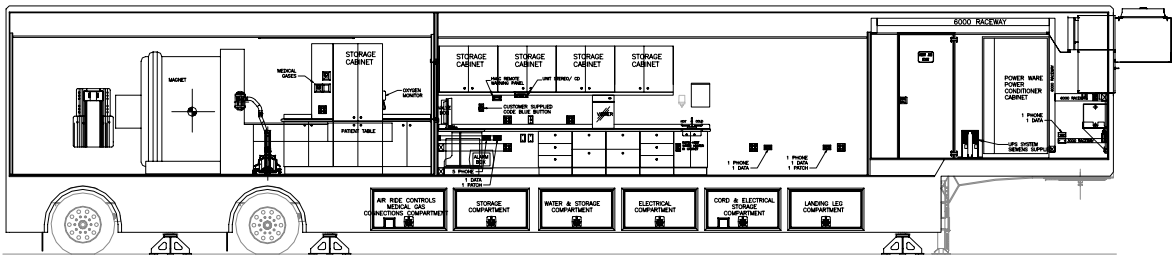
Operator and Service Manual

SIEMENS 1.0 / 1.5 AVANTO MRI SYSTEM
13'-6" H x 12' W x 60' L USA Unit Transportable



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

IMPORTANT

The trailer suspension system must be strictly maintained in accordance with the Siemens Magnet Technology Specification MS001.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT

Due care must be exercised to avoid severe operating environments that endanger the system equipment.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT

Failure to comply with OSV procedures, regulations, and system maintenance requirements may result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT

Disobeying posted speed limits, driving dangerously, driving while under the influence of alcohol or drugs, driving without a valid operators license, or insurance or driving without due care or any illegal action by the driver may result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT

Due care must be exercised to use the lowest speeds possible when docking and undocking the trailer.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT

The owner/operator must notify Siemens Magnet Technology within one (1) day of any instance that causes the shock logger alarm to sound.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty. Contact the local Siemens Medical Systems Representative.

As part of Oshkosh Specialty Vehicles' on-going program to improve its products and service, Oshkosh Specialty Vehicles reserves the right to implement product changes and disseminate changes in design and service information without notice or recourse.

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

List of Revisions & Warnings

Revisions

00	New Release	August 2008

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 two (2) information documents provided in the mobile unit. The documentation package consists of:

Volume I – Site Guide, Operators Manual, and associated drawings

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 please direct to:

Oshkosh Specialty Vehicles
16745 South Lathrop Avenue
Harvey, Illinois
60426
USA

(001) 800.839.0630 (24 hour service)
(001) 708.868.5101 (fax)

http://www.osjkoshsv.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 — The term "IMPORTANT" is used whenever information exists that requires special attention to procedures to ensure proper operation of the equipment or to prevent its possible failure.

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

WARNING — The term "WARNING" is used whenever potential personal injury or death situations exist.

DANGER — The term "DANGER" is used whenever immediate hazards exist that will result in personal injury or death.

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.

If you identify a hazard not covered by this manual, please contact Oshkosh Specialty Vehicles right away at 1.800.839.0630.

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.

This manual contains the basic information needed to set up, transport, and service the mobile unit. This mobile unit was designed to operate within certain limitations and specifications. When performing the setup or transport procedures for the mobile 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 development, designs and specifications are subject to change without notice.

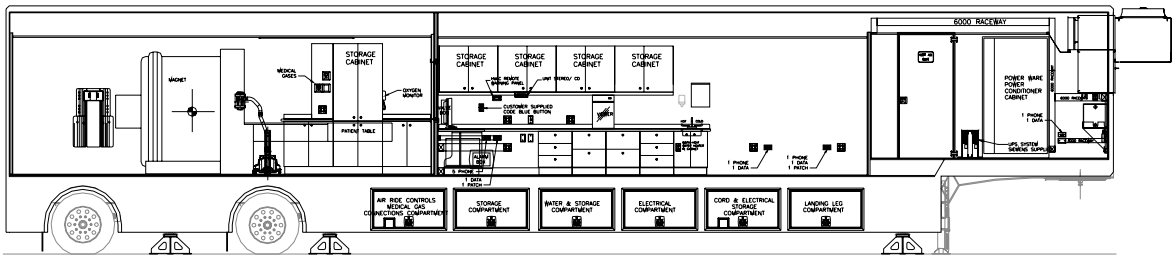


Figure 1: The Siemens Avanto Transportable MRI System

As part of Oshkosh Specialty Vehicles' on-going program to improve its products and service, Oshkosh Specialty Vehicles reserves the right to implement product changes and disseminate changes in design and service information without notice or recourse.

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

Section 2: Safety Guidelines

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 It is the operator's responsibility to make sure 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 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.

Always make sure that eyes are protected while servicing the unit.

WARNING 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.

Failure to do this can result in injury or death.

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

This safety section contains important safety guidelines that should be followed.

BEFORE attempting to 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.

If you need help or advise, please call Oshkosh Specialty Vehicles Customer Service at 1.800.839.0630 for assistance.

2.1 General Safety Precautions

Make sure the work area is well ventilated.

Disconnect the electrical power to prevent the possibility of electrical shock when servicing all electrical equipment.

Follow all manufacturers' directions. Read material safety data sheets where applicable.

Always keep tools clean and free of grease.

NEVER stand on chairs inside of the mobile unit under any circumstances. ALWAYS use a ladder.

Follow all safety precautions found in the documentation package that is included with the mobile unit.

Lock the mobile unit when not in use.

Maintain the RF door in accordance with **Section 15: Specific Maintenance**.

2.2 Magnet Safety

A magnetic shielding system has been installed on each sidewall opposite of the magnet, and on the rear wall of the mobile unit. The magnetic shielding system is extremely effective, and designed to meet or exceed the Mobile MRI site plan requirements of the medical equipment manufacturer. This system is proprietary.

Prevent all persons with pacemakers, metal implants, and neurostimulators from entering the exclusion zone of the magnetic field. The medical equipment manufacturer defines the exclusion zone of the magnetic field.

Do not bring iron based materials into the exclusion zone. Most tools contain iron. These items may become projectiles and cause serious injury and / or property damage.

Watches can be damaged and credit cards can be erased if brought into the exclusion zone.

2.3 Chemical Safety

When working in the presence of liquid helium, make sure the work area is well ventilated.

Inhalation of helium or nitrogen can cause rapid suffocation. If any personnel inhale gas, quickly move them to fresh air and seek medical attention at once.

The gases used in mobile MRI units to cool the magnet can cause severe frostbite. If frostbite occurs, seek medical attention at once.

Liquid or gas can freeze air inside of vent lines. Check periodically to be certain that the vent screen is open.

2.4 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 contactor switch be moved to the “OFF” position.

Failure to do this can result in injury or death.

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 before using. If you believe 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.

2.5 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 air 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.

Walk around the unit to make certain that:

All doors are closed and locked.

The Platform Lift is seated in the retaining cradles with the transport pins and restraining cable installed.

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.

Note: unit is OVERSIZED, extra caution should be taken.

IMPORTANT

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Failure to do so could result in invalidating the Siemens Magnet Technology warranty. Contact the local Siemens Medical Systems Representative.

Section 3: Mobile Unit Overview

The components of the mobile unit have been divided into alphabetical order.

With each component a picture and description will be found to better show the components of the mobile unit. Additional components of the mobile unit can be found within the remaining chapters.

3.1 Air Ride Control Valve

CAUTION

Make sure the air ride control valve is in the normal ride position before the mobile unit can be transported.

If the air ride control valve is not in the normal ride position, irreparable damage may occur to the mobile unit.

The air ride control valve adjusts the rear air suspension bags. When the mobile unit is being transported, the air ride control valve must be in the normal ride position.

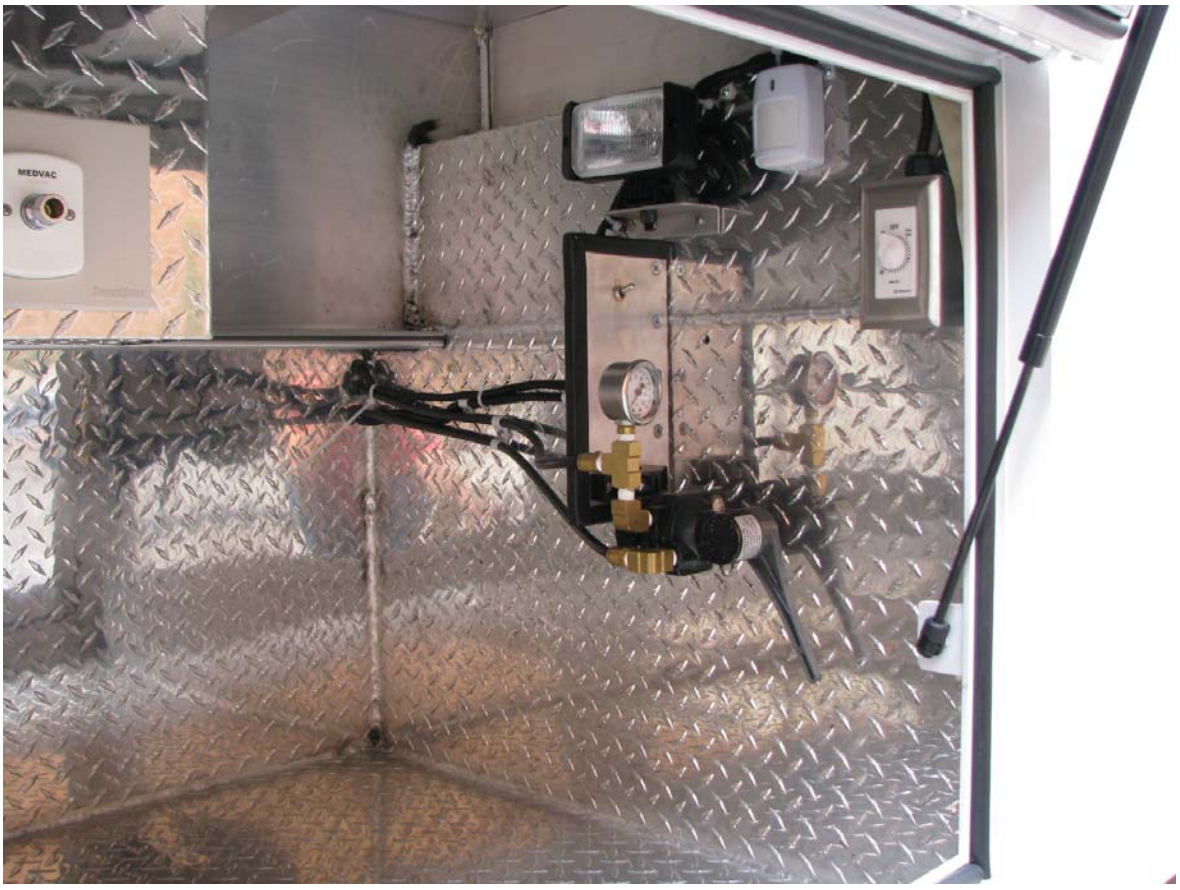


Figure 2: Air Ride Control Valve

3.2 Canopy (optional)

This retractable canopy is positioned above the platform lift to provide shelter from the elements. The handle used to deploy the unit is neatly stowed in Equipment Room during transit.

Figure 3: Canopy

3.3 Changing Room (optional)

An optional private changing room has been installed in Control Room to allow for patient changing.

Figure 4: Changing Room

3.4 Control Room Overall

Control Room houses the controls for the technician. The internal environment of the mobile unit can be monitored from Control Room.

Figure 5: Control Room Overall

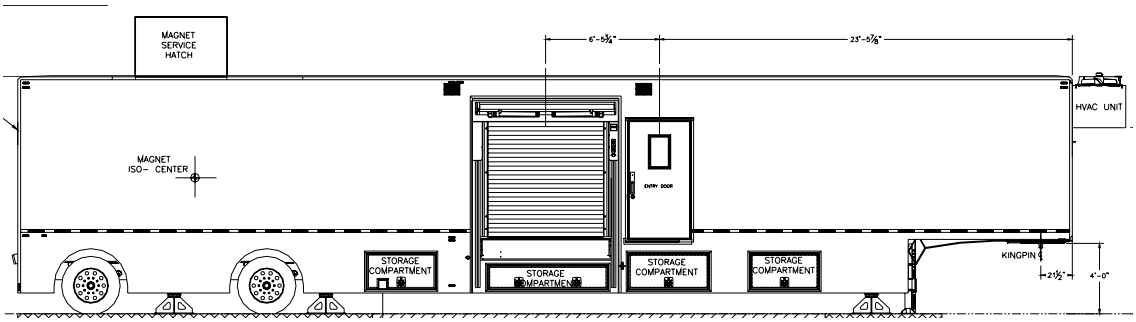
3.5 Equipment Room Overall

Equipment Room houses the system components that support the medical system, such as the humidifier and water tank, cryogen compressor, and the main electrical panels

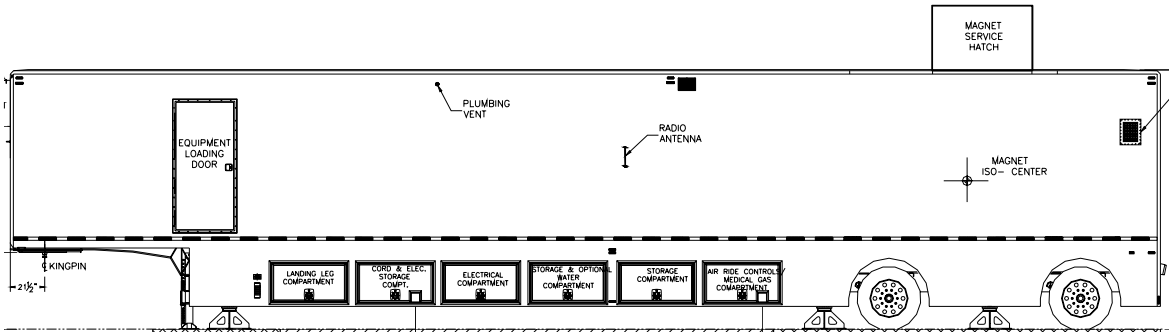
Figure 6: Equipment Room Overall

3.6 Exterior Overall

These illustrationss show the Platform Lift, the Staff Entry Door, the HVAC Unit and the Emergency Exit / Service Entry Door to Equipment Room.



