PDF de Présentation du sommaire :
Titre du document :

Technical Manual 32 and 33 Teletypes sets

Manuel technique des équipements Télétype 32 et 33 (fabricant Teletype Corporation - Illinois, USA)

Il s'agit d'un document Teletype Corporation (Illinois, USA) en 2 volumes, disponible dans la collection de l'ACONIT, Association pour un conservatoire de l'informatique et de la télématique, Grenoble, **fiche n°23766**.

Ces équipements existent en trois types : KSR (Keyboard Send-Receive, un équipement sans commande par bande perforée), RO (Receive-Only), et ASR (Automatic Send-Receive avec commande par bande perforée).

Ces Teletypewriter Sets sont des appareils électromécaniques servant de terminaux pour des communications, en particulier par lignes télégraphe, téléphone ou radio. L'appareil utilise un clavier alphanumérique. Il possède une imprimante. Le type ASR dispose d'un lecteur/perforateur de bande permet d'automatiser certaines opérations.

Les transferts de données se font à la vitesse de 100 mots par minute (page 1).

Ce document est disponible dans la collection de l'ACONIT, Association pour un conservatoire de l'informatique et de la télématique, Grenoble, **fiche n°23766**.

Le document est constitué de deux volumes, soit deux classeurs dont les pages sont assemblées par 2 fois 2 anneaux : Ces volumes comprennent 16 sections totalisant 231 pages pour le premier et 5 sections totalisant 240 pages pour le second. Le volume-1 du document est une troisième édition, datée de 1964 (précédentes 1962, 1963). Le volume-2 est une seconde édition, daté de 1967 (précédente 1964)

Le document comprend de nombreux schémas, plans des pièces, et photos des sous-ensembles de l'appareil. Il décrit en détail les opérations de montage et de maintenance de l'équipement.

Le présent PDF fournit une copie des pages de sommaire du document :

- Une page qui reconstitue les différentes sections, avec leur nombre de pages.

- La page de couverture volume.1
- La page d'index du volume.1, avec les numéros des 16 différentes sections.
- Les tables de matières des 16 sections du volume.1

- La page de couverture volume.2
- La page d'index du volume.2, avec les numéros des 5 différentes sections.
- Les tables de matières des 5 sections du volume.2

D'autres extraits de certains des schémas fournis par ce document sont disponibles dans trois autres fichiers PDF.

Fiche rédigée le 29/1/2018 par Jean Ricodeau.

La présente page est une reconstitution des différentes sections du document.

Volume.1

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AC 23766-07

BULLETIN 273B
VOL 1

TECHNICAL MANUAL
32 AND 33
TELETYPEWRITER SETS
KEYBOARD SEND-RECEIVE (KSR)
RECEIVE-ONLY (RO)
AUTOMATIC SEND-RECEIVE (ASR)

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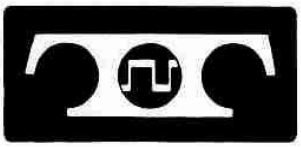

TELETYPE®
CORPORATION
5555 TOUHY AVENUE, SKOKIE, ILLINOIS

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November, 1964
Change 4

FILING INSTRUCTIONS

1. The following filing instructions apply to changes sent to the field.
2. Asterisks (*) in the table of contents indicate changes.
3. When the issue of a section changes, replace the old issue with the attached new one.
4. In the case of addendums, turn to the affected section and follow the instructions on the first page of the attached addendum.
5. Replace the old table of contents with this new one.

VOLUME 1

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32 AND 33 TELETYPEWRITER SETS

DESCRIPTION

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide a brief description of the 32 and 33 Teletypewriter Sets, together with principal components and available accessories. The section describes typical applications and gives pertinent technical data. Also, the section is issued to present the information in a separate section.

1.02 The 32 and 33 Teletypewriter Sets described herein are electromechanical apparatus that provide terminal facilities for exchanging recorded communication via appropriate transmission facilities, including telegraph lines, telephone networks, and radio channels.

1.03 References to the "left," "right," "up," "down," "front," or "rear," etc consider the Teletypewriter Set to be viewed from a position where the keyboard cover faces the viewer, with the platen knob to the viewer's left.

1.04 The following Teletypewriter Sets are covered:

(a) Keyboard Send-Receive (KSR) Teletypewriter Set (Figure 1).

(b) Receive-Only (RO) Teletypewriter Set (Figure 2).

(c) Automatic Send-Receive (ASR) Teletypewriter Set (Figures 3 and 4).

1.05 Transmission and reception are effected by a start-stop signaling code which is carried by the transmission facilities. The basic difference between the 32 and 33 Teletypewriter Sets is that the former utilizes a 5-level code and the latter utilizes an 8-level code. (See the appropriate section for an explanation of codes.) The Teletypewriter Set will operate at speeds up to 100 words per minute (wpm).

