

402920 MODIFICATION KIT TO PROVIDE MODEL 40 80-COLUMN AND
132-COLUMN TRACTOR FEED PRINTERS WITH A PAPER JAM ALARM

1. GENERAL

1.01 The 402920 modification kit consists of the following parts:

Qty	Part No.	Description
1	2191	Lockwasher
1	3598	Nut, 6-40 hex
1	7002	Washer, flat
2	119648	Ring, retaining
1	121243	Clamp, 3/16 ID cable
1	128357	Ring, retaining
1	151442	Screw, 6-40 x 1/2 hex
1	402499	Ring, retaining
2	402505	Ring, retaining
1	405324	Capacitor .1mfd 50V
1	406270	Alarm assembly, jam

1.02 This assembly has a device to sense paper jams and treat the signal the same as paper-out. The 80-column 410071 and 410076 circuit cards and the 132-column 410072 and 410729 circuit cards provide the option of gating form-out with paper-out. This option means that if a paper jam occurs at the beginning of a form, that entire form will be completed and the printer will not shut down until the form-out contact is closed.

1.03 All 80-column tractor feed printers are wired to accept this modification kit, but if printer being modified contains a 410640 Printer Logic Card, a capacitor may have to be added to the card. See Pages 6, 7, and 8 for identification and installation instructions.

1.04 Early design 132-column tractor feed printers with serial numbers below 28,684 may require a cable change per 408681 modification kit. The 408681 modification kit provides the same form C contact configuration between the paper-out and paper jam switch. An additional cable check for the 132-column printers with serial numbers below 28,684 can be made at the left connector bracket on the forms handling assembly. Those printers without a four-pin

Molex connector in the dummy plug will require 408681 modification kit (Specification 50904S). If the cable modification is required, it will be necessary to remove the printer from the cabinet. Follow the installation procedure outlined in 408681 modification kit.

2. INSTALLATION

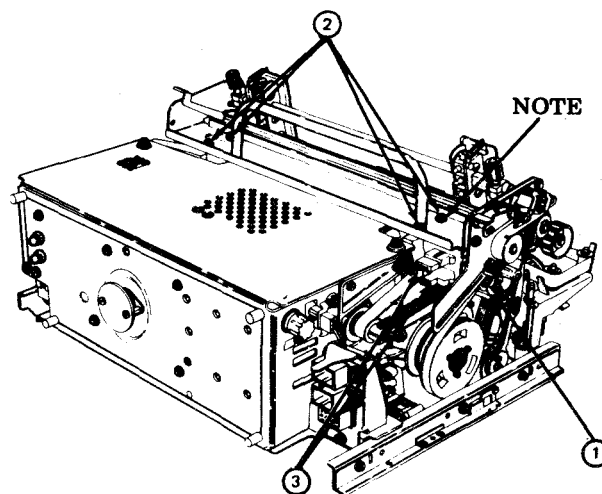
2.01 Installation of the 402920 modification kit requires the following steps.

Danger: Remove all power from the set before performing any disassembly and installation.

- Printer should be removed from the cabinet to check printer circuit card number.

Paper Handling Assembly — Removal

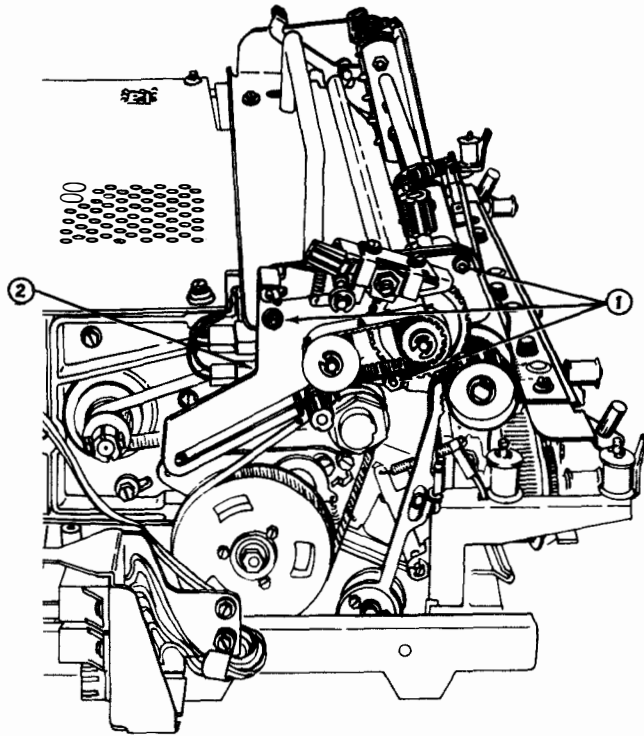
- ① Unhook one end of feed bar spring and move feed bars to rear.
- ② Remove four screws.
- ③ Remove two plugs and lift by handle.



Note: During reassembly, place screw in locating hole first.

