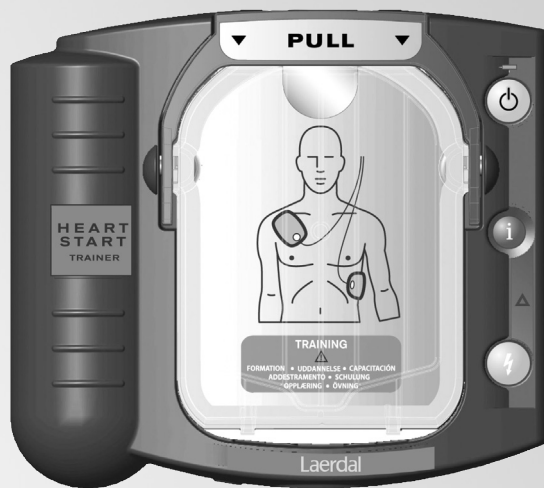


HeartStart Trainer



ENGLISH

Directions for Use



HeartStart Trainer

ENGLISH : Directions for Use

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Introduction and Intended Use

The HeartStart Trainer M5086A is designed to prepare emergency responders to use the HeartStart HSI Defibrillators, including the Laerdal HeartStart Defibrillator M5067A. The HeartStart Trainer cannot be used to deliver defibrillation treatment.

The HeartStart Trainer provides a variety of simulations, or training scenarios, to help responders acquire and demonstrate the basic skills necessary to use the HeartStart HSI Defibrillator in an emergency.

NOTE: Before using any HeartStart HSI Defibrillator, the responder should have completed an appropriate responder training program, which may include the use of the HeartStart Trainer. Having completed such a course, the responder should be able to demonstrate a proficiency in assessing the indications of sudden cardiac arrest -- a patient who is unresponsive when shaken and not breathing normally -- cardiopulmonary resuscitation (CPR), and knowledge of applicable medical protocols and procedures.

Features

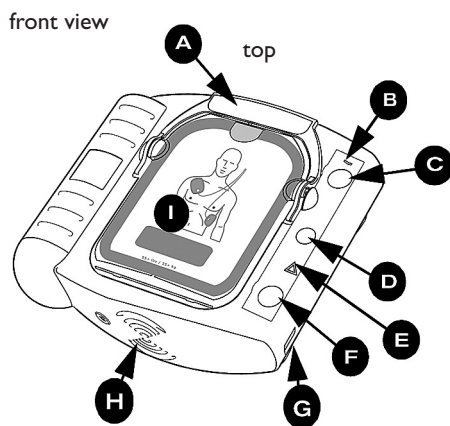
- The HeartStart Trainer provides simulated shock delivery. It has no high-voltage capabilities, ensuring safety during training.
- The HeartStart Trainer is designed for use with training manikins in conjunction with Internal Manikin Adapter M5088A or External Manikin Adapter M5089A and with Adult Training Pads Cartridge M5073A or Infant/Child Training Pads Cartridge M5074A only.*
- The HeartStart Trainer is pre-configured with 8 training scenarios that simulate realistic sudden cardiac arrest episodes. See pages 10 and 11 for scenario descriptions. These scenarios are compatible with common training programs.
- The HeartStart Trainer is powered by four standard AA alkaline batteries.
- Check with your local medical director or Emergency Medical Services provider for additional training requirements, protocols, and materials.

** Do not use the Trainer with any other defibrillation pads cartridges.*

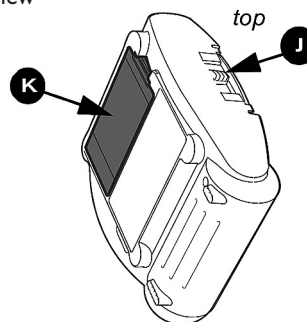
WARNING: Do not store your Trainer with your defibrillator, or where it could be confused with a defibrillator during an emergency.*

* A Warning is a condition, hazard, or unsafe practice that could result in serious personal injury or death.

Overview



back view



The HeartStart Trainer M5086A is designed to look like the HeartStart HSI Defibrillator. However, some of the defibrillator's physical features are either inactive in the Trainer or behave differently from their counterparts in the defibrillator, as noted below.

A TRAINING PADS CARTRIDGE HANDLE.

Pull up on the handle to turn on the Trainer. Remove the cartridge's hard cover, peel off the film seal, then lift out pads.

