

# INSTRUCTIONS

**FARGO COMPANY**

LAW ENFORCEMENT EQUIPMENT

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41862

INSTRUCTION BOOK FOR FARGO F-850 BATTERY-OPERATED  
BRIEFCASE TAPE RECORDER

BE SURE RECORDER IS TURNED OFF COMPLETELY.

IMPORTANT

The recorder is not completely turned off unless the middle STOP key is firmly and COMPLETELY depressed. If pushed part way down, this key will cause reels to stop turning, but the motor will continue to run and drain the batteries.

Accidentally bumping or failure to completely depress any of the other keys will cause the STOP key to pop up, thereby starting the motor.

When carrying the recorder in the briefcase, be especially careful not to press the keys in by squeezing them through the briefcase.

If the STOP button is released in this way, it may not be detected for some time, and the batteries may be exhausted by then.

It is recommended that the battery pack be removed when shipping the equipment.

## FARGO F-850 TRANSISTORIZED BATTERY-OPERATED BRIEFCASE TAPE RECORDER

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### Description:

This recorder is a self-contained, complete recording unit capable of continuously recording up to two hours. It is contained in a standard size briefcase for concealment purposes. The briefcase is fitted with an external microphone mounted within a luggage tag fastened to the carrying handle. Provisions are made for remote control operation. A switch, concealed under the briefcase latch flap, allows the recorder to be started and stopped without opening the briefcase. If desired, the recorder may be operated in the usual manner outside of the briefcase. Power is obtained from eight, standard flashlight cells which will operate the unit for at least 20 hours. The recorder may be operated from the 110 volt AC power line by replacing the battery holder with a similarly shaped converter unit. This converter is supplied as an accessory and will operate the recorder from 220 - 230 volt, 50-60 cycle power sources as well as 110 volts.

Recording speeds are 3-3/4 inches per second and 1-7/8 inches per second. Standard five-inch tape reels are used. Recording time will vary with the type of tape used, superthin tape giving the longest recording time.

At 3-3/4 inches per second tape speed, the following continuous recording times will result:

- 600' reels (audiotape #651) run for 1/2 hour.
- 900' reels (audiotape #961-LP) run for 3/4 hour.
- 1200' reels (audiotape #1231 - superthin) run for one hour.

NOTE: At 1-7/8 inches per second tape speed, the above continuous recording times will be exactly doubled.

The recorder employs a standard dual track recording head which allows complete compatibility of tapes for playback on other recorders. As on other standard recorders, the tape reels may be turned over for recording on the second tape track. Recording times listed above, however, are for one tape track only. Turning tape reels over to use the second track doubles the listed times.

An excellent tape playback system is incorporated in the recorder. A 1.2 watt amplifier, combined with the comparatively large, built-in loudspeaker, provides exceptionally good tape playback fidelity. In most instances, it may be used for court room presentations.

Recording is done as with any other tape recorder; no special precautions are necessary. The recording volume is adjusted by moving the control knob at the left side of the push-button panel. A red dot on the volume control knob shows the best setting for average conditions while being operated in the briefcase.

The knob at the right end of the push-button panel is the tone control. The best setting for this control is the full treble position. This position is also indicated by a red dot. With both control knobs positioned so that the red dots are located centrally in the panel openings, a good recording should be obtained when using the recorder with the briefcase and the concealed luggage tag microphone. Of course, different circumstances and operating conditions will probably necessitate different volume control settings. However, this will have to be determined under the actual conditions of operation -- by making a test recording. For a normal recording, using any other microphone, the volume control should be adjusted so that the recording level indicator lamp tube glow does not fade out completely on loud passages, yet still flickers slightly at soft passages. The record level indicator is the tube located behind the rectangular opening in the push-button panel, and it glows brightest at minimum volume, becoming extinguished only when the volume is turned up too high.

#### Briefcase Operation:

The recorder is first loaded with the desired amount and type of tape. The counter dial is set at zero and the tape speed lever set at the speed suitable for the type of recording to be made: 1-7/8 IPS for most voice recordings, or 3-3/4 IPS for music or best voice fidelity.

