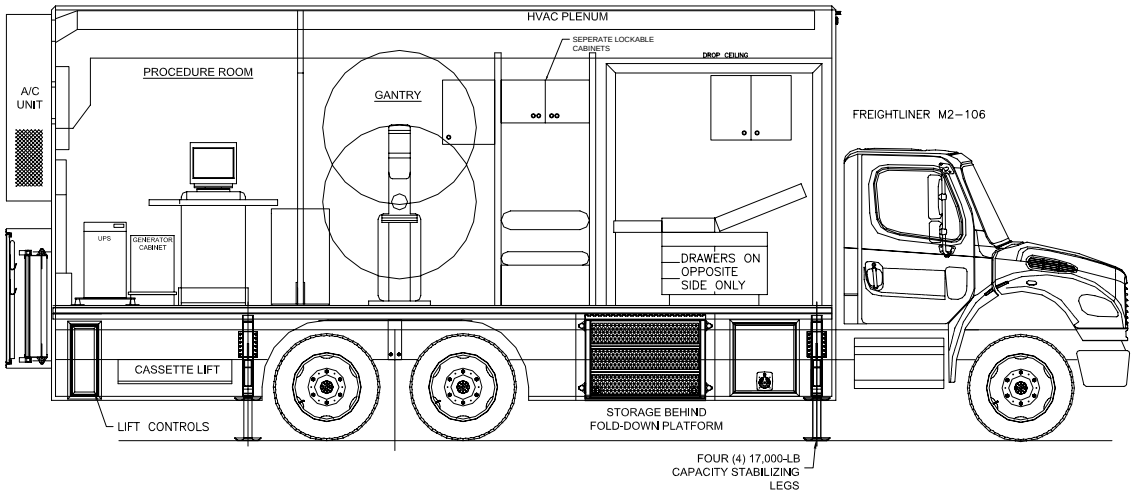
OSHKOSH SPECIALTY VEHICLES

Operator and Service Manual

GE MEDICAL SYSTEMS 2000 D
35’ SELF PROPELLED MAMMOGRAPHY UNIT



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List of Revisions & Warnings

Revisions

00	New Release	June 2006

Notice

In accordance with our policy of product development, and in compliance with the GEMS VCR program, 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 may be directed to:

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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, requiring correct procedures / practices for prevention.

DANGER — The term “DANGER” is used whenever immediate hazards exist that will result in personal injury or death that cannot be eliminated by design safeguards.

⚠ — 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.

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Section 1: Introduction

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

IMPORTANT An outside radiation physicist consultant determines the x-ray shielding based upon unit layout that is provided by Oshkosh Specialty Vehicles and scatter patterns provided the medical equipment manufacturer. It is the users responsibility to ensure proper maintenance of the x-ray shielding. It is the recommendation of Oshkosh Specialty Vehicles that the end user has the x-ray testing completed on an annual basis to ensure that the mobile self-propelled unit still meets the minimum requirements.

This manual contains the basic information needed to setup, transport, and service the mobile self-propelled unit. This mobile self-propelled 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.

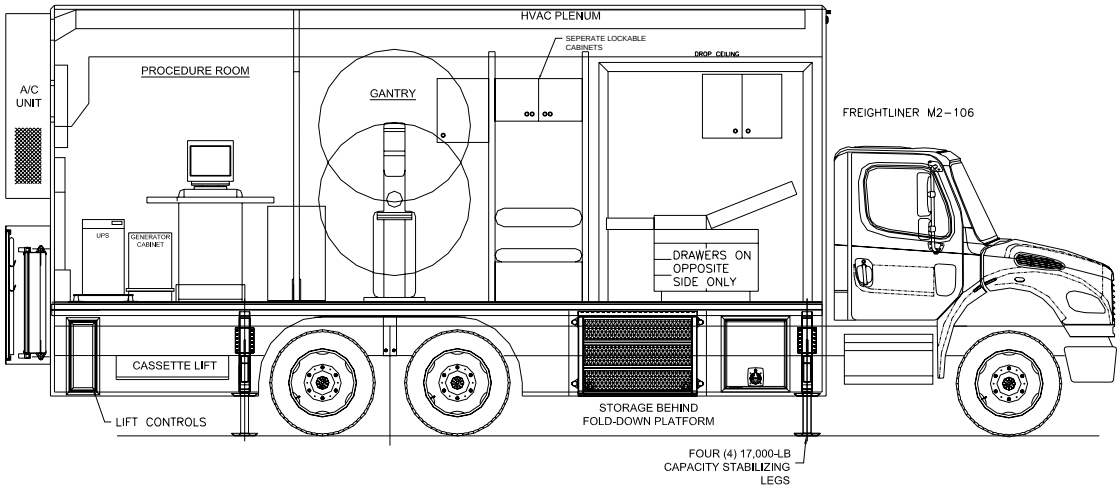


Figure 1: The GE Mammography System

1.1 Mobile Self-propelled Unit Information

Mobile Unit Dimensions

The external dimensions of the mobile unit comply with the US Federal size limits for the Fifty States. The following dimensions do not include projections for clearance lights, door handles, radio antennas, etc.

- Overall Length – 35’-0” (10.67m) {30’-8” (9.35m) enclosed area, plus 9’-1” (2.77m) for the truck cab and 17” (431.8mm) for the air conditioning unit}.
- Overall Width – 8’-6” (102”) (2.59m).
- Overall Height – 13’-1” (157”) (3.99m).

Mobile Unit Weight

The overall weight is approximately 32,000 pounds (14,515kg). The rear axle weight will not exceed 31,000 pounds (14,061kg), and the front axle will not exceed 12,000 pounds (5,443kg). Customer options may increase the overall weight of the mobile 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 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 self-propelled unit as well as irreparable damage to the mobile self-propelled unit.

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

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

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

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 information about the safety systems that have been built into the mobile self-propelled unit to protect all personnel and equipment. Before attempting to service the mobile self-propelled unit, read this safety section as well as all other safety sections found in applicable manufacturers' manuals in the component literature binder.

2.1 General Safety Precautions

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 and request material data sheets where applicable.

Always keep tools clean and free of grease.

Do not stand on chairs inside of the mobile self-propelled unit under any circumstances.

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

2.2 Electrical Safety

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

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

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

WARNING The Power Cable could present a trip hazard that could result in personal injury. Care should be taken to ensure that the cable is routed properly to minimize its potential as a trip hazard.

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

2.3 Transportation Safety

Walk around the unit to make certain that all doors are closed and locked.

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

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

Consult with the local motor vehicle authority to determine if there are any travel restrictions or routes.

Section 3: Mobile Self-propelled Unit Overview

The components of the mobile self-propelled unit have been divided into alphabetical order. With each component a picture and description will be found to better illustrate the components of the mobile self-propelled unit. Additional components of the mobile self-propelled unit can be found within the remaining chapters.

3.1 Control Room Overall

Control Room houses the system components that support the medical system.

In this room, the operator's console can be found, along with the system controls, cabinets for storage, and all of the associated volumes of literature.

Figure 2: Control Room Overall

3.2 Exterior Overall

In these pictures the staff entry door, the emergency exit, and the HVAC unit can be seen.

