TELEPRINTER 100

SIEMENS

TELEPRINTER 100

SIEMENS & HALSKE AKTIENGESELLSCHAFT
WERNERWERK FÜR TELEGRAFEN- UND SIGNALTECHNIK

Contents

1. General

The Teleprinter 100 resembles a conventional typewriter both as regards outward appearance and simplicity of operation.The characteristic difference is, however, that a teleprinter permits the transmission and reception of messages. This fact alone necessarily involves some deviations and peculiarities in operation which will be explained in the following:

To protect it against physical damage and entry of dust and to reduce the operating noise, your teleprinter is either covered by a protective cover or accommodated in a floor cabinet. To reduce the operating noise still further, the keyboard of a teleprinter accommodated in floor cabinet 213 is fitted with a sealing plate. Only the keys protrude through this plate.

Perforated tape equipment is enjoying an increasing popularity because it permits messages to be stored in the form of a perforated tape for transmission at the maximum possible telegraph speed and at the most convenient time. The net result is an appreciable economy in line holding time and, consequently, in message fees.

If your teleprinter is equipped with a reperforator attachment, you may store incoming and outgoing messages in the form of a perforated tape, in addition to the page copy. A tape transmitter attachment, which may also be incorporated in this teleprinter as an optional item, permits the transmission at the maximum possible telegraph speed of messages previously punched in a tape. In conjunction with a remote control unit type "NL", the teleprinter may be used for off-line operation, i. e. for the preparation, duplication, or verification of perforated tapes.

Another optional device, the two-color printing device, permits outgoing messages to be recorded in red and incoming messages in black.

We recommend that only page teleprinter paper conforming to the specifications as per DIN 6720 (sheet 1) be used.

Only a 13 mm wide Perlon typewriter ribbon with selvage (black, or black/red for two color printing device) conforming to the DIN 2103 specifications should be used for the teleprinter.

Note:

Before the teleprinter is placed in service, it must be re-oiled by the mechanic charged with maintenance operations. Connection of power telegraph cables as well as any alteration of adjustments should also be left to qualified technicians.

2. Keyboard

The Teleprinter 100 may be equipped either with a standard keyboard or a condensed keyboard. In a condensed keyboard, some of the letter keys carry also figures or symbols. Contrary to an office typewriter, your teleprinter types only small letters (or only capital letters, if expressly desired). There is no shifting from capital letters to small letters and vice versa. Shift keys are, however, provided for shifting from letters (LTRS) to figures and symbols (FIGS) and vice versa.

2.1. **Shift keys "A..." and "1..."**
The shift key "1..." serves for shifting from LTRS to FIGS, and the key "A..." is intended for shifting back from FIGS to LTRS. By depressing key "1..." you adjust your own teleprinter as well as that in the distant station so that only figures and symbols can be printed because all keys carrying only a letter will then be blocked. Now, only figures and symbols can be transmitted and recorded until the key "A..." is depressed. After depression of this key, all keys assigned to figures and symbols are locked.

These two shift keys are located at the left and right of the lowest key row.

2.2. **Space bar**
The non-lettered space bar is arranged in the center of the lowest key row.

2.3. **Run-out key "..."** (in the special function key row above the keyboard)
Depression of this key causes the letter or figure assigned to the key which was last operated to be continuously transmitted as long as this "..." key is held depressed.

2.4. **Key "⌕"**
With the shift key "1..." previously depressed, operation of the key "⌕" causes a bell to sound in the teleprinter of the distant station. Normally, this signal is used for inviting the attention of the operator at the distant machine.

2.5. **Key "☼"** (in special function key row above the keyboard)
This key has been provided for switching on the internal illumination. It remains latched after depression. To switch it off, depress the lower ledge of this key which will then pop out again (in the event of glare, you may employ the visor described in para. 7).