32 AND 33 TELETYPEWRITER SET

INSTALLATION

CONTENTS PAGE

1. GENERAL

1.01 This section provides instructions for unpacking, installing, connecting, and preparing the 32 and 33 Teletypewriter Set for use. A 115-volt power source and signal-line current and leads must be furnished by the customer. See the appropriate description section for detailed power and signal-line requirements.

1.02 This section is reissued as a general revision. Because of this, marginal arrows ordinarily used to indicate changes have been omitted.

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

UNPACKING

1.04 The Teletypewriter Set is packed in one carton. Observe all caution and instruction labels on the carton before breaking the seals. Remove the upper filler pads. Carefully take out the typing unit to avoid marring or otherwise damaging the plastic cover. Remove the remaining carton fillers and take out the stand (if used).

1.05 The typing unit and subbase are mounted on a wooden shipping pallet by seven screws. Four of the screws are no. 14Z self-tapping screws that secure the subbase to the pallet. The remaining three are standard machine screws that pass through aluminum bushings into tapped holes in the typing unit's base casting. Since the typing unit floats on rubber mounts, it is secured with separate screws. Tilt the mounted typing unit and take out the screw in the countersunk hole first. Loosen the

32 AND 33 KEYBOARD

PRINCIPLES OF OPERATION

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide principles of operation for the 32 and 33 keyboard and to present the principles as a separate section.

1.02 The teletypewriter code used to transmit messages is described in the appropriate typing unit section. This keyboard section outlines in general terms the overall operation of the keyboard and explains in detail the operation of the components that make it up.

1.03 References to "left," "right," "front," or "rear," etc, consider the keyboard to be viewed from a position where the spacebar faces up and the contact mechanism is located to the viewer's right.

1.04 In the illustrations, fixed pivots are solid black, and floating pivots—those mounted on parts that move—are cross-hatched.

2. TRANSMISSION

GENERAL

2.01 Transmission of messages is accomplished by an operator selectively depressing the keys and spacebar of the keyboard in the same manner as in typing. The downward movement of each key or the spacebar is translated by a codebar mechanism into mechanical arrangement corresponding to the code combination representing the character on the keytop. The mechanical arrangements set up the code combinations in a set of keyboard contacts, and, by parallel output, the code combinations are transmitted to a distributor mechanism. A universal mechanism trips a distributor clutch, and a distributor mechanism then translates the parallel output from the keyboard contacts into corresponding start-stop signal for application to the transmission facilities.

Note: For a further discussion of transmission principles, see the appropriate typing unit section.

KEYBOARD

2.02 In conjunction with a distributor mechanism, the keyboard provides facilities for transmitting messages by the manual operation of a group of keys. The 32 and 33 keyboards are described in the appropriate keyboard section.

A. Codebar Mechanism

2.03 The codebar mechanism is illustrated in Figure 1.

32 AND 33 KEYBOARD

LUBRICATION

CONTENTS

1. GENERAL

1.01 This section is issued to provide instructions for lubricating the 32 and 33 keyboard and to present the lubricating instructions as a separate section.

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

1.03 Thoroughly lubricate the keyboard, but avoid over lubrication that might permit the lubricant to drip or be thrown onto adjacent parts. Use KS7470 Oil.

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

Operating Speed (Words per Minute)	Lubrication Interval
60 or 66	1000 hr* or 1 yr**
100	500 hr* or 6 mo**

*Station Set operating hours.
**Whichever comes first.

1.05 The textual instructions that accompany each line drawing consist of abbreviated directions, specific lubrication points, and parts affected. The meanings of the abbreviated directions (symbols) are given below:

Symbol	Meaning
D	Keep dry - no lubricant permitted
OL	Oil liberally (3 or more drops)
OS	Oil sparingly (1 or 2 drops only)
OSD	Oil sparingly or leave dry**
OSL	Oil sparingly or liberally

**Applies to all areas not contacted by other parts.

1.06 References to "left," "right," "front," or "rear," etc consider the keyboard to be viewed from a position where the spacebar faces up and the contact mechanism is located to the viewer's right.

CAUTION: DO NOT USE ALCOHOL, MINERAL SPIRITS, OR OTHER SOLVENTS TO CLEAN PLASTIC PARTS OR PARTS WITH PROTECTIVE-DECORATIVE FINISHES. NORMALLY, 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. AFTERWARDS, RINSE PART OR SUBASSEMBLY WITH A SOFT, DAMP CLOTH AND BUFF WITH A SOFT, DRY CLOTH.

32 AND 33 KEYBOARD

DISASSEMBLY AND REASSEMBLY

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide disassembly and reassembly instructions for the 32 and 33 keyboard and to present the instructions as a separate section.

