

OPERATING INSTRUCTIONS AND MAINTENANCE MANUAL

SSCOR/board™

Suction for the EMS vehicle.

Available as original equipment or as an aftermarket retrofit

Onboard suction with S-SCORT® reliability



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Caution-Notice

1. This suction system is for permanent installation in patient transport vehicles to be used exclusively by professional personnel trained in the techniques of constant suctioning.
2. Federal law restricts this device to sale, distribution, and use by, or on the order of a physician, emergency medical technician, or other medical practitioner. For use by medical personnel trained in suctioning techniques and in the use of medical suction equipment.
3. This manual is restricted to the discussion of the use and maintenance of this device. It does not attempt to discuss professional techniques in suctioning procedures.
4. Operator should be thoroughly familiar with these operating instructions before this device is used.
5. Do not use in the presence of flammable agents or anesthetics.
6. The SSCOR/board™ produces a powerful vacuum. Use the regulator to control vacuum as appropriate.
7. Observe gauge markings and pre-adjust regulator for the anticipated procedure by occluding the patient tube with the HI-D® tip removed and the vacuum system running.
8. The mechanical shut-off valve in the canister lid will close down when canister is filled with fluids. If the vacuum shuts down, empty contents immediately or replace the canister with a new one. Spare canisters are available from SSCOR, Inc. or your dealer.
9. Use the canister in an upright position to keep fluids away from shut off valve and filter. A wet filter can close the system. Be sure the lid on the canister is tightened securely to prevent a loss of vacuum at a critical time.
10. Install a new canister before testing for vacuum over -300mmHg to minimize the possibility of implosion, which can occur when a canister is aged or damaged.
11. Refer all servicing of electrical systems to qualified service personnel.
12. Turn the SSCOR/board suction sytem off as soon as possible after use.

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General Description

SSCOR/board is a Hospital Grade medical vacuum system designed for EMS vehicles. It combines the safety and efficiency of a hospital system with the vehicular demand for rugged construction and durability.

SSCOR/board can be specified and purchased as part of a new vehicle or, it can retrofit to an existing vehicle. SSCOR/board can be installed in its entirety or, any one of the component groups described in this manual can be installed to enhance an existing system.

SSCOR/board's unrestricted vacuum system maximizes the airflow from the vacuum pump to the patient. The powerful vacuum provided by the vacuum pump is controlled by a vented regulator and can be monitored by an easy to read gauge.

SSCOR/board's durable canister holders accept most hospital grade, suction canisters. This eliminates hard to remove bag liners and reduces the cleaning process involved with the disposal of the bag liners. In addition to convenience, this feature minimizes exposure to potentially infectious material which could occur during cleaning. The canister holder provides years of durable service and helps to protect the collector from blows which could shatter the plastic vessel and render it useless. Room is provided for organized storage of patient tubing.

The system can be powered by an installed 12V DC vacuum pump. It is designed to provide powerful, effective and reliable vacuum for suctioning procedures during patient transport. SSCOR/board exceeds performance standards for emergency vacuum when properly installed.

The SSCOR/board system is available in the following component groups: Canister Holder, Panel Mount Regulator and Gauge, Retrofit Regulator and Gauge and Vacuum Pumps.

Model Description, Installation, and Test

DESCRIPTION OF PARTS: Model #22000 Stainless Steel Panel Mount

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
22015	Regulator	50150	10' Tubing (5/16" ID x 9/16" OD) 304.8cm Tubing (.79cm ID x 1.428cm OD)
22006	Gauge	60000-90	Mounting Screws (4 each)
22018	Faceplate	90154	Hose barb, straight 1/4" x 5/16" (2 each)
40000-9	Regulator Bracket	50161	Hose clamps (2 each)

INSTALLATION: Model #22000 Stainless Steel Panel Mount

Use the template card to mark the hole placement in the panel 2-5/8" x 4-1/4" (6.67cm x 10.79cm) and mark the holes for the faceplate mounting screws. Connect the tubing from the vacuum pump to the hose barb on the regulator. Secure the tubing to the hose barb using the hose clamps. THE VACUUM SOURCE MAY BE CONNECTED TO EITHER SIDE OF THE REGULATOR. Run the tubing from the opposite hose barb on the regulator (secured with a hose clamp) to the suction canister.

