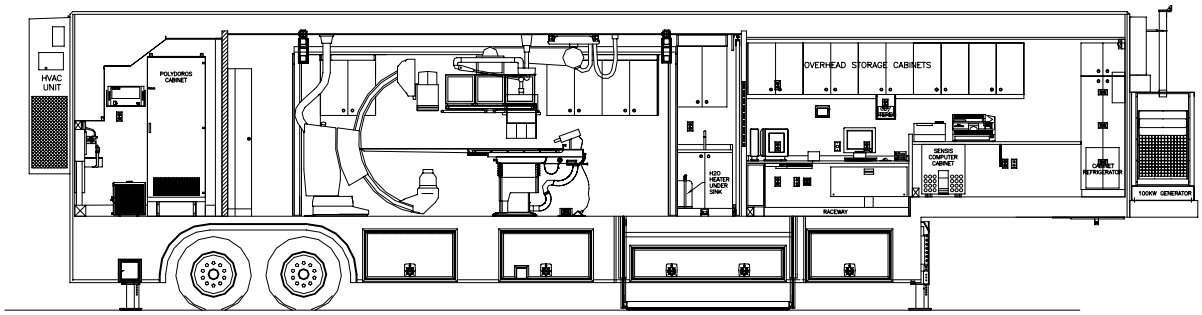
OSHKOSH SPECIALTY VEHICLES

Operations & Service Manual

SIEMENS AXIOM ARTIS
Mobile Cardiac Catheterization Laboratory
48’ L x 8’-6” W x 13’-6” H USA Unit



North America

Corporate Headquarters
Oshkosh Specialty Vehicles
16745 South Lathrop Ave.
Harvey, IL
60426
USA
(001) 708.596.5066

Europe

Oshkosh Specialty Vehicles, Ltd.
Unit 17, Nelson Way
Tuscum Trading Estate,
Camberley, Surrey
GU15 3DH
United Kingdom
(44) 01276.64490

Buys Ballotstraat 6
3261 LA Oud-Beijerland, Holland
+31 (0) 186-614322
Fax +31 (0) 186-619367
E-mail: smit@smit-mobile.nl

List of Revisions & Warnings

Revisions		Date
00	Initial Release	December 2005
01	Patient to Platform	August 2006
02	Updated Logo & Company Information	February 2007

Notice

In accordance with our policy of product development, Oshkosh Specialty Vehicles reserves the right to make changes in the equipment, design, specifications, and materials of the product described herein. If there are any inconsistencies between this manual and the mobile unit that inhibit serviceability, please contact Oshkosh Specialty Vehicles for assistance.

This manual is one of three information documents provided in the mobile unit. The documentation package consists of:

Volume I - Oshkosh Specialty Vehicles General Information

Volume II – Vendor Information

These volumes should be kept in the mobile unit at all times.

Any problems or questions related to the components or systems covered in this manual may be directed to:

Oshkosh Specialty Vehicles
Attention: Service Department
16745 South Lathrop Avenue
Harvey, Illinois
60426
USA

800.839.0630 (24 hour service)
708.596.2480 (fax)

http://www.oshkoshsv.com/

Warnings & Safety Alert Conventions

The following terms define the various precautions and notices used in this manual:

NOTE: **Whenever information exists that requires additional emphasis beyond the standard textual information, the term "NOTE" is used.**

IMPORTANT — Whenever information exists that requires special attention to procedures to ensure proper operation of the equipment or to prevent its possible failure, the term "IMPORTANT" is used.

CAUTION — Whenever potential damage to equipment exists, requiring correct procedures / practices for prevention, the term "CAUTION" is used.

WARNING — Whenever potential personal injury or death situations exit, requiring correct procedures / practices for prevention, the term "WARNING" is used.

DANGER — Whenever immediate hazards exist that could result in personal injury or death that cannot be eliminated by design safeguards, the term "DANGER" is used.

⚠ — This safety alert symbol indicates important safety messages in the manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.

WARNING — Electrical, mechanical, pneumatic, and hydraulic safety devices have been installed on this vehicle to help protect against personal injury and / or damage to equipment. Under no circumstances should any attempt be made to disconnect or in any way render any of these devices inoperative. If a malfunction of any safety device is discovered to exist, DO NOT operate the vehicle, but immediately notify appropriate maintenance personnel.

Oshkosh Specialty vehicles shall have no liability with respect to: . . . . . REPAIRS IMPROPERLY PERFORMED OR REPLACEMENTS IMPROPERLY INSTALLED (or) USE OF REPLACEMENT PARTS OR ACCESSORIES NOT CONFORMING TO Oshkosh SPECIALTY VEHICLE'S SPECIFICATIONS, WHICH ADVERSELY AFFECT PERFORMANCE OR DURABILITY (or) ALTERATIONS OR MODIFICATIONS NOT RECOMMENDED OR APPROVED IN WRITING BY Oshkosh SPECIALTY VEHICLES (or) FOR EQUIPMENT DAMAGE OR PERSONAL INJURY OR DEATH AS A RESULT OF RENDERING ANY SAFETY DEVICE INOPERABLE.

Certain inherent risks are associated with heavy trailers due to the nature of their use. Personnel working in the area of these trailers are subject to certain hazards that cannot be met by mechanical means but only by the exercise of intelligence, care, and common sense. It is therefore essential for the owner of this equipment to have personnel involved in the use and operation of these trailers who are competent, careful, physically and mentally qualified, and trained in the safe operation of this equipment.

OSHKOSH SPECIALTY VEHICLES

Table of Contents

List of Figures

Section 1: Introduction

WARNING This manual is intended to instruct and assist personnel already qualified in the proper installation of the mobile unit. This manual is not intended to enable persons unfamiliar with the mobile unit to perform the setup and transport procedures.

The basic information needed to set-up, transport, and service the mobile unit is contained in this manual. This mobile unit was designed to operate within certain limitations and specifications. When performing the setup or transport procedures of the unit, follow the proper logical steps that have been outlined in this manual. The drawings in this manual are representative of this product. In accordance with our program of continued product improvement, designs and specifications are subject to change without notice.

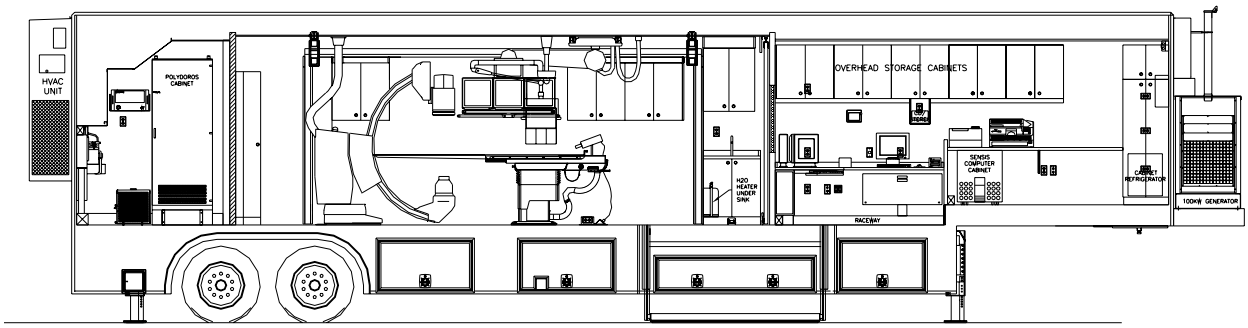


Figure 1: The Siemens Catheterization Laboratory Mobile Unit

As part of Oshkosh Specialty Vehicles' on-going program to improve its products and service, (and their effectiveness in enhancing safety, reliability, performance, productivity, and the useful service life of the equipment) Oshkosh Specialty Vehicles reserves the right to implement product changes and disseminate changes in design and service information without notice or recourse.

For questions regarding the Operation or Service of this unit call Oshkosh Specialty Vehicles at 800-839-0630.

Section 2: Safety Guidelines

WARNING It is the operator's responsibility to verify that the shore power receptacle is electrically compatible with the power cable from the mobile unit prior to plugging in. Plugging into a receptacle that is not electrically compatible could cause serious injury or damage. It is also recommended to inspect the power cable, connector, and fasteners prior to connecting. If during inspection you suspect damage has occurred has occurred, have a qualified electrician inspect and repair the damage before further use.

WARNING Make sure that all electrical parts are serviced only by an electrician or qualified personnel. Dangerous voltages are present that could cause serious injury or death. Be sure to disconnect electrical power before working on any of the electrical systems.

CAUTION Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.

IMPORTANT When servicing the mobile unit, make sure that a fire extinguisher and first aid kit are kept within reach.

This safety section contains important information in regards to general safety guidelines that should be followed. Before attempting to operate or service the mobile unit, read this safety section as well as all other safety sections found in applicable manufacturers' manuals in the component literature binder.

2.1 General Safety Precautions

1. Make sure the work area is well ventilated.
2. Disconnect the electrical power to prevent the possibility of electrical shock.
3. Follow all manufacturers' directions and request material data sheets where applicable.
4. Always keep tools clean and free of grease.
5. Do not stand on chairs inside of the mobile unit under any circumstances.
6. Follow all safety precautions found in the documentation package that is included with the unit.

2.2 Specific Safety Precautions

If any of the warning lights are illuminated, do not move the mobile unit.

Before moving the mobile unit, verify that all marker and running lights are working properly.

Consult with the local DMV to determine if there are any travel restrictions or routes.

2.3 Electrical Safety

WARNING Use and follow the appropriate Lockout/Tagout procedures as required by OSHA Standard 1910.147 when performing maintenance or servicing any electrical, hydraulic or pneumatic systems. See Appendix E for Lockout/Tagout procedures.

WARNING Before connecting or disconnecting from shore power, it is imperative that the shore power connections be moved to the “OFF” position. Failure to do this can result in injury or death to the operator of the mobile unit.

WARNING It is the operator’s responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.

CAUTION Always inspect the power cable, connectors, and fasteners prior to usage. If during inspection, it is suspected that either internal or external damage has occurred, have a certified electrician inspect and repair the damage before using.

When working with the electrical system for the mobile unit. Follow the warnings and cautions listed above.

2.4 Transportation Safety

CAUTION Check the tires before every trip for wear, cuts breaks, cracks, defects, objects caught or penetrating the tire carcass and for proper inflation. Check tire pressure when the tires are cool and maintain the pressure molded into the sidewall. Do not operate a trailer with tires that have the internal reinforcing wires or belt showing or less than 2/32” tread depth, when measured at a major tread groove. See 49 CFR Sec. 570.9(a).Replacement tires MUST BE Radial.

1. Walk around the unit to make certain that all doors are closed and locked and that the platform lift is seated in the retaining cradles.
2. If any of the warning lights are illuminated, do not move the mobile unit.
3. Before moving the mobile unit, verify that all marker and running lights are working properly.
4. Consult with the local DMV to determine if there are any travel restrictions or routes.

Section 3: Mobile Unit Overview

The components of the mobile unit can be divided into five different sections. As each section is covered, pictures and descriptions can be found to better illustrate the capabilities of the mobile unit. The sections are as follows:

Electrical:	Covers the electrical system of the mobile unit, including the main electrical panel, and the fire control panel.
Exterior:	Covers the exterior features of the mobile unit, including the generator, the A/C units, the humidifier water fill, the warning lights, the level, and the mobile units stabilizing legs and auxiliary support legs. This section also covers the shore power connection.
Interior:	Covers the interior features of the mobile unit, including the control room, equipment room, and procedure room.
Structural:	Covers the mobile unit slide-outs, the slide-out floors, the platform lift, and the platform and stair assembly.
Underbody:	Covers the equipment that is stored in the underbody compartments, including the stair and platform assembly, the power cable, the phone and data connections, the platform lift shutoff switch, the stabilizing leg control box, the diesel fuel tank and the main power control panel.

3.1 Electrical System

The main electrical panels, humidifier, and various electrical components can be found in the equipment room, control room, and underbody compartments.

Main electrical panel	The main electrical panel controls the power to all of the electronic devices aboard the mobile unit. All the circuit breakers can be found with an appropriate listing above the breakers that defines what each breaker controls inside of the mobile unit.

Electrical Equipment Room Shunt Trip Panels

Control Room Panel

Figure 2: Electrical System

3.2 Fire Detection System

The fire alarm control panel is a Four Zone Fire Control Alarm Panel system located in the Control Room of the mobile unit controls the entire fire detection system. Located on the fire control panel are buttons that can be selected in order to reset, silence the alarm, and disable the activation of Notification Appliances Circuits. For further instructions, please refer to the component literature that has been supplied with the mobile unit.

Reset Switch:	Resets the control panel and smoke detectors provided the alarm condition has been cleared. A trouble condition is indicated while the switch is depressed.
Trouble Silence Switch:	This latching, two-position switch, when pressed will silence the pulsing audible alarm signal. The associated LED will still indicate the trouble condition. An interrupted tone will sound when the trouble is corrected to indicate that the switch should be returned to its outward position.
Disable Switch:	This latching, two-position switch, when pressed will prevent the activation of Notification Appliances. The alarm LED will continue to indicate the alarm conditions. When the trouble is corrected or testing is complete the switch should be returned to its outward position.

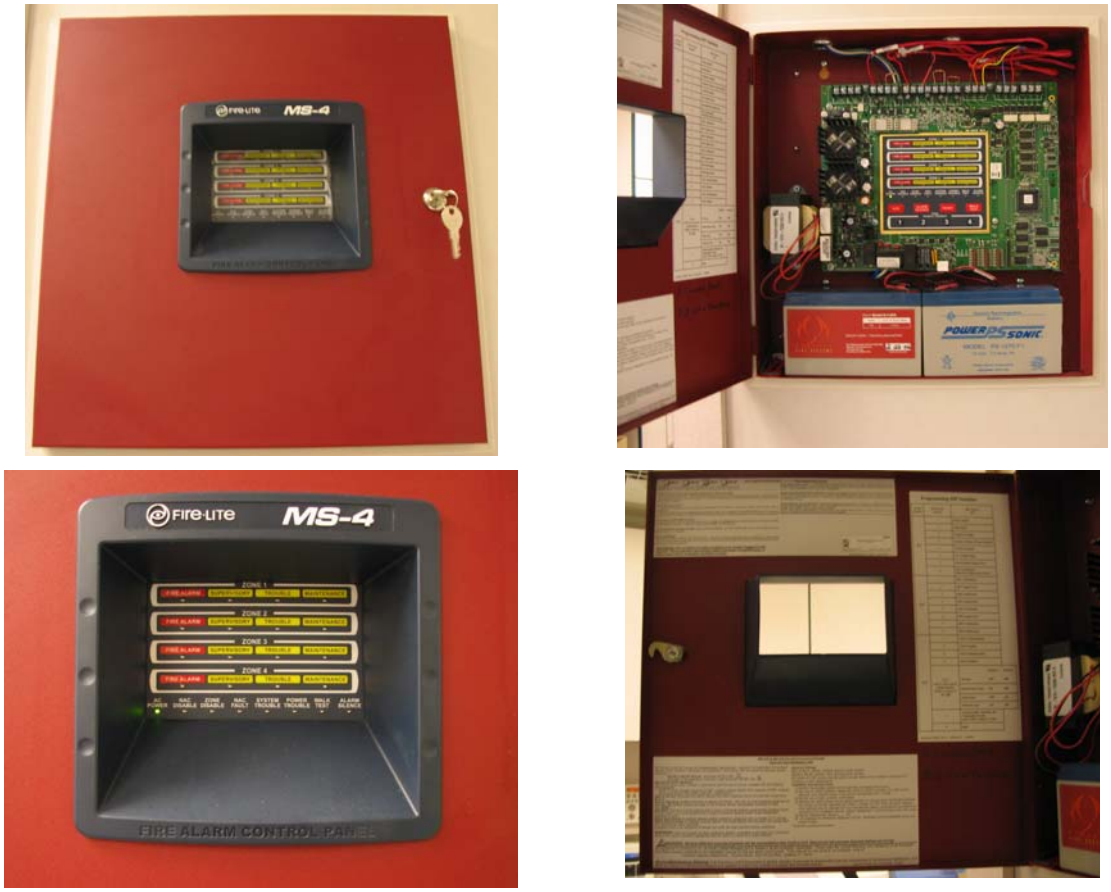


Figure 3: Fire Alarm Control Panel MS-4 (Four Zone)

3.3 Exterior

The main exterior features of the mobile unit are as follows:

Generator:	Supplies power to the mobile unit when shore power is unavailable.
A/C Units:	The A/C units are responsible for maintaining the internal environment of the mobile unit.
Humidifier Water Fill:	A port that is located on the exterior of the mobile unit to fill the water tank for the humidifier.
Warning Lights:	These lights enable the operator of the mobile unit to monitor the vehicle at all times.
Level:	Two levels are provided on the exterior of the mobile unit to ensure the levelness of the unit prior to use of the medical system.
Stabilizing and Auxiliary Support Legs:	The mobile unit comes equipped with stabilizing legs and auxiliary support legs for use when the mobile unit is parked for operations.
Shore Power:	Although this is not a specific part of the mobile unit, it is used at each site and is a very important for the operation of the mobile unit.
Transport-Warning Strobe Override Switch:	Located on the front of the unit below the generator at the left side. This switch disables the transport-warning strobe light and is to be used only when the unit is set up for operation.

3.4 Air Conditioning Units

Two air conditioners are used to maintain the internal environment of the mobile unit. Both air conditioners come from the factory preset to the standards that are required for the medical system. Under no circumstance should the presets be altered from their original settings. Such actions can jeopardize the medical system.

Unit A/C:	Responsible for the control room, doctor's review area room.
Equipment A/C	Responsible for the equipment room and main supply to the procedure room.

Unit A/C Equipment A/C

Figure 4: A/C Units

3.5 Levels

A spirit level is located on the left rear of the mobile unit above the tail lights, the left side, and the front of unit on the generator, so that front-to-rear and left-to-right levelness can be checked.

Figure 5: Mobile Unit Spirit Levels

3.6 Generator Unit

The generator supplies power to the mobile unit during transport and for emergency power back–up.

Generator Motor:	The actual generator motor.
Staging Unit:	Stores and supplies electricity made by the motor.
Air Filter:	Filters any contaminants from the incoming air.
Fuel Filter:	Filters any contaminants from the fuel supply.
Oil Filter:	Filters any contaminants from the oil supply.
Service Outlet:	An additional outlet has been provided for the operator if needed.
Microcomputer:	Informs the operator of information that is needed for service purposes.
Batteries:	The batteries that are used by the generator.

Figure 6: Generator Unit

See **Section 8: Generator** for additional information.

3.7 Warning Lights

The warning lights have been installed on the left side exterior of the mobile unit. These lights provide a way to constantly monitor the unit either in the parked position or during transport. The functions of the lights are as follows:

A/C Power "ON" Light:

If this light is not illuminated, it signifies to the operator that a problem exists within the electrical system. A qualified service technician should be called immediately to look at the system. Refer to "Troubleshooting" for more details.

Transport Warning Light:

This light signifies that something on the mobile unit is not in the proper transport position. i.e. sliding procedure room door or platform lift. Before the mobile can be transported, this light needs to be off. Refer to "Troubleshooting" for more details.

Rear Suspension Warning Light

CAUTION The rear suspension selector switch must be in the "OFF" position before the mobile unit can be transported. If rear suspension selector switch is not in the normal ride position, irreparable damage may occur to the mobile unit.

A red light and strobe is provided on the exterior of the mobile unit above the front stabilizing legs. These lights illuminate when the axle air bag pressure is too low or does not exist. The mobile unit cannot be transported if these lights are illuminated. Also, when the Rear Suspension Transport Warning Light is illuminated, the Suspension Strobe Light, located on the left front of the trailer, will flash. A bypass switch, located on the exterior left front of the trailer can be used to extinguish the strobe when the trailer is set up for operation. The air bags must be properly inflated prior to transporting the mobile unit. Failure to properly inflate the air bags can result in irreparable damage to the mobile unit.

ABS "ON":

This light signifies that there is a problem with the anti-lock brake system. Note: when the unit is being transported and the speed is fluctuating, the light will flicker as the system recalibrates itself. If the light illuminates and does not go off, a problem exists and a qualified service technician must be called immediately.

