BELL SYSTEM PRACTICES  
Teletypewriter and Data Stations  

SECTION P34.530  
Teletypewriter and Data Stations  

AT&T Co Standard  

28 PERFORATOR-TRANSMITTER-BASE  
LUBRICATION  

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1. GENERAL  

1.01 This section contains the specific lubrication procedures for the 28 perforator-transmitter-base. The material herein, together with the section containing the general lubrication instructions on teletypewriter apparatus, provides the complete lubrication information for maintenance.  

1.02 This section is reissued to revise various lubrication procedures in accordance with changes authorized for this apparatus by P98 series Bell System Practices listed at the end of this section and to include other authorized revisions and additions to bring the section generally up to date. Since this is a general revision, the marginal arrows ordinarily used to indicate changes have been omitted.
1.03 The lubrication symbols used herein are the same as those in the general section. However, the symbol O is used in this practice to mean only one drop of oil. Symbols, such as O2, O3, O4, O5, and O20, are used to indicate respectively two, three, four, five, or twenty drops of oil.

1.04 The apparatus should be lubricated before being placed in service as specified in the section covering the preparation of teletypewriter apparatus for installation. After a few weeks in service, it should be relubricated to make certain that all specified points have lubricant. Thereafter, because of varying conditions at each station, the apparatus should be lubricated as often as specified by local instructions. The following lubrication interval is suggested as a guide for use under normal operating conditions.

<table>
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<th>Operating Speed (Words per Minute)</th>
<th>Lubrication Interval (Whichever Occurs First)</th>
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<tr>
<td>60</td>
<td>3000 hours or 1 year</td>
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<tr>
<td>75</td>
<td>2400 hours or 9 months</td>
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<tr>
<td>100</td>
<td>1500 hours or 6 months</td>
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2. LUBRICATION
   A. Keyboard
   2.01 Keyboard Mechanism — Bottom View
(LEFT & RIGHT)
BEARING SURFACE SPACER BAR

0
28 PERFORATOR TRANSMITTER
LUBRICATION

FACE (36 LEVERS)
ENGAGING SURF.

KEYTOP LEVERS

Key Lever Mechanism — See 2.01

203
2.04 Breaklever Mechanism — See 2.01

0 ENGAGING SURFACE  BREAK KEYLEVER
0 BEARING SURFACE  FUNCTION LEVER
G CONTACT SURFACE  BREAK LEVER
2.05 Codelever Mechanism — See 2.01

- G CONTACTING SURFACE (32 LEVERS)
- GUIDE SLOTS (32 LEVERS)
- FELT WASHERS (6 WASHERS)
- BEARING SURFACES (32 WEDGES)
- HOOKS—EACH END (40 SPRINGS)
- CODE LEVER UNIVERSAL BAIL
- CODE LEVER CODE LEVERS
- CODE LEVER SHAFT
- LOCK BALL TRACK
- SPRING
2.06 Keyboard Lock Mechanism — See 2.01

GUIDE SLOT
HOOKS — EACH END
BEARING SURFACE
ENGAGING SURFACE
BEARING SURFACE

KEYBOARD LOCK PLUNGER
SPRING
KEYBOARD LOCK LEVER
KEYBOARD LOCK FUNCTION LEVER
FUNCTION BAIL
2.07 Keyboard Mechanism — Bottom View

- DETENT LEVER MECHANISM
- SELECTION LEVER MECHANISM
- CODEBAR EXTENSION BAIL MECHANISM
- CODEBAR EXTENSION MECHANISM
- CLUTCH TRIPBAR LINK MECHANISM
2.08 Detent Lever Mechanism — See 2.07

- Control Cam
- Detent Lever
- Spring
- Roller

Diagram:
- Bearing Surfaces (Front and Rear)
- Bearing Surface
- Hooks—Each End
- Bearing Surface
2.09 Selection Lever Mechanism — See 2.07

- Hooks—Each End (2 Springs)
- Sliding Surface
- Bearing Surface
- Bearing Surface
- Camming Surface

- Springs
- Reset Lever
- Keyboard Control Selection Lever
- Reset Cam Follower and Reset Lever
- Reset Cam Follower
2.10 Codebar Extension Bail Mechanism — See 2.07

- Camming Surface
- Hooks—Each End
- Sliding Surface (2 Places)
- Engaging Surfaces (Two Places)
- Sliding Surface
- Sliding Surface

- Slide Roller
- Spring
- Lever and Extension Lever
- Lever
- Lever
- Control Cam
2.11 Codebar Extension Mechanism — See 2.07

