

“DATASPEED*” 40 PRINTER

ROUTINE MAINTENANCE

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FORMS ACCESS TRACTOR FEED	3	1.04 Unless otherwise specified, the instructions apply to the friction and tractor feed printers, 80 and 132 columns.
ALL PRINTERS	4	1.05 Routine maintenance on the printer is to be performed at customer's convenience every 2000 hours of running time or one year, whichever comes first. Routine intervals should be even shorter in dirty or corrosive environments.
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Note 2: Only the printer in a KDP arrangement is shown.

Note 3: Make sure ac power is off before removing the printer.

2.01 To remove friction feed printer (adjacent) from cabinet:

- (a) Open cover.
- (b) Disconnect the interlock cable connector (Fig. 1).
- (c) Remove paper roll.
- (d) Release printer and raise to the tilt position by depressing left and right release levers (Fig. 1) and lifting printer.

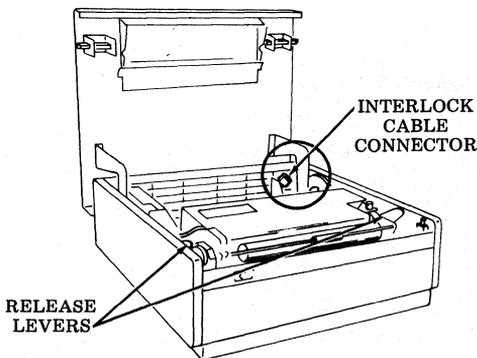


Fig. 1

- (e) Disconnect ac power connector (Fig. 2).
- (f) Disconnect SSI cable connector from printer cable connector (Fig. 2).

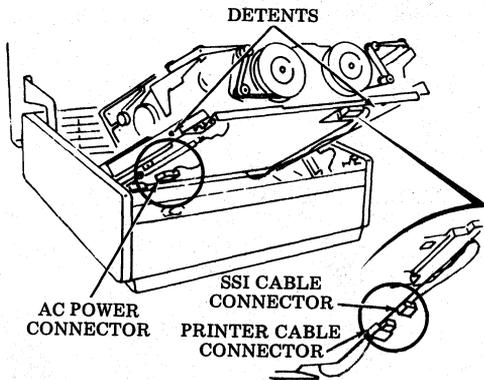


Fig. 2

- (g) Grasp printer securely from underside; depress detents (Fig. 2) and slide printer out.

FRICITION FEED (Under Monitor)

Note: Make sure power to station is off.

2.02 To remove friction feed printer (under monitor) from cabinet:

- (a) Open lid; lift slide release latches (Fig. 3) and slide printer forward.
- (b) Release paper latch and remove paper (keep spindle with printer).
- (c) Disconnect cabinet interlock (Fig. 3).
- (d) Depress release levers (Fig. 3) and raise printer.

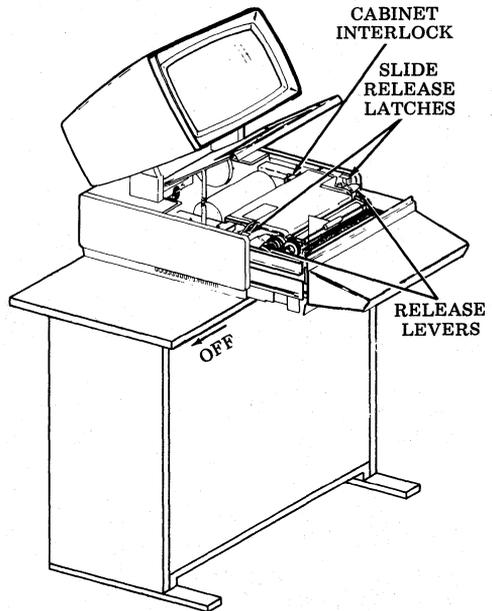


Fig. 3

- (e) Disconnect ac power connector (Fig. 4).
- (f) Disconnect SSI cable connector (Fig. 4).
- (g) Grasp printer securely from underside; depress detents (Fig. 4) and slide printer out.

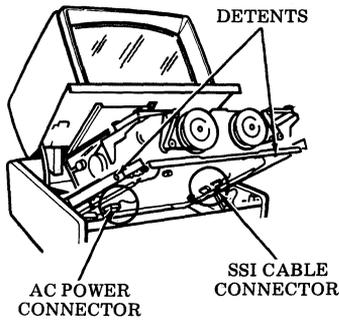


Fig. 4

TRACTOR FEED (Procedures Apply to Adjacent Printer as Part of a KDP or ROP, 80 and 132 Column)

2.03 To remove tractor feed printer from cabinet:

- (a) Open cover.
- (b) Remove paper.
- (c) Release printer to tilt position by depressing left and right latchlevers to rear (Fig. 5).

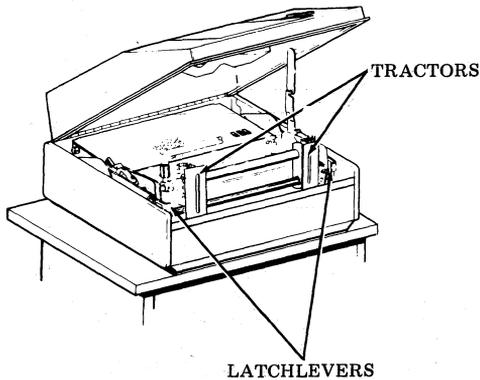


Fig. 5

- (d) Insert screwdriver in right track and pry detent up (Fig. 6).

- (e) Pull printer forward by grasping handle at top (Fig. 6), and sliding off mounting tracks.

