

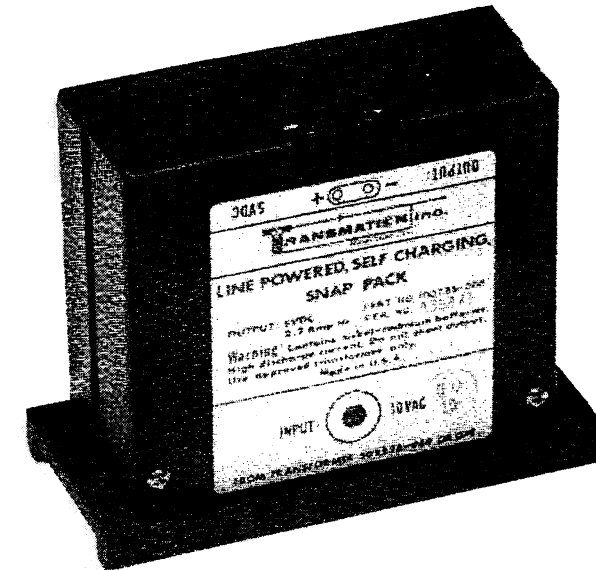
Warranty

Transmation products are warranted to be free from defects in material and workmanship (excluding fuses, batteries and leads) for a period of one year from the date of shipment. Warranty repairs can be obtained by returning the equipment prepaid to our factory. Products will be replaced, repaired, or adjusted at our option. *Transmation gives no other warranties, including any implied warranty of fitness for a particular purpose.* Also, Transmation shall not be liable for any special, indirect, incidental or consequential damages or losses arising from the sale or use of its products.



Transmation

INSTRUCTION MANUAL



SNAP-PACK® BATTERY CARTRIDGE

SPBE

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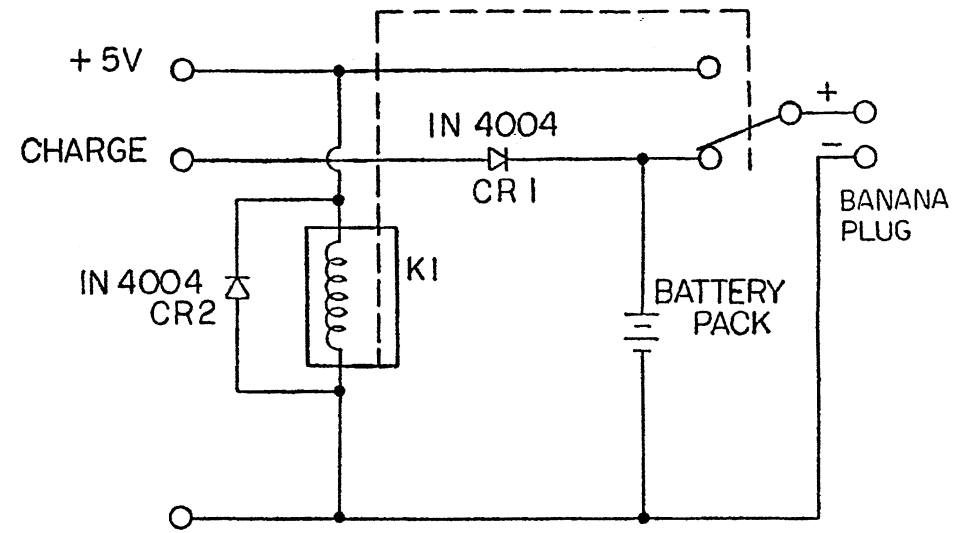


