brackets from coming loose, a lock-washer (Part #150209) is being placed under the head of the screw (Part #38262). This is a temporary arrangement to insure a tight assembly. This is the same washer that is used on the adjusting plate on the universal bar.

### TYPAMATIC BACKSPACE

The Typamatic Backspace, now included in all Models 1, 2, 6 and 7, uses parts already available to the field. The cam (# 1105524), plunger (# 1105512) and compression spring (# 1105514) are all the same as used on carriage return.

### CLUTCH UNLATCHING LINK SUBSTITUTION

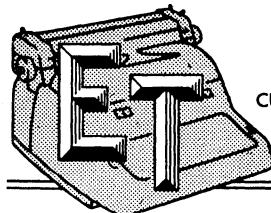
The side link on the carbon ribbon attachment, Part #1073431, is also being used in place of the clutch latch connecting link, Part #1077880, on Standard, Lift Platen and Executive typewriters. The link connects the clutch latch to the rear bell-crank. This change is due to a temporary shortage at the Plant of the present unlatching link and is to be used on Standard ET's, approximate serials #483393 - #484893, and Executive ET's, approximate serials #145142 - #146642.

### NUMBERING CEM's

Hereafter, a suffix letter will be added to a CEM number whenever it is possible to revise it without appreciably changing the subject matter. For example, CEM #416 with certain additions to make it current will become #416A. This will aid in keeping the quantity of CEM's to a minimum.

Incidentally, we thought that you would be interested in the enclosed article reprinted from the May 4, 1956 edition of the Journal of Commerce.

\* \* \* \*



CUSTOMER ENGINEERING

# NEWS LETTER

September 28, 1956

## THE ET TESTING LABORATORY

We are devoting this issue of the News Letter to a description of the ET Testing Laboratory, a department which plays a vital role in the ET Division.

The duties of the Testing Laboratory are varied, with the fundamental duty being that of impartial analysis of the Electric Typewriter and some of its related products. In the performance of this service, the Testing Laboratory conducts tests on newly developed machines. It evaluates components designed for machine improvement or cost reduction. The Laboratory distributes information on machine operational statistics, conducts field tests, and makes studies of the various functions of the IBM and competitive electric typewriters.



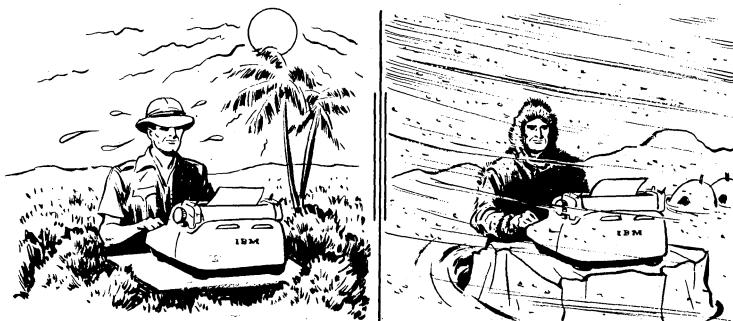
In fact, if we were to use Navy parlance, we would say that an evaluation by the Testing Laboratory is a shake - down cruise that seeks to bring out the good points, as well as the bad in the mechanism under test.

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This testing is conducted by Test Engineers whose backgrounds include Customer Engineering, college experience, and technical knowledge received here at the Plant.

The Test Engineer has a good opportunity to specialize in his work. For example, there are individuals in the Laboratory who have a broad knowledge of sound, lubrication, rubber, instruments, psychometrics (scientific poll taking), etc. Knowledge in these and other fields is acquired through extensive study, attendance at seminars and by enrollment in intensive courses sponsored by leading colleges and universities.

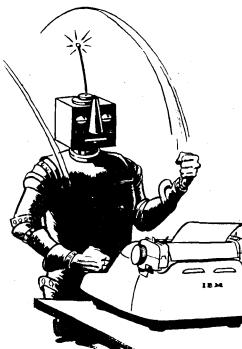
Briefly, this is how a test is conducted; Let us say, for example, that the clutch mechanism has been redesigned and there is a need to determine the performance and durability of this mechanism in a future customer's office. The Test Engineer proceeds as follows: He will begin by assembling all data available on the present clutch mechanism, its troubles, shortcomings, characteristics, etc. He will then develop a test procedure consulting with representatives from other departments, if required, on the points he intends to check on the new clutch mechanism.