Left Form-Out Assembly — Removal

- ① Remove three nuts and lockwashers.
- ② Remove lower J116 connector.

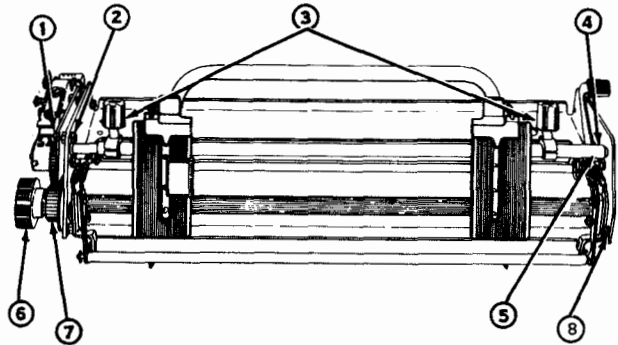


In reassembly, remake GEAR BACKLASH adjustment, and RESET FORMS OUT CONTACT TO BELT PHASING. (See Page 5.)

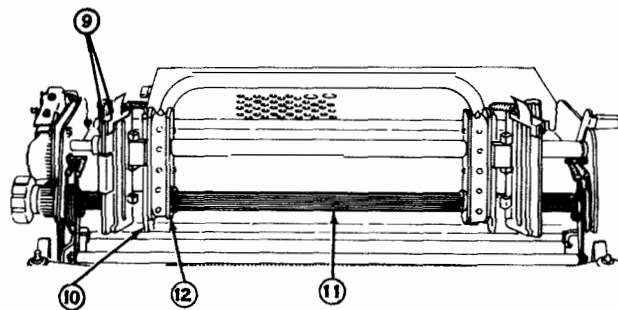
Paper Handling — Disassembly

Note: For part location and encircled O number illustrations, see Page 3. Retain all parts unless otherwise indicated.

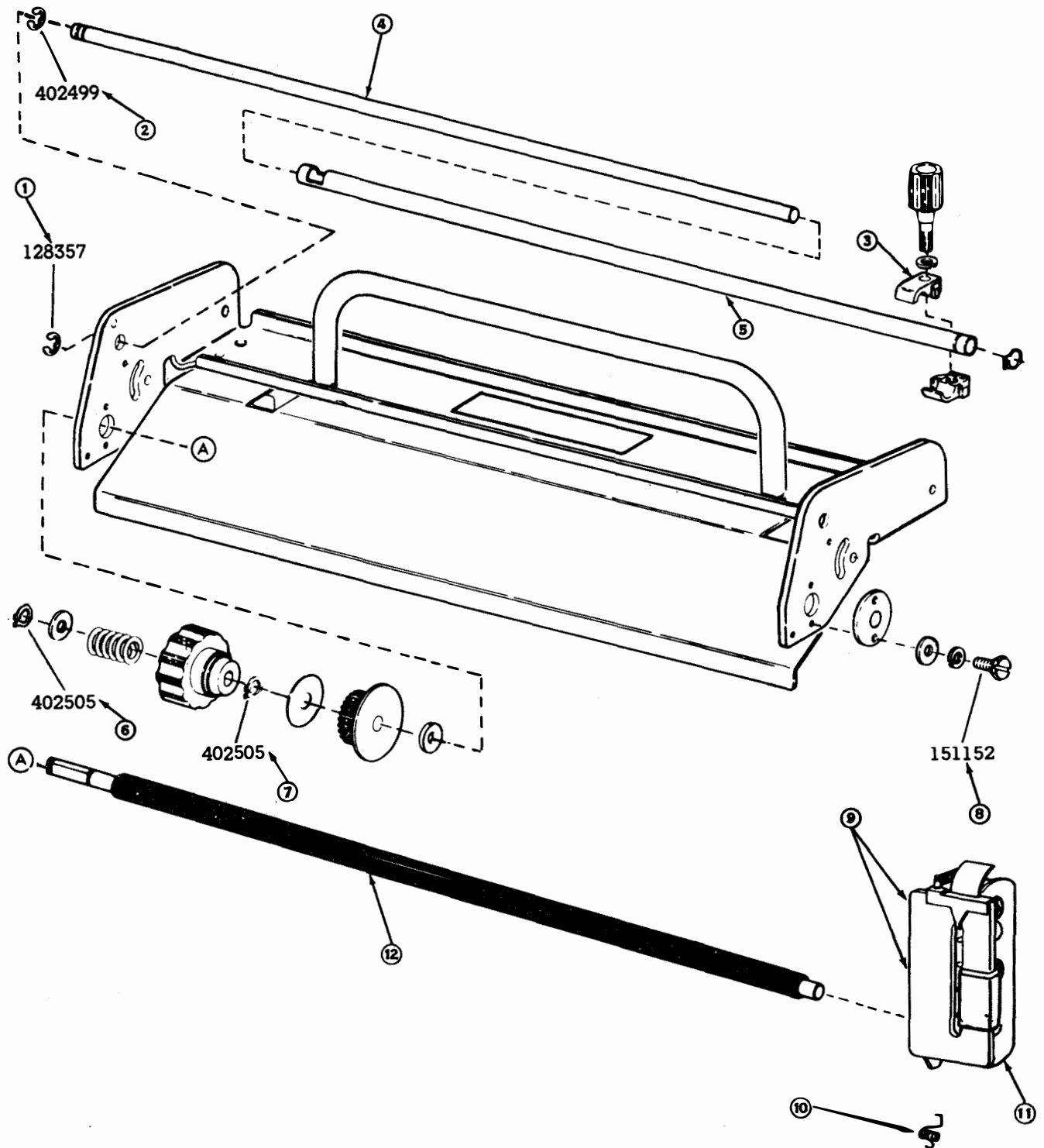
- ① Remove ring retainer from left side plate.
- ② Remove and discard ring retainer.
- ③ Remove the left and right tractor clamps.
- ④ Slide inner shaft out.
- ⑤ Move tractors forward and slide out outer shaft.
- ⑥ Remove and discard ring retainer that secures left knob. Remove flat washer, spring, and knob.
- ⑦ Remove ring retainer that secures sprocket. Slide washer and sprocket off of shaft.
- ⑧ Remove two screws that secure oilite bearing to right side frame. Slide shaft out to right.



