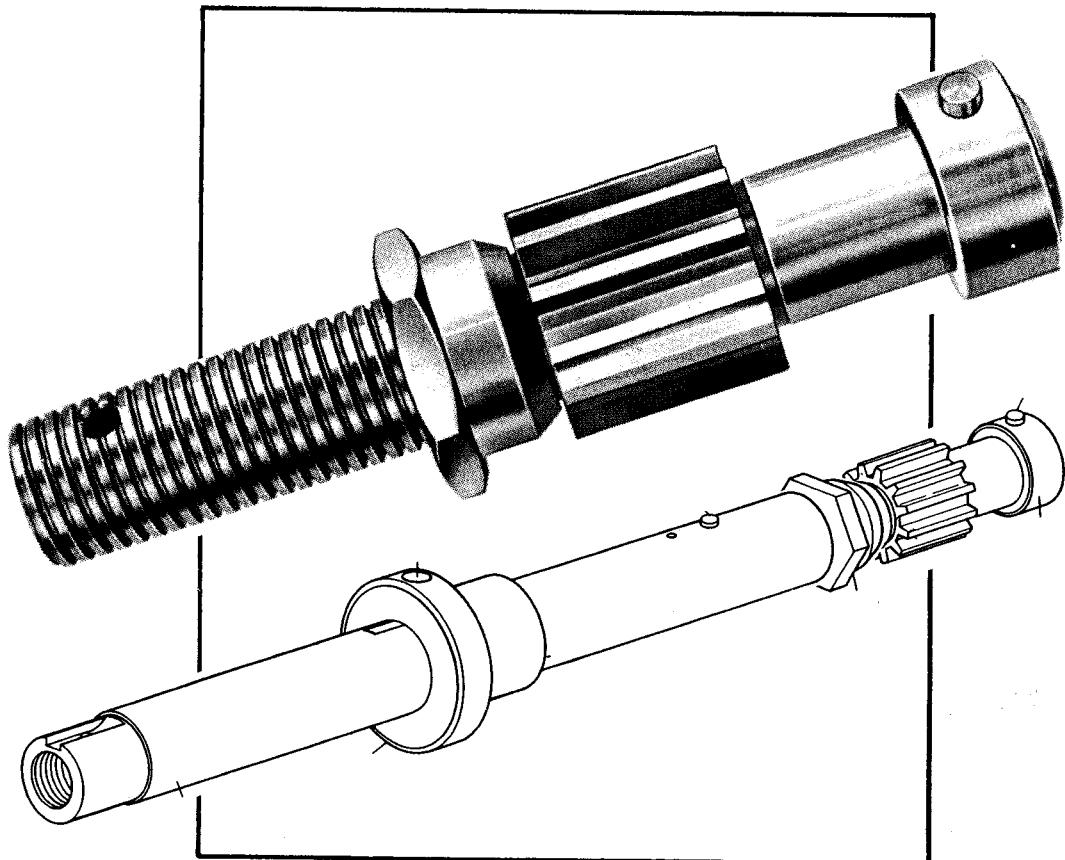


VOLUME 4

NUMBER 1

# SHOP TALK

Published by Star Parts, Inc., South Hackensack, N. J. in the interest of those who maintain typesetting machines.



## A WORD FROM YOUR EDITOR...

Several weeks ago your editor received a letter from a machinist in reference to Shop Talk. "I like Shop Talk," he said, "but would you tell me why I should buy Star Parts, when I can get all my parts from the machine manufacturers? Seems like the people that make the machine should also supply the parts for them."

As the largest independent manufacturer of typesetting machine parts, there must be a reason for this enviable position in the industry.

First, there is Star Service. 95% of all orders are shipped the same day they are received, because seldom is there an item which we do not carry in our factory stock at South Hackensack, New

Jersey. Substantial inventories are also carried at South Acton, Massachusetts; Chicago, Illinois; Kansas City, Missouri; Minneapolis, Minnesota; Denver, Colorado, and Los Angeles, California. When you want a part you want it NOW—and that's the way we fill your orders. A back order, when it occurs, will seldom require more than two weeks from anywhere in the country.

Second, there is Star Quality. Because we manufacture over 2000 items in our own two plants, we can maintain close watch over the quality of our parts. Let's be realistic . . . the cost of manufacture of a typesetting machine part is mostly labor. For instance: a Universal Mold weighs only 2 lbs. 9 oz. and with a

# SHOP TALK

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2 South Main Street,  
South Hackensack, N. J.