Left Side

Right Side

Figure 3: Exterior Overall

3.3 Gantry Room Overall

Gantry Room houses the following components:

interior electrical panels

medical system

telephone emergency stop

storage cabinet

Figure 4: Gantry Room Overall

3.4 Miscellaneous Rooms

Figure 5: Miscellaneous Rooms

Exam Room (Two Views)

Patient Dressing Room

Lavatory

3.5 Hubbell All Weather Phone Cables

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

Figure 6: Hubbell All Weather Phone Cables

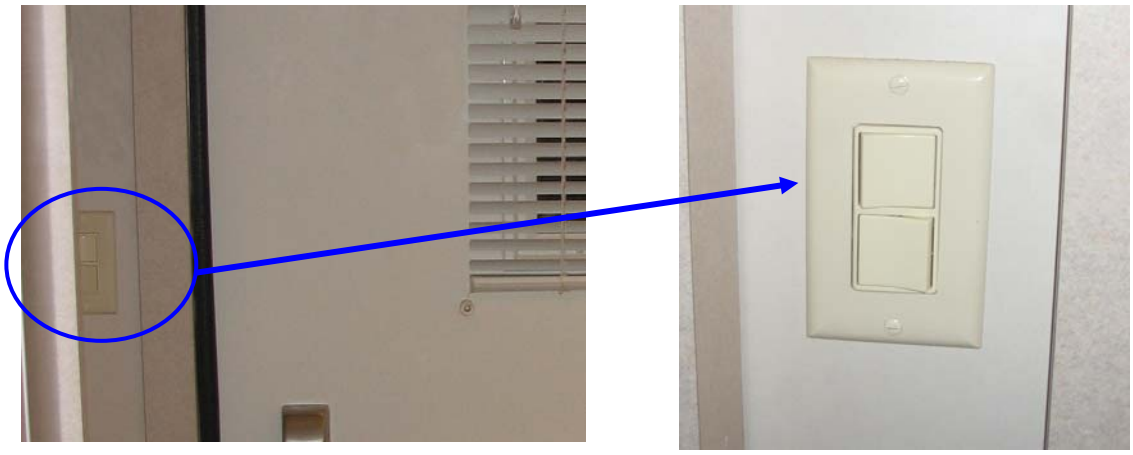
3.6 Levels, Digital

The Digital Levels for the unit are mounted on the Stabilizing Leg Control Panel. There are three types of adjustments that can be made. They are as follows;
Side to side adjustments for the rear of the mobile self-propelled unit can be made.
Side to side adjustments for the front of the mobile self-propelled unit can be made.
Front to rear adjustments can be made.
The mobile self-propelled unit can be leveled front to back. It is imperative that the unit be leveled side-to-side prior to use.

Figure 7: Levels, Digital

3.7 Mobile self-propelled Unit Controls

Located on the aluminum raceways inside of the mobile self-propelled unit are the various controls that are used for operating such items as, the interior and exterior lights, emergency stop buttons, fire alarms, and emergency equipment.



Staff entry door

Control for outside lights to the Staff entry door.

Entry Door Controls

Control Room Controls

Figure 8 Mobile Self-propelled Unit Controls

Interior Controls

Temperature controls for the mobile self-propelled unit.

Exterior Light Switch:	ON / OFF light switch for the exterior lights.
Light Switches:	ON / OFF light switch for interior lights.
Humidifier Water Indicator (optional):	Indicator light for the humidifier water tank. This light will illuminate when the water tank is empty.
Light Switches:	ON / OFF light switch for interior lights.
E Stop:	Emergency stop button for the medical system.
Humidistat:	Humidity control for the mobile self-propelled unit.

3.8 Phone & Data Line Connections

The phone and data connections are located in the left side underbody compartment. The connections are used to connect the mobile self-propelled unit to the shore facility. The telephone connections utilize a Hubbell all weather connection, while the data lines utilize an RJ-45 connection and CAT-5E cabling.

The Hubbell all weather phone connections are to be used with the provided Hubbell all weather telephone cable.

The data connections that are utilized are RJ-45's. The connections utilize CAT-5E cable and can be connected directly to the facility

Figure 9: Phone & Data Line Connections

3.9 Stabilizing Legs

The stabilizing legs are extended underneath the rear of the mobile self-propelled unit when the medical system is in use. These legs are located on both sides of the unit behind the rear wheels and behind the cab and help to level the mobile self-propelled unit and decrease vibration caused by the medical system.

Figure 10: Stabilizing Legs

3.10 Stair Assembly

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

Stair Assembly & handrails are stowed at the rear of Mobile unit. See. Figure 12: Stowing Stair & Handrail Assembly .

Stair Assembly Set-up

First retrieve the platform leg supports from rear of unit.

Unlatch platform and lift upward. (If possible two persons to assemble stair assembly)

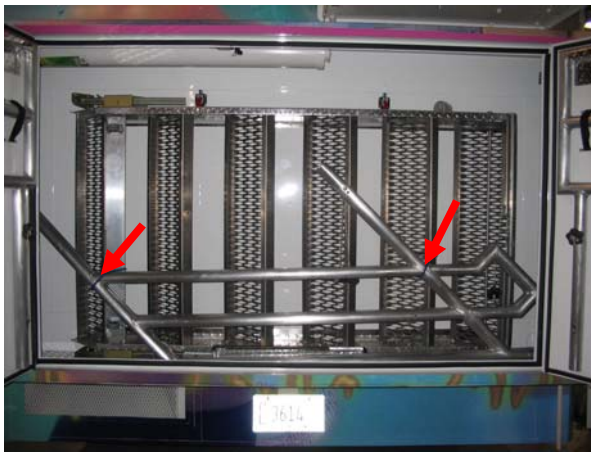
Install the two leg support into the platform.

Install the handrails.

Foldout Platform Secured

Figure 11: Stair Assembly

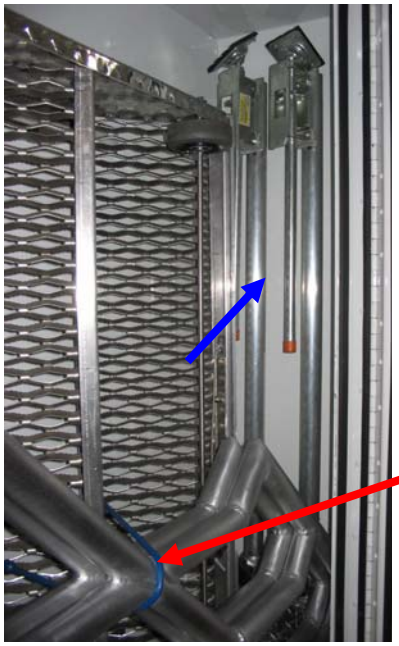
Stair Assembly Storage-Rear of Mobile Unit



Center storage: stair assembly & Hand rails w/tie-downs

Platform rail storage Right side door

Platform rail storage Left side door



Platform support legs Storage-right side of mobile unit

Figure 12: Stowing Stair & Handrail Assembly

3.11 UVL Set up Procedure

The UVL unit is for wheel chair access to the mobile unit. It is located at the right rear of the self propelled unit.

Open the Lift controls entry door

Follow the lifting operation instructions located inside the Lift entry door.

Manual operation instructions located inside the compartment in the event of power failure.

Pump Handle for manual operation

Hand held pendent control

Pump Handle ready for manual operation.

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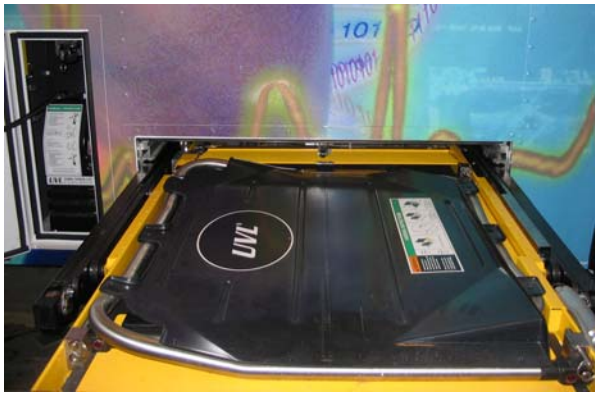
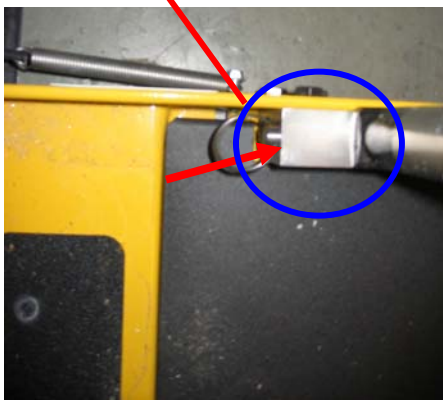
UVL Operation Procedures

Lift platform carriage fully extended



Folding handrails in the lowered position.

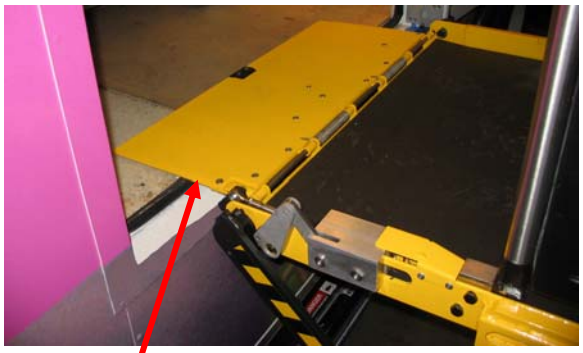


To lift the folded handrails, pull out the detent pins. One pin per side. After the handrails are in place the pins must be reinserted as shown.