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2.6. Keys marked with symbols or abbreviations

Marking	Function
A ...	LTRS shift (letters)
1 ...	FIGS shift (figures + symbols)
✠	Releasing answerback unit of distant teleprinter
♎	Bell
<	Carriage Return
≡	Line Feed
⊖	Code combination 32 (this key may be locked or even missing in your teleprinter because it is not permitted for international traffic)
☀	On/off switching of internal illumination (special function key row)
....	Run-out (special function key row)
✧	Releasing answerback unit of home teleprinter (special function key row)

3. Establishing a connection

3.1. Automatic exchange systems (selective dialing)

First depress the calling key ⊙ of the remote control unit located adjacent to your teleprinter. (If the teleprinter is accommodated in floor cabinet 213, the controls of the remote control unit are located in the lid of the floor housing). When the proceed-to-dial lamp in the calling key lights, dial the number of the desired subscriber. When the connection is established, the operation lamp in the clearing key ○ lights and the proceed-to-dial lamp goes out. If the motor of your teleprinter stops again shortly after starting and the operation lamp only lights momentarily, the line between the exchange and the subscriber called is occupied.

To clear the line after transmission of the message, depress the clearing key ○ of your remote control unit until the operation lamp in this pushbutton goes out.

3.2. Manual exchange systems (no dial in the remote control unit)

A call is initiated by depressing the calling key ⊙ of the remote control unit. When the motor of the teleprinter starts and the operation lamp in the clearing key ⊙ of the remote control unit lights, the operator in the exchange has connected his teleprinter to your line. The exchange operator will then answer your call and establish the desired connection. Do not commence transmission of your message before the operator has asked you to do so. At the end of message transmission, depress the clearing key in the remote control unit for about two seconds. Your teleprinter will then be disconnected by the exchange operator.

The procedure of establishing and clearing a connection may differ from that described above, and it will therefore be advisable to consult the manual exchange to which you are connected.

3.3. Point-to-point communication (no remote control unit)

Point-to-point communication implies that two teleprinters are permanently connected with each other. In this case either teleprinter is started by depressing the LTRS shift key marked "A..." twice. Both teleprinters are automatically stopped when no signals have been transmitted for about 30 seconds.

3.4. Checking the connection (exchange of answerback codes)

A teleprinter includes an answerback unit, a device which automatically transmits the identification code of the teleprinter station.
To verify whether, when the connection has been established, you are actually in contact with the desired distant station, release the answerback unit of the distant teleprinter. For this purpose, depress first the FIGS shift key marked "1..." and then the key marked "✤". The incoming station identification code tells you whether you are connected with the desired

subscriber. If so, depress the key "✧" (above the keyboard) to trigger your own answerback unit and to transmit your station identification to the called subscriber. However, if you are not connected with the desired subscriber, operate the clearing key in the remote control unit and dial again.

Do not depress any key as long as your answerback unit or that of the distant station is running off.

4. Message transmission

The standard version of the Teleprinter 100 permits a maximum typing speed of 400 strokes per minute. A still higher typing speed is prevented by an automatic keyboard lock.

To set both the transmitting and the receiving teleprinter to the beginning-of-line position before you start to transmit your message, depress the keys marked "<", "≡", and "A..." (or "1..." if the message begins with figures or symbols) in this sequence. This procedure should be strictly adhered to because otherwise the distant teleprinter might be set for receiving figures and symbols so that the letters transmitted by you would produce an unintelligible sequence of figures and letters.

About 8 character spaces (strokes) ahead of the end of the line a bell will warn you to terminate the line and to depress the keys marked "<", and "≡" (be sure to observe this sequence to avoid trouble in carriage movement).

In contradistinction to an office typewriter, the platen of your teleprinter remains stationary during operation while the type basket moves to and fro.

4.1. Typing errors

Typing errors cannot be corrected by erasing or overprinting. If you have typed a wrong letter or figure, the letter "e" should be typed three times with interposed spaces (e space e space e). This combination has been introduced in international traffic to denote an error. Then repeat the respective word or letter. Do not use the letter "X" for this purpose, to avoid confusion with Roman numerals.

End of the message

It is advisable to mark the end of each message by transmitting $+ + +$ (three times plus sign). This is a clear indication to the distant station that a message has been terminated. It is then advisable to trigger again the answerback unit of the distant station (key "✱") after switching to "1..." and then your own answerback unit (key "✧"). This provides a check whether or not the connection was in proper condition up to the end of the message.

5. Message reception

A teleprinter is also capable of receiving messages in the absence of an operator.