- ⑨ Loosen two Phillips head screws on the left tractor assembly that is to be replaced (80-column).
- ⑩ Remove torsion spring on tractor assembly (80-column).
- ⑪ Slide the spline shaft out to the right until it is free of the left tractor assembly.
- ⑫ Remove left tractor assembly. This assembly will be replaced by 406270 jam alarm assembly. (See Page 9 for part illustrations, latest design.)



Note: In reassembly the following ring retainers should be replaced: 128357 (1), 402499 (1), 402505 (2).



SPECIFICATION 50901S

- Check **PAPER JAM ALARM** adjustment. (Not required on latest design, see Page 9) **ADJUSTMENT** (after installing the paper jam alarm modification kit in place of the left tractor assembly)

Requirement

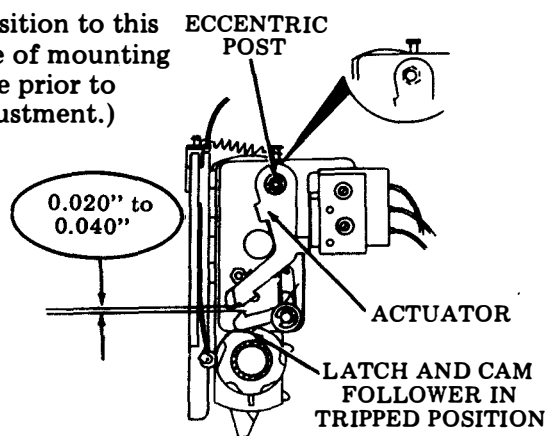
There should be

Min 0.020 inch--Max 0.040 inch between the top of the latch and bottom of the actuator when the cam follower is in the trip position and the actuator is held in.

To Adjust

Loosen the eccentric post mounting nut friction tight. Rotate eccentric to meet requirement. Tighten mounting nut.

(Position to this side of mounting hole prior to adjustment.)

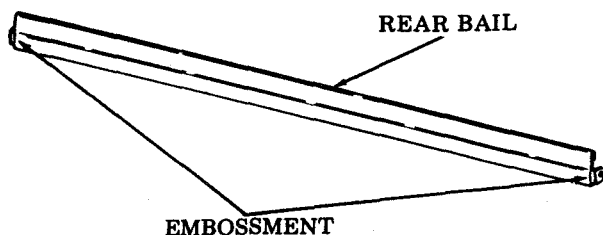


LUBRICATION

Lubricate all pivots and spring anchors with one drop of KS-7470 oil. Apply a thin film of grease to both sides of 192244 spring washer. (Located next to the sprocket on the paper jam assembly.)

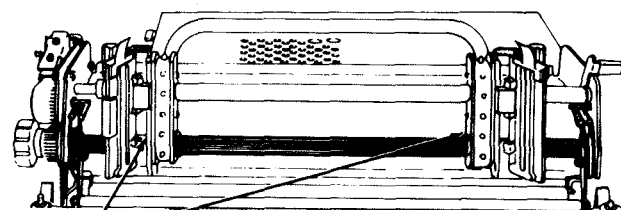
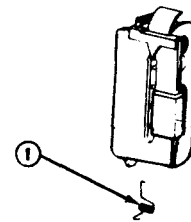
SPECIAL REQUIREMENTS

Printers with this paper jam alarm should be equipped with the 402469 80-column or 402668 132-column rear bail that has an embossed area at each end to provide a controlled gap between the bail and paper positioning roller. This controlled gap prevents skewing by eliminating drag on single-ply paper.



Installation of the 402920 modification kit.