- GUIDE SURFACES (5 EXTENSIONS-TWO PLACES)
- HOOKS-EACH END (5 SPRINGS)
- CONTACT SURFACE (5 EXTENSIONS)
- CODE BAR EXTENSIONS
- SPRINGS
- CODE BAR EXTENSION
2.12 Clutch Tripbar Link Mechanism — See 2.07

- CONTACT SURFACE
- COMPRESSION SPRING-EACH END
- CONTACT SURFACE
- ENGAGING SURFACE
- BEARING SURFACE
- CONTACT SURFACE
- BEARING SURFACE AND SLIDING SURFACE
- CONTACT SURFACE (BOTH SIDES)
- SLIDING SURFACE

- CLUTCH TRIP BAR LINK EXTENSION
- LINK GUIDE PIN
- TRIP BAR LINK LATCH
- CLUTCH TRIP BAR LINK
- TRIP BAR LINK LATCH
- BELLCRANK
- BELLCRANK AND CLUTCH TRIP BAR LINK
- BELLCRANK
- CLUTCH TRIP BAR LINK
2.14 Codebar Mechanism — See 2.13

- Hooks — Each End (8 Springs)
- Spring
- Guide Slots (Left and Right, Top and Bottom)
- Code Bar Guides
2.16 Local Carriage Return Mechanism — See 2.13

- HOOKS—EACH END
- BEARING SURFACE (2 PLACES)
- ENGAGING SURFACE
- SPRING
- LOCAL CARRIAGE RETURN FUNCTION BAIL
- LOCAL CARRIAGE RETURN FUNCTION LEVER
2.17 Keyboard Mechanism — Rear View

- None Repeat Lever Mechanism
- Clutch Trip Bar Mechanism
- Transfer Lever Mechanism
- Contact Box
- Transfer Bail Mechanism
- Keyboard Clutch Mechanism
- Lockbar Latch Mechanism
- Margin Indicating Mechanism
- Local Line Feed Mechanism
- Keyboard Shaft Mechanism
- Intermediate Gear Mechanism
2.18 Nonrepeat Lever Mechanism — See 2.17

- SAT: FELT WASHER
- 0: HOOKS-EACH END
- 02: BEARING SURFACE
- 02: BEARING SURFACE
- G: ENGAGING SURFACE
- 02: GUIDE SLOT

NON-REPEAT LEVER CRANK
SPRING
NON-REPEAT LEVER CRANK
NON-REPEAT LEVER
NON-REPEAT LEVER
NON-REPEAT LEVER
2.20 Transfer Lever Mechanism — See 2.17

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<th>Layer</th>
<th>Part Description</th>
<th>Notes</th>
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<td>GUIDE SLOTS</td>
<td>TRANSFER LEVERS (7 LEVERS)</td>
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<td>SPRING</td>
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<td>TRANSFER LEVERS (7 LEVERS)</td>
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<tr>
<td>SAT</td>
<td>FELT WASHERS</td>
<td>CAMMING SURFACES</td>
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<tr>
<td>0</td>
<td>GUIDE SLOTS</td>
<td>TRANSFER LEVERS (7 LEVERS)</td>
</tr>
</tbody>
</table>
DISASSEMBLY: REMOVE NUT AND LOCK WASHER SECURING CONTACT BOX COVER AND REMOVE COVER.

G ENGGAGING SURFACE

0 HOOKS-EACH END

CONTACT TOGGLE

SPRING
2.22 Transfer Bail Mechanism — See 2.17

- SAT: FELT WASHERS (2 WASHERS)
- G: ENGAGING SURFACES
- 0: HOOKS—EACH END (2 SPRINGS)
- 02: BEARING SURFACE (EACH END)
- SAT: OIL WICK
- LATCHES
- TRANSFER BAIL
- SPRING
- TRANSFER BAIL
- TRANSFER BAIL
2.23 Keyboard Clutch Mechanism — See 2.17

- LATCHING SURFACE
- CLUTCH STOP LEVER AND CLUTCH LATCH LEVER
- HOOKS—EACH END (2 SPRINGS)
- SPRING
- FELT WASHERS (2 FRONT & REAR)
- CLUTCH TRIP BAIL
2.25 **Margin Indicating Mechanism — See 2.17**

**Note:** If a switch is equipped with a nylon actuator, lubricant shall **not** be applied to the engaging surface.
2.26 Local Line-feed Mechanism — See 2.17

- 02 GUIDE SLOT
- 0 BEARING SURFACE
- 0 HOOKS-EACH END
- 0 BEARING SURFACE
- G ENGAGING SURFACE

- LOCAL LINE FEED TRIP LINK
- LOCAL LINE FEED FUNCTION LEVER
- SPRING
- FUNCTION BAIL
- LOCAL LINE FEED FUNCTION LEVER
2.27 Keyboard Shaft Mechanism — See 2.17