FIGURE 3
DC SNAP-PACK® SCHEMATIC

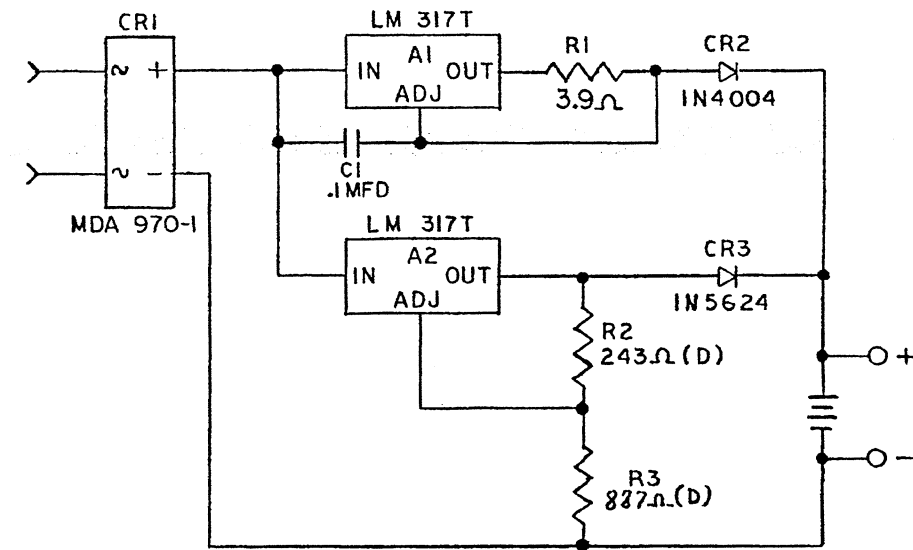


FIGURE 4
AC SNAP-PACK® SCHEMATIC

approximately one inch and pull them out of their respective retainer clips.

4. Connect the new batteries in series by soldering a short lead wire between the positive terminal on one battery and the negative terminal on the other battery.
5. Insert the new batteries in their respective retainer clips, then solder the leads (previously disconnected in Step 3) to the remaining positive and negative terminals on the batteries. Be sure to maintain sufficient slack in the lead wires.
6. Orient the housing cover over the base of the cartridge and slide it down into place.
7. Secure the cover to the Snap-Pack® cartridge housing using the screws removed in Step 1.

6. RECOMMENDED SPARE PARTS LIST

DESCRIPTION

DC Snap-Pack® Cartridge
AC Snap-Pack® Cartridge

4-Pack™ Charger (for use with DC Snap-Pack® cartridge only)
4-Pack™ Charger Instructions
AC Charger Transformer - 90-130 VAC @ 50/60 Hz (for use with AC Snap-Pack® cartridges only)
AC Charger Transformer - 230 VAC @ 50/60 Hz (for use with AC Snap-Pack® cartridges only)

Nickel-Cadmium Battery
(2 required per Snap-Pack® cartridge)

1. INTRODUCTION

This manual describes the Transmation Snap-Pack® Battery Cartridge. The Snap-Pack® cartridge, equipped with rechargeable nickel-cadmium batteries, is designed to provide a quick and convenient means of recharging specially-designed Transmation calibrators. Quick-release latches permit the cartridge to be easily installed in and removed from a Transmation calibrator without opening the calibrator's housing and without the aid of special tools. Snap-Pack® powered calibrators can provide virtually uninterrupted service due to the ease of replacing and recharging the cartridge. By maintaining a supply of spare cartridges, a calibrator's depleted cartridge can be quickly replaced with a fresh, fully-charged cartridge. The depleted cartridge can be recharged and stored for later use.

Two versions of the Snap-Pack® cartridge are available from Transmation. The AC version is recharged from a portable AC charger transformer that plugs into an AC line outlet. The AC transformer has a power cord with a miniature power jack that plugs into the bottom of the Snap-Pack® cartridge. The AC transformer must be specified for use with either 90-130 VAC @ 50/60 Hz or 230 VAC @ 50/60 Hz. The DC version is recharged at either of two Transmation charging stations: the Model 1001 Tilt-Base™ Charger or the Model 1004 4-Pack™ Charger. Further information concerning these charging stations is available in the Tilt-Base™

Both the AC charger transformer and the Transmation charging station permit the Snap-Pack® cartridge to be recharged either while it is still installed in the calibrator or after it has been removed from the calibrator.

Consult Section 6 for the part numbers of the AC and DC Snap-Packs®, the charging stations, the AC charger transformers and related literature.

2. SPECIFICATIONS

BATTERY TYPE: Nickel-cadmium

OUTPUT VOLTAGE: 5.0V nominal, recharge level at 4.7V

CURRENT CAPACITY: 2.2 ampere-hours

RECHARGING TIME: 14 hours to full charge (typical) when charged by a Transmation Model 1001, Model 1004 or AC transformer

LIFE EXPECTANCY: 1000 charge/discharge cycles

AMBIENT TEMPERATURE RANGE: Charge: 0°C to 46°C (32°F to 115°F)
Discharge or storage: -40°C to 60°C (-40°F to 140°F)

CONSTRUCTION: Housed in a rugged shock-resistant case

DIMENSIONS (HWD): 91 mm x 114 mm x 55 mm (3.57" x 4.5" x 2.15")

WEIGHT: 0.6 kg (1.25 lbs.)