Outer Barriers
Large & small

Folded handrails in the vertical and secured position. The outer Barriers will deploy automatically when the platform makes contact with the ground.

Platform lift carriage in the raised position to the mobile unit floor level



Roll plate in position for patient unloading

Stowing the UVL Unit

Lower the platform carriage.

The outer BIG barrier must be folded on to the platform. Use caution the barrier plate is spring loaded.

Next, remove the detent pins and fold the handrails. Reinsert the detent pins.

Press the stow button to retract the platform carriage completely.

Place the hand held pendent back into the control compartment and close door.

3.12 Water Connection

The fresh water connection is located on the right side rear underbody compartment door of the mobile unit. The wastewater connection is located below and to the left of the door. Please refer to the following illustrations.

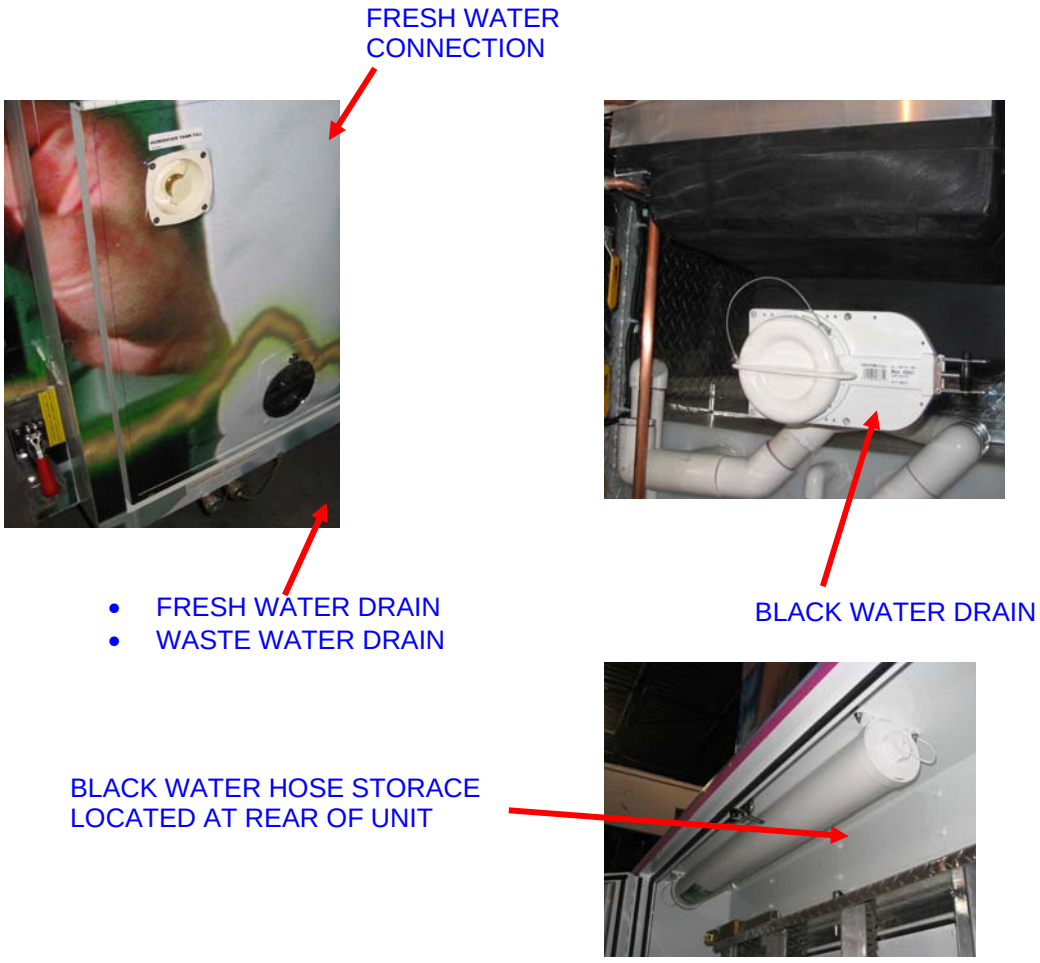


Figure 13: Fresh Water and Waste Water Connections.

Section 4: Mobile Self-propelled Unit Setup Procedure

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

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

4.1 Park the Mobile self-propelled Unit

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

4.2 Lower the Stabilizing Legs

After the mobile self-propelled unit has been parked on the pad per the site-planning guide, the stabilizing legs must be lowered to stabilize the mobile self-propelled unit before it can be used. Refer to **Figure 31: 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 legs to their extended position.
3. Extend the legs until the sand shoe is solidly on the support pad.
4. Release the pump switch. The switch should automatically retract to the “Pump OFF” position.

4.3 Re-level the Mobile Unit

After the preceding steps have been completed, the mobile unit may no longer be level.

1. Re-level the unit if necessary using the digital levels that have been provided. Refer to **Figure 7: Levels** if needed.

4.4 Mobile Unit Levels

- The Levels for the unit are located as follows.
- The front left corner of the unit.
- The front left side of the unit.
- The rear of the unit.

The levels provide an indication of the level status of the unit for set-up.

4.5 Set up the Stair Assembly

The stairs can be setup easier with two people. The instructions are covered below. Refer to **Figure 11: Stair Assembly** for procedures.

Stair Assembly

1. Unlatch the platform
2. Retrieve the stars, support legs, & handrails from back of unit.
3. Lift up and unfold the platform
4. Install the platform support legs.
5. Install the stairs.
6. Install the handrails.

4.6 Connect to Shore Power

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

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

WARNING The Power Cable could present a trip hazard that could result in personal injury. Care should be taken to ensure that the cable is routed properly to minimize its potential as a trip hazard.

See paragraph **7.3 Power Cable** Specific power cable instructions.

Verify that the shore power disconnect is in the “OFF” position.

Open the underbody compartment door and remove the power cable from the underbody compartment of the mobile self-propelled unit.

Insert the Oshkosh Specialty Vehicles supplied connector into the shore power receptacle.

Move the shore power disconnect to the “ON” position.

Close the underbody compartment door; making sure that the access flap for the power cable has been released.

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

Figure 14: Automatic Transfer Switch (ATS)

4.7 Connect the Phone and Data Lines

The phone and data lines can be found 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 site.

The phone lines make use of Hubbell all weather connections. The data lines make use of CAT-5E cable and RJ-45 connections. Refer to Figure 9: Phone & Data Line Connections.

4.8 Connect the Humidifier Water Hose

On the exterior right side of the mobile self-propelled unit forward of the rear axle the connection to the Humidifier water storage tank needs to be made.

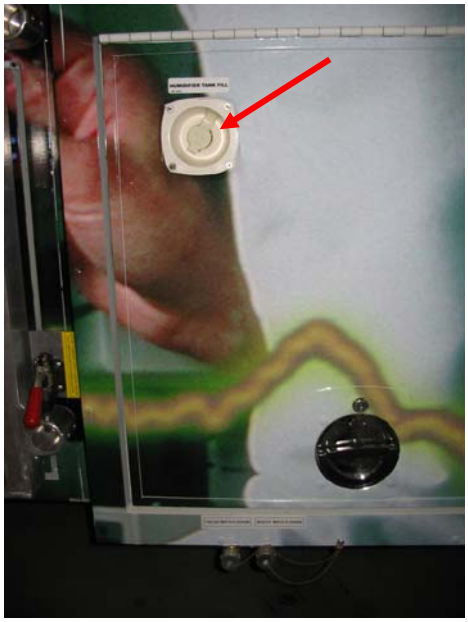


Figure 15: Humidifier Hose Connection

1. Remove the cap that covers the connection.
2. Attach the supplied water hose to this connection.
3. Attach the other end of the hose to facility provided faucet.
4. Turn on the water at the faucet.
5. This will fill the Humidifier water tank for the mobile self-propelled unit.
6. In the event that the water tank is overfilled, an overflow drain has been provided that exits outside of the mobile self-propelled unit.

4.9 Remove Restraining Hardware

Various items may be secured while the unit is being transported. These items may consist of chairs, monitors, door, cabinets, cameras, and printers. Remove all restraining equipment prior to usage of the medical system.

4.10 Prepare the Medical System per OEM Instructions

The medical system can now be prepared for use. Follow the OEM instructions posted on the wall of the gantry room in order to prepare the system.