Figure 7: Warning Lights

3.8 Shore Power Connection

Although the shore power is not an actual physical feature of the mobile unit, it is an integral part of the medical system. It is the operator's responsibility to verify that the shore power facility is of the same type that is supplied by Oshkosh Specialty Vehicles, prior to engaging the power cable connection to the shore power receptacle.

Facility Disconnect:	Cuts power to the receptacle in order to ensure that the receptacle is not live while the connection is either being made or removed.
Facility Receptacle:	The plug the facility has installed for use with the mobile unit.
Oshkosh Specialty Vehicles Connector:	The plug that is used to power the mobile unit when connected to shore power.

Figure 8: Shore Power Connection.

3.9 Front Landing / Stabilizing Legs

Both the stabilizing legs and auxiliary support legs can be found at all four corners of the mobile unit. The stabilizing legs are used in order to level the unit prior to use. Since the stabilizing legs are hydraulically controlled, the manual auxiliary support legs must also be used as a back–up.

Figure 9: Front Landing / Stabilizing Legs

3.10 Interior

The interior of the mobile unit has been divided into four rooms for the 48’ unit. The rooms are as follows:

Control Room:	The control room houses the controls for the technician. The environment of the mobile unit can be monitored from this room.
Procedure Room:	This room houses the medical equipment that the mobile unit was designed to utilize.(Also referred to as the Gantry Room)
Equipment Room:	This room is located in the rear of the mobile unit and houses all of the equipment that is necessary to maintain the mobile unit such as the humidifier, the main electrical panel, and the phantom shields.
Doctor’s Review Room:	In the 48’ unit an extra room has been provided in the front of the mobile unit.

3.11 Control Room Controls

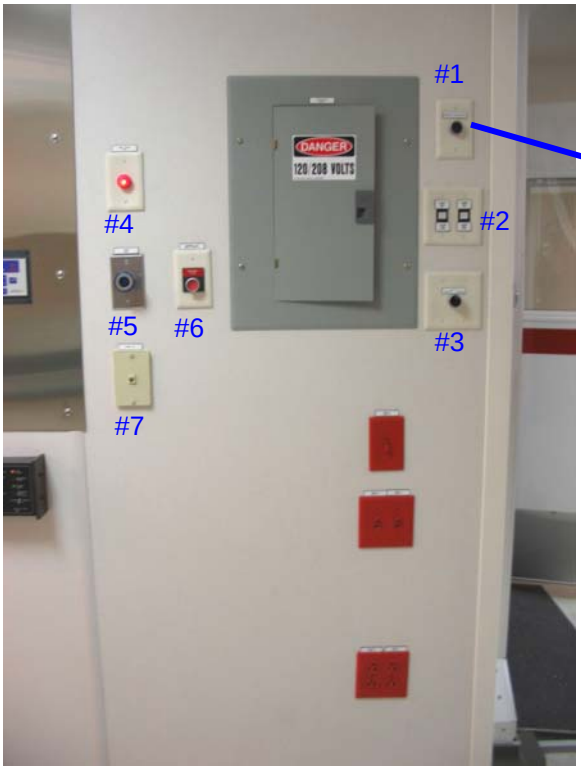
The switches to control the exterior lights, the interior lights, and the fire alarm pull station can be found inside of the control room.

Figure 10: Control Room Controls

Outside Light Switch:	ON / OFF switch for the exterior lights.
Control Room Light Switch:	ON / OFF switch for the control room lights.
Doctor's Review Room / Procedure Room Light Switch:	ON / OFF switch for the lights of the procedure room and the extra room (if applicable).
Fire Alarm Pull Station:	Emergency pull alarm to be used in the event of a fire.
Fire Extinguisher:	Manual fire suppression to be used in the event of a fire.
Fire alarm control panel	Controls the fire detection system, horns, lights, strobe lights, etc.

3.12 Procedure Room Controls

Also located inside the procedure room are additional controls and systems that have been designed for the mobile unit.



Emergency Door Release.

Slide out Controls.

Transport, Set-up, & Operation Switch.

Empty water light.

Code Blue

Emergency Stop.

Phone Jack

Figure 11: Procedure Room Controls

Patient Door Magnetic Latch Release:	If the platform lift is not in the raised position the door is held closed by an electromagnet. For emergencies, pressing the magnetic latch release button will allow the door to be opened.
Right side Slide-out In/Out Switch:	Extends and retracts the Right Side slide-out.
Left side Slide-out In/Out Switch:	Extends and retracts the Left Side slide-out.
Slide-out 3-position Selector Switch	This switch allows one of three mode selections for the slide-out controls. “Operation”, “OFF”, and “Transport”
Emergency Stop Switch:	Stops the system in the event of an emergency.
Code Blue Switch:	Pressing this button initiates the “Code Blue” alarm for the Catheterization Lab.
Humidifier Water Level Warning Light:	Illuminates when the humidifier water level is low and needs service.
Generator Fault Alarm:	Alarm sounds when a generator fault has been detected.
Motor Generator Annunciator Panel:	Provides the operator with a visual indication of the operating condition of the motor generator unit.
Generator Emergency Shutdown:	Provides the operator with a means to shut down the generator in case of emergency.
Critical Panel and Annunciator:	Provides the operator with visual indication of the critical panel operating condition and access to circuit breakers.
Phone Connection:	An outside telephone line connection has been provided inside of the procedure room.

3.13 Procedure Room Equipment

The procedure room is where the medical equipment that the mobile unit has been designed to house can be found.

Figure 12: Procedure Room Equipment (Secured for Transport)

3.14 Electrical Equipment Room

The equipment room houses the equipment that is needed to support the mobile unit. The following equipment can be found inside of the equipment room:

Humidifier: This supplies humidity to the interior of the mobile unit to ensure proper operation of the equipment.

Electrical Panel: This controls the electrical power to the entire unit.

Located inside of the equipment room is the humidifier. The water tank is located in the underbody compartment. The water tank and humidifier are responsible for maintaining the humidity levels inside of the mobile unit.

Figure 13: Electrical Equipment

3.15 External Structure

The structural components of the mobile are as follows:

External Connections	Glad Hand connections, Water and wastewater connections to the mobile unit.
Stairs and Platform:	The stairs and platform provide access to the interior of the mobile unit.
Platform lift:	The platform lift enables personnel or equipment to be lifted from street level to floor level or vice versa.
Slide-outs:	The slide-outs are expandable sections that increase the size of the procedure room as they expand.

Figure 14: External Structural Components

3.16 Glad-hand Connections

The glad hands are the connection point between the tractor and the mobile unit. All connections must be made before moving the mobile unit. Failure to make all connections can result in damage to the mobile unit.

Figure 15: Glad Hand Connections

Emergency Airline:	#1-Backup airline in the event that the main airline fails.
Key Lock Box:	#2-A combination lock that holds a key to the mobile unit.
Service Airline:	#3-The main airline for the mobile unit.
Standard Electrical Service:	#4-The main electrical connection for the mobile unit.

3.17 Water / Wastewater Connections (Optional)

The fresh water and wastewater connections are located on the left side of the mobile unit. Please refer to the following illustration.

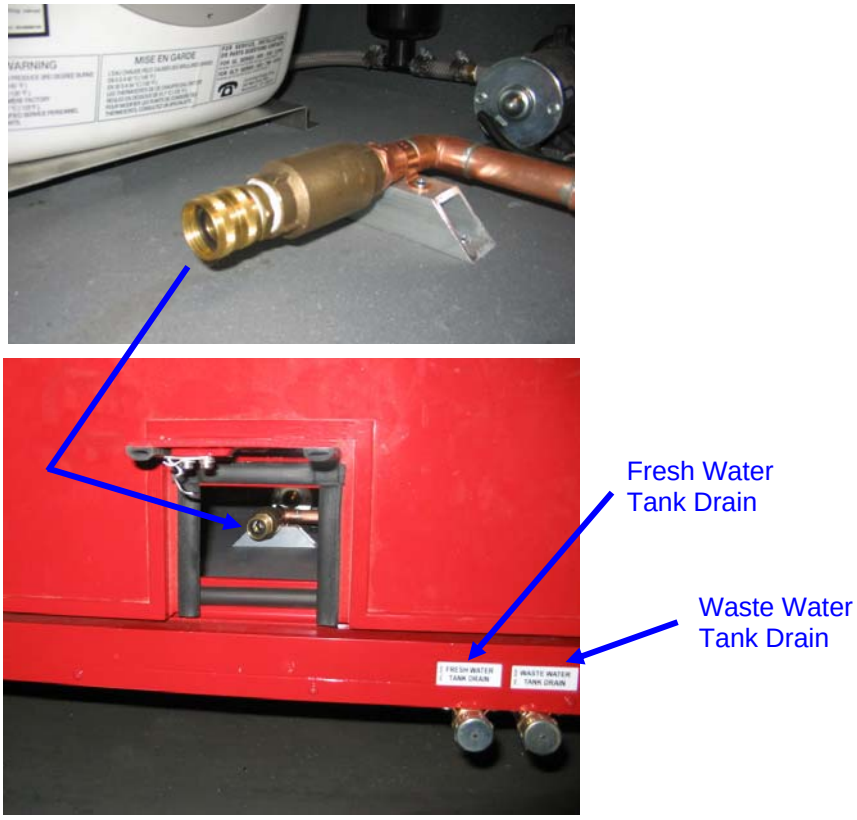


Figure 16: Fresh Water and Wastewater Connections (Optional)

3.18 Platform Lift

The platform lift is used to bring personnel and equipment from the street level to the floor level of the mobile unit. The maximum capacity of the platform lift is 2000 lbs. A platform lift in various stages of use is shown below.

Lift Stored for Transport

Lift Down w/o Hand Rails

Lift with Hand Rails

Lift Up w/o Hand Rails

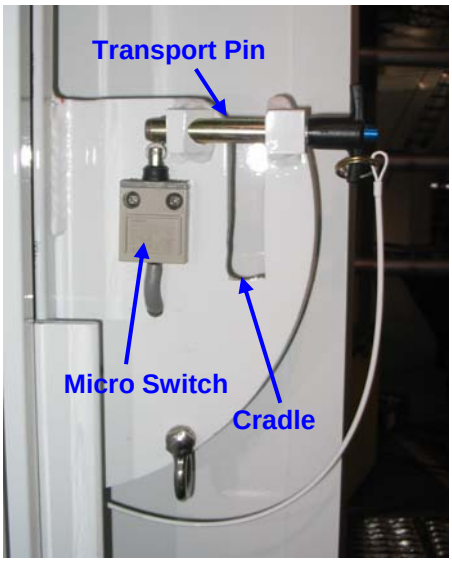
Figure 17: Platform Lift

3.19 Platform Lift Cradles and Transport Pins

Built into the platform lift are safety features that are designed to prevent the lift from moving during transport. Two systems are employed. The first system is the safety-retaining cradle and locking pins, which is shown below. This cradle and pins hold the platform lift in place during transport. If the lift were to move from this position, the electrical sensors would illuminate a transport warning light indicating that something on the mobile unit is not in the proper transport position and must be immediately fixed if the mobile unit is to be transported.

Platform Lift

Platform lift left side retaining cradle w/o transport pin



Platform lift right side retaining cradle with transport pin

Figure 18: Platform Lift Retaining Cradles

3.20 Stairs Installation

The stairs on this mobile unit are to be installed as required.

The following pictures show the stairs installed Perpendicular and/or Parallel to the Unit.

Photo 1

Stairs perpendicular to unit

Photo 2

Front view perpendicular stairs

Photo 3

Stairs Parallel front view to unit

Photo 4

Stairs Parallel side view to unit

Figure 19: Stairs Perpendicular or Parallel to unit

3.21 Slide-outs

The slide-outs of the mobile unit have been designed to add additional floor space to the procedure room. During transport the floors will be raised and must be latched in place for transport. The is one latch, for each slide out.

Right side Latch

Left side Latch w/Slide-Out Locking Bar

Figure 20: Slide-out Floor Transport Latches

3.22 Underbody Compartments

Located in the underbody of the mobile unit are storage compartments. These storage compartments house a variety of components that are necessary to the mobile unit. They consist of:

Stabilizing Leg Control Box:	This box controls the four stabilizing legs that level and stabilize the unit. Also mounted on this control box is the air ride control switch enables/disables the rear air suspension bags.
Fuel Tank:	This stores the fuel for the on-board generator.
Phone and Data Connections:	The phone and data connections for the mobile unit.
Water and Wastewater Connections	The fresh water and wastewater storage tanks and control valves are located in the underbody compartments.
Handrail Storage Compartment:	Stores the handrails for the platform lift and the stairs and platform.
Storage:	Extra storage space has been designed for additional items.

3.23 Landing / Stabilizing Leg Controls

The landing / stabilizing leg control box is used to extend and retract the landing / stabilizing legs that are at all four corners of the mobile unit. When stabilizing the mobile unit, it is imperative that the Air Ride Suspension System is disabled and the levels provided be used to ensure the levelness of the unit.

Air Ride Suspension Controls ON / OFF Switch:	This switch enables and disables the Air Ride Suspension system. “ON” disables the system. “OFF” enables the system for Transport. When the unit is being transported, the air ride control switch must be in the “OFF”, normal ride position. If the switch is not in the normal ride position, serious damage to the mobile unit may occur.
Pump ON / OFF Switch or Key Switch:	This switch must be held in the on position when extending or retracting the stabilizing legs. The Key switch must be moved to the OFF position when finished.
Digital Levels:	Allows the unit to be leveled from front to rear and left to right while at the control box.
Lever 6:	Front left side Inboard stabilizing leg.
Lever 5:	Front right side Inboard stabilizing leg.
Lever 4:	Front left side outboard stabilizing leg.
Lever 3:	Front right side outboard stabilizing leg.
Lever 2:	Rear left side stabilizing leg.
Lever 1:	Rear right side stabilizing leg.

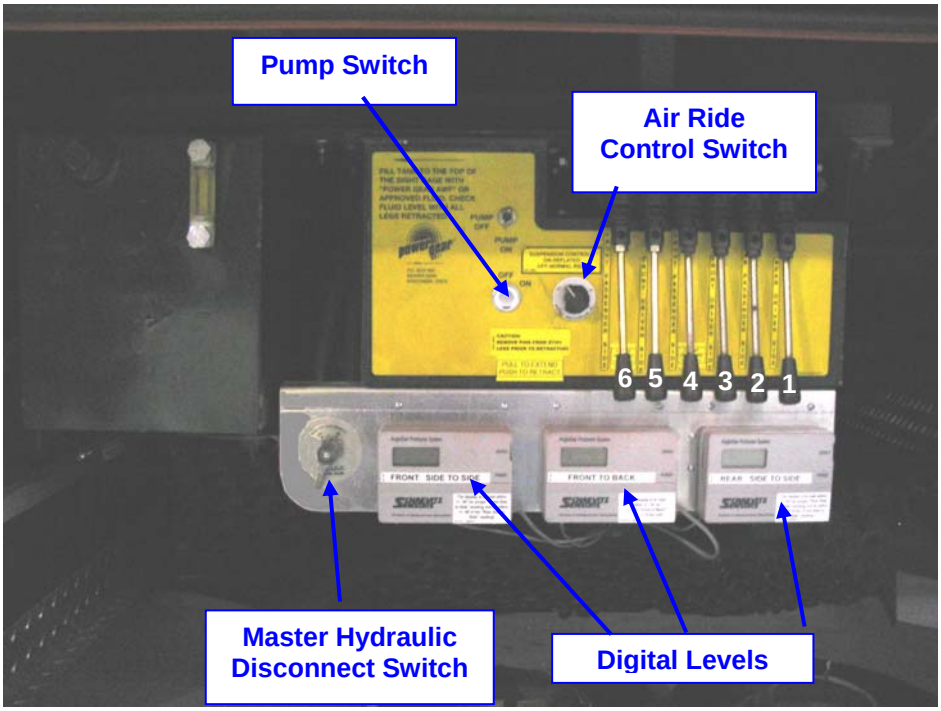


Figure 21: Landing / Stabilizing Leg Controls

3.24 Rear Air Suspension System Controls

CAUTION If the rear air suspension is not functioning properly the mobile unit must not be moved. If the mobile unit is moved, irreparable damage can occur to the medical system and the mobile unit itself.

RAISE: (to position trailer unit)

When the switch is in the “ON” position and the lever is in the “UP” position, the rear air suspension will inflate and raise the rear of the unit. To be used when the unit is being positioned on the **site pad** and to prevent any damage to the rear end of end during positioning process.

DEFLATE: (For Set up only)

When the switch is in the “ON” position, and the lever is in the “DOWN” position, the rear air suspension will deflate and the mobile unit will lower. Prior to placing the selector in this position, the rear stabilizing stands must be inserted.

NORMAL RIDE: (For Transport)

When the switch is in the “OFF” position, and the lever is in the “DOWN” position, the rear suspension will inflate and the mobile unit will automatically rise to transport height. Failure to turn the selector to the “OFF” position with the lever in the “DOWN” position, prior to transporting the mobile unit, can cause irreparable damage to both the mobile unit and medical system.

Figure 22: Air Suspension Controls

3.25 Fuel Compartment

Only diesel fuel can be used when filling the fuel cell. The fuel supply will last for varied amounts of time depending on use. The capacity of the fuel cell is 90 gallons. The items in the photos are as follows:

Fuel Cell: Stores and supplies fuel to the generator.

Fuel Gauge: Switch activated gauge used to determine the remaining amount of fuel left in the cell.

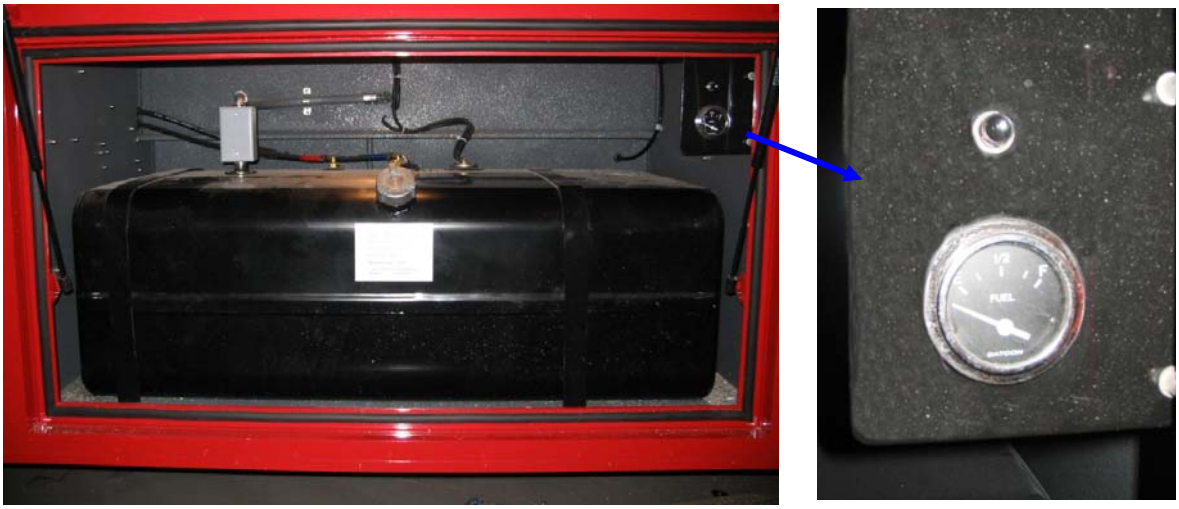


Figure 23: Fuel Compartment

3.26 Automatic Transfer Switch Control Panel

The control panel is the source of all incoming power from exterior shore power supplies. The generator can be started and stopped, the power source can be selected, and the voltage can be monitored.

Automatic Transfer Switch and Control Panel:	The ATS will automatically transfer to Shore Power when connected to a viable power supply and shut down the generator unit. In the event of a Shore Power fault, the ATS will automatically start the generator unit and transfer power to the generator. The control panel is used to monitor and test the system.
Fault Alarm:	This alarm will sound if there is a problem with the voltage or phasing of the power source.
Silence Alarm Button:	Pressing this button will silence the alarm.