- **SAT** Felt Washer
- **G** Gear Teeth
- **020** Oil Hole
- **04** Internal Mechanism
- **SAT** Felt Wick
- **020** Oil Hole
- **02** Camming Surface Each Cam
- **SAT** Felt Washer

*Signal Generator Shaft*

*Signal Generator Shaft*

*Signal Generator Shaft*

*Keyboard Clutch*

*Signal Generator Cam*

*Signal Generator Cam*
2.28 Intermediate Gear Mechanism — See 2.17

**Note:** Lubrication instructions for the motor unit are given in the section containing the lubrication details for the 28 Motor.
2.30 Locking Bail Mechanism — See 2.29

- Hooks: Each end
- Springs
- Felt washers (2 washers - front and rear)
- Locking bail post
- Felt wick
- Camming surfaces
- Guide slots (3 slots)
- Locking bail
2.31 Codebar Bail Mechanism — See 2.29

- **Felt Washers** (Two Washers)
- **Code Bar Bail**
- **Bearing Surface** (2 Places)
- **Code Bar Bail**
- **Hooks—Each End** (2 Springs)
- **Spring**
- **Felt Washer**
- **Code Bar Bail Latch**
- **Bearing**
- **Code Bar Bail**
- **Bearing Surface**
- **Code Bar Bail Latch**
- **Engaging Surface**
- **Eccentric Follower**
2.32 Universal Bail Latchlever Mechanism — See 2.29

0 HOOKS (EACH END)

02 GUIDE SLOT (EACH SIDE OF SLOT)

G ENGAGING SURFACE

ENGAGING SURFACE

SAT FELT WASHER

UNIVERSAL BAIL LATCH LEVER

UNIVERSAL BAIL LATCH LEVER

CODE BAR BAIL EXTENSION

RESET BAIL LATCH

SPRING
2.33 Tape-out Switch Mechanism — See 2.56

- HOOKS—EACH END (2 SPRINGS)
- BEARING SURFACE (FRONT AND REAR)
- CONTACT SURFACE
- BEARING SURFACE
- SPRINGS
- TAPE LEVER
- SWITCH LEVER
2.34 Electrical Line-break Mechanism — See 2.41

Diagram:

- HOOKS-EACH END
- CONTACT SURFACE
- BEARING SURFACE
- SPRING
- SENSITIVE SWITCH
- BREAK LEVER
2.36 Repeat-on-Space Mechanism — Later Design — See 2.35
2.37 Repeat-on-Space Mechanism — Earlier Design — See 2.35

- SPRING - EACH END
- LEVER - EACH END
- LEVER - ENGAGING SURFACES WITH THE NON-REPEAT LEVER
- SCREW - ENGAGING SURFACE OF SCREW AND THE SPACE KEYLEVER
2.38 "HERE IS" Keylever Contact Mechanism (TWX)

- **O**: Engaging Surface
- **G**: Engaging Surface
  - Insulator
  - Thin Film
- **G**: Contacting Surface
  - Cam
  - Pulsing (Blinding) Contact Assembly

"HERE IS" Keytop Lever
("FIGS" "C")
2.39 Time-delay Mechanism
2.40 Form Feed-out Mechanism

- PIVOTS
- TRIP LEVER
- LOOPS - EACH END
- SOLENOID TORSION SPRING
- SLIDING SURFACE
- FORM FEED-OUT LINK
- PIVOT
- FORM FEED-OUT LINK
- LOOPS - EACH END
- FORM FEED-OUT LINK SPRING
2.41 Keyboard Mechanism — Rear View

- Character Counter Mechanism
- Electrical Line Break Mechanism
- Single Auxiliary Timing Contacts Mechanism
2.42 Character Counter Mechanism — See 2.41

- **ENGAGING SURFACE**
- **COUNTER SCALE BRACKET**
- **BEARING SURFACE**
- **INDICATOR CORD PULLEY**
- **HOOKS-EACH END**
- **SPRING**
- **BEARING SURFACE**
- **RATCHET LATCH LEVER**
- **BEARING SURFACE**
- **RATCHET DRIVE LEVER**
2.43 Character Counter Mechanism — See 2.41

- CONTACT SURFACE
- BEARING SURFACE
- BEARING SURFACE
- TEETH
- ENGAGING SURFACES (2 PLACES)
- HOOKS—EACH END (3 SPRINGS)
- BEARING SURFACE
- BEARING SURFACE
- ENGAGING SURFACES (3 SURFACES)
- ANTI-BOUNCE LATCH
- ANTI-BOUNCE LATCH
- RATCHET DRUM
- RATCHET
- RESET LEVER EXTENSION
- SPRING
- RESET BAIL
- DRIVE LEVER FEED BAIL
- DRIVE LEVER FEED BAIL & RESET BAIL
SAT FELT WICK