OSHKOSH SPECIALTY VEHICLES

Section 5: Mobile Self-propelled Unit Transport Procedure

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

CAUTION When turning the power selector switch from one position to another, the selector must be paused for a minimum of five seconds, in the “OFF” position, between selections. Failure to do so can result in damage to the equipment.

CAUTION Before transporting the mobile self-propelled unit, check to verify 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 procedure.

5.1 Secure the Medical System per OEM Instructions

The medical system must be secured prior to transporting the mobile self-propelled unit. Follow the OEM instructions posted on the wall of the gantry room in order to secure the medical system prior to transport of the mobile self-propelled unit.

5.2 Secure all Equipment

Various items must be secured prior to transporting the mobile self-propelled unit. Such items may consist of chairs, monitors, doors, cabinets, cameras, and printers. Use the supplied restraining hardware to secure these items before transporting the mobile self-propelled unit.

5.3 Remove the Shore Power Connection

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

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

1. Move the shore power disconnect lever to the “OFF” position.
2. Remove the power cable from the shore receptacle and store in the underbody storage compartments.
3. The generator will automatically start and provide power to the unit.

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

5.4 Remove and Store the Stair and Handrail 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. Refer to **Figure 11: Stair Assembly** for procedures.

Stair System

1. Close and lock all exterior doors with the key that is provided.
2. Close the door to the underbody storage compartment under the stair platform
3. Loosen the hardware holding the handrails in place. Remove the handrails from the stair assembly and store and secure them in the rear compartment of the unit.
4. Remove the stairs and store and secure them in the rear compartment of the unit.
5. Remove the platform leg supports and store and secure them in the rear compartment of the unit.
6. Fold the platform and secure with the latch levers.

5.5 Disconnect the Humidifier Water Hose

On the passenger side exterior near the rear of the mobile self-propelled unit a humidifier water connection can be found. Be sure to fill the fresh humidifier water tank prior to disconnecting the fresh water supply.

1. Verify that the humidifier water tank is full.
2. Turn off the water supply at the facility provided faucet.
3. Disconnect the hose from the faucet.
4. Remove the hose from the connection on the mobile self-propelled unit.
5. Using the cap provided, cover the connection on the mobile self-propelled unit.
6. Coil the hose and store in the underbody compartments.

5.6 Disconnect Phone and Data Lines

Please refer to **Figure 9: Phone & Data Line Connections**, for the following procedure.

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

5.7 Raise the Stabilizing Legs

After the stairs have been disassembled and stored, the stabilizing legs can be raised. Refer to **Figure 31: 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.
3. Retract the legs to their transport positions.
4. Release the pump switch. The pump switch should automatically retract to the “Pump OFF” position.

5.8 Verify that the Mobile Self-propelled Unit is Ready for Transport

Before the mobile self-propelled unit can be transported, a final check of all components is necessary. Please refer to the following when checking the mobile self-propelled unit.

1. Have the chairs, monitors, doors, cabinets, cameras, and printers been secured? Make sure that all of these items have been secured with the supplied hardware prior to transporting the mobile self-propelled unit.
2. Close and lock all exterior doors.
3. Are all running & marker lights working correctly? If not, replace any bulb that is not working before transporting the mobile self-propelled unit.
4. Are any warning lights illuminated? If so, check to find the cause of the warning. Do not move the mobile self-propelled unit if any warning lights are flashing. Please refer to the OEM supplied literature, the list of local service representatives, or contact Oshkosh Specialty Vehicles for service. The OEM supplied literature and the list of local service representatives can be found in the product information binders that have been included with the mobile self-propelled unit.
5. Check the fuel gauge and fill the fuel tank if necessary. Tank should be full.
6. Is the generator running? If not, please refer to Appendix B: Troubleshooting for assistance.
7. Is the tag axle in the normal ride position? If not, set the tag axle suspension for normal ride using the switch located in the cab at the lower left side of the steering wheel. The tag axle wheels must be on the ground sharing the load with the drive axle wheels prior to transport.

Section 6: Safety Systems

This safety section contains important information about the safety systems that have been built into the mobile self-propelled unit to protect all personnel and equipment. Before attempting to service the mobile self-propelled unit, read this safety section as well as all other safety sections found in applicable manufacturers manuals in the component literature binder.

6.1 Emergency Lighting

In the event that the main AC power fails, two (2) dual beam emergency lights are provided in Waiting Room area and Gantry Room area at the exit doors. The lights will automatically illuminate when the main AC power is lost. The emergency lighting system is wired into a 120V AC electrical system that allows the lights' internal circuitry to keep its batteries at 100% charge. The emergency lights will last for approximately 90 minutes. See **Figure 33: Emergency Lighting** .

6.2 Fire Suppression (manual)

Three fire extinguishers are supplied with the mobile self-propelled unit. Instructions for operation are clearly printed on the canister of the fire extinguisher.

The Exam Room

Hallway outside of Exam room

Procedure room

Figure 16: Fire Extinguisher

The Fire extinguishers meet the following standards.

- A class A/B/C 1211 hand held unit.
- A charged weight of 2 lbs., 8 oz. (1.13kg).
- U.L. listed.
- Meets D.O.T. requirements.
- In accordance with N.F.P.A. Standard No. 10 "Portable Fire Extinguisher".

6.3 Fire Detection System (optional)

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

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

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

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 17: Smoke Detector

Figure 18: Fire Alarm Control Panel

Reset Button:	The reset button resets the system after it has been activated
Trouble Silence Button:	The trouble silence button will silence the horns that are activated after the alarm has been tripped.
Disable Button:	The disable button will shut 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 will trigger the following actions.

1. The fire horn will sound continuously.
2. A (RED) alarm LED located on the front cover of the fire system control panel will illuminate.
3. The strobe light will flash.
4. The HVAC units will shutdown.

Pull Station

A pull station is located next to the staff door in the Control Room. When the pull station has been pulled, the steps outlined above will occur.

Figure 19: Fire Alarm Pull Station

Power Backup System

Primary 120V AC power to the fire system control panel is supplied from the 120/240V 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, the (GREEN) “POWER” LED on the fire system control panel will no longer be lit, and the (YELLOW) “TROUBLE” LED on the fire system control panel will illuminate. The emergency batteries are rechargeable gel celled. They are also float charged to provide quick recovery after primary power is restored.

6.4 Marker Lights

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

6.5 System Shutdowns

There are different types of shutdowns that can take place on the mobile self-propelled unit. Of the different types, both manual and automatic shutdowns exist. All shutdowns refer only to the medical system and not the HVAC system unless otherwise noted.

Manual Shutdown (Emergency Stop)

Manual Stops are those that require the operating personnel to depress “Emergency Stop” buttons in the event of an emergency. The “Emergency Stop” buttons are located as indicated in **Figure 19** below, aboard the mobile self-propelled unit. When this button is depressed, only the medical system will be shutdown. The HVAC system will still be operational.

The Manual Emergency stop button in the mobile self-propelled unit is located in the forward Exam Room.

. The Manual Emergency stop button in the mobile self-propelled unit is located in the Gantry Room left side

The Manual Emergency stop button in the mobile self-propelled unit is located in the Gantry Room right side

Figure 20: Manual Emergency Stop Button

Fire Detection System (standard)

When smoke is detected, the fire detection control panel will trigger the following events.

1. The fire horn will sound continuously.
2. The strobe light will flash.
3. The HVAC units will shutdown.

6.6 X Ray Precautions

X Ray Indicator Light (Optional)

An X Ray Indicator Light is provided above the staff entry door into the mobile self-propelled unit to notify all incoming personnel that medical procedures are in progress. An additional light is located above the Gantry Room door.

6.7 Warning Lights

Please Refer to Section 13: Lighting System or to Appendix B: Troubleshooting, for additional information in regards to these systems.

Section 7: Electrical System

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

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

WARNING The Power Cable could present a trip hazard that could result in personal injury. Care should be taken to ensure that the cable is routed properly to minimize its potential as a trip hazard.

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 self-propelled unit with thin wall conduit and/or wire-mold sized to accept the required service entrance conductors used throughout the mobile self-propelled unit.

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

7.1 120/240V AC Electrical Panels

There are two panels used in the electrical system.