- ① Insert torsion spring into the hole in the side plate. Tighten screws.
- ② Reassemble by reversing steps of:
 - Paper Handling — Disassembly
 - Left Form-Out Assembly — Removal

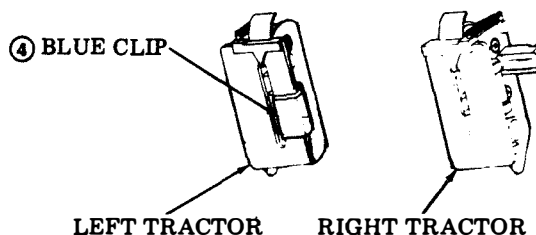
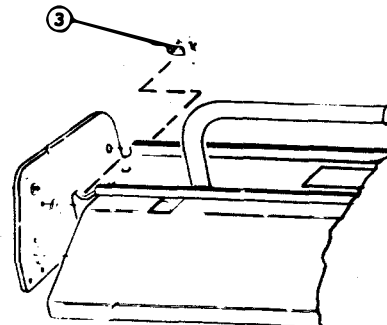


WHITE DOT OR RAISED MARK

Note: During reassembly of the tractor assembly to the shaft, make sure that the white dots or raised marks are in line with each other horizontally across the shaft.

- ③ Remove and discard the four-pin Molex connector from mounting bracket.

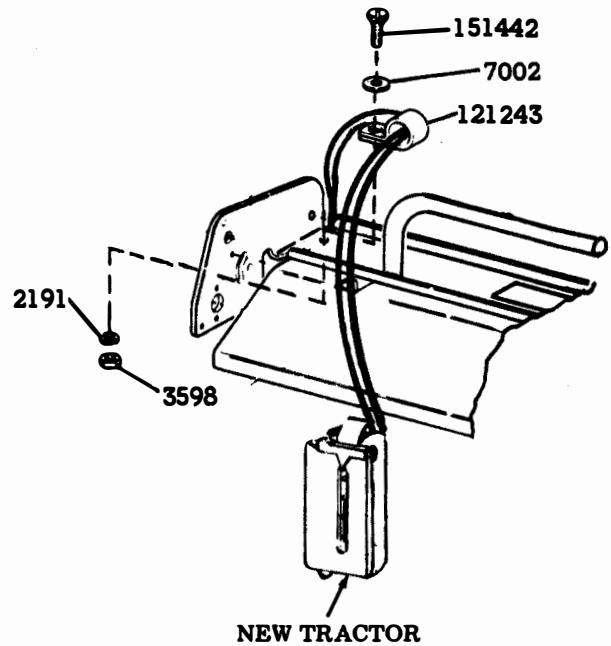
Remove blue clip from old left tractor assembly and install it on the right tractor assembly.



Cable Routing

80-Column Tractor

Position the left-hand tractor to the extreme right position prior to routing the cable from the paper jam alarm to the connector bracket. Route the cable along the inside of the formed edge on the paper handling assembly and assemble 121243 cable clamp to the left rear hole in the forms handling bracket with indicated hardware. Check the wire lead from the paper jam alarm for slack when positioning the left-hand margin.