G GEAR TEETH

TRANSMITTER POWER TAKE-OFF

TEN GEARS INCLUDING MOTOR PINION

OILITE BEARINGS (2)
(DRIVEN GEAR BEARINGS)

TRANSMITTER POWER TAKE-OFF

OILITE BEARINGS (2)

OILITE BEARINGS (2)

OILITE BEARINGS (2)

OILITE BEARINGS (2)

OILITE BEARINGS (2)

OILITE BEARINGS (2)

OILITE BEARINGS (2)

CLUTCH SPRINGS AND HUBS
(APPLY LIGHT FILM DURING REASSEMBLY)

OILITE BEARING WASHERS (4)

40 AND 100 WPM DRIVER GEAR
(BEARINGS)
B. Typing and Nontyping Perforators

2.45 Typing and Nontyping Perforator Mechanism — Top View

PERFORATOR CLUTCH DRIVING SHAFT MECHANISM

RESET CAMFOLLOWER MECHANISM

PERFORATOR CLUTCH GEAR MECHANISM

PERFORATOR CLUTCH AND RESET CAM MECHANISM

ROCKER BAIL MECHANISM
2.46 Reset Camfollower Mechanism — Typing and Nontyping Perforators — See 2.45

SAT  FELT WASHER  ROLLER
0  BEARING SURFACE  RETAINING RING
SAT  FELT WASHERS  RESET CAM FOLLOWER SHAFT
(FRONT & REAR)
05  OIL HOLE  RESET CAM FOLLOWER SHAFT
0  HOOKS-EACH END  SPRING
0  ENGAGING SURFACE  RESET LEVER
2.47 Rocker Bail Mechanism — Nontyping Perforator Only — See 2.45

SAT
ROCKER BAIL
FELT WASHER
ROCKER BAIL
FELT WICK (USE OIL HOLE)
2.48 Perforator Clutch Driving Shaft Mechanism — Nontyping Perforator Only — See 2.45
Perforator Clutch and Reset Cam Mechanism — Nontyping Perforator Only — See 2.45

04 FUNCTION CAM NEEDLE BEARING (3)  BOTH ENDS OF SLEEVE AND OIL HOLE IN SLEEVE

02 ROLLER PIVOT  FUNCTION CAM

03 CAMMING SURFACE (EACH CAM)  RESET CAM SLEEVE
2.50  Perforator Clutch Mechanism — Nontyping Perforator Only — See 2.45

- SAT FELT WASHER
- 0 HOOKS-EACH END SPRING
- 0 LATCHING SURFACE CLUTCH TRIP LEVER
- 0 LATCHING SURFACE CLUTCH LATCH LEVER
2.52 Typing and Nontyping Perforator Mechanism — Front View

- Rear Bearing Bracket Gear Mechanism
- Perforator Triplever Mechanism
- Punch Slide Latch Mechanism
2.53 Rear Bearing Bracket Gear Mechanism — Typing and Nontyping Perforators — See 2.52
2.54 Perforator Triplever Mechanism — Nontyping Perforator Only — See 2.52

- CONTACT SURFACE
- SAT FELT WICK
- SAT FELT WASHER
- BEARING SURFACE
- HOOKS- EACH END
- ENGAGING SURFACE

PERFORATOR TRIP LEVER
PERFORATOR TRIP LEVER
CLUTCH RELEASE
PERFORATOR TRIP LEVER
SPRING
PERFORATOR TRIP LEVER LATCH
2.55 Punch Slide Latch Mechanism for Chadless Tape or Fully Perforated Tape — Typing and Nontyping Perforators — See 2.52

- Engaging Surface (5 Latches)
- Punch Slide Latch
- Engaging Surface (5 Latches)
- Punch Slide Latch
- Bearing Surface (5 Latches)
- Punch Slide Latch
- Hooks—Each End (5 Springs)
- Springs
- Engaging Surface (5 Latches)
- Punch Slide Latch
2.56 Typing and Nontyping Perforator Mechanism — Left-side View

- TAPE SHOE ARM AND FEED WHEEL MECHANISMS
- PUNCH PIN MECHANISM
- PUNCH SLIDE MECHANISM
- FEED WHEEL AND RESET BAIL MECHANISMS