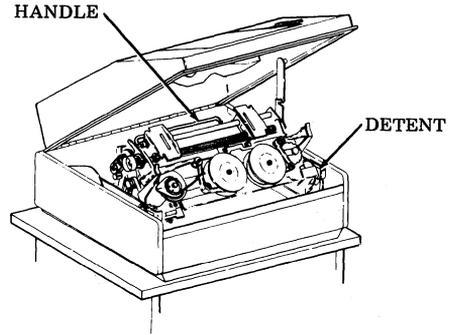


Fig. 6

FORMS ACCESS TRACTOR FEED

2.04 To remove the forms access tractor feed printer from cabinet:

- (a) Open the left front cabinet door (Fig. 7).
- (b) Push the top cover release latch (Fig. 7) and lift top cover to its full open position.
- (c) Remove forms from printer by opening left and right tractor lids (Fig. 7).

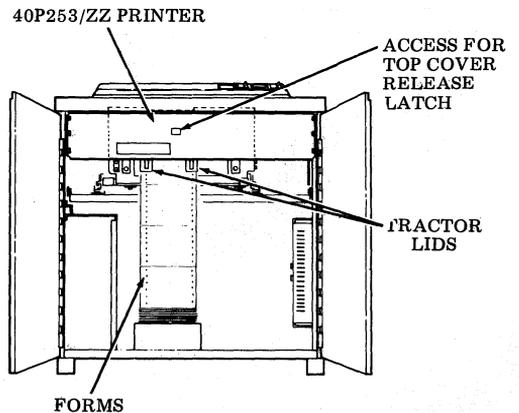


Fig. 7

- (d) Disconnect cabinet connector bracket (with P113, P114 and J115) from left rear of printer.
- (e) Lift printer release latches (Fig. 8) and slide printer forward (approximately 1/2-inch).

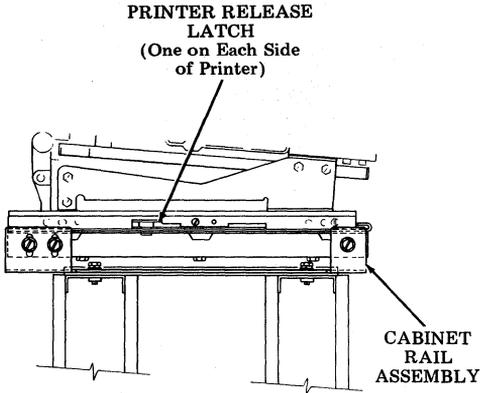


Fig. 8

- (f) Lift printer up and out of cabinet (Fig. 9).

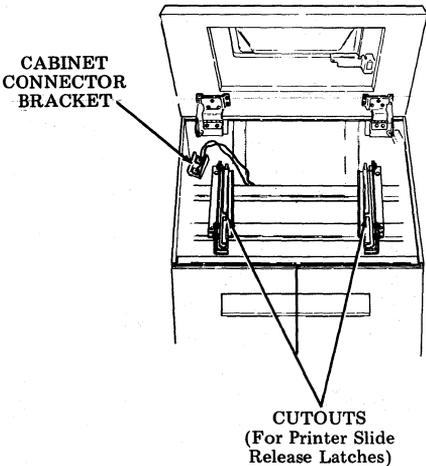


Fig. 9

ALL PRINTERS

- 2.05 Place printer on 124828 protective pad or equivalent (Fig. 10).
- 2.06 Remove ribbon.

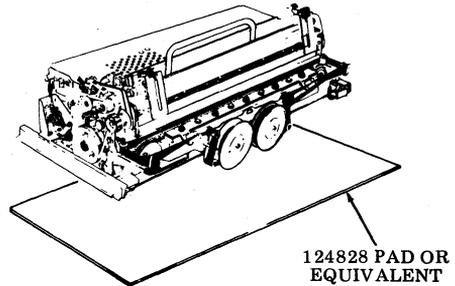


Fig. 10

3. TYPE CARRIER REMOVAL AND CLEANING

REMOVAL

A. Friction Feed

- 3.01 To remove type carrier from friction feed printer:
 - (a) Release thumb lever on left ribbon guide bracket (Fig. 11) allowing bracket to swing to the left.
 - (b) Loosen thumbscrew on right ribbon guide bracket (Fig. 11); swing bracket to the right.

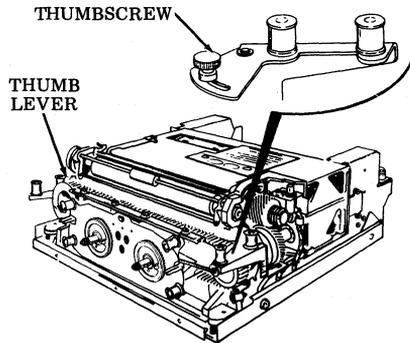


Fig. 11

- (c) On late design units (carrier top guide secured to backup bar with three thumb-screws), remove the carrier top guide (Fig. 14).
- (d) Lift finger lever on left pulley and hold. Remove type carrier starting at right pulley as shown (Fig. 12). Release finger lever.

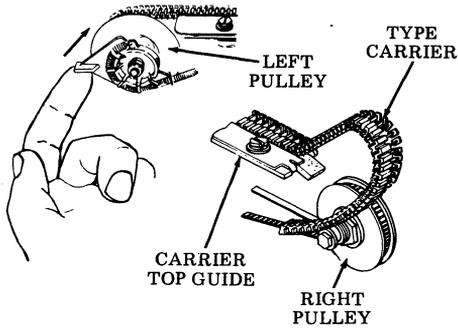


Fig. 12

B. Tractor Feed

3.02 To remove type carrier from tractor feed printer:

- (a) Release thumb levers on left and right ribbon guide brackets allowing brackets to spring to sides of printer (Fig. 13).

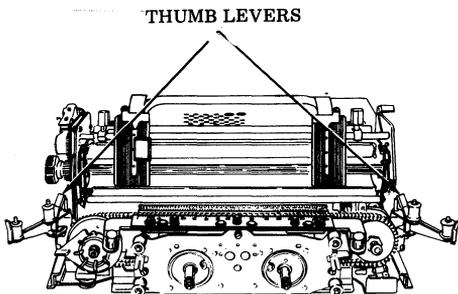


Fig. 13

- (b) On 80-column tractor feed printer, remove three thumbscrews and lockwashers securing carrier top guide; remove guide (Fig. 14).

