Trauma HAL® S3040.100
Rugged and Resilient Trauma Simulator
Trauma HAL® S3040.100

A rugged and resilient trauma simulator for teaching care on the battlefield. HAL's toughness and durability has been proven by independent testing in hot and cold conditions; wet and dry environments; in both fixed winged aircraft and military helicopters. HAL® is splash proof; fits in a NATO litter; and can be covered with a blanket without overheating.
Axilla and Groin Wounds
Sensors in wounds detect appropriate pressure reducing and then stopping blood flow from the wound. Wounds accept combat gauze.

Needle Decompression
Features palpable ribs to locate 2nd intercostal space for bilateral needle decompression. Sensors detect needle insertion and activate audible hiss during shallow needle insertion.

Trauma Arm and Leg
Arteries bleed as a function of BP + HR specified on wireless tablet PC. Bleeding ceases when tourniquet is applied 2in above wound or 1 or 2in above the joint.
**Surgical Cricoid**
Perform lateral and medial incisions, then use “Trach-hook” used by combat medics to lift cricoid for airway assessment and insertion of “trach-tube”.

**FAST-1 Sternal I/O**
Use FAST-1 Locator and position it below the sternal notch; sites are replaceable and either accept medications or can be used to collect fluids.

**Streaming Audio**
Pre-recorded verbal responses in any language and bi-directional streaming audio up to 150 ft. away.
Cyanosis
Cyanosis and vital signs respond to physiologic condition and interventions.

Liquid Secretion
Independent liquid secretion rate at ear, eyes, and mouth.

Heart and Lung Sounds
Multiple realistic heart sounds and four anterior lung sounds.

3 Lead ECG
Use real equipment to obtain HAL's ECG.

Defibrillation and Pacing
Perform defibrillation and pacing with real AED pads.

Bowel Sounds
Bowel sounds in four quadrants.

Blood Pressure
Blood pressure can be taken using real equipment.

Oxygen Saturation
Oxygen saturation can be taken using real equipment.

Improved Arm Joints
Improved arm joints allow inner forearm IV placement.

Call us toll free at 800.882.6655
Nasal and Oral Intubation
Endotracheal intubation using conventional ETTs. Unilateral chest rise with right mainstem intubation.

Right Intraosseous Leg
Intraosseous infusion system with interchangeable and replaceable tibial bones.

Programmable Airway
Programmable airway: tongue edema, laryngospasm, and pharyngeal swelling.

Bilateral Leg Bleed
Bleeding arteries in both right and left legs.

Chest Tube Placement
Simulate pneumothorax exercises.

Compression and Ventilation
Sensors detect and log ventilations and compressions.

Liquid Suction
Practice gastric liquid suctioning techniques.

Catheterization
Practice foley catheterization.

Gastric Distention
Gastric distention with esophageal intubation and with excess BVM ventilation.

Programmable Airway
Programmable airway: tongue edema, laryngospasm, and pharyngeal swelling.

Bilateral Leg Bleed
Bleeding arteries in both right and left legs.

Gastric Distention
Gastric distention with esophageal intubation and with excess BVM ventilation.

Nasal and Oral Intubation
Endotracheal intubation using conventional ETTs. Unilateral chest rise with right mainstem intubation.
Trauma with Smart Bleeding

HAL’s arteries bleed as a function of blood pressure and heart rate specified on wireless tablet PC. Sensors in his arm and leg respond to applied pressure and stop bleeding when tourniquet is applied correctly; his bleeding wounds at axilla and groin also respond to applied pressure and can be packed using combat gauze.
GIGA® Software + Rugged Tablet

Rugged
Instructor’s tablet PC includes a rugged “bump” case and also features wireless communications for up to 900 ft... perfect for field conditions.

Long Range
Tetherless communications range up to 900 ft.

Streaming Audio
Be the voice of Trauma HAL®; hear responses at distances to 150 ft.

Scenarios
Use our scenarios; modify them; create your own.

Versatile Interface
Expand windows to include status, palettes, scenario, branching scenario, actions, log, monitors, speech, medication, and quick meds.

Simple Interface
Physiologic parameter groups include airway, breathing, cardiac, cephalic and circulation.

Status Panel
The Status panel on the left edge of the GUI window shows vital signs and other details.

Palettes
Link “Palette” items to build a linear or branching scenario.

Events Log
Changes in condition and care provided are time stamped and logged.
Trauma HAL® S3040.100 | Rugged and Resilient Trauma Simulator

- Rugged construction for combat, disaster, trauma care, and CBRNe simulation, even in the most demanding environments
- Rugged shoulder and hip joints for field and evacuation exercises
- Splash proof for CBRNe water spray decontamination
- Use NATO litter; cover with blanket without overheating
- Control HAL® using rugged wireless tablet PC from up to 900 ft. away
- HAL is fully functional on battery power for point-of-injury care and care in motion
- Wireless and tetherless with all components housed inside
- Bleeding trauma limbs and wound sites for training emergency bleeding control techniques
- 1.5 liter “On-board” simulated blood supply
- Internal rechargeable battery provides 10 hrs of continuous use on 2-4 hrs recharge time
- Fully operational on battery power or AC adapter
- Designed for fast scenario resets with easy to use fluid refill ports and interchangeable limbs
- Realtime CPR quality and performance feedback
- Built-in library of programmed scenario included; modify them; create your own
- Height 178cm / 70in