Using instruments, the Test Engineer first attempts to learn all he can about the functional aspects of the new clutch mechanism. He will check for speed of carriage return on ET's with all the various carriage lengths, utilize the sound room to measure comparative noise level and the modern temperature and humidity chambers to determine the stability of clutch operation

under all atmospheric conditions.

If the clutch mechanism satisfactorily passes the functional test it is then installed in a number of typewriters and operated for durability by robot. This usually takes some time, and the number of operations or cycles is established at the beginning of the test from previously determined information which indicated how often the clutch operates under actual field conditions. When the test part reaches the robot stage it is operated 24 hours per day, seven days per week to obtain as much experience as possible in the shortest possible period of time.



By following this type of operation, it is possible to operate a mechanism equivalent to five years field use in a space of four to six months depending upon a number of factors. This is called an accelerated wear test.

If there is a clear indication that the proposed mechanism is superior to the existing clutch mechanism, the Test Engineer terminates his test and summarizes his findings in a technical report, concluding that the part is satisfactory. If the mechanism, however, leaves something to be desired from the standpoint of function, reliability, or durability, the report terms the part unsatisfactory. The troublesome area may be subsequently redesigned and the mechanism subjected to additional or completely new series of tests. The test report may include rec-

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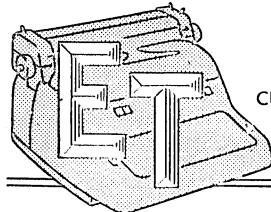
ommendations to delineate where points of improvement, based on results of the test, can be made. It may also contain a general discussion which may serve to complement the test results by linking field experience and customer usage with actual performance during the test.

The Testing Laboratory is a service organization and, as such, its services are utilized by many departments within the ET Division such as Product Engineering, Quality Control, Customer Engineering, Sales and others.

In carrying a test to a sucessful conclusion, the Test Engineer uses the latest scientific instruments, controlled temperature and humidity chambers, an anechoic sound chamber, robots, machines and other equipment. He is assisted by instrument men, model makers, test operators, psychological engineers, (human engineers) sound men, statisticians and others whose talents and titles may sound exotic to many.

Altogether, the general objectives of the ET Testing Laboratory are to enhance the IBM product to the customer. It can rightly be considered an IBM customer viewing with a supercritical eye the performance of the IBM Electric Typewriter.





CUSTOMER ENGINEERING

## NEWS LETTER

October 19, 1956

## THE IBM ET STEPS INTO ELECTRONICS

Since 1873, when Christopher Latham Sholes' "Type Writer" was introduced to American business, there have been only four major improvements:

1. Visible writing line
2. Capital shift
3. Electric powered operation
4. Proportional spacing

IBM's introduction of the Electronic Tabulation Typewriter (the typewriter that "reads" electronically and writes) adds number 5 to the list. We can point with deserved pride to the fact that IBM is responsible for developing 3 of these important 5 major improvements.

You will remember that you recently received a letter from Mr. R. L. Krauss accompanying the Manual on Electronics. Now you see one of the reasons behind it.

Electronics is becoming an increasing factor in the business world every day. If you are interested in electronics, an increasing knowledge of it will be valuable to you.

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## EQUALIZATION OF UPPER AND LOWER CASE IMPRESSION

A method of shimming the segment with paper shims was described in News Letter #34, but it did not state clearly where these shims should be placed. The 1/4" x 3/4" shims must be placed between the segment and the segment support below the screw and dowel pin.

Placing the shims below the screw and dowel pin moves the lower portion of the segment toward the rear of the machine, resulting in equalization of upper and lower case impression.

Escapement trip adjustment should be checked after shims are added. Experiments are presently being conducted here at the Plant to ascertain whether this shimming should be incorporated into type alignment and adjustment procedure.

\* \* \* \*

## QUALITY CONTROL

A booklet entitled "Quality Conscious" was recently published. It contains information concerning the operation of the Quality Control Department at the Kingston Plant.

Sufficient copies for each Customer Engineer were sent to your office under separate cover.

We are certain this informative booklet will be of interest to you.

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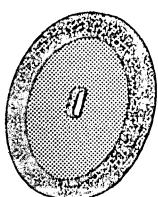
## OUR NEW LOOK !

