

*Nasco* **Life/form**®

**Adult Airway Decontamination  
Simulator  
LF03500U  
Instruction Manual**



**Life/form**®  
**5**  
Year  
Warranty

**Life/form**® **Products by Nasco**

ISO 9001 and  
ISO 13485  
*Nasco Plastics*  
ISO 9001 and ISO 13485  
Products are manufactured using a quality management system  
certified as being in conformity with ISO 9001 and ISO 13485.

## About the Simulator

Simple modifications to the existing **Life/form**® “Airway Larry” allow for a new aspect in training airway management! The Adult Airway Decontamination or Suction Assisted Laryngoscopy and Airway Decontamination (S.A.L.A.D) Simulator, developed in partnership with Dr. James DuCanto, Director of Simulation Center for Aurora St. Luke’s Medical Center in Milwaukee, Wisconsin, uses suction to enhance first pass success-laryngoscopy FPS-L with a non-anesthetized patient in active emesis.

## Features

- “Airway Larry” simulates a non-anesthetized patient for practicing intubation, ventilation, and suction.
- Anatomy and landmarks including teeth, tongue, oral and nasal pharynx, larynx, epiglottis, arytenoids, false cords, true vocal cords, trachea, esophagus, and cricoid cartilage.
- The trainer allows you to practice oral, digital, and nasal intubation, as well as E.T., E.O.A., P.T.L., L.M.A., Combitube®, and King System insertion.
- Suction techniques and proper cuff inflation with active emesis.
- This trainer has room to maneuver, and a slightly anterior position, making it a great trainer for introductory classes as well as advanced students.
- Apply cricoid pressure to change the position of the trachea and close the esophagus.
- Realistically practice the Sellick maneuver.
- FPS-L while utilizing rigid suction catheter.
- Features durable, rugged, one-piece construction.
- Manual carotid pulse.
- 5-year warranty.



## List of Components

- A.** “Airway Larry” Adult Airway Management Trainer Head
- B.** Suction Canister
- C.** Gallon Container with Hand Pump
- D.** 2 Simulated Latex-Free Lungs
- E.** Thickener
- F.** Rigid Suction Catheter
- G.** Clear Vinyl Tubing, 3-ft. lengths (2)
- H.** Pump Spray Lubricant
- I.** Case
- J.** Red Caps with White Fittings (2 open red caps with white adapters, 3 closed red caps with 2 white adapters)
- K.** Tubing Couplings (male insert & female body)
- L.** 5 Pinch Clamps (2 small, 2 medium, and 1 large)
- M.** #10 Spanner Bit (not pictured)
- N.** 2 Right Angle Tubing Adapters for the Suction Canister (not pictured)
- O.** Case Handle (not pictured)



Figure 1



Figure 2

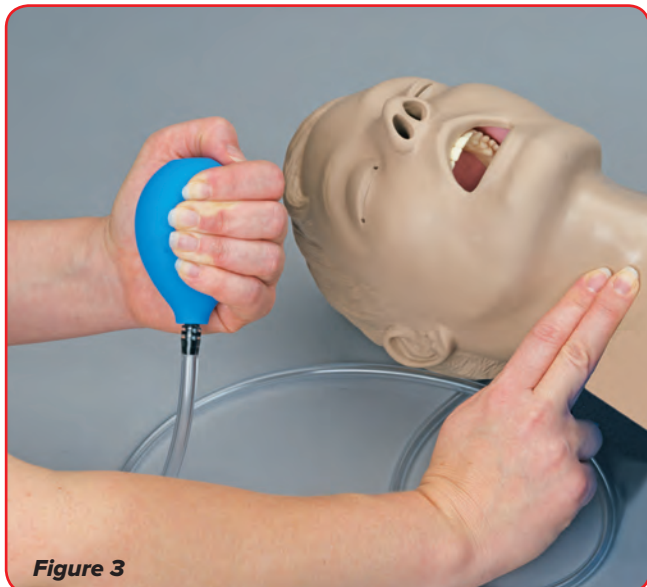


Figure 3



Figure 4

## Setup

### A. Installing the Head

1. Remove the head and supplies from the case. Retain any packaging for future use.
2. Using the #10 Spanner Bit, remove the safety cap from the case.
3. With the face of the manikin facing down, feed the esophagus and trachea tubes through the hole in the case.
4. Tip the head upward slightly until the two keyways on the back of the neck slide under the ring and into the top of the torso. **(See Figure 1.)**
5. Rotate the head until it is facing up. **(See Figure 2.)**
6. Ensure the squeeze bulb and tubing for manual carotid pulse feature is accessible outside of the case. **(See Figure 3.)**