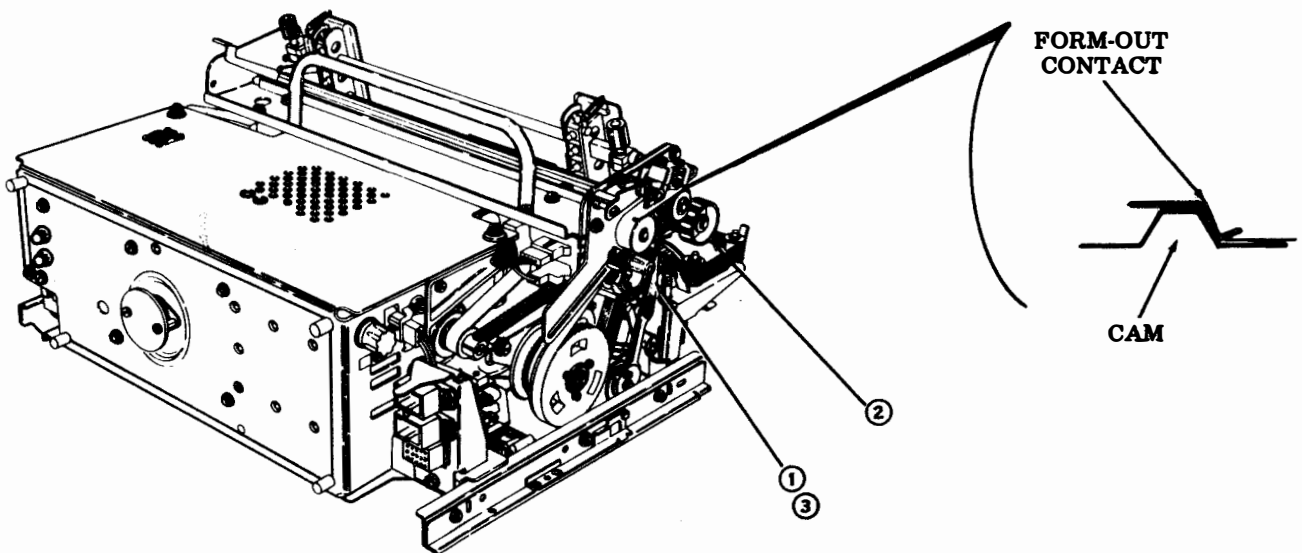


132-Column Tractor

Position the left-hand tractor to the extreme right position prior to routing the cable from the paper jam alarm to the connector bracket. Check the wire leads from the form-out and paper jam alarm for slack when positioning the form-out contact or adjustment for left-hand margin.

Forms Out Contact to Belt Phasing

- ① Move line feed pawls out of engagement with line feed gear.
- ② Rotate the paper advance knob until the slope part of the contact just touches the long cam.
- ③ Release the line feed pawls.



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Installation of 405324 Capacitor

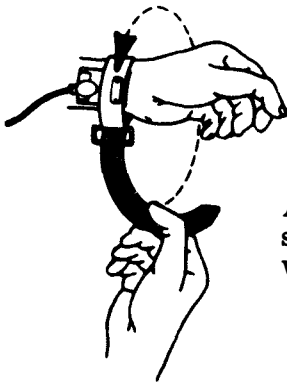
Model 40, 80-Column Printers Only

Printers having a 410640 printer logic card require the addition of a 405324 capacitor. Check circuit card and add capacitor if not present.

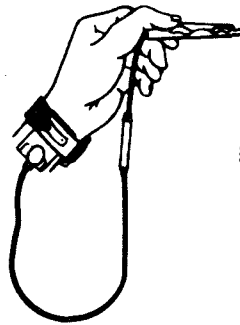
410640 Circuit Card Assembly — Removal

Place printer on back side.

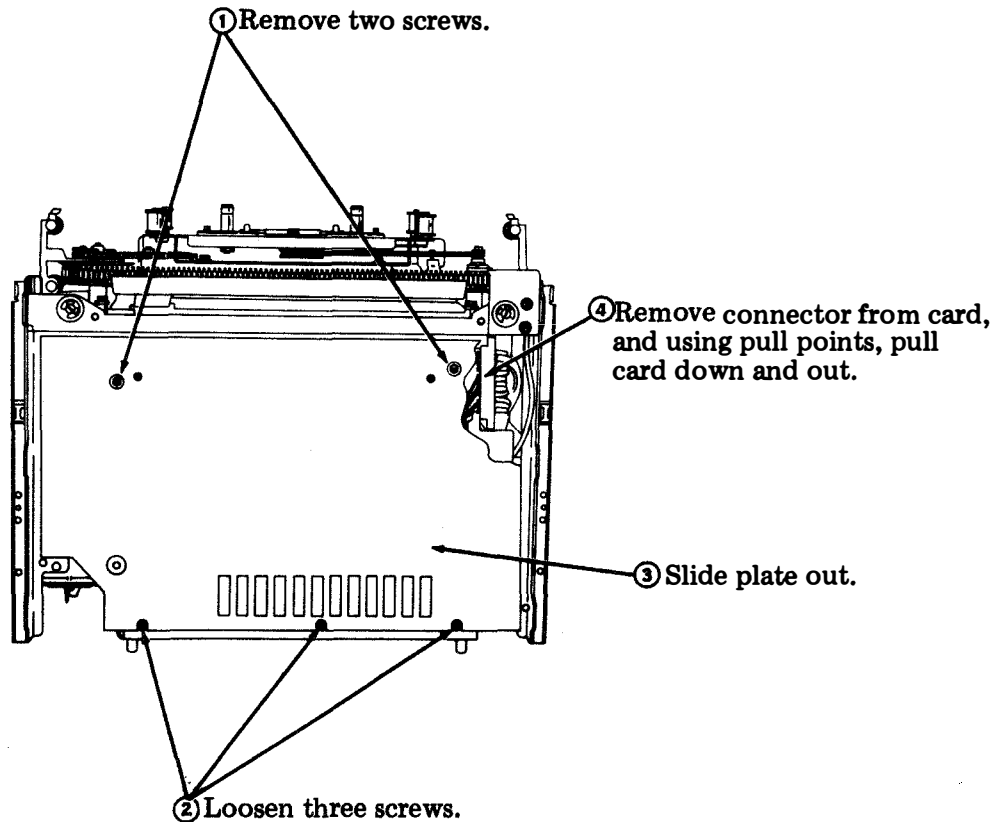
Warning: To avoid possible internal damage to circuitry, wear a 346392 static discharge strap connected to ground to allow static discharge before handling 410640 circuit card for removal or replacement. Avoid touching circuit lands or components as much as possible.