- TAPE-OUT SWITCH MECHANISM
- ROCKER ARM MECHANISM
- RETRACTOR BAIL MECHANISM
2.57 Tape Shoe Arm Mechanism for Chadless Tape or Fully Perforated Tape — Typing and Nontyping Perforators — See 2.56
2.58 Retractor Bail Mechanism for Chadless Tape of Fully Perforated Tape — Typing and Nontyping Perforators — See 2.56

- HOOKS—EACH END (4 SPRINGS)
- FELT WASHERS (2-FRONT & REAR)
- BEARING SURFACE (2-FRONT & REAR)
- ROCKER BAIL SPRING
- RETRACTO R BAIL
- RETRACTO R BAIL
2.59 Punch Pin Penetration for Chadless Tape Only — Typing and Nontyping Perforators —
See 2.56

- Guides and Notches (3 Places)
- Punch Pins
- Springs (2)
- Retractor Springs
2.60 Punch Slide Mechanism for Chadless Tape or Fully Perforated Tape — Typing and Non-typing Perforators — See 2.56

- ENGGAGING SURFACE
- PUNCH SLIDE GUIDE
- SPRINGS
- RESET BAIL

Diagram showing the components of the punch slide mechanism.
Feed Wheel Mechanism for Chadless Tape Only — Typing and Nontyping Perforators — See 2.56

- **BEARING SURFACE** FEED WHEEL KNOB
- **RATCHET TEETH** FEED WHEEL (2 PLACES)
- **SAT** FEED WHEEL
- **SAT** DIE WHEEL
- **SAT** SPRING WICKS
- **SAT** SPRING
- **SAT** FEED PAWL
2.62 Punch Pin Penetration for Fully Perforated Tape Only — Typing and Nontyping Perforators — See 2.56

- O SLIDING SURFACE (6) PUNCH PIN
  - (UPPER GUIDE)
- O SLIDING SURFACE (6) PUNCH PIN
  - (LOWER GUIDE)
- O HOOKS-EACH END SPRING
- O SLIDING SURFACE (6) PUNCH SLIDE GUIDE
Feed Wheel Mechanism for Fully Perforated Tape Only — Typing and Nontyping Perforators — See 2.56

- RATCHET TEETH (2)
- FEED WHEEL
- PIVOT POINT (FELT WASHER)
- FEED WHEEL
- PIVOT POINT (FELT WASHER)
- DIE WHEEL
- PIVOT POINTS (2)
- HANDWHEEL BEARING
Reset Bail Mechanism for Chadless Tape or Fully Perforated Tape — Typing and Non-typing Perforators — See 2.56

- FELT WASHER (2 WASHERS - FRONT & REAR)
- TOGGLE LINKS

- FELT WASHERS (2 WASHERS - FRONT & REAR)
- RESET BAIL

- ENGAGING SURFACE
- RESET BAIL

- FELT WASHERS (2 WASHERS - FRONT & REAR)
- TOGGLE BAIL

- FELT WASHERS (2 WASHERS - FRONT & REAR)
- TOGGLE BAIL
Rocker Arm Mechanism for Chadless Tape or Fully Perforated Tape — Typing and Non-typing Perforators — See 2.56
Ribbon-feed Mechanism — Later Design — Typing Perforator Only — See 2.66

- HOOKS (2)
- SPRING
- FEED PAWL
- CHECK PAWL
- REVERSING ARM
- CONTACTING SURFACE
- DRIVE ARM ADJUSTABLE EXTENSION
- DRIVE ARM ROLLER
- SURFACE ADJUSTABLE
- EXTENSION
- SAT FELT WASHER
- DRIVE ARM ROLLER
Ribbon-feed Mechanism — Later Design — Rear View Typing Perforator Only — See 2.66

- HOOKS (2)
- SPRINGS (2)
- TEETH
- RATCHET WHEEL
- SHAFT
- ROLLERS (2)
- SHAFT, FELT
- RATCHET WHEEL
- WASHERS
- PIVOT
- CONTACTING
- DETENT
- SURFACES
- PIVOT
- DETENT
- UPPER AND LOWER
- SLIDE LEVER
- BUSHING
- DRIVE ARM
- O2
2.69 Ribbon-feed Mechanism — Earlier Design — Typing Perforator Only — See 2.66

- 2 PIVOT POINTS (2) RIBBON ROLLER
- 0 HOOKS - EACH END (2) SPRINGS
- 2 PIVOT POINT FEED PAWL
- 2 PIVOT POINTS (2) REVERSING ARM
- 2 PIVOT POINTS (2) CONTACT SURFACE DRIVE ARM
- 2 PIVOT POINTS (2) RIBBON ROLLER
- 2 PIVOT POINTS (2) REVERSING ARM
- 2 PIVOT POINT RETAINING PAWL
2.70 Ribbon-feed Mechanism — Earlier Design — Rear View Typing Perforator Only — See 2.66