Figure 24: ATS Control Panel

3.27 Phone and Data Connecions

The phone and data connections allow exterior lines to be connected to the mobile unit. The phone lines utilize a Hubbell all weather connection for protection against the elements. The data lines utilize a RJ-45 connection and CAT-5E wire. The number of phone and data lines per unit may vary.

Figure 25: Phone and Data Line Connections (Typical)

3.28 Hubbell All Weather Phone Cables

Hubbell all weather phone cables are required for use with the Hubbell all weather phone connections.

Figure 26: Hubbell All Weather Phone Cables

3.29 Underbody Storage

The handrail storage compartment holds the handrails that are used for the platform lift and the stair and platform assembly. They are normally stored in the compartment below the platform lift.

Figure 27: Stair, Platform, and Handrail Storage

3.30 Stair Assembly

The stairs allow access to the interior of the mobile unit through the staff door. Can assemble and/or install the stairs and rails, as indicated in the following illustrations.

Figure 28: Stair Assembly

Section 4: Safety Systems

4.1 Emergency Lighting

In the event that the main AC power fails, four dual beam emergency lights are provided. These lights will automatically illuminate when the main AC power is lost. They are located in the Staff Review Room, Control Room, Equipment Room and Procedure Room. The emergency lighting system is wired into a 120V AC electrical system that allows the lights' internal circuitry to keep their batteries at 100% charge. The emergency lights will illuminate the exit doors and last for approximately 90 minutes.

Figure 29: Emergency Lighting

4.2 Fire Suppression (manual)

Two fire extinguishers are supplied with the mobile unit. One fire extinguisher is located near the entry/exit door in the control room. Another is located in the procedure room at the control panel. Instructions for operating the fire extinguisher are printed clearly on the extinguisher. The fire extinguisher meets the following standards.

It is a class A/B/C 1211 hand held unit.

It has a charged weight of 2 lbs., 8 oz.

It is U.L. listed.

It meets D.O.T. requirements.

It is in accordance with N.F.P.A. Standard No. 10, "Portable Fire Extinguisher".

Staff door entry/exit location

Equipment room location

Figure 30: Fire Extinguisher

4.3 Fire Detection System Fire-Lite MS-4

The fire alarm control panel is responsible for monitoring the fire alarm system. Located on the interior of the fire control panel is a brief list of instructions that explain how to use the system control buttons to test, reset, and silence the alarm. Please refer to the product manual located in Volume II of the literature provided by Oshkosh Specialty Vehicles.

A standard fire detection system is installed in the mobile unit.

The fire detection system works via photoelectric smoke detectors located on the ceiling panels in each room of the mobile unit. In the event of a fire being detected, a horn will sound and a strobe light will flash.

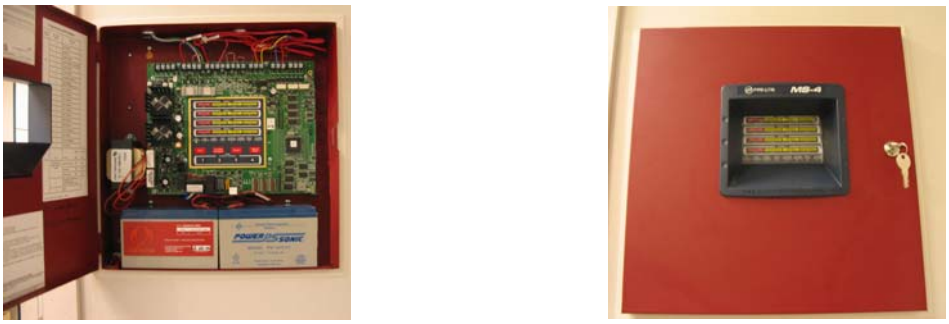


Figure 31: Fire Alarm Control Panel

Switch Functions in Normal Mode:

ACK-Acknowledge:

The Acknowledge button silences the system piezo sounder and changes all flashing system LEDs to an on steady.

To activate, press and hold the ACK button for a minimum of one second.

SILENCE:

Pressing the silence button silences the system piezo sounder, turns off the silenceable Notification Appliance Circuits and turns on the Alarm Silence LED.

To activate, press the Silence button for a minimum of one second.

RESET:

The system Reset button resets the system and any smoke detectors

WALKTEST:

The walktest button allows a panel walktest to be preformed

Pressing the button for a minimum of two seconds causes the FACP to enter audible walktest.

Reference Note:

Disable Button will shut the alarm system down for maintenance.

The smoke detector is responsible for detecting smoke for use with both the standard fire alarm system as well as the optional fire suppression system.

Figure 32: Smoke Detector

System Operation

During normal operation, the control unit remains in a supervisory mode. If one smoke detector goes into alarm, it will trigger the following actions.

- The fire horn will sound continuously.
- A (RED) alarm LED located on the front cover of the Fire Alarm Control Panel will illuminate.
- The strobe light will flash-Two lights
- Above the Fire Alarm Control Panel in the control room.
- Above electrical panels “C” & “B” in the gantry room.
- The HVAC units will shutdown.
- Pull Station
- A pull station is located next to the staff door in the Control Room. When the pull station has been pulled, the steps outlined above will occur.

Figure 33: Fire Alarm Pull Station and Strobe lights

Power Backup System

1. Primary 120V AC power to the fire system control panel is supplied from the Life Safety panel “B”. When the primary power is lost, on-line emergency batteries built into the system will provide 24 hours of supervisory power.
2. When primary power is lost, both the green “POWER” LED and the yellow “TROUBLE” LED will flash.
3. The “SYSTEM TROUBLE” and “POWER TROUBLE” LED’s will also begin to illuminate.
4. The audible alert located inside of the system control panel will begin to BEEP.
5. The emergency batteries are rechargeable gel celled. They are also float charged to provide quick recovery after primary power is restored.

4.4 Fire Suppression System (optional)

An optional fire suppression system is available for the mobile unit. This fire suppression system uses a dispersant to extinguish the fire. The dispersant used is a gas that removes the oxygen from the interior of the mobile unit. Without oxygen, the fire cannot survive. This method provides the means to allow both personnel and property to escape the damage from the fire virtually unharmed. When the fire suppression system has been triggered, it will automatically shut down the medical system, and the HVAC system.

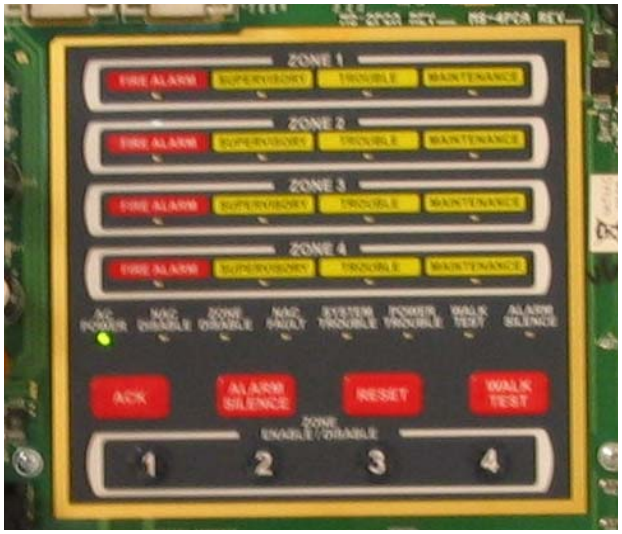


Figure 34: Fire Suppression Components

System Operation

1. Normal mode is the standard mode of operation.
2. If smoke detector goes into alarm, the control panel upon detection of an alarm condition the following steps will occur.
3. The bell will sound continuously.
4. Blink the Zone Alarm LED one second On, and one second Off.
5. The HVAC system will shutdown.
6. The “System Alarm” LED will illuminate.
7. The 4 Zone Fire Alarm Control Panel is wired as follows
8. Zone 1-Pull Station Alarm.
9. Zone 2-Smoke
10. Zone 3-Water sprinkler system- Will detect water flow or an alarm will sound if there is no water flowing during water sprinkler activation is on. Also if the water sprinkler head bulb burst, due to excessive heat detection, it will disperse pressurized water.
11. If no other smoke detector goes into alarm, the fire system control panel will remain in alarm condition until the control panel is manually reset. To reset the control panel, open the front cover, and depress the system reset button.

Pull Station

A pull station is located next to the staff door in the Control Room. When this pull station is activated, the system discharges immediately.

Figure 35: Fire Suppression Pull Station

4.5 Shutdowns

In the event that an emergency occurs which requires immediate equipment shutdown, both manual and automatic shutdown systems are provided. All shutdowns refer only to the medical equipment. HVAC and lighting will remain in operation unless otherwise noted.

Manual Shutdown

Manual shutdowns are those that require the operating personnel to depress emergency off buttons upon recognizing an emergency. Buttons are located in the control room, procedure room, and equipment room.

Fire Detection Shutdown

The fire detection system control panel will shutdown the air conditioners, while it triggers an alarm and light combination, when smoke is detected inside of the mobile unit.

Emergency Shutdown

All emergency shutdowns will trip the shunt circuit breaker located in the equipment room. Before the medical system can be restarted, the shunt circuit breaker must be reset.

Procedure Room:	The medical system emergency off button is located on the left sidewall. The button is a flush mounted, red colored button that when pressed will initiate shutdown of the medical system.
Control Room:	The medical system emergency off button is located on the left sidewall. The button is a flush mounted, red colored button that when pressed will initiate shutdown of the medical system.
Medical System:	Two emergency stop buttons have been placed on the medical system, one on the front side, and one on the backside. In the event of an emergency, either button can be depressed to initiate the shutdown of the medical system.
Equipment Room	The medical system emergency off button is located on the left side computer cabinet. The button is a flush mounted, red colored button that when pressed will initiate shutdown of the medical system.

Phase/Voltage Shutdown

If the incoming power is out of phase or the voltage is out of specification, a power monitor will automatically trip the shunt breaker that feeds the medical system.

4.6 Transport Safety

Transport Warning Light

A red light located on the left side of the mobile unit will illuminate if:

The Procedure Room Door is not in the proper transport position.

The platform lift is not in the proper transport position.

Transport Warning Light – Air Suspension

A red light located on the left side of the mobile unit and a strobe light located above the generator unit will illuminate if the tandem axle air suspension is not properly inflated. The air suspension must be properly inflated and the lights must be off before the unit can be transported.

CAUTION The air ride suspension system must be properly inflated before the mobile unit can be transported. If the system is not properly inflated, serious damage can occur to equipment and the mobile unit.

Transportation Safety Precautions

Do not move the unit, if any of the transport warning lights are illuminated.

Verify that all marker and running lights are working properly.

Consult with the local DMV to determine if there are any travel restrictions or routes for the mobile unit.

Section 5: Mobile Unit Setup Procedure

CAUTION The Siemens medical system requires the HVAC system to be supplied power at all times. During transit of the mobile unit via the on board generator and when the unit is in the parked position via shore power.

CAUTION The landing/stabilizing legs are not to be used to raise the mobile unit off the ground. The legs are meant to level the vehicle only. If the legs are used in an attempt to raise the unit off the ground, serious damage may occur.

IMPORTANT A checklist can be found in Appendix A that may be used as a guideline for the following procedure.

5.1 Park the Mobile Unit

In order to join the unit to the facility, place the unit on the pad per the site-planning guide. Set only the trailer brakes.

5.2 Lower the Front Stabilizing Legs

Once the unit has been parked on the pad and the front stabilizing legs must be lowered for the tractor to be removed and to stabilize and level the mobile unit before it can be used. Follow the procedure outlined below.

1. Move and hold the pump switch to the “PUMP ON” position or, if applicable, turn the key switch to the “ON” position.
2. Pull lever 4 away from the stabilizing leg control box until the leg touches the ground. This will lower the front left side leg.
3. Pull lever 3 away from the stabilizing leg control box until the leg touches the ground. This will lower the front right side leg.
4. If applicable, turn the key switch to the “OFF”.

5.3 Disconnect the Tractor and Lines

Once the landing legs have been lowered, the tractor can be removed from the mobile unit.

1. Disconnect the tractor air and electrical lines.
2. Verify that the mobile unit has been raised high enough to clear the tractor fifth wheel, and then disconnect the tractor from the mobile unit.

5.4 Lower the Rear Stabilizing Legs

CAUTION

The stabilizing legs and rear suspension are not to be used to raise the mobile unit off the ground. The legs are meant only to level the unit and place it in a parked position. If the legs are used in an attempt to raise the mobile unit from the ground, serious damage may occur to the mobile unit.

After the tractor has pulled uncoupled from the mobile unit, the rear stabilizing legs can now be lowered into position. When lowering the rear stabilizing legs, lower them the minimum amount to level the mobile unit.

1. Move and hold the pump switch to the “PUMP ON” position or, if applicable, turn the key switch to the “ON” position.
2. Pull lever 2 away from the stabilizing leg control box until the leg touches the ground. This will lower the rear left side leg.
3. Pull lever 1 away from the stabilizing leg control box until the leg touches the ground. This will lower the rear right side leg.
4. If applicable, turn the key switch to the “OFF”.

5.5 Re-level the Unit

After all the stabilizing legs have been lowered and the tractor has been released and removed, the unit may no longer be level. Use the digital levels located below the stabilizing leg control box to re-level the unit.

1. The front stabilizing legs will adjust front to rear levelness.
2. The front and rear stabilizing legs will adjust side-to-side levelness.

5.6 Lower the Auxiliary support legs

After the unit has been re-leveled, the auxiliary support legs can safely be lowered into place. Follow the procedure outlined below.

1. Remove the pin from the safety leg.
2. Drop the safety leg to within roughly ½” of the sand shoe.
3. Reinsert the pin to hold the leg in place.
4. Follow the same procedure on the remaining auxiliary support legs.

5.7 Install the Stair Assembly

There are two different options for the stair assembly. The first option is to attach the stairs directly to the mobile unit while the second option is to utilize the supplied platform as well. Both options can be setup easier with two people. The instructions are covered below. Please refer to **Figure 28: Stair Assembly** and follow the appropriate set of instructions for your unit.

Standard Stair Assembly

1. Remove the stair assembly from the underbody compartments.
2. Close the door to the underbody compartment.
3. Install the clip of the stair assembly into the channel located underneath the staff door.
4. Adjust the height of the stair legs as necessary to in order to level and secure the stairs.
5. Install the handrail into its operating position and secure in place with the hardware provided.

Stair Assembly with the Platform (optional)

1. Remove the stair assembly from the underbody compartments.
2. Close the door to the underbody compartment.
3. Having one person on each side of the platform, lift the platform and place the clip of the platform in the channel located beneath the staff entry door.
4. While one person holds the platform in place, the other person should insert the adjustable legs into position to support the platform.
5. Adjust the legs as necessary in order to ensure the platform is both level and secure.
6. After the platform has been supported, the slip of the stair assembly can be safely placed into the channel located on the platform.
7. Insert the adjustable legs for the stair assembly at the base of the stairs.
8. Adjust the legs as necessary in order to ensure the stair assembly is both level and secure.
9. Place the handrails in their operating positions and secure them with the hardware provided.

5.8 Connect to Shore Power

In order to operate the mobile unit, the unit must first be connected to shore power. Refer to **Figure 8: Shore Power Connection** for the following procedure.

1. Verify the shore power disconnect is in the “OFF” position.
2. Remove the power cable from the underbody compartment.
3. Insert the power cable connector into the shore power receptacle and spin the lock ring clockwise to secure the connection.
4. Once the connection has been secured, move the shore power disconnect to the “ON” position.

IMPORTANT

The ATS will automatically transfer to Shore Power when connected to a viable power supply and shut down the generator unit. In the event of a Shore Power fault, the ATS will automatically start the generator unit and transfer power to the generator.

Note: The Phase Power Monitor checks the incoming shore power to ensure that it has the correct phase rotation (ABC) and that all three phases are present. If all three phases are present and in the correct rotation, the 480V AC Light, on the monitor, will illuminate.

If any phase is not present or if the phase rotation is not correct, the 480V AC Fault Light will illuminate, a piezo-electric horn will sound and a flashing strobe light on the front of the unit illuminates. Disconnect shore power immediately and investigate to determine the cause of the fault.

5.9 Connect Phone and Data Lines

The phone and data lines can be found in the underbody compartments. The number of phone and data lines may vary.

Two all weather Hubbell telephone cables are supplied with the unit. Plug the Control Room line into the outlet marked “Unit Phone” and plug the Computer Room line into the socket marked “Service Phone”.

The data connection uses standard CAT-5E wire and RJ-45 connections.

5.10 Connect Fire Alarm and Code Blue Alarm

The fire alarm and Code Blue alarms junction boxes can be found in the underbody compartment near the phone and data lines. The number of phone and data lines may vary.

Figure 36: Fire Alarm and Code Blue Alarm Junction Boxes

5.11 Connect the Water / Waste Hoses

On the left side exterior of the mobile unit there are two connections that need to be made. The first connection will fill the fresh water tank for the mobile unit. The connection is for draining the either the fresh water tank or the wastewater tank.

1. Remove the cap that covers the connection.
2. Attach the supplied water hose to this connection.
3. Attach the other end of the hose to facility provided faucet.
4. Turn on the water at the faucet.
5. This will fill the water tank for the mobile unit.
6. In the event that the water tank is overfilled, an overflow drain has been provided that exits outside of the mobile unit.
7. Verify that the facility provided wastewater hose has been attached to the proper connection at the facility.
8. Attach the facility provided wastewater hose to the wastewater connection on the mobile unit. This connection is located on the underside of the mobile unit beneath the same underbody compartment.
9. After the connection has been made at both ends, open the underbody compartment door and open the drainage valve.
10. At this point, either tank can be drained, as needed, either the fresh water tank, or the wastewater tank.

5.12 Connect Fire Suppression Water Connection (Optional)

Connect the fire suppression water supply to the fire suppression water connection at the right side near the fifth wheel (King Pin). The system must be connected and purged for the fire suppression system to be functional. The connections are located underside adjacent to the king pin on the passenger side

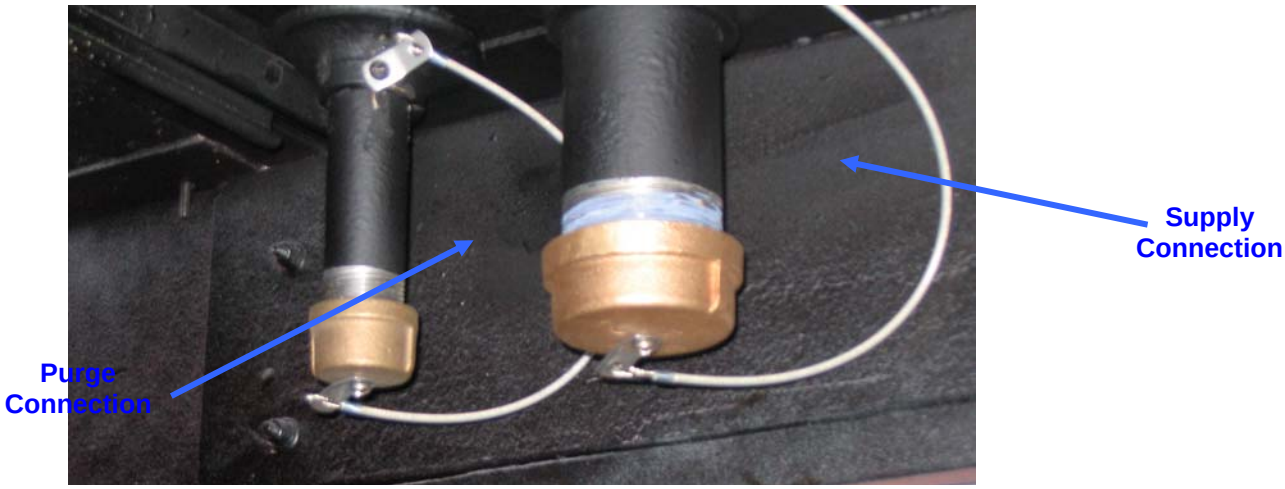


Figure 37: Fire Suppression Supply and purge connections

1. Connect the supply line from the facility to the unit.
2. Turn the water “ON” at the facility to charge the unit.
3. Open the purge line and valve to purge air from the system. Once it is purged, close the purge valve.