Attach static ground strap tightly to wrist as shown.



Attach clip end of static discharge strap to frame ground.

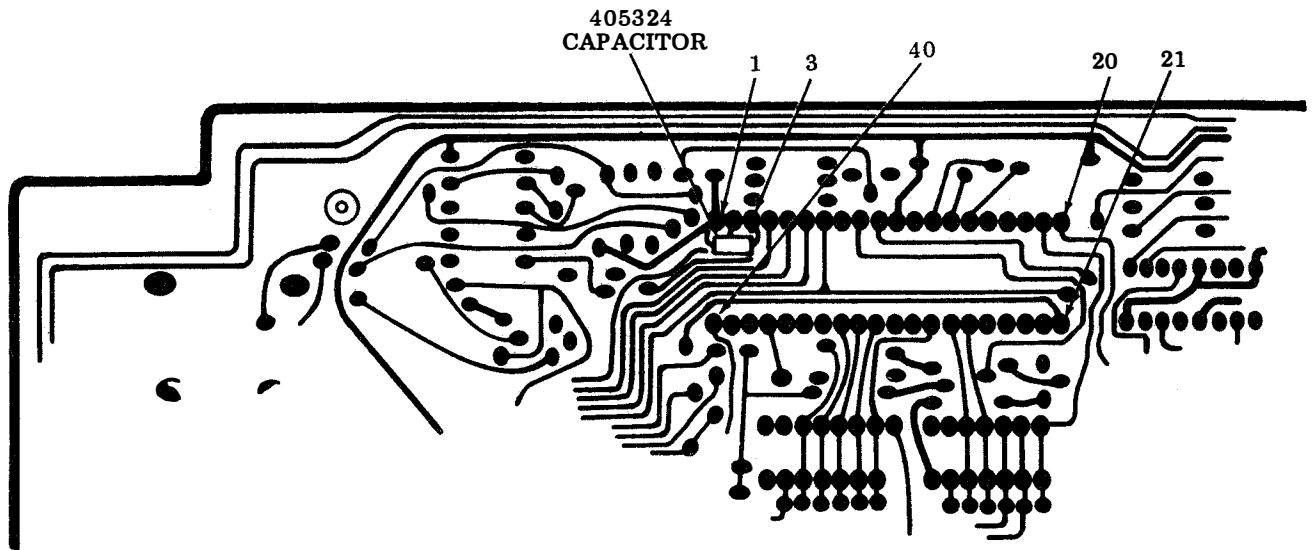


Installation of 405324 Capacitor (Cont)

If 405324 capacitor is not present, proceed as follows:

Note 1: IC designation MLB7 on Issues 5A and lower. IC designation MLA11 on all other issues.

Note 2: Land pattern may vary slightly as a function of card issue. Pin numbers not etched on card.



