28 PERFORATOR-TRANSMITTER BASE

LUBRICATION

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1. GENERAL

1.01 This section has been revised to include recent engineering changes and additions, and to rearrange the text so as to bring the section generally up-to-date. Since this is an extensive revision, marginal arrows ordinarily used to indicate changes have been omitted.

1.02 The 28 Perforator-Transmitter Base should be lubricated as directed in this section. The figures indicate points to be lubricated and the kind and quantity of lubricant to be used. Lubricate the keyboard just prior to placing it in service. After a few weeks in service, relubricate to make certain that all points receive lubrication. The following lubrication schedule should be followed thereafter:

OPERATING SPEEDS IN WORDS PER MINUTE LUBRICATION INTERVAL

<table>
<thead>
<tr>
<th>OPERATING SPEEDS IN WORDS PER MINUTE</th>
<th>LUBRICATION INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>3000 hr or 1 yr*</td>
</tr>
<tr>
<td>75</td>
<td>2400 hr or 9 mo*</td>
</tr>
<tr>
<td>100</td>
<td>1500 hr or 6 mo*</td>
</tr>
<tr>
<td>150</td>
<td>1000 hr or 6 mo*</td>
</tr>
</tbody>
</table>

*Whichever occurs first.
1.03 Use TP88970 oil at all locations where the use of oil is indicated. Use TP88973 grease on all surfaces where grease is indicated.

1.04 All spring wicks and felt oilers should be saturated. The friction surfaces of all moving parts should be thoroughly lubricated. Over-lubrication, however, which will permit oil or grease to drip or be thrown on other parts, should be avoided. Special care must be taken to prevent any oil or grease from getting between electrical contacts.

1.05 Apply a thick film of grease to all gears.

1.06 Apply oil to all cams, including the camming surfaces of each clutch disc.

1.07 The photographs show the paragraph numbers referring to particular line drawings of mechanisms and where these mechanisms are located on the unit. Parts in the line drawings are shown in an upright position unless otherwise specified.

1.08 The illustration symbols indicate the following lubrication directions:

- O  Apply 1 drop of oil.
- O2 Apply 2 drops of oil.
- O3 Apply 3 drops of oil.
- O20 Apply 20 drops of oil, etc.
- G  Apply thin film of grease.
- SAT Saturate (felt oilers, washers, wicks) with oil.

Figure 1 - 28 Perforator-Transmitter Base
2. LUBRICATION

2.01 KEYBOARD

NOTE: REST PERFORATOR TRANSMITTER BOTTOM SIDE UP.

2.02 SPACE BAR MECHANISM

2.03 KEYLEVER MECHANISM
2.04 BREAK LEVER MECHANISM

- ENGAGING SURFACE
- BREAK KEY LEVER
- BREAK LEVER
- BEARING SURFACE
- FUNCTION LEVER
- CONTACT SURFACE
- BREAK LEVER

2.05 CODE LEVER MECHANISM

- CONTACTING SURFACE (32 LEVERS)
- CODE LEVER UNIVERSAL BAIL
- GUIDE SLOTS (32 LEVERS)
- CODE LEVERS
- FELT WASHERS (6 WASHERS)
- CODE LEVER SHAFT
- BEARING SURFACES (32 WEDGES)
- LOCK BALL TRACK
- HOOKS-EACH END (40 SPRINGS)
- SPRING

2.06 KEYBOARD LOCK MECHANISM

- GUIDE SLOT
- KEYBOARD LOCK PLUNGER
- HOOKS-EACH END
- SPRING
- BEARING SURFACE
- KEYBOARD LOCK LEVER
- ENGAGING SURFACE
- KEYBOARD LOCK FUNCTION LEVER
- BEARING SURFACE
- FUNCTION BAIL
2.07 EXTENSION BASKET MECHANISM  
NOTE: REST PERFORATOR TRANSMITTER BOTTOM SIDE UP.

2.08 DETENT LEVER MECHANISM

- BEARING SURFACES (FRONT AND REAR)
- CONTROL CAM
- DETENT LEVER
- DETENT LEVER (FRONT AND REAR)
- SPRING
- ROLLER

2.09 SELECTOR LEVER MECHANISM

- HOOKS-EACH END (2 SPRINGS)
- SPRINGS
- RESET LEVER
- KEYBOARD CONTROL SELECTION LEVER
- RESET CAM FOLLOWER AND RESET LEVER
- RESET CAM FOLLOWER
2.10 CODE BAR EXTENSION BAIL MECHANISM

- Camming Surface
- Hooks—Each End
- Sliding Surface (2 Places)
- Engaging Surfaces (Two Places)
- Sliding Surface
- Sliding Surface
- Guide Surfaces (5 Extensions—Two Places)
- Hooks—Each End (5 Springs)
- Contact Surface (5 Extensions)
- Contact Surface
- Compression Spring—Each End
- Contact Surface
- Engaging Surface
- Bearing Surface
- Bearing Surface and Sliding Surface
- Contact Surface (Both Sides)
- Sliding Surface
- Slide Roller
- Spring
- Lever and Extension
- Lever
- Lever
- Control Cam
- Code Bar Extensions