Right Side



Left Side

Figure 7: Exterior Overall

3.7 Exterior Staff Entry Door

A 44” inch wide, high quality, steel, positive latching, double gasket, insulated main entry door with door closer and tinted glass window is installed on the mobile unit. The door is fitted with hospital-grade emergency exit bar and an adjustable privacy blind on the window.

Figure 8: Exterior Staff Door

3.8 Glad-hand Connections

The glad hands are the air brake connection point between the tractor and the mobile unit. Make sure that the tractor air lines are connected BEFORE moving the mobile unit. Failure to make all connections can result in damage to the mobile unit.

Figure 9: Glad Hand Connections

Figure 10: Key Lock Box

Emergency Airline:	Supplies air pressure to release the Parking Brake and inflate the Suspension System of the mobile unit.
Key Lock Box:	A programmable combination lock that holds a key to the mobile unit.
Service Airline:	Supplies air pressure for the Service Brakes and ABS System of the mobile unit.
Standard Electrical Service:	The main electrical connection for the mobile unit running lights.

3.9 I.V. Drip Holder Rail

A ceiling mounted I.V. drip holder rail has been installed in Scan Room.

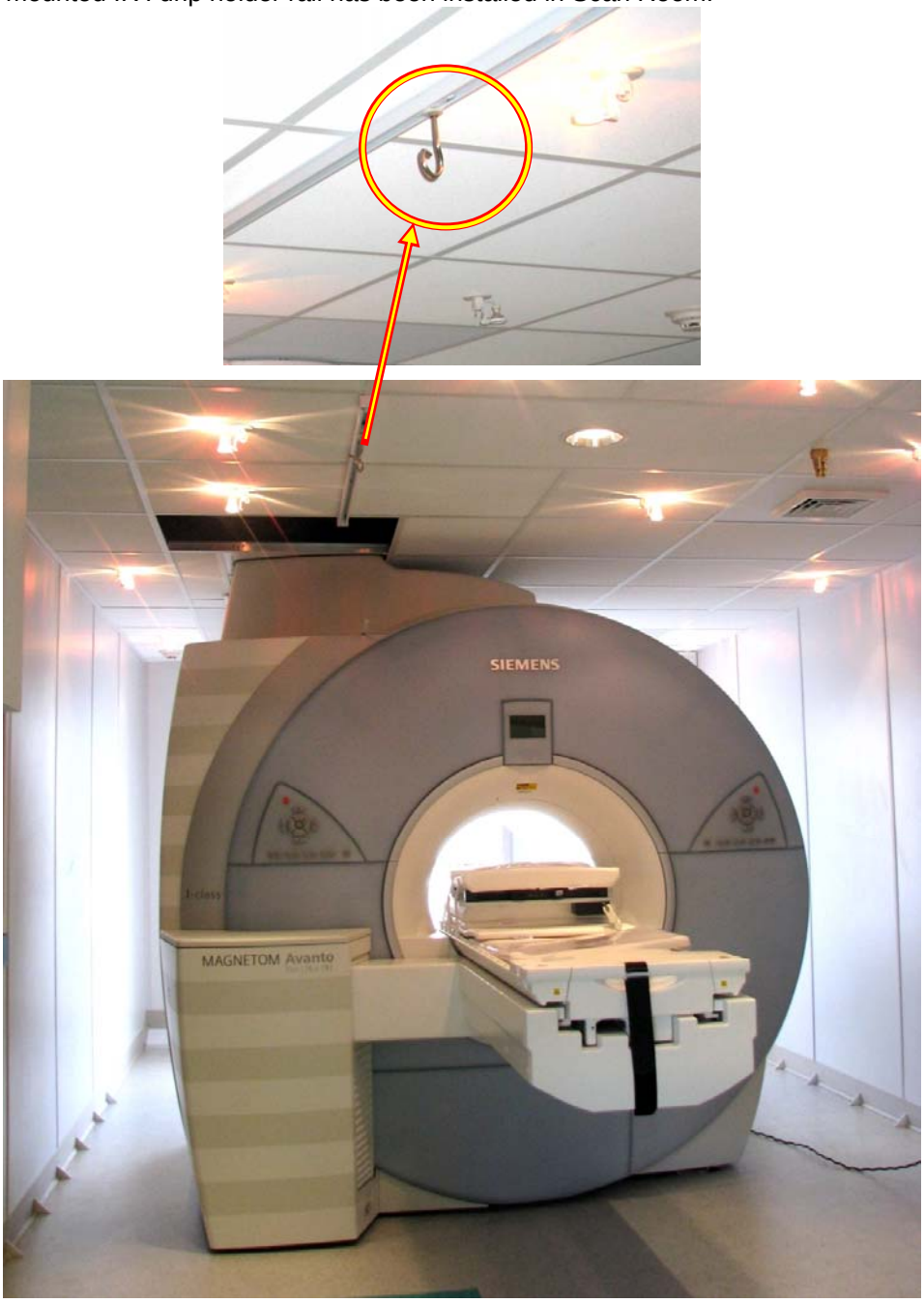


Figure 11: I.V. Track

3.10 Levels

The levels allow the mobile unit to be leveled both front-to-back and side-to-side.

Always level the unit BEFOE use.

Figure 12: Levels

3.11 Magnet Room

The Magnet Room is located at the rear of the magnet and is accessible from the rear service entrance door. This room is provided as a service area at the rear of the magnet. The emergency shutdown button is located on the left side wall in the Magnet Room.

Figure 13: Magnet Room

3.12 Mobile Unit Controls

Located inside of the mobile unit are the various controls that are used for operating such items as the interior and exterior lights, the Platform Lift, warning lights, emergency stop buttons, fire alarms, and emergency equipment.

Scan Room Lighting

Control Room Lighting

Roll Door Controls and Platform lift UP light

MRI E-Stop, Air Conditioning Program Display & Alarm

Figure 14 Mobile Unit Controls

Control Room Light Switches:	ON / OFF light switch for Control Room fluorescent lights.
Exterior Light Switch:	ON / OFF light switch for the exterior lights.
MRI Emergency OFF Button (E-Stop):	The emergency stop button for the MRI system will stop all medical components. This will not stop the HVAC system. This is also commonly referred to as a shunt trip coil.
Roll Door Controls:	Controls the movement of the roll door.
Platform lift Warning Light:	Notifies the operator if the Platform Lift is raised or lowered.
Scan Room Light Switches:	ON / OFF light switch for Scan Room.
Halogen Lights:	ON / OFF light switch for the halogen lighting.

3.13 Phone & Data Line Connections

The phone and data connections are located in the underbody compartments. The connections are used to connect the mobile unit to the shore facility. The telephone connection type that is used is a Hubbell model PH-6595 (inlet). Three (3) Hubbell all weather telephone connection cables, model PH-6599 are provided with the unit. The cables measure 50'-0" in length.

The data lines utilize an RJ-45 connection and CAT5E cabling.

Figure 15: Phone & Data Line Connections

Data Connections — The data connections that are utilized are RJ-45's. The connections utilize CAT5E cable and can be connected directly to the facility

3.14 Scan Room Overall

Scan Room houses the medical equipment system. Also located in this room are storage compartments for the medical equipment. The magnet quench button is located next to the storage cabinet.

Figure 16: Scan Room Overall

3.15 Stabilizing Stands

The stabilizing stands are placed underneath the rear of the mobile unit when the medical system is in use.

These stands help to level the mobile unit and decrease vibration, that can reduce scan quality. Four stands are provided.

Figure 17: Stabilizing Stands

3.16 Stair Assembly

The stairs allow access to the interior of the mobile unit through the staff door.

When assembling the stairs, please refer to the following illustrations.

Figure 18: Stair Assembly (standard)

Section 4: Safety Systems

This safety section contains important information about the safety systems that have been built into the mobile unit to protect all personnel and equipment.

Before attempting to service the mobile unit, read this safety section as well as all other safety sections found in applicable manufacturer's manuals in the component literature binder.

Please call Oshkosh Specialty Vehicles Customer Service at 1.800.839.0630 if you don't understand something or if you need help.

Figure 19: Interlocks

4.1 Door Interlock System

Scan Room and Magnet Room are shielded from radio frequency interference. If doors that lead to these rooms are opened, radio frequencies can interfere with the scan image.

A door interlock system has been incorporated into the mobile unit to ensure that proper scanning can take place.

This system provides a constant monitoring of the doors that have the interlock system.

If one of these doors is opened, the technician will see a notification appear at the console stating that an RF door has been opened.

All doors must be closed for scanning to take place. If a door is opened during a scan, scanning operations will be stopped.

The door interlocks can be found at the following locations.

On the interior door that leads into Scan Room.

On the exterior door that leads into Magnet Room.

4.2 Emergency Exit / Service Door Equipment Room

An emergency exit / service door has been installed on the forward left side of the mobile unit.

In the event of an emergency, this door can be used as an exit.

When needed, this door can also be used when servicing the mobile unit.

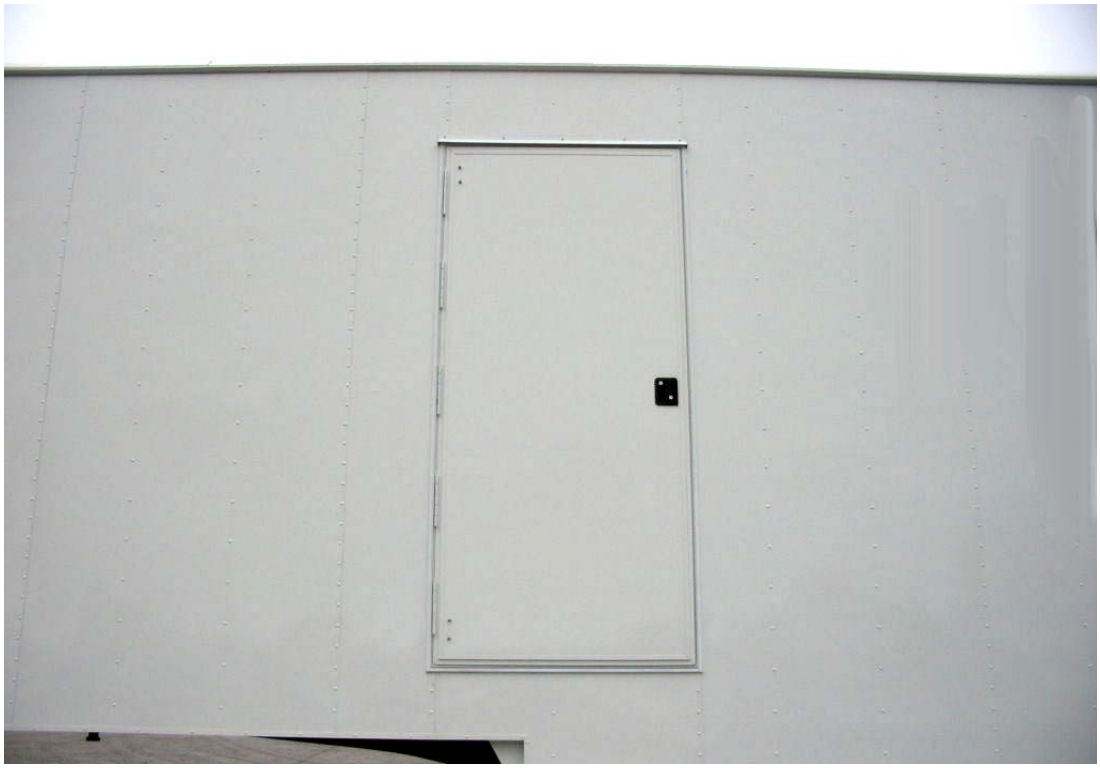


Figure 20: Emergency Exit / Service Door

4.3 Emergency Lighting

In the event that the main AC power fails, three dual beam emergency lights will automatically illuminate.

They are located in Control Room, Equipment Room and Scan Room.

The emergency lighting system is wired into a 120V AC electrical system that allows the lights to keep their batteries at 100% charge.

The emergency lights will illuminate the exit doors and last for approximately 90 minutes.

Refer to **Figure 53: Emergency Dual Beam Lighting**.

Figure 21: Emergency Lighting

4.4 Fire Suppression (manual)

Two fire extinguishers are supplied with the mobile unit.

They are located in Control Room and Equipment Room.

Instructions for operation are clearly printed on the canister of the fire extinguisher.

The fire extinguisher meets the following standards:

- It is a class B/C 1211 hand held-unit.
- It has a charged weight of 3 lbs., 9 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”.

Figure 22: Fire Extinguisher

4.5 Fire Detection System (optional)

The fire alarm control panel monitors the fire alarm system. Located on the interior of the fire control panel is a brief list of instructions that explain how to use system control buttons to test, reset, and silence the alarm.

Please refer to the product manual located in Volume II Vendor Information 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.

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 23: Smoke Detector

Figure 24: Fire Alarm Control Panel

Reset Button:	The reset button resets the system after it has been activated
Trouble Silence Button:	The trouble silence button silences the horns that are activated after the alarm has been tripped.
Disable Button:	The disable button shuts the alarm system down for maintenance.

System Operation

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

- The fire horn will sound continuously.
- A (RED) alarm LED located on the front cover of the fire system control panel will illuminate.
- The strobe light will flash.
- The HVAC units will shut down.