410640 Printer Circuit Card (Noncomponent Side)

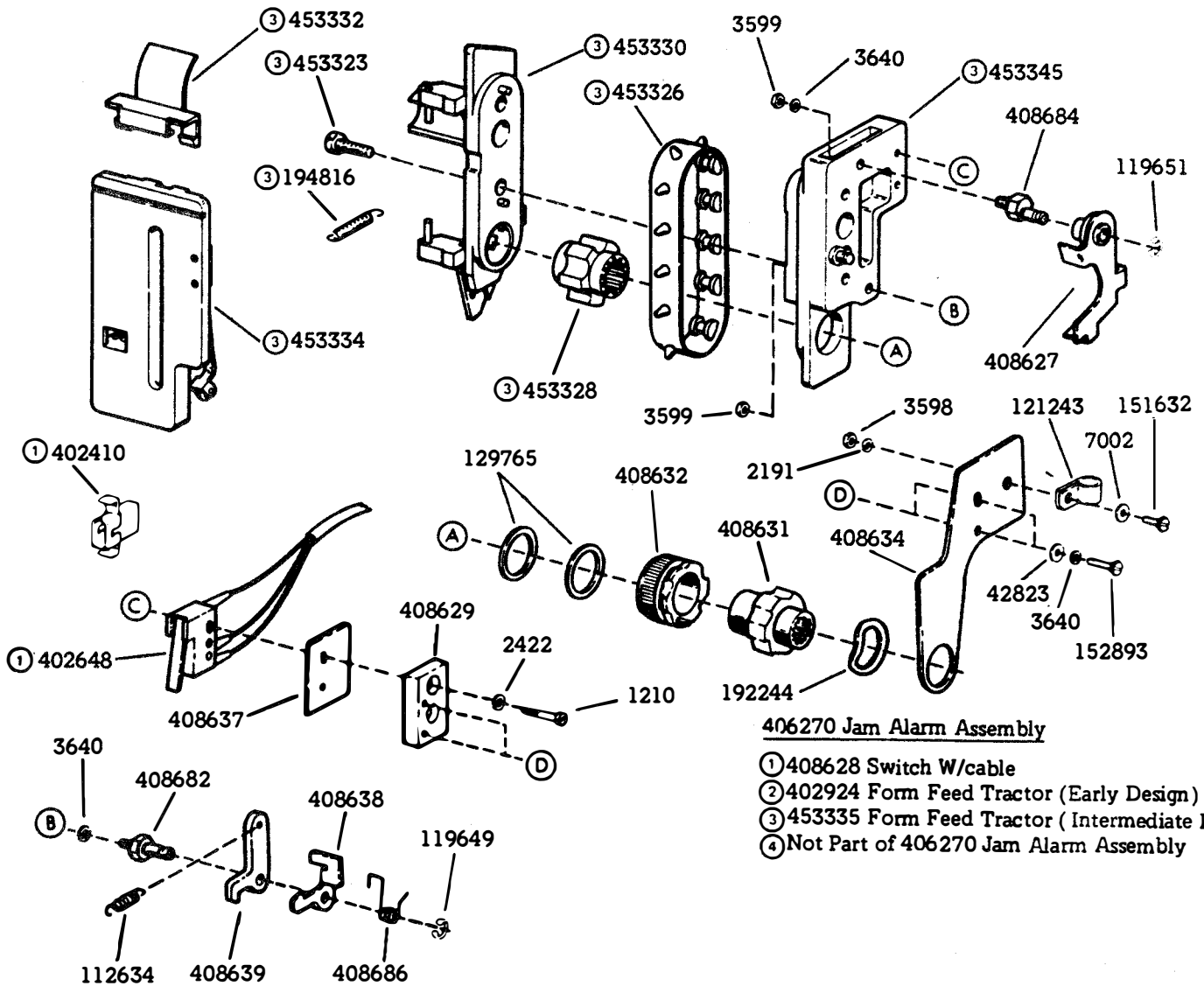
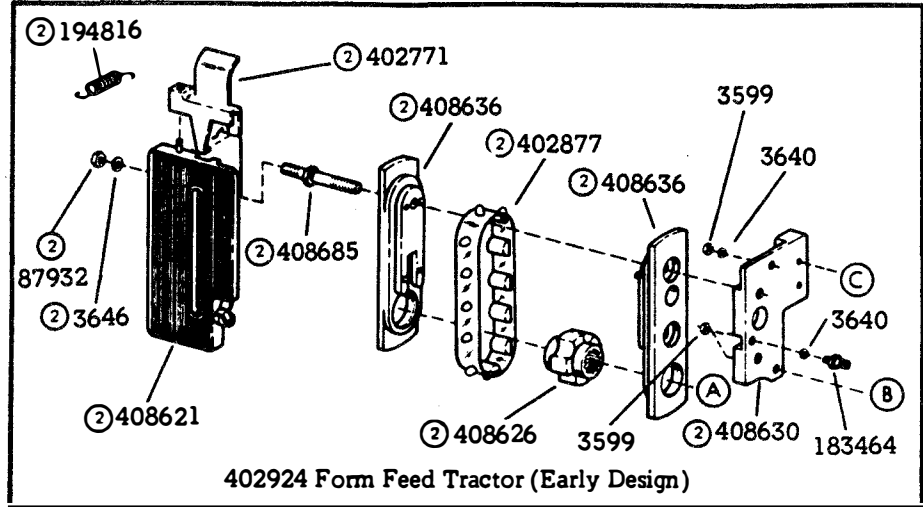
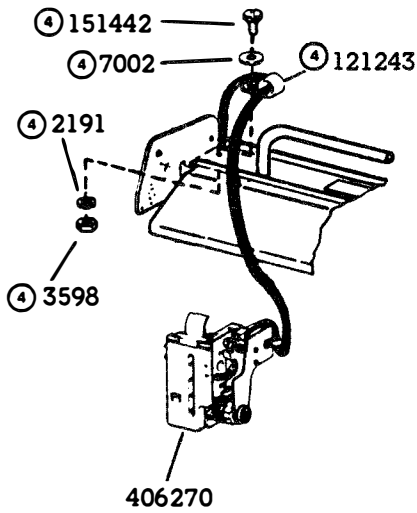
- ⑤ With ground strap still connected, cut the leads on 405324 capacitor to 1/4 inch length. Solder capacitor to noncomponent (circuit) side of card assembly between pins 1 and 3.

Caution: Use a fine tip soldering iron not exceeding 15 watt power.

- ⑥ After soldering is completed, trim any excess lead length. Check for solder splashes or solder bridging of adjacent circuit. Capacitor should be parallel to and flat to printer circuit board.