If you intend to interrupt an incoming transmission for some reason or other (e. g. in the case of trouble or exhaustion of paper supply) depress any one key repeatedly (it is advisable to use the key "T"). In the same manner the distant operator may request you to interrupt your message.

6. Replacing paper supply roll and ink ribbon, cleaning the types, changing the line spacing options, readjusting printing impact for multicopy working

During all these operations your machine is not ready for reception. As a result, measures must be taken to prevent a call from reaching your teleprinter. This is accomplished in the following manner:

Automatic exchange systems

First depress the calling key in the remote control unit and then pull out the power plug. A calling subscriber will then receive the busy signal and may dispatch his message at a later time. When the paper supply has been renewed etc., depress the clearing key of the remote control unit and replace the power plug.
This makes the teleprinter ready for operation again. It should be noted that an alarm signal will be actuated in the telegraph office after 4 to 5 minutes. This work should therefore be carried out as quickly as possible.

Manual exchange systems

Inform the exchange operator that your machine will be taken out of service for the next few minutes and then pull out the power plug. When the work has been completed, insert the power plug again and inform the exchange accordingly.

Point-to-Point circuit

Inform the distant station of the intended work and pull out the power plug. After renewing the paper supply etc. and inserting the power plug, inform the distant station that your machine is ready for operation again.

6.1. **Replacing paper supply roll** (observe para. 6)
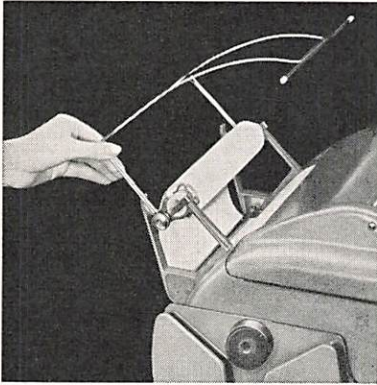
1

Swing paper deflecting bail to the rear.

2

Depress the two brown, rectangular, ribbed plates at the right and the left of the lid and swing the lid upwards until it is held in position by its bracing bar.
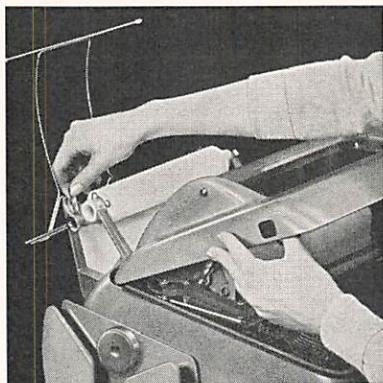

3

Throw the paper clamping lever to the rear and pull the paper out of the teleprinter (to the rear). Restore paper clamping lever.
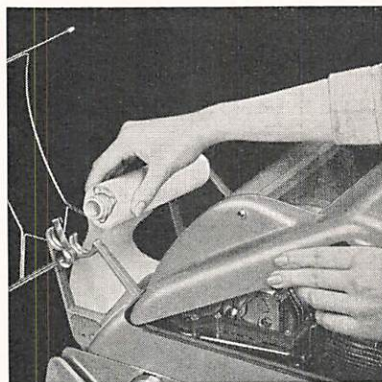
4

Depending on the bracket in which the roll is supported, swing the locking arm (at the right and the left of the roll) either to the front or to the rear. Do not bend it outwards.
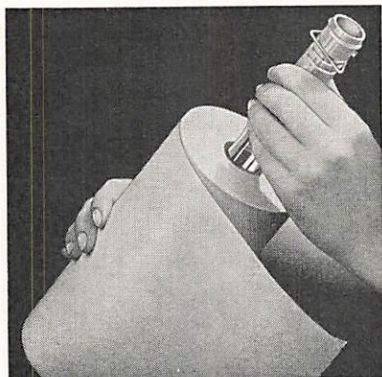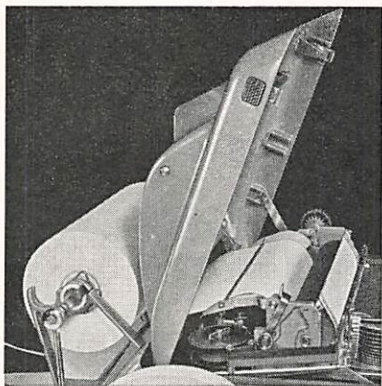
5

Lift out the old roll.