- O2 PIVOT POINT
- SAT PIVOT POINTS (2) (FEEL WASHERS)
- HOOKS - EACH END
- DRIVE ARM
- SHAFTS
- SPRING
2.71 Rotary Positioning Mechanism — Typing Perforator Only — See 2.66
2.72 Transfer Mechanism — Typing Perforator Only — See 2.66

- PIVOT POINTS (5)
- CONTACT SURFACES (5)
- CONTACT POINTS (5) (EACH END)
- HOOKS - EACH END
- PULSE BEAMS
- TRANSFER LEVERS
- PULSE BEAMS
- SPRING
- PIVOT POINTS (5)
- SLIDING SURFACES (5) (EACH SIDE)
- TRANSFER LEVERS
- GUIDE BRACKET

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2.73 Pushbars — Typing Perforator Only — See 2.66

- Rack Teeth (7)
- Contact Surfaces (7)
- Contact Surfaces (6)

PUSH BARS

(O)
2.74 Typing Perforator Mechanism — Rear View
2.75 Function-cam Clutch Trip Mechanism — Typing Perforator Only — See 2.74
Axial Positioning Mechanism — Rear View — Typing Perforator Only — See 2.74

G SLIDING GUIDE SURFACES
O HOOKS - EACH END
G PIVOT POINT
G CONTACT POINTS
G CONTACT SURFACE
O PIVOT POINT
O PIVOT POINT
G TEETH
G CONTACT SURFACE
SAT PIVOT POINTS (FELT WASHERS)
O PIVOT POINT
SAT PIVOT POINT (FELT WASHER)
G TEETH
O PIVOT POINT
AXIAL CORRECTING DRIVE LINK
SPRING
AXIAL OUTPUT RACK
ROTARY CORRECTING CLAMP
ROTARY CORRECTING LEVER SHAFT
AXIAL CORRECTING PLATE
AXIAL SECTOR TYPEWHEEL SHAFT
AXIAL CORRECTING PLATE ROLLER
OSCILLATING DRIVE BAIL
AXIAL SECTOR
GUIDE ROLLER
AXIAL SECTOR
AXIAL OUTPUT RACK
2.78 Axial Positioning Mechanism — Typing Perforator Only — See 2.74
2.79 **Shaft Mechanisms — Typing Perforator Only — See 2.74**

**Note:** If unit has oilite or needle bearings, apply four drops of oil to the perforator cam clutch at each of its two lubrication points.
Printing Mechanism for Chadless Tape or Fully Perforated Tape — Left Side View — Typing Perforator Only — See 2.74

- Contact Surface
- Printing Latch
- Sliding Surface
- Printing Trip Link
- Pivot Points
- Printing Latch
- Pivot Points (2)
- Printing Pivot Arm
- Hooks - Each End
- Printing Hammer
- Hooks - Each End
- Printing Hammer Spring
- Hooks - Each End
- Hammer Accelerator Spring
- Hooks - Each End
- Printing Latch Spring
- Pivot Point
- Printing Drive Link
- Pivot Point
- Printing Trip Link Spring
- Pivot Points (2)
- Printing Pivot Arm
2.81 Rocker Bail Mechanism — Rear View — Typing Perforator Only — See 2.74

- **G** CONTACT SURFACE RIBBON FEED ECCENTRIC STUD
- **O** PIVOT POINTS PUSH BAR OPERATING BLADE
- **SAT** SLIDING SURFACE (FELT WASHER UNDER BLADE) PUSH BAR OPERATING BLADE
- **G** PIVOT POINT CORRECTING DRIVE LINK
- **O** PIVOT POINT OSCILLATING DRIVE LINK
- **O** ROLLER SURFACE CAM FOLLOWER ROLLER (UPPER AND LOWER)
- **O** PIVOT POINTS CAM FOLLOWER ROLLERS
- **O** PIVOT POINT PRINTING DRIVE LINK
- **SAT** PIVOT POINT (FELT STRIP) ROCKEBAIL
- **O** ROLLER SURFACE CAM FOLLOWER ROLLER
- **O** CONTACT SURFACE FUNCTION CAM
2.82 Typing and Nontyping Perforator Mechanism — Front View
2.83 Power-drive Backspace Mechanism for Fully Perforated Tape Only — Typing and Nontyping Perforators — See 2.82

- HOOKS - EACH END
- BEARING SURFACE
- FEEDING SURFACE
- BACKSPACE PAWL
- SPRING
- BACKSPACE PAWL
- BACKSPACE PAWL
- BEARING SURFACE
- NUT, SHOULDER
- BEARING SURFACE
- BELL CRANK
- HOOKS - EACH END
- BELL CRANK SPRING
2.84 Power-drive Backspace Mechanism for Fully Perforated Tape Only — Typing and Non-typing Perforators — See 2.82