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Text of this issue of SHOP TALK set in 8 pt. StarNews

trade-in, sells for \$89.00. An extra \$1.00 per pound for metal would be very little, so we will accept only the best materials available for any part we manufacture. Furthermore, we build all our own tools and fixtures for use on some of the latest milling machines, multiple drill presses, automatic screw machines, turret lathes, and grinders available. (We have two of the largest surface grinders used in the industry.)

No machine, however, is better than the men in charge of the machine. We are proud of our record of employment. Our key production men have been with us for an average of over 25 years. They make sure every employee is well aware of Star's high standards of production.

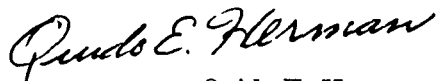
Third, there are the Improvements in parts made by Star. Many of the items which are now standard on new machines are the results of pioneering by Star. The application of Quadders to outstanding machines was a Star first! Hydraulic actuation of quadders was a

contribution to the industry by Star. The latest advance by Star is the AutoSetter—a new concept in tape operation of typesetting machines, using the latest advances in electronics. The list is long and varied.

Fourth, is Price. In spite of constant price increases in the trade, there has been no general increase in Star Parts prices since 1955! Almost all typesetting machine parts prices have been raised several times since 1955, EXCEPT those in which Star is competitive. The prices of some matrices have been reduced since Star entered the matrix field!

So, you see, there are many reasons why you should buy from Star. As your purchases help us expand our product line, the more we can serve you with better products. It's smart to trade with STAR!

Cordially,



Quido E. Herman

## THE MATRIX CYCLE... HOW TO CHECK THE DANGER POINTS

It is our intention in the preparation of Shop Talk articles to give reasons for adjustments from which point you can understand how to make the adjustments. Only if you know why an adjustment is made, and what it is to accomplish, can you make the adjustment satisfactorily. On new machines it is simple to give measurements and instructions, but where there is wear, it is sometimes necessary to compensate for this wear by pointing out the ultimate requirements—then you can, many times, make the adjustment to compensate for wear.

In order to prolong the life of ma-

chines and matrices it is essential certain adjustments be made to facilitate smooth transfer of matrices from one phase of the operating cycle to another. Any time there is a hesitation of the line of matrices and spacebands, it is an indication of some obstruction. Any obstruction to the smooth transfer of matrices causes wear or damage to not only the matrices, but can result in serious damage to your typesetting machine. We shall follow the matrix cycle from assembling to distribution, pointing out the ways to check transfer points, as well as means for adjusting them.

## RELEASE OF LINE DELIVERY SLIDE

When the assembling elevator is raised, the first action is to release the assembler slide, so it can return to its normal position, for setting the following line. The next action is to latch the hook on the assembling elevator, so it will remain in its upper position while the line is being transferred. The next function of the assembling elevator is the release of the line delivery slide. On Linotype machines the adjustment is made by means of a small headless screw under the right end of the assembling elevator back plate. This screw determines the vertical location of the releasing wire which releases the pawl. Many machines show premature wear of the delivery channel front and back rails because the line is released before the elevator is raised to its top position. The line **must not release** before the assembling elevator latch is engaged, as the mats will strike the delivery channel rails . . . or the assembling elevator can return to normal before the line is transferred, causing the line to spill.

### HOW TO ADJUST LINE RELEASE

To adjust the release of the line delivery slide on Linotype machines it is best to remove the assembling elevator front plate to make the adjusting screw more accessible. Push the assembler slide to the left. Raise the assembling elevator very slowly, holding it to the left or pushing back on the plate so it will have friction, to permit accurate control of the raising of the elevator. When the elevator is raised, the assembler slide should return to normal and the latch should engage. Now adjust the headless screw so the delivery slide releases after the latch is engaged. This distance is very little (about 1/64") and care must be used in this adjustment. Most delivery slides release too soon, meaning you will have to loosen the screw, perhaps one complete turn, then drive the pin downward, and again check the adjustment.

Intertype machines are identical, with the exception of the release wire. Inter-types use a latch which is released by the raising of the assembling elevator. The latch is not adjustable and usually must be removed and either bent, or slightly ground, on either end to facili-

tate adjustment. If the delivery slide releases too soon, either bend the left end upward or grind a small amount from the portion which contacts the assembling elevator. If it releases too late, it is necessary to bend the left end downward or grind a small amount from the top right hand end of the latch. The latch is removable by taking off the Stop Bar Banking Plate (1 screw, round head) then removing the center flat head screw from the Assembling Elevator Stop Bar. Caution: Do not lose the small spring under the latch. When replacing the Banking Plate on either machine, be sure it is not up-side-down or it will not be possible to transfer mixed lines.