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 occur.

Figure 25: Fire Alarm Pull Station

Power Backup System

Primary 120V AC power to the fire system control panel is supplied from the 480V AC service panel. When the primary power is lost, on-line emergency batteries built into the system will provide 24 hours of supervisory power.

When primary power is lost, both the green “POWER” LED and the yellow “TROUBLE” LED will flash.

The “SYSTEM TROUBLE” and “POWER TROUBLE” LED’s will also begin to illuminate.

The audible alert located inside of the system control panel will begin to BEEP.

The emergency batteries are rechargeable gel celled. They are also float charged to provide quick recovery after primary power is restored.

4.6 FM-200 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.

The FM-200 Fire Suppression System uses the Fenwal 732 Control Panel to monitor and operate the system. The Fenwal 732™ is a versatile, flexible, microprocessor-based conventional fire alarm/suppression control system.

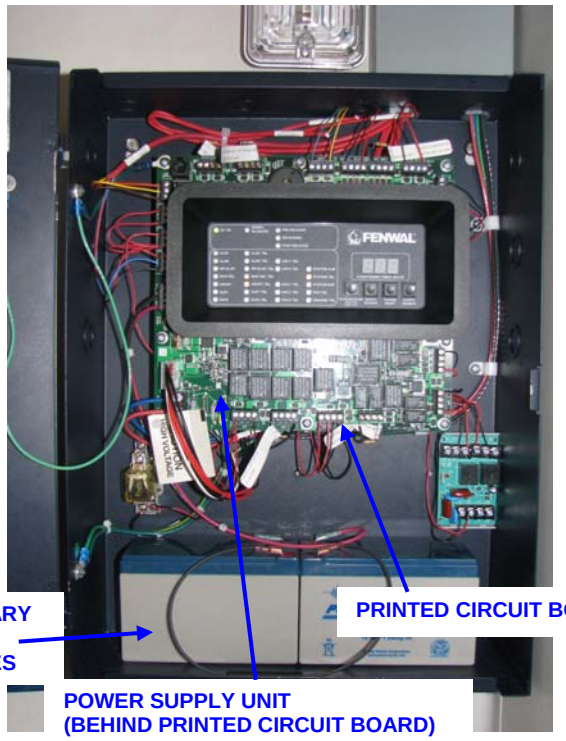


Figure 26: Fire Suppression Components

Control Unit Description

The Fenwal 732 consists of the following: Enclosure with Door, Power Supply Unit, Printed Circuit Board (PCB), and Secondary Standby Batteries.

Enclosure with Door

The enclosure meets the requirements for NEMA Type 1 and is intended to be used indoors in a relatively dust-free environment. The enclosure has a hinged door that swings open 180° for accessibility. The enclosure can be surface or recessed mounted. A trim ring is available for recessed mounting. The enclosure is constructed of 18 gauge sheet steel. A steel door is held closed by a key lock. All operator interface switches and indicators are located behind the locked cover. The enclosure is large enough to house two 12V DC, 12 AH batteries required for standby operation.

The enclosure and door has two color options — blue for most UL/cUL applications and red for MEA/NYC applications.

Enclosure door options

The standard enclosure door allows the operator to view the operator interface display mounted on the PCB behind a Plexiglas window. The Fenwal 732 is also available with an alternate door that allows an abort and manual release switch to be mounted. The manual release switch incorporates a lift type guard and the abort switch incorporates a safety guard to prevent inadvertent activation.

Power Supply Unit

The power supply unit mounts behind the circuit board and operates from either 120V AC 50/60 Hz or 240V AC 50/60 Hz. It powers the system and also charges a standby battery set which provides backup in case of loss of power from the AC source.

The battery charger is capable of charging sealed lead-acid 24V DC batteries of capacity up to 68 AH. The charge voltage is 27.4V DC nominal.

The actual battery capacity used for an application is a function of the control units components, devices and configuration.

The power supply monitoring circuit provides a trouble signal if any of the following occur:

- Loss of AC input or if AC power falls below 85% of nominal. This causes an immediate changeover to battery operation and a trouble signal after 30 seconds.
- Detection of a ground fault.
- Low charging current.
- High output voltage
- The battery monitoring circuit provides a trouble signal if any of the following occur:
- The battery is installed backwards.
- The battery is disconnected.
- Battery voltage falls below 19.5 V (this condition causes the battery to disconnect and can only be cleared when primary AC main power is restored).

Printed Circuit Board

The printed circuit board provides an interface or terminals for the following:

- Power Supply Unit
- Battery
- Initiating Device Circuits (System Inputs)
- System Outputs
- Operator Interface
- Auxiliary Power Output

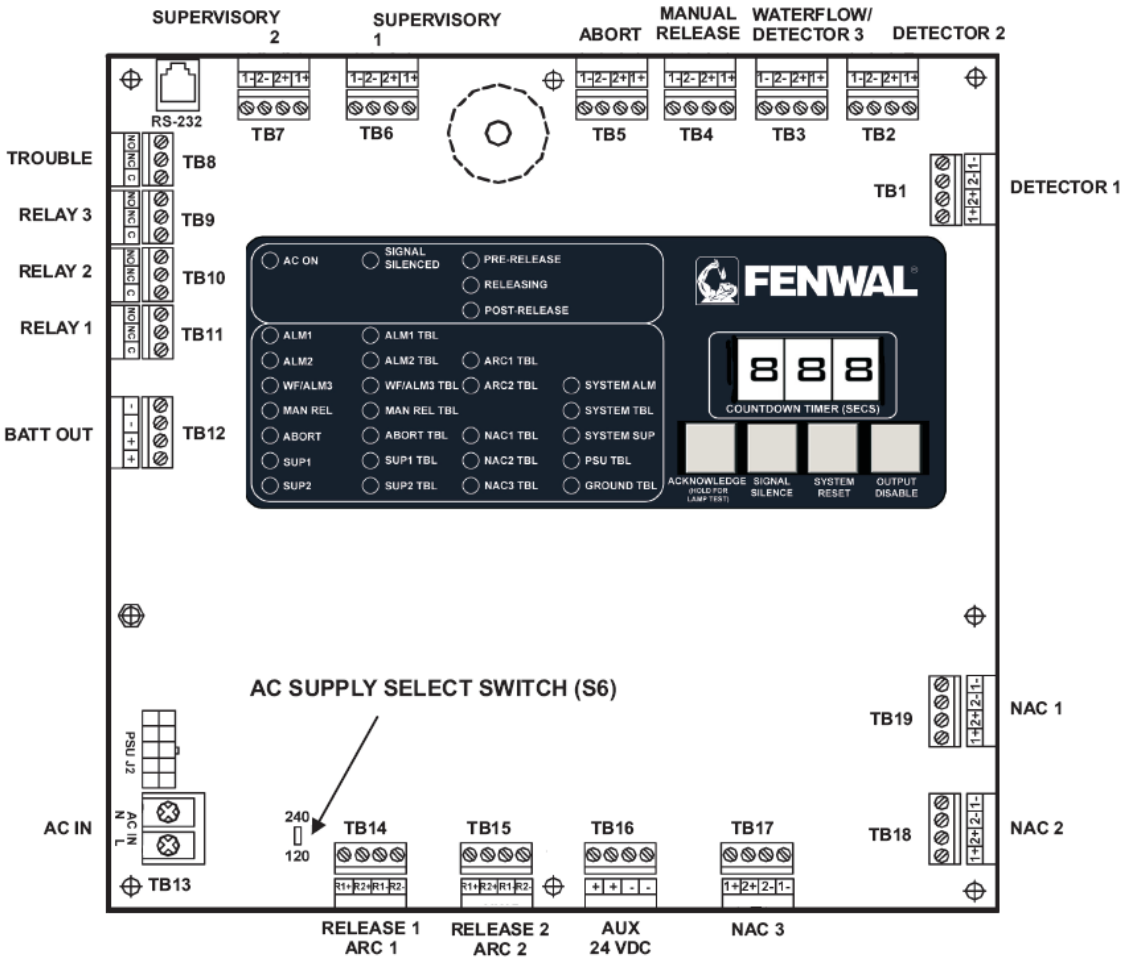


Figure 27: Printed Circuit Board (PCB)

Operator Interface

All alarms, troubles and supervisory signals are received at the control unit and displayed for the operator. The Operator Interface consists of four main components and are visible and/or audible through a transparent window:

- LED Indicators
- Control Switches
- Digital Display
- Buzzer

LED Indicators

The following is a list of control unit indicators and their LED display color.

Table 4-1. LED Indicator and Display Color

Indicator	Display Color
AC Power On	Green
System Alarm	Red
System Supervisory	Yellow
System Trouble	Yellow
Signal Silenced	Yellow
Agent Pre-Release	Red
Agent Releasing	Red
Agent Post-Release	Red
Input Activated Alarm, Manual Release, and Abort	Red
Other	Yellow
Input Trouble	Yellow
Release Output Trouble	Yellow
NAC Output Trouble	Yellow
Ground Fault	Yellow
Power Supply Fault	Yellow

Control Switches

There are four Control Switches on the Operator Interface. They are:

Acknowledge — Silences the buzzer which sounds when a new supervisory, alarm, or trouble is detected. Holding this control switch for five seconds activates the control unit Lamp Test. This control switch is also used in conjunction with the System Reset control switch to enter the configuration mode.

Note: Microprocessor and PCB troubles are latching and cannot be silenced or reset. Refer to Troubleshooting Section.

- Signal Silence — Silences the NAC circuits.
- System Reset — Disconnects power from all input and output circuits and the auxiliary output for a period of five (5) seconds. This control switch is also used in conjunction with the Acknowledge control switch to enter the configuration mode.
- Output Disable — Disables the release of agent, and as selected in the system configuration, the activation of NAC outputs and/or Programmable Relays. This is used when performing maintenance on the system.

Digital Display

The three digit display is used for the following:

- View and enter field configuration settings
- Display troubleshooting/diagnostic codes
- Display battery voltage and charging current
- Count-down timer for agent release

Buzzer

The buzzer will sound when an alarm, trouble or supervisory condition is present.

Initiating Device Circuits (System Inputs)

The Fenwal 732 has the following system inputs:

- Three (3) Detection Inputs
- One (1) Manual Release
- One (1) Abort
- Two (2) Supervisory Inputs

Detection Inputs

The control unit provides two dedicated initiating/detector input circuits, plus a third that can be used as an independent initiating/detector input. Inputs from these circuits are latching.

Each detector circuit is suitable for Class A or Class B wiring and is capable of operating with up to 25 smoke/electronic heat detectors and a quantity of contact-closure type devices (up to the limitation imposed by wiring resistance).

Manual Release

Operation of a manual release pull station activates the NACs and initiates the release sequence. The configured time delay and agent release output is activated after the site configured time delay. Manual release overrides any other time delay. The circuit is suitable for both Class A or Class B wiring and any quantity of contact closure type manual release stations subject to the limitations imposed by the wiring resistance. The manual release will also override any activated abort switch.

Abort Switch

WARNING The abort switch will not stop the dispersant from discharging indefinitely. The abort switch only postpones the discharge, by resetting the 30-second counter. All personnel must be out of the unit before the dispersant is discharged.

An abort switch is located next to the staff door in the Control Room. Lift the red guard and lift and hold the switch to temporarily abort the agent discharge. When this switch has been activated, the 30-second timer will be reset.

The system will stay in the reset mode as long as the reset switch is held in position.

Once the reset switch has been released, the timer will resume the countdown starting at 30 seconds.

If for some reason the dispersant must be shortly postponed from discharging, use the abort switch.

Figure 28: Abort Switch

When the abort is activated, the timer is stopped and reset to 30 seconds. The timer will not start as long as the Abort switch is held. The timeout restarts when the Abort switch is released. Successive Abort Switch operations, resets the timer back to a 30 second delay. Selection of this mode does not have an over-ruling effect on any programmed manual or auto-release delays, regardless of whether an abort has actually occurred. In this mode, the auto-release delay is restricted to a maximum of 30 seconds.

Maintenance Switch

IMPORTANT

After all service work has been completed on the mobile unit, all smoke must be cleared from the mobile unit before arming the system.

IMPORTANT

If the key switch is in the active position and the red LED is illuminated, a trouble condition exists somewhere in the system. Refer tot eh system control panel for information.

The Maintenance Switch is mounted above the Fenwal 732 Panel in the Equipment Room.

When the maintenance switch is in the active position, the green LED will be illuminated signifying all systems are armed and functioning correctly.

When the maintenance switch is in the inactive position, the red LED will illuminate signifying that the system is unarmed. At this time, maintenance can be performed on the mobile unit as required.

Figure 29: Maintenance Switch

Supervisory Inputs

The Supervisory Circuits accept inputs from monitoring devices such as pressure switches on agent cylinders or sprinkler systems.

System Outputs

The Fenwal 732 has the following system outputs:

- Three (3) Notification Appliance Circuits (NACs)
- Two (2) Agent Release Circuits (ARC)
- Three (3) Programmable Relays
- One (1) Dedicated Trouble Relay
- One (1) Auxiliary Power Output

Notification Appliance Circuits (NACs)

The Fenwal 732 has three dedicated notification appliance circuits (NAC). Any NAC can be configured in system configuration to operate on one or more of First Alarm, Pre-Release, and Releasing conditions. In the case that the control unit is being used in a non-suppression application, the three NACs may be configured to operate on Alarm from DET 1, DET 2, and DET 3. Each circuit is driven independently and is user configurable for either Class A (Style Z) or Class B (Style Y) operation with the following coded patterns:

- 60 beats per minute (BPM)
- 120 beats per minute (BPM)
- Temporal
- Continuous

The three circuits are supervised, power-limited, and are compatible with conventional UL listed, 24V DC notification appliances. They can also be used with the following synchronizable horns and strobes:

- MT series multi-tone horns and horn/strobes
- NS series horn/strobes
- NH series horns
- RSS(P) series strobes

The MT and NS series network appliances provide the option to use silenceable horns and nonsilenceable strobes on the same NAC.