3. RECHARGING

Snap-Pack® powered Transmation calibrators indicate the occurrence of a low battery condition when the Snap-Pack®'s voltage reaches approximately 4.7V. It is recommended that the depleted Snap-Pack® be recharged immediately following the low battery indication. To return the Transmation calibrator to normal service, replace the depleted cartridge with a fully charged one. If the calibrator is not required immediately, the Snap-Pack® cartridge can be recharged while it is still installed in the calibrator. The time required to restore a cartridge to full charge is dependent on several factors, including individual cell characteristics and their state of depletion at the onset of recharging.

NOTE: Constant charging rates permit storage of Snap-Pack® cartridges in the recharge mode without adverse affects.

3.1 RECHARGING AN AC SNAP-PACK®

1. Verify that the available AC power source is compatible with the AC charger transformer being used. Refer to Section 6 to determine which transformer is compatible with the prevailing AC source.
2. Plug the miniature power jack on the charger's cord into the receptacle on the bottom of the Snap-Pack® cartridge.
3. Plug the charger transformer into an AC line outlet.

3.2 RECHARGING A DC SNAP-PACK®

For instructions on recharging a DC Snap-Pack® from a Transmation 1001 Tilt-Base™ Charger or a 1004 4-Pack™ Charger, consult the applicable instruction sheet.

3.3 INSTALLATION AND REMOVAL OF A SNAP-PACK® CARTRIDGE

● To install a Snap-Pack® cartridge:

1. Slide the two quick-release latches on the bottom of the cartridge to the open (inner) position.
2. Orient the Snap-Pack® so that the receptacle on the top of the cartridge is aligned with the 2-conductor plug located at the top of the instrument's battery compartment. In this position, the plastic guide plate on the face of the cartridge will then slide into the tracks provided in the instrument case (the cartridge cannot be inserted in any other position).
3. With the quick-release latches in the fully open position, slide the Snap-Pack® all the way into the instrument until the end plate is tight against the bottom of the instrument case. The cartridge is designed to slide easily and should not be forced.
4. When the cartridge is fully inserted, secure it by sliding the two quick-release latches to the closed (outer) position.

● To remove a Snap-Pack® cartridge:

1. Slide the two quick-release latches on the bottom of the cartridge to the open (inner) position.

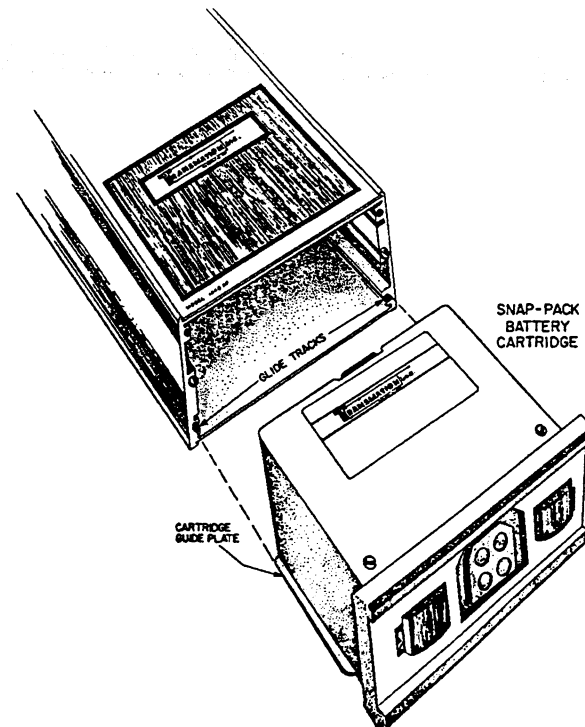


FIGURE 1
SNAP-PACK® INSTALLATION/REMOVAL

2. Slip the Snap-Pack® cartridge out of the calibrator's housing.

3.4 PREVENTING CELL REVERSAL

Certain Snap-Pack® powered Transmation calibrators automatically shut off when the battery voltage reaches approximately 4.6V. This prevents the batteries from discharging completely and reduces the possibility of cell reversal.