The Canary Yellow color used for this News Letter will be used hereafter in all ET field publications. This is the new official color for the ET Division's Communications.

\* \* \* \*

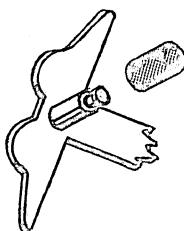
## RECENT TYPEWRITER IMPROVEMENTS

1. The universal bar incorporating a fibre washer under the rivet heads of the front spring has proven satisfactory. You will recall that this washer was field tested in 5,000 typewriters. (News Letter # 31.)



Not a single complaint was received and this improvement is now included in each typewriter being manufactured.

2. The clicking noise of the carriage return friction disc has been eliminated by reducing the length of the slot.



3. Increasing reports from Branch Offices as well as reports from the ET Testing Laboratory indicate breakage of the shift pusher sleeve , Part # 1091607. To prevent this brittleness it is now being manufactured from a different vinyl formula. The color has been changed from yellow to red for identification as well as to aid in reducing brittleness inherent in the yellow plastic.

\* \* \* \*

## NOISY INTERMEDIATE PULLEY

Occasionally, a howling noise may develop in the intermediate pulley. Some of our Branch Offices report that replacing the nylon thrust washer, part # 1106172, with a steel washer, part # 1090640, will often eliminate this noise. Lubrication with # 17 grease is recommended.

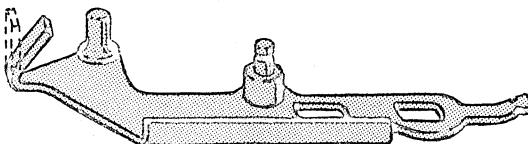
A quantity of typewriters were manufactured with the steel washer with inconclusive results.

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### BENT TAB LEVER OVERTHROW STOP

If type piling or a locked carriage is found on a Standard Model B it may be caused by a bent tab lever overthrow stop. If bent to the right it can hold the rebound check toward the tab rack which may catch on a set tab stop.



Bending of the tab lever overthrow stop occurs when the operator holds down the margin release key and operates the carriage return. The lug extending down from the flat portion of the margin control lever and the tab lever overthrow stop may be in line with each other during margin release. This occurs only when the tab operating link is adjusted too short or the rebound check lever is adjusted too far forward. The carriage return operation caused the margin rack final stop to push the two parts together and to the right, resulting in bending of the overthrow stop.

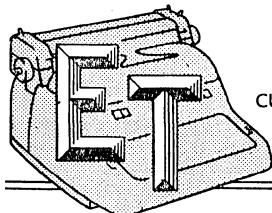
To overcome this difficulty, adjust the tab operating link as long as possible thereby giving a minimum of overthrow past the latched position, with the cam on the high point. Adjust the rebound check bracket to the rear so that the tip of the right side of the "V" of the rebound check lever is even with or slightly leads the tip of the tab check lever toward the tab rack.

\* \* \* \* \*

### CORRECTION - C.E.M. 434B

C. E. M. 434B, page 6, should be corrected to show Titian Glow as color scheme #1. Opal Gray and Woodland Green color conversion Bills of Material are available only through Sales Engineering Dept., ET HQ by a Request for Price Quotation.

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CUSTOMER ENGINEERING

## NEWS LETTER

November 5, 1956

## Alertness Pays In Many Ways

A recent Activity Report of Mr. W. T. Griffin Jr., ET Manager of the Long Beach, California Branch Office, proves the value of being constantly alert to customer's problems. This type of alertness combined with a request for assistance, aided Al Iten, ET Customer Engineer, to reduce an IBM Electric Typewriter maintenance problem and increase the usefulness of their transcribing equipment.

Mr. Griffin's report was as follows: "Al Iten, ET CE in Long Beach, found that typists in the stenographic pool of . . . (one of the customers in his territory) were allowed to erase up to a whole line of type because of poor dictating techniques. This resulted in excessive maintenance calls due to eraser dust. He called in Jack Frost, ET Salesman and Tom Steenson, ET CE Supervisor, and the three of them put on a proficiency program to eliminate this maintenance problem. This is an excellent example of CE and Sales cooperation.

By not "living with the trouble" and being alert to the customers' problem, Al Iten helped to obtain another satisfied customer.