5.13 Extend the Slide-outs

Once all the previous steps have been completed, the slide-outs can be extended. Follow the procedure outlined below to extend the slide-outs.

CAUTION Check for clearance before extending the slide-outs. Failure to do so could result in damage to equipment.

1. Go to the Slide-Out 3-position selector switch.
2. Transport
3. Set-Up
4. Operation
5. Set the 3 position selector switch, to the **"Set-Up"** position.
6. Unlatch the slide-out locking bar.
7. Go to the Slide-Out controls.
8. Press the Curbside button and start to extend the slide-out about 3/4.
9. Unlatch the floor latch.
10. Continue to extend the slide-out to unit the floor locks into position.
11. Retrieve from the cabinet the air cylinder floor cover and cover opening. See **Figure 56: Air Cylinder Floor Cover**
12. Unlock inner and outer patient door floor transition plates. See **Figure 58: Patient Door Inner and Outer Floor Transition Plates Up and Locked**
13. Unlatch the Roadside slide-out floor. See **Figure 20: Slide-out Floor Transport Latches** for location.

WARNING Stand clear of the moving slide-out section while extending or retracting the slide-out. Failure to do so could result in severe personal injury.

14. Unlatch the Roadside slide-out floor latch. See **Figure 20: Slide-out Floor Transport Latches** for location.
15. Extend the Roadside slide-out floor. See **Figure 11: Procedure Room Controls** for location of controls.
16. Extend the Roadside slide-out. Repeat step 4 thru 7.
17. After completing Slide-Out procedure, move the 3-position selector switch to the "OPERATION" position. See **Figure 11: Procedure Room Controls**

5.14 Platform Lift Deployment

After the stair assembly has been installed, the platform lift can be deployed for use. Please refer to **Section 11: Platform Lift** for the following procedure.

1. Open the underbody compartment doors.
2. Remove the handrails and lift pendent, and place them to the side for now.
3. Close the underbody compartment door.
4. Remove the Lift Transport Restraining cable.
5. Remove the transport pins from each side of the lift.
6. Using the remote, raise the lift high enough to clear the cradles.
7. Carefully pull down the platform until it is parallel with the ground. A torsion bar is located within the platform lift hardware that will enable one person to move the lift into operating position.
8. Using the lift control pendent, lower the platform to the ground.
9. Once the platform has been lowered, install the handrails and secure them with the hardware provided.

5.15 Remove the Restraining Hardware

All equipment is secured before transport of the mobile unit. Such equipment may consist of chairs, monitors, doors, and cabinets. Remove the restraints on the secured objects prior to operation.

5.16 Remove Restraints on Medical Equipment

All medical equipment must be unsecured prior to use. Refer to Section 4 Mobile Unit Transport Procedures of this manual and the OEM instructions for removing the restraints on all medical equipment.

IMPORTANT Before starting any procedure with this system make sure that no equipment was damaged during transportation

1. Ensure that no equipment was damaged during transport.
2. Immediately perform a visual inspection of all components.
3. After Set-up, check the C-Arm and Table functions for faultless operation.
4. Check exposure release by hand and foot switch.

Catheterization Lab

The main medical components that need to be unsecured before use in the medical procedure room are the C arm, table, operating light, and radiation shield.

The medical equipment must be set up in the reverse order in which it was secured.

1. Retrieve and install the Radiation Scatter Shield in the detector head. Refer to **Figure 54: Radiation Scatter Shield Secured** for details.
2. Release the ratchet strap on the Display Monitor. Refer to **Figure 53: Radiation Shield Secured** for details.
3. Release the bungee straps holding the Radiation Shield in place and the ratchet straps securing the monitors for transport. Refer to **Figure 51: Monitors Secured** for details.
4. Release the Monitor Suspension by grabbing the lever and pulling down while turning it counterclockwise to disengage the lock. Refer to **Figure 50: Monitor Suspension Secured** for details.
5. Untie the Injector Head and Control Module and set up as required. Refer to **Figure 49: Control Module and Injector Secured** for details.
6. Set up the System Control Modules (ECC) on the rail next to the Table and C Arm Control Module.
7. Remove the C-Arm Lock and Wedge. Refer to **Figure 48: C-Arm Wedge and Lock** for details.
8. Remove the Tabletop tie down bracket. Refer to **Figure 47: Tabletop Tie Down Bracket Secured** for details.
9. Loosen the C-Arm base stand. Refer to **Figure 46: C-Arm Base Secured** for details.
10. Remove the U Clamp from the C-Arm Head. Refer to **Figure 45: C-Arm Head Secured** for details.
11. Remove the Table Base Rotation hook. Refer to **Figure 44: Table Base Rotation** for details.
12. Remove the table base support bracket. Refer to **Figure 43: Table Base Support Bracket Installation** for details.

13. Remove the table transverse lock. Refer to **Figure 42: Table Transverse Lock Installation** for details.
14. Remove the table transport bracket. Refer to **Figure 41: Table Transport Bracket Installation** for details.

5.17 Check the Fire Alarm System

The mobile unit is equipped with a fire detection system. The Fire Control Alarm Panel is located on the wall next to the staff entry door in the Control Room. Before operating the mobile unit, verify that no warning lights are illuminated.

Section 6: Mobile Unit Transport Procedure

CAUTION The medical system requires the HVAC system to be supplied power at all times. During transit of the mobile unit via the on board generator and when the unit is in the parked position via shore power.

CAUTION The landing/stabilizing legs are not to be used to raise the mobile unit off the ground. The legs are meant to level the vehicle only. If the legs are used in an attempt to raise the unit off the ground, serious damage may occur.

IMPORTANT A checklist can be found in Appendix A that may be used as a guideline for the following procedure.

CAUTION Check the tires before every trip for wear, cuts breaks, cracks, defects, objects caught or penetrating the tire carcass and for proper inflation. Check tire pressure when the tires are cool and maintain the pressure molded into the sidewall. Do not operate a trailer with tires that have the internal reinforcing wires or belt showing or less than 2/32" tread depth, when measured at a major tread groove. See 49 CFR Sec. 570.9(a).Replacement tires MUST BE Radial.

6.1 Secure Medical Equipment per OEM Requirements

All medical equipment must be secured prior to the transport of the mobile unit. Refer to the OEM instructions for securing all medical equipment.

Catheterization Lab

The main medical components to be secured in the medical procedure room are the C arm, table, monitor suspension, and radiation shield. Follow the procedures below to properly secure the equipment:

OSHKOSH SPECIALTY VEHICLES

Transport locks

The photograph below shows the required tie down devices used for securing the medical equipment for transport.

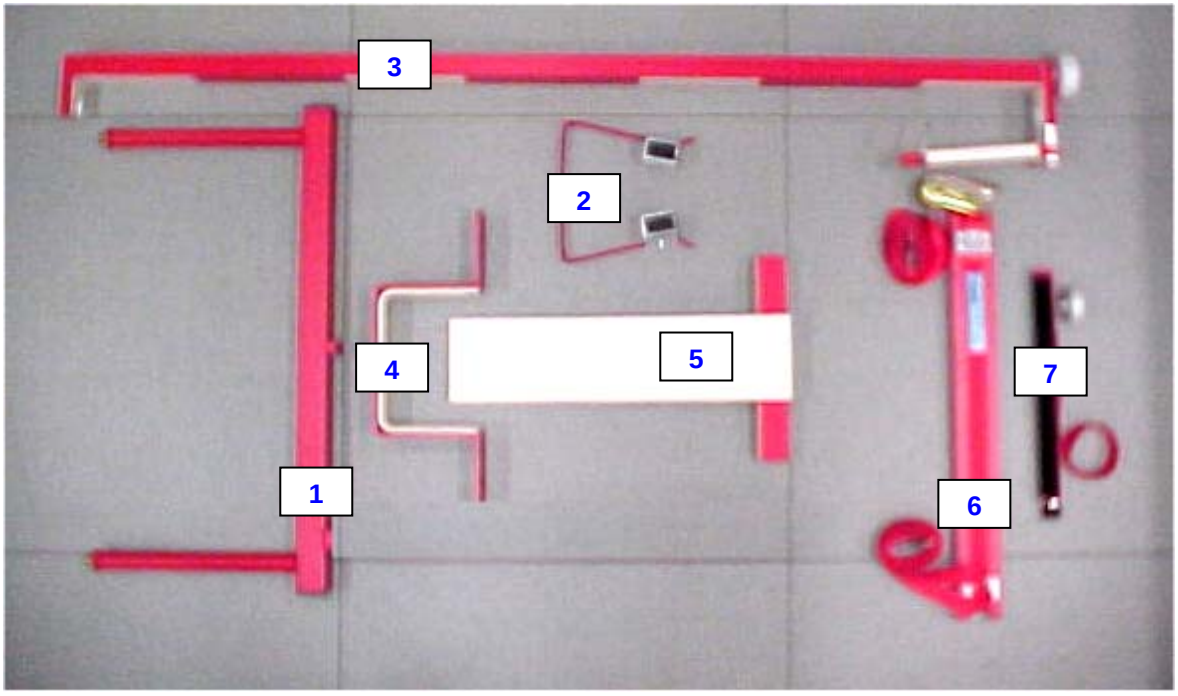


Figure 38: Medical Equipment Transport Locks

Table Base support

U-shape clamp with rubber stops

Table Transport bracket

Transport lock for C-Arm

Wedge for C-Arm

Table top tie down bracket and straps

Table transverse lock

Figure 39: ECC Protective Transport Foam

Preparation for Transport

Move C-Arm and Table to normal position, as shown below.

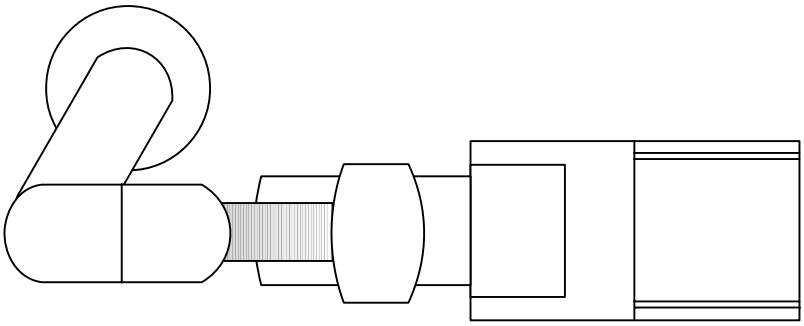


Figure 40: Medical Equipment Transport Preparation Positioning

Install the Table Transport Bracket (3)

1. Move the tabletop into the middle position longitudinally.
2. Insert the bracket on longitudinal carriage of patient table and clamp it by turning the hand wheel on end of the bracket.

Figure 41: Table Transport Bracket Installation

Install the Table Transverse Lock (7)

Drive the tabletop transversally into the left side end position. Insert the transverse lock and secure it by turning the hand wheel.

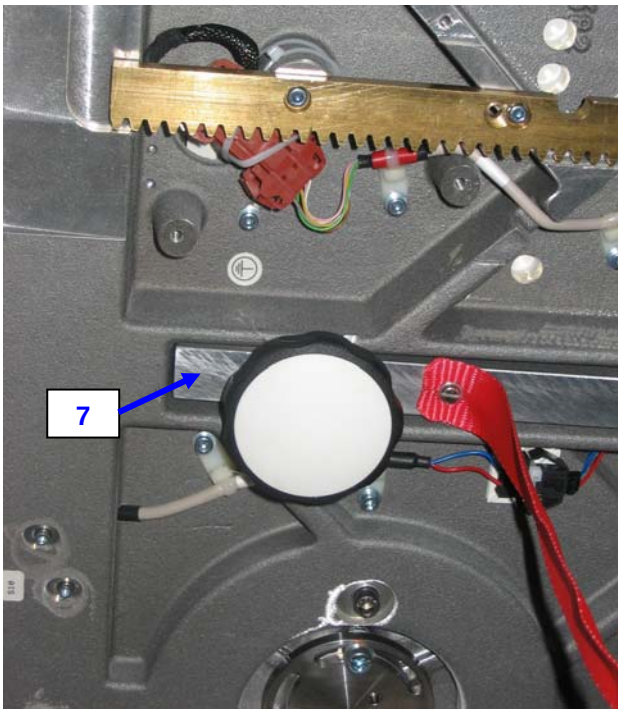


Figure 42: Table Transverse Lock Installation

Install the Table Base Support Bracket (1)

The base support is installed to secure the table lift.

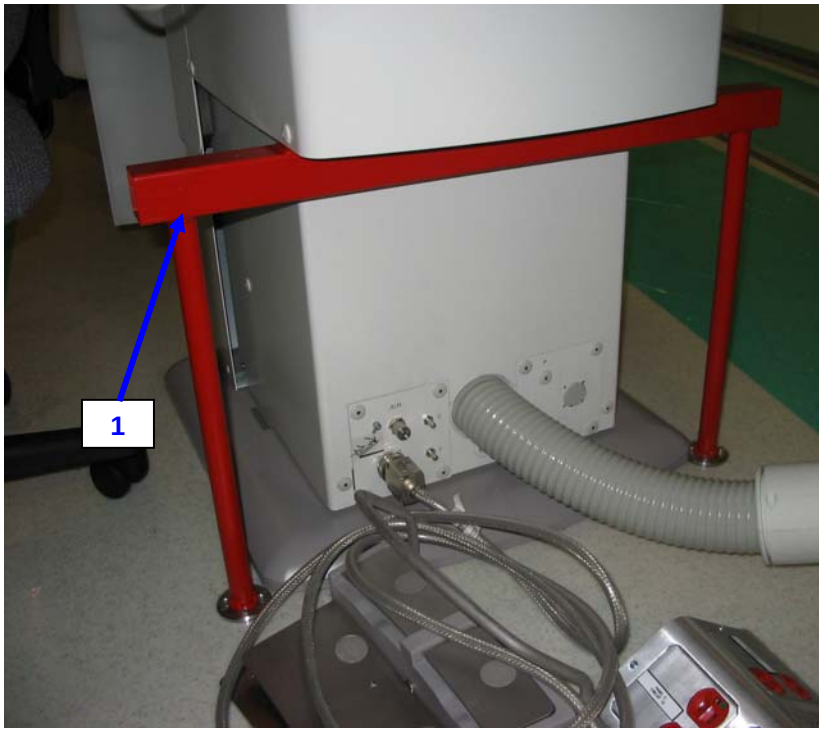


Figure 43: Table Base Support Bracket Installation

1. Insert the base support into the two holes near the foot end side of the table base.
2. Move table slowly and carefully down until it contacts the base support.

Unlock the Table Base Rotation (3)

As shown in the picture below, engage the table rotation hook section of the transport bracket onto the handle, which is normally used to unlock the table base rotation. The table base rotation is released continuously.

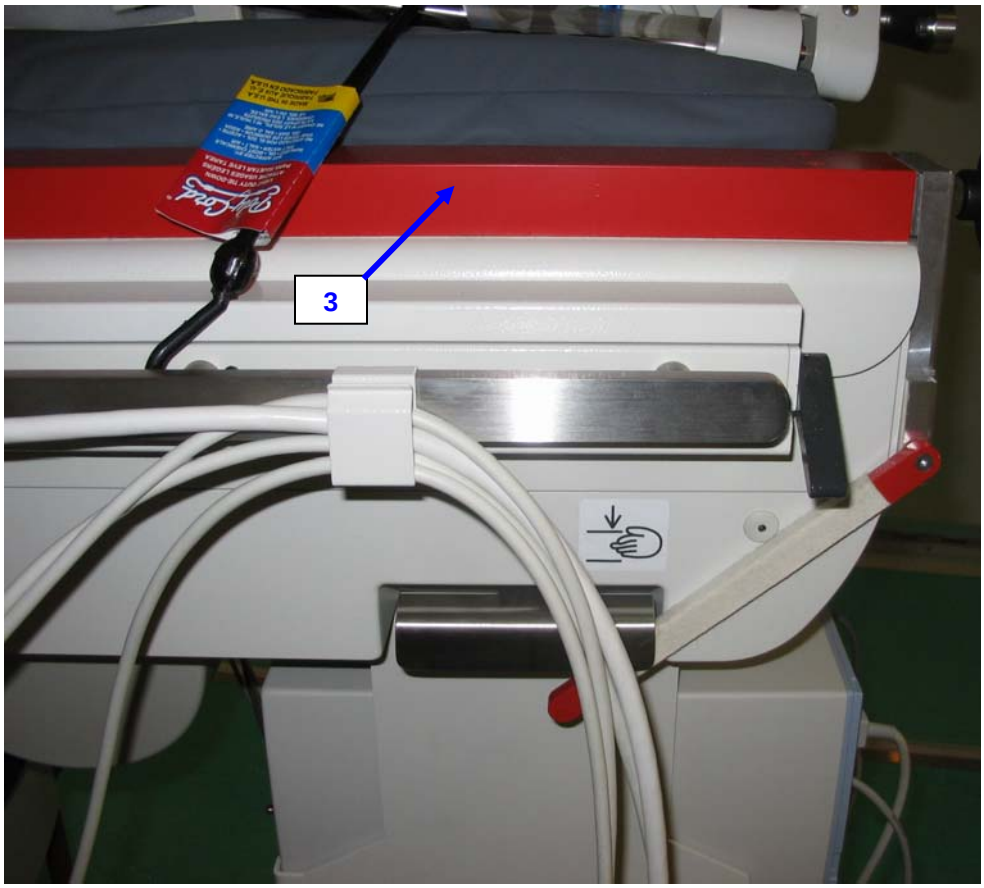


Figure 44: Table Base Rotation

Mount the U-shape clamp with rubber stops (2)

Mount the clamp on the C-Arm as shown in the pictures below and drive C-Arm into cranial end position.

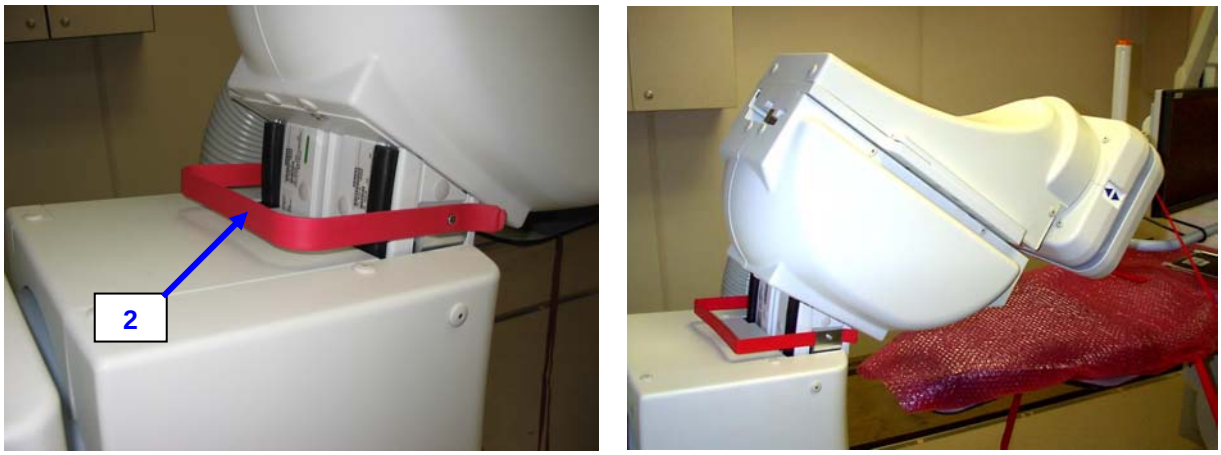


Figure 45: C-Arm Head Secured

Secure C-Arm Base Stand for transportation

Turn the wheel in order to press the stand against the floor, as shown below.