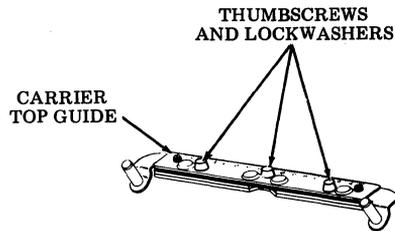


Fig. 14

- (c) Lift finger lever on left pulley and hold. Remove type carrier starting at right pulley as shown (Fig. 15). Release finger lever.

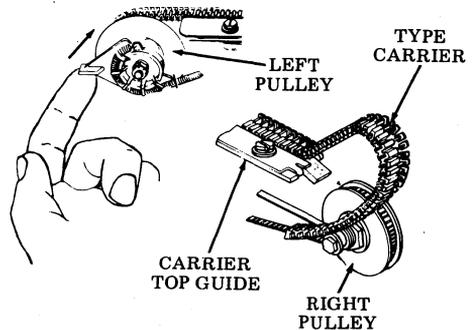


Fig. 15

C. Forms Access Tractor Feed

3.03 To remove type carrier from forms access tractor feed printer:

- (a) Depress thumb lever on right ribbon guide bracket allowing bracket to spring open (Fig. 16).

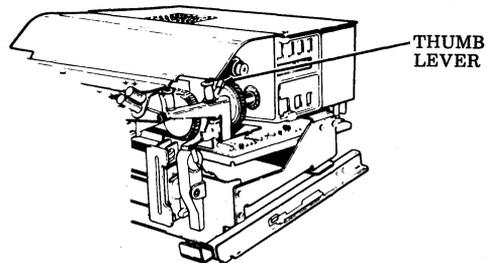


Fig. 16

(b) Remove the tear bar assembly by removing the two securing screws (hex. head), lock-washers and flat washers (Fig. 17).

Danger: Exercise care in handling tear bar to prevent injury from the tear edge. Careless handling of the tear bar may produce a burr on the tearing edge which may impair feeding of paper forms.

TWO HEX HEAD SECURING SCREWS, LOCKWASHERS AND FLAT WASHERS

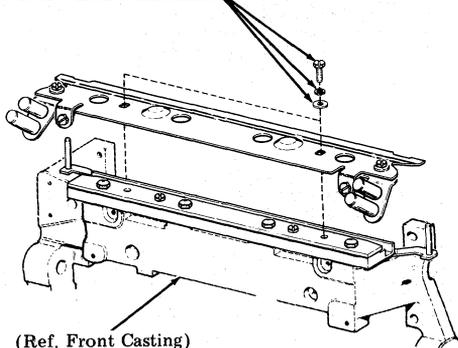


Fig. 17

(c) Lift finger lever on left pulley and hold. Remove type carrier starting at right pulley as shown (Fig. 18). Release finger lever.

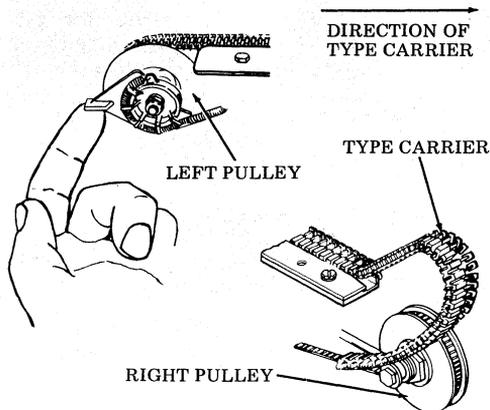


Fig. 18

CLEANING

3.04 Clean type carrier with brush and mineral spirits. Care should be taken that the customer's furniture is not damaged. Inspect type carrier. Replace any pallets that are worn, missing, or mutilated. Set type carrier aside.

4. CLEANING

4.01 Check that the printed instructions on the printer cover are legible. Clean with cloth. See Fig. 19, 20, 21 and 22.

Ribbon Loading

1. Ribbon is to wind and unwind at bottom of spool.
2. Put new spool on free-wheeling spindle.
3. Using routing shown, pass ribbon between paper and type carrier.
4. Attach ribbon to empty spool and wind until eyelet is on spool.
5. Put spool on spindle and wind up slack on free-wheeling spool.

Paper Loading

1. Release pressure roller and load with paper unrolling as shown.
2. Fold paper approximately 45 degrees in either direction.
3. Rotate paper until leading edge appears under pressure roller shaft. Be sure paper is not between type pallets and ribbon.
4. Pull through approximately 12 inches of paper and align edge of paper roll.
5. Engage pressure roller with paper, insert paper through window opening and close cover.