1.02 References to "left," "right," "front," "rear," etc consider the keyboard to be viewed from a position where the spacebar faces up and the contact mechanism is located to the viewer's right.

1.03 The disassembly procedure given in this section will break the keyboard down into its major assemblies and mechanisms. If further disassembly is required, refer to the appropriate illustrated parts section which shows detailed arrangements of parts. Where it will help in determining their location, the numbers of the parts are given in the instructions.

2. DISASSEMBLY AND REASSEMBLY

CAUTION: BEFORE BEGINNING DISASSEMBLY, REMOVE CONNECTORS FROM EXTERNAL RECEPTACLES (POWER SOURCE, DATA SET, ETC).

2.01 General:

(a) When self-tapping screws are used to mount mechanisms onto castings, do not remove the self-tapping screws. Merely loosen them enough to remove the mechanisms unless specifically instructed otherwise.

(b) Retaining rings are made of spring steel and have a tendency to release suddenly. To avoid loss of these rings when removing them, proceed as follows:

(1) Hold retaining ring to prevent its rotating.

(2) Place blade of screwdriver in one of ring's slots and rotate screwdriver to increase diameter.

(3) Ring will come off easily in fingers without flying.

2.02 To remove keyboard and call control unit, proceed as follows:

Note: Reference Figures 1 and 2.

(1) Remove the keyboard plug from its receptacle on the call control unit.

(2) Remove four TP121551 mounting screws and remove call control unit.

(3) Disengage keyboard cable from TP182531 cable clips on subbase.

(4) Insert screwdriver in slot in TP180977 H-plate and push to left against pressure of spring until H-plate is disengaged from universal lever. Remove H-plate.

Note: If the typing unit has been removed from its seat on the subbase, the H-plate will already have been removed.

(5) Loosen two TP180798 keyboard mounting screws. Slide keyboard assembly to rear and lift it from subbase.

32 AND 33 TYPING UNIT

PRINCIPLES OF OPERATION

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1. GENERAL

1.01 This section is issued to provide principles of operation for the 32 and 33 typing unit and to present the principles as a

32 AND 33 TYPING UNIT

LUBRICATION

CONTENTS

1. GENERAL

1.01 This section is issued to provide instructions for lubricating the 32 and 33 typing unit and to present the lubricating instructions as a separate section.

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.

32 AND 33 TYPING UNIT

DISASSEMBLY AND REASSEMBLY

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide disassembly and reassembly instructions for the 32 and 33 typing unit and to present the instructions as a separate section.

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

1.03 The disassembly procedure given in this section will break the typing unit down into its major assemblies and mechanisms. If further disassembly is required, refer to the appropriate illustrated parts section which shows detailed arrangements of parts. Where it will help in determining their location, the numbers of the parts are given in the instructions.

2. DISASSEMBLY AND REASSEMBLY

CAUTION: BEFORE BEGINNING DISASSEMBLY, REMOVE CONNECTORS FROM EXTERNAL RECEPTACLES (POWER SOURCE, DATA SET, ETC).

2.01 General:

(a) Most of the mechanisms are mounted on castings by self-tapping screws. Therefore, to remove the mechanisms, do not remove the screws. Merely loosen them unless specifically instructed otherwise.

(b) Retaining rings are made of spring steel and have a tendency to release suddenly. To avoid loss of these rings when removing them, proceed as follows:

(1) Hold retaining ring to prevent its rotating.

(2) Place blade of screwdriver in one of ring's slots and rotate screwdriver to increase diameter.

(3) Ring will come off easily in fingers without flying.

2.02 Common Mechanisms:

(a) To remove typing unit proceed as follows:

Note: Reference Figures 1, 2, and 3.

(1) Remove all plugs which terminate wires leading from the typing unit from their receptacles on call control unit. Remove ground strap from ground tab on call control unit.

(2) Insert screwdriver in slot in TP180977 H-plate and push to left against pressure of spring until plate is disengaged from universal lever. Remove H-plate.

Note: If the keyboard has been disassembled from the subbase, the H-plate will already have been removed. See the appropriate keyboard section.

(3) Lift typing unit from subbase.

(4) To replace typing unit, reverse procedure used to remove it. Make sure that the typing unit is properly seated on rubber isolators and TP180831 answerback bellcrank is under and aligned with

Ici commencent 2 pages de « contents » pour la section 123-101

TELETYPE CORPORATION
Skokie, Illinois, U.S.A.

SECTION 574-123-101TC
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32 AND 33 CALL CONTROL UNIT

PRINCIPLES OF OPERATION

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1. GENERAL

1.01 This section is reissued to add coverage of the circuit switching call control unit. Since all changes are in 1.01, 1.06, and 5.01 through 5.52, marginal arrows are omitted.