- BEARING SURFACE
- LINK
- SLIDING SURFACE
- ECCENTRIC DRIVE
- LINK FORK
- ENGAGING SURFACE
- LATCH
- ROTATING SURFACE
- ECCENTRIC
- BEARING SURFACE
- ARM
- HOOKS - EACH END
- ARMATURE LATCH
- SPING
- ARMATURE BAIL
- ARMATURE BAIL
2.85 Manual Backspace Mechanism for Chadless Tape Only — Typing and Nontyping Perforators — See 2.82

Diagram:

- 02 BEARING SURFACE (REAR) RAKE SHAFT
- G GEAR TEETH GEAR SEGMENT
- 0 HOOKS-EACH END PAWL SPRING
- 02 BEARING SURFACE FEED PAWL
- G CONTACT SURFACE FEED PAWL
- 0 HOOKS-EACH END (3 SPRINGS) SPRING
- 0 BEARING SURFACE BELL CRANK
Power-drive Backspace Mechanism for Chadless Tape Only — Typing and Nontyping Perforators — See 2.82

- BEARING SURFACE LINK
- ROTATING SURFACE ECCENTRIC
- SLIDING SURFACE ECCENTRIC DRIVE ARM FORK
- BEARING SURFACE ARM
- BEARING SURFACE ARMATURE BAIL
- HOOKS-Each End (2 SPRINGS) SPRINGS
2.87 Single Auxiliary Timing Contacts Mechanism — Typing and Nontyping Perforators —
See 2.41

- G CONTACTING SURFACE
- HOOKS - EACH END (2 SPRINGS)
- SAT FELT WICK
- SAT FELT WASHERS
- SAT FELT WASHER
- CONTACT ACTUATING BAIL
- CONTACT ACTUATING BAIL SPRINGS
- CONTACT ACTUATING BAIL SPRINGS
- CONTACT ACTUATING BAIL SHAFT
- CAM FOLLOWER ARM
2.88 Unshift-on-Space Mechanism — Typing Perforator Only
Signal Bell Contact Mechanism — Typing Perforator Only

- CONTACT SURFACE
- HOOKS—EACH END
- CONTACT SURFACE
- SLIDING SURFACES
- SENSING FINGERS
- FUNCTION BLADE
- FUNCTION BLADE
- FUNCTION BLADE
- FUNCTION BLADE

(RIGHT SIDE VIEW)
2.90 Perforator Motor Pinion and Driven Gear Mechanism — Typing and Nontyping Perforators
C. Typing and Nontyping Reperforators

2.91 Single-magnet Nontyping Reperforator: Where a nontyping reperforator of this design is part of a 28 perforator-transmitter-base, refer to the section containing the lubrication procedures for the 28 single-magnet nontyping reperforator.

2.92 Multimagnet Nontyping Reperforator: Where a nontyping reperforator of this design is part of a 28 perforator-transmitter-base, refer to the section containing the lubrication procedures for the 28 multimagnet nontyping reperforator.

2.93 Single-magnet Typing Reperforator: Where a typing reperforator is part of a 28 perforator-transmitter-base, refer to the section containing the lubrication procedures for the 28 single-magnet typing reperforator.

3. ASSOCIATED BELL SYSTEM PRACTICE

3.01 The following Bell System Practice provides additional information that may be required in connection with this section.

<table>
<thead>
<tr>
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<th>Section</th>
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</thead>
<tbody>
<tr>
<td>Alphabetical Index of 28-type Equipment, Bell System Practices, and Associated 28 ASR Station Drawings</td>
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CHANGES AUTHORIZED BY P98 SERIES BELL SYSTEM PRACTICES

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<th>Mechanism</th>
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<tr>
<td>2.25</td>
<td>Margin Indicating Mechanism</td>
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P34.530 28 PERFORATOR-TRANSMITTER-BASE LUBRICATION
28 PERFORATOR-TRANSMITTER-BASE

LUBRICATION

1. GENERAL

1.001 This addendum supplements Section P34.530, Issue 1.

1.002 This addendum is reissued to include the lubrication information authorized for this apparatus by the P98 sections listed at the end of this addendum and to generally bring the practice up to date.