On other Transmation calibrators that do not have this feature, total depletion of the nickel-cadmium batteries may cause cell reversal. To reduce the possibility of cell reversal:

1. Recharge the Snap-Pack® cartridge immediately following the low battery indication on the calibrator.
2. Store the Snap-Pack® cartridge in a charging station (DC version only) or connect it to an AC charger transformer (AC version only) when it is not being used.
4. OPERATING A SNAP-PACK® POWERED CALIBRATOR ON LINE POWER

Snap-Pack® powered calibrators can be operated on line power by using either a Model 1001 Tilt-Base™ Charger or an AC charger transformer.

NOTE: Operating a Snap-Pack® powered calibrator from line power elevates the calibrator's operating ambient temperature slightly. To determine the effect of this on the calibrator, refer to the Temperature Effect (or Stability) specification in the calibrator's dedicated instruction manual.

When the Model 1001 Tilt-Base™ Charger is used (DC Snap-Pack® only), the calibrator can be operated while its batteries are being recharged. Operation of the calibrator presents no drain on the recharging batteries. Consult the Tilt-Base™ Charger's instruction manual for further details.

With the AC charger transformer (AC Snap-Pack® only), the calibrator's batteries will not charge while the calibrator is operating. Further, if a calibrator with a depleted cartridge is to be operated on AC line power, the cartridge must be allowed to charge for about one minute (with the calibrator's power off) prior to using the calibrator.

When using an AC charger transformer to power a Transmation calibrator, do not operate the calibrator in the current output mode at 20 mA or higher for a period of more than one hour at a time. Continuous operation at 20 mA or higher may cause the batteries to heat up excessively and discharge totally.

5. REPLACING THE BATTERIES IN A SNAP-PACK® CARTRIDGE

Each Snap-Pack® cartridge is equipped with two nickel-cadmium batteries that are available from Transmation (consult Section 6 for applicable part number). When the batteries need to be replaced, it is strongly recommended that they be replaced as a set. To replace the batteries, follow the instructions below.

NOTE: Nickel-cadmium batteries are energy storage devices that represent a potential hazard. Testing and/or replacement should be done only by qualified electronic service personnel.

1. Remove the two screws on the Snap-Pack® cartridge housing as shown in Figure 2 below.
2. Lift the housing cover straight up from the base to expose the batteries in their respective retainer clips.
3. One battery has a black lead connected to its negative (-) terminal, while the other battery has a red lead connected to its positive (+) terminal. The positive side of each battery is recognizable by its button-head appearance and the small "+" symbol engraved on it. The negative side is relatively flat with no engraved symbol. Unsolder the leads on each of the two batteries, then lift the batteries upwards

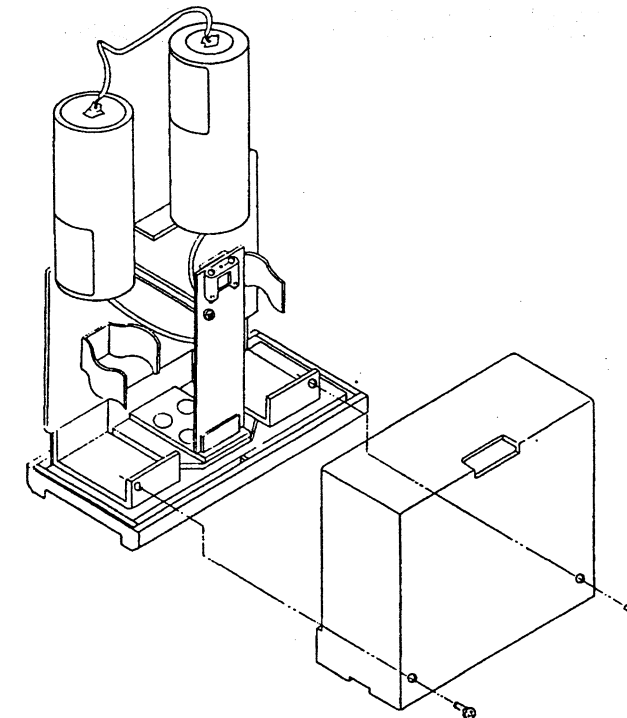


FIGURE 2
EXPLODED VIEW