6

Pull plastic tube out of the old roll and insert it into the new roll, as shown in the figure, until the roll comes to rest against the rod in the plastic tube. The paper must be fed off the roll as shown in the figure.

9

7

Place the new paper roll into the bracket so that the rod of the plastic tube is positioned to the left of the paper roll when viewed from the front. Now return the two locking arms (shown in Fig. 4) at the right and left of the paper roll, so that they are correctly positioned over the plastic tube.

Feed the paper under the tension control roller and then upwards through the slot between the dust cover and the lid, place it between paper saddle and its guide axle, insert it under the platen from behind and feed it round the platen by turning the platen as with an office typewriter.
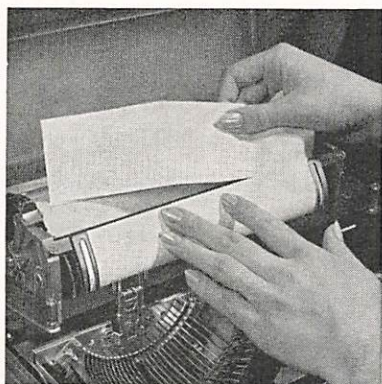
8

Tear paper off along the tear-off plate.
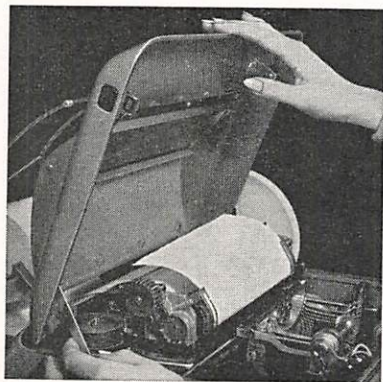
9

Push the lid carefully to the rear with one hand and push the bracing bar to the rear with the other hand. Close the lid and swing the paper deflecting bail shown in Fig. 1 to the front.

If your teleprinter is installed in a floor cabinet, the paper supply roll is replaced in the same way as just described for the teleprinter with protective cover. The paper deflecting bail shown in Fig. 1 is here **omitted** and, for opening the lid, it is **not** necessary to depress the two rectangular plates (shown in Fig. 2). Simply lift the lid.

The locking arms shown in Fig. 4 can also be **dispensed with** because the paper roll support differs slightly from that employed with the protective cover version.

6.2. **Replacing the ink ribbon** (observe para. 6)

10

Open the lid. Grasp the paper saddle from below with one finger and force it upwards until it unlatches. The paper saddle remains in this position and the two ink ribbon spools can be pulled off their shafts after releasing the retainers.
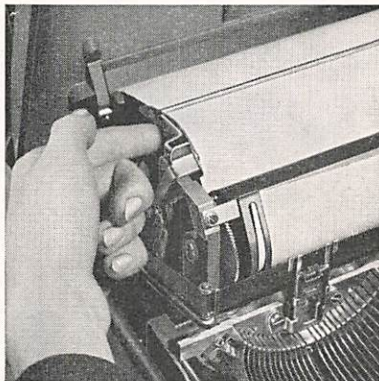
Detach ink ribbon from the guides and ribbon lifter. Attach the beginning of the new ribbon to the empty reel (as on an office typewriter) and place both spools on their shafts so that they engage in the driver pins. Secure spools with the retainers, and insert ink ribbon between the guides and through the ribbon lifter as shown in the photograph.
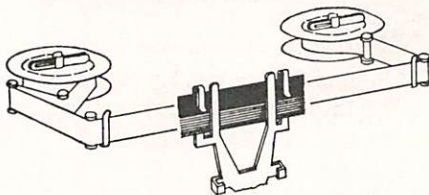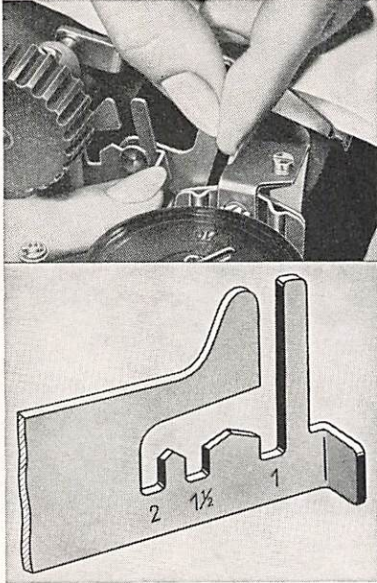
11