DESCRIPTION OF PARTS: Model #25000 Stainless Steel Panel Mount (2-1/2" Gauge)

<u>Part #</u>	<u>Description</u>	<u>Part #</u>	<u>Description</u>
22015	Regulator	50150	10' Tubing (5/16" ID x 9/16" OD) 304.8cm Tubing (.79cm ID x 1.428cm OD)
22025	Gauge	60000-90	Mounting Screws (4 each)
22019	Faceplate	90154	Hose barb, straight 1/4" x 5/16" (2 each)
40000-9	Regulator Bracket	50161	Hose clamps (2 each)

INSTALLATION: Model #25000 Stainless Steel Panel Mount (2-1/2" Gauge)

Use the template card to mark the hole placement in the panel 3-1/3" x 4-1/2" (8.45cm x 11.43cm) and mark the holes for the faceplate mounting screws. Connect the tubing from the vacuum pump to the hose barb on the regulator. Secure the tubing to the hose barb using the hose clamps. THE VACUUM SOURCE MAY BE CONNECTED TO EITHER SIDE OF THE REGULATOR. Run the tubing from the opposite hose barb on the regulator (secured with a hose clamp) to the suction canister.

Model Description, Installation, and Test

DESCRIPTION OF PARTS: Model #23001

<u>Part #</u>	<u>Description</u>
22015	Regulator
22006	Gauge
23001-1	Faceplate
40000-9	Regulator Bracket
50007-87	Regulator Label

ABS Plastic Panel Mount

<u>Part #</u>	<u>Description</u>
50150	10' Tubing (5/16" ID x 9/16" OD) 304.8cm Tubing (.79cm ID x 1.428cm OD)
60000-90	Mounting Screws (4 each)
90154	Hose barb, straight 1/4" x 5/16" (2 each)
50161	Hose clamps (2 each)

INSTALLATION: Model #23001

Use the template card to mark the hole placement in the panel 2-5/8" x 4-1/4" (6.67cm x 10.79cm) and mark the holes for the faceplate mounting screws. Connect the tubing from the vacuum pump to the hose barb on the regulator. Secure the tubing to the hose barb using the hose clamps. **THE VACUUM SOURCE MAY BE CONNECTED TO EITHER SIDE OF THE REGULATOR.** Run the tubing from the opposite hose barb on the regulator (secured with a hose clamp) to the suction canister.

Injection Molded Panel Mount

DESCRIPTION OF PARTS: Model #22500

<u>Part #</u>	<u>Description</u>
22015	Regulator
22006	Gauge
22108	Faceplate
40000-9	Regulator Bracket

Retrofit

<u>Part #</u>	<u>Description</u>
50150	3' Tubing (5/16" ID x 9/16" OD) 91.44cm Tubing (.79cm ID x 1.428cm OD)
60000-90	Mounting Screws (3 each)
90154	Hose barb, straight 1/4 x 5/16 (2 each)

INSTALLATION: Model #22500

Use the template card to mark the hole placement for the mounting screws. The vacuum connections on your existing system can be connected to the SSCOR/board™ system, providing your system is producing over 30 LPM. If your system is reading less than 30 LPM, check the LPM at the pump head. The LPM at the pump head should be over 40 LPM. If the airflow meets specifications, connect the SSCOR/board regulator directly to the pump head with the tubing. Secure the tubing to the hose barb on the regulator. **THE VACUUM SOURCE MAY BE CONNECTED TO EITHER SIDE OF THE REGULATOR.** Run the tubing from the opposite hose barb on the regulator to the suction canister. If it is necessary to mount the regulator to a forward facing bulkhead, the gauge may be adjusted 1/4 turn to face the patient compartment after removing the bracket that holds the gauge in the forward position.

Retrofit

FINAL TEST: Model #22000, Model 23001 and Model #22500

See the Daily Inspection and Operating Instruction section on page 6.