One 240V AC electrical panel Automatic Transfer Switch (ATS) that is located in the underbody compartment of the mobile self-propelled unit. This panel controls the distribution of power all incoming power to components aboard the mobile self-propelled unit.

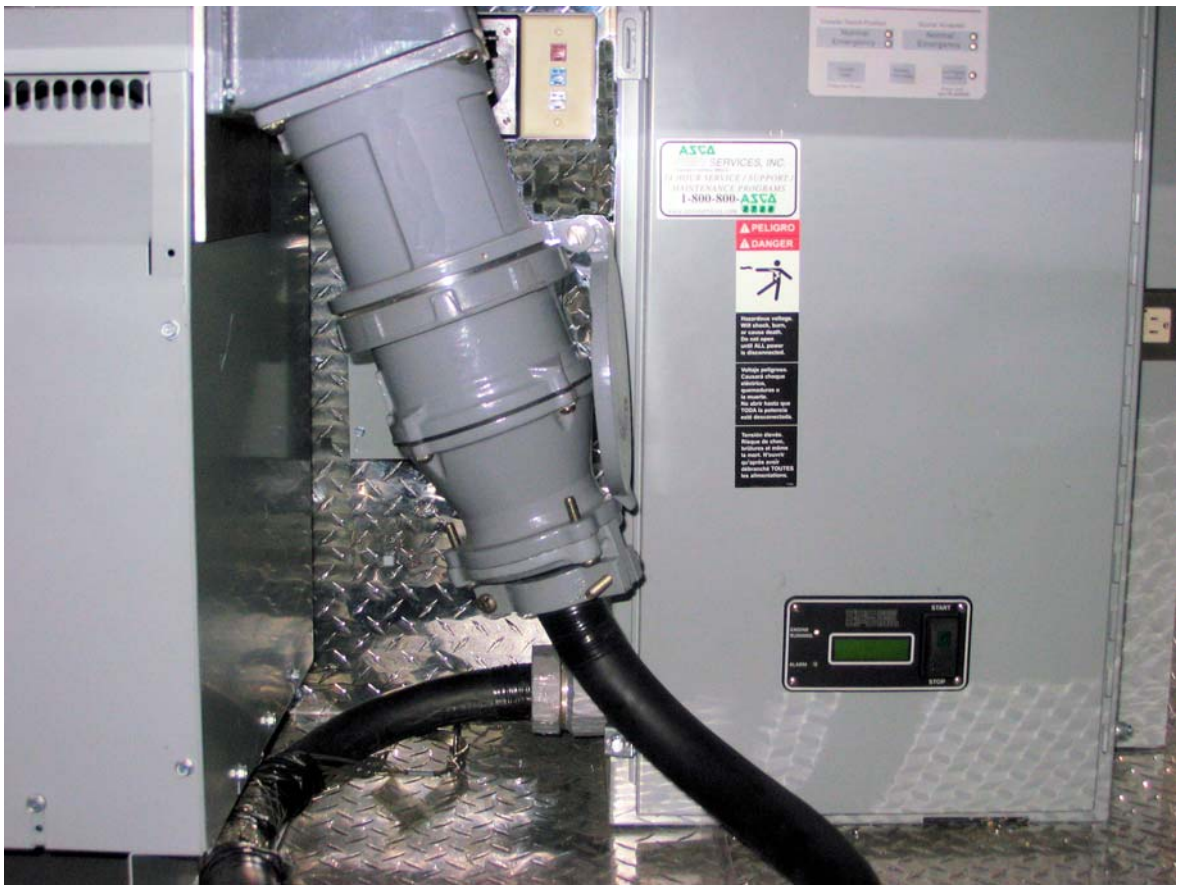


Figure 21: 240V AC Electrical Panel Automatic Transfer Switch

One 120/240V AC electrical panel that is located in the Gantry Room of the mobile self-propelled unit. This panel is used to control the distribution of all 120/240V AC Power to components aboard the mobile self-propelled 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.

Figure 22: 120/240V AC Electrical Panel

7.2 Facility Power Connection

Figure 23: Shore Power Connection

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

Oshkosh Specialty Vehicles Connector:	The plug that is provided by Oshkosh Specialty Vehicles for connection to the shore power receptacle.
Power Cable:	The cable that runs between the shore power connections and the 240V AC Automatic Transfer Switch or the 480V AC electrical transformer panel.
Shore Power Disconnect:	The shore power disconnect terminates the power to the receptacle. This must be in the “OFF” position when connecting to the receptacle.
Shore Power Receptacle Outlet:	The receptacle outlet that the shore facility has installed for use with the Oshkosh Specialty Vehicles connector and power cable.
Shore Power Unit:	The complete shore power assembly.

Circuit Breaker	
Manufacturer:	Facility provided
Ampere Rating:	200 A disconnect

Receptacle	
Manufacturer:	RUSSELLSTOLL
Model:	#DF2504FRAB0 480V AC 3 Phase or #DF2307FRAB0 240V AC Single Phase
Ampere Rating:	200 A

7.3 Power Cable

Descriptions:	Specifications
Service Amps:	150 A
5 Wire:	3 pole plus neutral and ground
Cable:	150 A, a #1/0 4 conductor type G, 600V – 2000V, 90° C, 45’-0” (13.71m) long

Primary Power Cable

The primary power cable has the Russellstoll DS2307MP plug on the end. This is a 240V AC single-phase cable. It is located in the left rear underbody compartment with the Automatic Transfer Switch (ATS). If shore power is available that supports this cable, it should be used.

Secondary Power Cable

The secondary power cable has the Russellstoll DS2504MP000/DF2032 plug on the end. This is a 480V AC 3 phase cable. It is located in the left center underbody compartment with the stabilizing leg control panel. If shore power is available that supports this cable and not available for the primary cable, this cable should be used. If this cable is used to connect to the facility shore power outlet, the primary 240V AC cable must be connected to the output (secondary) side of the power transformer. See **Figure 14: Automatic Transfer Switch** for connection.

WARNING The Power Cable could present a trip hazard that could result in personal injury. Care should be taken to ensure that the cable is routed properly to minimize its potential as a trip hazard.

OSHKOSH SPECIALTY VEHICLES

Section 8: Generator

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

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

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

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

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

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

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

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

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

The mobile self-propelled unit is equipped with a generator that is mounted in the underbody compartment, on the left side, aft of the cab. The generator supplies power to the unit during transport.

The generator will also be able to power the medical system so the medical procedures can take place when shore power is unavailable.

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

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

Once every six months, replace the 9V battery in the generator control panel. This is required to ensure that the generator starts in the event that the ATS transfers power to the generator.

For additional information, refer to the Oshkosh Specialty Vehicles Component Literature binder for the product manual.

Figure 24: Generator

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

8.1 Generator Stop / Start Selector

This switch is located in the underbody compartment of the mobile unit on the 240V AC electrical panel, and is labeled “Generator START/STOP”. To start the generator, the switch must be in the START position and the generator unit will start automatically when the ATS senses a fault in the shore power.

The ATS will automatically transfer to Shore Power when connected to a viable power supply and shut down the generator unit. In the event of a Shore Power fault, the ATS will automatically start the generator unit and transfer power to the generator. The control panel located in the underbody compartment is used to monitor and test the system.

Figure 25: Automatic Transfer Switch (ATS)

Section 9: Humidity System

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

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

The humidifier is responsible for maintaining the humidity levels within the mobile self-propelled 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.

Exterior Connection for fresh water:	The facility must provide a fresh water supply for use with the mobile self-propelled unit. The incoming supply is then attached to the connection.
Water Tank:	The water tank can be found in the equipment room at the rear of the gantry room. The tank is used for fresh water supply to the humidifier.
Humidifier:	The humidifier provides the required humidity to the mobile self-propelled unit per the medical manufacturers' requirements.
Humidity Controller:	The humidistat is responsible for the internal humidity of the mobile self-propelled unit. The setting is preset at the factory to comply with the medical system manufacturers requirements.
Humidity Sensor:	Maintains an accurate reading of the humidity levels inside of the mobile self-propelled unit.

9.1 System Operation

The humidifier system is capable of producing up to 12 pounds of steam per hour, at 15 amps. A sensor continually monitors the interior of the mobile self-propelled unit for relative humidity. This sensor is located in the HVAC return duct and is programmed to keep the relative humidity at 35%. 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, the A/C unit is supplied with humidified air for distribution throughout the interior of the mobile self-propelled 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 problems occur with the humidifier system, please refer to **Appendix B: Troubleshooting** of this manual.