Depress the paper saddle with one finger until it latches, close the lid, and swing paper deflecting bail to the front.
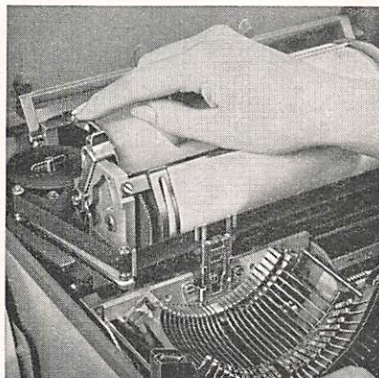
6.3. **Cleaning the types** (observe para. 6)
Clean the types of your teleprinter in the same way as those of a typewriter. Use plastic type cleaner rather than a type cleaning brush.

6.4. **Line spacing options** (observe para. 6)

The levers provided for adapting the spacing between lines are located behind the **right-hand** end of the platen. Open the lid of your teleprinter and slightly depress the lower lever with one hand (as shown in the photograph). Using the larger lever, move the attached pin into one of the three notches of the other lever. Viewed from the front, the first notch means double line spacing, the second notch 1^1/$_2$ line spacing, and the third notch normal line spacing.

6.5. **Readjusting printing impact for multi-copy working**
To permit multi-copy working, the impact of the type bars must be increased by a qualified technician.

7. Installing visor
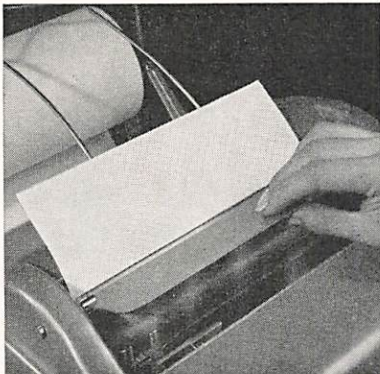
Insert visor first in the left hand support, pull it to the right and engage it in the right hand support.

8.   Fault tracing

In the event of trouble check first of all whether the plugs are firmly seated in their wall sockets and in the sockets of the remote control unit. This applies both to teleprinters with protective covers and to teleprinters accommodated in floor cabinet 213.

8.1.   Lamp in clearing key of remote control unit does not light

If the lamp in the clearing key does not light after establishing a connection, this may be due to:
1. power plug not firmly seated in its socket
2. power socket dead (blown fuse, etc.). Use a desk lamp or any other electric appliance for checking.

8.2.   Motor fails to start

If the motor of your teleprinter does not start and the lamp in the clearing key of the remote control unit fails to light after establishing a connection, this may be due to the absence of power for the motor of your or the distant teleprinter. **Separate this connection immediately by depressing the clearing button** because, if the fault is at your end, the connection has been established and the rate meter in the telegraph office begins to count. To find out which teleprinter is faulted, call the fault complaint service of your telegraph office. If the motor of your teleprinter starts up, inform the answering operator of the call number of the faulted **distant station.** If your teleprinter does **not start,** inform the fault complaint service over the telephone after making sure that fault is not due to poor connections as described in 8.1. above.

8.3.   Motor runs although no connection has been established with another teleprinter subscriber

If the motor of your teleprinter runs although no connection has been established, the telegraph plug may not be firmly seated in the telegraph socket. If the connection is good, pull the power plug and request the service of maintenance technicians.

Note:

No attempt should be made to extend trouble correction beyond the above described scope. If a fault cannot be cleared by the measures explained above, enlist the services of qualified maintenance technicians who will be provided, upon request, with the following manuals:

Description	Bs T App 100 engl
Service Manual	Ba T App 100 engl
Parts List	Es T App 100 engl

9. Teleprinter 100 with tapetransmitter attachment

What has been said in paragraphs 1 through 8 applies also to the Tele-printer 100 equipped with a tape transmitter attachment.

