32 TYPING UNIT

LUBRICATION

CONTENTS PAGE

1. GENERAL

1.01 This section provides lubrication requirements for the 32 typing unit. It is reissued to include engineering changes. Marginal arrows indicate changes.

1.02 The general lubrication areas are illustrated by photographs. The specific points to receive lubricant are indicated on line drawings with appropriate textual instructions. Line drawings and textual instructions follow each photograph and are keyed to the photograph by paragraph numbers.

1.03 Thoroughly lubricate the typing unit, but avoid overlubrication that might permit the lubricant to drip or be thrown onto adjacent parts. Saturate all felt washers and oilers with oil, and apply oil to each end of all bearings.

1.04 Lubricate printer before placing it in storage, or before placing it in service if it had been stored six months or longer. Thereafter, relubricate printer at the following intervals:

LUBRICATION INTERVAL
(Based on 5-day Week)

Daily Operation of Printer			
Speed (wpm)	0-8 hrs	8-16 hrs	16-24 hrs
60	39 wks	26 wks	13 wks
66	39 wks	26 wks	13 wks
75	39 wks	26 wks	13 wks
100	26 wks	13 wks	6 wks

Note 1: Reduce lubricating intervals 15% for a 6-day week, and 30% for a 7-day week.

Note 2: Units with serial nos. below 144,000, reduce lubricating intervals 33%. Units with serial nos. above 144,000, use above chart.

1.05 On occasion when the printer is disassembled, apply a coat of thoroughly mixed 50 percent KS7470 oil and 50 percent KS7471 grease at places indicated below.

Selector Cam Surfaces (2.44)
Spacing Gear Teeth (2.23)
Codebar Pivot Shaft (2.17 and 2.18)
Eccentric Cams (2.02 and 2.04)
Stop Bail Adjusting Tab (2.11)
Platen Shaft Bearings-Sprocket Feed Units only (2.49)
Distributor Shaft Cam Roller (Early Design) or Stud (Late Design) (2.13)
H-Lever (2.13)

Note 1: On occasion when the clutch is disassembled, lubricate the Internal Clutch Assemblies (2.02, 2.04, 2.10, 2.44, and 2.53 on Form Feed Mechanisms only) as follows: Apply a thin coat of KS7471 grease at the loops of the clutch shoe lever spring, and lubricate the internal mechanism of the clutch with KS7470 oil.

Note 2: At regular lubrication intervals lubricate the clutch mechanism with KS-7470 oil only.

1.06 The textual instructions that accompany the line drawings consist of abbreviated directions, specific lubrication points, and parts affected. The meanings of the abbreviated directions (symbols) follow.

Symbol	Meaning
D	Keep dry — no lubricant permitted.
G	Apply thin coat of grease (KS7471).
O	Oil (KS7470).

1.07 References to left, right, front, or rear, etc, consider the typing unit to be viewed from a position where the carriage area faces up and the selector area is located to the viewer's left.

CAUTION: DO NOT USE ALCOHOL, MINERAL SPIRITS, OR OTHER SOLVENTS TO CLEAN PLASTIC PARTS OR PARTS WITH PROTECTIVE-DECORATIVE FINISHES. A SOFT, DRY CLOTH SHOULD BE USED TO REMOVE DUST, OIL, GREASE, OR OTHERWISE CLEAN PARTS OR SUBASSEMBLIES. IF NECESSARY, A SOFT CLOTH DAMPENED WITH SOAP OR MILD DETERGENT MAY BE USED. RINSE EACH CLEANED PART OR SUBASSEMBLY WITH SOFT, DAMP CLOTH AND BUFF WITH A SOFT, DRY CLOTH.

1.08 Tools and materials needed for teletypewriter lubrication are listed in Section 570-005-800TC.

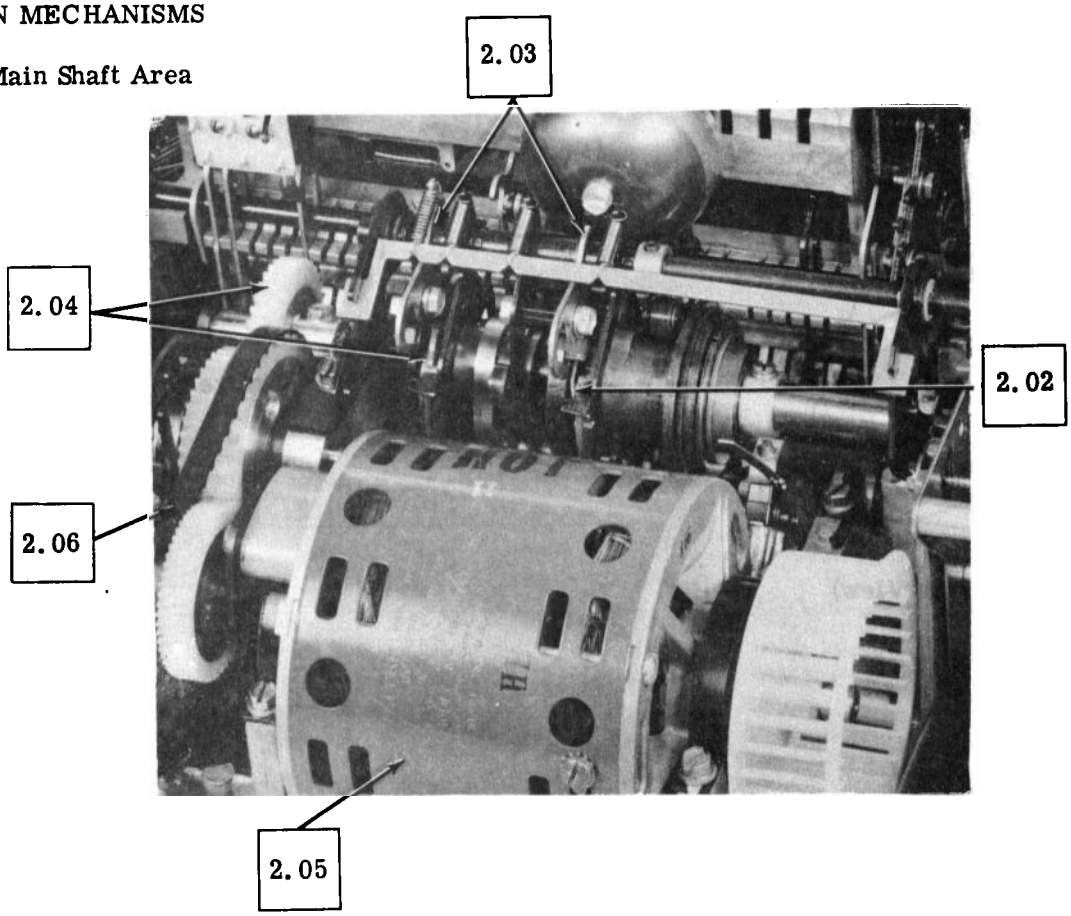
1.09 For disassembly and reassembly information, refer to Section 574-172-702TC.

CAUTION: ALL ELECTRICAL POWER MUST BE REMOVED FROM UNIT BEFORE LUBRICATING OR REMOVING COMPONENTS FOR LUBRICATION.

2. BASIC UNITS

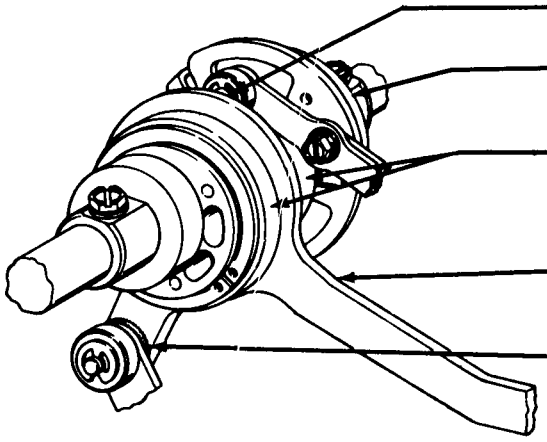
COMMON MECHANISMS

2.01 Main Shaft Area



(Rear View)

2.02 Function Clutch

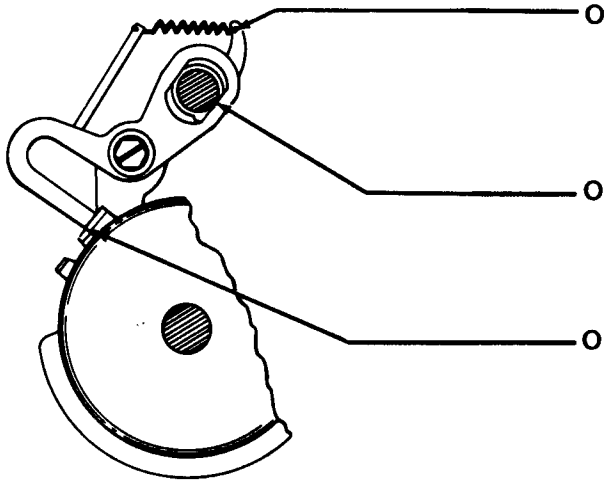


O	Shaft (Each End)	Roller
O*	Internal Mechanism	Clutch
O*	Camming Surfaces	Eccentric Cams
O	Contact Surface	Carriage Drive Arm
O	Felt Washer	Function Drive Arm

*Refer to 1.06.

(Left Front View)

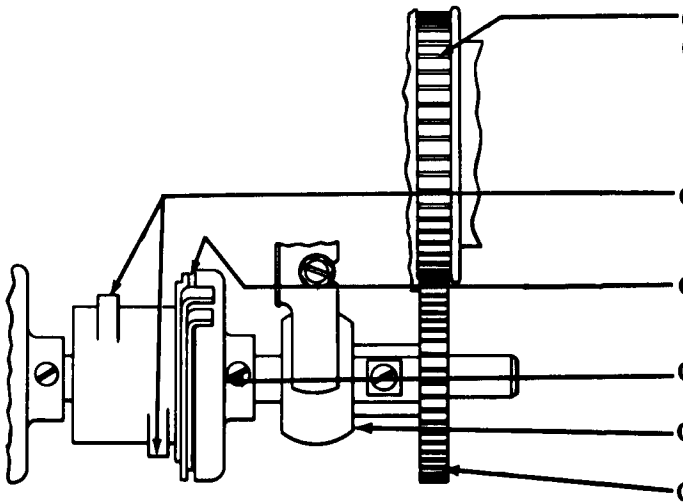
2.03 Trip Shaft



O	Hooks (Each End)	Springs (4)
O	Pivot Bearings	Shaft (6 Points)
O	Latching Surface	Trip Levers (2)

(Left Side View)

2.04 Codebar Clutch

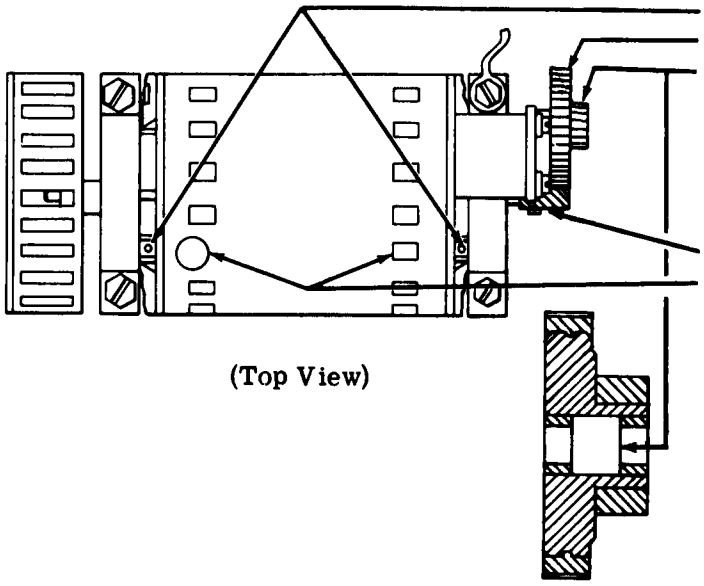


G	Teeth (Do not grease teeth of motor belt sprocket)	Distributor Gear
O*	Camming Surfaces	Eccentric Cams
O*	Interior Mechanism	All Clutches
O	Interior Felt Washer	All Clutches
O	Bearings (Both Ends)	Main Shaft
G	Teeth	Gear

(Top View)

*Refer to 1.06.