3. STANDARD FEATURES

The following changes apply to Part 3 of the section:

(a) 3.53 and 3.54 — revised paragraph titles only
(b) 3.54.1 and 3.54.2 — added
(c) 3.64 — added note

3.53 Ribbon-feed Mechanism With Spring Washer Behind Each Ribbon Spool (Typing Perforator Only)

3.54 Ribbon-feed Mechanism With Spring Washer Behind Each Ribbon Spool (Typing Perforator Only) (Rear View)
3.54.1 Ribbon-feed Mechanism With Helical Spring Behind Each Ribbon Spool
(Typing Perforator Only)

- HOOKS (2)
- SPRING
- PIVOT POINT
- FEED PAWL
- PIVOT
- CHECK PAWL
- PIVOT POINTS (2)
- REVERSING ARM
- CONTACTING SURFACE
- DRIVE ARM ADJUSTABLE EXTENSION
- FELT WASHER
- DRIVE ARM ROLLER

---

HOOKS (2)
PIVOT POINT
PIVOT POINTS (2)
CONTACTING SURFACE
FELT WASHER

SPRING
FEED PAWL
CHECK PAWL
REVERSING ARM
DRIVE ARM ADJUSTABLE EXTENSION
DRIVE ARM ROLLER
3.54.2 Ribbon-feed Mechanism With Helical Spring Behind Each Ribbon Spool
(Typing Perforator Only)

- HOOKS (2) SPRINGS (2)
- TEETH RATCHET WHEEL
- SHAFT ROLLERS (2)
- SHAFT, FELT WASHERS RATCHET WHEEL
- PIVOT DETENT
- CONTACTING SURFACES DETENT
- UPPER AND LOWER SLIDE LEVER BUSHING
- PIVOT DRIVE ARM
3.64 Printing Mechanism (Typing Perforator Only) (Left-side View)

Note: Printing mechanism with steel print hammer, illustrated herein, shall be lubricated as shown. Printing mechanism with resilient print hammer, not illustrated, shall be lubricated in same manner as that with steel print hammer, but in addition, the felt washer between the resilient print hammer accelerator and the frame shall be saturated with oil in accordance with general lubrication procedures. Where a mechanism is equipped with print suppression parts, a thin film of grease shall be applied on the print hammer stop at the point of contact with the print hammer lever.

4. VARIABLE FEATURES

The following changes apply to Part 4 of the section:

(a) 4.12, 4.13, and 4.14 — added
(b) 4.15 — added
4.12 Remote-control Gear Shift Mechanism

SAT FELT WICK
GEAR TEETH
TRANSMITTER POWER TAKE-OFF

TEN GEARS INCLUDING MOTOR PINION

O1 OILITE BEARINGS (2)
TRANSMITTER POWER TAKE-OFF
(OIL EACH SIDE OF BEARINGS) DRIVEN GEAR BEARINGS

SAT FELT WICK
OILITE BEARINGS (2)
TRANSMITTER POWER TAKE-OFF
(OIL EACH SIDE OF BEARINGS) DRIVEN GEAR BEARINGS

SAT FELT WICK
SPRING CLutches
IDLER GEAR

LOOPS - EACH END ARMATURE SPRING

O2 BEARING POINTS ARMATURE SHAFT

O2 OILITE BEARINGS (2)
IDLER GEAR BEARINGS
(OIL EACH SIDE OF BEARINGS)

O CLUTCH SPRINGS AND HUBS
(APPLY LIGHT FILM DURING REASSEMBLY)

SPRING CLutches

O2 OILITE BEARING WASHERS (4)
SPRING CLutches

O2 OILITE BEARINGS (2)
60 AND 100 WPM DRIVER GEAR
(OIL EACH SIDE OF BEARINGS) BEARINGS
4.13 Form Feedout Mechanism

- PIVOTS
- TRIP LEVER
- LOOPS - EACH END
- SOLENOID TORSION SPRING
- SLIDING SURFACE
- FORM FEED-OUT LINK
- PIVOT
- FORM FEED-OUT LINK
- LOOPS - EACH END
- FORM FEED-OUT LINK SPRING
DRIVEN GEAR

GEAR TEETH

PERFORATOR MOTOR PINION

GEAR TEETH

Perforator Motor Pinion and Gear
4.15 Print Suppression Mechanism (Not Illustrated): Refer to 3.64, Note of this addendum.

5. ASSOCIATED BELL SYSTEM PRACTICES

The following change applies to Part 5 of the section:

(a) 5.01 revised

5.01 (Add the following Bell System Practice.)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>28 Multimagnet Nontyping Reperforator, Lubrication</td>
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CHANGES AUTHORIZED BY P98 SERIES BELL SYSTEM PRACTICES

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<tr>
<td>3.54.1 and 3.54.2</td>
<td>Ribbon-feed mechanism with helical springs</td>
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<tr>
<td>3.64</td>
<td>Printing mechanism</td>
<td>P98.856</td>
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