35 "CARDATA"* READER (LEXD)

LUBRICATION

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1. GENERAL

1.01 This section provides instructions for the 35 "CARDATA" reader (edge punched card reader) (Figure 1).

1.02 References made to left, right, front or rear, etc apply to the reader in its normal operating position as viewed from the operator's position in front of the reader. If it is difficult to lubricate a part in the position specified, the unit should be turned to a position in which the part is accessible.

1.03 Refer to the appropriate disassembly and reassembly section for removal of cover and any internal mechanisms associated with the reader. For any further information regarding location of parts, refer to the exploded views in the appropriate parts section.

1.04 The lubrication information in this section is arranged so as to minimize the shifting and handling of the reader unit.

1.05 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.

1.06 The symbols in the text indicate the following directions:

   O1 Apply 1 drop of oil.
   O2 Apply 2 drops of oil.
   O3 Apply 3 drops of oil, etc.
   G Apply thin film of (KS7471) grease.
   GO Apply thin film of grease and then oil.
   SAT Saturate (felt oiler, washers, wicks) with oil.
   OFIL Fill with (KS7470) oil.

1.07 Lubricate the reader before placing it into service or prior to storage. After a short period of service, relubricate to make sure no points have been missed. Thereafter, lubricate the reader at regular intervals as indicated below:

<table>
<thead>
<tr>
<th>Operating Speed (Words per Minute)</th>
<th>Lubrication Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>1500 hr or 6 mo*</td>
</tr>
</tbody>
</table>

*Whichever occurs first.

*Trademark of Teletype Corporation
1.08 Refer to appropriate section covering tools which also gives a description of various lubricants to be used in lubricating the reader.

1.09 Overlubrication, which would permit oil to drip or be thrown on other parts, should be avoided.

CAUTION: SPECIAL CARE SHOULD BE TAKEN TO PREVENT ANY LUBRICANT FROM GETTING BETWEEN THE CLUTCH TRIP MAGNET ARMATURE AND ITS MAGNET POLE FACES OR BETWEEN ELECTRICAL CONTACTS.

1.10 Oil should usually be applied by means of an oiler to a point where it will adhere or where pressure is nominal. In lubricating small parts, only a single drop of oil should be applied so that oil remains on the part and does not run off.

Note: Excessive oil tends to work onto contacts and pole faces where it has a harmful effect. It also tends to cause deterioration of pressure rollers and wiring insulation. Capillary action and vaporization due to heat of the motor tend to keep a film of oil on the machine, preventing rust and giving sufficient lubrication to many minor points, such as the ends of small springs.

1.11 In general, oil should be used in such locations as hollow shafts, oil cups, felt washers, and in most locations where parts rub, slide, rotate, or move with respect to each other. In particular, and unless otherwise specified in the individual lubrication sections, oil should be used in the following applications.

(a) Lightly oil all cam surfaces, sliding surfaces and pivot points.

(b) Lubricate all spring eyes with one drop of oil.

(c) Fill all oil cups.

(d) Saturate all oil retainers (felt lubricating washers and felt or leather wicks).
1.12 Grease should usually be applied with the nozzle of a grease gun, a brush, a fiber spudger, or an orange stick to all parts where the pressure is too great for effective lubrication with oil. Old grease should not be reused.

1.13 In general, grease should be used on gears, rollers, ends of points of heavy pressure. In particular, and unless otherwise specified in the individual lubrication sections, a thin film of grease should be applied to all gears.

1.14 After lubrication, excess oil or grease which may have run onto surfaces not requiring lubrication should be removed. Exercise care so that old lubricant or dirt does not get between bearing surfaces.

1.15 Special care should be taken to avoid accidents if the reader is to be operated when it is separated from its housing. Special care should also be taken to avoid electrical shock when working near polarized electrolytic capacitors.

1.16 The TP124828 oil-proof maintenance pad is available to protect furniture and floor covering from oil, grease, and dirt during lubrication. The pad should always be used with the same side down.

1.17 When mechanisms and parts, such as the cover, are removed, set them aside in some location where they will not get damaged and where they will not be a hazard to personnel around the area.

1.18 Equipment that has been in operation should be cleaned before it is relubricated. Refer to appropriate section that gives general cleaning information.

CAUTION: POWER SHOULD BE DISCONNECTED. WHERE PROCEDURES CALL FOR POWER TO BE CONNECTED, APPROPRIATE PRECAUTIONARY MEASURES SHOULD BE TAKEN TO AVOID ACCIDENT.
2. BASIC UNIT

2.01 Signal Contact Assembly

Note: The marking "DO NOT OIL" on the signal contact box should be interpreted literally. Portions of the mechanism should be greased as indicated, but no oil should be used.