2.05 Motor Area

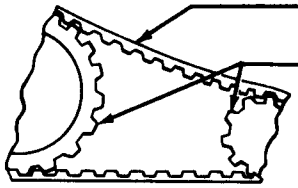


(Top View)

O	Bearings (Each End)	Motor Shaft
G	Teeth	Intermediate Gear
G	Pack Grease in Space Between Two Oilite Bearings.	Intermediate Gear
	Note: Remove motor and intermediate gear.	
G	Teeth	Motor Pinion
D	Interior Areas	Motor

CAUTION: MOTOR START RELAY AND CAPACITOR MUST BE KEPT FREE OF LUBRICANTS.

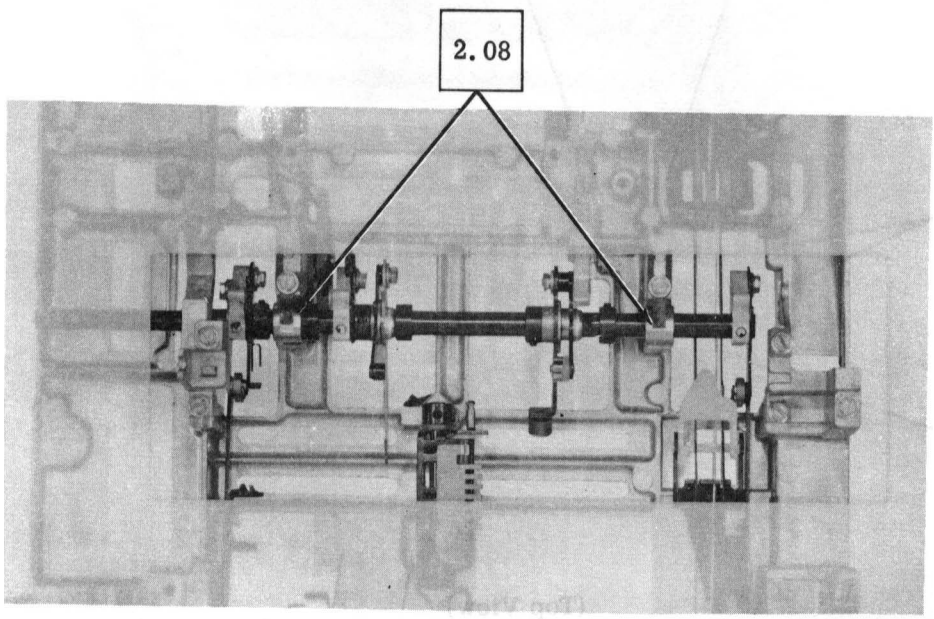
2.06 Intermediate Gears



(Right Side View)

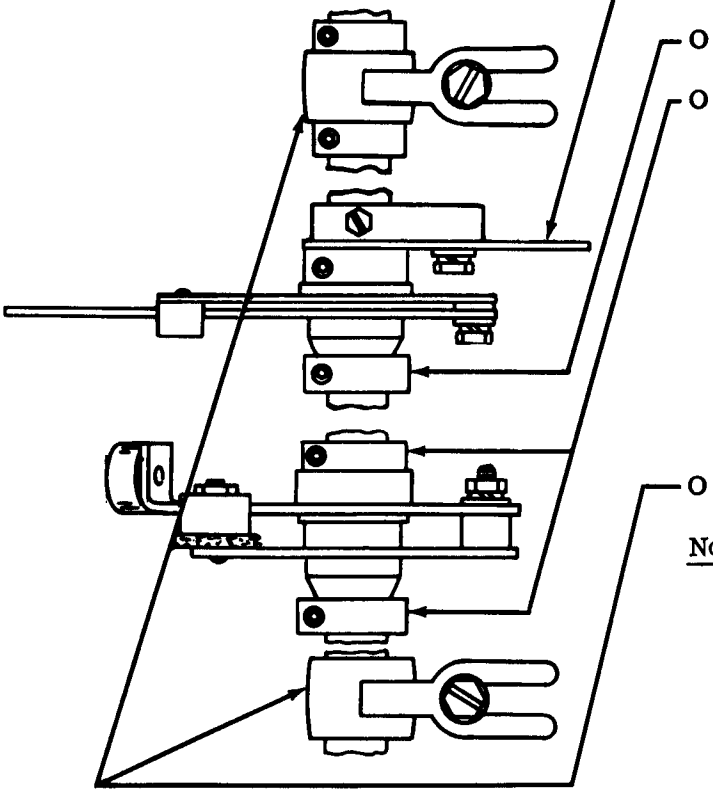
D	Motor Belt	Motor Gear
D	Teeth	Sprockets (2)

2.07 Function Shaft Area



(Top View) (Typing unit disassembled for illustration only.)

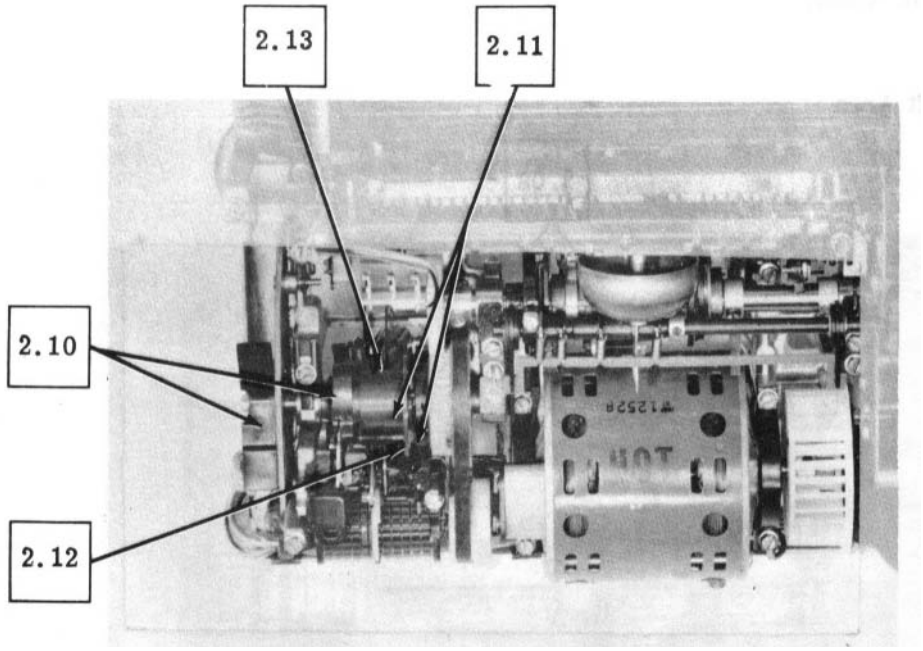
2.08 Function Rocker Shaft



O	Pivot	Rocker Arm
O	Pivot (Both Ends)	Codebar Reset Lever
O	Pivot (Both Ends)	Suppression Latch
O	Bearing (2)	Functic : Shaft

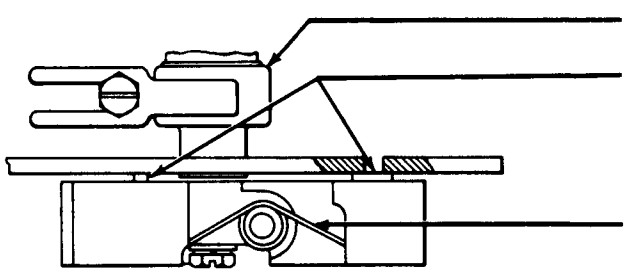
Note: Replace motor and intermediate gear.

2.09 Distributor Area



(Top View)

2.10 Disc and Brushes

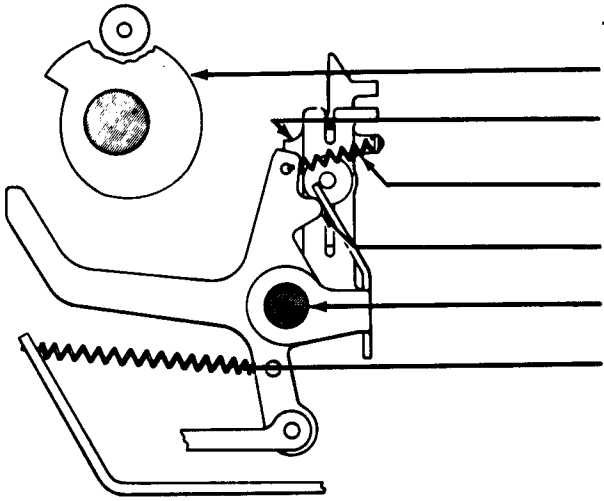


O	Bearings (Each End)	Distributor Shaft
D	Contact Surfaces	Disc and Brushes
D	Seat or Ends	Spring

(Top View)

2.11 Stop Bail

Note: Remove answer-back drum.

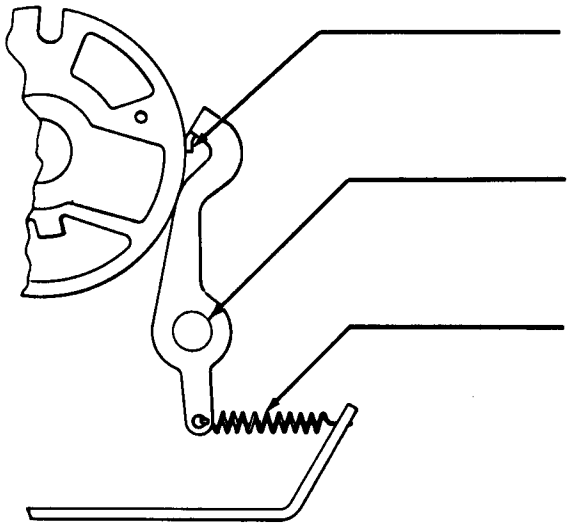


O	Camming Surface	Distributor Clutch
O	Latching Surface	Stop Bail
O	Hooks (Each End)	Stop Bail Spring
O*	Contact Surface	Adjusting Tab
O	Pivots (2)	Stop Bail
O	Hooks (Each End)	Follower Lever Spring

*Refer to 1.06.

(Right Side View)

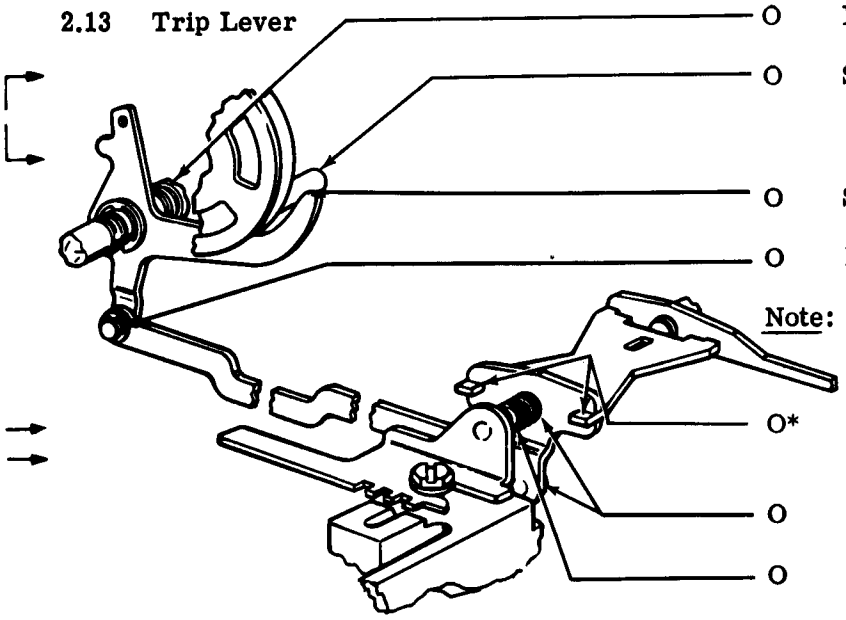
2.12 Latchlever



O	Latching Surface	Latchlever
O	Pivot	Trip Shaft
O	Hooks (Each End)	Spring

(Right Side View)