1.02 The function of a call control unit is to couple a teletypewriter either to telegraph networks or, through a data set, to telephone networks. In some applications, the call control unit provides facilities for initiating, accepting, controlling, and completing calls; while in others, it acts as a connecting device only.

1.03 The call control unit used in Western Union TELEX service operates over short and intermediate length telegraph loops using neutral signaling or over longer loops with polar signaling when modified with proper polar-to-neutral converting circuitry. It includes a power supply, local-remote control circuits, a selector magnet driver circuit, and a motor delay timer circuit. Paragraphs 2.01 to 2.13 outline in general terms the call control unit's overall operation. Paragraphs 2.14 through 2.48 explain its detailed operation. The applicable schematic wiring diagram is 4779WD.

1.04 The call control unit is used in Bell System switched network service. When it is connected with the appropriate data set, it is connected with conventional telephone central offices having the required routing and message accounting equipment. These are generally the same offices and equipment serving telephone customers in the area. Direct current signals are used for both originating and terminating traffic—providing the same conditions as for conventional local telephone set operation. The dial on the call control unit, for initiation of call connections, may be either a dc pulsing or a multifrequency (MF) tone device. Also included in the call control unit are ringing or tone sounding apparatus for alerting the called party. Paragraphs 3.01 through 3.06 outline in general terms the call control unit's overall operation. Paragraphs 3.08 through 3.32 explain its detailed operation. The principal applicable schematic wiring diagram is 5918WD. For additional wiring information, see the pertinent wiring diagrams, associated with the call control unit or, when provided, the appropriate section.

1.05 The call control unit used in private wire service operates over short or intermediate length telegraph loops using neutral dc signaling. It includes a power supply, a selector magnet driver circuit and a power switch. Paragraphs 4.01 through 4.03 describe the call control unit generally, and paragraph 4.04 through 4.07 explain in detail its only manual control—the power switch. For wiring information see either 6353WD or 6355WD. For further wiring information see wiring diagram(s) associated with the particular call control unit or (when provided) appropriate section.

1.06 The call control unit used in a circuit switching network operates over short and intermediate length telegraph loops using neutral signaling or over longer loops with polar signaling when modified with proper polar-to-neutral converting circuitry. It differs from the call control unit used in Western Union TELEX service primarily in the call originating circuitry. Paragraphs 5.01 through 5.10 outline the unit's overall operation. Paragraphs 5.11 through 5.52 explain its operation in detail. The applicable wiring diagrams are 7227WD, 7267WD, and 6481WD.

Note: This unit can also be used in 35 equipment for certain circuit switching applications.

32 AND 33 TAPE READER

PRINCIPLES OF OPERATION

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide principles of operation for the 32 and 33 tape reader and to present the principles as a separate section.

1.02 The teletypewriter code used to transmit messages is described in the appropriate typing unit section. This tape reader section outlines in general terms the overall operation of the tape reader and explains in detail the operation of the components that make it up.

1.03 References to "left," "right," "front," "rear," etc, consider the tape reader to be viewed from a position where the feed wheel faces up and the tape lid latch handle is to the viewer's right.

1.04 In the illustrations, fixed pivots are solid black, and floating points— those mounted on parts that move—are cross hatched.

2. BASIC UNIT OPERATION

GENERAL

2.01 The tape reader (Figure 1) attaches to the typing unit subbase at the left side of the keyboard. The distributor clutch trip mechanism (see Figure 4) is assembled into the typing unit distributor. The power pack is attached inside the typing unit stand. The tape reader is designed to sense code combinations perforated in a tape.

2.02 To initiate operation the tape lid latch handle (Figures 1 and 2) is moved to the right, releasing the tape lid, and allowing the tape lid to swing open. The tape is placed on the feed wheel in its proper position, and the tape lid is closed.

2.03 There are three basic positions for the control lever (Figures 1 and 3): START, STOP, and FREE. In the basic tape reader only, a control contact and control contact wires are used in conjunction with the control lever. When the control lever is moved to the START position, the control contact and control contact wires are closed. In the basic tape reader, the control contact and control contact wires are wired in series with the distributor clutch trip coil, which is located in the distributor area of the typing unit.

2.04 The distributor clutch trip coil (Figure 4), when energized, releases the tape reader trip lever. The tape reader trip lever, when released, performs two functions. First, the tape reader feed magnet contacts, which are held open by an insulator on the backside of the tape reader trip lever, closes. In its continued travel, a projection on the tape reader trip lever rotates the distributor clutch stop bail, releasing the distributor clutch and initiating a distributor cycle.

2.05 The tape reader feed magnet contacts (Figure 5) having closed, cause the feed magnet coil in the tape reader package to be energized. The feed magnet coil, upon energization, attracts the armature.