Replace the plastic cover over the tape reels.

With the briefcase sitting open on a table with the luggage tag facing you, insert the recorder with the reel side facing you the same way. Be sure the microphone and control cables and plugs are not caught under the recorder.

Next, carefully insert the microphone plug into the jack opening in the right end of the control panel, and the control plug into the similar opening in the left end of the panel. Note that the control plug appears to be a standard phone plug; however, it is not, being slightly smaller in diameter than normal. This is to prevent someone from accidentally plugging a microphone or headphones into the control jack with resultant, possible damage to the microphone or phones. The special thin control plug is a Switchcraft #S-280.

The recorder is now ready to operate in the briefcase.

Operating Procedure:

1. Check to be sure ON-OFF switch concealed under the briefcase latch flap is in the DOWN or OFF position.
2. Firmly press the recording key all the way in. This is the left-end key on the recorder control panel.
3. Shift the quick-start button, above the record key, to the left. The recorder is now ready to record whenever the concealed switch under the briefcase latch flap is pushed UP to the ON position.

As a check on the proper operation of the unit, make a short test recording. During this test recording watch the recording indicator light to be sure the volume control is set properly. For playback information, consult the tape recorder instruction manual.

For operating convenience and best tone quality, it is recommended that the recorder be removed from the briefcase when tape is being played back. Also, better tone quality will be obtained on playback with the tape recorder in vertical position.

Remote Control Operation:

The remote control operating feature may be put to use in a variety of conditions. To remotely control the starting and stopping of the recorder, it is necessary only to run a length of common, two-conductor lamp cord, such as is supplied with the recorder, between the remote control operating point and the remote control jack on the recorder. Of course, the extension microphone must be placed in a location where adequate sound pickup is obtained. At the remote control point, a simple switch is connected to the wires at the end of lamp cord. In a hurry-up type installation, the wire ends may be simply twisted together to start a recording and pulled apart to stop it. There is no shock hazard in handling these wires as the voltages involved are very low.

A typical installation in an automobile would involve setting the recorder in the trunk compartment, perhaps padded with old pillows or a blanket. The control wire and microphone lead are then run under the back seat and floor covering to the front compartment. The remote control switch could be fastened under the dashboard and the microphone hung under the dashboard in a convenient location behind the radio grill.

Many different possibilities will suggest themselves to the user of this equipment because of the versatility provided by the long recording time and freedom from reliance on external power sources.

CAUTION

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NEVER leave old, used or dead dry cells in the recorder battery holder -- remove them IMMEDIATELY after use. The acid liquid which may run out of the old cells will ruin the battery holder and possibly other parts of the recorder.

This also pertains to the so-called "leak-proof" type dry cells which can leak acid as easily as standard type cells.

The warranty on this equipment does not cover damage caused by leaking, dry cells.

WARRANTY

All equipment and accessories are warranted to be free of defects in material and workmanship for a period of 90 days from the date of delivery to the purchaser.

Excluded from warranty are batteries and all damage resulting from attempts at unauthorized service performed on the equipment or from obvious mishandling or abuse. Damage resulting from acid leakage from dead batteries is also excluded from this Warranty.

All equipment returned to Fargo Company within the warranty period will be serviced free of charge with the exceptions as noted above.

BATTERY LIFE: 20 to 40 hours.

BATTERY REPLACEMENT -- Eight Batteries of any of the following:

Ray-O-Vac 2LP  
Sears Roebuck 4650  
National Carbon 950  
Army BA-30  
RCA VS-36  
General 906  
Bright Star 10M

## A. BATTERY OPERATION

1. The batteries (8 unit cells of 1.5 V each) have to be fitted by you.
2. To do this, turn holding-down screw "B" anti-clockwise (use a coin or similar). This will free the battery holder so that you can remove it.
3. Take care to fit the batteries in the right way. The plate in the bottom part of the battery holder will allow contact to be made only when the batteries have been fitted correctly. To make sure, have another careful look at fig. 2
4. For the battery holder to be inserted correctly, pin "A" must fit into hole "A" in the holder. (See figs. 2 and 4).  
Press the battery holder well into position and tighten screw "B" well.