Multiple NAC circuits (connected to audible devices only) programmed with the same master code pattern are synchronized, regardless of any differing starting times that preceded their concurrent operation.

The control unit is designed for user selection of an intelligent synchronization feature. This feature allows the silenceable horn to be shut off while the strobe continues to flash in synchronized fashion.

Each NAC is rated 1.5A at 24V DC and is suitable for polarized 24V DC appliances only.

Agent Release Circuits (ARC)

The Fenwal 732 has two (2) dedicated, independently controlled Class B ARCs compatible with devices listed.

Trouble Relay

The trouble relay is "normally energized" with AC Power ON and will de-energize upon receipt of a trouble condition. This change is non-latching and the relay will revert to its normal state upon removal of the trouble state.

System Operation

During normal operation, the fire suppression system control panel remains in a supervisory mode. In order for the fire suppression system to discharge the dispersant, a number of events must first occur. When these events begin to occur, the fire suppression system control panel enters into what is called a “counting mode”.

- If one smoke detector goes into alarm, the following steps will occur.
- The red LED marked “ALM1” or “ALM2” located on the front cover of the fire suppression system control panel will illuminate.
- The HVAC system will shutdown.
- The roll door will close (if applicable).
- The “PRE-RELEASE” LED will illuminate.
- 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.

If a second smoke detector goes into alarm, the following steps will occur in addition to the previously mentioned steps.

- The horn will pulse (on-off-on-off, etc.).
- The strobe light will begin to flash.
- A 30 second time delay will begin.
- After 30 seconds have passed, the dispersant will be discharged. (Total discharge time is normally less than 10 seconds.)
- The LED marked “RELEASING” located on the front cover of the fire suppression system control panel will illuminate.
- The horn will sound continuously indicating that the dispersant is being discharged.
- The LED marked “POST-RELEASE” located on the front cover of the fire suppression system control panel will illuminate.
- The medical system will shutdown.
- The rear service exhaust fan will shutdown.
- The fire remote contacts located in the remote box in the underbody compartment will state.

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.

Input / Output Matrix

The following table details the cause and effect actions that may occur during system operation. The effect actions are controlled by the Fenwal 732 Controller.

Table 4-2. Input / Output Matrix

CAUSE		Input Output Matrix	EFFECT: Suppression Control												EFFECT: Bldg.				
			Trouble	Horn/Strobe (1st Alarm)	Turn off A/C, Shut Roll Door	Horn/Strobe (2nd Alarm)	Drop Trailer Power	Input to Cross Zone	Start Timer - 30 Seconds	Inhibit Automatic Release	Discharge Agent	Discharge Strobes			Trouble	Alarm	Supervisory		
			A	B	C	D	E	F	G	H	I	J	K	L					
	1	Panel Trouble	X												X				
	2	Smoke Detector (First)		X	X											X			
	3	Smoke Detector (Second)					X	X	X										
	4	Manual Pull Station (Suppression)			X	X	X		X		X	X				X			
	5	Abort Button	X							X					X				
	6	Detection Cross Zoned				X			X										
	7	Discharge Timer Start				X													
	8	Discharge Timer Complete				X					X								
	9	Agent Release										X							

4.7 Gauss Lines

DANGER The magnetic field created when the magnet is up to full field attracts objects containing iron, steel, nickel, and cobalt. Such objects must not be brought into the exclusion zone area. Large objects will not be able to be restrained. Persons with implants or prosthetic devices must not enter this area. Pacemakers may be disabled. Data on credit cards and magnetic storage media can be erased. Watches, cameras, and instruments can be damaged.

IMPORTANT The exclusion zone is restricted to within 8” of the outside walls of the trailer.

A magnet produces magnetic fields. The measured intensity of these fields at specified distances from the magnet are referred to as gauss lines.

Any stationary or moving ferrous objects within the magnetic field have a definite impact on the homogeneity of the magnetic field.

The magnetic filed also has a definite impact on any ferrous material that enters it.

In order to maintain the uniformity of the magnetic field, and for the protection of all personnel near to the magnetic field, warning signs are posted on the staff door of the transportable unit, on the access door to Magnet Room, and on the sides of the mobile unit.

4.8 Platform Lift

There are multiple safety features for the Platform Lift. For a full list of the safety features, please refer to **Section 10: Platform Lift**.

4.9 Magnet System

DANGER The magnetic field created when the magnet is up to full field attracts objects containing ferrous materials (e.g. iron, steel, nickel, cobalt, etc.). Such objects must not be brought into the exclusion zone area. Large objects will not be able to be restrained. Persons with implants or prosthetic devices must not enter this area. Pacemakers may be disabled. Data on credit cards and magnetic storage media can be erased. Watches, cameras, and instruments can be damaged.

Because of certain precautions that are need to be taken when nearing a magnet, a magnet interlock system has been incorporated into the unit. A decal stating *Magnet ON*, has been placed on the frame of the entry door to Scan Room in order to alert all personnel nearing the room. An optional light can be provided. The light is labeled *Magnet* ON and is located next to the entry door to Scan Room.

4.10 Marker Lights

L.E.D. type marker and side turn signal lights are installed on the trailer body to assist the driver with maneuvering the mobile unit.

4.11 Roll Door

Controls for the roll door are located both inside and outside of the mobile unit.

On the exterior of the mobile unit, the controls can be found alongside the controls for the Platform Lift.

On the interior, the controls can be found next to the staff door.

A green indicator light is located next to the controls. It illuminates when the Platform Lift is in the raised position. It signals when the door can be safely opened.

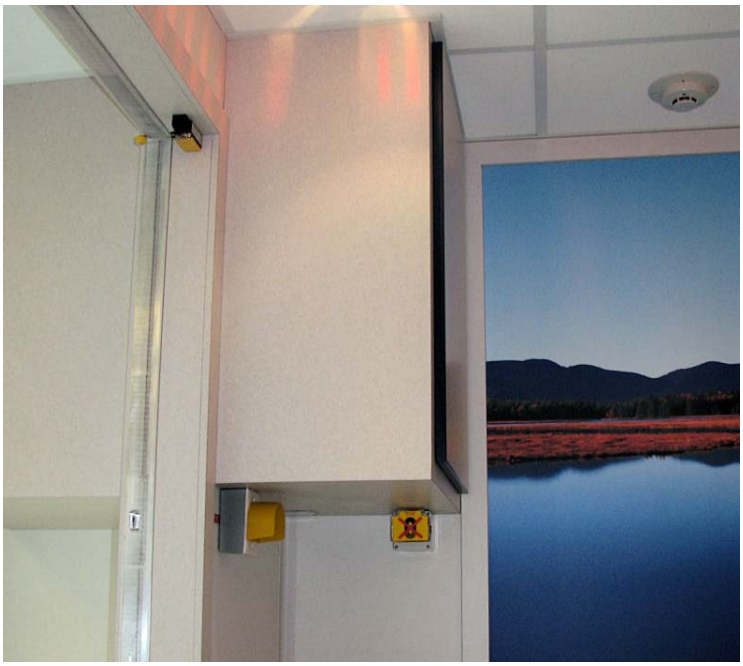
In the event the power supply is lost, a manual override, (emergency release) for the roll door, allows you raise or lower the roll door.

Once the disconnect lever is pulled, the roll door can be moved manually either up or down.

Figure 30: Roll Door Emergency Release

4.12 System Shutdowns

Both automatic and manual shutdowns exist for the mobile unit. All shutdowns refer only to the medical system. They do not affect the HVAC system, unless otherwise noted.



Guarded Magnet Quench Button in the Scan Room

Emergency Off button in the Control Room

Figure 31: Emergency Shutdown Buttons

Guarded Magnet Quench Button (Emergency Rundown Unit)

This *WILL* drop out the magnet. Depressing the Quench Button will rapidly deplete the magnetic field. The magnet located inside of Scan Room is cooled by liquid helium. When the magnet quench button is depressed, the helium will be purged from the magnet. This must only be done when there is an emergency related to the magnetic field.

Once this button has been depressed, the helium will be quenched and the MRI System must be serviced before it can be used again.

The guard must be lifted before the button can be depressed. Once the button has been depressed, the magnet will begin quenching while all the other systems continue to work normally.

Manual Shutdown (Emergency Stop / Shunt trip coil)

This *WILL NOT* drop out the magnet. ONLY depressing the Quench Button will rapidly deplete the magnetic field.

Depressing the E-Stops or A1 Stop buttons will NOT deplete the magnetic field.

Manual shutdowns are those that require the operating personnel to depress “Emergency OFF” buttons in the event of an emergency. The “Emergency OFF” buttons are located in Control Room and Magnet Room aboard the mobile unit. When these buttons are depressed, only the medical system will be shut down. The trailer systems will still be operational.

4.13 Warning Lights

Warning lights have been provided to keep the operator and technician aware of the status of the mobile unit at all times. A description of each of the warning lights and their location is below.

If any of the warning lights are illuminated, please refer to **Appendix B: Troubleshooting**, for additional information.

Power Warning Light

The Power Warning Light is located on the exterior left side of the mobile unit. It illuminates when the mobile unit is receiving power. The mobile unit must have power at all times.

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 located on the exterior left side of the mobile unit. It illuminates when the Platform Lift is not in the proper transport position.

Section 5: Mobile Unit Setup Procedure

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

NEVER use the landing / stabilizing legs and rear suspension to raise the mobile unit off the ground.

CAUTION The legs are designed 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 can occur to the mobile unit.

IMPORTANT A checklist can be found in Appendix A to be used as a guideline for the following procedures.

5.1 Park the Mobile Unit

In order to join the mobile unit to the facility, place the unit on the pad per the site-planning guide.

DO NOT set the trailer brake.

5.2 Lower the Landing / Stabilizing Legs

After the mobile unit has been parked on the pad per the site-planning guide, lower the landing / stabilizing legs to stabilize the mobile unit before it can be used. Refer to **Figure 51: Landing / Stabilizing Leg Assembly** for the following procedure.

1. Move and hold the pump switch in the Pump ON position.
2. Pull the levers towards you to extend the landing / stabilizing legs to their extended position.
3. Extend the legs far until the front of the unit has been raised high enough to clear the Tractor's Fifth Wheel.
4. Release the pump switch. The switch should automatically return to the Pump OFF position.

5.3 Disconnect the Tractor

After the landing / stabilizing legs have been lowered, remove the tractor from the mobile unit.

1. Make sure that the mobile unit has been raised high enough to clear the Fifth Wheel.
2. Leave the air and electrical lines attached to the trailer and disconnect the tractor from the mobile unit.

5.4 Install the Rear Stabilizing Stands

After the front landing / stabilizing legs have been lowered into position and the tractor has been disconnected from the mobile unit, the stabilizing stands can be installed. The stabilizing stands must be installed prior to use of the medical system. Refer to **Figure 2: Air Ride Control Valve** and **Figure 17: Stabilizing Stands** for the following procedure.

1. Release the Trailer Parking Brake.
2. Open the left side rear underbody compartment door to gain access to the air ride controls.
3. To raise the unit, turn the switch “ON” and place the lever in the “UP” position.
4. Raise the mobile unit high enough to insert the stabilizing stands. Move the switch to the “OFF” position.
5. Install the stands under the stand supports.
6. After the stands have been installed, turn the switch “ON” and place the lever in the “DOWN” position to deflate the air bags.
7. Continue to lower the mobile unit, until the supports are resting on the stabilizing stands.
8. Verify that the unit is level by checking the levels.

5.5 Level the Mobile Unit

After the preceding steps have been completed, the mobile unit may no longer be level. Level the units if necessary, by using the bubble levels. Refer to **Figure 12: Levels** if needed.

1. Check for binding of the entry door, equipment room door and the scan room door. Binding doors are an indication the unit is not level.
2. Install the front stabilizing stands behind the landing legs.
3. Re-level if necessary.
4. Set the trailer brakes.

5.6 Disconnect the Tractor Air and Electrical Lines

⚠CAUTION Failure to completely exhaust the suspension before uncoupling the sir lines may result in damage to the suspension of the mobile unit.

After the mobile unit has been re-leveled, the tractor air and electrical lines can safely be removed. Refer to **Figure 9: Glad Hand Connections**.

5.7 Connect to Shore Power

WARNING

Before connecting or disconnecting from shore power, you must move the shore power contactor switch 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 make sure 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 before using. If you believe that either internal or external damage has occurred, have a certified electrician inspect and repair the damage before using.

The unit must first be switched to shore power before the medical system can be used. Refer to **Figure 35: Shore Power Connection**, for the following procedure.

1. Make sure that the shore power contactor disconnect switch is in the OFF position.
2. Open the underbody compartment door and remove the power cable from the underbody compartment of the mobile unit.
3. Insert the trailer connector into the shore power receptacle and rotate the lock ring clockwise to secure the connection.
4. Move the shore power disconnect switch to the ON position.
5. Close the underbody compartment door. Make sure that the access door for the power cable has been released.

5.8 Install the Stair Assembly

Please refer to **Figure 18: Stair Assembly (standard)** 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.

5.9 Enter the Mobile Unit

Verify that the air conditioner and magnet shield cooler are operational.

5.10 Connect the Phone and Data Lines

The phone and data lines are in the underbody storage compartments. Both the phone and data lines can now be connected from the outlets located in the underbody compartments to the receptacles located at the shore facility.

The phone lines make use of Hubbell PH-6595 all weather connections. The data lines make use of CAT-5E cable and RJ-45 connections. Refer to **Figure 15: Phone & Data Line Connections**.