### B. Preparing the Fluid System

1. Locate the 3-ft. tubing section with the male insert coupling (letters G and K in the components list).
2. Connect this tubing section to the esophagus with the female body coupling. **(See Figure 4.)**
3. Assemble the hand pump by connecting the clear section to the white section. **(See Figure 5.)**





4. The free end of the tubing can be connected to the spout end of the hand pump, following the completion of mixing the simulated emesis. (See Figure 6.)

### C. Installing the Lungs

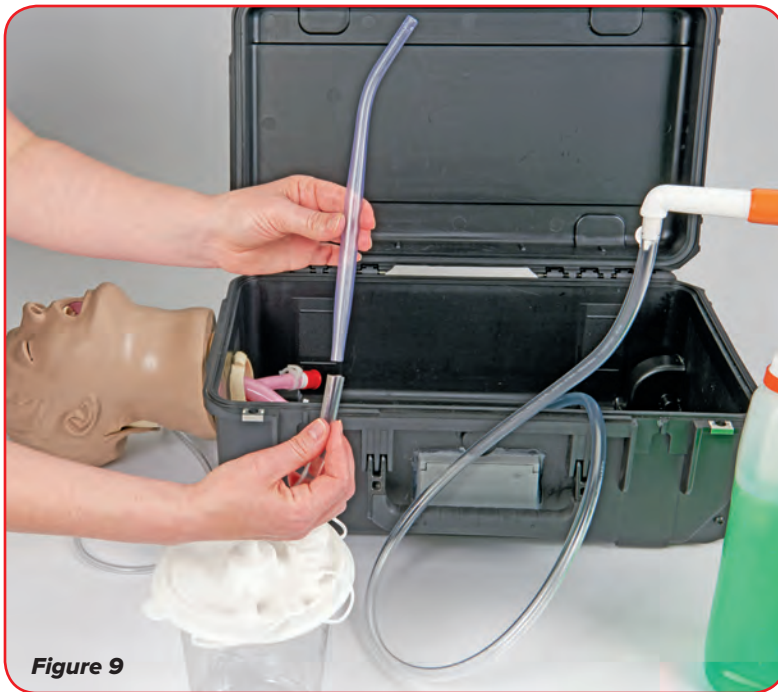
1. Ensure the “Airway Larry” Airway Management Trainer head came with two white adapters and two open red caps installed in the trachea tubes.
2. Slide the latex-free lung over the red cap on the trachea tubes. (See Figure 7.)
3. Use one or both lungs as desired for training simulation. (See Figure 8.) Install the second lung as described if desired, or cap the other trachea tube using a closed red cap with white fitting.
4. Tighten the pinch clamp to secure the white fitting inside the trachea tubes.

### D. Preparing the Simulated Emesis

Using the provided gallon container, mix the desired amount according to the ratios below:

- 1 quart/liter of water to 3 tbsp./45 ml of cellulose
- 2 quarts/liters of water to 6 tbsp./of cellulose
- 3 quarts/liters of water to 9 tbsp./135 ml of cellulose

**Note:** Nasco recommends using distilled water for the mixing procedures. White vinegar could also be used in place of distilled water.



**Figure 9**



**Figure 10**

1. Stir, mix, and/or shake vigorously for approximately 2 minutes, or until completely mixed. Ensure the cap is on securely.
2. Let it set for 2 minutes and then mix periodically every 2-3 minutes.
3. Alternate this mixing process for about 10 minutes, at which point the mixture will begin to thicken.
4. Some settling and adhering to the bottom of the container will occur if the mixture is not periodically mixed while being used – which may affect consistency.
5. To adjust the rate of thickening and/or resulting thickness, decrease or increase one or more of the following factors:
  - a. Water temperature – higher temperatures (greater than room temperature) accelerate the rate of thickening.
  - b. Amount of cellulose – a small amount (i.e., 1 tsp.) at a time is recommended.
  - c. Mixing, stirring, and shaking – frequency and force.
  - d. Time – 1 quart/liter of water will require 30 minutes before thickening begins, 2 quarts/liters of water will require 20 minutes before thickening begins, and 3 quarts/liters of water will require 10 minutes before thickening begins.
6. To further accentuate the simulated emesis, standard food coloring can be added at any time during the mixing process. (Food coloring shown is not included.)