32 AND 33 TAPE READER

LUBRICATION

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide instructions for lubricating the 32 and 33 tape reader and to present the lubricating instructions as a separate section.

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 tape reader, but avoid over lubrication that might permit the lubricant to drip or be thrown onto adjacent parts. Use the following lubricants:

Oil KS7470
Grease KS7471
Grease 108805

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

Operating Speed (Words per Minute)	Lubrication Interval
60 or 66	1000 hr* or 1 yr**
100	500 hr* or 6 mo**

*Station Set operating hours.
**Whichever comes first.

1.05 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) are given below:

Symbol	Meaning
D	Keep dry - no lubricant permitted
G	Apply thin coat of KS7471 Grease
GOL	Brush on well a mixture of 50% KS7471 Grease and 50% KS7470 Oil
L	Apply a thin coat of 108805 Grease
OL	Oil liberally (3 or more drops)
OS	Oil sparingly (1 or 2 drops only)
OSD	Oil sparingly or leave dry**
OSL	Oil sparingly or liberally

**Applies to all areas not contacted by other parts.

32 AND 33 TAPE READER

DISASSEMBLY AND REASSEMBLY

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide disassembly and reassembly instructions for the 32 and 33 tape reader and to present the disassembly and reassembly instructions as a separate section.

1.02 References to "left," "right," "front," "rear," etc , consider the tape reader to be viewed from a position where the feed wheel faces up and the lid latch is to the viewer's right.

1.03 The disassembly procedure given in this section will break the tape reader down into its major assemblies and mechanisms. If further disassembly is required, refer to the appropriate illustrated parts section which shows detailed arrangements of parts. Where it will help in determining their location, the numbers of the parts are given in the instructions.

2. DISASSEMBLY AND REASSEMBLY

CAUTION: THE TAPE READER FEED MAGNET AND TRIP MAGNET OPERATE UNDER HIGH VOLTAGE. PRECAUTIONARY MEASURES SHOULD BE TAKEN WHENEVER POWER TO THE TAPE READER IS TURNED ON. HIGH VOLTAGE FROM THE POWER PACK WILL CONTINUE UNTIL APPROXIMATELY 10 SECONDS AFTER THE TAPE READER HAS BEEN DISCONNECTED.

2.01 General:

(a) When self-tapping screws are used to mount mechanisms onto castings, do not remove the self-tapping screws. Merely loosen them enough to remove the mechanisms unless specifically instructed otherwise.

(b) Retaining rings are made of spring steel and have a tendency to release suddenly. To avoid loss of these rings when removing them, proceed as follows:

(1) Hold retaining ring to prevent its rotation.

(2) Place blade of screwdriver in one of ring's slots and rotate screwdriver to increase diameter.

(3) Ring will come off easily in fingers without flying.

2.02 The tape reader and cover are assembled at the factory.

2.03 The tape reader cover is fastened to the typing unit cover with two TP181244 screws, four TP7002 washers, two TP124177 lockwashers, and two TP3598 nuts. The two covers are assembled with the bottom surface of the covers flush with each other.

(a) The tape reader and typing unit cover assembly is fastened to the typing unit subbase as described in the appropriate cover section.

Note: The left rear corner of the tape reader cover is secured to the tape reader base casting with a screw.

(b) With the tape reader and cover assembly secured in position, there shall be equal clearance on three sides between the

32 AND 33 TAPE PUNCH

PRINCIPLES OF OPERATION

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide principles of operation for the 32 and 33 tape punch and to present the principles as a separate section.

1.02 The tape punch's basic function is to convert start-stop electrical signals into a form that can be stored. It accomplishes this function by punching holes into tape according to a teletypewriter code. The teletypewriter code is described in the appropriate typing unit section. This tape punch section outlines in general terms the overall operation of the tape punch and explains in detail the operation of the components that make it up.

1.03 References to "left," "right," "front," or "rear," etc, consider the tape punch to be viewed from a position where the tape guide assembly faces up and the backspace lever is to the viewer's left.

1.04 In the illustrations, fixed pivots are solid black and floating points—those mounted on parts that move—are cross hatched.

2. BASIC UNIT OPERATION

GENERAL

2.01 The tape punch attaches to the left side of the typing unit base casting. The individual mechanisms and subassemblies that form the tape punch mount on the tape punch base casting, which serves as the main structural member.

2.02 Rotation of the typing unit's function rocker shaft provides a pre-determined controlled motion for the drive mechanism (Figure 1). The drive mechanism oscillates about a post mounted to the tape punch base casting and receives its motion from the typing unit's function rocker shaft through the drive link mechanism (Figure 1). This motion is transferred to the nudger, tape feed mechanism, and into the punch mechanism to perform the tape feed functions.