5.11 Platform Lift Deployment (if installed)

After the stair assembly has been installed, the Platform Lift can be deployed for use. Please refer to **Section 10: 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. The controls for the Platform Lift are Located next to the roll door. Insert the connector from the lift remote control pendent into the receptacle that is located on this control panel.
5. Remove the Lift Transport Restraining cable.
6. Remove the transport pins from each side of the lift.
7. Raise the lift high enough to clear the cradles using the remote control pendant.
8. Carefully rotate the platform down until it is parallel with the ground. A torsion bar is connected within the Platform Lift hardware that will enable one person to rotate the lift platform into operating position.
9. Lower the platform to the ground using the lift remote control pendent.
10. Once the platform has been lowered, install the handrails and secure them with the hardware provided.

5.12 Remove Restraining Hardware

There are two types of restraints that need or may need to be removed prior to using the medical system.

- Medical Equipment: Follow all instructions provided by the medical equipment manufacturer when adding or removing restraints from the medical equipment.
  These instructions can be found in the system manuals provided by the medical equipment manufacturer.
- Mobile Unit: Various items of the mobile unit may be secured while the unit is being transported. These items consist of chairs, monitors, door, cabinets, cameras, and printers, etc. Remove all restraining equipment before using the medical system.

5.13 Canopy Deployment (if applicable)

If the canopy option has been installed on the mobile unit, it can now be deployed. Please follow the instructions below and refer to **Figure 3: Canopy**.

1. Remove the handle from Equipment Room.
2. Insert the hook of the handle into the hole of the canopy crank mechanism.
3. Turn the handle in order to deploy the canopy.
4. Return the handle to its storage position inside of Equipment Room after the canopy has been deployed.

Section 6: Mobile Unit Transport Procedure

NEVER use the landing / stabilizing legs and rear suspension to raise the mobile unit off the ground.

CAUTION The legs are designed 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 can occur to the mobile unit.

CAUTION Before transporting the mobile unit, make sure all warning lights as well as all exterior marker lights are working correctly.

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

IMPORTANT Due care must be exercised to avoid severe operating environments that endanger the system equipment.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT Disobeying posted speed limits, driving dangerously, driving while under the influence of alcohol or drugs, driving without a valid operators license, or insurance or driving without due care or any illegal action by the driver may result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT Due care must be exercised to use the lowest speeds possible when docking and undocking the trailer.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT The owner/operator must notify Siemens Magnet Technology within one (1) day of any instance that causes the shock logger alarm to sound. Failure to do so could result in invalidating the Siemens Magnet Technology warranty. Contact the local Siemens Medical Systems Representative.

6.1 Canopy Retraction (if applicable)

If the canopy option has been installed on the mobile unit, it can now be retracted. Please follow the instructions below and refer to **Figure 3: Canopy**.

1. Remove the handle from Equipment Room.
2. Insert the hook of the handle into the hole of the canopy crank mechanism.
3. Turn the handle to retract the canopy.
4. After the canopy has been retracted, return the handle to its storage position inside of Equipment Room.

6.2 Return the Platform Lift to the Transport Position

Please refer to **Section 10: Platform Lift**, and follow the procedure outlined below.

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 connected within the Platform Lift hardware that will enable one person to rotate 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. Remove the remote control pendent from the socket and lock the access door to the Platform Lift controls.
7. Insert the Transport Pins and connect the Lift Transport Restraining Cable securely in place.
8. Open the underbody compartment door and store the remote control pendent and handrail assembly in the underbody storage compartment.

6 3 Secure all Equipment

Two types of restraints need to be supplied before transporting the mobile unit.

- Medical Equipment: Follow all instructions provided by the medical equipment manufacturer when applying restraints to the medical system. These instructions can be found in the system manuals provided by the medical equipment manufacturer.
- Mobile Unit Equipment: Various items in the mobile unit must be secured before transporting the mobile unit. Such items consist of chairs, monitors, doors, cabinets, cameras, and printers, etc. Use the supplied restraining hardware to secure these items before transporting the mobile unit.

6.4 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, lights are off and entry door is locked.

Please refer to **Figure 18: Stair Assembly (standard)** and follow the appropriate set of instructions for your unit.

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 handrail in place. Remove the handrail 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. Using the sole of your shoe, step on the spring loaded release to retract the adjustable legs on each side of the stair assembly.
6. Place the stair assembly and handrail inside of the underbody storage compartment and close the compartment door.

6.5 Connect the Tractor Air and Electrical Lines

BEFORE removing the rear stabilizing stands, the air brake and electrical lines must first be connected from the tractor to the mobile unit. Please refer to **Figure 9: Glad Hand Connections** and follow the steps outlined below.

1. Back up the tractor to the mobile unit, but do not back under it at this time.
2. Attach the air brake and electrical lines from the tractor to the mobile unit. Do not set the trailer brakes

6.6 Remove the Stabilizing Stands

Refer to **Figure 2: Air Ride Control Valve** and **Figure 17: Stabilizing Stands** for the following procedure.

1. Open the underbody compartment door that stores the rear stabilizing stands.
2. Open the left rear underbody compartment where the control panel that contains the switch and lever that controls the air suspension air bags is found.
3. Move this switch to the ON position and the lever to the UP position.
4. The rear air suspension system will automatically inflate and the mobile unit will rise to enable removing the stabilizing stands.
5. Remove the rear stabilizing stands. Place the stands in the rear underbody storage compartments.
6. Move the switch to the OFF position and the lever to the DOWN position inflate the bags for normal ride.
7. Close the underbody storage compartment doors.

⚠ 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 valve Is not in the normal ride position, irreparable damage may occur to the mobile unit.

6.7 Connect the Tractor to the Mobile Unit

Before connecting the tractor to the mobile unit, be certain that enough clearance has been left for the Fifth Wheel. If the Fifth Wheel cannot fit underneath the mobile unit, the front end of the mobile unit must be raised. If it is necessary extend the landing legs to raise the front of the mobile unit enough to clear the Fifth Wheel, please follow the steps below. Please refer to **Figure 51: Landing / Stabilizing Leg Assembly** for procedures.

1. Move and hold the pump switch in the ON position.
2. Pull the levers toward you to extend the legs. This will raise the front end of the mobile unit. Raise the front just enough to clear the tractor for connection.
3. Release the pump switch. The pump switch should automatically return to the Pump OFF position.
4. Check to verify that enough room has been made for the Fifth Wheel clearance and proceed with caution to connect the tractor to the mobile unit.
5. Make sure that the Fifth Wheel is securely locked into position.

6.8 Raise the Landing / Stabilizing Legs

After the tractor has successfully connected to the mobile unit, the stabilizing legs can be raised. Refer to **Figure 51: Landing / Stabilizing Leg Assembly** for the following procedure.

1. Move and hold the pump switch in the ON position.
2. Push the levers away from you to retract the legs. This will lower the front end of the mobile unit.
3. Retract the legs to their transport positions.
4. Release the pump switch. The pump switch should automatically return to the Pump OFF position.

6.9 Remove the Shore Power Connection

DANGER

Before connecting or disconnecting from shore power, you must move the shore power contactor switch to the OFF position.

Failure to do this can result in injury or death to the operator of the mobile unit.

Please refer to **Figure 35: Shore Power Connection**, for the following procedure.

1. Open the underbody compartment door where the power cable is to be stored.
2. Move the shore power disconnect switch into the OFF position.
3. Unthread the lock ring that is securing the connection.
4. Remove the connector from the receptacle.
5. Return the power cable to the underbody storage compartment.
6. Before closing the compartment door, make sure that the power cable access door is closed and latched.

6.10 Disconnect Phone and Data Lines

Please refer to **Figure 15: Phone & Data Line Connections**, for the following procedure.

1. Disconnect any phone and data lines that are attached to shore receptacles.
2. Open the compartment door and disconnect any phone and data lines that are connected in the underbody storage compartment.
3. Store the phone and data lines in the underbody storage compartment and close the compartment door.

6.11 Verify that the Mobile Unit is Ready for Transport

Before the mobile unit can be transported, perform a final check of all components. Please refer to the following when checking the mobile unit.

1. Have the chairs, monitors, doors, cabinets, cameras, and printers been secured? Is the Scan Room door closed and locked? Make sure that all of these items have been restrained with the supplied hardware before transporting the mobile unit.
2. Are all exterior doors closed and locked? If not, make sure that all exterior doors are closed and locked.
3. Is the Platform Lift in the transport position, fully seated in its retaining cradle? If not, make sure that the Platform Lift is in the transport position, fully seated in the cradle, the transport pins are inserted, all micro switches are actuated and the Lift Transport Restraining Cable is in place and securely connected.
4. Are all running and marker lights working correctly? If not, replace any LED lights that are not working before transporting the mobile unit.
5. Are any warning lights illuminated? If so, check to find the cause of the warning. Do not move the mobile unit if any warning lights are illuminated or strobe lights are flashing. If further assistance is needed, refer to the Oshkosh Specialty Vehicles VOL I Site Guide, Operator Service Manual binder for a list of local service representatives or call Oshkosh Specialty Vehicles for further assistance.
6. Is the fuel tank full? Check the fuel gauge, located in the underbody compartment, and fill the fuel tank if necessary.
7. Make sure that the air suspension system is fully inflated and at the proper ride height. The lowest point of the trailer sidewall should be approximately 15” above ground level.

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.

DANGER Before connecting or disconnecting from shore power, you must move the shore power contactor switch 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.

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.

There are three panels used in the electrical system:

One 480V AC electrical panel that is located in the Equipment Room of the mobile unit. This panel distributes all incoming power.

One 120V / 208V AC electrical panel that is located in Equipment Room of the mobile unit. This panel distributes power to the components of the mobile unit.

One A1 Panel distributes power to the medical system,

7.1 120/208V AC Electrical Panel

The 120/208V AC electrical panel distributes the power to the equipment of the mobile unit.

If a problem exists with the equipment, or the power supply to them, a circuit breaker will trip in order to prevent damage.

A listing of all the circuit breakers is on the inside of the panel access door.

Figure 32: 120/208V AC Electrical Panel

7.2 480V AC Electrical Panel

DANGER 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 480V AC electrical panel distributes all incoming exterior power supplied to the mobile unit.

If a problem exists with the equipment, a circuit breaker will trip in order to prevent damage.

A listing of all the circuit breakers is on the inside of the panel access door.

Figure 33: 480V AC Electrical Panel

7.3 A1 Panel Shunt Trip

Figure 34: Shunt Trip

Distributes and controls power to the medical system.

7.4 Facility Power Connection

The shore power connection is attached to the facility, not the mobile unit. Shore power is an integral part of the daily operations.

The facility is responsible for providing shore power that meets the mobile unit's specifications.

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

Receptacle	
Manufacturer:	Russellstoll
Model:	DF 2504 FRAB0
Ampere Rating:	200 A

Figure 35: 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. The lever 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.

7.5 Power Cable

Descriptions:	Specifications
Service Amps:	150 A
Plug:	Russellstoll; DS 2504 MP000/DF2033, 600V AC, 200 A
4 Wire:	4 pole
Cord:	P-116 MSHA, 150 A, a # 3/0 4 conductor type W, 600V – 2000V, 90° C, 45'-0" long

Figure 36: Power Cable

Section 8: 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 an integral part of the HVAC System. The humidifier maintains the correct 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 37: Humidifier and water supply tank

Exterior Fill:	The exterior fill connection must be used to allow the mobile unit water supply tank to be filled. Can be filled from inside
Humidifier:	The humidifier provides the required humidity to the mobile unit per the medical manufacturer's requirements.
Humidity Controller:	The setting is preset at the factory to comply with the medical system manufacturer's 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.

8.1 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 the mobile unit is too high or too low, the PDG display panel will provide an alarm to warn of the condition. See **Figure 41: PDG Display A/C / Chiller Alarm Panel**. If this happens, please refer to **Appendix B: Troubleshooting** of this manual.

8.2 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:

One 3/4” garden hose for filling the water supply tank from the exterior of the mobile unit.

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.

8.3 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 40%. The humidifier must not be altered from its factory setting.

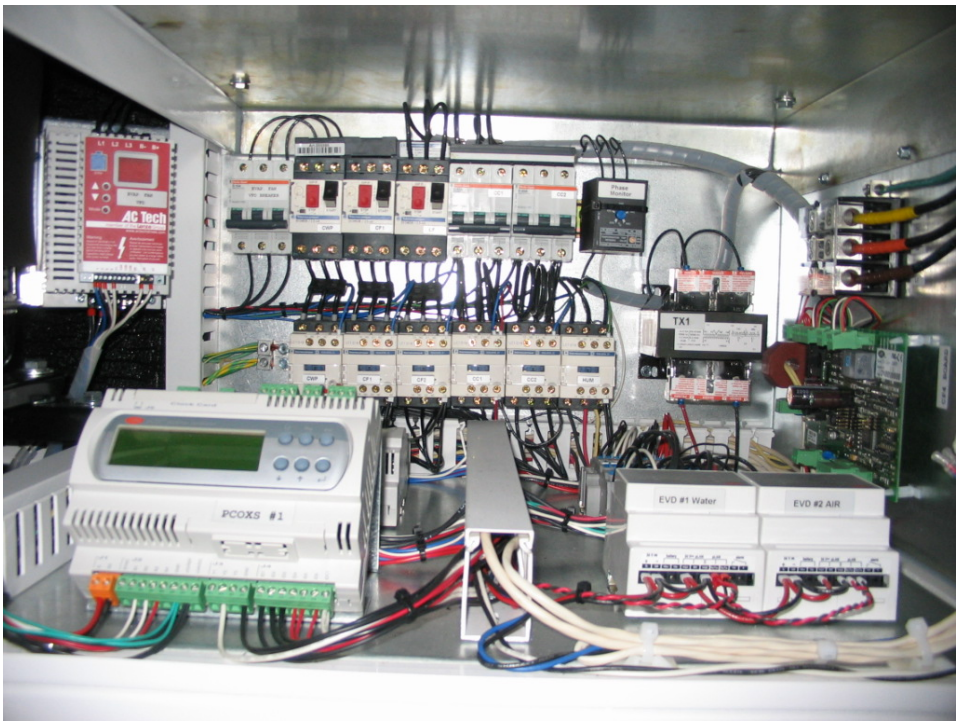


Figure 38: Humidity Controller Unit

8.4 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).