2.13 Trip Lever



O	Pivot	Trip Shaft
O	Shaft (Both Ends)	Roller (Early Design) or Stud (Late Design)
O	Sliding Surface	Roller Follower
O	Pivot	Trip Lever

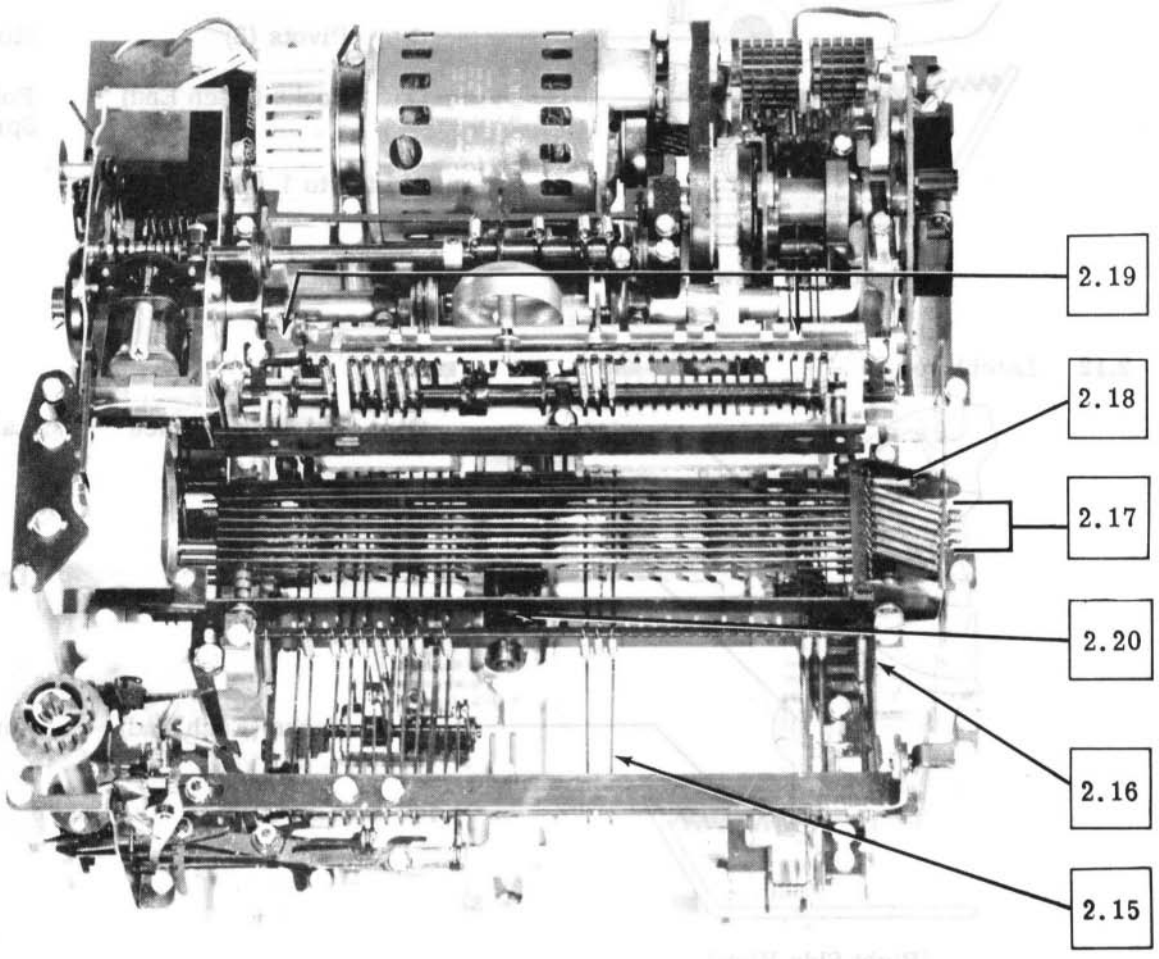
Note: Replace answer-back drum.

O*	Engaging Tabs (4 Places)	H-Lever
O	Pivots	H-Lever
O	Seat (Each End)	H-Lever Spring

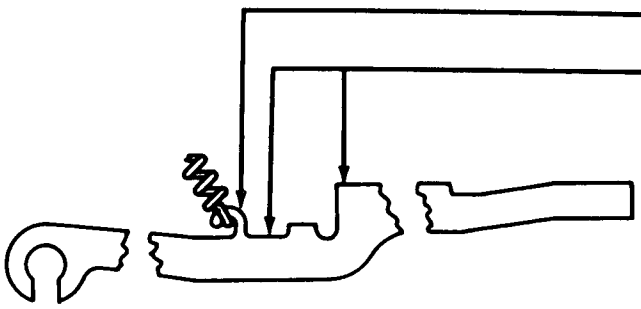
(Left Front View)

*Refer to 1.06.

2.14 Function Area



2.15 Function Levers

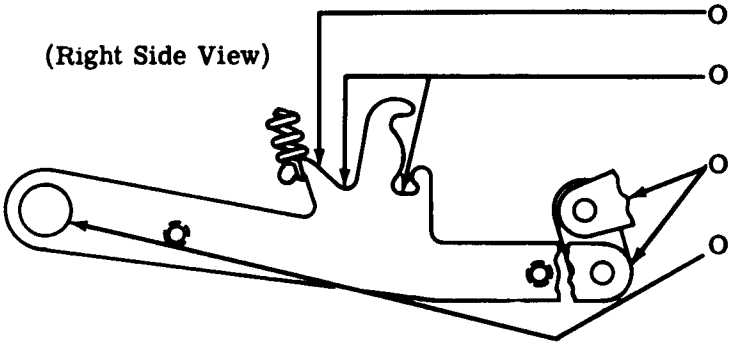


(Right Side View)

O Hooks (Each End) — Springs

O Engaging Surfaces — Function Levers

2.16 Stripper Drive Lever



(Right Side View)

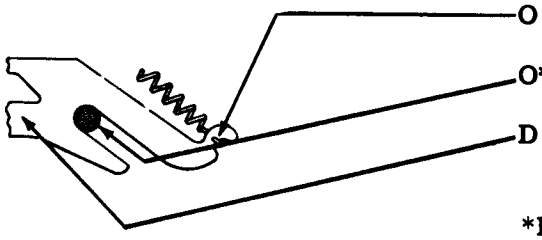
O Hooks (Each End) — Springs

O Engaging Surfaces — Stripper Drive Lever

O Pivots — Stripper Drive Link

O Felt Washers (2) (Each End of Shaft) — Front Function Shaft

2.17 Codebars



O Hooks (Each End) — Springs

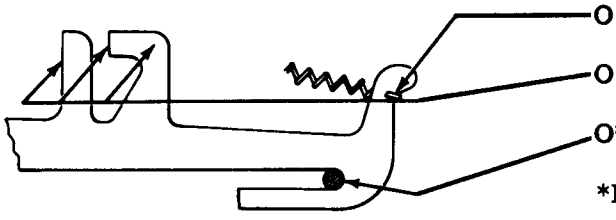
O* Pivot — Shaft

D Area Between Codebars

*Refer to 1.06.

(Front View)

2.18 Automatic Codebar



O Hooks (Each End) — Spring

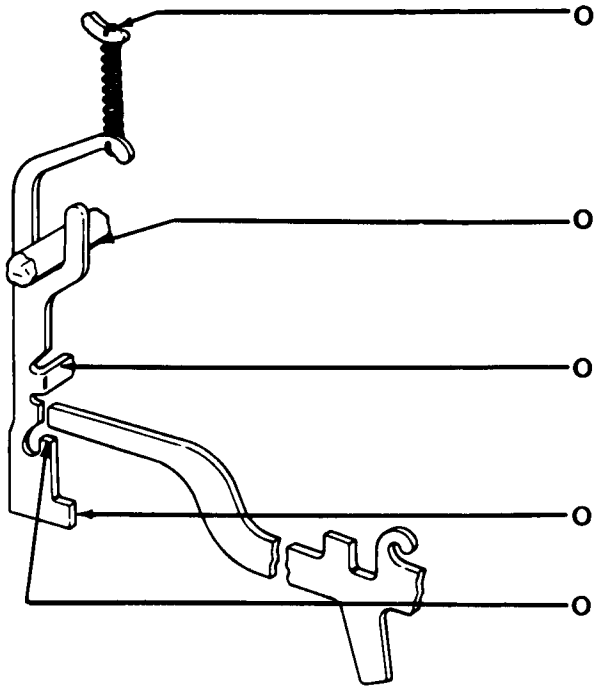
O Blocking Contact — Tab (1 of 3)

O* Pivot — Shaft

*Refer to 1.06.

(Front View)

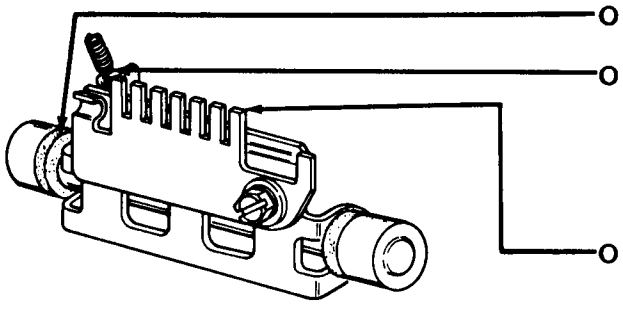
2.19 Rocker and Pawls



Hooks (Each End)	Pawl Springs
Pivots	Shaft
Latching Surfaces	Pawls
Engaging Surfaces	Pawls
Engaging Surfaces	Function Levers

(Left Front View)

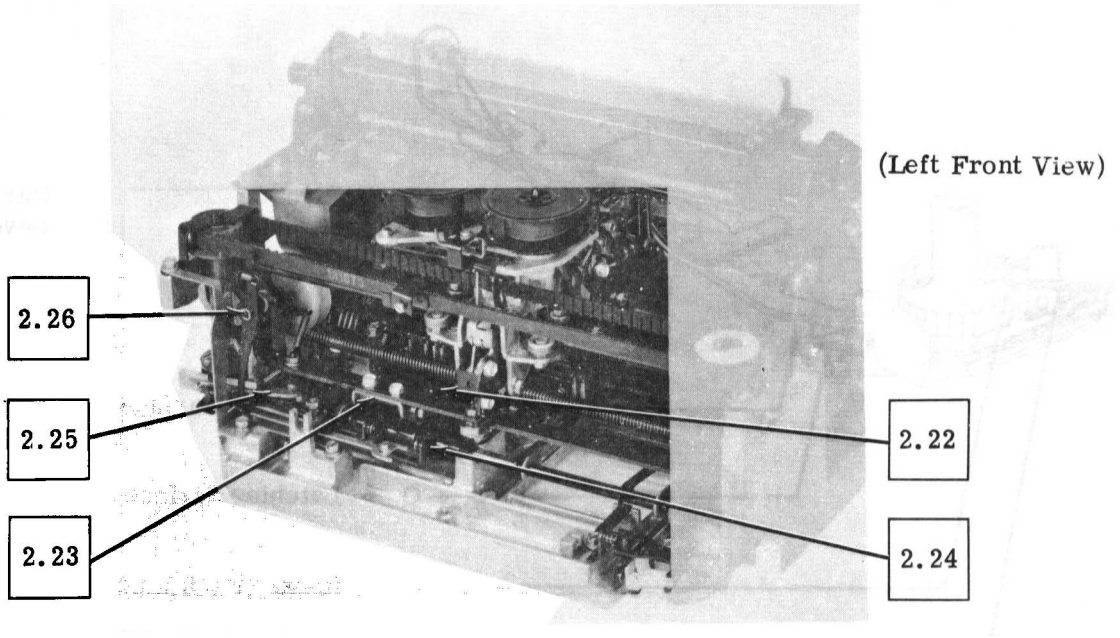
2.20 Reset Bail



Felt Washers (2)	Reset Bail Shaft
Hooks (Each End)	Spring
Contact Surfaces	Codebar Engaging Tines