\* \* \* \*

## MODEL B UNIVERSAL BAR REMOVAL AND REPLACEMENT

The following is suggested as a possible method for universal bar removal on Model B Standard and Executive Electric Typewriters.

1. Remove platen, RH carriage end cover, rear case, margin set bracket, front rail dust cover, ribbon lift guide and escapement trip link.
2. Move carriage to the left past the final stop far enough to permit easy removal of the U bar.
3. Remove two universal bar holding screws and washers.
4. Remove U bar up between the front and rear rail to the right of the carriage.

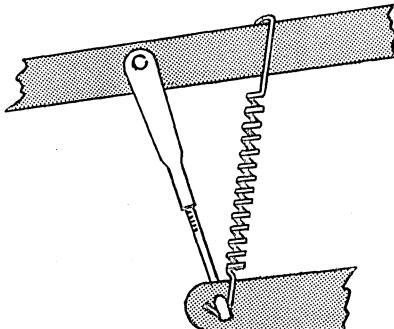
Replacement of the U bar may be accomplished by the following steps:

1. Use # 17 grease to hold the universal bar washers in place on the segment when replacing U bar.
2. After washers are in place on the segment insert U bar down between rails into position next to segment.
3. # 17 grease placed on the U bar holding screws will assist in replacing the screws in the rear of the segment. The screws may be located in the segment with the long nose pliers and held in position with the tip of the finger then tightened with the open end wrench, part # 9900005.
4. Replace escapement trip link and adjust escapement trip.
5. Replace margin set bracket, all covers, ribbon lift guide and platen.

\* \* \* \*

### REPEATING OF SPACE BAR CAMS - MODEL A

Repeating Space Bar Cams on earlier Model A ET's may be prevented by attaching a key leverspring part # 1107794, between the cam release lever and key lever. As shown in the illustration, the spring is hooked over the end of the cam to key lever connecting link and the other end is formed to fit over the key lever.



Attached in this manner, the spring will take up any accumulation of wear in the cam and key lever holes without increasing key lever tension.

\* \* \* \* \*

### POLISHING FEED ROLL HUBS

Reports from the field indicate that some paper feed problems are the result of burrs in the brass hubs. Feed roll shafts, not properly lubricated, may cause a similar condition.

The knurled handle of the small spring hook (part # 9543954) is handy for removing burrs or corrosion.

The steel feed roll shafts should be polished and lubricated.

\* \* \* \* \*

### MARKS ON DIRECT TO PLATE MASTERS

Vertical marks on direct to plate masters may often be eliminated by installing individual deflectors that are not welded to a rod.

When it is established that marking is caused by the deflector, forming may eliminate it. If not, install single deflectors. Part numbers are listed below.

The 12" deflector may be replaced by one L. H. and one R. H. deflector. Longer carriages will require a left deflector, a right deflector and center deflectors as follows:

16" - 1, 20" - 2, 24" - 3, 30" - 4

Part numbers are available in the ET Parts Catalog, but are shown below for reference:

<u>Part No.</u>	<u>Description</u>	<u>Price</u>
1108837	L. H. deflector assembly	1.85
1108831	Center deflector assembly	1.75
1108838	R. H. deflector assembly	1.85

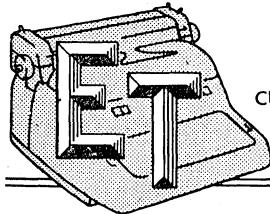
\* \* \* \*

### MAINTENANCE AGREEMENT PRICES

It is notable that IBM has not increased the price of Maintenance Agreements during the past six years. Recent announcements indicate that several of our competitors have increased Maintenance Agreement prices as well as the selling prices of their Electric Typewriters.

The efficiency of our Customer Engineering Organization, coupled with the many engineering improvements we are continually incorporating in our typewriter, permit us, in the face of increased costs, to retain our present Maintenance Agreement prices. As a result, IBM continues to offer more and better service than any other typewriter company, at less cost to the customer.

\* \* \* \*



CUSTOMER ENGINEERING

## news LETTER

December 6, 1956

*A Landslide Victory For The E.T.*

We in Customer Engineering have accepted the responsibility for helping to "GET OUT THE VOTE" in our salute to Mr. H. W. Miller, Jr., our new Vice President. One method of working TOGETHER with "WIS" is through a more intensive effort in our Maintenance Agreement Program. This program affords each Customer Engineer an ideal opportunity to improve his individual operations, by performing top grade preventative maintenance inspections. By so doing, the customer obtains more trouble-free operations and the Customer Engineering Department receives a minimum number of emergency calls. The GOAL of each Customer Engineer should be to have no requests for emergency service between quarterly inspections.