8.5 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.

8.6 Instructions

The HVAC system along with the humidifier is set to the required settings per the medical equipment manufacturers' 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 9: HVAC System

The HVAC system is critical to the operation and life of the medical system.

CAUTION

The medical system operates within strict specifications for 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. **NEVER change these settings.**

CAUTION

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

Figure 39: A/C Unit

Combination A/C and Chiller Unit

This A/C unit is responsible for the environments in Scan Room, Magnet Room, Control Room and Equipment Room.

The Chiller supplies chilled liquid to the magnet shield cooler compressor.

9.1 Air Conditioning & Chiller

A common unit supplies air conditioning and chilled liquid. Discharging conditioned air into the equipment room at a steady temperature provides air conditioning. This air is then drawn from the equipment room and distributed to the balance of the mobile unit by two ceiling mounted blowers. The right side blower supplies air to the control room and the left side blower supplies air to the scan room and behind the magnet.

If necessary, the air is heated by an in-duct heater before discharge. Sensing bulbs located in the return-air stream control the heaters, and a sensor in the equipment room controls the A/C unit.

Chilled liquid is supplied to the magnet shield cooler compressor and the BRM heat exchanger through a common circuit. The reservoir tank and pump are located inside the A/C-Chiller unit, on the left side. The liquid is a 50/50 mix of water and Ethylene glycol. The level can be checked and adjusted through the service door in the interior cover panel.

Figure 40: A/C / Chiller Control Panel

The A/C-Chiller's main control panel is located on the front wall of the equipment room. This panel is used to control the operation, temperature settings and display fault lights. Refer to the manufacturer's manual for information on fault lights. **The factory settings provide the proper environment for the MRI system, NEVER change or adjust the factory settings.**

A PDG Display remote alarm panel is located in the control room near the operator's work station, see **Figure 41: PDG Display A/C / Chiller Alarm Panel** This panel warns the operator of an A/C-Chiller fault. A switch on the panel can be used to silence the audible alarm. In the event of a fault, the digital display or the main control panel can be accessed for specific fault information.

Figure 41: PDG Display A/C / Chiller Alarm Panel

In order to ensure proper operation of the HVAC system at all times, refer to Section 14: General Maintenance and Section 15: Specific Maintenance.

9.2 System Specifications and Descriptions

The HVAC system is completely designed and installed in full conformance with all applicable codes.

The HVAC system provides forced air.

The HVAC uses electricity as the power source.

The air ducts are constructed of approved materials and installed in conformance with all applicable codes.

Air conditioning and heating registers are installed in accordance with the approved plans.

Return air is provided in full conformance with all applicable codes.

All warning and identification labels are installed at the factory.

All aspects of the HVAC system such as damper settings, venting, component set points, and sensor placement are set at the factory for optimum operation. NEVER change these settings.

The air conditioning ductwork is lined with a sound-absorbent material for reduced noise and for operator and patient comfort.

9.3 Exterior HVAC Specifications

The HVAC system is designed to work within an ambient exterior air temperature range of -20°F to 110°F.

9.4 Interior HVAC Specifications

A single 216,000 Btu unit is mounted high on the front wall of the trailer. The condensing coils are directed up to prevent damage during transport. All internal components are commercial grade, and are vibration-isolated from the system housing.

The system housing is mounted as an integral part of the front wall to prevent water leakage. Discharge temperature in the scan and control rooms is controlled to reduce temperature fluctuations.

The HVAC filters are located in the Equipment Room in the overhead ductwork and can be accessed as shown below.

HVAC Vents Discharge

HVAC Filter Access

Figure 42: HVAC Components

9.5 Underbody Compartment Heater

The compartment heater is located in the same compartment as the cryogen compressor in the right side underbody compartments. This heater provides 1.5KW of heat. The compartment heater activates when the ambient temperature drops below 40°F. It deactivates when the ambient temperature rises above approximately 45°F.

An optional cold weather kit is also available. This kit is designed for mobile units that endure cold weather climates. It includes an additional compartment heater installed in the fuel compartment and additional foam insulation sprayed on the underbody of the mobile unit.

Figure 43: Heater

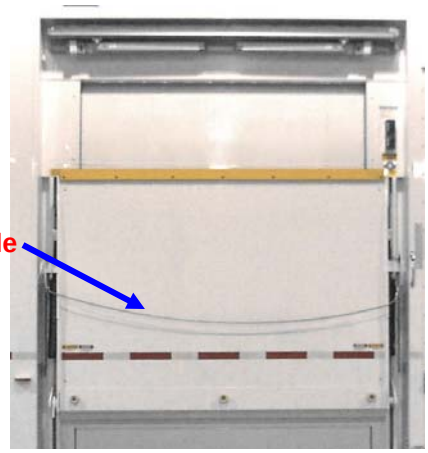
Section 10: Platform Lift

The mobile unit contains a Platform Lift that is used to move personnel and equipment from ground level to the floor level of the mobile unit.

The Platform Lift has a maximum capacity of 2000 and a maximum height of 53”.

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 and not to accurately reflect the current design of the mobile unit.



Transport Position

Lowered

Handrails Installed

Raised

Figure 44: Platform Lift Progression

The illustrations below show the retaining cradle and the transport pins.

The transport pins are to be used when transporting the mobile unit. The transport pins prevent the Platform Lift from leaving the retaining cradles during transport.

Failure to use the transport pins can result in damage to the mobile unit.

You can also see the lift pocket micro switch.

The Transport Pin micro switches cannot be seen. The micro switches are connected in series to a Control Relay (CR#).

If CR# 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 notify the operator of the Platform Lift status during transport. CR# also removes power from the lift hydraulic system when all three micro switches are actuated.

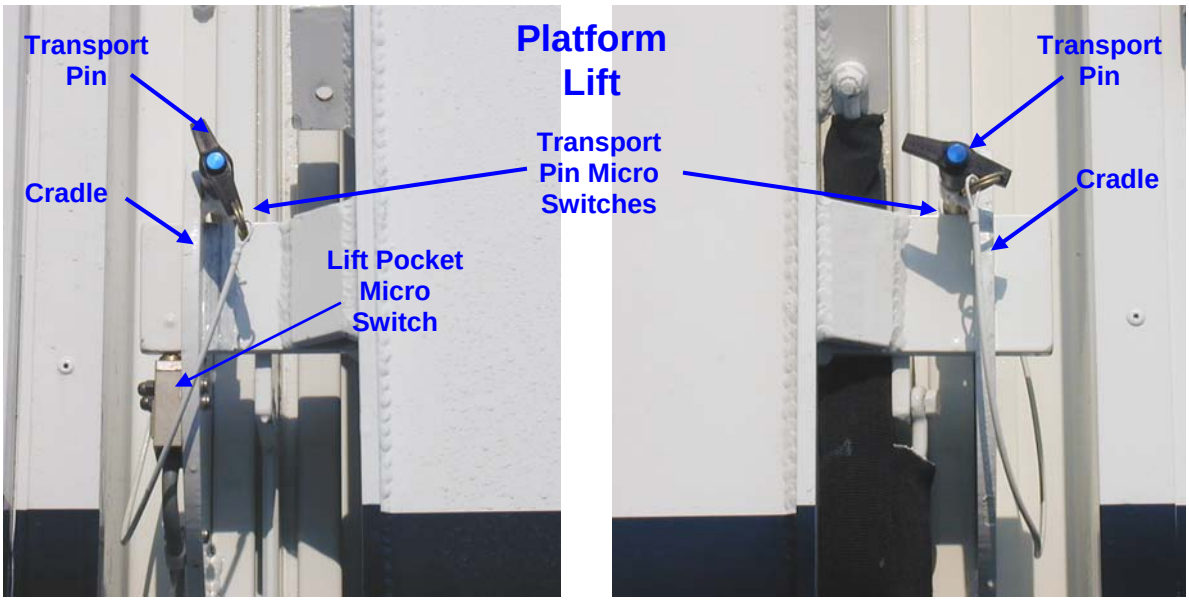


Figure 45: Platform Lift Retaining Cradles

10.1 Safety Features

The Platform Lift has several built-in safety features.

Transport Pins

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

Transport pins are provided to secure the Platform Lift during transport. These pins MUST be used when the mobile unit is being transported. Failure to use these pins can 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 to move the Platform Lift Up or Down, the control switch must be pressed all the time.

Handrails

The Platform Lift is supplied with handrails. They 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 before raising or lowering personnel on the lift.

WARNING It is the Operator's responsibility to make sure that the handrails are properly installed and latched in place before 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 operates the roll door. A small green indicator light on the panel turns ON when the lift is in the raised position.

WARNING It is the Operator's responsibility to make sure that the roll door remains closed unless the lift is in the raised position.

Failure to do so could result in serious personal injury or death.

NEVER open the roll door unless this Green 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 lowered.

Remote Control Pendent

A remote control pendent operates the Platform Lift. The pendent plugs into a jack located between the staff entry 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 to watch it during operation. The remote control pendent works off the 12V DC power system.

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. It illuminates when the Platform Lift is not in the proper transport position.

It is the Operator's responsibility to make sure that the Transport Warning Light is functioning properly.

Please refer to the Oshkosh Specialty Vehicles VOL I Site Guide, Operator Service Manual binder for the product manual, and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Transport Warning Strobe Light

WARNING

If the Transport Warning Strobe Light is flashing, NEVER move the mobile unit.

If the mobile unit is moved while this light is flashing, irreparable damage to the mobile unit and serious 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 make sure that the Transport Warning Light is functioning properly.

Please refer to the Oshkosh Specialty Vehicles VOL I Site Guide, Operator Service Manual binder for the product manual, and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Lift Transport Restraining Cable

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

10.2 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 is selected for the Platform Lift, the pump turns ON and pumps fluid from the reservoir through the valve block to the hydraulic cylinder. This causes the lift to move upward.

When the DOWN function is 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 lower.

10.3 Platform Lift Operation

You can operate the Platform Lift with either the remote control pendent or the exterior lift controls. The lift can be raised or lowered with these controls.

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 below. This same information is found under the setup and transport procedures for the mobile unit.

Deploying the Platform Lift for use with the Mobile Unit

1. After the stair assembly has been installed, the Platform Lift can be deployed for use.
2. Open the underbody compartment doors.
3. Remove the handrails and lift pendent, and place them to the side for now.
4. Close the underbody compartment door.
5. Insert the connector from the lift control pendent into the receptacle located behind the access door to the Platform Lift controls.
6. Remove the Lift Transport Restraining Cable.
7. Remove the transport pins.
8. Using the remote, raise the lift high enough to clear the cradles.
9. 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.
10. Using the lift control pendent, lower the platform to the ground.
11. 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

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.

10.4 Platform Lift Upgrades

Electrical Upgrade

The electrical upgrades to the platform lift are as follows:

On/OFF Switch with an ON indicator light is located at the side of the Roll Door inside the Control Room. This switch is used by the Technician to enable or disable the platform lift power. See **Figure 46: Platform Lift Power Switch** below.

Figure 46: Platform Lift Power Switch

The Proximity Strobe and Audible Warning Alarm are located in the overhead panel above the Roll Door. These are activated by any weight placed on the Threshold Sensor Mat located at the threshold of the Roll Door inside the Control Room if the platform lift is not in the full UP position. To silence the alarm and turn OFF the strobe, raise the platform lift to the full UP position. See **Figure 47: Platform Lift Strobe & Alarm** below.

Figure 47: Platform Lift Strobe & Alarm

The Platform Lift Threshold Sensor Mat is located in the Control Room at the threshold of the Roll Door. Stepping on this mat or placing any significant weight on it will activate the Proximity Strobe and Audible Warning Alarm in the overhead above the Roll Door if the Platform Lift is not in the Full Up position. To silence the alarm and turn OFF the strobe, raise the platform lift to the full UP position. See **Figure 48: Platform Lift Threshold Sensor Mat** below.

Figure 48: Platform Lift Threshold Sensor Mat

The Service and Maintenance Controls are located in the lower right side compartment to the rear of the Platform Lift. The Keyed switch enables the two other controls to raise and lower the lift for storage and deployment and locks out the pendant controls. See **Figure 49: Platform Lift Service & Maintenance Controls** below.

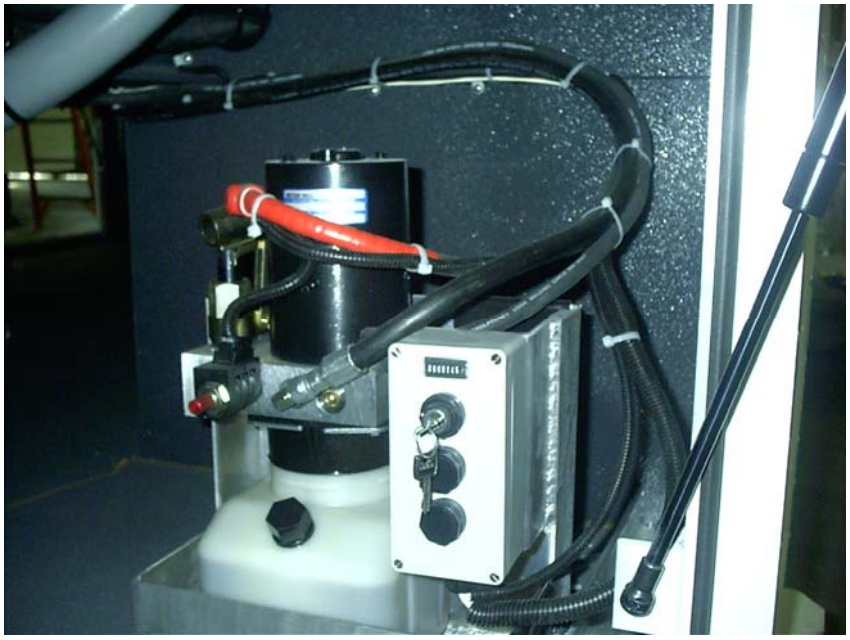


Figure 49: Platform Lift Service & Maintenance Controls

Hydraulic Upgrade

The hydraulic system upgrade to the platform lift is as follows:

The hydraulic pump for the Platform Lift is located in the lower right side compartment to the rear of the Platform Lift. The new pump incorporates a hand operated pump lever and hand operated control valve for emergency use. See **Figure 49: Platform Lift Service & Maintenance Controls** above.