7. Ensure the hand pump is assembled. (See **Figure 5.**)
8. Remove the cap for the gallon container and replace it with the hand pump.
9. Ensure the hand pump is fastened securely.
10. Connect the free end of the clear vinyl tubing from the esophagus to the spout end of the hand pump. (See **Figure 6.**)
11. Secure the clear vinyl tubing to the spout end of the hand pump with a small pinch clamp

**Note:** Depressing the hand pump allows for approximately 1 tbsp./15 ml of simulated emesis per pump.

#### **E. Preparing the Suction System**

**Note:** This system is designed to use standard suction equipment. Practice suction with equipment on hand or follow the instructions below.

1. Ensure the remaining section of clear vinyl tubing is connected to the straight end of the rigid suction catheter. (See **Figure 9.**)
2. Connect the free end of the clear vinyl tubing to the port labeled “patient.” (See **Figure 10.**)
3. Connect the suction container to your suction system by the port labeled “vacuum” or utilize your own suctioning equipment.

**Note:** The suction canister comes standard with two right angle tubing adapters. These cannot be used with the tubing included.





Figure 11

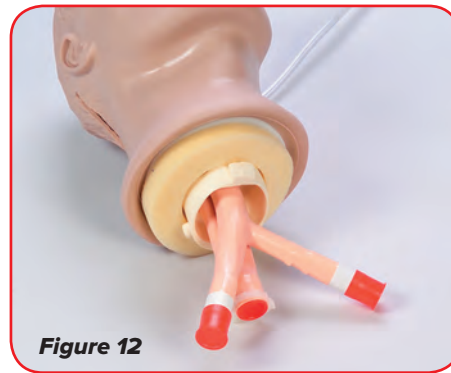


Figure 12

## F. Lubricating the Airway

1. Before intubating the Airway Management Trainer, lubricate both the simulator and supplies being used with the Nasco lubricant provided. (See Figure 11.)

## General Instructions for Use

### A. Using the Fluid System

Ensure the tubing is firmly connected to the hand pump and secured with a small pinch clamp. Depressing the hand pump allows for approximately 1 tbsp./15 ml of simulated emesis per pump. Depress the hand pump until the desired amount of simulated emesis reaches the mouth of the simulator.

**Note:** Initiate suctioning immediately to prevent simulated emesis from filling the lungs.

### B. Using a Suction System

This system is designed to use standard suction equipment. Practice suction with equipment on hand or see the section regarding Supplies and Replacement Parts for suction pump part numbers.

### C. Intubating the Airway Management Trainer

Nasco recommends the use of a 7.5-8 mm endotracheal tube for oral intubation and 7.5 cm or smaller for nasal intubation. This simulator allows for the Sellick Maneuver of applying cricoid pressure during intubation procedures. Ensuring the cuff is properly deflated prior to removal will prolong the useful life of your simulator. Damage caused by improper use of the simulator will not be covered under the warranty.

1. Determine the method of intubation.
2. Select the appropriate sized intubation appliance.
3. Generously lubricate the airway and appliance.
4. Ensure the cuff is properly deflated before removing the appliance.

**Note:** Remove all appliances prior to storage.

## Care and Maintenance

### A. General Cleaning

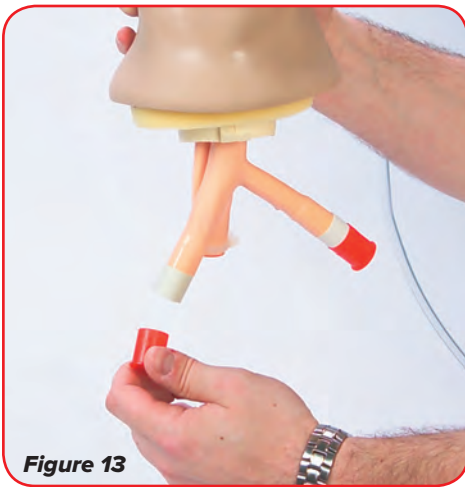
1. Normal surface soil can be removed from the trainer with mild soapy water. Do not allow water to contact electrical components.
2. Stubborn stains may be removed with Nasco Cleaner (LF09919U). Simply apply the Nasco Cleaner to the soiled area and wipe clean with a soft cloth.