Each inspection should be made with the objective of seeking out and correcting all potential troubles. As a result you will be preventing emergency service calls.

By making preventative maintenance inspections in this manner you are investing time that will pay dividends many times over. You as a Customer Engineer by following this procedure become another important campaigner in this election of more IBM Electric Typewriters to more offices. In providing a trouble-free Electric Typewriter you obtain another satisfied customer and promote a harmonious relationship between the customer and IBM. The net result is more ET Sales and proof to our customers that the ET Maintenance Agreement program is vital to efficient operations.

Let's elect more IBM Electric Typewriters to more offices !!!!

\* \* \* \*

# *Together . . . . . W*

## PIN FEED LIFT PLATEN LATCH RIVET BREAKAGE

If you have experienced breakage of the latch rivet of the pin feed lift platen (upper arm and latch assemblies) here is the answer:

The rivet tenons of the assemblies, part numbers 1107520 and 1107521 have been made larger to prevent breakage. Part numbers have not been changed. Those now being shipped from Kingston are the new style.

It is important that the paper table does not contact the latch as the platen is lowered. Relieving the paper table in the area of the latch may be necessary.

\* \* \* \*

## EXECUTIVE TYPE CROWDING

Crowding of typed characters due to an escapement of too few units on Executive Electric Typewriters may be caused by the interposers being adjusted too close to the tails of the escapement pawls.

A quick method of checking for this condition is to pull the interposer cage to the left with a spring hook and allow it to move back to the right under its own spring tension. If the cage fails to restore to its normal position it is possible that the right side of the cage is touching on the tail of an escapement pawl. If this condition is found the clearance of the escapement pawls to the front of the interposer cage should be adjusted to .010".

\* \* \* \*

" GET OUT THE VOTE "

# 're With You "Wis"

## PARTIAL CARRIAGE RETURN ON STANDARD ET'S

To obtain a partial carriage return by simultaneous operation of the tab and carriage return keys, when tab stops are set at close intervals, it is sometimes necessary to make the following adjustments:

1. Adjust the rebound check to the left to minimize the clearance between the right face of a set tab and the rebound check when the left side of the tab stop is held against the check lever.
2. The rebound check should also be adjusted to the rear as far as possible, when latched out, without touching the tab rack.
3. Lengthen the link between the carriage return corner bell-crank and the rebound check lever interlock. This link should be lengthened several turns to cause cancellation of the latched out rebound check at the high point of the carriage return cam, but not before. To check this:
  - (a) Clear all tab stops
  - (b) Move carriage to the left
  - (c) Push the rebound check out to its latched position
  - (d) Turn the carriage return cam through its cycle by hand rotation of the power roll.

\* \* \* \*

## RIBBON CAM

Ribbon cam, part # 1072871, should be used with all Standard Model A typewriters previous to the automatic unlatching ribbon rewind mechanism. This same cam should be used on all Model A Executives and the Model B Executives previous to the new

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style stencil control lever.

The new quietized ribbon feed cam, part # 1105528, has no stud in the release lever for use with the Model A Standard rewind lever. The former style stencil control lever will not operate properly with the new quietized cam.

\* \* \* \*

#### A REMINDER

We will appreciate your continued assistance in returning the ET Quality Report Cards which are filled out when the typewriter is installed. It is very important that these cards be returned as the considerable knowledge gained from them is vital to our Quality Control Department.

\* \* \* \*

#### MARGIN STOP SPRING

The margin stop spring (# 1072796) has recently been made harder to improve margin setting and eliminate the condition of the margin stop becoming loose under abnormal operating conditions. Jamming of the margin mechanism by operators unfamiliar with its operation will be minimized by this improvement.

\* \* \* \*

#### CORRECTION: PARTS CATALOG

Accessories and Attachments Section of the Parts Catalog on page 2 of Model B Checkwriter Attachment Section, the illustration does not show a reference number on the line pointing to the L.H. bail arm assembly. Add reference number 23 to this line. Reference number 23 shown pointing to paper bail pivot assembly should be changed to reference number 33.

\* \* \* \*