CORRECTION INDEX - MECANOGRAM

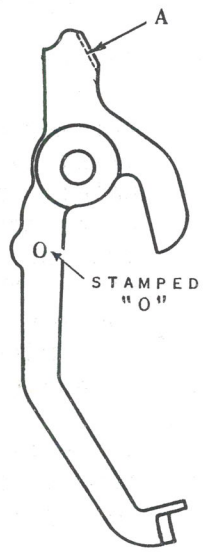
I

CONDITION: Repeat addition from single key depression (electric machines).

CAUSE: 1. Worn or chipped drive pawl.

2. Rebound of the adding sector when returning to normal may cause drive pawl AC (Plate 18, Symbol List) to slip off the shelf of latch AB (Plate 18) and re-engage the drive wheel.

CORRECTION: 1. Install new drive pawl 1A-56101. Hardening specifications for this pawl have been changed to prevent chipping and wearing.



2. Install new sector with stock removed from the drive pawl reverse arm at point A (illustrated). This alteration results in later reset of the drive pawl and reduces rebound of the sector thus obtaining a safer hold of the pawl on the latch.

New sectors ordered from stock are identified with an "O" stamped on the reverse arm. Sector part numbers remain the same.

All electric machines after Serial No. C36930S contain the new sector, however, only those machines beginning with Serial No. C39272 contain sectors stamped with an "O".

Parts are available.

II

CONDITION: Underaddition resulting from loss of an adding sector stroke when keys 7, 8, or 9 are depressed rapidly. This condition may result from one or a combination of the following causes.
- Unless otherwise specified, all references given may be found in Plate 18, Instruction Book.

CAUSE 1: Premature release of detent Y from cam latch W when key 7, 8, or 9 is depressed rapidly. Drive pawl Z is found resting against the edge of detent Y and the key is held partially depressed.

a. Detent release arm K slips off the step in cam latch W because of a bevelled edge instead of a square edge on the lip of the release arm.
b. The outline of auxiliary cam A (Item 1, Mecanogram 460) may result in premature contact with stud U, which in turn lowers cam latch W causing detent Y to release before it has been moved sufficiently clear of the nose of drive pawl Z.

CORRECTION 1:

a. Install new detent release arm K (1-56103 1/2). Check for square edge on lip.

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II (Cont'd)

b. Install new index slide C (1A-56115A No. 1). New slides received from the factory since November 1, 1957 have been checked for accuracy of the auxiliary cam outline.

With new parts K and C installed, check the following adjustments:

- The shelf of detent Y should clear the nose of drive pawl Z by approximately .040" when the key is depressed and pawl Z is held normal. To adjust, see the second adjustment, Plate 18.

- The nose on the upper arm of cam latch W should have .006" to .010" clearance over tie strip V with the sector and the detent normal and the key partially restored. (Test by indexing and holding a listing key depressed. Then alternately insert a .006" and a .010" feeler gauge in the tie strip slot under the nose of the latch. With the .006" gauge, the index slide and the key should restore when the key is released. With the .010" gauge, the latch should bite on the gauge and hold the index slide and the key from restoring. Note: Be sure to hold the gauge parallel with the under surface of the nose of the latch.) To adjust, see the fourth adjustment, Plate 18.

- Drive pawl stud U should have .018" to .022" clearance over the top of cam latch W with the machine normal. To adjust, see the fifth adjustment, Plate 18.

NOTE: The clearances of .006" to .010" and .018" to .022" are used in the current manufacture of machines and supersede the clearances given in the fourth and fifth adjustments contained in Plate 18, Instruction Book.

CAUSE 2: Premature release of detent Y when a key is reindexed and held depressed during the return stroke of sector B. The portion of the pivot stud for drive pawl Z that protrudes beyond the left side of the drive pawl and carries a wire clip may interfere with the larger of two kinds of buttonheaded studs used to limit the movement of auxiliary cam A (Item 1, Mecanogram 460) on the index slide. (Note: The larger headed stud superseded the smaller headed stud soon after incorporation of auxiliary cam A. The smaller headed stud is illustrated in Item 1, Mecanogram 460.) The interference may be sufficient to lower cam latch W and prematurely reset detent Y, whereupon the drive pawl will return to limit on the shelf of detent Y instead of engaging the drive wheel.

CORRECTION 2: Install a new sector B (1B-56114 No. 2) that carries the drive pawl on a shorter pivot stud and retains the drive pawl with set collar 1-56309 instead of a wire clip.

If it isn't desired to install a new sector, grind the left end of the existing pivot stud flush with the left side of the drive pawl and install set collar 1-56309 with its stepped portion toward the adding sector.

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II (Cont'd)

- Commencing with machine Serial Number C 39272 S, plain set collars were used in all currently manufactured machines. However in some cases, the plain set collar interfered with the "U" form of the drive pawl and with the sector drive gear. Consequently, commencing with machine serial number C 40373 S, the plain set collar was superseded by collar 1-56309 that has the stepped portion on one side.

  In machines containing the plain set collar (not containing the stepped portion) it is suggested that a new collar 1-56309 be installed at the earliest opportunity.

CAUSE 3: Drive pawl Z slow to engage drive wheel AA.

a. Pawl Z binding on its pivot stud because of distorted "U" form in the pawl. Distortion probably was caused when the drive pawl was adjusted to obtain the .018" to .022" clearance of stud U over cam latch W.

b. Metal eyelet of spring AC twisted so that the spring interferes with detent release arm K in the adjacent column.

CORRECTION 3:

a. Install new drive pawl Z (1A-56101).
   - If the new drive pawl requires excessive adjustment, install new index slide C (1A-56115A No. 1) which will place cam latch W into a relation that requires minimum adjusting to the drive pawl.

b. Turn the eyelet so that spring lies parallel to reverse arm I.

CAUSE 4: Cam latch W holding up on tie strip V or releasing in a hesitant manner.

a. Rough surface on cam latch W.

b. Burrs in the corners of the slots in the strip V, or worn slots because of insufficient depth of hardening.

CORRECTION 4:

a. Burnish the cam latch or install new index slide C (1A-56115A No. 1). These slides are now made with all operating surfaces of adequate finish and hardness. The latching surface of cam latch W is now 100% burnished.

b. Burnish all surfaces of the latch slots or install new tie strips V (52124 Style 9 or 13) which now have adequate hardening and are clean and square on the sides and corners of the slots.

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II (Cont'd)

Index slide C should release quickly and positively under any latching condition. Test cam latch W not to bind or hold up by holding it downward against first the right side of the tie strip slot, then the left side, then centrally. When the latch is released it should restore without hesitation.

CAUSE 5: Forward driven speed of adding sector B too slow. The adjusting screw for the Lee type governor is not holding its setting and the speed of the drive shaft is dropping below 120 R.P.M. The maximum drive shaft speed is 122 R.P.M.

CORRECTION 5: Install lock nut 45432 on the adjusting screw.

- Consideration should also be given to the proper timing for closing of the motor operating switch. Adjust as specified in Plate 20-1, Instruction Book.

CAUSE 6: Return speed of adding sector B too slow because of weak spring AG.

CORRECTION 6: Install new spring AG (56803).

If installation of a new spring does not result in sufficient return speed, closing the eyes of the spring will give added tension.

Any condition of bind or interference should be remedied before installing a new spring.

Also, as a check for adding sector speed - in machines containing the yielding drive wheels described in Item 1, Correction Index - Mecanogram No. 1001 - use the following method: Disable detent Y and operate the machine for exactly one minute with the nine key held depressed. The amount accumulated should not be less than 4,230 to give a minimum sector speed of 470 strokes per minute.