9.2 Water Supply

Water is supplied to the humidifier by means of a facility provided water supply. Plumbing connections are as follows:

One 3/4” (1.9cm) garden hose female thread for the water supply from the exterior of the mobile self-propelled unit. (incoming)

One 3/4” (1.9cm) outer diameter copper drain line with a male threaded hose connector from the steam cylinder for automatic drain cycles and sink. The drain penetrates the floor of the mobile self-propelled unit in order to empty to the exterior. (drainage)

9.3 Humidity Controller

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

The humidity controller is located in Equipment Room on the right hand side of the humidifier.

The relative humidity setting for the mobile self-propelled unit is 35%. The humidifier must not be altered from its factory setting.

Figure 26: Humidity Controller

9.4 Humidity Settings

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

The humidity low set point is 35% RH (relative humidity).

The humidity high set point is 45% RH (relative humidity).

9.5 Electrical Connections

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

The distribution panel supplies the required 120V AC power via a 20 amp, single-phase breaker.

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

9.6 Instructions

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

Please refer to the product manual located in the literature provided by Oshkosh Specialty Vehicles.

Attaching the water supply lines

On the passenger side exterior near the rear of the mobile self-propelled unit there is one connection that needs to be made. This connection is responsible for filling the humidifier tank for the mobile self-propelled unit.

1. Remove the flap that covers the connection.
2. Attach the supplied water hose to this connection.
3. Attach the other end of the hose to facility provided faucet.
4. Turn on the water at the faucet.
5. This will fill the water tank for the mobile self-propelled unit.
6. In the event that the water tank is overfilled, an overflow drain has been provided that exits outside of the mobile self-propelled unit.

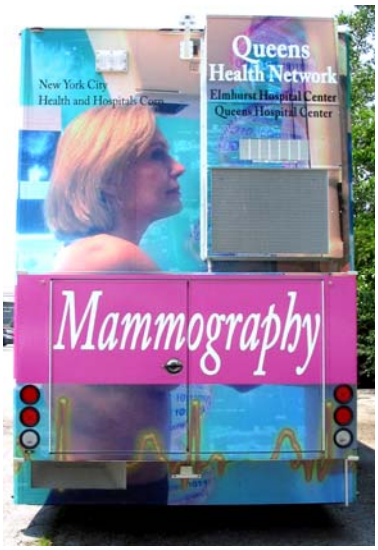
Section 10: HVAC System

CAUTION

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

CAUTION

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



A/C Unit
Figure 27: A/C Unit

One air conditioning unit is used to maintain the internal environment of the mobile self-propelled unit. The air conditioner comes from the factory preset to the specifications required by the medical system manufacturer. Under no circumstances should the factory presets be changed or altered from their factory setting. Irreparable damage can occur to the medical system if this is done.

The HVAC system is designed specifically to maintain only the internal environment of the mobile self-propelled unit. The HVAC system is not designed to handle areas outside of the mobile self-propelled unit, such as adjoining corridors or hallways. It is important to keep all exterior doors closed at all times. All interior doors, computer doors, partitions, and damper settings, must be in the intended positions before running the medical equipment. Do not attempt to store any boxes or items in the mobile self-propelled unit, as this will interrupt the intended airflow requirements.

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

10.1 System Specifications and Descriptions

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

- The HVAC system utilizes forced air.
- The HVAC utilizes electricity as the source of power.
- Heat producing appliances must be approved by Underwriters Laboratories, Inc. (U.L) and installed in accordance with the terms on their listings.
- 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 as required and is in full conformance with all applicable codes.
- All warning and identification labels as required are installed at the factory.
- All aspects of the HVAC system such as damper settings, venting, component set points, and sensor placement are adjusted for optimum operation. Under no circumstances should these settings be altered.
- One single unit provides air conditioning and heating for the mobile self-propelled unit.
- The air conditioning ductwork is lined with a sound absorbent material for reduced noise and operator and patient comfort.

10.2 Exterior HVAC Specifications

The HVAC system is designed to work within certain limitations. The ambient exterior temperatures must be within the range of -20°F to 110°F (-28.9ºC to 43.3ºC).

10.3 Interior HVAC Specifications

The air conditioner has a cooling capacity of 36,000 BTUH. The temperature in each room is maintained at approximately 70°F (21ºC) with an acceptable range of 68°F to 72°F (20ºC to 22.2ºC). Both air conditioned and heated air is distributed through an insulated duct which starts at the discharge side of the air conditioner.

A heating controller is provided to help regulate the heat. The controller incorporates a preset sensor, which activates heat strips in the air conditioning unit. The heat will activate when the temperature drops below 68°F (20ºC). When the temperature rises above this setting, the heat strips will deactivate. The controller is located in the in the return air duct vent. The controller is powered by a 12V terminal block located in the air conditioning unit.

Air is returned to the air conditioner via ceiling vents located throughout the mobile self-propelled unit. Each duct is strategically placed over the equipment for adequate ventilation. These return air ducts are located in each room and draw air from all rooms.

One 16” x 30” x 1” fiber core air filter is provided at the air return duct of the air conditioning and heating unit. This filter provides dust free air throughout the interior of the mobile self-propelled unit. The air filter is accessible through the exterior of the unit through the HVAC access panel.

10.4 Humidistat Temperature Setting

CAUTION

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

The temperature setting is the control that is used to adjust the Humidistat.

The Humidistat must not be set outside of the parameters as defined by the medical system manufacturer.

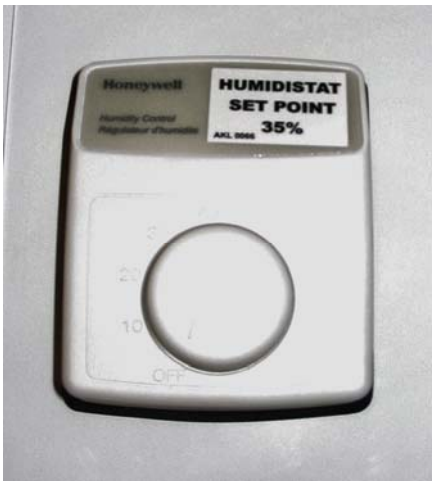


Figure 28: Humidistat Temperature Control

10.5 Penn Control Temperature Setting

CAUTION

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

The temperature setting is controlled by the use of Penn Controls. The Penn Control must not be set outside of the parameters as defined by the medical system manufacturer.

Figure 29: Penn Temperature Control

Section 11: Intrusion Alarm (optional)

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

Figure 30: Intrusion Alarm Keypad

11.1 Operation

The alarm is operated via a keypad located inside the unit, to the right of the exam room. When entering the mobile self-propelled unit, the operator keys in a code to deactivate the alarm. When leaving the mobile self-propelled unit, the operator keys in a code to activate the alarm. If the staff entry door, or the compartment doors are opened while the alarm is activated, a siren will sound.

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 self-propelled unit.

Section 12: Stabilizing Legs

CAUTION

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

Four, 15,000-pound capacity hydraulic legs are installed for stabilization and proper leveling of the unit. The stabilizing legs installed on this mobile self-propelled unit are only for the purpose of parking and stabilizing the 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 self-propelled unit.

Figure 31: Stabilizing Leg Assembly

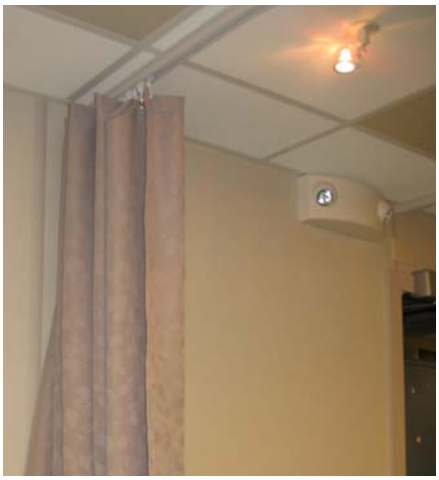
Figure 32: Stabilizing Leg Control Panel

Stabilizing Leg:	Allows the mobile self-propelled unit to be parked and stabilized for the proper operation of the medical equipment.
Sand Shoe:	Helps prevent the stabilizing legs from sinking due to weight.
Stabilizing Leg Control Panel:	The control box houses the stabilizing leg controls.
Levels:	Allows the mobile self-propelled unit to be leveled both front to back and side to side.
Lever 1:	Front Left side leg.
Lever 2:	Front Right side leg.
Lever 3:	Rear Left side leg.
Lever 4:	Rear Right side leg.
Pump ON / OFF Switch	The switch must be held in the ON position when extending or retracting the legs.