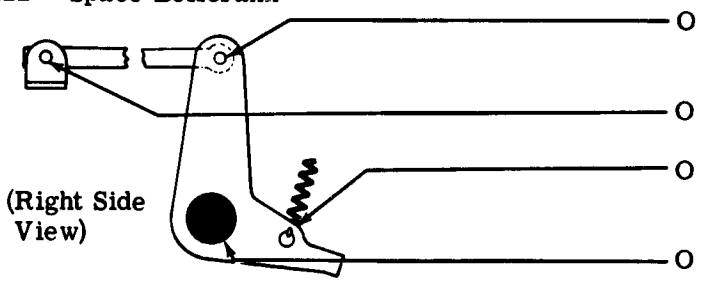
(Left Front View)

2.21 Spacing Area



(Left Front View)

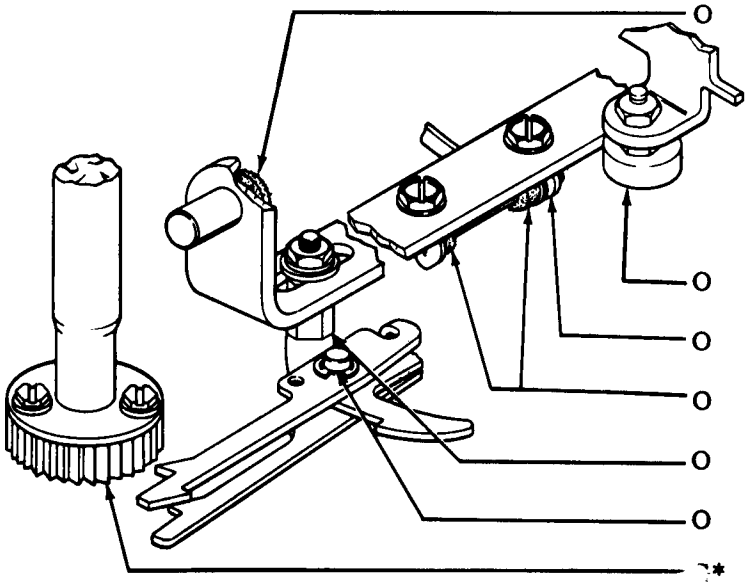
2.22 Space Bellcrank



(Right Side View)

O	Pivot	Bellcrank
O	Pivot	Spacing Lever
O	Hooks (Each End)	Spring
O	Pivot	Bellcrank

2.23 Drive Mechanism

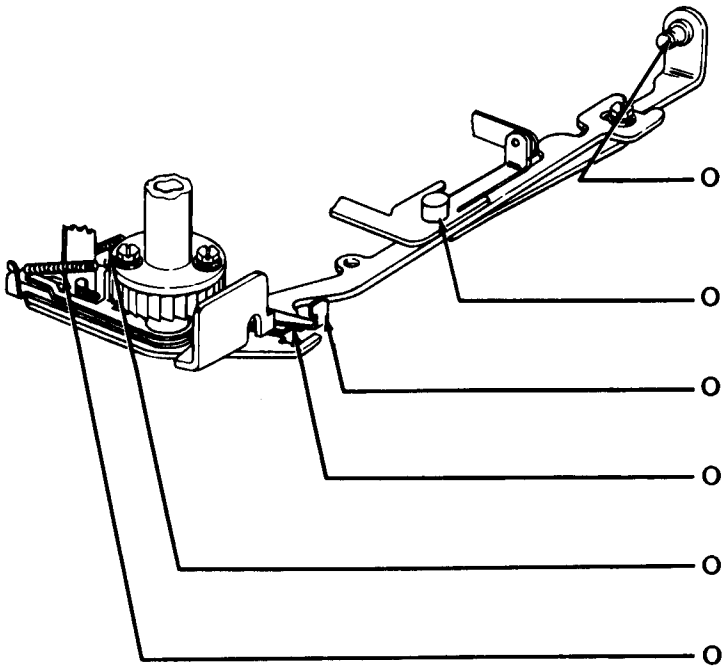


(Left Front View)

O	Felt Washers (2)	Carriage Drive Bail
O	Bearings (2)	Front Bearings
O	Pivot	Drive Arm
O	Felt Washers	Drive Arm Bail
O	Roller	Drive Roller
O	Pivot	Feed Pawl
O*	Teeth	Spacing Gear

*Refer to 1.06.

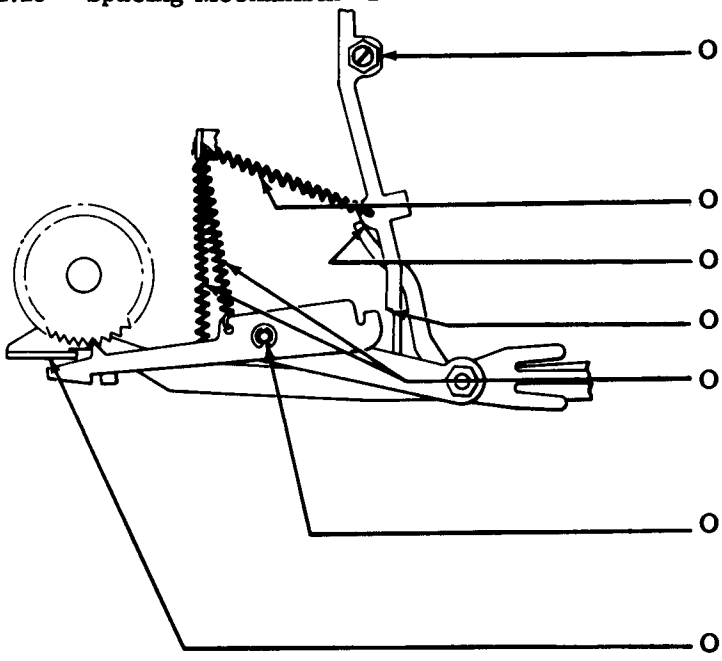
2.24 Carriage Return and Spacing Levers



Pivot	Carriage Return Lever
Pivot	Spacing Mechanism
Engaging Surface	Latch
Latching Surface	Latch
Hooks (Each End)	Latch Spring
Hooks (Each End)	Latch Spring

(Left Front View)

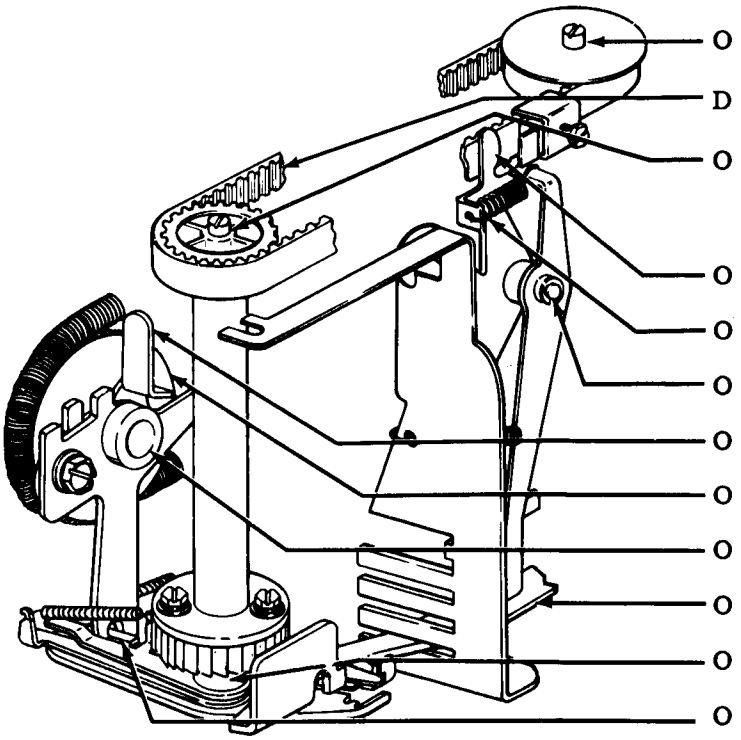
2.25 Spacing Mechanism - 1



Pivot	Eccentric
Hooks (Each End)	Spring
Engaging Surface	Spacing Lever
Latching Surface	Suppression Lever
Hooks (Each End)	Springs (3)
Pivot	Feed Pawl
Engaging Surfaces	Feed and Check Pawls

(Top View)

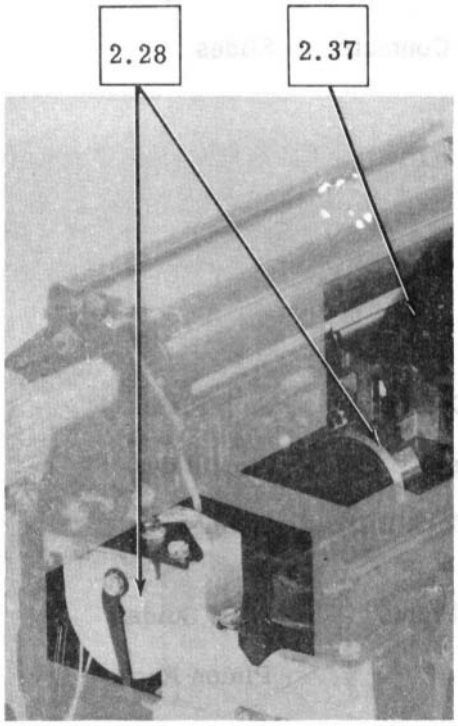
2.26 Spacing Mechanism - 2



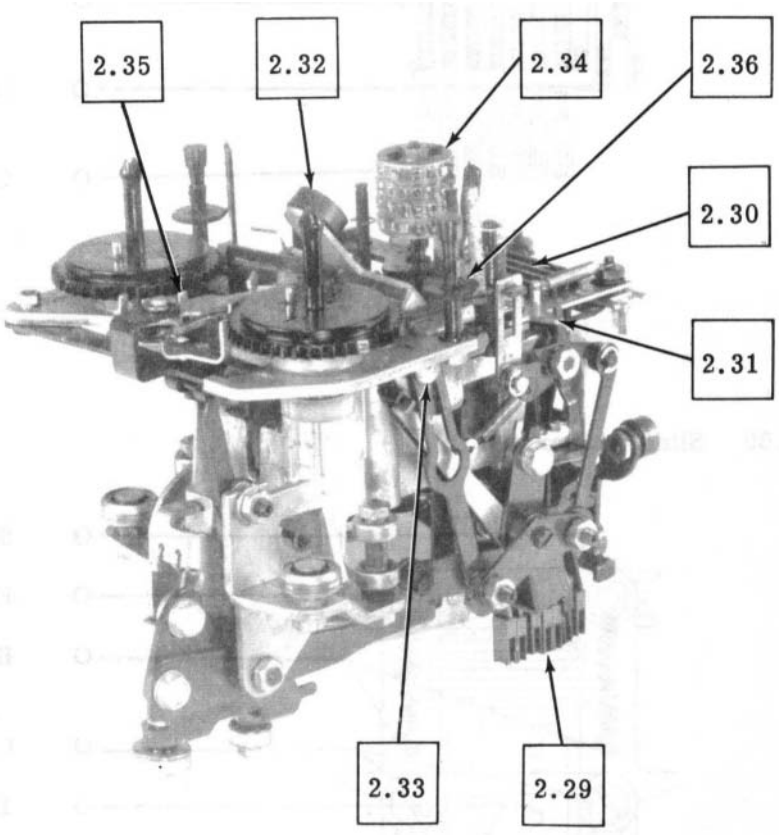
O	Pivot	Belt Pulley
D	Belt and Pulley	Spacing Belt
O	Shaft (Remove Bracket and Retaining Ring)	Sprocket
O	Engaging Surface	Suppression Arm
O	Hooks (Each End)	Spring
O	Pivot	Suppression Arm
O	Engaging Surface	Latch Arm
O	Contact Surface	Spring Pulley
O	Pivot	Spring Pulley
O	Engaging Surface	Suppression Latch
O	Pivot	Latch
O	Engaging Surfaces	Latch

(Left Front View)

2.27 Carriage Area



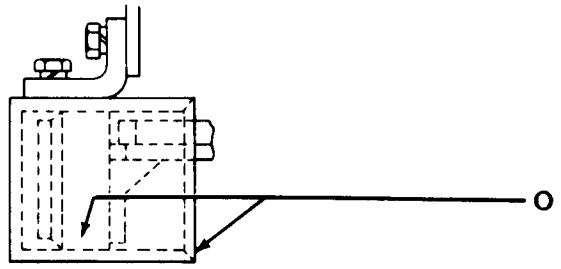
(Left Front View)



(Right Front View)

Note: Remove ribbon mechanism and carriage return spring before lubricating. For instructions, see Section 574-172-702TC.