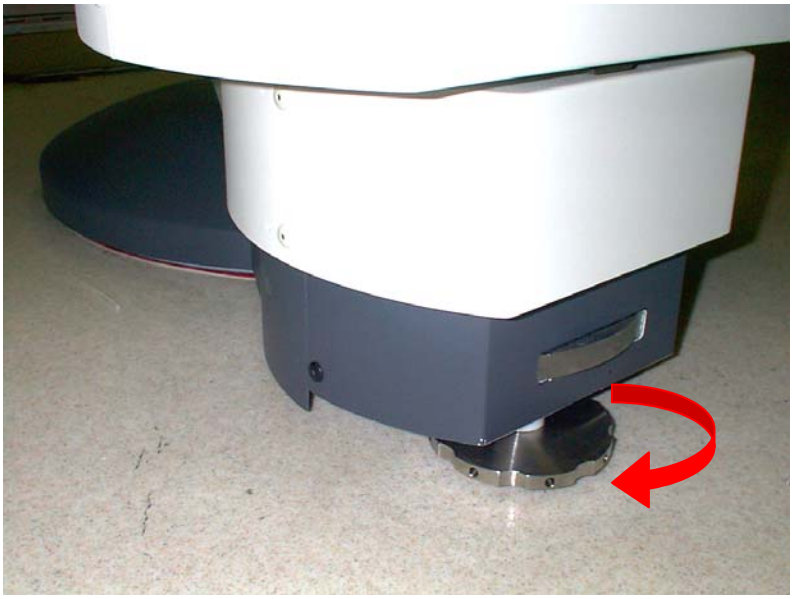


Figure 46: C-Arm Base Secured

Install the Tabletop Tie Down Bracket and Straps (6)

Secure the tabletop with the tabletop tie down bracket and straps as shown in the picture below. This is necessary, because the table base rotation is not engaged now. The strap has to be tight to prevent table rotation and keep tabletop braced.

Figure 47: Tabletop Tie Down Bracket Secured

Mount the transport lock for C-Arm (4)

1. First, insert the wedge (5) between C-Arm and floor. When doing so, please apply reasonable force only.
2. Then, install the transport lock (4) for the C-Arm itself. Secure it by screwing the two hand wheels into the two holes in the floor.

Figure 48: C-Arm Wedge and Lock

Securing the Control Modules and Injector Head

1. The table and stand control modules remain in the accessory rails.
2. Position the image system control module (ECC) with the foam and secure it with the belt as shown below. Position the Injector between the Control Module and the end of the table, as shown, and secure it in place using bungee straps.

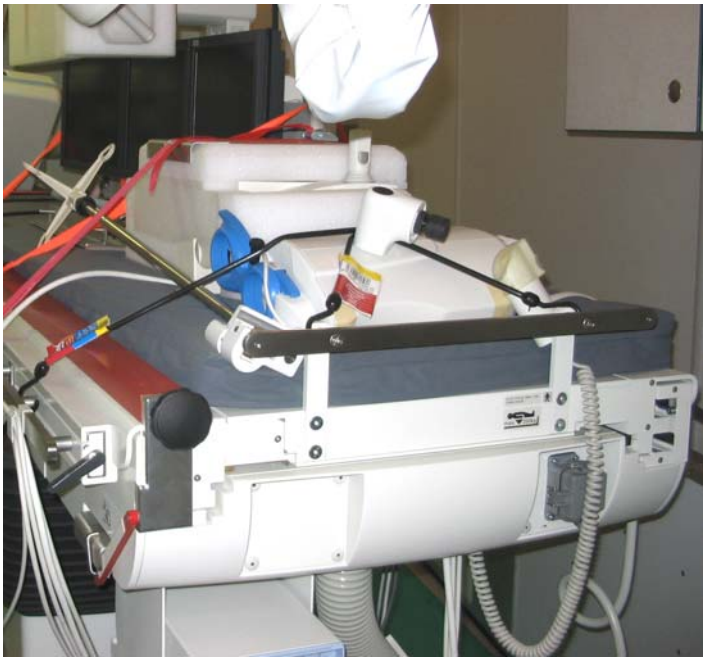


Figure 49: Control Module and Injector Secured

Securing the Monitor Suspension

Position the monitor suspension as shown in the left picture below, i.e., the locking bolt (white arrow in left picture and right picture below) must be underneath the corresponding locking disk on the ceiling. Grab the lever, pull it down while turning it clockwise and release it afterwards. Subsequently move the monitor suspension slightly transversally in order to let the bolt engage into the locking disk on the ceiling.

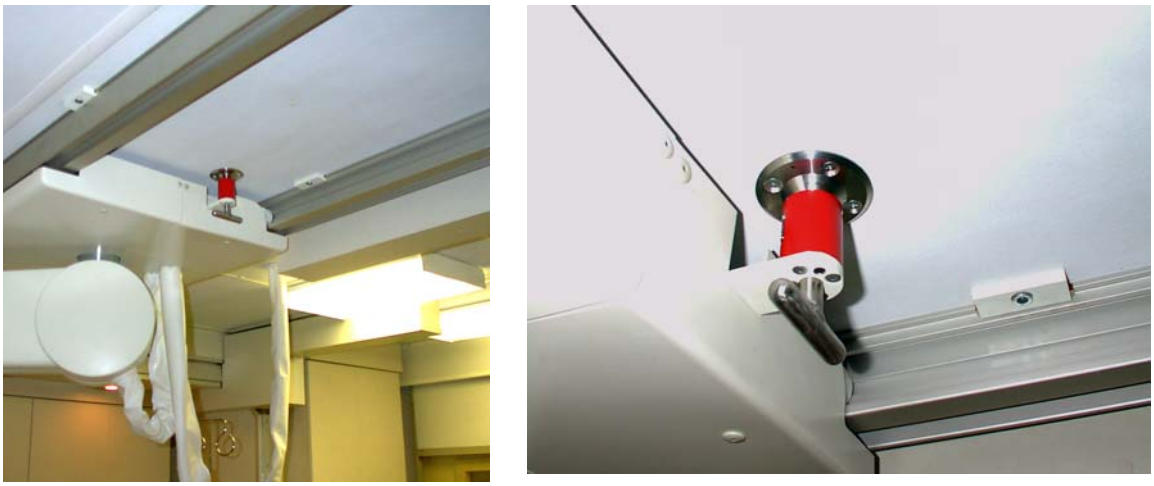


Figure 50: Monitor Suspension Secured

Securing the Monitors and Radiation Shield

With the Monitor Suspension secured, position the Monitors, as shown in the illustration below left, and secure in place with the foam block and ratchet straps provided.

Position the Radiation Shield, as shown in the illustration below right, insert the foam pad between the radiation shield and the monitor support and secure the radiation shield in place with bungee straps.

Figure 51: Monitors Secured

Securing the Monitors and Radiation Shield

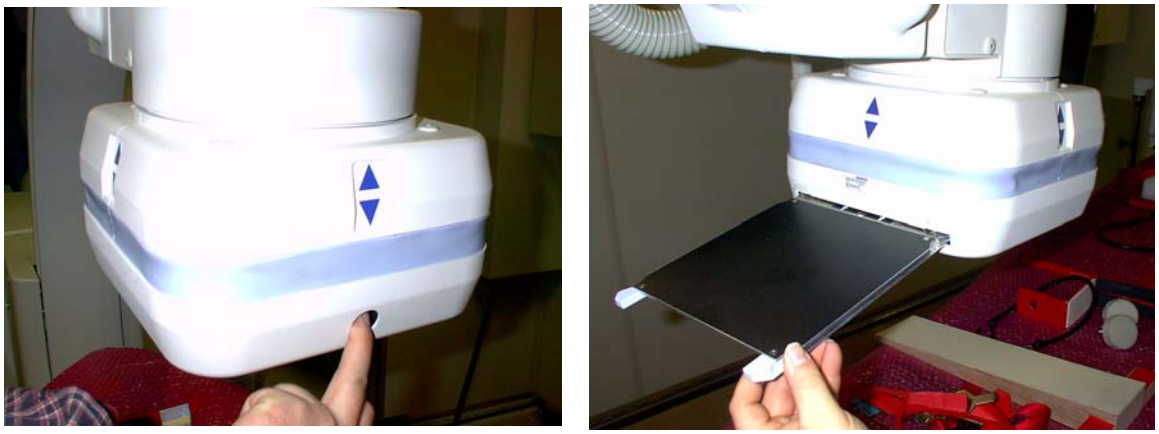
With the Monitors and Radiation Shield secured, position the Display Monitor, as shown in the illustration below and secure in place with the ratchet straps provided.

Figure 52: Display Monitor Secured

Figure 53: Radiation Shield Secured

Securing the Radiation Scatter Shield

1. Press the release button at the front side of the head to release the scatter shield on Digital Units or loosen the knurled fastener on Non-Digital Units.
2. Remove the scatter shield and place it in the reusable transport container.
3. Place the scatter shield, inside the reusable transport container, and store in a cabinet in the Procedure Room.



Scatter Shield (Digital Units)

Scatter Shield (Non-Digital Units)

Figure 54: Radiation Scatter Shield Secured

6.2 Secure Moveable Objects

For safety reasons, all equipment must be secured prior to transport of the mobile unit. Such equipment may consist of chairs, monitors, doors, and cabinets. Use the hardware provided to secure all moveable objects. Move the Procedure Room sliding door to its full open position and latch it in place.

Figure 55: Procedure Room Sliding Door Latch

6.3 Return Platform Lift to Transport Position

1. Lower the platform lift to the ground and remove the handrails.
2. Once the handrails have been removed, temporarily place them to the side.
3. Raise the lift to a maximum height and fold up to a vertical position.
4. Lower the lift into the retaining cradles. Ensure that the micro switch is actuated.
5. Insert locking pins.
6. Remove the pendent connector from the receptacle.
7. Store the pendent and handrails in the underbody storage compartments.

6.4 Retract Slide-outs

Before beginning the procedure outlined below, secure all medical equipment for transport and verify that nothing is in the way that might prevent the slide-outs from retracting.

Remove the air cylinder floor cover located on the floor in the right side slide out and stow in a cabinet for transport. See **Figure 56: Air Cylinder Floor Cover**.

Remove the air cylinder cover stow for transport See **Figure 57: Air Cylinder Cover**.

1. Ensure that the inner and outer patient door floor transitions plates are up and in the locked position. See **Figure 58: Patient Door Inner and Outer Floor Transition Plates Up and Locked** for location.

CAUTION Ensure that the inner and outer patient door floor transition plates and up and locked and the air cylinder cutout filler is removed before retracting the right side slide-out. Failure to do so could result in damage to equipment.

2. Verify all equipment and personal have been removed from the retracting floors.

Figure 56: Air Cylinder Floor Cover

Covers installed

Cover stowed for transport

Figure 57: Air Cylinder Cover

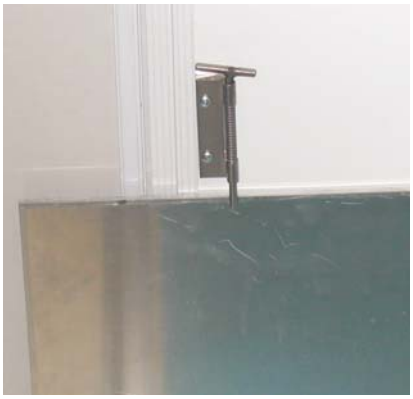


Figure 58: Patient Door Inner and Outer Floor Transition Plates Up and Locked

WARNING Stand clear of the moving slide-out section while extending or retracting the slide-out. Failure to do so could result in severe personal injury

CAUTION Make sure all the medical equipment is tied down and ready for transport before transport.

3. Locate the controls for the slide-outs. See **Figure 11: Procedure Room Controls** for location. (Item # 3)
4. The 3-position selector switch should be set to “Set-Up” position. See **Figure 11: Procedure Room Controls** for location.
5. Before retracting the right side slide-out extend the slide out to maximum extension, to relief floor pressure.
6. Retract the slide out about 3/4, latch the floor. **Note: The floor will lift from far to near first toward the control panel.**
7. Latch the right side slide-out floor for transport. See **Figure 20: Slide-out Floor Transport** for location.
8. Before retracting the driver side slide-out extend the slide out to maximum extension, to relief floor pressure.
9. Retract the slide-out and latch the floor. See **Figure 20: Slide-out Floor Transport**
10. Secure the slide-outs with the supplied locking bar.
11. Place 3-position selector switch to “TRANSPORT” position.

6.5 Switch from Shore Power to Generator Power

1. Move the shore power disconnect to the “OFF” position.
2. Once the shore power is in the “OFF” position, unthread the lock ring binding the connection together.
3. Remove the power cable from the shore receptacle and store in the underbody storage compartments.
4. The generator will automatically start and provide power to the unit.

6.6 Disconnect Phone and Data Lines

Disconnect any phone and data line connections and place the cables inside the underbody storage compartments.

6.7 Disconnect Fire and Code Blue Alarms

Disconnect Fire Alarm and Code Blue Alarm connections to the facility at the junction boxes inside the underbody compartment.

6.8 Disconnect the Water / Waste Hoses

On the left side exterior of the mobile unit a water connection can be found. This connection is located on an underbody compartment door. Be sure to fill the fresh water tank prior to disconnecting the fresh water supply. The fresh water tank must be filled on a daily basis.

1. Verify that the fresh water tank is full.
2. Turn off the water supply at the facility provided faucet.
3. Disconnect the hose from the faucet.
4. Remove the hose from the connection on the mobile unit.
5. Using the provided flap, cover the connection on the mobile unit.
6. Coil the hose and store in the underbody compartments.
7. With the wastewater hose still connected, drain the wastewater tank.
8. After the tank has drained, close the valve located in the underbody compartment above the wastewater connection.
9. Return the wastewater hose to the underbody compartment.

6.9 Disconnect the Fire Suppression Water Supply

On the left side exterior of the mobile unit a water connection can be found. This connection is located on an underbody compartment door.

1. Turn the water supply “OFF” at the facility.
2. Remove the cap from the purge line and open the purge valve to drain the system.
3. Remove the supply line from the unit to bleed remaining water from the system.
4. Cap off the purge and supply line fittings for transport.

6.10 Remove and Store the Stair Assembly

Before removing the stair assembly, check the interior of the unit one last time to verify that all equipment is secure and ready for transport. The instructions are covered below.

Standard Stair System

1. Close and lock the staff door with the key that is provided.
2. Open the door to the underbody storage compartment.
3. Loosen the hardware holding the handrails in place. Remove the handrails from the stair assembly.
4. Lift the clip of the stair assembly up and away from the channel that is located underneath the staff door.
5. Place the stair assembly on the ground.
6. Using the sole of your shoe, step on the spring loaded release to retract the adjustable legs on each side of the stair assembly.
7. Place the stair assembly and handrail inside of the underbody storage compartment and close the compartment door.

Stair Assembly with the Platform (Optional)

1. Close and lock the staff door with the key that is provided.
2. Open the door to the underbody compartment.
3. Release the handrails from their operating positions by loosening the hardware provided. Place the handrails to the side.
4. After the handrails have been removed, the stair assembly can be safely removed from the channel located on the platform.
5. Place the stair assembly to the side.
6. Remove the adjustable legs that were used with the stair assembly.
7. While one person holds the platform in place, another person should remove the adjustable legs that were used to support the platform. Place the adjustable legs to the side.
8. Both people should lift the clip of the platform from the channel located beneath the staff entry door.
9. Place the platform inside of the underbody compartments.
10. Place the stair assembly into the underbody compartments.
11. Place the handrails into the underbody compartments.
12. Close the underbody compartment door.

6.11 Raise the Auxiliary Support Legs.

1. All the auxiliary support legs must be returned to their original position before the stabilizing legs can be raised. Please follow the procedure listed below.
2. Lift the safety leg so that the retaining pin can be placed in the lowest hole available thereby lifting the safety leg as high as possible.
3. Repeat this procedure for the remaining auxiliary support legs

6.12 Raise the Rear Stabilizing Legs

1. Hold the pump switch in the “PUMP ON” position or, if applicable, turn the key switch to the “ON” position.
2. Push lever 2 towards the control box until the leg is fully retracted.
3. Push lever 1 towards the control box until the leg is fully retracted.
4. If applicable, turn the key switch to the “OFF”.

6.13 Connect the Tractor to the Mobile Unit

Before connecting the tractor to the mobile unit, be sure that enough clearance has been left for the fifth wheel. If the fifth wheel cannot fit under the mobile unit, raise the front of the unit until the fifth wheel has enough clearance. After the tractor has been connected to the mobile unit, the air and electrical lines can also be connected. Turn “ON” the transport warning strobe light switch.

6.14 Raise the Front Stabilizing Legs

1. Now that the tractor has been placed under the unit and the air and electrical lines have been connected, the front stabilizing legs can now be raised.
2. Hold the pump switch in the “PUMP ON” position or, if applicable, turn the key switch to the “ON” position.
3. Push lever 4 towards the control box until the leg is fully retracted.
4. Push lever 3 towards the control box until the leg is fully retracted.
5. If applicable, turn the key switch to the “OFF”.

6.15 Verify that the Air Ride Control Switch is “OFF”, Normal Ride Position

The air ride control switch is located in the underbody storage compartment on the stabilizing leg control box. Place the Air Ride Suspension control switch in the “OFF” position (normal ride position) to enable the system.

⚠ CAUTION The air ride control switch must be in the normal ride position before the mobile unit can be transported. If the switch is not in the normal ride position, serious damage can occur to the mobile unit.

6.16 Verify Slide-outs, Doors, Platform Lift, and Stairs in Proper Transport Position

After the tractor has been connected and the front legs have been raised, a final sweep of the unit is necessary. At this time, verify that the platform lift is in the transport position with the locking pins engaged, verify that all the doors are closed and locked, Stairs are stowed, underbody compartments are closed and locked, and that the slide-outs are fully retracted.

6.17 Check all Warning Lights

The final step before transporting the mobile unit is to check and verify that no warning lights are illuminated. If illuminated, investigate to determine the cause. Ensure that the transport warning strobe is “ON”.

Section 7: Electrical System

WARNING Use and follow the appropriate Lockout/Tagout procedures as required by OSHA Standard 1910.147 when performing maintenance or servicing any electrical, hydraulic or pneumatic systems. See Appendix E for Lockout/Tagout procedures.

WARNING Before connecting or disconnecting from shore power, it is imperative that the shore power connections be moved to the “OFF” position. Failure to do this can result in injury or death to the operator of the mobile unit.

WARNING It is the operator’s responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.

IMPORTANT Snubbers have been added to various electrical sub-systems in order to eliminate scanner image problems.

7.1 Electrical Specifications

The entire electrical system is installed in conformance with the National Electric Code.

The system is completely installed in the factory. Service access is gained through the underbody compartments of the mobile unit with thin wall conduit and/or wire-mold sized to accept the required service entrance conductors used throughout the mobile unit.

All electrical materials, devices, appliances, fittings, and other equipment are approved and listed by Underwriters’ Laboratories, Inc. (UL).

All required tags, labels and rating nameplates are permanently installed in their proper locations before the mobile unit leaves the factory.

7.2 Facility Power Connection

Although the shore power connection in not an actual physical feature of the mobile unit, it is an integral part of the daily operations.

Circuit Breaker	
Manufacturer:	Facility provided
Ampere Rating:	150 A disconnect

Receptacle	
Manufacturer:	Russellstoll
Model:	DF2504 FRAB0
Ampere Rating:	200 A

Figure 59: Shore Power Connection

Oshkosh Specialty Vehicles Connector:	The plug that is provided by Oshkosh Specialty Vehicles for connection to the shore power receptacle.
Connector Lock Ring:	Secures the connections.
Power Cable:	The cable that runs between the shore power connections and the 480V AC electrical panel.
Shore Power Disconnect:	The shore power disconnect terminates the power to the receptacle. This must be in the “OFF” position when connecting to the receptacle.
Shore Power Receptacle Outlet:	The receptacle outlet that the shore facility has installed for use with the Oshkosh Specialty Vehicles connector and power cable.
Shore Power Unit:	The complete shore power assembly.

7.3 Power Cable

Descriptions:	Specifications
Service Amps:	150 A
Plug:	Russellstoll; DS2504 MP000/DF2032, 600V AC, 200 A
5 Wire:	5 pole
Cable:	P-116 MSHA, 150 A, a #1/0 4 conductor type G, 600V – 2000V, 90° C, 45'-0" long

Figure 60: Power Cable

7.4 Automatic Transfer Switch (ATS)

The ATS will automatically transfer to Shore Power when connected to a viable power supply and shut down the generator unit. In the event of a Shore Power fault, the ATS will automatically start the generator unit and transfer power to the generator. The control panel located in the underbody compartment is used to monitor and test the system. Refer to **Figure 61: 480V AC ATS and Phase Power Monitor**.