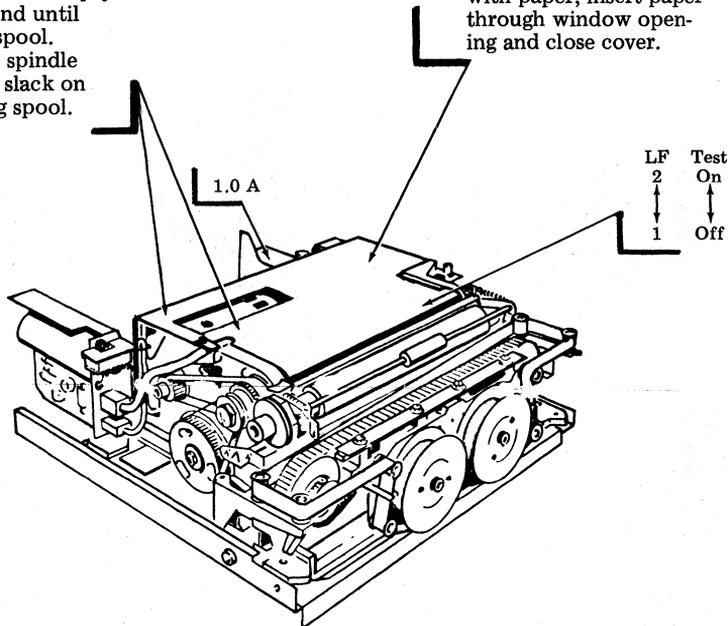


Fig. 19—80-Column Friction Feed Printer

Form Selection

Form Selector Setting				Color of Belt
4	3	2	1	
Length of Form				
3-1/3	2-1/2	5	10	Amber
3-2/3		5-1/2	11	Blue
4	3	6	12	Yellow
4-1/3		6-1/2	13	Brown
4-2/3	3-1/2	7	14	Red
5		7-1/2	15	Pink
5-1/3	4	8	16	Lt Green
5-2/3		8-1/2	17	Green
6	4-1/2	9	18	Lt Blue
7-1/3	5-1/2	11	22	White

Ribbon Loading

1. Ribbon is to wind and unwind at bottom of spool.
2. Put new spool on free-wheeling spindle.
3. Using routing shown, pass ribbon between paper and type carrier.
4. Attach ribbon to empty spool and wind until eyelet is on spool.
5. Put spool on spindle and wind up slack on free-wheeling spool.

Type Carrier Changing

1. Remove ribbon and swing ribbon guides out by pressing thumb levers.
2. Lift finger lever and remove carrier starting at right pulley.
3. Install new carrier starting at left pulley, follow above instruction in reverse.
4. Rotate carrier by hand in direction shown, aligning any protruding type pallets, to prevent snagging.
5. Option switch selection should agree with font arrangement of type carrier.

Paper Loading

1. Release paper guides and open tractors.
2. Fold one form down. If multiple forms, separate.
3. Sight down paper path and thread paper, keeping to the left.
4. Close tractors and paper guides.
5. Set right tractor for paper width.
6. Set left tractor for left margin.
7. Pull knob and turn to align form.

Form Selector
Depress when changing belts.

Idler Assembly
Loosen and move thumbscrew until idler assembly is approximately at right angles to slot.

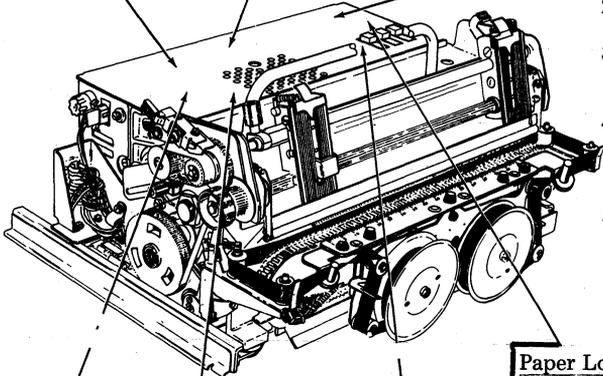
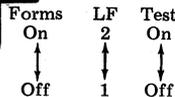
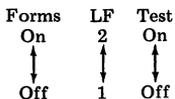


Fig. 20—80-Column Tractor Feed Printer

Form Selection

Form Selector Setting				Color of Belt
4	3	2	1	
Length of Form				
†3-1/3	2-1/2	5	10	Amber
†3-2/3	*2-3/4	5-1/2	11	Dk. Blue
4	3	6	12	Yellow
†4-1/3	*3-1/4	6-1/2	13	Brown
†4-2/3	3-1/2	7	14	Red
5	*3-3/4	7-1/2	15	Pink
†5-1/3	4	8	16	Lt. Green
†5-2/3	*4-1/4	8-1/2	17	Dk. Green
6	4-1/2	9	18	Lt. Blue
†7-1/3	5-1/2	11	22	White

†For six lines per inch.
*For eight lines per inch.



Ribbon Loading

Hold the ribbon spools approximately 18 inches apart and pull the ribbon taut. Using a downward sawing motion, starting on right side, slide the ribbon between the plastic shield and the steel tear edge. With the ribbon properly in position below the tear edge, pass the ribbon around on the rollers and between the posts. The top edge of ribbon on the rollers should be in front at the posts. Wind sufficient ribbon on empty spool so that second eyelet is wound on spool. Install spools as shown and take up ribbon slack on free-wheeling spool.

Type Carrier Changing

1. Remove ribbon and swing right ribbon guide out by pressing thumb lever.
2. Remove tear bar assembly and two securing screws.
3. Lift finger lever and remove carrier, starting at right pulley.
4. Install new carrier on the pulley, then follow above instructions in reverse. Push forward on tear bar while tightening securing screws.
5. Rotate carrier by hand in direction shown. Align any protruding type pallets to prevent snags.
6. Option switch selection should agree with font arrangement of type carrier.
7. Carrier changing may require type centering. Follow type centering instructions.

Type Centering

1. Disconnect ac power after printing with test switch.
2. Push in on gear and hold while turning collar clockwise for character clipped on right side and counterclockwise for character clipped on left side.

Paper Loading

1. Open tractor lid.
2. Fold a form down if multiple forms become separated.
3. Thread paper up into guide before engaging feed holes.
4. Unlock and set right tractor for paper width. Lock tractor.
5. Close tractor lids.
6. Unlock and set left margin. Lock margin.
7. Pull knob and rotate to position form tear line with printer tear bar.

Note: When a new form length has been installed, execute one form feed and repeat Step 7.

Form Selector

Depress when changing belts.

Idler Assembly

Loosen and move thumbscrew until idler assembly is approximately at right angles to slot.