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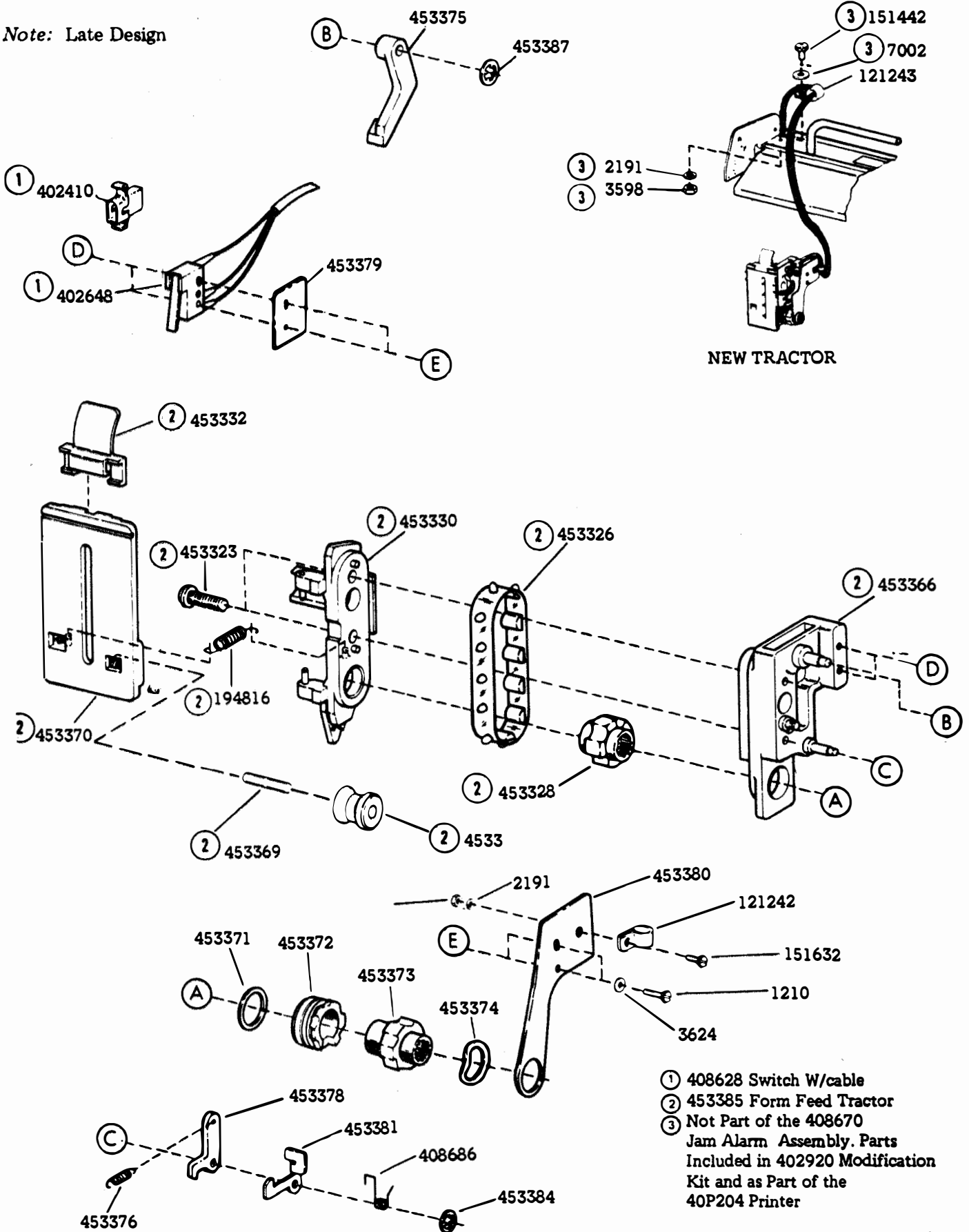
Note: Early and Intermediate Design



- 406270 Jam Alarm Assembly**
- ① 408628 Switch W/cable
 - ② 402924 Form Feed Tractor (Early Design)
 - ③ 453335 Form Feed Tractor (Intermediate Design)
 - ④ Not Part of 406270 Jam Alarm Assembly

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Note: Late Design



Insert and align the form in the printer per instructions in the printer "HOW TO OPERATE" manual.

CUT ON DASHED LINES
PLACE IN ATTENDANT'S HOW TO OPERATE MANUAL.

PAPER JAM ALARM

- This printer has been equipped with a paper jam alarm. Indication of a paper jam or paper-out condition will be the illumination of the paper button.

The paper jam alarm is a manual reset device that requires two steps to reset.

1. The attendant will be required to manually rotate the knurled wheel toward the rear until it stops.
2. Push on blue painted tab (early and intermediate design, or blue plastic tab, latest design) of the actuator until it detents into reset condition.

Note 1: It will be necessary to reset the jam alarm mechanism if the form is manually reversed, or after clearing a paper jam.

Note 2: Form supply boxes not aligned properly from left to right in relation to the printer could cause a jam due to the form skewing in the tractor.

Note 3: Excessive humidity changes may necessitate a tractor readjustment to accommodate paper dimensional changes. Normally the tractor drive pins should be centered in the paper sprocket holes.