B ON LIGHT. The Trainer's green ON light is on solid when the Trainer is on, and off otherwise. (In the HSI Defibrillator, the green Ready light blinks when the defibrillator is in standby mode, is on solid when the defibrillator is in use, and is off when the defibrillator needs attention.)

C ON/OFF BUTTON. You can also turn on the Trainer by pressing this green button. To turn off the Trainer, press the green button again and hold it down for one (1) second.

D INFORMATION-BUTTON. This blue "i-button" flashes when it has information you can access by pressing it. In the Trainer, the i-button flashes when scenario selection is available and at the beginning of a patient care pause when CPR coaching is available.

E CAUTION LIGHT. This triangular light flashes during rhythm analysis and is on solid when a shock is advised, as a reminder that no one should be touching the patient.

F SHOCK BUTTON. This orange button flashes when the Trainer advises you to deliver a shock; press the Shock button to deliver the simulated shock.

G INFRARED (IR) COMMUNICATIONS PORT. This feature is not active in the Trainer. (In the HSI Defibrillator, this feature is used to transfer data directly between the defibrillator and a computer running HeartStart Event Review data management software.)

H SPEAKER. When the device is being used, its voice instructions come from this speaker.

I TRAINING PADS CARTRIDGE.

This reusable cartridge contains self-adhesive training pads with attached cable. An Adult Training Pads Cartridge (M5073A) comes with the Trainer. Infant/Child Training Pads Cartridges (M5074A) are available separately.

J TRAINING PADS CARTRIDGE LATCH.

Slide the latch to the side to release the pads cartridge for removal.

K BATTERY COMPARTMENT DOOR.

Lift off the door to install or replace batteries. The Trainer is powered by four disposable AA alkaline cells inserted in the recess on the back of the unit.

HeartStart Trainer Kit Contents

The HeartStart Trainer M5086A comes with the following:

- Trainer
- Adult training pads cartridge
- Instructions for Use
- External Manikin Adapter strip (1)
- Quick Reference

Optional Accessories

- M5086-91900 HeartStart Trainer Instructions for Use
- M5073A Adult Training Pads Cartridge
- M5074A Infant/Child Training Pads Cartridge
- M5093A Replacement Adult Training Pads*
- M5094A Replacement Infant/Child Training Pads*
- M5088A Internal Manikin Adapter (1/pouch)
- M5089A External Manikin Adapters (5/box)

Installing or Replacing the Batteries

The HeartStart Trainer is powered by four AA alkaline batteries.

To install or replace the batteries, follow the steps below:

1. Press the latch on the battery compartment door on the back of the Trainer. Lift off the door and set it aside.
2. Remove the old batteries and recycle appropriately.
3. Insert four new AA alkaline batteries into the recess, oriented according to the diagram provided on the inside of the recess.
4. Replace the battery compartment door and press down to ensure the latch holds it in place.

** Includes pads and replaceable film seal.*

NOTE: Do not mix battery brands. Do not mix old and new batteries. Replace all batteries at the same time.

If the Trainer is not to be used for some time, remove batteries to prevent possible leakage and corrosion.

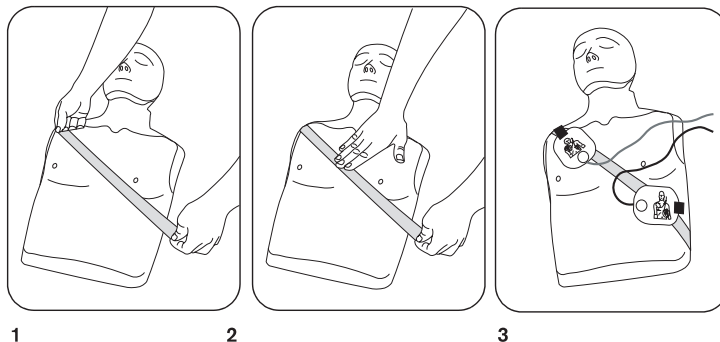
Using the Manikin Adapters

The training pads should be used on a CPR training manikin equipped with a disposable External Manikin Adapter M5089A (**A**) or an Internal Manikin Adapter M5088A (**B**), to simulate the patient.

The adapters must be purchased separately.

Installing the External Manikin Adapter

Illustrated instructions for applying the External Manikin Adapter to a training manikin, as shown below, are provided with the adapter. Packaged with the Trainer, the External Manikin Adapter can be applied to any Laerdal training manikin. The adapter has a limited service life and replacements can be ordered separately.