2.28 Dashpot

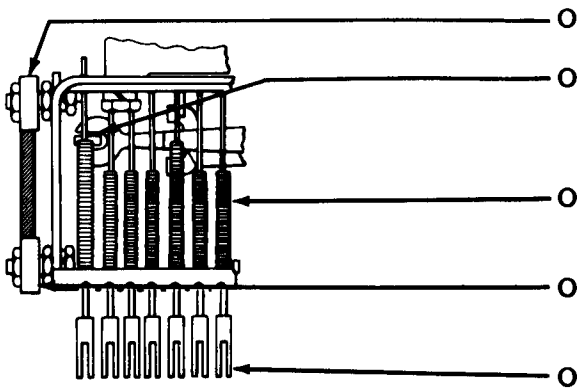


(Front View)

O	Sliding Surfaces	Dashpot and Cylinder

(Apply with oil dampened cloth. Too much lubricant will cause malfunction.)

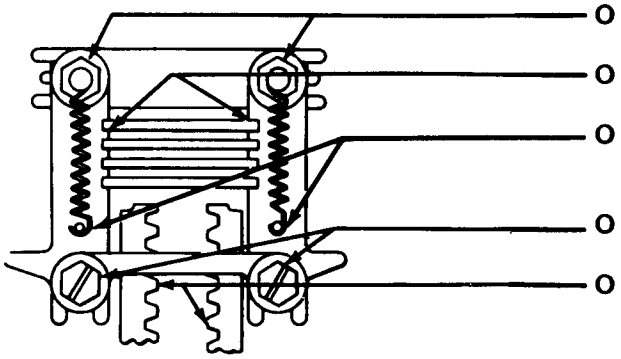
2.29 Slides



(Left Side View)

O	Bearing	Rear Roller (Top)
O	Engaging Surface	Suppression Latch Fork
O	Seats (Each End)	Slide Guide Springs
O	Bearing	Rear Roller (Bottom)
O	Codebar Contacts	Slides

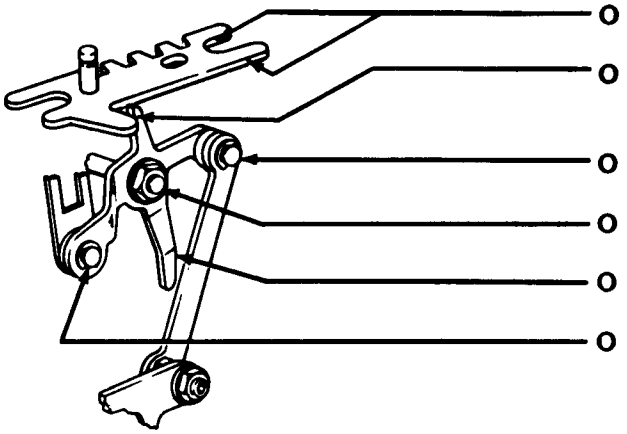
2.30 Slide Guideplates



(Top View)

O	Sliding Contacts	Stop Plate
O	Engaging Surfaces	Stop Slides
O	Hooks (Each End)	Springs
O	Contact Points	Slide Guides
O	Teeth	Pinion Racks

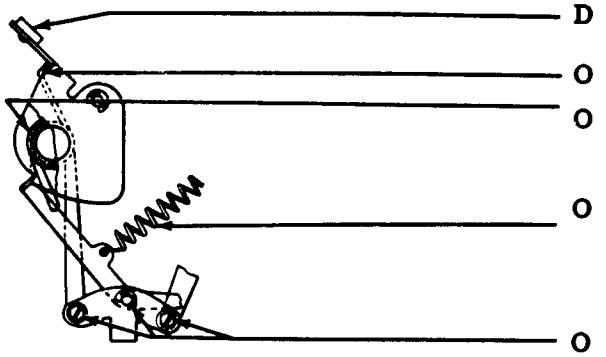
2.31 Drive Arm



O	Contact Surface	Plate
O	Contact Surfaces	Plate and Drive Arm
O	Pivot	Drive Arm
O	Pivot	Drive Arm
O	Contact Surface	Drive Arm
O	Pivot	Link

(Right Side View)

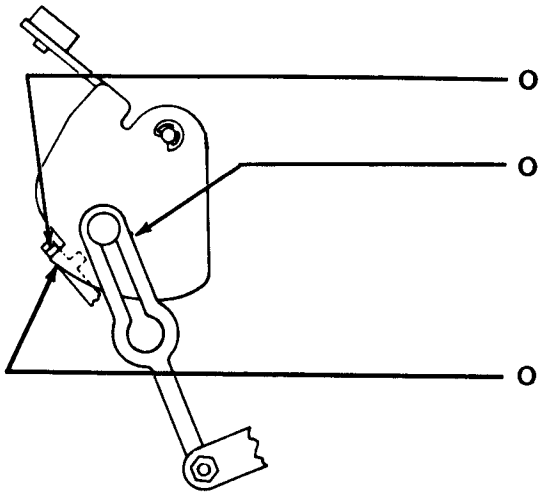
2.32 Print Hammer



D	Surface	Print Hammer
O	Ends (2)	Torsion Spring
O	Pivots (2)	Spring Shaft
O	Hooks (Each End)	Spring
O	Bearings (3)	Drive Bail

(Right Side View)

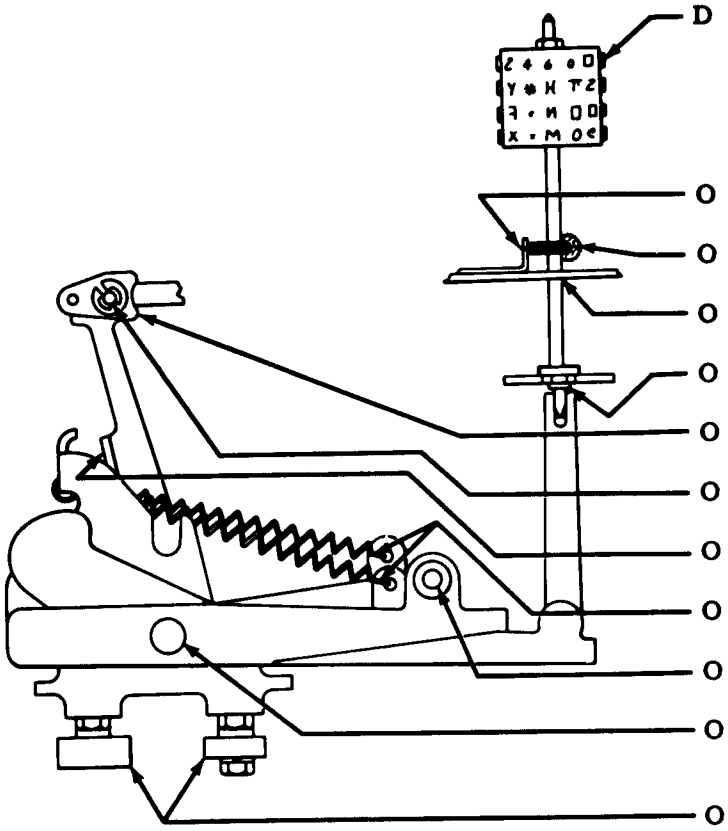
2.33 Reset Arm



O	Latching Surface	Trip Lever
O	Sliding Contacts	Reset Arm
O	Camming Surface	Print Hammer Bail

(Right Side View)

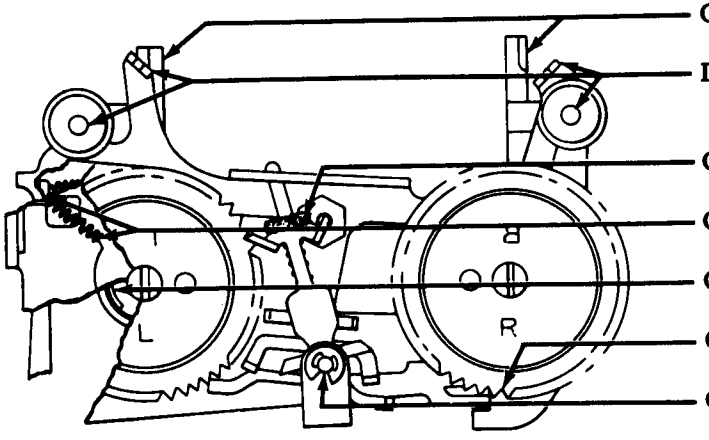
2.34 Typewheel Mechanism



D	Printing Surface	Typewheel
	Note: Clean typewheel with solvent at each routine maintenance interval.	
O	Hooks (Each End)	Return Spring
O	Roller	Return Spring
O	Upper Bearing	Positioning Cage
O	Felt Wick	Typewheel Shaft
O	Engaging Surfaces (2)	Rotary Drive Lever
O	Pivot	Pulse Link (2)
O	Contact Surface	Power Bail
O	Hooks (Each End)	Springs (2)
O	Pivot	Drive Arm
O	Pivot	Power Bail
O	Bearings	Rollers (Front and Rear - 2 Each)

(Right Side View)

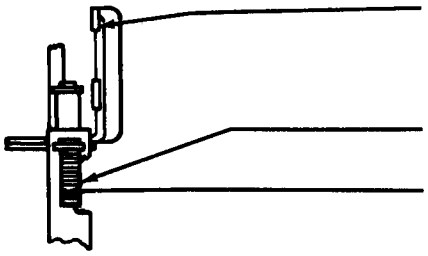
2.35 Ribbon Mechanism



O	Pivot Points (2)	Mounting Shaft
D	Slots and Rollers	Ribbon Path
O	Felt Wick	Feed Pawl
O	Hooks (Each End)	Springs (3)
O	Seat (Each End)	Torsion Springs (2)
O	Teeth	Ratchets (2)
O	Pivot	Feed Pawl

(Top View)

2.36 Ribbon Guide Spring



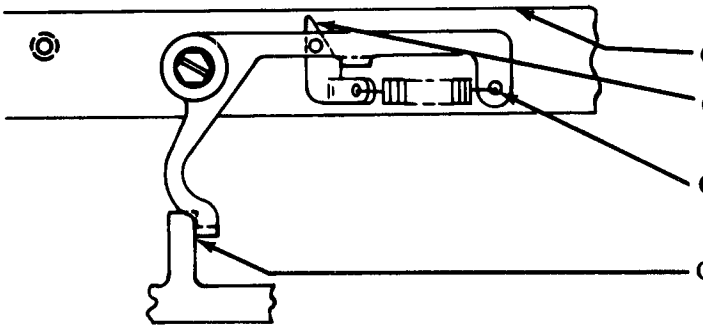
(Right Side View)

D	Surfaces in Contact with Ribbon	Ribbon Guide
O	Seat (Each End)	Springs (2)
O	Sliding Contacts (2)	Lifter Arm

Replace ribbon mechanism and carriage return spring.