Check the condition of the right ends of both front and back delivery channel rails for wear. If these are worn, replace them, taking advantage of our Replacement Allowance . . . see pages 58 and 60 of the Star Parts Catalog for the required rails. We manufacture the front rails with solid ends, which eliminate the trouble with the delivery channel aligning plate and also eliminates the need for the D-1049 Finger on the assembling elevator duplex rail.

### LEFT HAND ADJUSTMENT OF LINE DELIVERY SLIDE

Many mats, spacebands and back jaws are damaged because of misadjustment of the banking position of the line delivery slide. While the release of the slide is important, the banking of the slide causes the entire casting mechanism to start its cycle. If it starts too soon, damage will result. To check the banking position, it is necessary to know the correct operation and purpose of the slide.

The Line Delivery Slide delivers the line of matrices and spacebands to the first elevator jaws. The thinnest mat must be placed inside the pawls of both front and back jaws. The machine must not start its cycle until the last mat of a line is in this position. Check by assembling a line of mats with a thin mat on the end of the line, push the clutch in, then transfer the line. Examine the last mat and adjust the delivery stop screw on the left end of the face plate, to be sure the last mat just clears the pawls. This will now be the basic positioning of the delivery slide, from which the tripping of the clutch must now

be made. At this point, release the clutch and let the machine complete its cycle.

### **CHECKING THE CLUTCH TRIP FOR STARTING**

When the line delivery slide reaches its left hand limits, as mentioned, the clutch engages, starting the casting cycle. Check the starting position by having the machine in normal position, with the clutch out, and the plunger pin removed. Place a screwdriver against the end of the delivery stop screw and raise the assembling elevator, which, in turn will release the line delivery slide. The slide will then transfer and bank against the screwdriver. Carefully remove the screwdriver (giving a wedge action for accurate checking purposes). The machine should not start as long as the screwdriver is in this position, but should start just before it is completely removed. The machine should start when the last mat is on the first elevator jaw detents, as the time interval will permit the mat to pass the detents before the elevator slide descends.

### **ADJUSTMENT FOR STARTING MACHINE**

While no attempt will be made to go into the clutch adjustments at this time, we shall point out the adjustment, for the proper starting of the machine when a line is sent into the machine.

When the machine is in normal position the starting and stopping mechanism prevents the main cams from turning. When the line is sent in, a roller and arm, attached to the end of the delivery slide shaft, strikes a plate on the starting and stopping pawl. This action pushes the pawl away from the upper stopping lever, permitting the clutch to engage. The adjustment, therefore, for the precise starting of the machine is the adjustment of this plate.

In normal position it is almost impossible to adjust the plate, so back up the machine until the plate and pawl are accessible. If the machine starts too soon, adjust the plate closer to the pawl. If it starts too late or does not start after adjusting the delivery slide, back off the adjusting screw, so it is farther from the pawl. The screw closest to the edge of the pawl is the adjusting screw, while the inside screw is the lock screw. Be sure to loosen the

lock screw before adjusting, as it is possible to break the casting unless this is done. Check the starting and stopping cam on the main cam shaft, being sure it is tight before attempting any adjustment.

**CAUTION: NEVER ATTEMPT ANY WORK AROUND THE CAMS OR CLUTCH UNLESS THE MOTOR IS TURNED OFF.** Don't take a chance! You can buy new parts, but not a finger or a hand . . . and you can lose a hand in the main cams.

### **ALIGNMENT OF FIRST ELEVATOR JAWS**

It is impossible to have a smooth transfer of mats from the delivery channel to the first elevator jaws unless the front and back jaws are parallel. Use a square and see that the jaws are straight and parallel. Worn or bent back jaws or separating blocks will cause misalignment with consequent mat damage. The first elevator jaw is adjustable vertically by means of the "barrel" or, properly termed, the Connecting Link. Adjust this link so the grooves for the spacebands and matrices are very slightly lower than the corresponding grooves in the delivery channel plates. If there is only a slight adjustment required, it can be done in the above manner; however it is well to check the wear in the pins and eyebolts, as well as the proper adjustment of the Connecting Link.