**Note:** Avoid using cleaner around the mouth area if students will be applying direct mouth-to-mouth resuscitation techniques, as the cleaner may be toxic if ingested.

### B. Cleaning the Airway Management Trainer

1. Disconnect the fluid system.
2. Suction any remaining simulated emesis from the “Airway Larry” head.
 

**Note:** Simulated emesis can be reused and stored in the gallon container if desired. During storage, ensure the cap is on securely. Do not store with the hand pump in place.
3. Rinse the hand pump and allow to air dry. Ensure clean water is pumped through the hand pump several times to clear the pump of any simulated emesis.
4. Remove the lungs and tubing connected to the esophagus.
5. Remove the head from the case using the same methods previously described.
6. Take the trainer to an area with a sink and open counter space. Using the closed red caps supplied, plug the right and left bronchi and the esophagus. (See Figure 12.)
7. Stabilized the head on the counter face-up (towels work well for this) with plugged tubes hanging over the sink.
8. Carefully pour warm soapy water (mild dish soap works best) into the mouth until the water level reaches halfway up the tongue.



**Figure 13**

9. Tilt the head back and bring the neck up 3" off the counter top.
10. Continue filling until the water level covers the tongue. Take a small soft brush and gently scrub the inside of the mouth (a small toothbrush works well for this). Cotton swabs can be used to scrub inside the nostrils.
11. When done, pull the red cap from the esophagus and drain the water into the sink.
12. Now pick the head up, hold it in a vertical position, and pull the caps from the bronchi to completely empty the system. **(See Figure 13.)**
13. Rinse the airway, following the same procedure used to clean, with warm tap water only. Repeat this process until all the soap has been flushed from the system.
14. Rinse tubing and rigid suction catheter and allow to air dry.

### C. Disinfecting the Airway

To disinfect, repeat the standard cleaning procedure with a bleach solution, as specified by the Centers for Disease Control.

1. Fill the system with the solution until it reaches the corners of the mouth. Remember to start filling with the head flat and finish with the neck slightly elevated to ensure that the solution completely fills all airway passages.
2. Once completely filled with the bleach solution, allow the head to sit for at least 10 minutes.
3. Drain as previously described and repeat the rinsing process to flush out all of the bleach solution. Set the head aside and allow it to air dry completely prior to next use or storage.

### Cautions

- Do not place simulator in contact with any printed paper or plastic. The ink will transfer and cause an indelible stain. Similar inks, such as ballpoint pen, will also cause an indelible stain.
- Do not use Nasco Cleaner (LF09919U) around the nose or mouth of the simulator. The cleaner may be toxic if ingested.
- Properly lubricate the Airway Management head and intubation appliances.
- Use only Nasco Pump Spray Lubricant (LF03644U) with this simulator. Other lubricants, such as silicone oil, may cause damage to the airway of the simulator.
- Ensure intubation appliances are used accordingly. Improper use of intubation appliances could damage the airway of the simulator. Damage to the airway will require the product to be returned to Nasco for repair.
- Actual product may vary slightly from photo. Nasco reserves the right to change product color, materials, supplies, or function as needed.
- Ensure trainer and all of the supplies are thoroughly cleaned and dry prior to storage.

### Supplies/Replacement Parts

- LF03505U** Tubing Replacement Kit (two 3-ft. lengths of clear vinyl tubing, tubing coupling, 5 pinch clamps, 2 open red caps with white adapter, 3 closed red caps with 2 white adapters)
- LF03667U** "Airway Larry" Airway Management Trainer Head
- LF03501U** Rigid Suction Catheter
- LF03502U** Suction Canister
- LF03503U** Gallon Container w/Hand Pump
- LF03504U** Replacement Lungs, set of 2
- LF03644U** Pump Spray Lubricant, 8 oz.
- LF03774U** Thickener
- SB52301U** SSCOR VX2 2310V Variable Regulation Pump
- SB52300U** Universal Power Supply for SSCOR Pump 110V-220V

## Other Available *Life/form*® Simulators

- LF00994U** Cricothyrotomy Simulator
- LF03623U** Infant Airway Management Trainer with Stand
- LF03633U** Child Airway Management Trainer Torso
- LF03672U** “Airway Larry” with Electronic Connections
- LF03685U** Advanced “Airway Larry” Airway Management Trainer with Stand
- LF03830U** Adult Intraosseous Infusion Simulator



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