The tape transmitter attachment has two control keys (pushbuttons) which are marked with the symbols "Q" (switching off) and "⊙" (switching on).
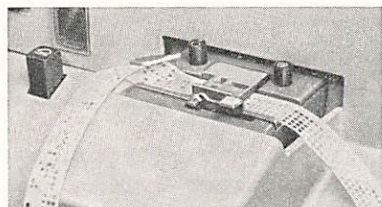
9.1. Loading the tape transmitter
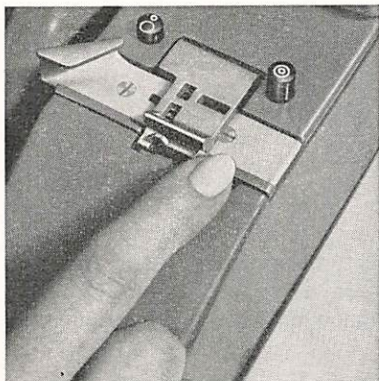
14

Depress the lever of the tape retainer lid. The lid snaps open and the tape can now be inserted so that it flows from the right to the left (the direction of tape flow is marked by the pointed beginning of the tape).

15

The sprockets of the tape feed wheel must engage in the feed holes (uninterrupted row of small holes in the center of the tape). Two rows of perforations must be behind the feed holes and three rows in front. The first code combination must be placed exactly above the five sensing pins (red mark). Close tape retainer lid.

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Tape transmitter attachment in floor-type cabinet 213.

9.2. Transmitting a message by means of a perforated tape

After establishing the connection with the desired distant station (see para. 3), transmit the code combinations "<", "≡" and "A...", and start your tape transmitter by depressing pushbutton ⊙. When the end of the tape has cleared the sensing station, the tape transmitter will be switched off automatically.

9.3. **Automatic break feature**

If the far-end subscriber wishes to interrupt your tape transmission, all he has to do is to strike any one key repeatedly. This may be necessary when, for instance, trouble occurs in the distant teleprinter or if the distant station has an urgent message on hand for transmission in the reverse direction. The tape transmitter attachment will be automatically stopped whenever teleprinter signals arrive from the distant station. The outgoing transmission interrupted in this manner may be repeated at a later time, i. e. when you are requested to do so by the distant station operator (do not forget to depress the keys "$<$", "$\equiv$", and "A . . ." before you transmit your message again).

9.4. **Switching off by hand**

If you want to stop your own tape transmitter, depress the pushbutton marked "$\odot$" in the front panel of your tape transmitter.

10. Teleprinter 100 with reperforator attachment

The paragraphs 1 through 8 apply also to the Teleprinter 100 with reperforator attachment. If your teleprinter is equipped with a reperforator attachment (installed at the left hand side) all incoming and outgoing messages may be stored additionally in the form of a perforated tape.

The reperforator attachment is provided with four control keys (pushbuttons):

$\odot$ Switching on

Q Switching off

L   Introducing and pulling out tape

R   To be used only in conjunction with a remote control unit type "NL" for backspacing the tape (see para. 12)

Note:

The reperforator attachment should only be switched off when the motor is running. If this is not done, it might happen that the punches are not fully withdrawn from the tape. In this case the tape cannot be pulled out without tearing the perforations or the tape itself. If your teleprinter has stopped while the reperforator attachment is switched on, start the motor of your teleprinter briefly and then switch off the reperforator attachment, with the motor running, by depressing button "Q".
Proceed as follows:

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Automatic e x c h a n g e s y s t e m s : Dial the call number of your own station. You will then receive the busy indication, i. e. your teleprinter will start up for a moment and then stop again. Depress the pushbutton "Q" during the moment the motor is running.

(If your remote control unit is of the type "NL", depress the pushbutton "⊙" with the green ring. This causes the motor to start. See paragraph 12.)