Open the vise and check the distance between the front and back jaws with a new mat. Check both light and bold face positions to be sure there is no bind in the jaws. While checking the jaws for bind, also check to see that they are not too loose, permitting the lifting of a mat from the light to the bold face position. The use of worn or bent back jaws is very expensive when the price of mats is taken into consideration.

### **THE CONNECTING LINK**

While Intertype and Linotype Connecting Links appear identical, there is a difference in their application to a machine. Linotype links are applied to a machine with the adjustment at the bottom, while Intertype has the adjustment at the top. The eyebolts and pins are identical. See page 70 of the Star Parts Catalog.

The adjustment of a Linotype Link is 13/16" from the closest edge of the hole to the bottom of the link. The top adjustment is 3/4" from the closest edge of the hole to the top of the link.

The adjustment of the Intertype Link is 5/8" from the closest edge of the hole to the bottom of the link. The top adjustment is 7/8" from the closest edge of the hole to the top of the link.

In the event these adjustments are made and the elevator jaws do not align properly, it may be necessary to readjust the Auxiliary Lever on the side of the machine on which the first elevator cam roll is located. Loosen the large nut and the lock nut. Now turn the adjusting screw to secure alignment as close as possible and lock these adjustments. Make the precise adjustment by use of the Connecting Link.

#### **CHECK THE "SHAKE" OF THE FIRST ELEVATOR**

With a full line of matrices only (no spacebands) send the line into the machine, stopping the machine when the mold disk advances upon the locking studs and the vise closing lever (the outside justification lever) raises to its top position. At this point there should be approximately .010" vertical motion in the first elevator slide, when raised by hand. This is adjustable by the large screw and lock nut on top of the first elevator slide. NOTE: This subject is completely covered in Vol. 1, No. 1 of Shop Talk in an article "Descenders, Keep them on the Slug".

#### **THE SECOND ELEVATOR TRANSFER**

Perhaps more damage is done to matrices during the transfer from the first elevator jaws to the second elevator bar than any other point in the matrix cycle. Matrix combination damage results if there is any obstruction at this transfer, and consequently leads to distribution difficulties. Because an alignment of the transfer mechanism is required on each line, the parts must be kept clean, properly lubricated and frequently checked for proper adjustment and alignment. A font of matrices can be ruined within a few hours operation, if the transfer is improperly adjusted.

#### **PRINCIPLE OF THE TRANSFER**

The only function of the transfer mechanism is to permit the matrices to be removed from the first elevator jaws

and placed upon the second elevator bar with no contact with the matrix combination teeth until the line is raised by the second elevator bar. Because there are quite a number of contributing factors to the transfer of matrices at this point, we shall enumerate the conditions required and point out how to secure these ideal conditions.

#### **LOCATION OF TRANSFER FINGER**

Be sure the transfer finger is not bent, the finger fits into the slot in the elevator transfer slide and the link from the slide to the transfer lever is not worn. If you can move the transfer finger back and forth with the machine in normal position, the worn parts should be replaced, or a satisfactory transfer cannot be achieved. See pages 125 and 126 in the Star Parts Catalog.

Many persons believe the two flat head screws in the transfer finger are for positioning the transfer finger. The screws are only to hold the top of the finger in the milled groove --- the groove does the aligning. The finger should fit snugly into the groove, or there is wear in the slide, which should be replaced. This wear is the reason transfer fingers continually work loose.

The edge of the transfer finger which contacts the mats during transfer should be 5-5/8" from the edge of the transfer channel plate when the machine is in normal position. This is adjusted by loosening the two large clamp screws on the adjustable arm and roller which contacts the side cam surface of the transfer cam in the back of the machine. Loosen both screws sufficient to slip the shaft until this exact 5-5/8" measurement is achieved. Double check the setting after the screws are tightened. With this measurement correct, there will be ample clearance for a full 30-em line of mats and the releasing lever will clear the stop block on the transfer slide.

"To Be Continued In Next Issue"

#### **TO DATE THE FOLLOWING ISSUES OF SHOP TALK HAVE BEEN PUBLISHED**

VOL. 1 NO. 1                      VOL. 2 NO. 2

VOL. 1 NO. 2                      VOL. 2 NO. 4

VOL. 1 NO. 3                      VOL. 3 NO. 1

VOL. 3 NO. 2

Back issues available at 10¢ each and a special binder at 20¢.