Model Description, Installation, and Test

DESCRIPTION OF PARTS: Model #22002 Stainless Steel Canister Holder

<u>Part #</u>	<u>Description</u>
22001	Stainless Steel Canister Holder
43200	9/32" ID (.71cm) Patient Connecting Tube
44241	HI-D®, “The Big Stick®” Suction Tip
48041	1200ml/cc Disposable Canister
60000-91	Mounting Screws (3)

DESCRIPTION OF PARTS: Model #23002 ABS Plastic Canister Holder

<u>Part #</u>	<u>Description</u>
2314-401	ABS Plastic Canister Holder
43200	9/32" (.71cm) ID Patient Connecting Tube
44241	HI-D®, “The Big Stick®” Suction Tip
48041	1200ml/cc Disposable Canister
60000-106	Mounting Screws (4 each)

INSTALLATION AND TEST: Model #22002 & 23002 Canister Holder

Use the template card to mark the hole placement for the mounting screws and attach the canister holder to the wall. Firmly place the canister lid on the canister and use the vacuum tubing to connect the regulator to the canister. Attach the patient connecting tube to the canister and test the operation per the daily inspection and operating instructions on page 6.

VACUUM PUMP PACKAGES:

The SSCOR/board™ pump packages include a 12VDC, oil free, diaphragm pump, complete with accessories for easy installation.

Daily Inspection and Operating Instructions

Conduct these first two steps daily to assure the equipment performs to specifications.

1. Place a canister into the canister holder. Make sure the tubing from the regulator is connected to the “vacuum” port of the canister. Attach the patient connecting tube to the “patient” port of the canister.
2. Turn on the vacuum system and occlude the patient connecting tube. Observe the negative pressure gauge and adjust the regulator while the tubing is occluded. With the regulator in the maximum vacuum position, the negative pressure should exceed -500mmHg.

Note: If the negative pressure does not register, check all fittings and connections for leaks including the caps on the canister lid and make sure the canister lid is properly seated to the body of the canister.

3. Install the appropriate suction tip to the distal end of the patient connecting tube.
4. Proceed to suction.
5. As soon as possible after use, turn the vacuum system off. The single use disposable canister, patient tubing and suction tip should be discarded according to local / regional / national requirements for the disposal of hazardous waste materials.

Maintenance

Preventive Care

Observe the following maintenance routine to ensure readiness at any time:

1. Test the SSCOR/board™ system daily; See page 6.
2. Make sure the SSCOR/board is always clean and ready for use.
3. If the procedure produced an excessive quantity of fluids, check the vacuum line for evidence of moisture. If the vacuum line between the pump and canister is moist, it is possible that fluids have reached the vacuum pump. See the Decontamination Instructions.
4. For technical assistance, call (800) 434-5211 or international +1(818) 504-4054.

Note: No part requires lubrication and lubricants should not be used.

Sanitation

As soon as possible after use, the single use disposable canister, patient tubing and catheter should be discarded according to local / regional / national requirements for the disposal of hazardous waste materials. Clean the exterior of the SSCOR/board unit using a mild detergent and clear water by dampening a clean lint free cloth. Rinse using clear water and another damp clean lint free cloth to remove any detergent residue.

NOTE: The hydrophobic filter in the canister helps to ensure that no moisture or particulate matter reaches the regulator or pump. When fluids fill the canister, the positive (mechanical float) shutoff valve closes immediately, shutting the vacuum port off so as to prevent fluid from contacting the pump. The filter has been tested by the manufacturer (Bemis®) to screen out aerosolized microorganisms and particulate matter at a bacterial efficiency rating of 99.99% DOP. The canister also has sidewall gradation marks starting at 100 ml/cc and at every 50 ml/cc up to 1200 ml/cc indicating the fill level of the canister.

In the unlikely event that fluids may have reached the vacuum pump, read the decontamination section. Do not reuse any single use disposable parts.

Decontamination

Use personal protective equipment such as gloves, a smock, and face and eye protection when handling units that are suspected to be contaminated.

Part

Cleaning and Disinfecting

Collection Canister	Disposable item, re-use not permitted. Use new canister for each patient.
Patient Tubing	Disposable item, re-use not permitted. Use new patient tubing for each patient.
HI-D® Stick	Disposable item, re-use not permitted. Use new HI-D Stick for each patient.
Vacuum Pump	Wipe with damp cloth or disinfectant wipe. Sterilization not permitted. Vacuum pump should be replaced if contaminated. The only foreseeable way fluids may reach the vacuum pump is that the filter in the canister has been compromised or bypassed.
Regulator	Wipe with damp cloth or disinfectant wipe. Sterilization not permitted. Regulator should be replaced if contaminated. The only foreseeable way fluids may reach the regulator is that the filter in the canister has been compromised or bypassed.