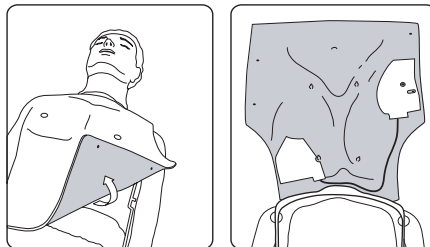
A. External Manikin Adapter M5089A on Adult Manikin Trainer

Installing the Internal Manikin Adapter

The Internal Manikin Adapter M5088A works with the Laerdal Little Anne CPR Manikin and the Laerdal Resusci Anne CPR Manikin.

To install the optional Internal Manikin Adapter M5088A, follow the steps below:

1. Remove the skin from the manikin.
2. Peel off the liner from the adhesive backing of the Internal Manikin Adapter.
3. Place the Internal Manikin Adapter sections in the appropriate locations on the underside of the manikin's skin.
4. Replace the manikin skin.
5. Check to be sure the Internal Manikin Adapter is located appropriately to teach proper pad placement.



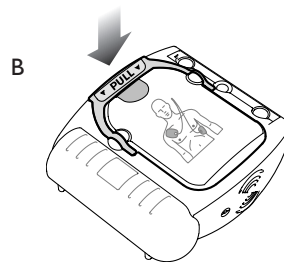
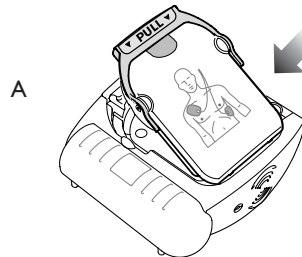
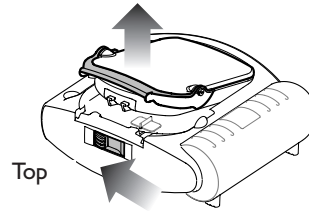
B. Installing the Internal Manikin Adapter M5088A with the Laerdal Resusci® Anne

NOTE: Trainer will also operate with a modified Laerdal AED Anne. Contact Laerdal Medical for more information.

Installing or Replacing the Training Pads Cartridge

To install the training pads cartridge, follow these steps:

1. If a cartridge is currently installed in the Trainer, locate the latch at the top edge of the Trainer, and slide it to the side. The pads cartridge will be released. Remove the cartridge.
2. Remove the new training pads cartridge from its resealable package.
3. Insert the M5073A or M5074A Training Pads cartridge into the compartment on the front of the HSI Trainer (A). Press the cartridge down firmly until it clicks into place. Be sure the green handle is pressed all the way down (B). The Trainer will tell you what kind of training pads -- Adult or Infant/Child -- have been inserted, then it allows you to select a training scenario. If you do nothing, the Trainer will go into training standby mode to be ready for use.



Selecting a Training Scenario

After battery installation

The default training scenario is number 1. Each time batteries are installed in the Trainer, the training scenario resets to the default. To use this scenario, install the training pads cartridge, then simply pull the cartridge handle or press the On/Off button. The Trainer will not announce the scenario number.

Selecting an alternative scenario

To select an alternative scenario, press the flashing blue i-button to scroll through each of the eight scenarios in sequence. The Trainer will announce each scenario by number as you press the button. When you reach the scenario number you want, press and hold the On/Off button until the Trainer turns off, or wait for 10 seconds and it will automatically go into training standby mode. The Trainer will run the same selected scenario every time until the batteries are replaced or until a new scenario is selected.

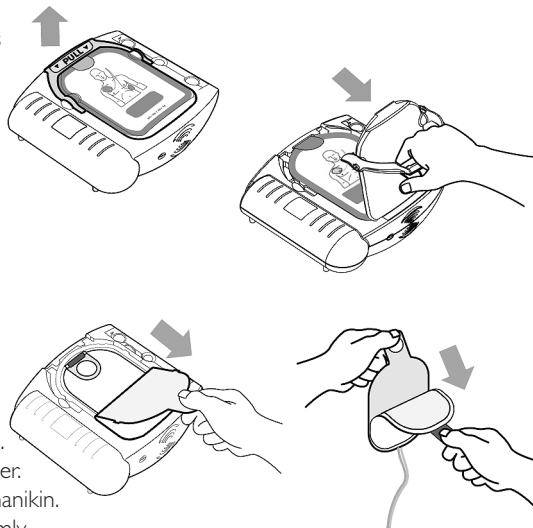
In training standby mode

If the i-button is pressed while the Trainer is in training standby mode, the device will announce that it is training. If the i-button is pressed a second time, the Trainer will identify the current training scenario number. A third press of the flashing i-button will allow you to select another scenario.