2.11 CODE BAR EXTENSION MECHANISM

- Sliding Surface Lever and Extension (2 Places)
- Engaging Surface Faces (Two Places)
- Sliding Surface Lever
- Sliding Surface Guide Surfaces (5 Extensions—Two Places)
- Hooks—Each End (5 Springs)
- Contact Surface (5 Extensions)
- Contact Surface
- Clutch Trip Bar Link Extension
- Contact Surface
- 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

2.12 CLUTCH TRIP BAR LINK MECHANISM
2.13 CODE BAR AND LOCAL LINE FEED MECHANISM
NOTE: REST PERFORATOR IN UPRIGHT POSITION.

(TOP VIEW)

2.14 CODE BAR MECHANISM

HOOKS-EACH END (8 SPRINGS)

GUIDE SLOTS (LEFT AND RIGHT-TOP AND BOTTOM)

CODE BAR GUIDES

2.15 CODE LEVER UNIVERSAL BAIL MECHANISM

HOOKS-EACH END

BEARING SURFACE

CODE LEVER UNIVERSAL BAIL
2.16 LOCAL CARRIAGE RETURN MECHANISM

2.17 SIGNAL GENERATOR MECHANISM
NOTE: REST PERFORATOR IN UPRIGHT POSITION.

2.18 NON-REPEAT LEVER MECHANISM

(REAR VIEW)
2.19 CLUTCH TRIP BAR MECHANISM

![Diagram of clutch trip bar mechanism]

2.20 TRANSFER LEVER MECHANISM

![Diagram of transfer lever mechanism]

2.21 CONTACT BOX

**DISASSEMBLY:** REMOVE NUT AND LOCK WASHER SECURING CONTACT BOX COVER AND REMOVE COVER.
2.22 TRANSFER BAIL MECHANISM

- SAT: FELT WASHERS (2 WASHERS)
- LATCHES
- ENGAGING SURFACES
- TRANSFER BAIL
- HOOKS-EACH END (2 SPRINGS)
- SPRING
- BEARING SURFACE (EACH END)
- TRANSFER BAIL
- SAT: OIL WICK
- TRANSFER BAIL

2.23 KEYBOARD CLUTCH MECHANISM

- 02: LATCHING SURFACE
- CLUTCH STOP LEVER AND CLUTCH LATCH LEVER
- 0: HOOKS-EACH END (2 SPRINGS)
- SPRING
- SAT: FELT WASHERS (2 FRONT & REAR)
- CLUTCH TRIP BAIL

2.24 LOCK BAR LATCH MECHANISM

- 0: BEARING SURFACE
- LOCK BAR LATCH

2.25 MARGIN INDICATING MECHANISM

- 0: BEARING SURFACE
- SWITCH LEVER
- 0: HOOKS-EACH END
- SPRING
2.29 SIGNAL GENERATOR MECHANISM continued
NOTE: REST PERFORATOR TRANSMITTER IN UPRIGHT POSITION.

(RIGHT SIDE VIEW)

2.30 LOCKING BAIL MECHANISM

0  HOOKS-EACH END  SPRING

SAT  FELT WASHERS (2 WASHERS - FRONT AND REAR)  LOCKING BAIL POST

SAT  FELT WICK  CAMMING SURFACES

0  GUIDE SLOTS (3 SLOTS)  LOCKING BAIL
2.31 CODE BAR BAIL MECHANISM

- FELT WASHERS (TWO WASHERS)
- BEARING SURFACE (2 PLACES)
- HOOKS-EACH END (2 SPRINGS)
- FELT WASHER
- BEARING
- BEARING SURFACE
- ENGAGING SURFACE
- HOOKS (EACH END)
- GUIDE SLOT (EACH SIDE OF SLOT)
- ENGAGING SURFACE
- ENGAGING SURFACE
- FELT WASHER

2.32 UNIVERSAL BAIL LATCH LEVER MECHANISM

- HOOKS (EACH END)
- GUIDE SLOT (EACH SIDE OF SLOT)
- ENGAGING SURFACE
- ENGAGING SURFACE

2.33 RESET CAM FOLLOWER MECHANISM

- FELT WASHER
- BEARING SURFACE
- FELT WASHERS (FRONT & REAR)
- OIL HOLE
- HOOKS-EACH END
- ENGAGING SURFACE
- ROLLER
- RETAINING RING
- RESET CAM FOLLOWER SHAFT
- RESET CAM FOLLOWER SHAFT
- SPRING
- RESET LEVER
2.34 CHARACTER COUNTER AND ELECTRICAL LINE BREAK MECHANISMS
NOTE: REST PERFORATOR TRANSMITTER IN UPRIGHT POSITION

(REAR VIEW)