Section 11: Intrusion Alarm (optional)

An optional intrusion alarm is available for the mobile unit. This alarm is designed to divert would-be intruders from theft, vandalism, or unauthorized entrance into the mobile unit.

Figure 50: Intrusion Alarm Keypad

11.1 Operation

The alarm is operated by a keypad located by the staff door. When entering the mobile unit, the operator keys in a code to deactivate the alarm. When leaving the mobile unit, the operator keys in a code to activate the alarm.

If either the staff entry door or the compartment doors are opened while the alarm is activated, a siren will sound.

The Rear Magnet Room Door, Equipment Room Service Door, and Staff Entry Door are equipped with sensors to activate the alarm. The underbody compartments and Control Room also use motion detectors to sound the alarm.

For additional information, please refer to the Oshkosh Specialty Vehicles VOL II Vendor Information binder for the product manual, and the Oshkosh Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service. The literature can be found in the product information binders that have been included with the mobile unit.

Section 12: Landing / Stabilizing Legs

12.1 Landing / Stabilizing Legs

Both the stabilizing legs and the auxiliary support legs can be found at the front of the unit. The 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.

CAUTION

Under no circumstances should the landing / 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 landing / stabilizing legs and the rear air suspension, serious damage can occur to the suspension system of the mobile unit.

The landing / stabilizing legs and auxiliary support legs are at the front of the unit. The landing / stabilizing legs are only for the purpose of parking and stabilizing the mobile unit.

Please refer to the Oshkosh Specialty Vehicles VOL I Site Guide, Operator Service Manual binder for the product manual, and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Figure 51: Landing / Stabilizing Leg Assembly

The photos above show the following components:

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.
Digital Levels:	Allows the mobile unit to be leveled both front-to-back and side-to-side.
Lever 1:	Front Left side leg.
Lever 2:	Front Right side leg.
Pump ON / OFF Switch	The switch must be held in the ON position when extending or retracting the legs.
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.

12.2 Stabilizing Stands

The stabilizing stands are inserted beneath the rear supports of the mobile unit, and allow the mobile unit to be stabilized for all medical procedures. The stands are stored in the rearmost underbody compartments. When in use, the stands must be centered underneath the rear supports of the mobile unit.

12.3 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 install Stands)

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. This must be done to insert the stabilizing stands.

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.

NOTE: With the tractor air lines disconnected, turn the switch OFF after deflating the air bags.

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 52: Air Bag Controls

Section 13: Lighting System

The mobile unit has interior and exterior lighting.

13.1 Emergency Lighting

If the main AC power fails, three dual beam emergency lights automatically illuminate. They are located in Control Room, Equipment Room and Scan Room.

The emergency lighting system is wired into a 120V AC electrical system that keeps their batteries at 100% charge.

The emergency lights illuminate the exit doors for approximately 90 minutes.

Figure 53: Emergency Dual Beam Lighting

13.2 Exterior Lighting

IMPORTANT All warning lights are located on the driver's side of the mobile unit.

The exterior lights include service lights, compartment lights, and marker and running lights, and warning lights. For additional information on the warning lights, please refer to **Appendix B: Troubleshooting**.

Underbody Compartment Lighting

Wall mounted halogen lights are located inside of the underbody compartments and are controlled by timer switches. The timers allow the lights to be set for up to 30 minutes before automatically turning off. One light is provided on each side of the underbody.

Figure 54: Compartment Light

The fuel compartment is sealed off from the others. It has a push button dome light. It is not on a timer and must be turned OFF before closing the fuel compartment door.

Service Lighting

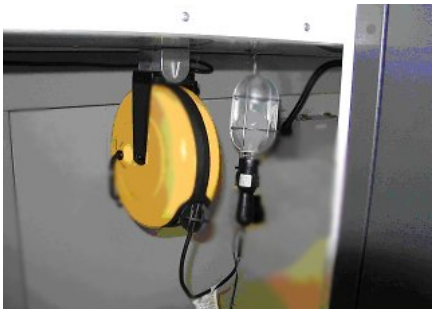


Figure 55: Drop Light

A cord-o-matic drop light with a 50'-0" cord is supplied. There are two drop lights aboard the mobile unit, the first is in the Equipment Room and the other is in the underbody storage compartments.

The light is 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 in between the roll door and staff door above the Platform Lift controls. 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 the mobile unit next to the entry door.

Figure 56: Staff Door Lighting

Marker & Running Lights

When the mobile unit is in transit, federal law requires specific illumination. 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. They 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 located at the front of the mobile unit for tractor hookup.

Two electrical connections are supplied at the glad-hands: one six-terminal connection and one seven-terminal connection.

13.3 Interior Lighting

Equipment Room

The light controls for the lighting in Equipment Room are located just inside the access door that leads into the Equipment Room. Recessed light fixtures are located in the ceiling panels and they are placed for effective illumination of the equipment during operation and service. The control switch is located in the Control Room.

Figure 57: Equipment Room Lighting

Control Room

The Control Room has two lighting systems.

Three switches located next to the entry door control the lighting located in the Control Room ceiling panels; Equipment Room ceiling panels; and Exterior Entry lighting.

A seperate switch controls the Control Room halogen lighting.

Figure 58: Control Room Lighting

Scan Room

The Scan Room has two different lighting systems for Scan Room. The systems are as follows.

Two switches located next to the Scan Room door control the halogen lighting located in the ceiling panels

The center-mounted patient prep light is located directly above the patient table. It is controlled by another switch located next to the Scan Room door.

Figure 59: Scan Room Lighting

Magnet Room

Two halogen light fixtures are located in Magnet Room. These lights are for illuminating the rear of the magnet.

Another switch located next to the Scan Room door controls these two fixtures.

Figure 60: Scan Room / Magnet Room Lighting and Switches

Changing Room

There are four halogen light fixtures located in the Changing Room. They provide illumination for the patient changing room. The control switch is located just inside the Changing Room door.

Figure 61: Changing Room Lighting

13.4 Warning Lights

Platform lift Transport Warning Light

Figure 62: Warning Lights

Warning lights have been installed on the exterior left side of the mobile unit to provide the operator and technician the status of the mobile unit at all times during transit or while in the parked position.

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 with shore power at all times when the unit is in the parked position.

The Power Warning Light is located on the exterior left side of the mobile unit. It illuminates when the mobile unit is receiving power.

When it is not illuminated, it tells the operator that power has failed. 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, NEVER move the mobile unit.

If the mobile unit is moved while this light is on, irreparable damage can occur to the mobile unit.

The Transport Warning Light is located on the exterior left side of the mobile unit. It illuminates when the Platform Lift is not in the proper transport position.

Before the mobile unit can be transported, the Platform Lift must be in the proper transport position and this light needs to be OFF. Refer to **Appendix B: Troubleshooting** for more information.

Transport Warning Strobe Light

WARNING

If the Transport Warning Strobe Light is flashing, NEVER move the mobile unit.

If the mobile unit is moved while this light is flashing, irreparable damage to the mobile unit. Serious injury or death can occur.

The Transport Warning Strobe Light is located on the exterior left side of the mobile unit. It illuminates when the platform lift is not in the proper transport position and the tractor supplied braking air is connected to the mobile unit.

It is the Operator's responsibility to make sure that the Transport Warning Strobe Light is functioning properly.

Please refer to the Oshkosh Specialty Vehicles VOL II Vendor Information binder for the product manual, and the Oshkosh Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

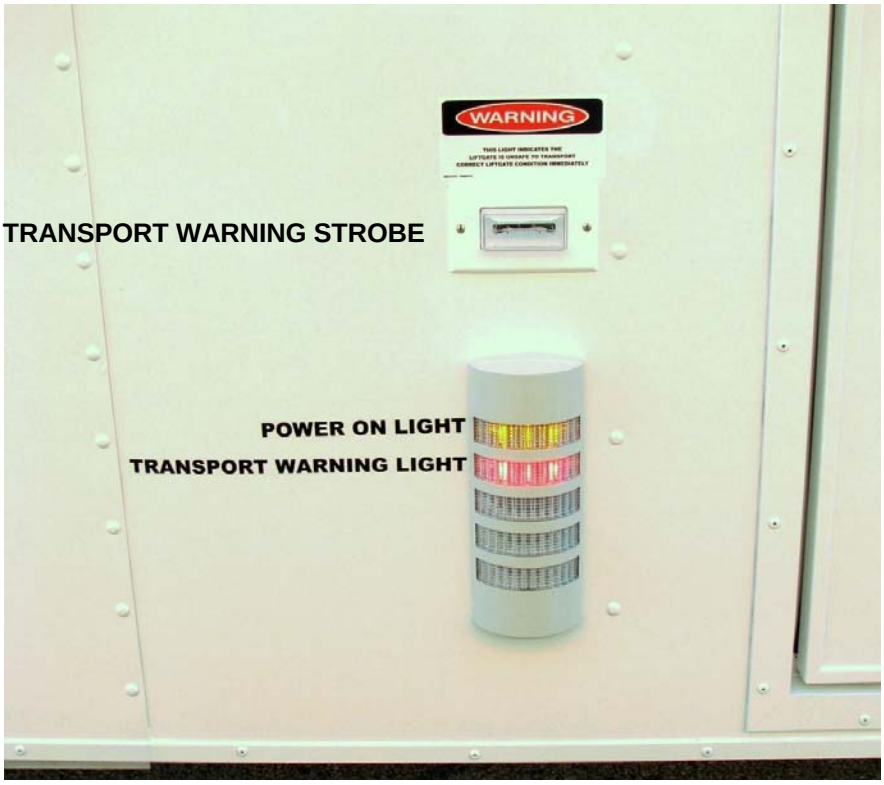


Figure 63: Lift Transport Warning Strobe

Section 14: General Maintenance

WARNING Use and follow the appropriate Lockout/Tagout procedures as required by OSHA Standard 1910.147 when performing maintenance or when 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, according to ANSI Standards.

WARNING Make sure to disconnect the power before working on any of the electrical systems.

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

14.1 Daily Maintenance

1. Water tanks: check for proper water levels.
2. Cold weather: make sure that all underbody heaters are operational.
3. Air intake grills on the computer cabinets for the medical system: make sure they are free and clear of obstructions.
4. A/C Grills: keep the A/C grills clean and free of debris.
5. Warning Lights: check and verify that all warning lights are functioning properly.

14.2 Weekly Maintenance

1. Clean RF door trim with denatured alcohol 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 A/C filters. Clean and replace if necessary.
4. Check the water chiller filters. Clean and replace as necessary.
5. Check the oil and water levels in the generator. Refill if necessary.
6. Check the electrolyte levels in the DC batteries. Fill if necessary using only distilled water.
7. Check all running lights, marker lights, brake lights, and turn signals for proper operation.
8. Check tire pressure. Make sure that all tires 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 type 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 with light machine oil.
3. Put a few drops of 20W oil, or similar graphite oil, on the swivel pin of all door hinges. Only use 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. Check the refrigerant level in the water chiller unit.
13. Have a qualified technician check wheel lug nuts with a calibrated torque wrench and make sure 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. Check the fuel separator for contamination or debris.
2. Perform the preventative maintenance on the landing legs and the landing leg controls. Refer to the accompanying manual for the landing gear system.
3. Rotate the tires.
4. Have a qualified technician check wheel lug nuts with a calibrated torque wrench and make sure 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.

A copy of your vehicles completed quarterly Preventive Maintenance Checklist can 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 your servicing needs.

If you have any questions, call us toll free at 1-800-839-0630. We'll be happy to help you.

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 in accordance with ANSI Standards.

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

1. The door closer must be adjusted so that the door does not slam shut.
2. Refer to the door closer component sheet in the component literature manual for proper adjustment.
3. 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 make sure that all connector bolts are tight and secure.

15.3 Cryogen Compressor

The cryogen compressor is supplied by Siemens. For information regarding the cryogen compressor, please refer to the manuals supplied by Siemens.

15.4 Humidity System

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

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 37: Humidifier**, if necessary.

1. Check the water tank to determine the water level: Refill if necessary.
2. Open the overflow valve.
3. Attach one end of a hose to the exterior water tank fill valve and the other end to the shore supply.
4. Turn on the water source to begin filling the tank.
5. After the water tank is full, turn off the water source.
6. Detach the hose at both ends and place in the underbody storage compartments.
7. Turn off the overflow control valve.

15.5 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.

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.

1. It is important to be sure that the doors, partitions, and baffling are in the intended positions before running the medical system.
2. 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.
3. A qualified A/C technician must check the A/C condensers every month. Refer to the Air Conditioning Owner's Manual for more information.

15.6 Platform Lift

Lubricate the Platform Lift side rails and pivot points with an ample amount of ZEP.2000 AKSV Part Number 6100811.