Section 13: Lighting System

The lighting provided for the mobile self-propelled unit can be divided into either interior lighting, or exterior lighting. Listed below are explanations of the lighting provided.

13.1 Interior Emergency Lighting



In the event that the main AC power fails, two (2) dual beam emergency lights are provided. These lights will automatically illuminate when the main AC power is lost.
There are three Emergency lights:

1. To the left of the staff door entrance.
2. The exam room.
3. At the rear Wheel Chair access entry door

The emergency lighting system is wired into a 120V AC electrical system that allows the lights internal circuitry to keep its batteries at 100% charge.
The emergency lights will illuminate the emergency exits and last for approximately 90 minutes.

Figure 33: Emergency Lighting

13.2 Exterior Lighting

IMPORTANT All warning lights are located on the passengers' side of the mobile self-propelled unit.

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

Underbody Compartment Lighting

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

A cord-o-matic drop light with a 50'-0" (15.24m) cable is supplied with the mobile self-propelled unit. There is one droplight aboard the unit, located in Equipment Room. The light is generally used during service applications when additional light is required. The light is plugged into a nearby miscellaneous 120V AC outlet.

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

Figure 34: Compartment Light

Staff Door Lighting / Exterior Service Lighting

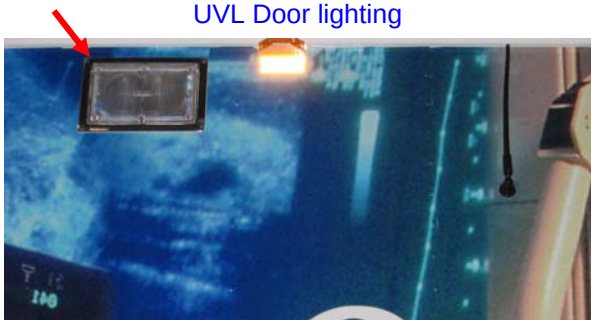
The staff door lighting is provided by a fixture that is located above the staff entry door, above the exterior controls for the hydraulic lift.

This light is meant to illuminate the staff entry as well as the hydraulic lift.

The switch for this light is located inside of the mobile self-propelled unit on the raceway next to the staff door.

UVL Door lighting

Staff Door Entry Light & X-ray on Light



Left Side Service Light

Figure 35: Staff Door and Exterior Service Lighting

Marker & Running Lights

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

All lights are 12V DC, and are powered by the mobile self-propelled unit. 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 unit.

13.3 Interior Lighting

The interior lighting system can be divided as follows.

Figure 36: Overall Interior Lighting

13.4 Warning Lights

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

A description of each of the warning lights and their location can be found below.

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

Power Indicator Light

CAUTION

The medical system and the HVAC system must be supplied power at all times. During transit of the mobile self-propelled unit via the generator and when the unit is in the parked position via shore power.

The warning lights are located on the Left side of the mobile self-propelled unit.

The Amber Indicator light is the Power On indicator. This light will be illuminated when the mobile self-propelled unit is receiving power from either power source.

The Red Indicator light is the Transport warning light.

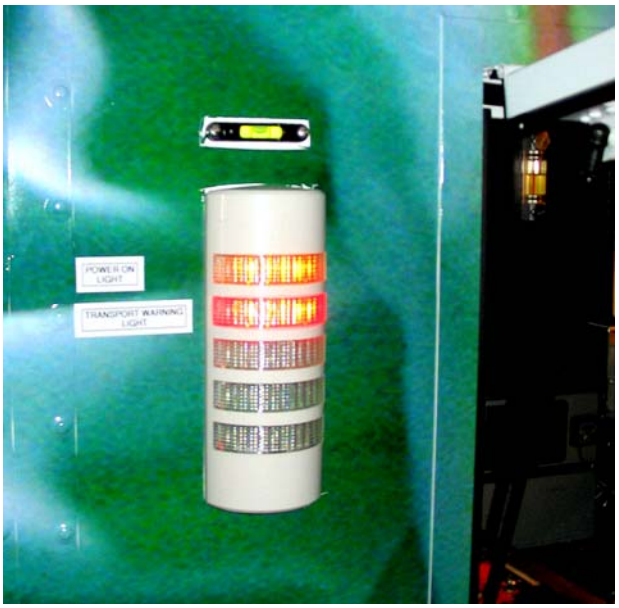


Figure 37: Power Indicator Light

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X Ray "ON" Indicator Light

An X Ray "ON" Indicator Light is provide and located above the rear ULV entry door into the mobile self-propelled unit to notify all incoming personnel that medical procedures are in progress. A second X Ray "ON" Indicator Light is located above the Staff entry door A third X Ray "ON" Indicator Light is located above the Gantry Room entry door.

Staff Entry Door

UVL Entry Door

Gantry Room Door Entry

Figure 38: X-Ray "ON" Indicator Light

Section 14: General Maintenance

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

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

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

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

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

14.1 Daily Maintenance

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

14.2 Weekly Maintenance

1. Check the A/C filters. Clean and replace if necessary. A/C must be “OFF” to check and replace filters.
2. Check the oil and water levels in the generator and refill if necessary.
3. Check the electrolyte levels in the DC batteries and fill if necessary using only distilled water.
4. Check all running lights, marker lights, brake lights, and turn signals.
5. A qualified technician should check the tire pressure in accordance pressure recommended by the tire manufacturer.
6. Check the fluid level in the hydraulic reservoir using the site glass. Add fluid if necessary. Use only AWF all weather fluid Automatic Transmission Fluid.
7. Check wheel lug nuts with torque wrench and verify that all inner and outer wheels, both the front and rear, are tightened to 450-500 foot-pounds (610–678Nm). This must be done after every 500 miles (805km) of driving. In accordance with torque procedure, lugs and nuts must be installed dry. Do not use any type of lubricant.

14.3 Monthly Maintenance

1. Put a few drops of 20W oil, or similar graphite oil, on the swivel pin of all door hinges. Only use dry graphite lubricant on key openings of all door locks.
2. Check the operation of the smoke detectors and vacuum internally.
3. Check the fire extinguisher gauges for safe charges.
4. Inspect the power cables for any damage.
5. Check the cable tie downs.
6. Check for cut, damaged, or loose wire connections.
7. Check and verify that all connector bolts are tight and secure.
8. A qualified A/C technician must check the A/C condensers every month. Refer to the Air Conditioning Owner's Manual for more information.
9. Lubricate the stabilizing legs.
10. Check wheel lug nuts with torque wrench and verify that all inner and outer wheels, both the front and rear, are tightened to 450-500 foot-pounds (610–678Nm). This must be done after every 500 (805km) miles of driving. In accordance with torque procedure, lugs and nuts must be installed dry. Do not use any type of lubricant.
11. The generator oil, as well as the oil filter, air filter, and fuel filter must be changed every 250 hours or six months of service, whichever comes first. The number of hours the generator has been in operation can be obtained by checking the microcomputer controller located on top of the staging unit in the generator bay. Refer to **Figure 24: Generator**.

14.4 Quarterly Maintenance

1. Once a year, check the fuel separator for contamination or debris.
2. Once a year, perform the preventative maintenance on the landing legs and the stabilizing leg controls. Refer to the accompanying manual for the landing gear system.
3. Rotate the tires.
4. Check wheel lug nuts with torque wrench and verify that all inner and outer wheels, both the front and rear, are tightened to 450-500 foot-pounds (610–678Nm). This must be done after every 500 (805km) miles of driving. In accordance with torque procedure, lugs and nuts must be installed dry. Do not use any type of lubricant.

Section 15: Specific Maintenance

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

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

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

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

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

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

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

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

15.1 Door Closer Adjustments

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

15.2 Electrical System

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

15.3 Generator System

1. The generator oil, as well as the oil filter, air filter, and fuel filter must be changed every 250 hours or six months of service, whichever comes first. The number of hours the generator has been in operation can be obtained by checking the microcomputer controller located on top of the staging unit in the generator bay. Please refer to refer to **Figure 24: Generator**.
2. Once a year, check the fuel separator for contamination or debris.