M a n u a l e x c h a n g e s y s t e m : Operate the calling key. When the motor runs, depress pushbutton "Q" and then the clearing key. (If your remote control unit is of the type "NL", depress the pushbutton with the green ring "⊙". This causes the motor to start. See paragraph 12.)
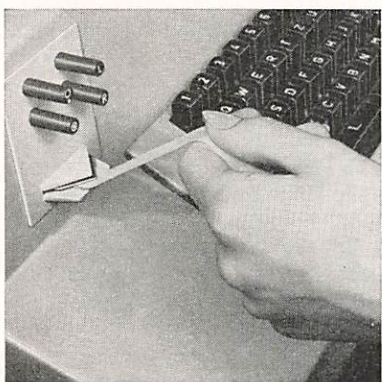
P o i n t - t o - p o i n t c i r c u i t s : Depress key "A ..." twice. With the motor of your teleprinter running, depress pushbutton "Q".

With the reperforator attachment switched off as described above, pull the perforated tape out to the front, holding pushbutton L depressed, until blank tape appears.

17

Tear off along arrow-shaped edge (upwards).

18

If your teleprinter is installed in a floor cabinet 213, the tape must be torn off upwards as shown in Fig. 18.

10.1. Replacing the tape roll

First of all, make sure that no call can reach your machine. Proceed as outlined in paragraph 6. The reperforator attachment must have been switched off as described in the preceding paragraph. Holding pushbutton "L" depressed, pull the tape out to the rear. Pull tape roll with core upwards and remove roll towards left side.
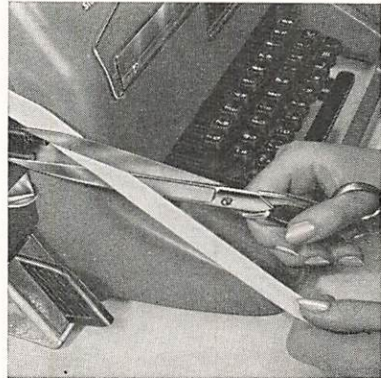
19

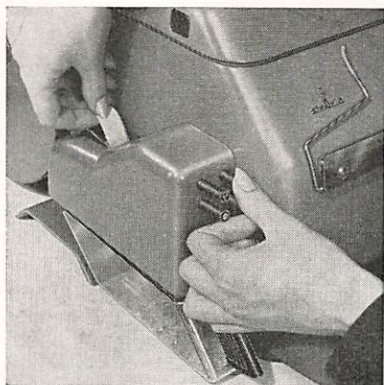Slip new tape roll on the core as shown in the photograph and press it down as far as it will go.
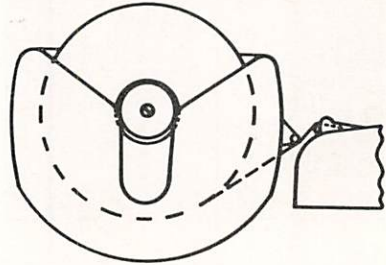

Insert perforated tape as shown on diagram.

20

Cut the beginning of the tape diagonally to a point, using a pair of scissors.

21

Hold pushbutton L depressed and insert the tape from the rear into the reperforator until the beginning of the tape appears at the tear-off edge. Tear off tape, pull out chad collector (like a drawer) and remove the chads.

Note: Trouble must be expected if the chads are not removed in time.
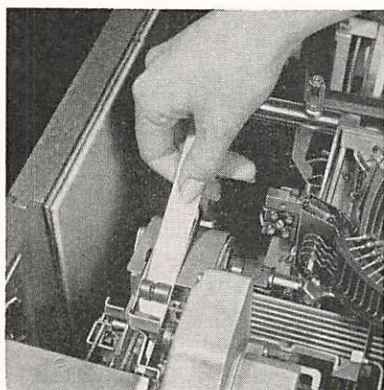
22

Figs. 22 and 23 apply only to the reperforator attachment of a machine installed in a floor cabinet 213. The tape can be inserted in the same way as described for the teleprinter with protective cover. The top of the floor cabinet must first be opened, of course.
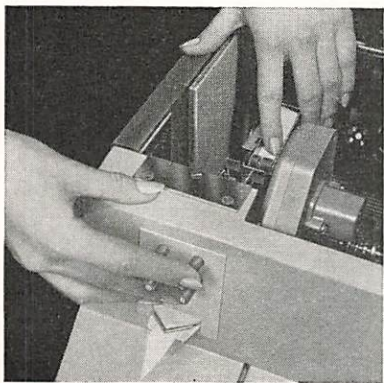
23

Introducing the tape into a reperforator attached to a teleprinter installed in a floor cabinet. Key L must be held depressed.