2.03 The individual members that compose the drive mechanism perform the following functions.

(a) Drive Post: The drive link imparts motion to the drive mechanism through the drive post.

(b) Nudger Arm: There is a cam profile perforated in the nudger arm which transfers motion to the nudger.

(c) Feed Pawl Arm: The feed pawl derives its motion from the feed pawl arm.

(d) Stripper Bail: The stripper bail pivots from a post that is supported by the nudger and feed pawl arms.

(e) Sensing Lever Bail: Motion is transferred to the sensing levers through a post supported by the nudger and feed pawl arms.

32 AND 33 TAPE PUNCH

LUBRICATION

CONTENTS

1. GENERAL

1.01 This section is issued to provide instructions for lubricating the 32 and 33 tape punch and to present the lubricating instructions as a separate section.

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 tape punch, but avoid over lubrication that might permit the lubricant to drip or be thrown onto adjacent parts. Saturate all felt washers and oilers with oil. Use KS7470 Oil where oil is required and KS7471 Grease where grease is required.

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

Operating Speed (Words per Minute)	Lubrication Interval
60 or 66	1000 hr* or 1 yr**
100	500 hr* or 6 mo**

*Station Set operating hours.
**Whichever comes first.

1.05 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) are given below:

Symbol	Meaning
D	Keep dry - no lubricant permitted
G	Apply thin coat of KS7471 Grease
GOL	Brush on well a mixture of 50% KS7471 Grease and 50% KS7470 Oil
OL	Oil liberally (3 or more drops)
OS	Oil sparingly (1 or 2 drops only)
OSAT	Saturate with oil (all washers and oilers)
OSD	Oil sparingly or leave dry**
OSL	Oil sparingly or liberally

**Applies to all areas not contacted by other parts.

32 AND 33 TAPE PUNCH

DISASSEMBLY AND REASSEMBLY

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide disassembly and reassembly instructions for the 32 and 33 tape punch and to present the instructions as a separate section.

1.02 References to "left," "right," "front," "rear," etc consider the tape punch to be viewed from a position where tape guide assembly faces up and the backspace lever is to the viewer's left. Orientation references in the drive link mechanism area consider the drive link to be up and located to the viewer's left.

1.03 The disassembly procedure given in this section will break the tape punch down into its major assemblies and mechanisms. If further disassembly is required, refer to the appropriate illustrated parts section which shows detailed arrangement of parts. Where it will help in determining their location, the numbers of the parts are given in the instructions.

2. DISASSEMBLY AND REASSEMBLY

CAUTION: BEFORE BEGINNING DISASSEMBLY, REMOVE CONNECTORS FROM EXTERNAL RECEPTACLES (POWER SOURCE, DATA SET, ETC.).

2.01 General:

(a) When self-tapping screws are used to mount mechanisms onto castings, do not remove the self-tapping screws. Merely loosen them enough to remove the mechanisms unless specifically instructed otherwise.

(b) Retaining rings are made of spring steel and have a tendency to release suddenly. To avoid loss of these rings when removing them, proceed as follows:

(1) Hold retaining ring to prevent its rotating.

(2) Place blade of screwdriver in one of ring's slots and rotate screwdriver to increase diameter.

(3) Ring will come off easily in fingers without flying.

2.02 To disassemble the parts of the tape punch cover assembly, proceed as follows:

Note: Reference Figure 1.

(1) Remove the composite cover — tape punch cover assembly, tape reader cover, and typing unit cover and lid from the subbase of a 5-level or 8-level Automatic Send-Receive Teletypewriter Set as described in the appropriate cover section.

(2) Unsnap the tape punch lid assembly from the bosses located in both halves of the tape punch cover assembly.

(3) Remove the six screws, twelve flat washers, six lockwashers, and six nuts that secure the tape punch cover to the composite cover.

Note: The heads of the screws, when assembled, shall be on the inside wall of the right cover half.

(4) Remove the two TP182916 screws and one TP180798 screw that secure the right cover half to the left cover half.

(5) Separate TP182922 left cover half from the TP182921 right cover half.

32 AND 33 COVER

ADJUSTMENTS, LUBRICATION, AND DISASSEMBLY AND REASSEMBLY

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide adjustment, lubrication, and disassembly and reassembly information for the 32 and 33 cover and to present the information as a separate section.

1.02 A plastic cover such as is shown in Figure 1 provides a decorative and protective enclosure for the typing unit, keyboard, and call control unit. A lid, which is spring detented in its open position, may be raised to gain access to the typing unit for replenishing such items as paper and ribbon. A window permits viewing the copy and provides a cutting edge for tearing paper or forms. Slots at the rear of the cover hold the paper roll spindle. Mounting slots are provided for a copy holder. A nameplate (Figure 2) is mounted at the front.