Disinfect the SSCOR/board system using a mild surface disinfectant, such as a 10:1 mixture of water and bleach. The unit is designed to suction contaminated fluids, which should be removed from the system immediately after use.

Trouble Shooting

<u>MALFUNCTION</u>	<u>POSSIBLE CAUSE</u>	<u>CORRECTIVE ACTION</u>
Unit does not function when switch is in the "ON" position or fails to reach maximum pressure of -500mmHg.	Loose Connections	Tighten Connections
	Vacuum line loose	Check connections
	Canister cracked	Replace Canister
	Canister lid is not tight	Resecure Canister lid
Pump is sluggish	Thumb vent on suction tip is not occluded	Occlude with thumb
	Residual materials have collected in the pump head	Replace pump
System shuts down while suctioning heavy particulate matter	Loose connections	Check connections
	Vacuum line clogged at canister lid	Remove connector or canister lid and loosen obstruction
Unit fails to reach minimum negative pressure reading of below -50mmHg	Float valve has closed	Loosen float valve or replace canister
	Inaccurate gauge Regulator clogged	Recalibrate gauge Replace regulator

If any other problems occur or if the recommended remedy fails to resolve the problem phone SSCOR, Inc. at (800) 434-5211 or international +1(818) 504-4054.

GENERAL SPECIFICATIONS

CHARACTERISTICS

Regulator

Gauge

Collection Canister

Patient Connecting Tubing

Suction Tip

SPECIFICATIONS

Vented. Controls vacuum on a continuum between -50mmHg and -500+mmHg .
Airflow dependent on installation .

Calibrated in mmHg.

1200cc/ml SSCOR Part #48041

Vinyl tubing 9/32"ID x 72"L (7.1mm ID x 182.88 cm L)
SSCOR Part #43200

HI-D® "Big Stick®" Large Bore Suction Tip
with thumb control. SSCOR Part #44241

WARRANTY

SSCOR warrants that each new product is free from defects in material and workmanship under normal use and service for a period of one year from date of purchase. If returned to SSCOR, we will arrange for repairs or replacement within the terms of the warranty. The product should be decontaminated and returned properly packaged and postage prepaid. Loss or damage in transit to the factory shall be at the purchaser's risk. Please call 800-434-5211 or international +1 818-504-4054 for return authorization or for the location of an authorized repair center. Loss or damage in return shipment from SSCOR shall be at the purchaser's risk.

The warranty shall not apply to any SSCOR product which has been repaired by anyone other than an authorized SSCOR representative, or altered in any way so as, in SSCOR's judgment, to affect its safety or efficacy, nor which has been subject to misuse, negligence, or accident, nor which has had the serial number altered, effaced or removed.

Neither shall this warranty apply to any SSCOR product which has been connected otherwise than in accordance with the instructions furnished by SSCOR.

This warranty is in lieu of all other warranties expressed or implied and of all other obligations or liabilities on SSCOR's part, and SSCOR neither assumes, nor authorizes any representative or other persons to assume for it, any other liability in connection with the sale of SSCOR products.

This warranty gives you specific legal rights and you may also have other rights that vary from jurisdiction to jurisdiction. For countries where minimum warranty terms are determined by statute, the warranty term is the longer of the statutory period or the term listed above.

Batteries, disposable items including collection canisters, patient tubing and catheters are excluded from this warranty.