11. Teleprinter 100 with two-color printing attachment

All paragraphs contained in this instruction book apply also to the tele-printer with two-color printing attachment. Make sure that the black side is always on top when replacing the ink ribbon.

12. Teleprinter 100 with reperforator attachment, tapetransmitter attachment and remote control unit type "NL"

The paragraphs 1 through 11 also apply to this version.

12.1. Preparing a perforated tape

If you want to punch a message into a tape, depress the key marked with a green ring on your remote control unit. This causes the motor of your teleprinter to start up; the lamps in the clearing key and the off-line key on the remote control unit light up. Start your reperforator by depressing pushbutton "⊙". After striking key "A..." two or three times, you may begin punching.

With the message punched into the tape, switch off the reperforator by de-pressing pushbutton "Ọ". Then switch off the motor of your teleprinter by depressing the clearing key in the remote control unit. With pushbutton L (on reperforator attachment) held depressed, pull the perforated tape out to the front and tear it off.

Should a call arrive over the exchange line while you are punching the tape, a buzzer will sound in the remote control unit. In this case the push-button "Ọ" of the reperforator attachment must be actuated within three seconds. This permits the incoming message to be received without spoiling the signals previously punched into the tape. When the message has been received, depress the key with the green ring on the remote control unit again. When the motor has started up again and the lamps in the clearing key and the off-line key are lit, you may continue to prepare the perforated tape after switching on the reperforator attachment by depressing push-button "⊙" and after depressing the keys "<", "≡" and "A..." (or "1..." if you had been interrupted while typing a figure or a symbol).

12.2. Backspacing the tape to correct errors

The tape can be returned by one character space each time the key R of the reperforator attachment is depressed. Be careful that the key is com-pletely depressed each time.

If you discover a typing error while punching the tape, use this pushbutton to return the tape back to the character that was wrongly printed.

Please note that the signals for FIGS shift, LTRS shift and SPACE must also be counted. Now, the perforations of the wrong signal are again positioned below the punches. Operate the key "A..." at least as often as you have operated the backspacing pushbutton. This causes all perforations to be overpunched by the LTRS combination which is a non-printing function signal. Now, type the respective character and all the following charakters again.

Note:
If the signal to be corrected happens to be a figure or a symbol, the key "1..." must, of course, be operated before typing the correct signal.

12.3. **Checking a perforated tape**
When a perforated tape has been prepared, it will frequently be desirable to check this tape before it is finally transmitted. This applies in particular to very long messages or to messages which have been corrected. Proceed as follows:

Insert the tape in the tape transmitter attachment of your teleprinter as described in paragraph 9. Depress the key with the green ring on the remote control unit.

When the motor of your machine has started, switch on the tape transmitter by depressing the pushbutton "⊙". Your teleprinter will then record the message stored in the perforated tape. The tape transmitter will be switched off automatically at the end of the tape.

After the end of this message check, depress the clearing key in the remote control unit.

If a call arrives from the exchange during this check, the tape transmitter will be automatically arrested to prevent interference with the incoming message.

Note:
When a call arrives during this check, one or two wrong signals might be printed just before the tape transmitter is switched off. This is due to the incoming call. It does **not** imply that your tape contains an error.

12.4. **Duplication of tapes**
Proceed as outlined in paragraph 12.3. The reperforator attachment must be switched on **before** the tape transmitter attachment. The reperforator must be switched off **before** you depress the clearing key in the remote control unit at the end of the tape.

12.5. Instructions for splicing perforated tapes

We recommend the following procedure for splicing perforated tapes: Cut the perforated tape between 2 code hole groups.

Start new tape by punching code combination LTRS (5 holes) 3 times and cut it between the first and second code hole group. Place the end of the old tape on the new tape so that it matches the two LTRS code hole groups at the beginning of the latter and splice them using a thin adhesive. Carefully remove adhesive from holes. Use a pad and a supporting plate while splicing tapes.

Where further tapes have to be spliced to the original one, punch code combination LTRS 3 times at the end of the latter and cut it between the last two code hole groups.