Neurologic
- Blinking eyes with light reactive pupils
- Software controlled fluid secretion at ears, eyes, or mouth
- Mild and severe convulsions

Airway
- Intubate ET tube, LMA, or King LT
- Programmable difficult airway with tongue edema and pharyngeal swelling
- Laryngospasm with tight seal preventing intubation
- Surgical airway for cricothyrotoomy, tracheostomy, and tracheal hook exercises
- Permits liquids in the airways for suctioning
- Streaming audio; be the voice of Trauma HAL; hear responses at distances up to 150 ft.
- Pre-record and program verbal responses in any language

Breathing
- Palpable ribs and realistic chest cavity
- Shallow and deep needle decompression with audible hiss and needle placement detection
- Needle decompression to 3.25in
- Unilateral chest rise with right mainstem intubation
- Automatic chest rise and fall with selectable respiratory patterns
- Selectable anterior lung sounds
- Bilateral chest drain sites

Cardiac
- Programmable heart sounds
- Monitor ECG using standard medical equipment. No special adapters required
- Pacing, cardioversion, defibrillation
- Built in library of cardiac rhythms

Circulation
- Measure blood pressure using a real automatic BP monitor
- Detectable oxygen saturation using standard OSAT monitors
- Brachial pulse at bend in the arm
- Antecubital vein for IV training
- Software controlled visible cyanosis
- Radial, brachial, carotid, femoral, popliteal and pedal pulses are blood pressure dependent
- Supports sternal intraosseous infusion I/O (F.A.S.T.1 and more)
- Intraosseous tibia I/O access with replaceable tibial bones
- Bilateral deltoid and quadriceps IM injection sites

Trauma
- Lower arms and legs are easily replaceable with trauma stumps that bleed in sync with heart rate and blood pressure
- Bleeding wounds at axilla and groin can be packed using combat gauze and respond to applied pressure
- Sensors in the arm and legs respond to tourniquet application and applied pressure
- Bleeding from two arteries in the forearm and three arteries in the legs respond to tourniquet application
- Pressure on femoral artery reduces or stops distal bleeding in leg
- “On-board” simulated blood supply; easy to refill; blood loss and blood reservoir level shown on tablet PC
- Easy to refill 1.5 lt. blood reservoir

Other
- Visible gastric distention with esophageal intubation
- Internal fluid bladder with male genitalia for catheterization
- Bowel sounds in four quadrants

Supplied with:
- Healthy lower arms and legs
- Trauma lower arms and legs
- 1 left axilla wound and 1 groin wound
- Healthy axilla and groin inserts
- 24 trachea skin covers
- 24 cricothyroid membranes
- 10 surgical trachea inserts
- 2 reusable surgical cricoid inserts
- 1 non-surgical insert
- 12 intraosseous sternal access sites
- Wireless tablet PC with rugged “bump” case and GIGA software
Trauma HAL® S3040.100

Consumables

Intraosseous Sternal Access Site
S3040.100.031

Set of 10 Surgical Trachea Inserts
S3040.100.032

Set of 24 Trachea Skin Covers
S3040.100.035

Surgical Cricoid Assembly Removal Tool
S3040.100.036

Parafilm Tape 15 feet
S3040.100.037

IV Fill Kit (Standard)
S3040.100.048

External Blood Filling Kit
S3040.100.050

Blood Concentrate
S3040.100.080

Mineral Oil
S3040.100.081


Spare Parts

Trauma Arm
S3040.100.005

Trauma Leg
S3040.100.004

Axila Wound Insert
S3040.100.039A

Groin Wound Insert
S3040.100.039G

Axilla Healthy Insert
S3040.100.040A

Groin Healthy Insert
S3040.100.040G

Trauma HAL Charger
S3040.100.011

RF Mod Module
S3040.100.206

Chest Skin Replacement - no electronics
S3040.100.018

Surgical Cricoid Insert
S3040.100.034

Allen Key Set
S3040.100.036

Gaumard Shorts
S3040.100.089


Automatic Physiologic Mode

S3040.100.600

- Intuitive interface and automaticity makes simulation easy
- Vital signs are generated in real time
- Drug library with medications
- Use of medications change conditions in real time mimicking real clinical situations
- Blood loss automatically affects related vital signs

Advanced 12 Lead ECG

S3040.100.120

- Use your real 12 lead ECG monitor
- Defibrillate, cardiovert or pace HAL’s dysrhythmia
- Design 12 lead ECGs using our editing feature:
  - Create and modify waveforms even on a “point-by-point” basis
  - Editor is accurate; a REAL ECG monitor will correctly interpret resulting waveform
- Use the integrated MI module to:
  - Specify occlusions, ischemia, injury, necrosis
  - Modify infarctions quickly and easily
  - Resultant dynamic 12 lead ECG quickly generated

12in Touch Screen Tablet to Display Vital signs

S3040.100.002

Available in the following ethnic skin tones at no extra charge:

Light / Medium (standard) / Dark