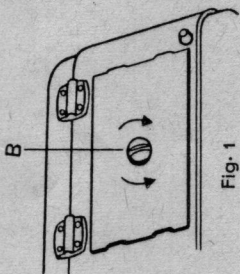


Fig. 1

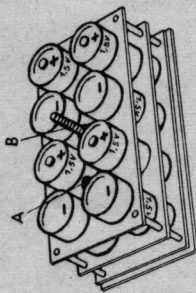


Fig. 2

## B. MAINS OPERATION

**Attention! Machine may be connected only to radio sets working on a. c. current or batteries.**

1. Remove the battery holder.
2. Compare the voltage to which the converter has been set with the mains voltage; adjust if necessary.  
The converter is set to 220 V when supplied.
3. For readjustment turn voltage selector "C" see fig. 3. The mains converter will work at the voltages shown on the selector dial and at frequencies of 50-60 c/s.
4. For replacing the fuse of the mains converter (0.2 A) remove the protective cover. (Undo screws "D" and "E" beforehand).
5. Mains converter will only fit home one way. Tighten holding-down screw "B" well.
6. Insert plug into mains socket.
7. The machine may be connected to a car battery (6 V) only when the mains converter has been fitted. Upon request a connecting flex will be supplied with one end bare and wires marked "positive" and "negative", the other end fitted with a three-pin plug.

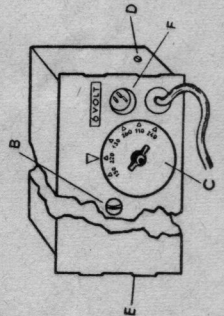


Fig. 3

Plug the three-pin plug into socket "F" in the mains operated machine.

8. The fuses (amplifier 0.5 A, motors 0.8 A) are held in clips on the underside of the battery box and are easily accessible. They can only be replaced with the battery holder, or the mains converter respectively, removed.

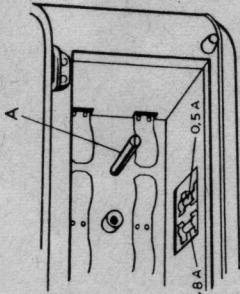


Fig. 4

## C. THE PUSH-BUTTON KEYS

1. The stop-key, symbol "O", must be depressed fairly hard so that the lock of the quick-start lever engages.
2. Recording key - symbol "O"
3. Playback key - symbol "□"
4. Fast wind key - symbol "→"
5. Fast rewind key - symbol "←"
6. Amplifier only (depress recording and playback keys simultaneously)
7. Quick-start lever "G"
8. Before operating a new key, stop-key "O" should always be operated.

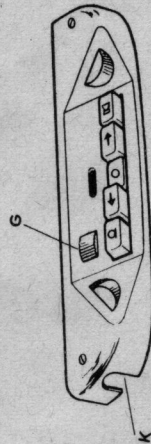


Fig. 5

## D. THREADING THE TAPE

1. Check that key "O" has been completely depressed, since only then can the tape be threaded.
2. Place the empty reel on the rotating table (on the right) and press down, taking care that the three-slotted centre hole fits correctly. A small leaf spring holds the reel in position so that the machine may also be worked in the upright position.
3. Place the full reel on the rotating table on the left side and press down.
4. Slip the tape into the guide slot and wind it into the empty reel for a few turns. Make sure that the tape lies correctly in the recesses of the two guide pegs. (See fig. 6)

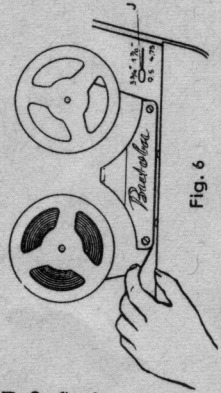


Fig. 6

- When one track of the tape has been completed, take the reels off and turn them over such that the other of the twin tracks is in the working position.