Running a Training Scenario

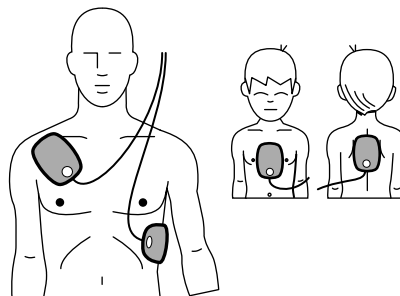
To run the selected training scenario, treat the Trainer exactly as you would the HSI Defibrillator:

1. Pull the handle or press the green On/Off button to turn on the Trainer.
2. Remove the clear protective lid from the training pads cartridge and set it aside. Follow the HeartStart Trainer's voice instructions.
3. If using a clothed manikin, remove the clothing as instructed.
4. Pull the tab at the top of the training pads cartridge to peel off the resealable film cover. Inside are two adhesive pads on a plastic liner. Lift the pads out of the cartridge and unwind the wires from the well. Peel one pad off the liner.
5. Place the pad on the manikin. Press the pad down firmly. Then peel and place the other pad.



PRECAUTION: Do not place the training pads on a person.*

NOTE: Be sure that each pad is completely removed from the liner before being placed on the manikin.



6. Continue to follow Trainer instructions for remainder of scenario.
7. When the scenario has been completed, or to stop a scenario in process, press and hold the On/Off button until the Trainer turns off.
8. To repeat the same scenario, repack the pads as described below, then begin again by pulling the green handle or pressing the green On/Off button. To select a different scenario, press the i-button.




NOTE: If battery power is depleted, the Trainer will say **REPLACE BATTERY** when the Trainer is turned on, at the completion of a training scenario, and when the Trainer is turned off. The Trainer will continue to operate for a short time. Replace the batteries as soon as possible to ensure correct Trainer behavior.






* A Precaution is a condition, hazard, or unsafe practice that could result in minor personal injury.




Standard Scenarios

There are eight training scenarios available when using the training pads cartridges. They are described in the table on the next page. The legend table below identifies the symbols used in the scenario descriptions here and on the rear label of the Trainer.

NOTE: The Trainer provides a two-minute CPR / patient care interval after each shock delivery and each No Shock decision.

SYMBOL	MEANING
	Shockable rhythm detected by defibrillator.
	Non-shockable rhythm detected by defibrillator.
	Pads problem detected by defibrillator.

NUMBER	SCENARIO OVERVIEW	SCENARIO DETAILS
1		<ul style="list-style-type: none"> Trainer detects a shockable rhythm, instructs user to deliver a shock† Trainer detects a non-shockable rhythm
2		<ul style="list-style-type: none"> Trainer detects a shockable rhythm, instructs user to deliver a shock† Trainer still detects a shockable rhythm, instructs user to deliver another shock† Trainer detects a non-shockable rhythm
3		<ul style="list-style-type: none"> Trainer detects poor pad contact, repeats pads placement instructions After one pad is removed and reapplied, Trainer detects a shockable rhythm, instructs user to deliver a shock† Trainer detects a non-shockable rhythm
4		<ul style="list-style-type: none"> Trainer detects a shockable rhythm, instructs user to deliver a shock† Trainer detects a non-shockable rhythm Trainer detects refrillation (return to a shockable rhythm), instructs user to deliver a shock† Trainer detects a non-shockable rhythm
5		<ul style="list-style-type: none"> Trainer detects a non-shockable rhythm throughout