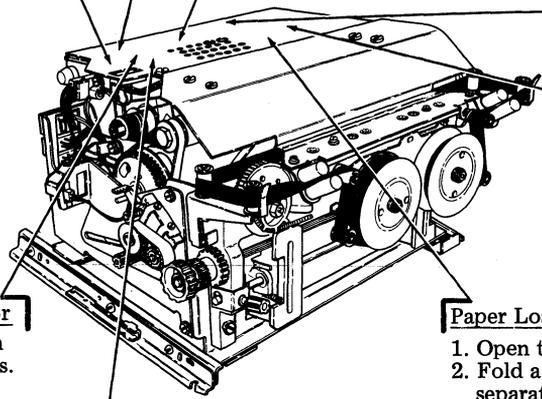


Fig. 21--Forms Access 80-Column Tractor Feed Printer

Form Selection

Form Selector Setting				Color of Belt
4	3	2	1	
Length of Form				
3-1/3	2-1/2	5	10	Amber
3-2/3		5-1/2	11	Blue
4	3	6	12	Yellow
4-1/3		6-1/2	13	Brown
4-2/3	3-1/2	7	14	Red
5		7-1/2	15	Pink
5-1/3	4	8	16	Lt Green
5-2/3		8-1/2	17	Green
6	4-1/2	9	18	Lt Blue
7-1/3	5-1/2	11	22	White

Ribbon Loading

1. Ribbon is to wind and unwind at bottom of spool.
2. Put new spool on free-wheeling spindle.
3. Using routing shown, pass ribbon between paper and type carrier.
4. Attach ribbon to empty spool and wind until eyelet is on spool.
5. Put spool on spindle and wind up slack on free-wheeling spool.

Paper Loading

1. Release paper guides and open tractors.
2. Fold one form down, if multiple forms, separate.
3. Sight down paper path and thread paper, keeping to the left.
4. Close tractors and paper guides.
5. Set right tractor for paper width.
6. Set left tractor for left margin.
7. Pull knob and turn to align form.

Forms On
↓
Off

LF 2
↑
1

Test On
↓
Off

Type Centering

1. Disconnect ac power after printing with test switch.
2. Hold gear from rotating and turn collar clockwise for character clipped on right side and counter-clockwise for character clipped on left side.

Type Carrier Changing

1. Remove ribbon and swing ribbon guides out by pressing thumb levers.
2. Lift finger lever and remove carrier starting at right pulley.
3. Install new carrier starting at left pulley, follow above instruction in reverse.
4. Rotate carrier by hand in direction shown, aligning any protruding type pallets, to prevent snagging.
5. Option switch selection should agree with font arrangement of type carrier.

Form Selector

Depress when changing belts.

Idler Assembly

Loosen and move thumbscrew until idler assembly is approximately at right angles to slot.

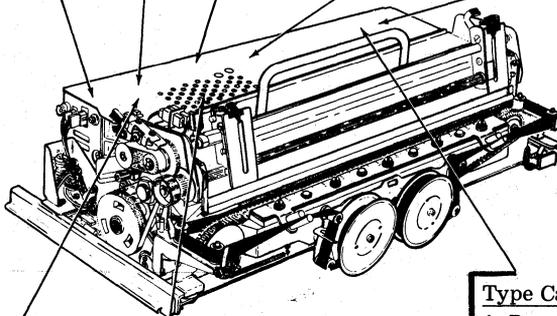


Fig. 22-132-Column Tractor Feed Printer

4.02 Brush and/or vacuum dust and paper lint that has accumulated on sides, front, and top of printer and inside paper chute (Fig. 23). Make sure customer's furnishings are not damaged. Customer's area must be kept clean.

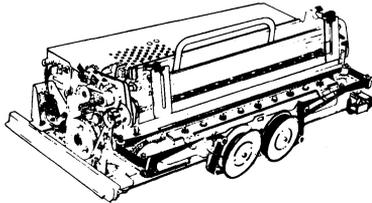


Fig. 23

4.03 Place a piece of cleaning paper between line feed armature and pole piece (Fig. 24). Manually hold armature against pole piece and pull paper out. Perform operation twice. Discard paper.

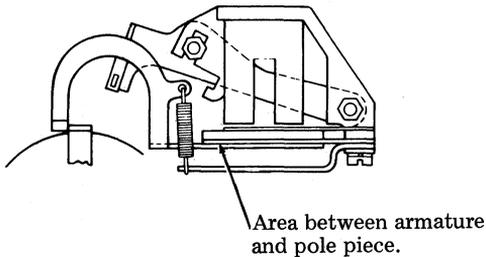


Fig. 24

4.04 Spray form-out contacts with 337449 cleaner (Fig. 25).

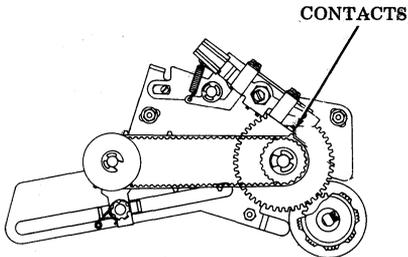
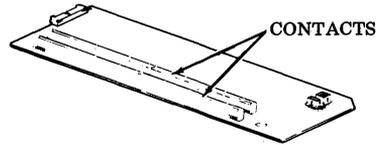
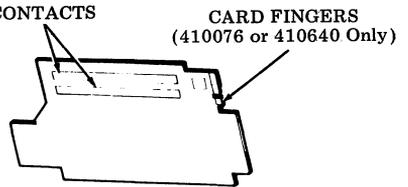


Fig. 25

4.05 Remove printer logic circuit card. Vacuum component side of circuit card. Remove paper dust and debris that has accumulated. Spray contacts and card fingers with 337449 cleaner (Fig. 26).



PRINTER LOGIC CIRCUIT CARD
(Used on 132-Column Tractor Feed Units)



PRINTER LOGIC CIRCUIT CARD
(Used on Friction and Tractor Feed Units)

Fig. 26

4.06 Brush and/or wipe any foreign material away from the armatures and bottom of paper guide. Spray the upper and lower antifreeze strips across the entire bank and circuit card fingers with 337449 cleaner (Fig. 27).