2.37 Carriage Rear Rail

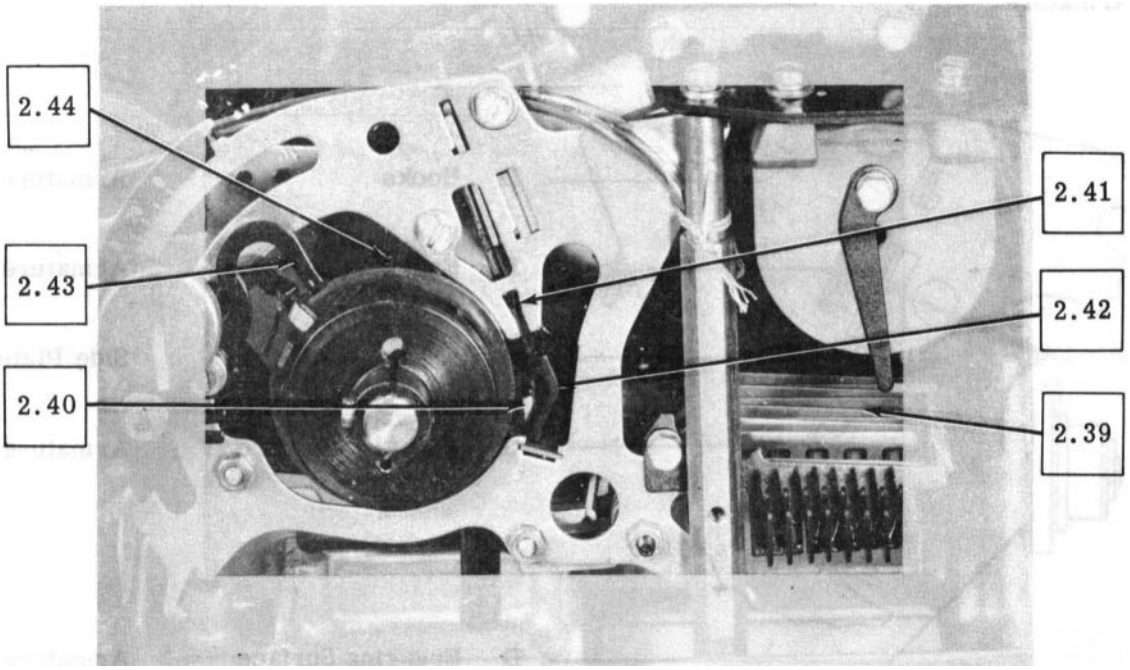
Note: These lubrication instructions apply only to typing units equipped with A TP181304 latch.



(Rear View)

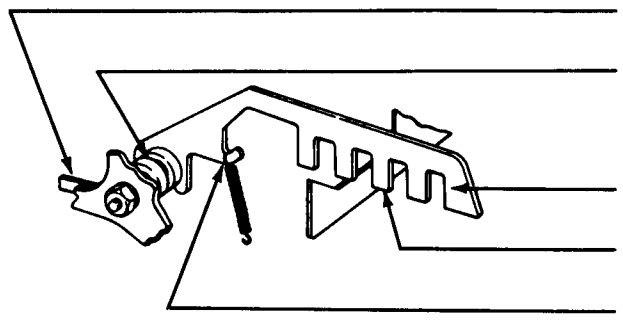
O	Rolling Surface	Rear Rail
O	Engaging Surface	Latch
O	Hook	Spring
O	Engaging Surface	Codebar Tab

2.38 Selector Area



(Left Side View)

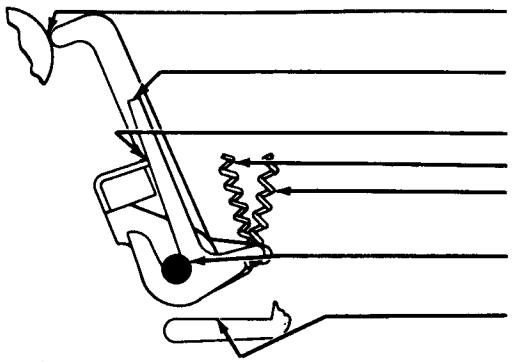
2.39 Blocking Levers



O	Contact Surfaces	Blocking Levers
O	Pivots	Shaft
O	Engaging Surfaces	Codebar Slots
O	Contact Surfaces	Tines
O	Hooks	Springs

(Left Front View)

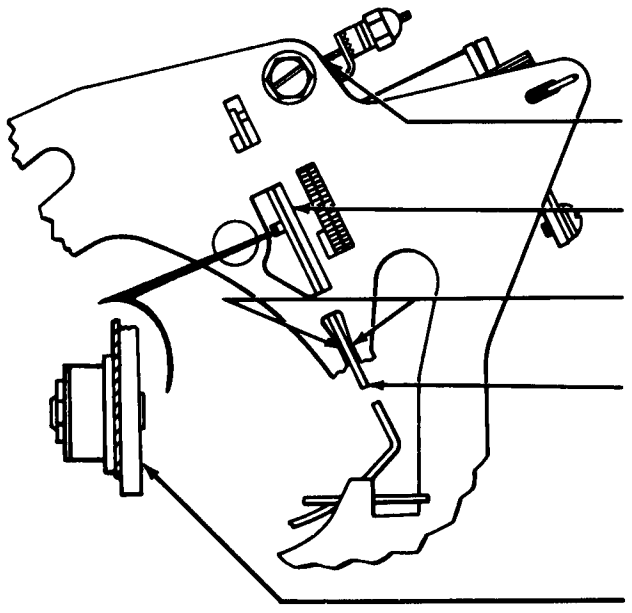
2.40 Pushlevers and Stripper Bail



O	Camming Surface	Cam Follower
O	Latching Surface	Pushlevers
O	Contact Surface	Stripper Bail
O	Hooks (Each End)	Bail Spring
O	Hooks (Each End)	Pushlever Springs
O	Pivots	Pushlevers
O	Contact Surfaces	Blocking Levers

(Left Side View)

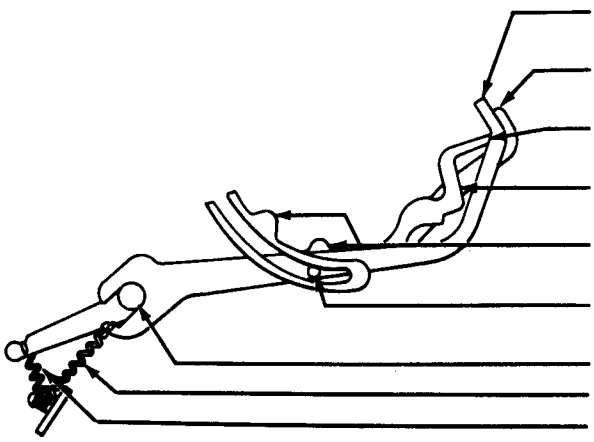
2.41 Armature



D	Hooks	Armature Spring
D	Engaging Surfaces	Armature
O	Engaging Surfaces	Side Plates
G	Engaging Surface	Armature
D	Engaging Surface	Armature

(Left Side View)

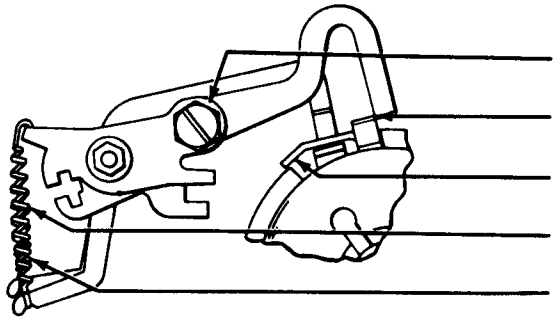
2.42 Selector Levers



O	Tip	Start Lever
O	Contact Surface	Locklever
O	Contact Surface	Selector Levers
O	Engaging Surface	Selector Levers
O	Camming Surface	Selector Levers
O	Sliding Contact	Start Lever
O	Pivots	Levers
O	Hooks (Each End)	Start Lever Spring
O	Hooks (Each End)	Spring (9)

(Left Side View)

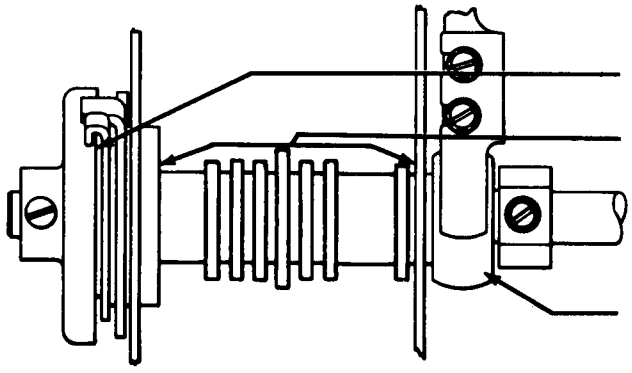
2.43 Latchlever and Trip Lever



O	Pivots (2)	Levers
O	Engaging Surface	Trip Lever
O	Latching Surface	Latchlever
O	Hooks (Each End)	Trip Lever Spring
O	Hooks (Each End)	Latchlever Spring

(Left Side View)

2.44 Selector Clutch



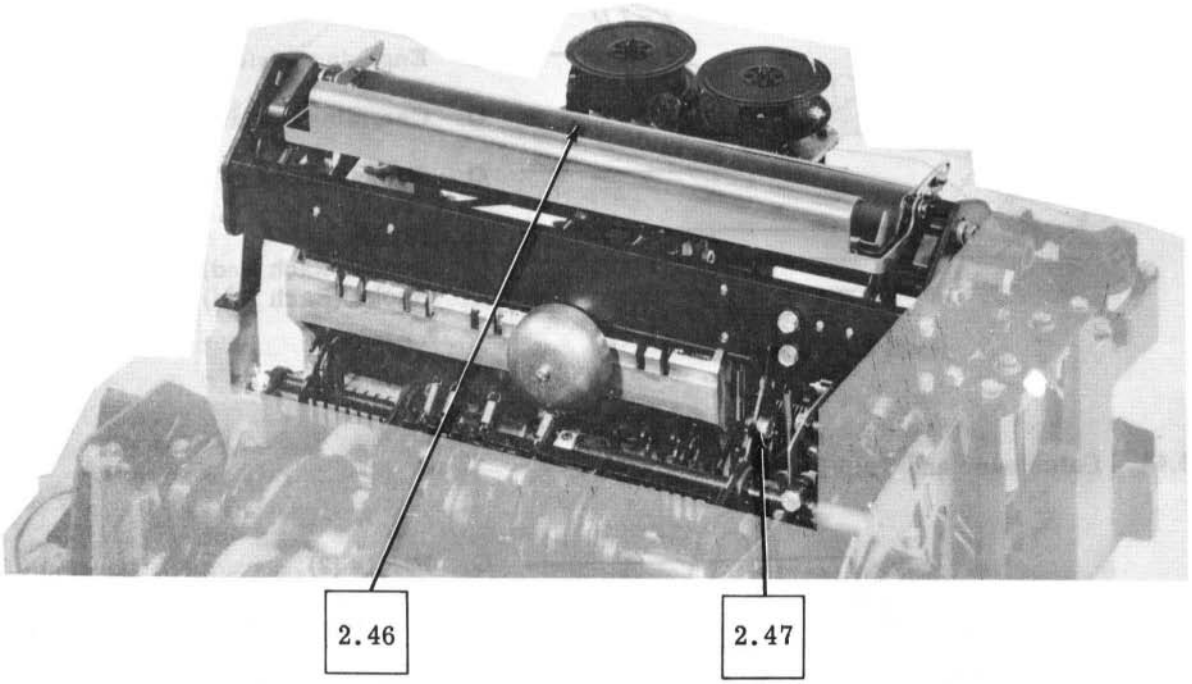
O*	Internal Mechanism	Selector Clutch
O*	Camming Surface	Selector Clutch
O	Bearing (Each End)	Main Shaft

*Refer to 1.06.