2.02 Oil Reservoir

Note: The oil reservoir should be filled to a maximum depth of 3/4 inch.
2.03 Edge Punched Card Reader

(Top Front View)
2.04 Main Shaft and Clutch Mechanism

(Rear View)

SAT Internal Mechanism Clutch Assembly

G Gear Clutch

Both Loops Clutch Shoe Lever Spring

O3 Caming Surface Clutch Disc

O1 Caming Surfaces Cam Sleeve

O2 Caming Surface Drive Arm Cam

(Bottom View)
2.05 Edge Punched Card Reader

(Left Side View)
2.06 Clutch Trip Magnet Assembly

(Front View)

(Right View)
2.07 Front Plate Assembly

(SAT) Felt Wick
(SAT) Sliding Surface
(SAT) Leather Wick
(O1) Drive Arm
(O2) Drive Arm Oiler
(Front View)

Stabilizer Latch
Drive Arm
Main Shaft
2.08 Edge Punched Card Reader

(Front View)
2.09 Sensing and Feed Mechanism

(Right Side View)
2.10 Transfer Mechanism

SAT Each Felt Washer Main Bail Pivots
G Sliding Surface Bail Drive Post
SAT Leather Fad Transfer Bail
O1 Sliding Surfaces Transfer Levers
O1 Each Loop Transfer Lever Springs
O1 Each Loop Locking Bail Spring

(Left Side View)
2.11 Transfer Mechanism (continued)

- **G**: Shaft
- **Teeth**: Feed Pawl and Ratchet Wheel
- **O1**: Each Loop
- **Each Loop**: Main Bail Spring
- **O1**: Sliding Surface
- **Sliding Surface**: Feed Pawl Pivot
- **O1**: Engaging Surface
- **Engaging Surface**: Locking Bail
- **O1**: Transfer Arm Pivot
- **Transfer Arm Pivot**: Bearing Surface (Each End)
- **O1**: Sliding Surface
- **Sliding Surface**: Transfer Levers

(Rear View)
2.12 Main Bail Mechanism

- G: Shaft
- O1: Engaging Surface
- Main Bail Extension
- O1: Engaging Surface
- Latchlever
- O1: Sliding Surface
- Drive Arm
- O1: Bearing Surface
- Drive Arm Eccentric

(Front View)

2.13 Ratchet Clutch Mechanism

- O2: Sliding Surface
- Drum
- O3: Teeth
- Ratchet Clutch
- O1: Engaging Surface
- Bushing
- O1: Both Ends
- Clutch Release and Bail
- O1: Engaging Surface
- Spring
- O1: Engaging Surface
- Bushing

(Left Side View)
2.14 Feedwheel Detent Lever Assembly

(O1) Engaging Surface  Detent Lever Roller
(O1) Both Ends       Detent Lever Spring
(O1) Bearing Surface Detent Lever Pivot
(O1) Both Loops      Sensing Finger Springs
(O1) Sliding Surface Sensing Finger

(Front View)

2.15 Detent Assist Assembly

(O1) Bearing Surface  Cam Roller
(O1) Engaging Surface Cam Roller
(O1) Engaging Surface Detent Assist Lever
(O1) Engaging Surface Cam
(O2) Engaging Surface

(O1) Both Ends  Torsion Spring
(O1) Both Ends  Cam Follower Spring
(O1) Bearing Surface Detent Eccentric
(O1) Bearing Surface Cam Follower Pivot

(Rear View)
2. 16  Top Plate Assembly

(Bottom View)
2.17 Tape Switch Mechanism

(Rear View)

2.18 Idler Feedwheel and Tape Guide Mechanisms

(Bottom View)
2.19 Card-In Contact Actuating Lever Mechanism

(Front View)

2.20 Eject Actuator Mechanism

(Rear View)
2.21 Lid Solenoid Mechanism

(Front View)

2.22 Eject Solenoid Mechanism

(Rear View)
2.23 Card-Out Mechanism

- Both Ends: Card-Out Sensing Finger Spring
- Engaging Surface: Swinger Contact Insulator
- Sliding Surface: Card-Out Sensing Finger Actuator Extension
- Bearing Surface: Card-Out Sensing Finger Pivot

2.24 Timing Contact Mechanism

- Bearing Surface: Cam Follower
- Each Loop: Spring
- Light Film: Cam
- Engaging Surface: Cam Follower and Plunger
2.25 Code Reading Contacts

Follower Roller
Follower Roller Pivot
Sensing Arm Pivot
Bearing Surface
Bearing Surface
Bearing Surface (Each End)

(Front View)

G
O1
O2

Each Loop
Spring
Contact Surface
Insulator

O1

G

Each Loop
Spring
Contact Surface
Insulator
2.26 Gear Train

(Front View)

Front View

(Rear View)

Rear View
2.27 Motor Gear Plate Assembly

(Front View)

2.28 Eject Drive Belt Mechanism

(Front View)