1.03 The cover is mounted at its outer edges on a cast subbase (Figure 2) which serves as a foundation for the keyboard, typing unit, and call control unit. Rubber vibration isolators support the typing unit.

1.04 Reference to "left," "right," "front," or "rear," etc, consider the cover to be viewed from a position where the lid is up and the nameplate position is facing toward the viewer.

2. ADJUSTMENTS

2.01 In the adjustments covered in this section, location of clearances and position of parts are illustrated by line drawings. Requirements and procedures are set forth in the texts that accompany the line drawings.

2.02 If the mounted cover and/or other parts are removed to facilitate the making of an adjustment, replace it and/or the other parts after making the adjustment. Recheck any adjustments that may have been affected by the removal of the cover and/or other parts.

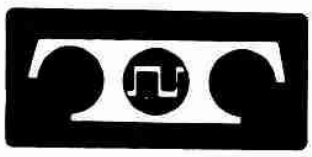
2.03 Unless specifically stated otherwise, make screws or nuts friction tight to make an adjustment, and tighten them securely once the adjustment has been made.

Ici commence le volume.2

AC23766-02

BULLETIN 310B
VOL 2

TECHNICAL MANUAL
33 TELETYPEWRITER SETS
KEYBOARD SEND-RECEIVE (KSR)
RECEIVE-ONLY (RO)
AUTOMATIC SEND-RECEIVE (ASR)



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INTRODUCTION

Bulletin 310B is a technical manual that provides general and specific information about the 33 Keyboard Send-Receive (KSR), Receive-Only (RO), and Automatic Send-Receive (ASR) Teletypewriter Sets and their component units. It consists of two volumes.

Volume 1 contains a description of the 33 Teletypewriter Sets and gives installation instructions. Also included in Volume 1 is information on the disassembly and reassembly, lubrication, and principles of operation of the component units of the Teletypewriter Sets. Volume 2 includes adjustment information on all component units of 33 Teletypewriter Sets.

Each volume is made up of a group of appropriate independent sections. Each independent section is complete within itself—it is separately identified by a title and section number, and the pages are numbered consecutively.

Each individual section is identified by a 9-digit section number which appears at the top of each page of a section. The section number appears on the left corner of left-hand pages and on the right corner of right-hand pages. In addition, the section number on each page contains the suffix TC which identifies it as a Teletype Corporation section. All sections are placed in the technical manual in ascending numerical order.

To locate specific information, refer to the table of contents on the following page. In the first column, under "Equipment," find the name of the component unit or set in question. Move across the page to the second column and locate the title being sought. The applicable 9-digit section number can then be found in the third column. Turn to Page 1 of the applicable section, and the contents of that section will be found.

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Ici commencent les pages de « contents » des 5 sections du volume.2

33 KEYBOARD

ADJUSTMENTS

CONTENTS PAGE

1. GENERAL

1.01 This section provides adjustment information for 33 keyboards which are mechanically reset by an H-plate and the distributor trip linkage shown in 2.14. It is reissued to include information only on 33 keyboards. Also, this issue updates information and adds new information on the auxiliary contact mechanism used on parity keyboards and keylever springs used on numeric-type keyboards. Since this is a general revision, marginal arrows ordinarily used to indicate changes and additions are omitted.

Note: Adjustment information for solenoid-reset keyboards is found in another section.

1.02 In the adjustments covered in this section, location of clearances, position of parts, and point and angle of scale applications are illustrated by line drawings. Requirements and procedures are set forth in the several texts that accompany the line drawings. Tools necessary to maintain 33 Teletypewriter Sets are shown in Maintenance Tools Section 570-005-800TC.

1.03 The sequence in which the adjustments appear is that which should be followed when a complete readjustment of the keyboard is undertaken. No single adjustment should be undertaken without first completely understanding the procedure and knowing the requirements. Therefore, read a procedure all the way through before making an adjustment or checking a spring tension.

Note: Disconnect the keyboard from any voltage source prior to inspection, minor repair, extensive maintenance, or a complete readjustment.

1.04 References to left, right, front, rear, etc consider the keyboard to be viewed from a position where the spacebar (Figure 3) faces up and the contact mechanism is located to the viewer's right.

1.05 When a procedure calls for using pry points or slots to make an adjustment, place a screwdriver between the points or in the slots and pry parts in the proper direction.

1.06 When the keyboard is removed from the subbase to facilitate the making of an adjustment and subsequently replaced, recheck any adjustments that may have been affected. Also, if parts are removed from the keyboard to facilitate the making of an adjustment, be sure that they are subsequently replaced. Recheck any adjustment that may have been affected by the removal of parts.