DECLARATION OF CONFORMITY

SSCOR, Incorporated
11064 Randall Street
Sun Valley, CA 91352
United States of America
Tel: +1 (818) 504-4054
Fax: +1 (818) 504-6032

Type of Equipment: On-Board Electrically Powered Suction Device
Model Name: SSCOR/board™
Model Type Number: 22000 & 23000 Series (includes SB90120-RT)

We herewith declare that the above mentioned product meets with the requirements set forth in the EC directive concerning Medical Devices – Council Directive 93/42/EEC and Swedish regulation LVFS 2003:11

Safety: IEC/EN 60601-1:1990
With A1 & A12: 1993, A2: 1995 & A13: 1996

EMC: IEC/EN 60601-1-2:2001

Classification: Class IIa

Rules of Classification: Annex IX, Rule 11

Annex used for CE Declaration: Annex II (3)

Notified Body: Intertek Semko, AB



Signature, Date:
Name:
Title:

Sam D. Say
President

July 4, 2006

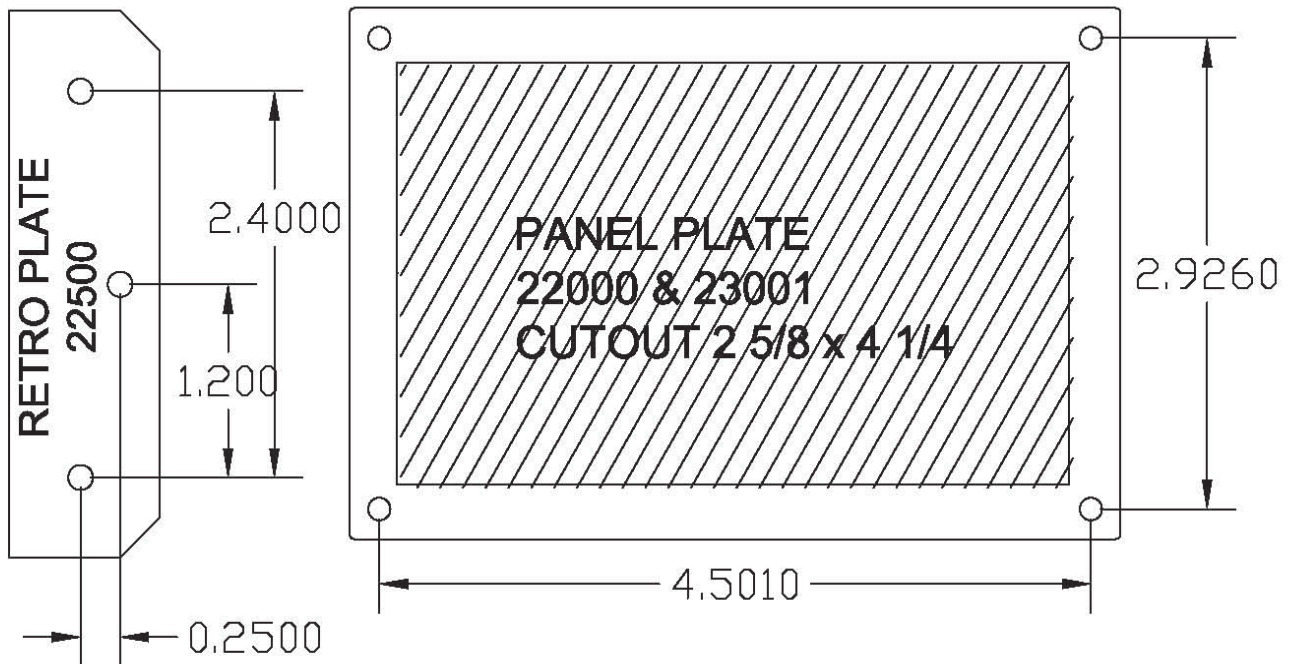
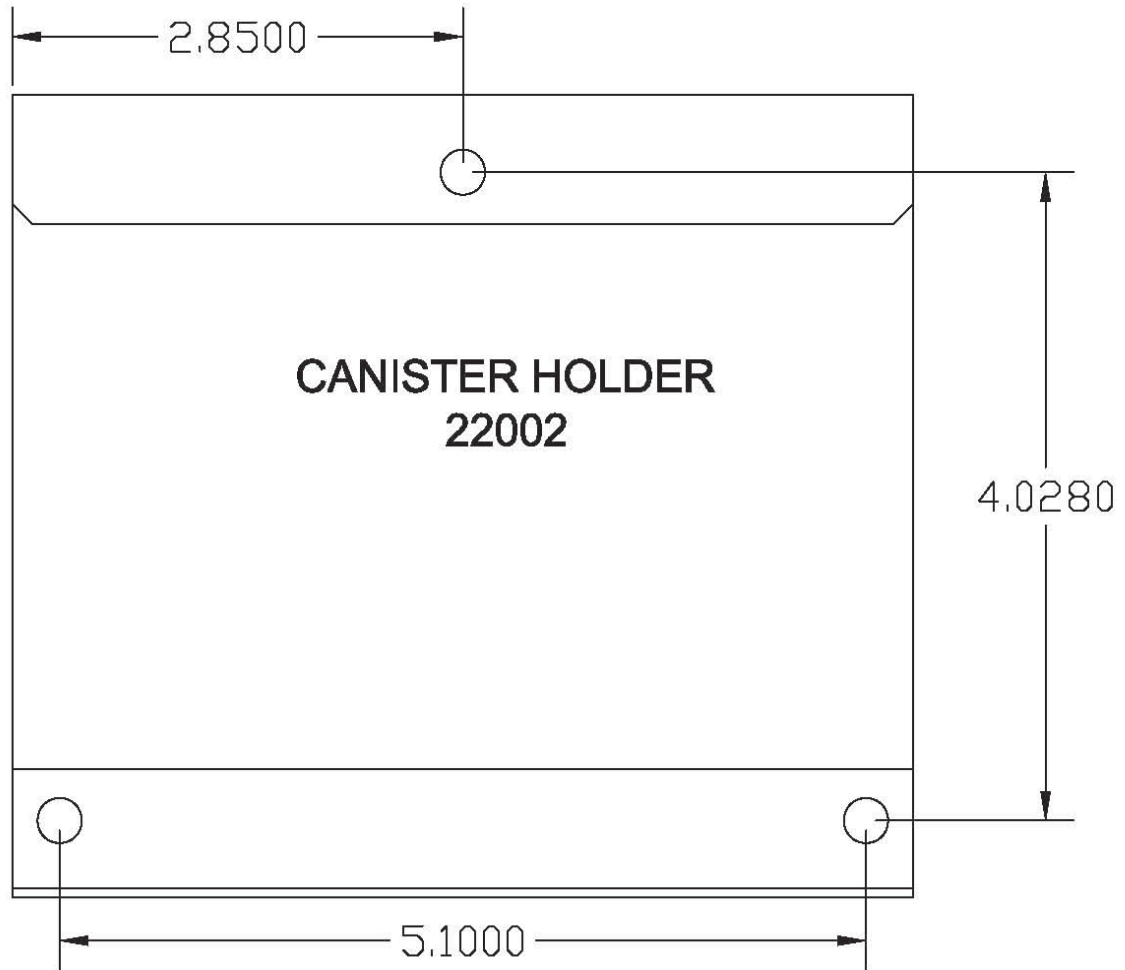
Authorized European Representative