Figure 61: 480V AC ATS and Phase Power Monitor

7.5 Phase Power Monitor (underbody)

WARNING Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.

The Phase Power Monitor checks the incoming shore power to ensure that it has the correct phase rotation (ABC) and that all three phases are present. If all three phases are present and in the correct rotation, the 480 VAC Light, on the monitor, will illuminate.

If any phase is not present or if the phase rotation is not correct, the 480 VAC Fault Light will illuminate, a piezo-electric horn will sound and a flashing strobe light on the front of the unit illuminates. Disconnect shore power immediately and investigate to determine the cause of the fault.

Figure 62: 480V AC Phase Power Monitor

7.6 Normal Power Circuit

If required by local code, a normal power receptacle is provided on the left side exterior of unit.

This receptacle provides power too one (1) double duplex receptacle and one (1) Florescent light fixture located inside the Cath procedure room.

If there is loss of internal power, an extension cord can be connected to the power receptacle from an outside power source.

Figure 63: Power Receptacle/Light/Light Switch

Power receptacle.

Florescent light

Light switch-Florescent light

Section 8: Generator

WARNING Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.

WARNING Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.

WARNING Be certain to disconnect the power before working on any of the electrical systems.

WARNING Before connecting or disconnecting from shore power, it is imperative that the shore power connections be moved to the “OFF” position. Failure to do this can result in injury or death to the operator of the mobile unit.

WARNING It is the operator’s responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.

CAUTION Always inspect the power cable, connectors, and fasteners prior to usage. If during inspection, it is suspected that either internal or external damage has occurred, have a certified electrician inspect and repair the damage before using.

CAUTION The medical system requires the HVAC system to be supplied power at all times. Generator power is used while the mobile unit is being transported, and shore power can be used while the mobile unit is in the parked position.

IMPORTANT When servicing the unit be certain that a first aid kit and fire extinguisher are within reach at all times.

The mobile unit is equipped with a generator that is mounted on the front of the unit in its own housing compartment. The generator supplies power to the unit during transport. Unless the full support generator has been selected, the generator cannot be used for performing medical procedures aboard the mobile unit.

If the full support generator has been selected, then the generator will also be able to power the medical system so the medical procedures can take place when shore power is unavailable.

The generator oil, as well as the oil filter, air filter, and fuel filter must be changed every 250 hours or six months of service, whichever comes first. The number of hours the generator has been in operation can obtained by checking the microprocessor located on top of the staging unit in the generator compartment.

Once a year the fuel separator should be checked for contamination and accumulation.

For additional information, refer to the Oshkosh Specialty Vehicles Vol II Vendor Information binder for the product manual.

Figure 64: Generator

120V AC Power Outlet:	An additional outlet has been provided for the operator of the mobile unit to be used if needed.
Air Filter:	The air filter is responsible for removing all contaminants from the generators air supply.
Battery:	The battery is used to start the generator.
Fuel Filter:	The fuel filter is responsible for removing all contaminants from the fuel supply.
Fuel Pump:	Supplies the generator with fuel from the fuel tank.
Generator Motor:	The actual motor of the generator.
Microcomputer:	The microcomputer provides the operator with information that is needed for service purposes.
Oil Filter:	The oil filter is responsible for removing all contaminants form the oil supply.

8.1 Generator Stop / Start Selector

The selector switch that controls the “Stop” and “Start” settings of the generator can be found on the ATS control panel. The control panel located in the underbody compartment is used to monitor and test the system. Refer to **Figure 24: ATS Control Panel**.

When the generator is to be started, the selector switch must be in the “Start” position. When the generator is to be stopped, the selector switch must be in the “Stop” position. Once the selector has been moved to the “Stop” position, the generator will enter into a five (5) minute cooling phase. When the phase has completed, the generator will stop. Do not attempt to stop the generator by repeatedly moving the selector to the “Stop” position.

NOTE: If the Stop/Start Selector switch is in the “Stop” position, the generator will NOT start and assume the load in the event of a shore power fault.

NOTE: The generator Stop / Start Selector switch is not available on later units.

Section 9: Humidity System

CAUTION All settings for the humidity system are preset at the factory. Under no circumstances should factory presets be altered.

CAUTION Proper humidity levels must be maintained to protect sensitive electronic equipment.

The humidifier is responsible for maintaining the humidity levels within the mobile unit. The settings for the humidifier are set to meet the medical system manufacturers' specifications. Under no circumstances should the settings of the humidifier be altered. In order for the humidifier to function properly, the water tank level must be maintained at all times.

Figure 65: Humidifier (Typical)

Exterior Fill:	The exterior fill connection must be used to allow the mobile unit water supply tank to be filled.
Humidifier:	The humidifier provides the required humidity to the mobile unit per the medical manufacturer's requirements.
Humidity Controller:	The humidistat is responsible for the internal humidity of the mobile unit. The setting is preset at the factory to comply with the medical system manufacturers requirements.
Humidity Sensor:	Maintains an accurate reading of the humidity levels inside of the mobile unit.
Overflow Drains:	If by chance the water tank is over filled, overflow drains are provided. The drains lead through the floor to the exterior of the mobile unit.
Water Supply Tank:	The water tank stores water for the humidifier and can be found in the underbody compartment.

9.1 System Operation

The humidifier system is capable of producing up to 12 pounds of steam per hour, at 15 amps. A sensor continually monitors the interior of the mobile unit for relative humidity. This sensor is located in the HVAC return duct and is programmed to keep the relative humidity at 40%. If the humidity drops below the set point, the humidifier is signaled to emit more steam. The humidifier creates steam when electrodes in the steam cylinder of the humidifier vaporize the supplied water. The steam then travels through a hose to a distribution pipe located in the return air duct of the HVAC system. Since the steam is injected into the return duct of the HVAC system, both A/C units are supplied with humidified air for distribution throughout the interior of the mobile unit. An air pressure switch is located in the HVAC discharge duct that is interlocked to the humidifier. If for any reason the airflow is disrupted, the humidifier will shut down. When the sensor detects that relative humidity has been reached, a signal is sent to the humidifier to stop it from creating more steam. If the humidity inside of the mobile unit becomes too high or to low, the “Humidity Warning” light will illuminate on the system panel. If this happens, please refer to **Appendix B: Troubleshooting** of this manual.

9.2 Water Supply

Water is supplied to the humidifier by means of an onboard water supply tank. The water supply tank can only be filled from the outside of the mobile unit. Plumbing connections at the humidifier are as follows:

A ¾” male threaded garden hose connection is located on the underbody compartment door of the mobile unit, on the left side.

One 0.5” outer diameter PVC drain line from the steam cylinder for automatic drain cycles. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

One 0.5” outer diameter PVC drain line from the humidifier cabinet. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

One 0.5” outer diameter PVC overflow drain from the water supply tank. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

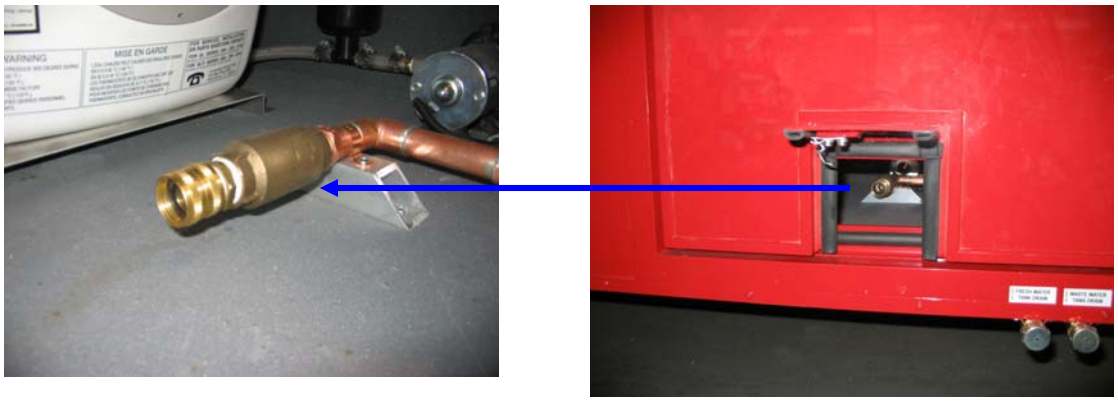


Figure 66: Humidifier External Water Connection

9.3 Humidity Controller

CAUTION All settings for the humidity system are preset at the factory. Under no circumstances should factory presets be altered.

The humidity controller is located in Equipment Room above the 480V AC Distribution Panel. The relative humidity setting for the mobile unit is 35%. The humidifier must not be altered from its factory setting.

Figure 67: Humidity Controller

9.4 Humidity Settings

CAUTION All settings for the humidity system are preset at the factory. Under no circumstances should factory presets be altered.

The humidity low set point is 30% RH (relative humidity).

The humidity high set point is 60% RH (relative humidity).

9.5 Electrical Connections

Electrical connections at the humidifier are located on a terminal rail behind the cover of the humidifier.

The distribution panel supplies the required 480V AC power via a 15 amp, 3-phase breaker.

A humidistat is connected to the humidifier via a controlling transformer cable. The connection at the humidifier is on the #1 and #2 terminations on control terminal block.

9.6 Instructions

The HVAC system along with the humidifier is set to the required settings per the medical equipment manufacturer's specifications before leaving the factory. Under no circumstances should the settings be altered from their factory specifications.

For additional information, refer to the Oshkosh Specialty Vehicles Vol II Vendor Information binder for the product manual.

Section 10: HVAC System

CAUTION The HVAC system is critical to the operation and the life of the medical system. The medical system operates within strict specifications regarding temperature and humidity. All aspects of the HVAC system such as damper settings, venting, component set points, and sensor placement are adjusted for optimum operation. Under no circumstances should these settings be altered.

CAUTION The medical system requires the HVAC system to be supplied power at all times. Generator power is used while the mobile unit is being transported, and shore power can be used while the mobile unit is in the parked position.

10.1 Introduction

Two air conditioning units are used to maintain the internal environment of the mobile unit. Both air conditioners come from the factory preset to the specifications required by the medical system manufacturer. Under no circumstances should the factory presets be changed or altered from their factory setting. Irreparable damage can occur to the medical system if this is done.

The HVAC system is designed specifically to maintain only the internal environment of the mobile unit. The HVAC system is not designed to handle areas outside of the mobile unit, such as adjoining corridors or hallways. It is important to be sure that the computer doors, partitions, and damper settings are in the intended positions before running the medical system. Do not attempt to store boxes or any other items in the equipment room, as this will disrupt the intended airflow requirements.

10.2 System Specifications

The air conditioning and heating systems utilize forced air with electricity as the source of power. The entire system is designed and installed in full conformance with all applicable codes. The system is completely installed at the factory.

Heat producing appliances must be approved by U.L. and/or C.S.A., and must be installed in accordance with the terms of their listing. Air ducts are constructed of approved materials in conformance with all applicable codes. Air conditioning and heating registers are installed in accordance with the approved plans. Return air is provided as required and is in full conformance with all applicable codes.

Warning and identification labels as required are installed at the factory.

10.3 System Descriptions

Two separate and individually controlled units control air conditioning and heating for the mobile unit. The total air conditioning capacity provided by the two units is 96,000 BTUH. The heating capacity is 30 KW.

10.4 Air Conditioning Unit #1

Unit Specifications

A 48,000 BTUH high efficiency unit controls both the equipment room and procedure room. For further information than what is provided below, please see the specification tables located in the owner's manual for more information.

Cooling Capacity:	48,000 BTUH
Heating Capacity:	15 KW as needed
Air Temperature at coils:	50º F

Air distribution

The air conditioner/heater located on the rear right side of the mobile unit is responsible for the equipment room and procedure room environments, maintaining a temperature of 72ºF.

Conditioned and/or heated air is distributed through a duct, which starts at the discharge side of the air conditioner and ends at the procedure/control room partition wall. Air is introduced into the equipment room and procedure room vents on the 1/3 of the mobile unit. Approximately 1,800 CFM of cooling (with filter) is blown from the discharge duct of the air conditioning unit.

CAUTION Air distribution vents are adjusted at the factory for proper airflow. Do not tamper with the vent louvers.

CAUTION On board air conditioners are sized to handle only the heat load of the mobile unit. Avoid leaving access doors open.

Air Return

Air is returned to the air conditioning/heating unit via ceiling vents located in the center of the room. Each duct is strategically placed over the equipment for adequate ventilation. Air is routed back to the air conditioner unit through a return duct. This return air duct is located in the center 2/3 of the mobile unit and extends from the plenum to the front wall of the mobile unit.

Filtering

A 15" x 20" x 1" fiber core air filter is provided at the air return duct of the air conditioning/heating unit. This filter provides dust free air throughout the equipment room. The filter is accessible through an access door on the front of the plenum. A second 90% efficient air filter has been added mid duct to ensure a dust free environment.

Controller

A dual-stage heating controller is provided to regulate heat induction. The controller incorporates two preset sensors, which activate heat strips in the air conditioning unit. This unit incorporates two-stage heat. A preset sensor in the controller activates the first stage of heat when the temperature drops below 75ºF. If the temperature continues to drop, a second sensor will activate another heat strip when the temperature drops below 72ºF. Conversely, the sensors will deactivate the heat strips when the temperature rises above the preset specifications. The controller is located on the plenum wall at the rear side of the mobile unit. The controller is powered by a 24V terminal block located in the offside air conditioning unit and is wired with a standard 5c thermostat wire.

10.5 Air Conditioning Unit #2

Unit Specifications

A 48,000 BTUH high efficiency unit controls both the control room and extra room while also supporting the procedure room. For further information than what is provided below, please see the specification tables located in the owner's manual for more information.

Cooling Capacity:	48,000 BTUH
Heating Capacity:	15 KW as needed
Air Temperature at coils:	50ºF

Air distribution

The air conditioner/heater located on the rear right side of the mobile unit is responsible for the control room, extra room, and additional support for the procedure room environments, maintaining a temperature of 72ºF.

Conditioned and/or heated air is distributed through a duct, which starts at the discharge side of the air conditioner and ends at the procedure/control room partition wall. Air is introduced into the equipment room and procedure room vents on the 1/3 of the mobile unit. Approximately 1,800 CFM of cooling (with filter) is blown from the discharge duct of the air conditioning unit.

⚠CAUTION Air distribution vents are adjusted at the factory for proper airflow. Do not tamper with the vent louvers.

⚠CAUTION On board air conditioners are sized to handle only the heat load of the mobile unit. Avoid leaving access doors open.

Air Return

Air is returned to the air conditioning/heating unit via ceiling vents located in the center of the room. Each duct is strategically placed over the equipment for adequate ventilation. Air is routed back to the air conditioner unit through a return duct. This return air duct is located in the center 2/3 of the mobile unit and extends from the plenum to the front wall of the mobile unit.

Filtering

A 15" x 20" x 1" fiber core air filter is provided at the air return duct of the air conditioning/heating unit. This filter provides dust free air throughout the equipment room. The filter is accessible through an access door on the front of the plenum. A second 90% efficient air filter has been added mid duct to ensure a dust free environment.

Controller

A dual-stage heating controller is provided to regulate heat induction. The controller incorporates two preset sensors, which activate heat strips in the air conditioning unit. This unit incorporates two-stage heat. A preset sensor in the controller activates the first stage of heat when the temperature drops below 75ºF. If the temperature continues to drop, a second sensor will activate another heat strip when the temperature drops below 72ºF. Conversely, the sensors will deactivate the heat strips when the temperature rises above the preset specifications. The controller is located on the plenum wall at the rear side of the mobile unit. The controller is powered by a 24V terminal block located in the offside air conditioning unit and is wired with a standard 5c thermostat wire.

10.6 Air Conditioning Filter Differential Pressure Sensors

Two Magna-Helix gauges, found above the electrical in the equipment room, indicate the differential pressure across the air conditioning filters. When indicated differential pressure reaches 5 inches of water, the filters need to be replaced.

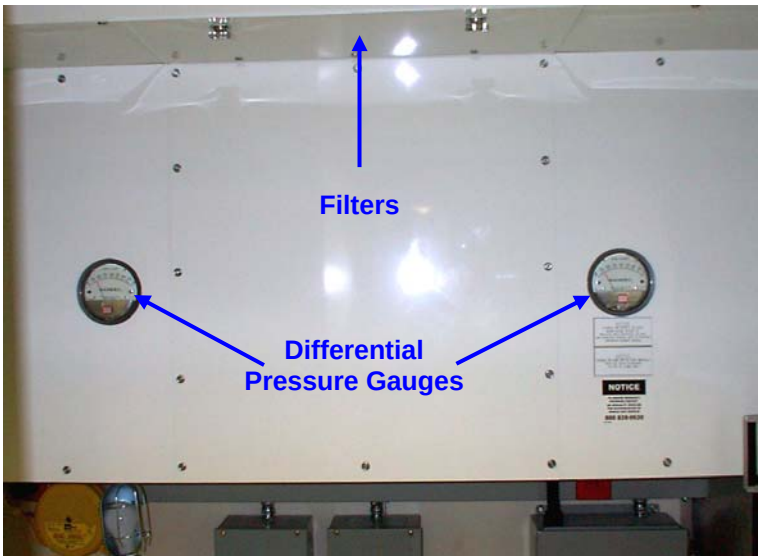


Figure 68: Differential Pressure Gauges

Section 11: Platform Lift

The mobile unit contains a Platform lift that is used to move personnel and equipment from the ground level to the floor level of the mobile unit. The Platform lift has a maximum capacity of 2000 and a maximum height of 52”.

In the illustrations below, the Platform lift can be seen in various stages.

These pictures are meant to represent the Platform lift in different stages.

Transport Position

Deployed

w/Handrail

Lowered

Figure 69: Platform Lift

In the illustrations below, the retaining cradle is shown. In the illustration, the transport pins can also be seen. The transport pins are to be used when transporting the mobile unit. The transport pins will prevent the platform lift from leaving the retaining cradles during transport. Failure to use the transport pins can result in damage to the mobile.

In the following illustrations, the lift pocket micro switch can also be seen. The Transport Pin micro switches cannot be seen. The micro switches are connected in series to Control Relay 1 (CR1). If CR1 is not energized the transport warning light will illuminate and a strobe light will flash if emergency air is connected to the trailer. These devices are used to notify the operator of the platform lift status during transport. CR1 also removes power from the lift hydraulic system when all three micro switches are actuated.

Platform Lift

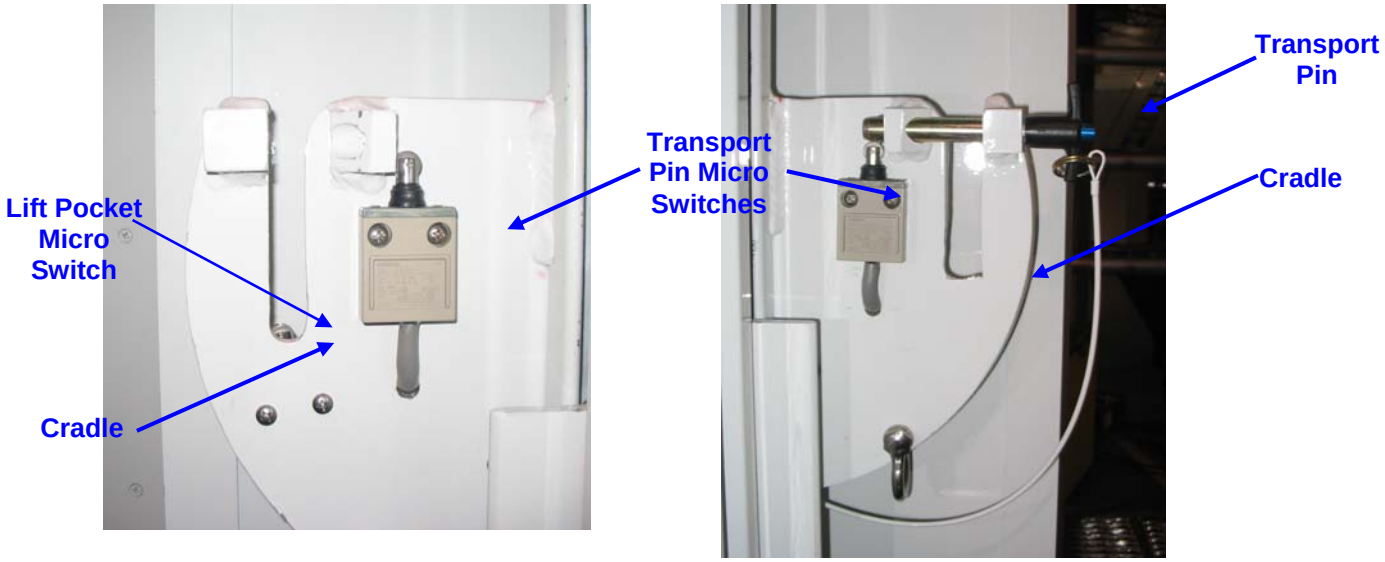


Figure 70: Platform Lift Retaining Cradles

11.1 Safety Features

The platform lift has several built in safety features that are designed to provide worry free operation and transportation.