# GRANDPA SAYS...

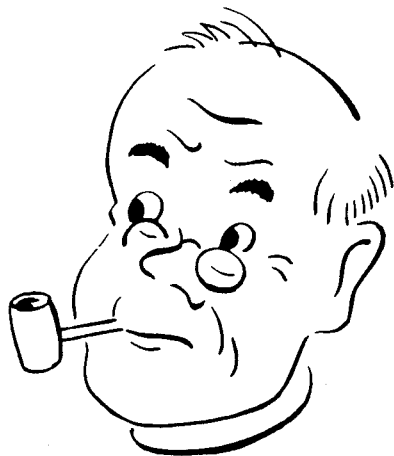
Grandpa came in the back door of the shop, kicked off his overshoes, rubbed his hands and said, "Son, I jest seen somethin' that I ain't seen fer a long time . . . he sure had a job on his hands, but he ain't gonna have that kind of trouble again, I betcha."

"Take it easy, Grandpa," I said. "Who had what trouble, and what happened?"

"Oh yes," Grandpa replied. "I jest been over to the Clarion and George was tryin' to get that gear out from under there, you know—the one that the end sticks in the drive shaft and you gotta take the clutch stuff off to get out. Well, this baby was stuck, but good! He had the pin out, and stuck a couple of 12-pt. slugs in the teeth and was a-turning fer all he's worth, and she jest wouldn't budge. Guess it was rusted in, and where he was beatin' on it wasn't helpin' nothin' either."

"Did you give him a hand, Grandpa?" I asked.

"No, he'd been workin' on it fer about an hour. Had it all soaked up with penetratin' oil, and finally put a blowtorch on it, and jest kept on workin' till she finally broke loose. You should-a seen all the old rust and stuff he got out of there, but he ain't gonna have no trouble when he takes that new one out," said Grandpa.



"How come?" I asked, knowing Grandpa was itching to tell the good news.

"Well, I'll tell ya, son," replied Grandpa, looking pleased with himself, "'cause he put in one of them new drive pinions, I guess that's what you call them. George said he got it from that Star Parts man. Got an oversize one that took all that clunkin' out of the machine 'cause the big gear is kinda worn. But what he likes best about that Star pinion is that its got like a built-in gear puller. Derndest thing I ever saw. Where all that rust was, this here new pinion has got threads fer a nut that goes over it, and you put grease in the threads so it won't rust, like that old one. If she ever does stick, son, all ya gotta do is put a wrench on the nut, take the pin out and then turn the clutch and boy . . . out she comes."

"Them Star Parts people sure make a lot of nice stuff fer helpin' a feller out of a lot of trouble. Why I remember one time we had a mouthpiece . . ."

## NEW STUFF

Under this heading, we will, from time to time, inform you of new items made by Star Parts. You will note many of the parts in our Star catalog carry the part number followed by an "A". This indicates that the item is an improved part which is interchangeable with the standard part.

**Ejector Blades for odd measures.** Upon request we will send you various ejector blade lay-outs for 11, 11½, 9½, or any special blade arrangement you may require, should you be changing your column measure.

**E-1480-A First Elevator Slide Filling Piece, Assembled,** is now made with a step cut which does not require use of a pin, consequently breakage of the stud is virtually eliminated.

**Z-9X File Set.** This assortment consists of 12 Swiss files in an appropriate package. We have selected 12 of the 23 files we show in our catalog to make up this set.

**M-64 Drive Wheel Guard.** This is an all-steel guard for use with the Star V-Belt Drive, and covers the main drive wheel.

**M-67 Star Electric Metal Pot** for either Linotype or Intertype machines. Upon request we will send you a complete folder showing the new Star Pot, some outstanding features of which are the interchangeability between Linotype and Intertype machines, the all-steel crucible, the unique arrangement for adjusting the lock-up, and the fact either heating element can be changed within minutes, without removing the crucible.

**Oversize Mouthpiece Screws for Intertype.** We now carry Part No. W-3797-AA, W-3263-AA and W-493-AA Intertype Mouthpiece Screws .020" oversize. These screws are all center drilled for location, should it ever be necessary to drill one out.

**G-38-0196-01 Second Elevator Bar Link, Comet.** While we have made Bar Links for the Comet for quite some time, the above number is used to identify the special bar link for use with the Mat-Glide system. Of course, the usual replacement allowance applies.

**M-74 Power Pack.** This new Power Pack is economically priced and reduces 110 volt A.C. to 24 volt D.C. The Power Pack has an on-off switch and an indicator light and operates through a selenium rectifier. The Power Pack is used on machines requiring various safeties using 24 volts D.C.