Emergo Europe
Molenstraat 15
2513 BH, The Hague
The Netherlands
Tel: (+31) 70 345 8570
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TEMPLATES

22000, 23001, 22500, 22002

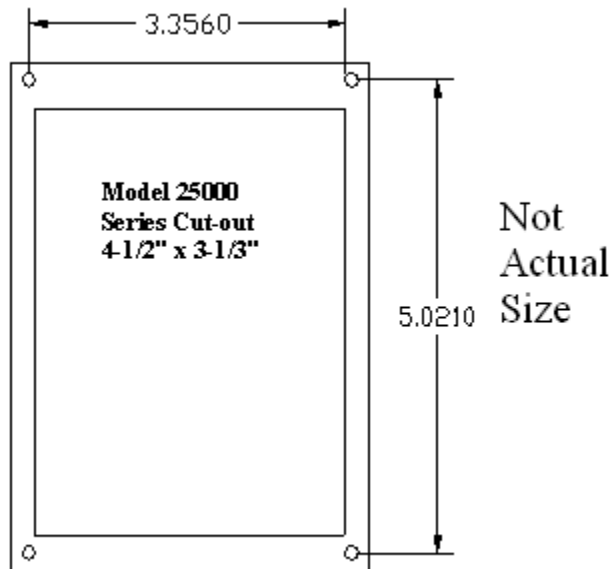
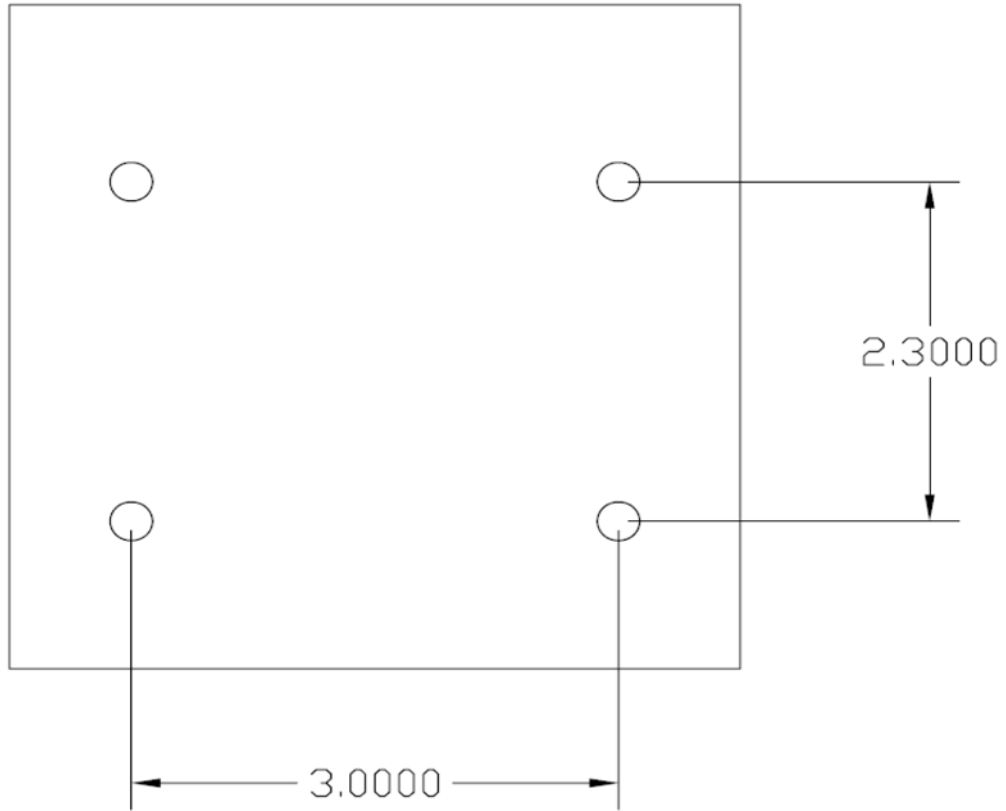
Please Note: Template size may vary on different printers. Make sure your holes are marked per the dimensions on the template and verified to the part. Note: All dimensions are in inches.



TEMPLATES

23002 & 25000

Please Note: Template size may vary on different printers. Make sure your holes are marked per the dimensions on the template and verified to the part. Note: All dimensions are in inches.



Installation Alert.....

for the SSCOR/board™ Suction System

The vacuum pumps installed in emergency vehicles generate enough airflow to supply one regulator. Air follows the path of least resistance. Therefore, two (or more) regulators on one vacuum line will render each other useless. The additional regulators merely act as pressure relief vents, diverting airflow away from the site where it is needed most. Negative pressure can fall to near zero in a system when one regulator is engaged in a low pressure procedure such as chest drainage or aspiration of fluids or is simply open to air. This can seriously impede the users ability to suction viscous fluids and food particles.

Therefore.....

Install a dedicated vacuum pump for each vacuum outlet and/or SSCOR/board regulator provided in a vehicle. An ambulance or mobile intensive care unit with three regulators should have three separate vacuum pumps to insure that each vacuum outlet generates the necessary airflow.

For use with electrical vacuum pumps only. Not to be used with engine vacuum aspirator systems. The SSCOR/board regulator does not function as a shut off valve.

Thank you for your attention to this very important fact about onboard suction. Call or write for additional information about vacuum and airflow characteristics of SSCOR/board regulators, canisters and vacuum pumps. Additionally, we would be happy to provide you with an airflow meter to assist you in analyzing existing vacuum systems.

SSCOR, Inc.