1.07 Related adjustments are listed with some of the adjustment texts and are primarily intended to aid in troubleshooting the equipment. As an example, suppose that in searching for a trouble it is discovered that Part (2) of CONTACT WIRES adjustment does not meet its requirement. Under Related Adjustment it is indicated that Part (2) of this adjustment is affected by Part (1). Check Part (1) to see if it is the basic

Ici début des 3 pages de « contents » pour la section 122-700

33 TYPING UNIT

ADJUSTMENTS

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1. GENERAL

1.01 This section provides adjustment information for the 33 typing unit. New within this issue is (a) exclusive coverage of 33 typing unit, (b) engineering changes, (c) two-color printing and typing unit suppression features, (d) revised order of adjustments, (e) title changes (which now provide a functional description of the associated area). Marginal arrows indicating changes are omitted.

1.02 In the adjustments covered in this section, location of clearances, position of parts, and point and angle of scale applications

Ici la page de « contents » de la section 124 *(il n'y a pas de section 123)*

33 TAPE READER

ADJUSTMENTS

CONTENTS

1. GENERAL

1.01 This section provides adjustment and maintenance information for the 33 tape reader. It is reissued to provide exclusive coverage of the 33 tape reader and to update the section. Since this is a general revision, marginal arrows ordinarily used to indicate changes and additions are omitted.

1.02 In the adjustments covered in this section, location of clearances, position of parts, and point and angle of scale applications are illustrated by line drawings. Tools required to perform adjustments are contained in TP185830 Tool Kit and are listed in Maintenance Tool Section 570-005-800.

Note: An adjustment must be performed even if the accompanying illustration is not an exact duplication of the adjustment area.

1.03 The sequence in which the adjustments appear should be followed when a complete readjustment of the tape reader is undertaken. No adjustment should be undertaken without completely understanding the procedure and the requirements. Read a procedure all the way through before making an adjustment or checking a spring tension.

Note 1: Be sure to check all related adjustments (Paragraph 1.07).

Note 2: Remove all electric power before checking or performing adjustments.

1.04 References to left, right, front, rear, etc consider the tape reader to be viewed from a position where the feed wheel faces up and the lid latch is located to the viewer's right. Orientation references to the clutch trip area consider the armature extension to be facing up with the contact bracket pry points located to the viewer's right.

Ici la page de « contents » de la section 125

TELETYPE CORPORATION
Skokie, Illinois, U. S. A.

SECTION 574-125-700TC
Issue 3, July, 1967

33 TAPE PUNCH

ADJUSTMENTS

CONTENTS PAGE

1. GENERAL

1.01 This section provides adjustment and maintenance information for the 33 tape punch. It is reissued to provide exclusive coverage of the 33 tape punch and to update the section. Since this is a general revision, marginal arrows ordinarily used to indicate changes and additions are omitted.

1.02 Figure 1 shows the tape punch area where the punch adjustments and spring tension checks are made.

1.03 In the adjustments covered in this section, location of clearances, position of parts, and point and angle of scale applications are illustrated by line drawings. Requirements and procedures are set forth in the several texts that accompany the line drawings. Required tools are included in TP185830 Maintenance Tool Kit and are listed in Section 570-005-800.

1.04 The sequence in which the adjustments appear should be followed when a complete readjustment of the tape punch is undertaken. No adjustment should be undertaken without completely understanding the procedure and the requirements. Read a procedure all the way through before making an adjustment or checking a spring tension.

Ici la page de « contents » de la section 126

TELETYPE CORPORATION
Skokie, Illinois, U. S. A.

SECTION 574-126-700TC
Issue 1, January, 1968

33 COVERS

ADJUSTMENTS

CONTENTS PAGE

1. GENERAL

1.01 This section is issued to provide adjustment information for the 33 typing unit, tape punch, and reader covers. The requirements apply to covers for both Keyboard Send-Receive (KSR) and Automatic Send-Receive (ASR) Sets (Figures 1 and 2).

1.02 After completing an adjustment, replace cover and/or any parts that were removed. Check any adjustments affected by the removal of the cover and/or parts.

CAUTION: ELECTRICAL POWER MUST BE REMOVED FROM UNIT BEFORE ANY ADJUSTMENTS ARE MADE.

1.03 In the adjustments covered in this section, location of clearances and position of parts are illustrated by line drawings. Requirements and procedures are set forth in the texts that accompany the line drawings.

1.04 Reference to left, right, front, or rear, etc, consider the cover to be viewed from a position where the lid is up and the nameplate position is facing the viewer.

1.05 Unless specifically stated otherwise, position screws or nuts friction tight to make an adjustment, and tighten them securely once the adjustment has been made.

1.06 Tools needed to perform adjustments are included in TP185830 maintenance tool kit and are listed in Section 570-005-800.

1.07 Check appropriate disassembly and reassembly section for approved procedure of cover and parts removal.