Transport Pins

CAUTION Failure to release the transport pins for the platform lift can result in structural damage to the mobile unit.

Transport pins have been provided for use with securing the platform lift. These pins must be used when the mobile unit is being transported. Failure to use these pins could result in structural damage to the mobile unit.

Lift Controls

The platform lift controls are located on the exterior of the mobile unit next to the roll door. The lift controls, including the remote control pendent, operate with open contacts. This means that in order for the platform lift to be moved upwards or downwards, the control must be held in the desired position.

Handrails

The platform lift is supplied with handrails designed to provide an additional margin of safety for personnel being raised or lowered by the lift. The handrails must be installed and properly latched in place prior to raising or lowering personnel on the lift.

WARNING It is the Operator's responsibility to ensure that the handrails are properly installed and latched in place prior to raising or lowering personnel on the lift. Failure to do so could result in serious personal injury or death.

Lift Up Indicator Light

On the control panel located inside of the mobile unit, a separate set of controls can be found to operate the roll door. On this panel is a small green indicator light. When the lift is in the raised position the indicator light will illuminate.

WARNING It is the Operator's responsibility to ensure that the roll door is not opened unless the lift is in the raised position. Failure to do so could result in serious personal injury or death.

The roll door should not be opened unless this light is on. This light is designed to prevent the operator or other personnel from inadvertently stepping out of the roll door when the platform lift is not raised.

Remote Control Pendent

A remote control pendent is included for use with the platform lift. The pendent plugs into a jack located between the staff door and the platform lift roll door behind the lift control panel. The pendent has an expandable cord that allows the operator to be on or near the platform lift while it is in operation. The remote control pendent works off the 12V DC power system.

Figure 71: Remote Control Pendent

Transport Warning Light

WARNING If the Transport Warning Light is on, the mobile unit must not be moved. If the mobile unit is moved while this light is on, irreparable damage to the mobile unit, serious injury or death can occur.

The Transport Warning Light is located on the exterior left side of the mobile unit and will illuminate when the platform lift is not in the proper transport position. It is the Operator's responsibility to ensure that the Transport Warning Light is functioning properly and that the bulb element is in working order. Please refer to the Oshkosh Specialty Vehicles VOL I Operator and Service binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for the product manual.

Transport Warning Strobe Light

WARNING If the Transport Warning Strobe Light is flashing the mobile unit must not be moved. If the mobile unit is moved while this light is flashing, irreparable damage to the mobile unit, serious personal injury or death can occur.

The Transport Warning Strobe Light is located on the exterior left side of the mobile unit and will illuminate when the platform lift is not in the proper transport position. It is the Operator's responsibility to ensure that the Transport Warning Light is functioning properly and that the bulb element is in working order. Please refer to the Oshkosh Specialty Vehicles VOL I Operator and Service binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for the product manual.

Lift Transport Restraining Cable

The lift Transport Restraining Cable, when installed and connected securely, is designed to provide a stop gap measure to prevent the lift from falling to the horizontal position should the lift be improperly stowed.

11.2 Hydraulic System

An internal hydraulic cylinder controls the movement of the platform lift. The cylinder is located in the compartment below the roll door.

Operation

When the "UP" function has been selected for the platform lift, the pump is activated and fluid is moved from the reservoir through the valve block to the hydraulic cylinder. This causes the lift to move upward. When the "DOWN" function has been selected for the platform lift, the pump is not activated, but the fluid is moved from the hydraulic cylinder through the valve block to the reservoir. This causes the platform lift to descend.

11.3 Platform Lift Operation

The platform lift can be operated with the remote control pendent, the exterior lift controls, or the interior lift controls. The lift can be raised or lowered with these controls. In order to deploy the platform lift when setting up the mobile unit, or to place the platform lift in its storage position for transporting the mobile unit, refer to the steps outlined below. This same information can also be found under the setup and transport procedures for the mobile unit.

Deploying the Platform Lift for use with the Mobile Unit

⚠ CAUTION Failure to remove the transport pins from the platform lift can result in structural damage to the mobile unit.

After the stair assembly has been installed and the slide-outs have been extended, the platform lift can be deployed for use.

1. Open the underbody compartment doors.
2. Remove the handrails and lift pendent, and place them to the side for now.
3. Close the underbody compartment door.
4. Insert the connector from the lift control pendent into the receptacle located next to the staff entry door.
5. Remove the Lift Transport Restraining Cable.
6. Remove the transport pins.
7. Using the remote, raise the lift high enough to clear the cradles.
8. Carefully pull down the platform until it is parallel with the ground. A torsion bar is located within the platform lift hardware that will enable one person to move the lift into operating position.
9. Using the lift control pendent, lower the platform to the ground.
10. Once the platform has been lowered, install the handrails and secure them with the hardware provided.

Storing the Platform Lift for Transport of the Mobile Unit

After the slide-outs have been retracted, the platform lift can be stored for transport.

1. Lower the platform lift to the ground.
2. Remove the restraining hardware and handrails and temporarily place them to the side.
3. Raise the lift to a maximum height and fold the lift upwards to a vertical position. A torsion bar is located within the platform lift hardware that will enable one person to move the lift into the transport position.
4. Lower the lift so that it rests securely in the retaining cradles. Make sure that the micro switch is actuated.
5. Insert the transport pins into their transport positions. . Make sure that the micro switches are actuated.
6. Connect the Lift Transport Restraining Cable securely in place.
7. Remove the remote control pendent from the socket and lock the access door to the platform lift controls.
8. Open the underbody compartment door and store the remote control pendent and handrail assembly in the underbody storage compartment.

Section 12: Landing / Stabilizing Legs

CAUTION

Under no circumstances should the stabilizing legs and the rear air suspension be used to lift the mobile unit from the ground. If any attempt is made to raise the unit from the ground using the only the stabilizing legs and the rear air suspension, serious damage can occur to the suspension system of the mobile unit.

Both the landing / stabilizing legs and the auxiliary support legs can be found at the front and rear of the unit. The landing / stabilizing legs installed on this mobile unit are only for the purpose of parking and stabilizing the mobile unit. For additional information, please refer to the OEM supplied literature. The literature can be found in the product information binders that have been included with the mobile unit.

Figure 72: Landing / Stabilizing Leg Assembly

Stabilizing Leg Controls:	The control box houses the stabilizing leg controls.
Stabilizing Leg:	Allows the mobile unit to be parked without the tractor being attached to the unit.
Air Ride Control Switch	“ON” position deflates the air bags. “OFF” position for normal ride.
Digital Levels:	Allows the mobile unit to be leveled both front to back and side to side.
Lever 1:	Controls the Rear Right side leg.
Lever 2:	Controls the Rear Left side leg.
Lever 3:	Controls the Front Right side outboard leg.
Lever 4:	Controls the Front Left side outboard leg.
Lever 5:	Controls the Front Left side inboard leg
Lever 6:	Controls the Front Left side inboard leg.

Pump ON / OFF Switch or Key Switch	The switch must be held in the ON position when extending or retracting the legs. The Key switch must be moved to the OFF position when finished.
Auxiliary Support Legs:	The auxiliary support legs provide a fixed leg for use as a backup in case the stabilizing legs fail.
Sand Shoe:	Helps prevent the stabilizing legs from sinking due to weight.

12.1 Rear Stabilizing Legs

The stabilizing legs and auxiliary support legs at the rear supports of the mobile unit, and allow the mobile unit to be stabilized for all medical procedures.

Figure 73: Rear Stabilizing Leg Assembly

12.2 Rear Air Suspension System Controls

The Air Ride Control Switch on the Landing / Stabilizing Leg Control Panel controls the air suspension system. In the “ON” position, the air bags are deflated. In the “OFF” position the air bags are inflated to provide a normal ride.

CAUTION If the rear air suspension is not functioning properly the mobile unit must not be moved. If the mobile unit is moved, irreparable damage can occur to the medical system and the mobile unit itself.

Section 13: Lighting System

The lighting provided for the mobile unit can be divided into either interior lighting, or exterior lighting. Listed below are explanations concerning the lighting provided for this unit.

13.1 Emergency Lighting

In the event that the main AC power fails, four dual beam emergency lights are provided. These lights will automatically illuminate when the main AC power is lost. They are located in the Staff Review Room, Control Room, Equipment Room and Procedure Room. The emergency lighting system is wired into a 120V AC electrical system that allows the lights internal circuitry to keep their batteries at 100% charge. The emergency lights will illuminate the exit doors and last for approximately 90 minutes.

Figure 74: Emergency Dual Beam Lighting (Typical)

13.2 Exterior Lighting

IMPORTANT All warning lights are located on the left side of the mobile unit.

The exterior lighting system can be divided as follows. For additional information of the warning lights, please refer to **Appendix B: Troubleshooting**.

Underbody Compartment Lighting

Located inside of the underbody compartments there are wall mounted halogen lights connected to timers. The timers allow the lights to be set for up to 30 minutes before automatically turning off. There is one light provided on each side of the underbody.

Figure 75: Compartment Light

In addition, since the fuel compartment is sealed off from the others, a push button dome light has been included in this compartment.

Service Lighting

Figure 76: Drop Light

A cord-o-matic drop light with a 50'-0" cable is supplied with the mobile unit. The droplight aboard the mobile unit can be found in Equipment Room. The light is generally used during service applications when additional light is required. The light is plugged into a nearby miscellaneous 120V AC outlet.

Staff Door Lighting

An exterior light is located above the staff door. This provides for additional illumination of the platform lift and the stairs when the facility provided lighting is insufficient. The switch for this light is located inside of the mobile unit on the raceway next to the staff door.

Figure 77: Staff Door Lighting

Marker & Running Lights

When the mobile unit is in transit, federal law requires specific illumination characteristics. The mobile unit meets and exceeds these standards as outlined in Motor Vehicle Safety Standards Guide, Federal Safety Standard No. 108-4.

All lights are 12V DC, and are powered by the tractor. All wiring is run through the underbody wire harnesses. The top marker lights are wired through a 0.5” loom pipe that is run through the sidewalls of the mobile unit. The wires terminate at the glad-hands which are located in the front of the mobile unit for tractor hookup. Two electrical connections are supplied on the glad-hands, one six terminal connection and one seven terminal connection.

13.3 Interior Lighting

The interior lighting system can be divided as follows.

Equipment Room

Light fixtures on the ceiling provide primary lighting of the equipment room. Each light is strategically placed for effective illumination of the equipment during operation and during service procedures.

Control Room

There are two different lighting systems for Control Room. They are as follows.

Switches located next to the staff door control the lighting located in the Control Room ceiling panels and Exterior Entry lighting.

Another switch controls the Control Room halogen lighting.

Figure 78: Control Room Lighting

OSHKOSH SPECIALTY VEHICLES

Procedure Room

There are two different lighting systems for Procedure Room. The systems are as follows. Recessed light fixtures provide primary lighting. Halogen lights mounted in the slide-outs provide secondary lighting.

Figure 79: Procedure Room Lighting

Staff Review Room

As in the Control Room, this area utilizes both recessed fluorescent and halogen lighting.

Figure 80: Staff Review Room Lighting

13.4 Warning Lights

Transport Warning Lights

ABS Warning Light

Figure 81: Warning Lights

Warning lights have been installed on the exterior left side of the mobile unit in order to provide the operator and technician of the status of the mobile unit at all times during transit or while in the parked position. A description of each of the warning lights and their location can be found below. If any of the warning lights are illuminated, please refer to **Appendix B: Troubleshooting** for additional information.

Power Warning Light

CAUTION The Siemens medical system requires the HVAC system to be supplied power at all times when the unit is in the parked position via shore power.

The Power Warning Light is located on the exterior left side of the mobile unit and will illuminate when the mobile unit is receiving power. When it is not illuminated, it signifies to the operator that power is not applied to the system. Also, when the Power Warning Light is not illuminated, the Power OFF Strobe Light, located on the left front of the trailer, will flash. A qualified electrician should be called immediately to look at the electrical system. Refer to **Appendix B: Troubleshooting** for more information.

Transport Warning Light

CAUTION If the Transport Warning Light is on, the mobile unit must not be moved. If the mobile unit is moved while this light is on, irreparable damage can occur to the mobile unit.

The transport warning light is designed to notify the operator that the platform lift, slide-outs, medical system, patient table, procedure room sliding door, or control console are not in the proper transport position. If this light is illuminated, the mobile unit cannot be moved until the problem has been remedied. Before the mobile unit can be transported, this light needs to be off. Refer to **Appendix B: Troubleshooting** for more information.

OSHKOSH SPECIALTY VEHICLES

Rear Suspension Warning Light

CAUTION The rear suspension selector switch must be in the “OFF” position before the mobile unit can be transported. If rear suspension selector switch is not in the normal ride position, irreparable damage may occur to the mobile unit.

A red light and strobe is provided on the exterior of the mobile unit above the front stabilizing legs. These lights illuminate when the axle air bag pressure is too low or does not exist. The mobile unit cannot be transported if these lights are illuminated. Also, when the Rear Suspension Transport Warning Light is illuminated, the Suspension Strobe Light, located on the left front of the trailer, will flash. A bypass switch, located on the exterior left front of the trailer can be used to extinguish the strobe when the trailer is set up for operation. The air bags must be properly inflated prior to transporting the mobile unit. Failure to properly inflate the air bags can result in irreparable damage to the mobile unit.

ABS Warning Light

CAUTION If the ABS Warning Light is on, the Antilock Braking System on the mobile unit has a malfunction. A qualified service technician must check the Antilock Braking System. Call Oshkosh Specialty Vehicles for assistance.

The ABS Warning Light is located on the exterior left side toward the rear of the mobile unit and will illuminate when a malfunction occurs in the antilock braking system.

Section 14: General Maintenance

WARNING Use and follow the appropriate Lockout/Tagout procedures as required by OSHA Standard 1910.147 when performing maintenance or servicing any electrical, hydraulic or pneumatic systems. See Appendix E for Lockout/Tagout procedures.

WARNING Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.

WARNING Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.

WARNING Be certain to disconnect the power before working on any of the electrical systems.

IMPORTANT When servicing the unit be certain that a first aid kit and fire extinguisher are within reach at all times.

14.1 Daily Maintenance

1. Water tanks should be checked for proper water levels.
2. Fuel tank should be checked for proper fuel levels.
3. During cold weather, verify that all underbody heaters are operational.
4. Keep the air intake grills on the computer cabinets for the medical system free and clear of obstructions.
5. Keep the A/C grills clean and free of debris.
6. Check and verify that no warning lights are illuminated.

14.2 Weekly Maintenance

1. Clean RF door trim with a mild cleaning solvent and wipe with a clean cloth.
2. Lubricate the platform lift side rails and pivot points with an ample amount of ZEP 2000, AKSV Part Number 6100811.
3. Check the primary and downstream blower A/C filters. Clean and replace if necessary. A/C must be “OFF” to check and replace filters.
4. Check the water chiller filters. Clean and replace as necessary.
5. Check the oil and water levels in the generator and refill if necessary.
6. Check the electrolyte levels in the DC batteries and fill if necessary using only distilled water.
7. Check all running lights, marker lights, brake lights, and turn signals.
8. Check tire pressure and verify that all wheels are at the pressure specified by the tire manufacturer.
9. Check the fluid level in the hydraulic reservoir using the site glass. Add fluid if necessary. Use only AWF all weather fluid Automatic Transmission Fluid.

14.3 Monthly Maintenance

1. Lubricate the side rails of the roll door with Mobil – Mobilith AW2 heavy-duty multipurpose industrial grease.
2. Lubricate all RF interlock switches.
3. Put a few drops of 20W oil, or similar graphite oil, on the swivel pin of all door hinges. Use only dry graphite on key openings of all door locks.
4. Check the operation of the smoke detectors and vacuum internally.
5. Check the fire extinguisher gauges for safe charges.
6. Inspect the power cables for any damage.
7. Check the cable tie downs.
8. Check for cut, damaged, or loose wire connections.
9. Check and verify that all connector bolts are tight and secure.
10. A qualified A/C technician must check the A/C condensers every month. Refer to the Air Conditioning Owner’s Manual for more information.
11. Lubricate the front landing / stabilizing legs.
12. Have a qualified technician check wheel lug nuts with torque wrench and verify that all inner and outer wheels, both the front and rear, are tightened to 450-500 foot pounds. This must be done after every 500 miles of driving. In accordance with torque procedure, lugs and nuts must be installed dry. Do not use any type of lubricant.

14.4 Quarterly Maintenance

1. Have a qualified technician check wheel lug nuts with torque wrench and verify that all inner and outer wheels, both the front and rear, are tightened to 450-500 foot pounds. This must be done after every 500 miles of driving. In accordance with torque procedure, lugs and nuts must be installed dry. Do not use any type of lubricant.

The following Preventive Maintenance Checklist must be completed each quarter. Oshkosh Specialty Vehicles has included in the Oshkosh Specialty Vehicles VOL I Service/Operation Manual binder, a Preventive Maintenance Checklist and Serial Number Chart in order to assist in organizing records of maintenance performed on your new OSV Vehicle. We believe that with proper maintenance performed on a regular basis, your vehicle will last longer and provide you with more up time.

A copy of your vehicles completed quarterly Preventive Maintenance Checklist may be required for warranty reimbursement.

Oshkosh Specialty Vehicle's Service department has certified technicians, genuine parts and the information technology needed for your assistance. Please call OSV service for you're servicing needs.

Thank you for choosing Oshkosh Specialty Vehicles. If you have any questions call us toll free at 1-800-839-0630. We'll be happy to assist you!!