**D-31-A Nylok Screw.** This new screw has a nylon insert which prevents the screw from working loose. The biggest advantage will be its application to the mold turning segments, both long and short, as these parts have a tendency to work loose and severe damage can be done to a machine should a segment become extremely loose from the mold turning cam.

**H-122-A Keyboard Cam Rubber Roll Shaft Bushing.** This is an improved bushing for the keyboard cam roll shaft and is interchangeable between all models of Linotypes and Intertypes. The bushing is of oilite and the use of this bushing will certainly reduce the number of spare parts you will require for various machine models, as well as provide more "drive" where worn bushings exist.

**H-555-A and T-252-A Rubber Roll Shaft Gears,** complete with Set Screw, replace the cast iron keyboard gears, and makes a silent drive.

**BB-212 Pot Pump Lever Stop Lever** and **BB-213 Screw** are further additions of new parts available from Star.

**Z-139 Set of Taper Reamers.** We now can supply complete sets of taper reamers or individual reamers as required.

**Sun-Brite Metal Flux.** This new flux is odorless and smokeless and further information will be sent on request.

**E-1552-B Back Jaw** is the part number covering a Linotype back jaw with a .075" lip. This lip is .025" thicker than standard, and can be used for straight matter machines where a more sturdy, trouble-free back jaw is required. A replacement allowance is made on this item, of course.

**G-18-A Back Screw Bracket Spring Catch** is provided with an adjustable stop. This is the hook which holds the back distributor screw in place, and an adjustment has long been sought by machinists.

**M-65 Outside Galley Set** is a complete outside galley for application to Linotype machines and includes the new M-58 Slug Jogger and M-31-L Slug Buffer and Guide.

**G-3193-A Distributor Box Font Distinguisher Block, Assembled.** Improvement consists of a nylon screw, adjustment of which controls lateral adjustment of matrix lift. This gives a quick, positive adjustment of the "bite" of the matrix lift under the matrix.

**G-3193-A-2 Distributor Box Font Distinguisher Block Screw, Nylon.** This part is used with G-3193-A.

**V-2553 and V-2554 are Second Elevator Bar Matrix Detent and the Spring** for this detent, which fit into the slot in the right end of a V-123 or V-664, Intertype Second Elevator Bar. Their purpose is to prevent mats from falling off bar during lifting from transfer channel to distributor box.

**M-77 Nut Assortment.** This nut assortment consists of 17 different kinds and a total of 43 pieces.

**E-4545 Square Pot Leg Bushings.** These are made in standard, .015", and .025" oversize for use on late model Linotypes.

While most of these improvements are self-explanatory, should you wish additional information or prices on any of these items, please contact the factory or our nearest branch or agency.

Attention: Linotype Mechanist

STAR PARTS, INC., SOUTH HACKENSACK, N. J.



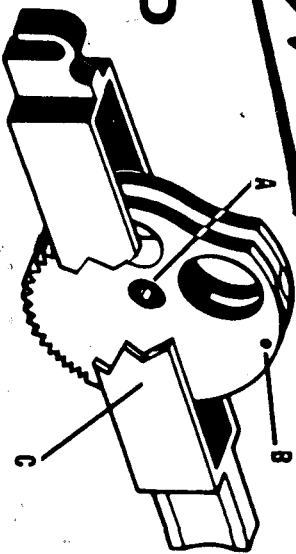
**NEW STAR**

**IMPROVED**

**KEYBOARD**

**CAMS**

**HAVE**



**BUILT-IN LUBRICATION**

The Star improved Keyboard Cam never need lubricating because of a new nylon bushing (A) which is permanently impregnated with graphite. Cleaner proofs and fewer transpositions can be expected from its use because the improved cam will never become sluggish for lack of lubrication.

A hardened Stop Pin (B) assures longer life of the whole cam unit because wear at this point is practically eliminated and replacement cost is greatly reduced.

The Yoke (C) is also hardened to eliminate peening even after years of constant use. This helps fast, dependable matrix release because proper contact with the reed is maintained.

The Star Improved Keyboard Cam, ideal for tape-operated, high-speed machines, will not only outlast several ordinary cams and yokes, but also cuts maintenance downtime. To order, add "AA" to regular cam part numbers.

Use Star Keyboard Cam Stop Strips.  
They are extra-thick phosphor bronze  
for longer life.