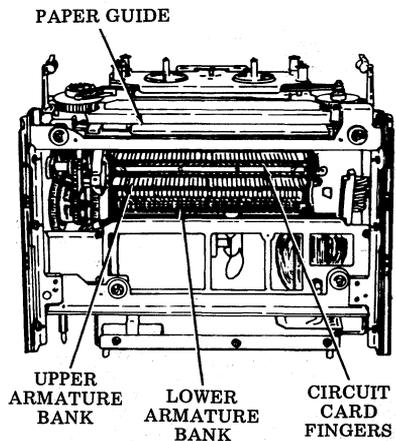


Fig. 27

5. CHECKS

5.01 Check fiber gear on crossshaft for worn or chipped teeth. Check for red oxide around bearings. (See Fig. 28.) At the bearings, check that inner race does not turn on shaft. If it does, replace shaft. Check for play in shaft by lifting up and down. Check for worn, dented, or pitted teeth on right pulley (Fig. 28). If any of these conditions exist, replace printer.

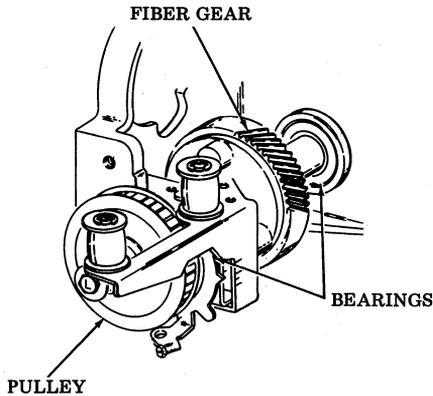


Fig. 28

5.02 Check for worn, chipped or cracked ribbon rollers; replace if necessary.

Note: Tractor feed printers should be equipped with new style rollers. Check that new style rollers have been properly installed, with the groove and bulge downward (Fig. 29).

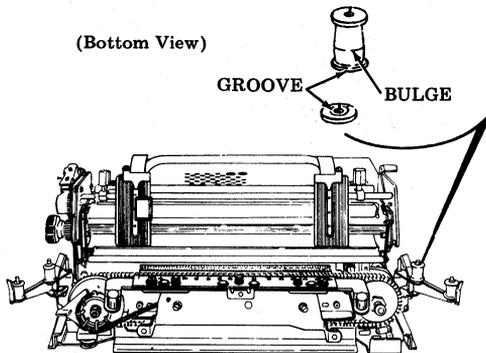


Fig. 29

Check ribbon for curling. If any curling occurs on ribbon, perform RIBBON TRACKING adjustment after printer is reinstalled in cabinet.

5.03 Check ribbon feed drive belt for missing teeth. Check for damage or worn areas on ribbon discs (Fig. 30). Replace if necessary. If belt is replaced, perform RIBBON FEED DRIVE BELT TENSION adjustment.

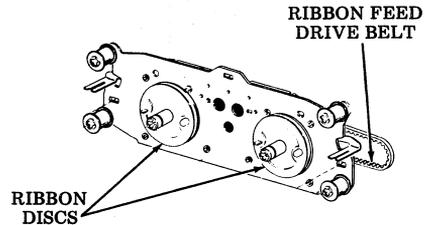


Fig. 30

5.04 Check for wear, detents, or pitting on left sprocket flange (Fig. 31). Replace if necessary. If left sprocket is replaced, perform LEFT CARRIER SPROCKET adjustment.

5.05 Check for wear and pitting on type carrier track. Make sure type carrier lubricating pad is in place and is not damaged. (See Fig. 31.) Replace if necessary. If front plate is replaced, perform BACKUP BAR adjustment.

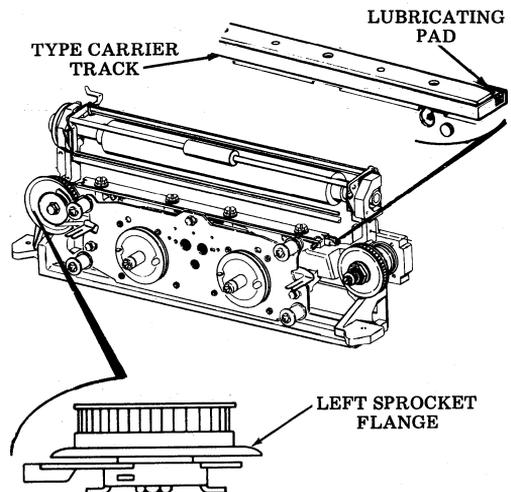


Fig. 31

5.06 Rotate impeller shaft and check that shaft rotates freely, with no binds in the two supporting bearings. Check both ends of shaft for any red oxide deposits near bearing area. (See Fig. 32.) If red oxide deposits are present, replace printer.

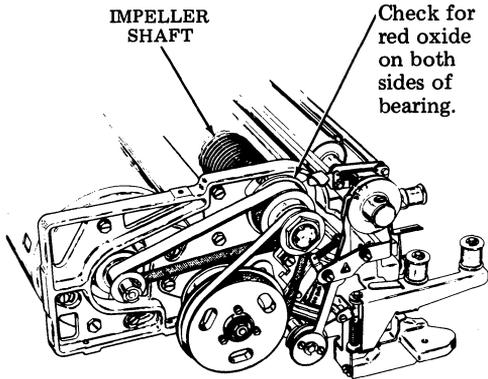


Fig. 32

5.07 Check impeller shaft drive belt for missing teeth (Fig. 33). Replace if necessary. If belt is replaced, perform the IMPELLER SHAFT DRIVE BELT TENSION adjustment.

5.08 Check feed bar drive belt for missing teeth (Fig. 33). Replace if necessary. If belt is replaced, perform FEED BAR DRIVE BELT TENSION adjustment.