### E. TAPE COUNTER CLOCK

By means of the tape counter clock, in conjunction with the fast-wind and -rewind mechanism, any point on the tape can be quickly located.

- When beginning a new tape, set the clock to "12 o'clock".
- If later on you want the point which was recorded or played back at "12:10 p. m.", just wind or rewind the tape until the clock shows that time again.

### F. SETTING THE SPEEDS

- 9.5 cm/sec =  $3\frac{3}{4}$  in./sec (50 - 13,000 c/s) for first-class recording/reproduction of speech and music: -

Push lever of switch

"J" to the left, see fig. 7.

- 4.75 cm/sec =  $1\frac{7}{8}$  in./sec (60-5,000 c/s)

for good recording/reproduction of speech: -

Push lever of switch "J" to the right, see fig. 7.

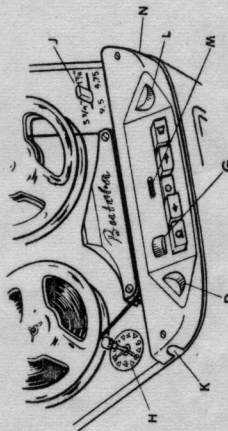


Fig. 7

### G. RECORDING

- Using the microphone
  - Plug microphone plug into socket "K".
  - Set tone control "L" to high pitch.
  - Press recording key "O".
  - Adjust magic eye indicator "M" (by turning recording-level control) so that line does not fade out at loud passages yet still flickers at soft passages.
  - Shift quick-start lever to the left, see fig. 7.

Note: Fade-out of magic eye = signal too strong.  
No flicker = weak or no signal.

### H. PLAYBACK

- Immediately available via the built-in elliptical loudspeaker. Best sound distribution is obtained with machine standing upright.

- Press playback key "Q" and release quick-start lever "G"
- Adjust sound volume by turning knob "P", see fig. 7.
- Regulate tone control by turning knob "L", see fig. 7.

### I. FAST WIND AND REWIND

- Fast wind
  - Press key "→".
  - When reaching desired spot press stop-key "O"
- Fast rewind
  - Press key "←".
  - When reaching desired spot press stop-key "O".

Please note that winding and rewinding uses up a comparatively large amount of battery current. When machine is not in use, do not forget to press stop-key "O" completely home. Otherwise batteries will be flat sooner than expected.

Keep the machine in a stable position during recording/playback. This will enhance its performance.

### SPECIFICATIONS

- Double track system, international standard
- Tape speeds:  $3\frac{3}{4}$  and  $1\frac{7}{8}$  ips.
- Playing time: 2 x 1 hour ( $3\frac{3}{4}$  ips.)  
2 x 2 hours ( $1\frac{7}{8}$  ips.)
- Push-button operation: Recording; Reproduction; fast Forward and Rewind; Stop.
- Tone and volume control
- Microphone impedance: 200 Ohms, input voltage: 200  $\mu$ V
- Radio input impedance 100 kOhms, radio output 200 Ohms, approx. 100 mV
- Frequency range:  
50 - 13000 cps. ( $3\frac{3}{4}$  ips.)  
60 - 5000 cps. ( $1\frac{7}{8}$  ips.)
- Noise level: 40 db
- Output (speaker): 1,2 W
- Volume-level indicator through magic line
- Transistors: (OC 603, OC 75, OC 71, OC 76 = 2 pcs., 2 x OC 74)  
2 diodes: (OA 81 = 2 pcs.)  
1 valve: (DM 71 = magic line)
- Batteries: 2 x 4 flashlightcells  
1,5 V each = 6 Volt for motor and 6 V for amplifier.
- Converter: 110-260 V, 50-60 cycles or car-battery (6 Volt)
- Number of motors: 2
- Computer
- Life of batteries: 20 - 40 hours
- Dimension of case:  $9\frac{1}{4}$ " x  $12$ " x  $6$ "
- Weight, including batteries: 12 lbs

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