2.35 CHARACTER COUNTER MECHANISM continued

ENGAGING SURFACE
BEARING SURFACE
HOOKS-EACH END
BEARING SURFACE
BEARING SURFACE

COUNTER SCALE BRACKET
INDICATOR CORD PULLEY
SPRING
RATCHET LATCH LEVER
RATCHET DRIVE LEVER
2.36 CHARACTER COUNTER MECHANISM continued

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

2.37 ELECTRICAL LINE BREAK MECHANISM

HOOKS-EACH END (3 SPRINGS)
CONTACT SURFACE
BEARING SURFACE

SPRING
SENSITIVE SWITCH
BREAK LEVER

2.38 LOCAL PAPER FEED-OUT MECHANISM

ENGAGING SURFACE
HOOKS-EACH END (3 SPRINGS)
BEARING SURFACE
ENGAGING SURFACE

LOCAL LINE FEED TRIP LINK
SPRING
LEVER
MAGNETIC BLOWOUT SWITCH
2.39 REPEAT-ON-SPACE MECHANISM
NOTE:
REST PERFORATOR TRANSMITTER IN UPRIGHT POSITION.

2.40 'REPEAT-ON-SPACE
2.41 SYNCHRONOUS PULSE

2.42 CODE BAR GUIDE

2.43 SYNCHRONOUS PULSED MAGNET MECHANISM

2.44 CONTACT SWINGER

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GUIDE SLOTS (LEFT, RIGHT, TOP AND BOTTOM)

HOOKS-EACH END UNIVERSAL CODE BAR SPRING

HOOKS-EACH END CLUTCH TRIP BAR SPRING

SAT FELT WASHERS ARMATURE-PIVOT

ENGAGING SURFACE
2.45 REMOTE CONTROL GEAR SHIFT

- SAT FELT WICK
- TRANSMITTER POWER TAKE-OFF
- TEN GEARS (ASR KEYBOARD) INCLUDING MOTOR PINION

- G GEAR TEETH
- TRANSMITTER POWER TAKE-OFF
- DRIVEN GEAR BEARINGS

- O2 OILITE BEARINGS (2)
- (OIL EACH SIDE OF BEARINGS)

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

- LOOPS - EACH END ARMATURE SPRING

- BEARING POINTS
- ARMATURE SHAFT

- 02 BEARING POINTS
- ARMATURE SHAFT

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

- O2 CLUTCH SPRINGS AND HUBS
- SPRING CLUTCHES
- (APPLY LIGHT FILM DURING REASSEMBLY)

- O2 OILITE BEARING WASHERS (4)
- SPRING CLUTCHES

- O2 OILITE BEARINGS (2)
- 60 AND 100 WPM DRIVER GEAR
- (OIL EACH SIDE OF BEARINGS) BEARINGS

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2.47 ANSWER-BACK MECHANISM

2.48 ANSWER-BACK — SENSING LEVER MECHANISM

- CAMMING SURFACES (5 PLACES)
- SENSING LEVERS
- BEARING SURFACE
- DETENT LEVER
- BEARING SURFACE
- DETENT LEVER AND ROLLER
- HOOK - EACH END
- SPRING
- BEARING SURFACE
- DETENT LEVER ROLLER
- HOOKS - EACH END (5 SPRINGS)
- SPRINGS
- HOOK - EACH END
- SPRING

2.49 ANSWER-BACK — ARMATURE MECHANISM

- HOOK - EACH END
- SPRING
- BEARING SURFACES (2 PLACES)
- ARMATURE AND SHAFT
2.50 ANSWER-BACK — STOP LEVER

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(FRONT VIEW)

CONTACTING SURFACE
LATCH AND STOP LEVER

LATCHING SURFACE
LATCH AND STOP LEVER

CAMMING SURFACE
STOP LEVER

BEARING SURFACE (2 PLACES)
STOP LEVER AND LEVER PIVOT
2.51 ANSWER-BACK — CODE BARS AND SENSING LEVERS

- ENGAGING SURFACES (5 PLACES)
- BEARING SURFACE (BOTH SIDES)
- BEARING SURFACES (5 LEVERS)
- GUIDING SURFACES (5 PLACES)

2.52 ANSWER-BACK — DRIVING MECHANISM

- O2 BEARING SURFACE.
- O HOOK - EACH END
- O ENGAGING SURFACE
- G SHAFT
- O2 BEARING SURFACE (2 PLATES)
- O ENGAGING SURFACE
- O2 BEARING SURFACE
- O ENGAGING SURFACE

- ECCENTRIC STUD AND DRIVE LINK
- SPRING
- BLOCKING LEVER AND STOP LEVER
- DRIVE PLATE SHAFT AND SIDE PLATE
- DRIVE LINK AND STUD
- BLOCKING LEVER AND LEVER PIVOT
- BLOCKING LEVER AND EXTENSION
2.53 ANSWER-BACK — STEPPING PAWL

2.54 ANSWER-BACK — KEYBOARD LOCK BAIL MECHANISM