5.09 Check clutch drive belt for missing teeth (Fig. 33). Replace if necessary. If belt is replaced, perform CLUTCH DRIVE BELT TENSION adjustment.

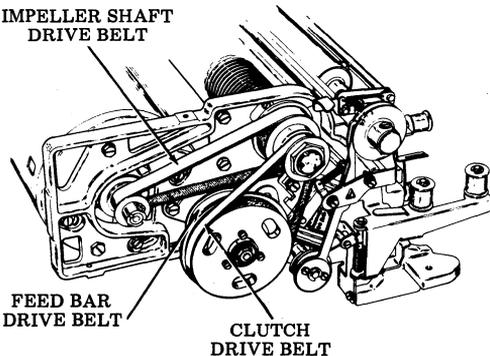


Fig. 33

5.10 Check for excessive wear on gear, feed bars and roller (Fig. 34). Replace gear and/or line feed mechanism. If line feed mechanism is replaced, perform CLUTCH DRIVE BELT TENSION adjustment.

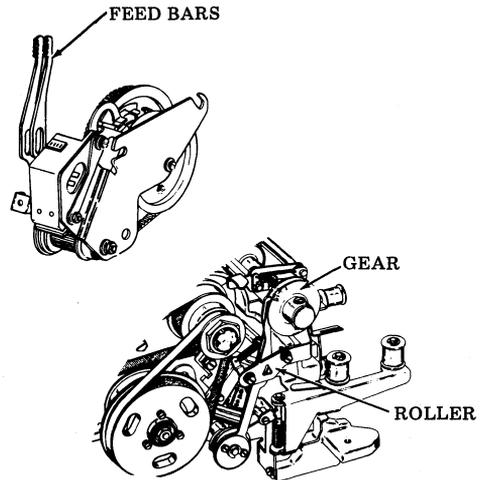


Fig. 34

5.11 Check that line feed coil is securely mounted on its core. Check for discoloration due to overheating on line feed coil casing. (See Fig. 35). If either of these conditions exist, replace line feed mechanism and perform CLUTCH DRIVE BELT TENSION adjustment.

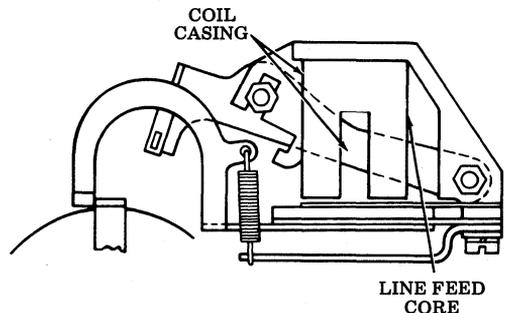


Fig. 35

5.12 Check for free rotation of motor shaft. Check for cracks on motor fan. (See Fig. 36.) Replace if necessary. If motor fan is replaced, perform MOTOR FAN SPACING adjustment.

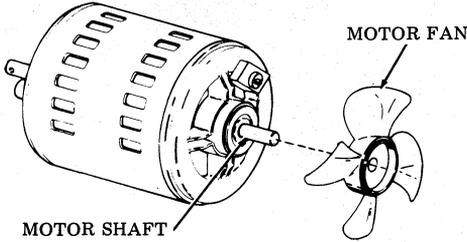


Fig. 36

5.13 Check for wear, bends, cracks or deformities in left and right ribbon guides (Fig. 37). Replace if necessary. If ribbon guides are replaced, perform RIBBON GUIDE (Final) adjustment.

5.14 Friction Feed Only:

(a) Check for excessive wear or deformities on paper and pressure rollers (Fig. 37). Replace if necessary.

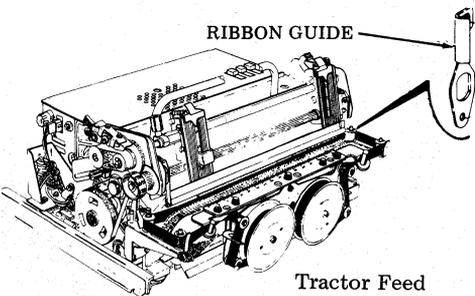
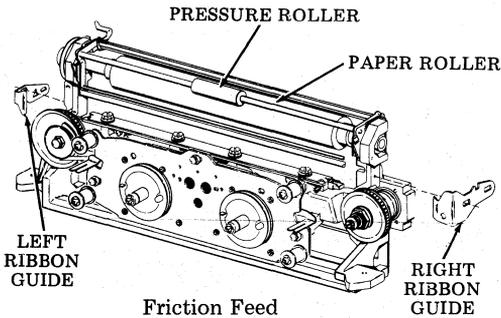


Fig. 37

(b) Check that the low paper sensor is not deformed (Fig. 38). If deformed, replace the low paper switch assembly and perform LOW PAPER SWITCH adjustment.

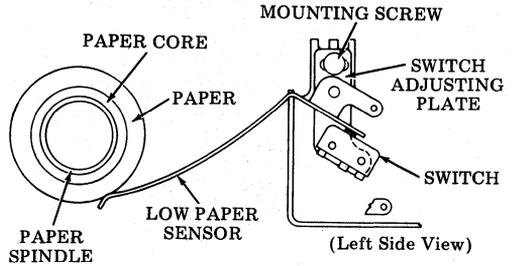


Fig. 38

(c) On 40P102 printer, check mask for tears at each end of slot (Fig. 39). Replace 402945 mask if necessary. If mask is replaced, perform MASK adjustment.

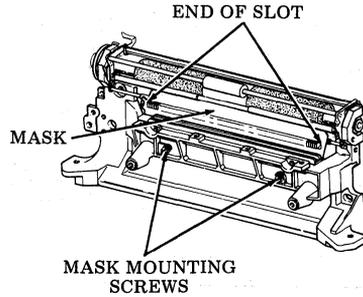


Fig. 39

5.15 Tractor Feed Only:

(a) Check for missing teeth or cams on form-out belt (Fig. 40). Replace if necessary. If form-out belt is replaced, perform FORM-OUT CONTACT TO BELT SPACING (Final) adjustment.