(Top View)

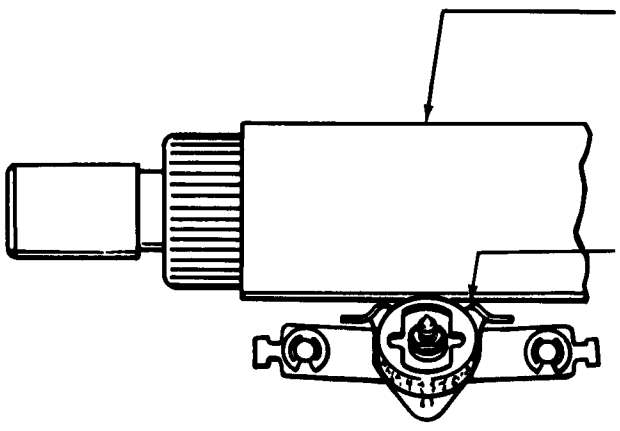
FRICTION FEED MECHANISMS

2.45 Paper Feed Area



(Rear View)

2.46 Platen

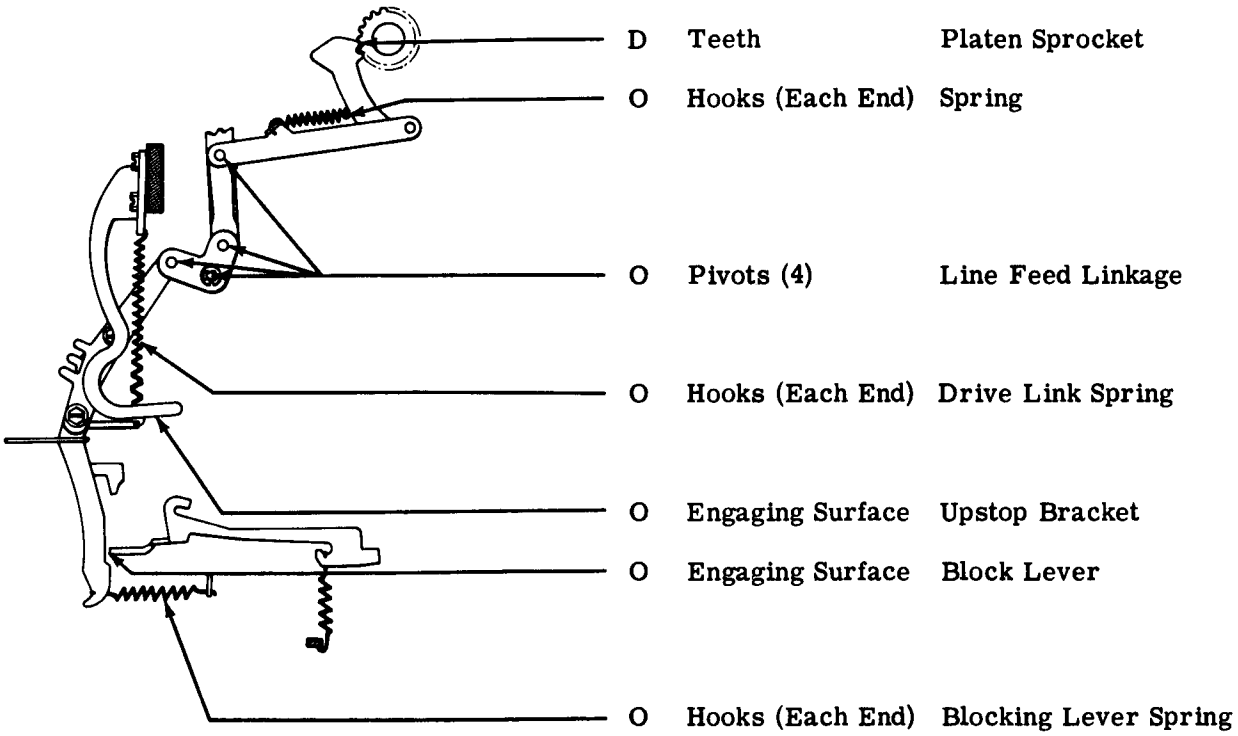


D All Surfaces Contacting Paper

D All Surfaces Contacting Ribbon

CAUTION: DO NOT CLEAN PLATEN WITH SOLVENTS.

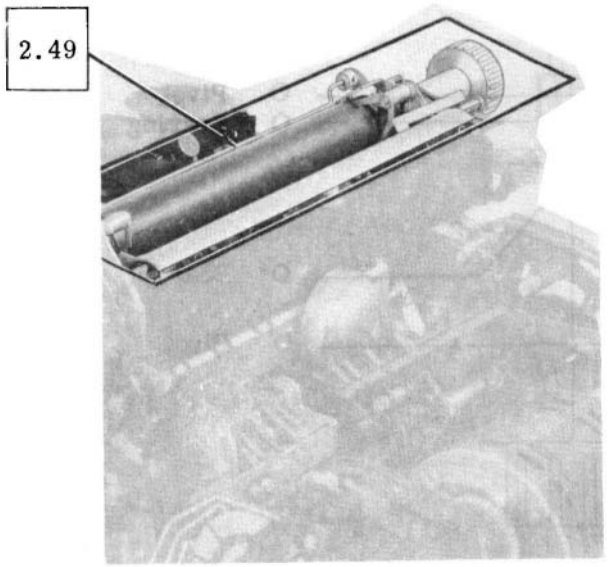
2.47 Line Feed Mechanism



(Left Side View)

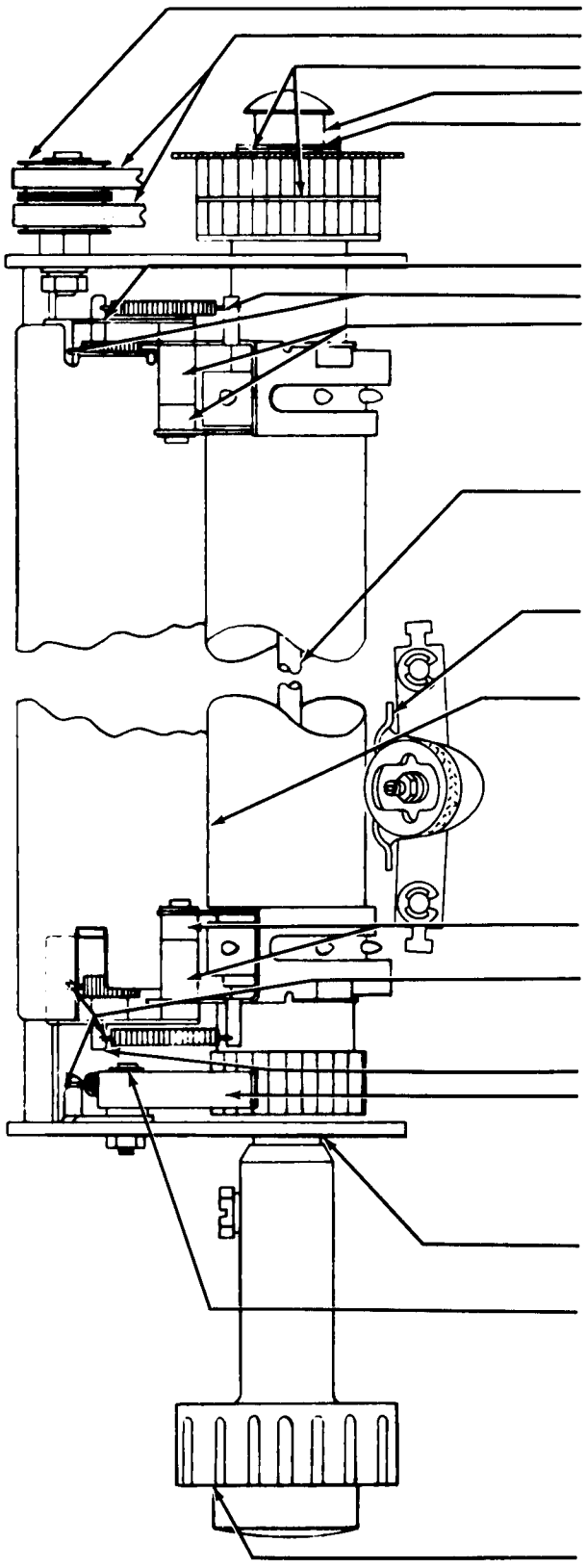
SPROCKET FEED MECHANISMS

2.48 Paper Feed Area



(Right Rear View)

2.49 Platen Mechanism



O	Bearing	Idler
D	Belts	Drive
O	Bearing	Pulley
O	Bearing	Button
O	Felt Washers (2 Within Shaft)	Shaft

Note: Shaft must be disassembled.

O	Pivot	Paper Guide
O	Hooks (Each End)	Spring
O	Bearing	Paper Guide

O*	Bearings (Both Ends)	Shaft

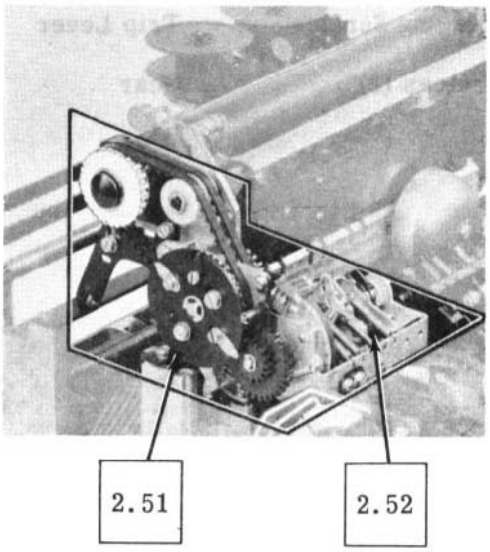
Note: Reassemble shaft.

D	All Surfaces Contacting Ribbon	
D	All Surfaces Contacting Paper	
O	Bearing	Paper Guide
O	Hooks (Each End)	Spring
O	Pivot	Paper Guide
O	Bearing	Pawl
→ O*	Bearing	Left and Right Plate
→ O	Pivot	Detent Lever
D	Bearing	Knob

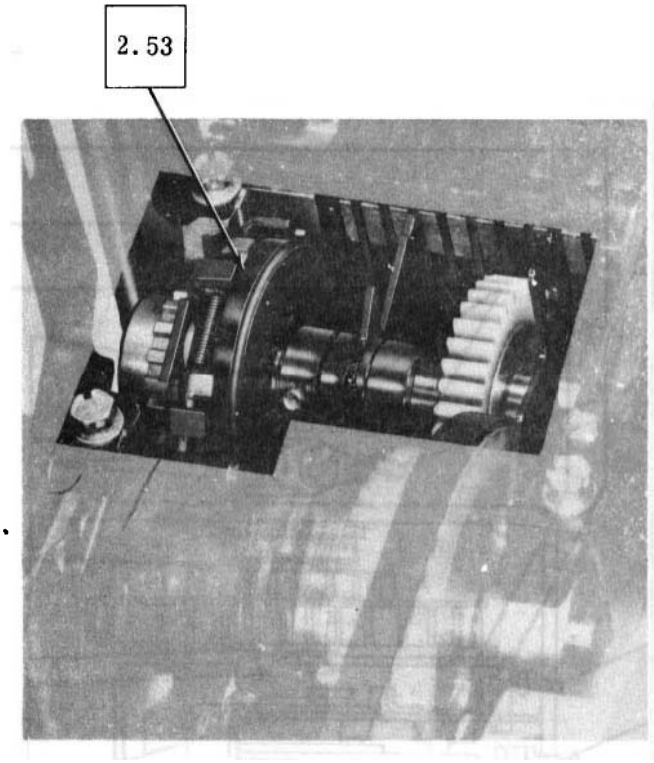
(Top View)

*Refer to 1.06.

2.50 Platen Drive Area



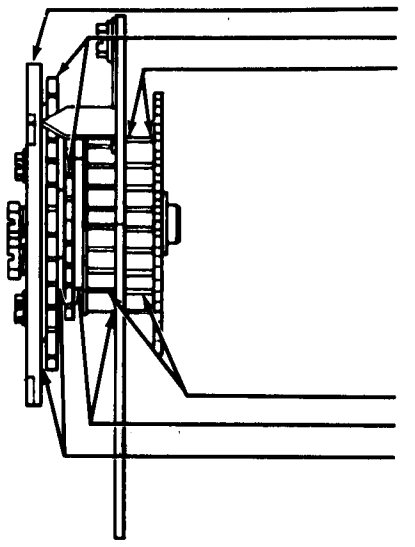
(Right Rear View)



(Left Rear View)

(Form-out mechanism removed for illustration purposes. Removal for lubrication is not required.)