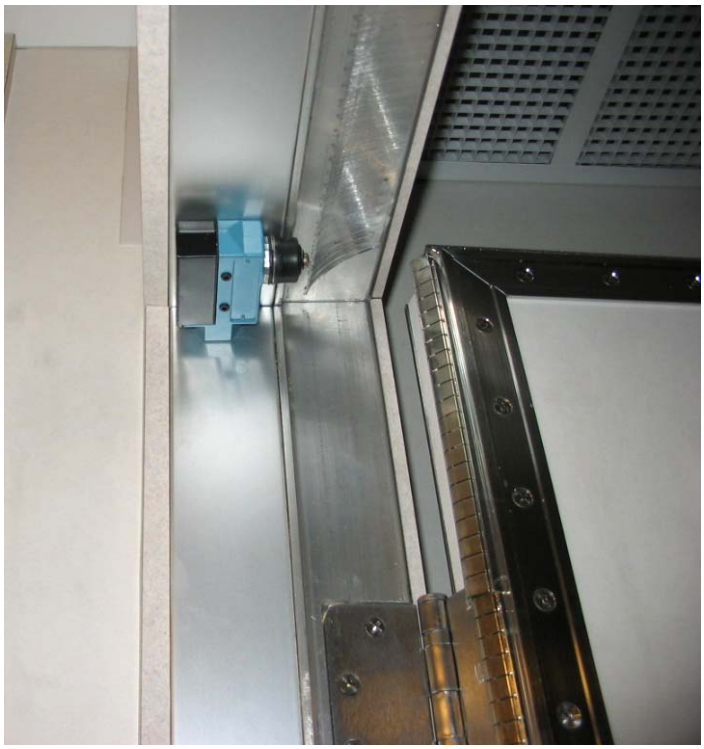
15.7 Landing / Stabilizing Legs

1. Once a quarter, 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.

15.8 Radio Frequency (RF) Shielding

When the mobile unit leaves the factory, the RF room is certified at 90 db or better. Weekly checks are required to verify the integrity of the RF room.

1. Clean RF door trim with denatured alcohol and wipe with a clean cloth.
2. Check the door hinges, stops, and latches for proper operation.
3. Ensure that the door opens and closes smoothly without binding.



Close up of RF door trim

Figure 64: RF Shielding

Appendix A: Mobile Unit Checklist

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 contactor switch 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 in accordance with ANSI Standards.

WARNING Make sure that power is disconnected before working on any of the electrical systems.

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

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

CAUTION When switching from generator power to shore power the yellow "480V AC Warning Light" may illuminate and flicker. If the yellow "480V AC Warning Light" stays illuminated, call a certified electrician before attempting to reconnect to shore power.

CAUTION NEVER use the landing / stabilizing legs and rear suspension to raise the mobile unit off the ground. The legs are designed 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 air lines 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 valves 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, make sure that all warning lights as well as all exterior marker lights are working correctly.

IMPORTANT BEFORE servicing the unit make sure that a first aid kit and fire extinguisher are within reach at all times.

IMPORTANT The trailer suspension system must be strictly maintained in accordance with the Siemens Magnet Technology Specification MS001.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT Due care must be exercised to avoid severe operating environments that endanger the system equipment.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT Failure to comply with OSV procedures, regulations, and system maintenance requirements may result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT Disobeying posted speed limits, driving dangerously, driving while under the influence of alcohol or drugs, driving without a valid operators license, or insurance or driving without due care or any illegal action by the driver may result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT Due care must be exercised to use the lowest speeds possible when docking and undocking the trailer.

Failure to do so could result in invalidating the Siemens Magnet Technology warranty.

IMPORTANT The owner/operator must notify Siemens Magnet Technology within one (1) day of any instance that causes the shock logger alarm to sound. Failure to do so could result in invalidating the Siemens Magnet Technology warranty. Contact the local Siemens Medical Systems Representative.

Mobile Unit Setup Checklist

1. Park the mobile unit on the pad per the site-planning guide.
2. **DO NOT** set the trailer brakes.
3. Raise the rear of the mobile unit and install the rear stabilizing stands.
4. Lower the front landing / stabilizing legs.
5. Disconnect the tractor while leaving the air and electrical lines engaged.
6. Verify that the shore power Service Disconnect lever is in the **"OFF"** position and connect to the power cable to the shore power receptacle. Place the Service Disconnect lever in the **"ON"** position.
7. Enter the mobile unit and verify that the air conditioning and magnet shield cooler are operational
8. Install rear Stabilizing Stands and exhaust the rear suspension.
9. Re-level the mobile unit as needed. Use the front landing / stabilizing legs as well as the rear suspension as necessary.
10. Disconnect the tractor air and electrical lines.
11. Connect the phone and data lines.
12. Install the stair assembly
13. Deploy the Platform Lift.
14. Remove all restraining hardware.
15. Check for any warning lights.
16. Deploy the Roll Door Canopy, if equipped.

Mobile Unit Transport Checklist

1. Secure all medical equipment per OEM requirements.
2. Secure all equipment; this includes all moveable objects such as chairs, monitors, doors, cabinets, cameras, and printers.
3. Retract the Canopy, if equipped.
4. Return the Platform Lift to the transport position.
5. Connect the tractor air and electrical lines.
6. Lower the landing / stabilizing legs enough to couple the tractor to the unit.
7. Connect the tractor to the mobile unit.
8. Raise the landing / stabilizing legs.
9. Remove the front stabilizing stands.
10. Raise the rear of the unit.
11. Remove the rear stabilizing stands and store them in the underbody compartment.
12. Return the air ride control valves to the normal ride position.
13. Close the equipment room door, turn off all lights and close and lock the entry door.
14. Remove and store the stair assembly.
15. Disconnect phone and data lines.
16. Move the shore power disconnect to the “OFF” position and disconnect the power cable.
17. Verify that the mobile unit is ready for transport:
18. Are all exterior doors closed and locked?
19. Is the Platform Lift in the transport position, fully seated in its retaining cradle?
20. Are all running & marker lights working correctly?
21. Are any warning lights flashing?
22. Verify that the air suspension system is fully inflated and at the proper ride height. The lowest point of the trailer sidewall should be approximately 15” above ground level.

Appendix B: Troubleshooting

If any of the following troubleshooting guides do not correct the problem, or if the problem worsens, please refer to the Oshkosh Specialty Vehicles *Component Literature* binder for the product manual, the Oshkosh Specialty Vehicles *General Information* binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Transport Warning Light is ON

⚠ CAUTION

If the Transport Warning Light is on, the mobile unit must NEVER be moved.

If the mobile unit is moved while this light is on, irreparable damage can occur to the mobile unit.

If the Transport Warning Light is illuminated, some part of the mobile unit is not ready for transport. Before the mobile unit can be transported, this light must be OFF. Please refer to the following table:

Problem:		Solution:
The Platform Lift is not in the proper transport position.	1.	Make sure that the hydraulic platform lift is seated in the cradles.
	2.	Make certain that the transport pins have been inserted.
	3.	If Emergency Air from the tractor is connected to the trailer, the Transport Warning Strobe light will also be activated. Ensure that #s 1 & 2 above have been accomplished.

Suspension Transport Indicator Light is illuminated…

⚠ CAUTION

NEVER Move the mobile unit if the Suspension Transport Indicator Light is ON.

If the mobile unit is moved without the rear air suspension functioning properly, irreparable damage can occur to the mobile unit.

If the Suspension Transport Indicator Light is on, the rear air bags / suspension of the mobile unit are not ready for transport. This light must be off to move the mobile unit. Check the rear air bag suspension control switch. The switch must be in the OFF / normal ride position. This is the normal ride position. If the switch is in this position the unit will automatically adjust the rear suspension to the transport position.

If the switch is in the correct position and the light still appears a problem exists within the rear suspension. Please refer to the product manual located in Volume II of the literature provided by Oshkosh Specialty Vehicles. Also located in the volume is a list of local service representatives. For any additional information, please contact Oshkosh Specialty Vehicles.

Platform Lift is inoperable….

Please refer to the Oshkosh Specialty Vehicles VOL I Site Guide, Operator Service Manual binder for the product manual, and the Oshkosh Specialty Vehicles VOL II Vendor Information binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Humidity is out of specifications…

The humidity settings for the mobile unit are 30% RH to 60% RH (relative humidity). If the mobile unit is experiencing humidity levels outside of this range, either too low or too high, please refer to the following table.

Problem		Check for:	Solution:
The humidity inside of the mobile unit is too high.	1.	Check for exterior doors that have been left open during humid conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors must remain closed all of the time.
	2.	Check for blocked or dirty air vents and/or air conditioner filters.	Clean the air vents and/or change the air conditioner filters. After this has been done, check for any changes to the humidity levels.
	3.	Check to see if the humidifier is constantly running.	Verify that the humidifier is set between 30% and 60% RH (relative humidity). If the humidifier is still running constantly, contact Oshkosh Specialty Vehicles for service.
	4.	Check to see if the ALARM LED is illuminated.	If further information is needed, please refer to the Oshkosh Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Problem		Check for:	Solution:
The humidity inside of the mobile unit is too low.	1.	Check for open exterior doors left open during low humidity weather conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors must remain closed all of the time.
	2.	Check for blocked or dirty air vents and/or air conditioner filters.	Clean the air vents and/or change the air conditioner filters. After this has been done, check for any changes to the humidity levels.
	3.	Check to see if the A/C disconnect is in the OFF position.	Turn the A/C disconnect to the “ON” position.
	4.	Check the water levels of the water tank.	Fill the water tank to the specified limit.
	5.	Check to see if the humidifier disconnect is in the ON position.	Move the humidity disconnect to the ON position and verify that the humidifier is set between 30% and 60% RH (relative humidity). If the humidifier is running and the humidity level does not change, a problem exists within the humidity system.

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 inside the mobile unit is too warm.	1.	Check for exterior doors left open during warm weather conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors should remain closed all of the time.
	2.	Check for blocked or dirty air vents and/or air conditioner filters.	Clean the air vents and/or change the air conditioner filters. After this has been done, make sure that cold air is blowing.
	3.	Check to see if the A/C disconnect is in the OFF position.	Turn the A/C disconnect to the ON position.
	4.	The Thermostat Control settings are correct.	Verify that the Thermostat Control for the Control Room is set at 68°F and 67 F for the Scan Room. Please contact Oshkosh Specialty Vehicles for further assistance.

Problem:		Check for:	Solution:
Temperature inside the mobile unit is too cold.	1.	Check for open exterior doors left open during cold weather conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors should remain closed all of the time.
	2.	Check for blocked or dirty air vents and/or air conditioner filters.	Clean the air vents and/or change the air conditioner filters. After this has been done, make sure that warm air is blowing.
	3.	Check to see if the A/C disconnect is in the OFF position.	Turn the A/C disconnect to the ON position.
	4.	The Thermostat Control dial settings are correct.	Verify that the Thermostat Control for the Control Room is set at 68°F and 67 F for the Scan Room. Please contact Oshkosh Specialty Vehicles for further assistance.

Appendix C: HVAC Set Points

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 Be certain that the HVAC system is operational at all times.

There are two set points for the HVAC system. These points are set at the factory and should not be changed under any circumstances. Altering these points can result in damage to the medical equipment.

- The Thermostat Control for the Control Room is set at 68°F in order to provide the desired temperature of 72°F.
- The Thermostat Control for the Scan Room is set at 67°F in order to provide the desired temperature of 72°F.
- The humidity sensor set points are 30% through 60% relative humidity.
- The humidity sensor set point is 40% relevant humidity.
- The factory settings provide the proper environment for the MR system. NEVER change factory settings.

Please refer to the Oshkosh Specialty Vehicles VOL I Site Guide, Operator Service Manual binder for the product manual, the Oshkosh Specialty Vehicles VOL II Vendor Information binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Appendix D: 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?
- Is the CB5 circuit breaker, in the 480V AC electrical panel, in the ON position?

Category 2

Component Checks (some tools are required).

- Check the emergency off button in Control Room. Normally Closed (N.C.)?
- Check the emergency off button in Magnet Room. Normally Closed (N.C.)?
- Check the functionality of both Emergency OFF buttons. Are they working correctly?

For further 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 Avanto MRI System***

Control of Hazardous Energy:

Type of Hazardous Energy		When is it Necessary to Lock Out
Electrical	480 Volts AC	When servicing main electrical power line
Electrical	110 Volts room circuits	When servicing or performing installation inside specific sections of the trailer
Electrical	12 Volts DC	When servicing the following: Platform lift; Landing Leg circuit; Transport Warning lights; underbody compartment lights
Electrical	12 Volts DC From Battery	When servicing the following: Platform lift; Landing Leg circuit; Transport Warning lights; underbody compartment lights

People 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 480 Volts 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
Roll Door Electrical 120V AC	Circuit Breaker, Service Switch	CB in 208 V AC Panel, Switch in overhead panel above door	Lock and tag with a Universal Switch Lockout, Universal Circuit Breaker Lockout
Power to lift panels Electrical 12 Volts DC	Remove Battery Cables	Driver's side underbody compartment, On battery.	Lock and tag with a Circuit Breaker Lockout attachment device
Electrical 12 Volts DC From Battery	Remove Battery Cables	Driver's side underbody compartment, On battery	Lock and tag with a Plug Lockout attachment device
Medical System Siemens MRI	Circuit Breaker	A-1 Panel in equipment area	Lock and tag with or without lockout hasp
Air Conditioning System 480 V AC	40A Circuit Breaker	CB in 480VAC Distribution Panel and Chiller are a single unit.	Lock and tag with or without lockout hasp
Air Conditioning System Blowers 120V AC	15A Circuit Breaker	CB in 120/208V AC Distribution Panel.	Lock and tag with or without lockout hasp
Heating System	15A Circuit Breaker	CB in 480VAC 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					

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 _____					

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: _____