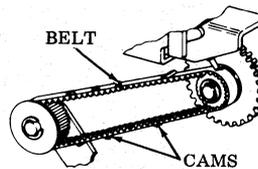


Fig. 40

(b) Check for missing, distorted, or torn mylar strip tabs on front casting assembly (Fig. 41). On 80-column printer, replace any mylar strip that has a rough surface with 402936 modification kit.

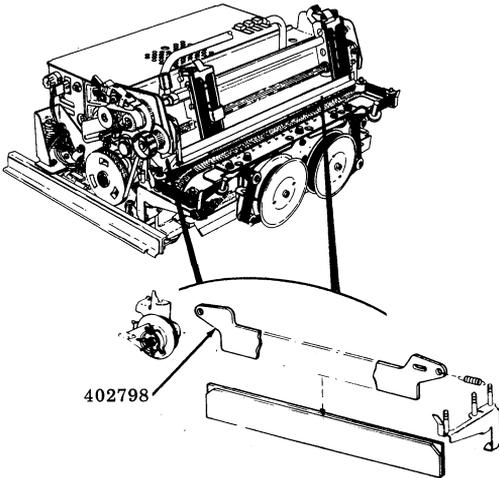


Fig. 41

(c) Check for bends, cracks, or deformities in tractors. Check for free operation of the tractors. Check that no pins are missing on tractors. Check amber drive belts for tears, distortion, or mutilation (Fig. 42). Replace if necessary. When replacing tractors make sure that the white dots or raised marks are in line with each other horizontally across the shaft.

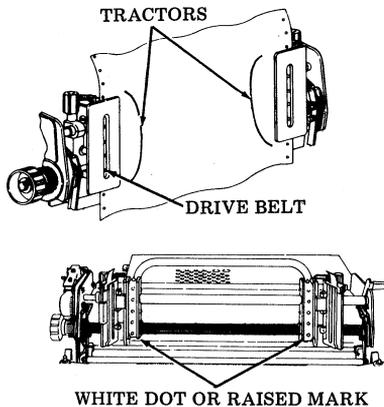


Fig. 42

(d) On 80-column printer, check that paper-out spring is not bent or deformed (Fig. 43). If bent or deformed, replace with 408680 modification kit.

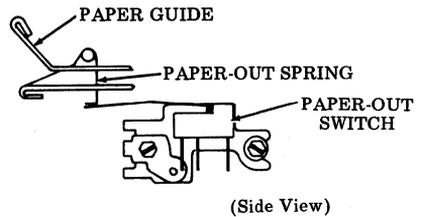
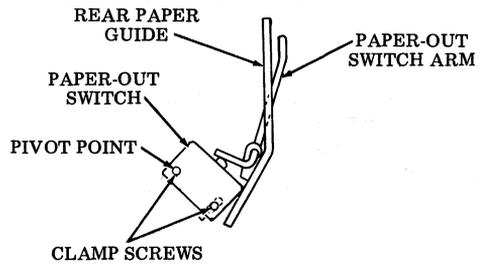
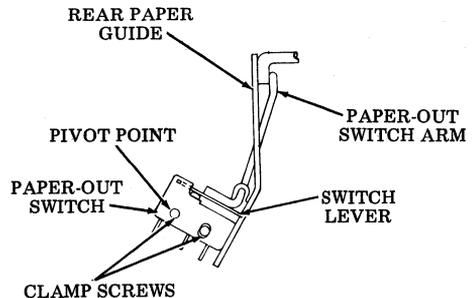


Fig. 43

(e) On 132-column printer, check that paper-out switch arm is not bent and that paper-out switch operates properly (Fig. 44). If defective, replace; then perform PAPER-OUT SWITCH adjustment.



Early Design



Late Design

Fig. 44

6. LUBRICATION

6.01 Lubricate printer per Section 582-210-700.

7. PRINTER REASSEMBLY INTO CABINET

7.01 Remount printer in cabinet; reconnect ac, SSI and interlock cables.

7.02 Replace the type carrier. Before replacing type carrier, seat all pallets using 402878 gauge (Fig. 45). Gauge is marked for 80 column and 132 column. Be sure to use the proper side of gauge to match the printer being maintained. Reinstall type carrier starting at left pulley. Once carrier is in place, rotate impeller shaft by hand one complete revolution of the carrier to seat all pallets.

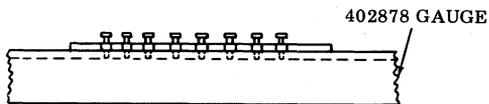


Fig. 45

7.03 Reinstall the ribbon. Install paper.

8. CABINET CHECKS

8.01 Test operation of interlock switch; pull up on switch plunger and apply power, then lower plunger. Motor should stop. On the forms access printer cabinet, test all three interlock switches (one for each front access door and one for top lid).

8.02 Check for air circulation and make sure motor and fans are working properly.

9. TESTING

9.01 Test the printer for proper operation. The test should include a check on the following:

- Operation of PAPER button on the printer cabinet
- Operation of FORMS ADVANCE button (tractor feed)
- Proper printer test message operation with Test switch On
- Simulation of low paper and paper out (friction feed) or form out (tractor feed)
- Line feed; single or double.

Refer to the station BSP for detailed checkout procedures. Extensive checkout should not be necessary during routine maintenance. However, the printer must be checked out sufficiently to make sure a working unit is being returned to service. For this purpose, a brief off-line checkout should suffice.

9.02 During the printer tests, the print quality must be examined. Printed copy should have no smudges; characters should not be clipped on either side; no characters should be missing; characters should be clear.

9.03 Return the unit to service following locally prescribed practice.