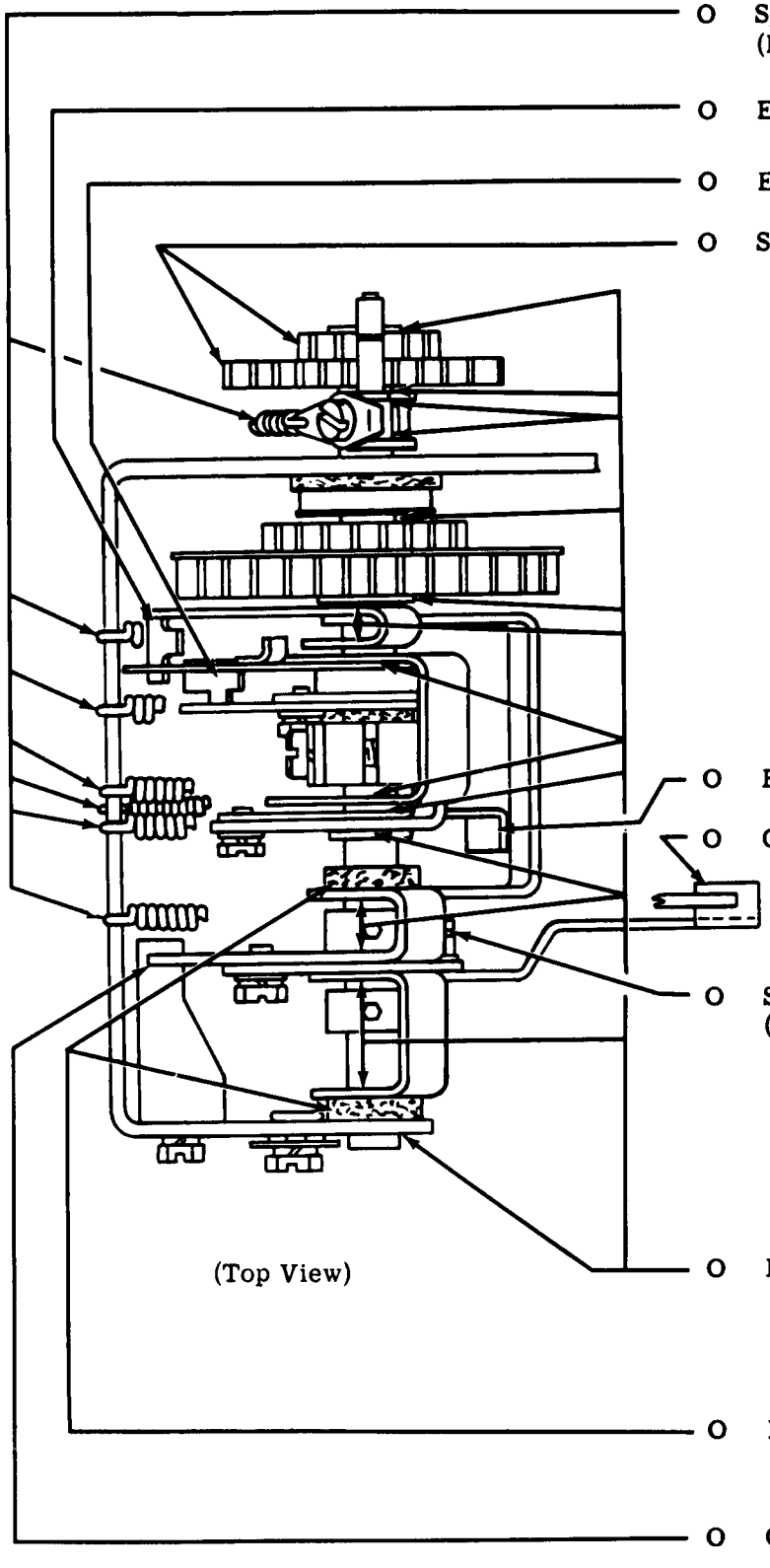
2.51 Cam, Pulley, and Gear Combination



O	Cam Surface	Cam Gear
O	Gear Surface	Cam Gear
O	Bearing	Gear and Pulley
D	Surface	Pulley
O	Bearing	Gear and Pulley
O	Bearing	Cam Gear

(Top View)

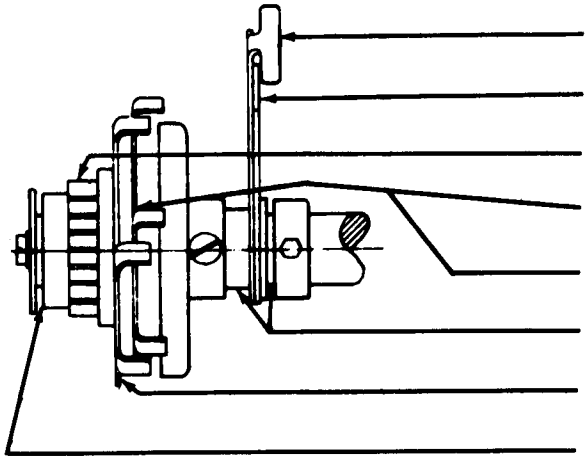
2.52 Form-Out Mechanism



O	Spring Hooks (Each End)	Springs (7)
O	Engaging Surface	Latchlever
O	Engaging Surface	Trip Lever
O	Surfaces (2)	Gear
O	Engaging Surface	Arm Latch
O	Contact Surfaces	Line Feed Lever and Strip Pawl
O	Spring Hooks (Not Illustrated)	Line Feed Lever
O	Bearings (17 Places)	Shaft
O	Felt Washers (2)	Shaft
O	Contact Surfaces	Downstop and Line Feed Extension

(Top View)

2.53 Line Feed Clutch



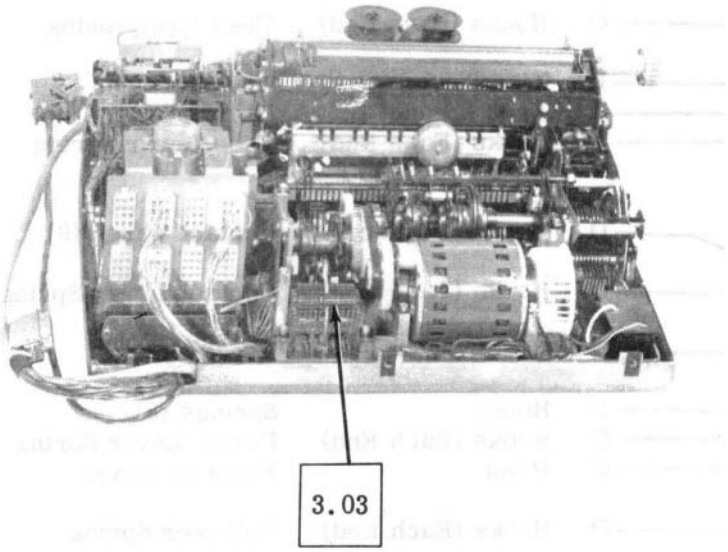
O	Engaging Surface	Latchlever
O	Engaging Surface	Arm
D	Surface	Pulley
O*	Interior Mechanism	Clutch
O	Felt Washer	Clutch
O	Bearing	Latchlever
O	Cam Surface	Clutch
O	Bearing	Pulley

*Refer to 1.06.

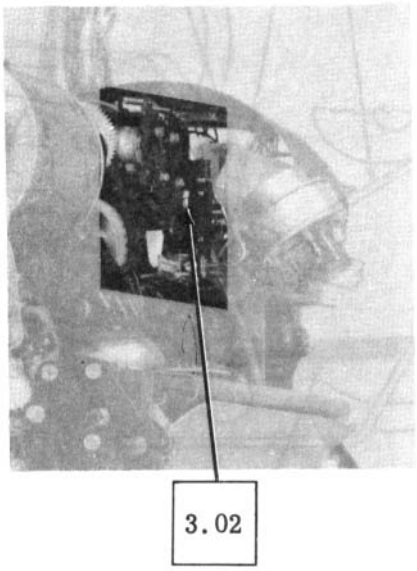
(Top View)

3. VARIATIONS TO BASIC UNITS

3.01 Answer-Back Area



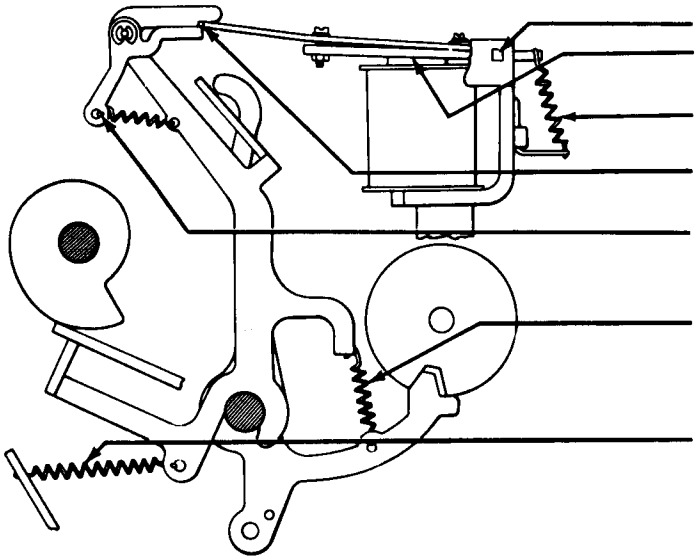
(Left Rear View)



(Left Side View)

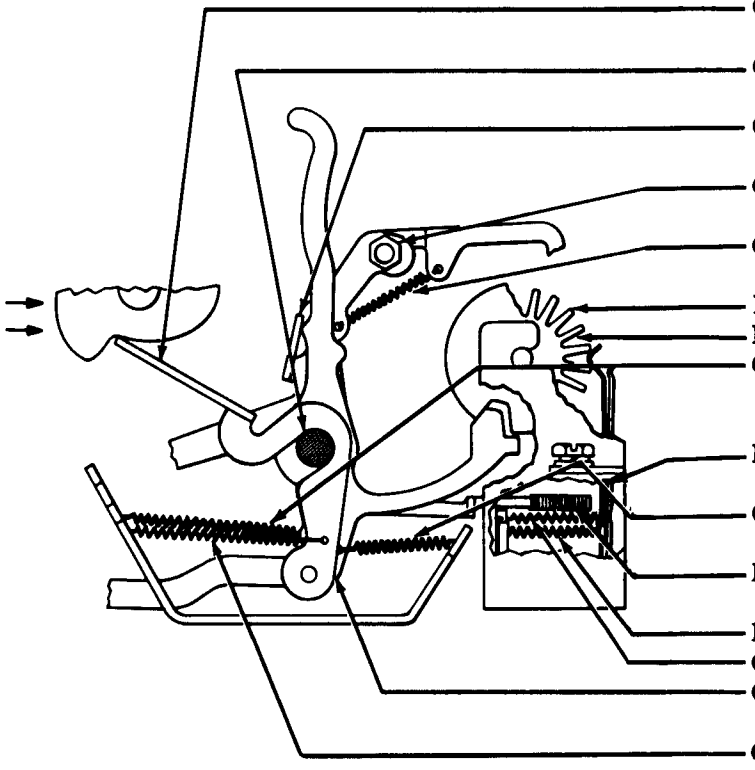
3.02 Trip Magnet

Note: Remove answer-back drum.



O	Pivots (2)	Armature
D	Contact Surface	Armature
O	Hooks (Each End)	Armature Spring
G	Latching Surface	Armature Extension
O	Hooks (Each End)	Lever Spring
O	Hooks (Each End)	Control Lever Spring
O	Hooks (Each End)	Blocking Follower Spring

3.03 Answer-Back Mechanism



O	Camming Surface	Follower Lever
O	Pivots (2)	Trip Shaft
O	Camming Surface	Feed Lever
O	Pivot	Feed Pawl
O	Hooks (Each End)	Feed Pawl Spring
D	Tine Surfaces	Drum
D	Feed Ratchet	Drum
O	Hooks (Each End)	Feed Lever Spring
D	Contact Surface	Contact Wires (9)
O	Hooks (Each End)	Control Lever Spring
D	Contact Extension	Break Lever
D	Hooks	Springs (9)
O	Hooks (Each End)	Detent Lever Spring
O	Pivot	Function Lever
O	Hooks (Each End)	Follower Spring

Note: Replace answer-back drum.

CAUTION: DO NOT CLEAN CONTACT BLOCK WITH SOLVENTS.