NUMBER	SCENARIO OVERVIEW	SCENARIO DETAILS
<p>6</p> 	<p>Shockable rhythm, two shocks needed for conversion*</p>	<ul style="list-style-type: none"> • Trainer detects a shockable rhythm, instructs user to deliver a shock† • Trainer still detects a shockable rhythm, instructs user to deliver another shock† • Trainer detects a non-shockable rhythm
<p>7</p> 	<p>Shockable rhythm, two shocks needed for conversion, return to shockable rhythm, conversion*</p>	<ul style="list-style-type: none"> • Trainer detects a shockable rhythm, instructs user to deliver a shock† • Trainer still detects a shockable rhythm, instructs user to deliver another shock† • Trainer detects a non-shockable rhythm • Trainer detects refrillation (return to a shockable rhythm), instructs user to deliver a shock† • Trainer detects a non-shockable rhythm
<p>8</p> 	<p>Troubleshooting pads, two shocks needed for conversion*</p>	<ul style="list-style-type: none"> • Trainer detects poor pad contact, repeats pads placement instructions • After one pad is removed and reapplied, Trainer detects a shockable rhythm, instructs user to deliver a shock† • Trainer still detects a shockable rhythm, instructs user to deliver another shock† • Trainer detects a non-shockable rhythm

* Conversion from ventricular fibrillation – the usual cause of sudden cardiac arrest – to a non-shockable rhythm.

† Scenario will not progress unless a simulated shock is delivered.

Not all scenarios are appropriate for all user training. Training scenario number 1 is the default scenario and is most commonly used when teaching how to use the defibrillator to treat a victim of sudden cardiac arrest.

If the training scenarios are used as part of a formal training course, the instructor may wish to:

- select only the scenarios appropriate for the training level goals,
- create case histories and patient details for the selected scenarios,
- highlight certain features of the defibrillator's performance,
- assure that users conform to local protocols,
- check pad placement, and
- evaluate user knowledge on topics such as CPR and assessing the patient.

Trainer Performance during Use

The HeartStart Trainer is designed for use in an automated external defibrillator training class taught by a qualified instructor.

When a training scenario is running, the Trainer mimics the behavior of the HSI Defibrillator during actual emergency use. It provides voice instructions, guides the user through one or more simulated shocks, provides pauses for CPR, offers CPR coaching, etc. If there is no user interaction (no buttons are pressed, or the cartridge handle is not pulled) for ten minutes, the Trainer turns off.

Certain features of the actual HeartStart HSI Defibrillator are not reproduced by the HeartStart Trainer:

- The Trainer cannot be used with the (clinical) SMART Pads cartridges. If a SMART Pads cartridge is installed, the Trainer will repeatedly request the user to install a new cartridge.
- The Trainer does not perform the battery insertion and periodic self-tests.
- The Trainer's setup is configured to meet Guidelines 2005 standard protocols and cannot be reconfigured.*
- The trainer always uses a standard NSA (No Shock Advised) pause.

* This symbol on the back of the Trainer indicates configuration to meet Guidelines 2005.

2005 GUIDELINES

Repacking the Training Cartridge

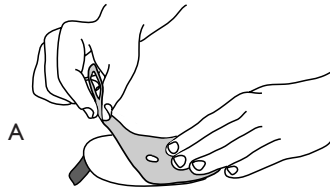
After you have finished using the training pads cartridge, press and hold the green On/Off button to turn off the Trainer. If battery power is low after training, the Trainer will tell you to replace the batteries.

Prepare the training pads cartridge for its next use as follows:

1. Turn off the Trainer.

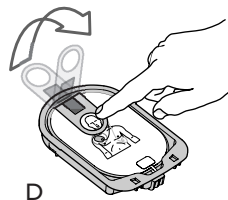
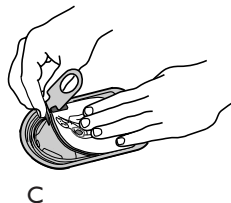
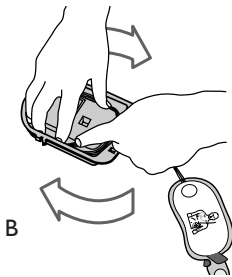
NOTE: The following steps can be performed as illustrated or with the training pads cartridge in the Trainer.

2. Reapply the pads to each side of the solid yellow liner, making sure that the red tabs are positioned at same end of the liner as the yellow tab (A) and that neither pad extends beyond the edge of the liner.