OSHKOSH SPECIALTY VEHICLES

Preventive Maintenance Checklist

Trailer ID # :	Date	Date	Date	Date	
HVAC	**3M**	**6M**	**9M**	**12M**	**Comments**
Inspect/change filters					
Inspect Thermostats					
Verify heat strip operation					
Inspect/clean evaporator coil					
Clean/inspect condenser coils					
Inspect electrical contactors					
Verify refrigerant pressures					
Inspect refrigeration piping abrasion					
Lubricate fan motors if applicable					
Inspect covers/fasteners					
Verify compressor amp draw					
Verify condensate pans/drains					
Verify Condenser motor operation					
Chiller	**3M**	**6M**	**9M**	**12M**	**Comments**
Inspect electrical contactors					
Verify refrigerant pressures					
Inspect refrigeration piping abrasion					
Inspect pump seal					
Lubricate motors					
Clean/replace aluminum filters					
Inspect covers/fasteners					
Verify operating/alarm controls					
Verify CW supply temp 45-75 F					
Inspect/replace glycol filter					
Clean/ inspect condensing coils					
Verify/adjust glycol level					
Verify Condenser motor operation					
Trailer	**3M**	**6M**	**9M**	**12M**	**Comments**
Test/inspect lift gate					
Inspect rails/ pins					
Inspect lift fittings/pivot points					
Clean / lubricate slide rails					
Verify lift switches and remote					
Load test van battery (lift)					
Verify hydraulic fluid level					
Verify van battery charger					
Verify roll door controls					
Inspect roll door mounting bolts					

Trailer Continued	3M	6M	9M	12M	Comments
Inspect roll door clutch/hardware					
Inspect roll door side track rails					
Inspect roll door key way					
Inspect awning					
Inspect bay door shocks/hardware					
Verify bay light operation					
Inspect clean and RF door gasket. Verify RF door operation					
Verify RF door lock and the handle operate correctly					
Check RF door for binding and loose hardware.					
Check door hinges/stops/latches for proper operation					
Inspect Slide outs for operation					
Inspect Slide out compressor					
Empty compressor drain and verify Y-strainer is cleaned out					
Check Fire system Last Inspection Date _____					
Inspect stair mounts					
Inspect interior flooring					
Verify bay heater operation					
Inspect cabinet latches and hinges					
Verify phone/communication lines					
Inspect landing gear					
Inspect locking pins					
Inspect air drive or air/hydraulic					
Inspect air tanks					
Verify hub fluid levels					
Inspect undercarriage/frame					
Inspect airbags/airlines/fittings					
Inspect shocks/bushings					
Inspect Tires / Rotate as needed					
Note hub meter mileage _____					

Generator	3M	6M	9M	12M	Comments
Clean fuel/water separator & replace filter					
Lamp test on control panel					
Inspect fuel lines & injectors					
Change oil/filters- 250 hrs					
Check crankcase breather					
Check hoses/belts					
Verify radiator coolant level					
Verify coolant freeze point & pH					

Generator Continued	3M	6M	9M	12M	Comments
Verify block heater operation					
Inspect housing mounting bolts					
Inspect muffler/brackets					
Verify battery charging voltage					
Load test battery/clean terminals					
Verify voltage & hertz output					
Record hours run since last P.M. (_____) Recorded Generator Hours					

Electrical	3M	6M	9M	12M	Comments
Inspect breakers and panels					
Inspect lighting and bulbs					
Inspect power cord and plug					
Inspect 110volt outlets					

Humidifier	3M	6M	9M	12M	Comments
Inspect/replace steam tank					
Verify humid control set point					
Inspect/fill water reservoir					
Clean fill and drain valves					
Verify 12 volt pump					

Misc.	3M	6M	9M	12M	Comments
Attach and/or fill out Quarterly Service Record for all major components					

Section 15: Specific Maintenance

WARNING Use and follow the appropriate Lockout/Tagout procedures as required by OSHA Standard 1910.147 when performing maintenance or servicing any electrical, hydraulic or pneumatic systems. See Appendix E for Lockout/Tagout procedures.

WARNING Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.

WARNING Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.

WARNING Be certain to disconnect the power before working on any of the electrical systems.

CAUTION The HVAC system is critical to the operation and life of the equipment. The medical equipment operates within strict limits regarding temperature and humidity. All aspects of the HVAC system such as baffling, venting, component set points, and sensor placement are adjusted for optimum operation. Under no circumstances should any aspect of the HVAC system be altered from factory specifications.

CAUTION During seasons of low humidity, the humidifier will need to be filled more often.

CAUTION Image quality can be impaired with improper door closer adjustment.

CAUTION A power washer should never be used to clean the A/C units. Serious damage to the A/C coils may occur.

IMPORTANT When servicing the unit be certain that a first aid kit and fire extinguisher are within reach at all times.

15.1 Door Closer Adjustments

The door closer must be adjusted so that the door does not slam shut. Refer to the door closer component sheet in the component literature manual for proper adjustment. Adjust door closer as required to insure proper non-slamming door action.

15.2 Electrical System

1. Inspect the power cables for any damage.
2. Check the cable tie downs.
3. Check for cut, damaged, or loose wire connections.
4. Check and verify that all connector bolts are tight and secure.

15.3 Humidity System

CAUTION During seasons of low humidity, the humidifier will need to be filled more often.

1. The fresh water tank supplies the humidifier and sink (if applicable) with water. The water levels must be maintained at all times. Follow the steps outlined below and please refer to **Figure 65: Humidifier**, if necessary.
2. Check the water tank to determine the water level.
3. Open the overflow valve.
4. Attach one end of a hose to the exterior water tank fill valve and the other end to the shore supply.
5. Turn on the water source to begin filling the tank.
6. After the water tank is full, turn off the water source.
7. Detach the hose at both ends and place in the underbody storage compartments.
8. Turn off the overflow control valve.

15.4 HVAC System

CAUTION The HVAC system is critical to the operation and life of the equipment. The medical equipment operates within strict limits regarding temperature and humidity. All aspects of the HVAC system such as baffling, venting, component set points, and sensor placement are adjusted for optimum operation. Under no circumstances should any aspect of the HVAC system be altered from factory specifications.

1. The HVAC system is designed specifically to maintain only the internal environment of the mobile unit. The HVAC system is not designed to handle areas outside of the mobile unit such as adjoining corridors or hallways.
2. It is important to be sure that the doors, partitions, and baffling are in the intended positions before running the medical system.
3. Do not attempt to store boxes, or any other items near computer system air inlets or in the aisles. Such actions will disrupt the intended airflow requirements.
4. A qualified A/C technician must check the A/C condensers every month. Refer to the Air Conditioning Owner's Manual for more information.

15.5 Platform Lift

Lubricate the platform lift side rails and pivot points with an ample amount of ZEP 2000, AKSV Part Number 6100811.

15.6 Landing / Stabilizing Legs

1. Once a year, perform the preventative maintenance on the landing legs and the landing leg controls. Refer to the accompanying manual for the landing gear system.
2. Extend the landing legs and coat lightly with clean grease.
3. Grease the alemite fittings and check the valve on each leg. Use “NGLI” lithium grease with a grade of “00” or “0”.
4. Check the fittings and the hydraulic lines for leaks or worn spots. Replace all defective fittings and lines as necessary.
5. Check for loose bolts and nuts. Tighten as necessary.

Appendix A: Mobile Unit Checklists

CAUTION	The Siemens Catheterization Lab medical system requires the HVAC system to be supplied power at all times. During transit of the mobile unit via the onboard generator and when the unit is in the parked position via the shore power.
WARNING	It is the operator's responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.
WARNING	Before connecting or disconnecting from shore power, it is imperative that the shore power connections be moved to the "OFF" position. Failure to do this can result in injury or death to the operator of the mobile unit.
WARNING	Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.
WARNING	Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.
WARNING	Be certain to disconnect the power before working on any of the electrical systems.
CAUTION	Always inspect the power cable, connectors, and fasteners prior to usage. If during inspection, it is suspected that either internal or external damage has occurred, have a certified electrician inspect and repair the damage before using.
CAUTION	The landing / stabilizing legs and rear suspension are not to be used to raise the mobile unit off the ground. The legs are meant only to level the unit and place it in a parked position. If the legs are used in an attempt to raise the mobile unit from the ground, serious damage may occur to the mobile unit.
CAUTION	Failure to completely exhaust the suspension before uncoupling the airlines may result in damage to the suspension of the mobile unit.
CAUTION	The rear stabilizing stands must be removed prior to the connecting the tractor to the mobile unit. Failure to do this can result in equipment damage
CAUTION	The air ride control valve must be in the normal ride position before the mobile unit can be transported. If the air ride control valves are not in the normal ride position, irreparable damage may occur to the mobile unit.
CAUTION	Before transporting the mobile unit, check to verify all warning lights as well as all exterior marker lights are working correctly.
IMPORTANT	If the mobile unit is on uneven ground, the provided aluminum shims can be used to help level the mobile unit. Only use the shims that have been provided by Oshkosh Specialty Vehicles.
IMPORTANT	When servicing the unit be certain that a first aid kit and fire extinguisher are within reach at all times.

Mobile Unit Setup Checklist

1. Park the mobile unit on the pad per the site-planning guide.
2. Lower the front stabilizing legs.
3. Disconnect the tractor and all air and electrical lines.
4. Lower the rear stabilizing legs.
5. Re-level the unit if necessary.
6. Lower the auxiliary support legs.
7. Install the stair assembly.
8. Connect to Shore Power.
9. Verify that the shore power is in the “OFF” position and connect to shore power. If the shore power supply is within specifications, the ATS will automatically connect shore power to the unit.
10. Connect phone and data lines.
11. Connect Fire alarm and code blue alarm.
12. Connect the fresh water and wastewater hoses.
13. Connect the optional fire suppression water supply and purge the system.
14. Remove the restraining hardware for the slide-outs.
15. Extend the Slide-Outs.
16. Place the Air Cylinder Cover over the air cylinder.
17. Place the Air Cylinder Floor cover over opening.
18. Remove the Lift Transport Restraining Cable and Transport Pins.
19. Deploy the platform lift.
20. Remove restraints on all equipment including the medical equipment.
21. Check the fire alarm system.

OSHKOSH SPECIALTY VEHICLES

Mobile Unit Transport Checklist

1. Secure medical equipment with provided hardware.
2. Secure all moveable objects.
3. Return the platform lift to its transport position.
4. Insert the Transport Pins and connect the Lift Transport Restraining Cable securely in place.
5. Remove the Air Cylinder Cover and stow for transport.
6. Remove the Air Cylinder Floor cover and stow in a cabinet.
7. Lift and secure the inner and outer patient transition plates.
8. Retract the curbside slide-outs about ¾ and latch the floor.
9. Retract the roadside slide out, and then latch the floor
10. Restrain the slide-outs with supplied hardware.
11. Move the shore power disconnect to the “OFF” position. The ATS will automatically start the generator and transfer to generator power.
12. Disconnect shore power.
13. Disconnect phone and data lines.
14. Disconnect the fire and code blue alarm connections.
15. Disconnect water and wastewater hoses.
16. Disconnect the optional fire suppression water supply and drain the system.
17. Remove and store the stair assembly.
18. Raise the auxiliary support legs.
19. Raise the rear stabilizing legs.
20. Connect the tractor as well as the air and electrical lines.
21. Raise the front stabilizing legs.
22. Return the air-ride control valves to the normal ride position.
23. Verify that the slide-outs, exterior doors, the platform lift, and stairs are in the proper transport position.
24. Connect the Lift Transport Restraining Cable securely in place.
25. Check all warning lights.

Appendix B: Troubleshooting

If any of the following troubleshooting guides do not help and the problem condition remains the same, Please refer to the Oshkosh Specialty Vehicles VOL I Operator and Service binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for the product manual. The 24-hour phone number for service is 800.839.0630.

Humidity is out of specifications…

If the humidity is out of specifications, either too high or too low, refer to the following table.

Problem:	Check for:	Solution:
Humidity is too high.	Open exterior doors during humid conditions.	Close all exterior doors.
	Air conditioners are not running properly.	Make sure air conditioner is running properly.
	Humidifier is running constantly.	Turn humidifier disconnect to the “OFF” position.
Humidity is too low.	Open exterior doors during cold weather.	Close all exterior doors.
	Humidifier is not running.	Turn humidifier disconnect to “ON” position or set the humidistat to 35% RH.
	Humidistat is not seated properly.	Set the humidistat to 35% RH.
	Humidifier water tank is not full.	Fill the humidifier water tank.
	Incoming water hose is not connected or the water is not running.	Connect incoming water hose and make sure that it is running.

Temperature is out of specifications…

If the temperature is out of specifications, either too high or too low, refer to the following table.

Problem:	Check for:	Solution:
Temperature is too warm.	Exterior doors left open in warm weather.	Close all exterior doors.
	Blocked or dirty air vents and air conditioner filters.	Clean vents and/or change air conditioner filters. Verify that cold air is blowing.
	Penn Control malfunction.	Call Oshkosh Specialty Vehicles for service. The 24-hour phone number for service is 800.839.0630.
	A/C disconnect is in the “OFF” position.	Turn the A/C disconnect to the “ON” position.
Temperature is too cold.	Open exterior doors during cold weather.	Close all exterior doors.
	Blocked or dirty air vents and air conditioner filters.	Clean vents and/or change air conditioner filters. Verify that warm air is blowing.
	Heat disconnect is in the “OFF” position.	Turn the heat disconnect to the “ON” position.
	Penn Control malfunction.	Call Oshkosh Specialty Vehicles for service. The 24-hour phone number for service is 800.839.0630.

Transport warning light is illuminated…

If the transport warning light is illuminated, please refer to the following table.

Problem:	Check for:	Solution:
The Platform lift is not in the proper transport position.	The Platform lift not being stored in its retaining cradle.	Return Platform lift to its retaining cradle and verify the safety latch is in place.
The procedure room sliding door is not in the proper transport position.	The sliding door is full open and latched in position.	Ensure the sliding door is open and latched in the proper transport position.

The air bag system warning light and strobe is on…

CAUTION Do not move the mobile unit until this light is off, else damage will occur to the medical equipment and mobile unit.

The air bag warning light indicates that:	What should be done:
The air ride control switch is not in the “OFF” / normal ride position.	Set the switch to the “OFF” normal ride position to enable the air ride suspension system.
The air bag pressure is too low.	It may take a moment for the air pressure to rise to the correct pressure. If it does not rise and extinguish the light in a reasonable amount of time, call Oshkosh Specialty Vehicles before transporting the mobile unit. The 24-hour phone number for service is 800.839.0630.
There is no air bag pressure.	It may take a moment for the air pressure to rise to the correct pressure. If it does not rise and extinguish the light in a reasonable amount of time, call Oshkosh Specialty Vehicles before transporting the mobile unit. The 24-hour phone number for service is 800.839.0630.

Appendix C: HVAC Set Points

First stage is set at 78ºF.

Second stage is set at 82ºF.

Appendix D: Circuit Malfunction Checklist

Category 1

Visual Checks – Check for the most common occurrences.

Has the Start button been depressed?

Is the mobile unit on shore power or under power via the full support generator?

Is the optional Fire Suppression System in full alarm status?

Category 2

Component Checks – (some tools are required).

Check the 12V DC relay in the Fire Suppression Panel (if equipped). Has it been removed?

Check the emergency off button in the Control Room. N.O.?

Check the emergency off button in the Procedure Room. N.O.?

For additional troubleshooting, please contact Oshkosh Specialty Vehicles for assistance.

Appendix E: Lockout/Tagout Procedures

Specific Energy Control Procedures

Machine or Equipment for this Procedure:

Specialty Vehicle Trailer: ***Siemens Axiom Artis Cath Lab System***

Control of Hazardous Energy:

Type of Hazardous Energy		When is it Necessary to Lock Out
Electrical	480V AC	When servicing main electrical power line
Electrical	120V AC room circuits	When servicing or performing installation inside specific sections of the trailer
Electrical	12V DC	When servicing the following: Generator, Platform lift, Slide-outs, Slide-out Door, Hydraulic System, Digital Levels, Lights
Electrical	12V DC From Battery	When servicing the following: Generator, Platform lift, Slide-outs, Slide-out Door, Hydraulic System, Digital Levels, Lights

Affected Personnel to notify when the Specialty Vehicles Trailer is to be Locked Out:

Name/Department:	Location:
Production employees	In the vicinity of the trailer

Shut down specifications for the Specialty Vehicle Trailers:

Energy Type and Rating:	Type of Energy Isolating Device:	Location of Energy Isolating Device:	Lockout Device Used:
Main power feed Electrical 480V AC	Circuit Breaker or Plug	Normally located above the Facility Power Shore	Lock and tag with or without lockout hasp
Light or outlet circuits Electrical 120V AC	Wall switch or circuit breaker	Distribution panel for circuit breaker, wall switch for room circuits	Lock and tag with a Universal Wall Switch Lockout, Universal Circuit Breaker Lockout
Generator Power engaged when main power is lost	Generator Breaker Switch	Inside service panels, on front of Generator control cover.	Lock and tag with a Circuit Breaker Lockout attachment device
Power to lift panels Electrical 12V DC	Generator Breaker Switch	Inside service panels, on front of Generator control cover.	Lock and tag with a Circuit Breaker Lockout attachment device
Electrical 12V DC From Battery	Remove Battery Cables	On battery	Lock and tag with a Plug Lockout attachment device
Medical System Siemens Cath Lab	Circuit Breaker	480V AC Distribution Panel	Lock and tag with or without lockout hasp
Air Conditioning System	Circuit Breaker	480V AC Distribution Panel	Lock and tag with or without lockout hasp
Heating System	Air Conditioning Circuit Breaker	480V AC Distribution Panel	Lock and tag with or without lockout hasp

Methods to dissipate energy:

N/A

Method of Verifying the Isolation of the Machine or Equipment:

Voltmeter

Appendix F: Quarterly Maintenance Checklist

PREVENTIVE MAINTENANCE CHECKLIST

Company Performing Preventive Maintenance:

Service Technician:

Trailer ID # :	Date	Date	Date	Date

HVAC	3M	6M	9M	12M	Comments
Inspect/change filters					
Inspect Thermostats					
Verify heat strip operation					
Inspect/clean evaporator coil					
Clean/inspect condenser coils					
Inspect electrical contactors					
Verify refrigerant pressures					
Inspect refrigeration piping abrasion					
Lubricate fan motors if applicable					
Inspect covers/fasteners					
Verify compressor amp draw					
Verify condensate pans/drains					
Verify Condenser motor operation					

Chiller	3M	6M	9M	12M	Comments
Inspect electrical contactors					
Verify refrigerant pressures					
Inspect refrigeration piping abrasion					
Inspect pump seal					
Lubricate motors					
Clean/replace aluminum filters					
Inspect covers/fasteners					
Verify operating/alarm controls					
Verify CW supply temp 45-75 F					
Inspect/replace glycol filter					
Clean/ inspect condensing coils					
Verify/adjust glycol level					
Verify Condenser motor operation					

OSHKOSH SPECIALTY VEHICLES

Trailer	3M	6M	9M	12M	Comments
Test/inspect lift gate					
Inspect rails/ pins					
Inspect lift fittings/pivot points					
Clean / lubricate slide rails					
Verify lift switches and remote					
Load test van battery (lift)					
Verify hydraulic fluid level					
Verify van battery charger					
Verify roll door controls					
Inspect roll door mounting bolts					
Inspect roll door clutch/hardware					
Inspect roll door side track rails					
Inspect roll door key way					
Inspect awning					
Inspect bay door shocks/hardware					
Verify bay light operation					
Inspect clean and RF door gasket. Verify RF door operation					
Verify RF door lock and the handle operate correctly					
Check RF door for binding and loose hardware.					
Check door hinges/stops/latches for proper operation					
Inspect Slide outs for operation					
Inspect Slide out compressor					
Empty compressor drain and verify Y-strainer is cleaned out					
Check Fire system Last Inspection Date _____					
Inspect stair mounts					
Inspect interior flooring					
Verify bay heater operation					
Inspect cabinet latches and hinges					
Verify phone/communication lines					
Inspect landing gear					
Inspect locking pins					
Inspect air drive or air/hydraulic					
Inspect air tanks					
Verify hub fluid levels					
Inspect undercarriage/frame					
Inspect airbags/airlines/fittings					
Inspect shocks/bushings					
Inspect Tires / Rotate as needed					
Note hub meter mileage _____					

OSHKOSH SPECIALTY VEHICLES

Generator	3M	6M	9M	12M	Comments
Clean fuel/water separator & replace filter					
Lamp test on control panel					
Inspect fuel lines & injectors					
Change oil/filters- 250 hrs					
Check crankcase breather					
Check hoses/belts					
Verify radiator coolant level					
Verify coolant freeze point & pH					
Verify block heater operation					
Inspect housing mounting bolts					
Inspect muffler/brackets					
Verify battery charging voltage					
Load test battery/clean terminals					
Verify voltage & hertz output					
Record hours run since last P.M. (_____) Recorded Generator Hours					

Electrical	3M	6M	9M	12M	Comments
Inspect breakers and panels					
Inspect lighting and bulbs					
Inspect power cord and plug					
Inspect 110volt outlets					

Humidifier	3M	6M	9M	12M	Comments
Inspect/replace steam tank					
Verify humid control set point					
Inspect/fill water reservoir					
Clean fill and drain valves					
Verify 12 volt pump					

Misc.	3M	6M	9M	12M	Comments
Attach and/or fill out Quarterly Service Record for all major components					

Comment :

Signature of Technician: _____ Date: _____