15.4 Humidity System

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

1. The fresh water tank supplies the humidifier with water. The water levels must be maintained at all times. Follow the steps outlined below and please refer to **Section 9: Humidity System** if necessary.
2. Check the water tank to determine the water level.
3. Open the overflow valve.
4. Attach one end of a hose to the exterior water tank fill valve and the other end to the shore supply.
5. Turn on the water source to begin filling the tank.
6. After the water tank is full, turn off the water source.
7. Detach the hose at both ends and place in the underbody storage compartments.
8. Turn off the overflow control valve.

15.5 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.

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

15.6 Stabilizing Legs

1. Once a year, perform the preventative maintenance on the stabilizing legs and the stabilizing leg controls. 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 self-propelled unit.
2. Change the oil in the landing / stabilizing leg control box and refill with six (6) quarts (5.7 liters) of PG-AWF or other approved fluid to port level.
3. Add one pint of permanent anti-freeze as necessary.
4. Extend the landing legs and coat lightly with clean grease.
5. Grease the alemite fittings and check the valve on each leg. Use “NGLI” lithium grease with a grade of “00” or “0”.
6. Check the fittings and the hydraulic lines for leaks or worn spots. Replace all defective fittings and lines as necessary.
7. Check for loose bolts and nuts. Tighten as necessary.

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

Mobile self-propelled Unit Setup Checklist

1. Park the mobile self-propelled unit on the pad per the site-planning guide.
2. Lower the stabilizing legs.
3. Re-level the mobile self-propelled unit as needed.
4. Set up the foldout stair Platform Assembly.
5. Install the handrails
6. When required extend the wheel access UVL platform carriage.
7. Verify that the shore power disconnect is in the “OFF” position and connect to the power cable to the shore power receptacle.
8. Move the shore power disconnect to the “ON” position. The ATS will automatically switch from generator power to line power and shut down the generator.
9. Connect the phone and data lines.
10. Connect the humidifier water supply connection.
11. Remove restraining hardware.
12. Prepare all medical equipment for use per the OEM provided instructions.

Mobile self-propelled Unit Transport Checklist

1. Secure the medical system per OEM instructions that are posted on the scan room wall.
2. Secure all moveable objects such as chairs, monitors, doors, cabinets, cameras, and printers.
3. Verify that the shore power disconnect is in the “OFF” position and disconnect the power cable from the shore power receptacle and store it in the underbody compartment. The generator will automatically start and transfer from Line power to Generator power.
4. Remove and store the handrails and fold the stair platform.
5. When required lower and retract the UVL platform carriage.
6. Disconnect the humidifier water supply connections.
7. Disconnect the phone and data lines.
8. Raise the Stabilizing Legs.
9. Verify that the mobile self-propelled unit is ready for transport.
    a. Are all exterior doors closed and locked?
    b. Are all running & marker lights working correctly?
    c. Are any warning lights illuminated?
    d. Is the fuel tank full?
    e. Is the generator running?

Appendix B: Troubleshooting

If the following troubleshooting guides do not correct the problem, please refer to the OEM supplied literature and the list of local service representatives, which can be found in the product information binders that have been included with the mobile self-propelled unit, or contact Oshkosh Specialty Vehicles for service.

Power Indicator Light is off…

If the Power Indicator Light is “OFF” then the mobile self-propelled unit is not receiving power. The mobile self-propelled unit must receive power at all times, either from the on-board generator or from a shore power connection.

If the mobile self-propelled unit is at a facility and connected to shore power, the unit must be switched to generator power.

If the mobile self-propelled unit is being transported, shore power must be established as soon as possible.

Please refer to the OEM supplied literature, the list of local service representatives, or contact Oshkosh Specialty Vehicles for service. The OEM supplied literature and the list of local service representatives can be found in the product information binders that have been included with the mobile self-propelled unit.

Generator Power is connected when the Power Indicator light is off…	
1.	Verify that the fuel tank has fuel.
2.	Verify that the selector switch for the generator has been moved to the “Start” position.

Humidity is out of specifications…

The humidity settings for the mobile self-propelled unit are 35% RH to 40% RH (relative humidity). If the mobile self-propelled 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 self-propelled 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 self-propelled 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, 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 35% and 40% RH (relative humidity). If the humidifier is still running constantly, contact Oshkosh Specialty Vehicles for service.
The humidity inside of the mobile self-propelled unit is too low.	1.	Check for open exterior doors left open during arid weather conditions.	The HVAC system can only support the environment of the mobile self-propelled 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, 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 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 35% and 40% RH (relative humidity). If the humidifier is running and the humidity level does not change, a problem exists within the humidity system.
	5	Verify sufficient water in the humidifier tank.	Fill tank as needed.

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:
The temperature inside of the mobile self-propelled 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 self-propelled 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, verify 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 Accustat fixed bulb settings are correct.	Verify that the Accustat is set at 68°F. Please contact Oshkosh Specialty Vehicles for further assistance.
Problem:		Check for:	Solution:
The temperature inside of the mobile self-propelled 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 self-propelled 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, verify 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 Accustat-fixed-bulb settings are correct.	Verify that the Accustat is set at 72°F. 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 have been 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.

Temperature Controller Settings

The high temperature sensor is set at 72°F (22.2ºC). If the ambient temperature in the mobile self-propelled unit rises to 72°F (22.2ºC), the HVAC system will automatically start in order to cool the unit.

The low temperature sensor is set at 68°F (20ºC). If the ambient temperature in the mobile self-propelled unit drops to 68°F (20ºC), the HVAC system will automatically start in order to warm the unit.

Humidity Settings

The humidistat set point is 35% relative humidity.

Appendix D: A-1 Circuit Malfunction Checklist

Category 1

Visual Checks – Check for the most common occurrences.

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

Category 2

Component Checks – (some tools are required).

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

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

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

Appendix E: Lockout/Tagout Procedures

Specific Energy Control Procedures

Machine or Equipment for this Procedure:

Specialty Vehicle Self-propelled Unit: ***GE Senographe Mammography System***

Control of Hazardous Energy:

Type of Hazardous Energy		When is it Necessary to Lock Out
Electrical	240V AC	When servicing main electrical power line
Electrical	120/240V AC room circuits	When servicing or performing installation inside specific sections of the trailer
Electrical	12V DC	When servicing the following: Generator, Wheel Chair Lift, Hydraulic System, Digital Levels, Lights
Electrical	12V DC From Battery	When servicing the following: Generator, Wheel Chair Lift, Hydraulic System, Digital Levels, Lights

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

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

Shut down specifications for the Specialty Vehicle Self-propelled Units:

Energy Type and Rating:	Type of Energy Isolating Device:	Location of Energy Isolating Device:	Lockout Device Used:
Main power feed Electrical 240V AC	Circuit Breaker or Plug	Normally located above the Facility Power Shore	Lock and tag with or without lockout hasp
Main power feed Electrical 480V AC	Circuit Breaker or Plug	Normally located above the Facility Power Shore	Lock and tag with or without lockout hasp
Light or outlet circuits Electrical 120V AC	Wall switch or circuit breaker	120V AC Distribution panel for circuit breaker, wall switch for room circuits	Lock and tag with a Universal Wall Switch Lockout, Universal Circuit Breaker Lockout
Generator Power engaged when main power is lost	Generator Breaker Switch	At left side of vehicle, inside forward service panel, on front of Generator control cover.	Lock and tag with a Circuit Breaker Lockout attachment device
Electrical 12V DC from Converter/Battery charger	Individual circuit fuses on Converter/Battery charger	At right side of vehicle, inside service panel, remove individual circuit fuse	Remove individual fuse and tag
Electrical 12V DC Power to lift panels From Battery	Remove Battery Cables	At right side of vehicle, inside service panel, On battery	Lock and tag with a Plug Lockout attachment device
Medical System GE Mammography	Circuit Breaker	120/240V AC Distribution Panel in equipment area	Lock and tag with or without lockout hasp
Air Conditioning System	Circuit Breaker	120/240V AC Distribution Panel in equipment area	Lock and tag with or without lockout hasp
Heating System	Air Conditioning Circuit Breaker	120/240V AC Distribution Panel in equipment area	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					

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Truck	3M	6M	9M	12M	Comments
Load test van battery (lift)					
Verify van battery charger					
Inspect bay door shocks/hardware					
Verify bay light operation					
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					
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					

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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: _____