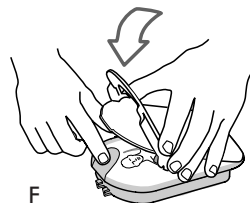
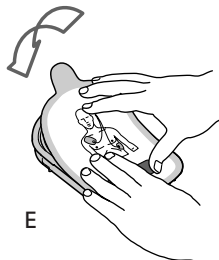


3. Press the pads firmly together on the yellow liner.

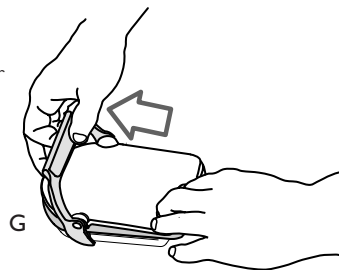
4. Untwist the wires, then wind the wires around the training cartridge recess, pressing them into the track (B). Then place the pads over the wound wires in the cartridge. The chest pad should be on top, and the tab ends of the pads at the curved end of the cartridge (C). Fold the tab down over the top pad (D).



5. Press the resealable film cover over the cartridge, with the tab end at the top (E). Be sure to fold the tab back down under the cover (F).



- 6 Fit the hooks on the bottom of the clear hard protective lid into the holes at the bottom edge of the cartridge, and press the lid and handle down (G). Be sure the cartridge handle snaps into place. The training cartridge is now ready for its next use.



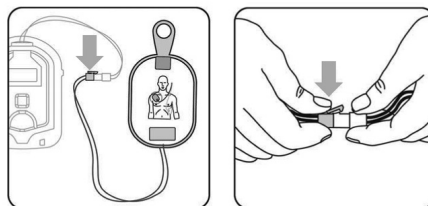
- 7 Reinstall the cartridge if necessary and press down the protective lid. The Trainer will announce the cartridge type and turn on for scenario selection. Press and hold the On/Off button or do nothing and the Trainer will automatically go to the training standby mode.

Maximizing Training Pads Cartridge Service Life

The M5073A and M5074A Training Pads are designed for up to 100 uses. To help ensure continued performance, avoid placing the resealable film cover or adhesive side of the pads in heat, direct sunlight, or against surfaces that might transfer fiber, dirt, or lint. Periodically check the metal contacts on the back of the cartridge and clean them with a soft, non-abrasive cloth if necessary. Do not use alcohol to clean these contacts. Do not clean the contacts in the Trainer's cartridge recess; they are self-cleaning.

When the original training pads have reached the end of their service life, you can order M5093A Replacement Adult Training Pads or M5094A Replacement Infant/Child

Training Pads for the cartridge. These include a set of pads and a resealable film cover. Change the pads as shown in the figure.



Troubleshooting the Trainer

The following table is provided to help you troubleshoot potential problems.

BEHAVIOR	POSSIBLE CAUSE	RECOMMENDED ACTION
<i>Trainer says ANALYZING before pads are applied to manikin.</i>	<ul style="list-style-type: none"> • User is touching the adhesive gel and activating the sense circuitry of the Trainer. • Liner is not properly separating pads. • Wires are twisted. 	<ul style="list-style-type: none"> • Avoid touching the gel on the pads. • Be sure the pads are pressed firmly to the liner and only touching each other through the liner hole. • Untwist the wires.
<i>Trainer does not say ANALYZING when pads are applied to the manikin adapter.</i>	<ul style="list-style-type: none"> • Pads placement is incorrect. • Pads are old. • Replaceable pads are not properly connected to cartridge cable. • Manikin adapter is broken. 	<ul style="list-style-type: none"> • Check for proper pad placement • Replace training pads. • Check latch to be sure the replaceable pads are correctly attached to the cartridge cable. • Replace manikin adapter.
<i>Trainer says ANALYZING while yellow liner is still attached to pad.</i>	Trainer cannot sense yellow liner.	<p>Remove yellow liner.</p> <p><i>NOTE: This cannot happen when using the HSI Defibrillator. The defibrillator will not analyze heart rhythm when the yellow liner is attached to the pads. It senses that the pads are not attached to a patient and advises the user to remove the yellow liner.</i></p>
<i>The training pads cartridge is difficult to install in or release from the Trainer.</i>	The resealable film cover may be improperly aligned on the cartridge.	Make sure the resealable film cover is lined up properly when repacking the cartridge.
<i>Trainer's voice instructions high-pitched and too rapid.</i>	One of the batteries is installed backwards.	Be sure to install batteries according to the diagram in the Trainer's battery compartment.



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Device Manufacturer

The HeartStart Trainer is manufactured by Philips Medical Systems,
Seattle, Washington, USA.

Trademarks

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Little Anne CPR Manikin and Resusc Anne CPR Manikin are trademarks
or registered trademarks of Laerdal Medical.



Laerdal

helping save lives