



Operator and Service Manual

GE SENOGAPHE ESSENTIAL 38' SELF PROPELLED MAMMOGRAPHY UNIT



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

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



List of Revisions & Warnings

Revisions

00 New Release

March 2009

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:

Oshkosh Specialty Vehicles
2150 E. Dolton Road
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(001) 800.839.0630 (24 hour service)

(001) 708.596.2208 (fax)

<http://www.oshkoshsv.com/>



Warnings & Safety Alert Conventions

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

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

IMPORTANT

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.

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



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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 set up 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 set up, 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 set up 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.

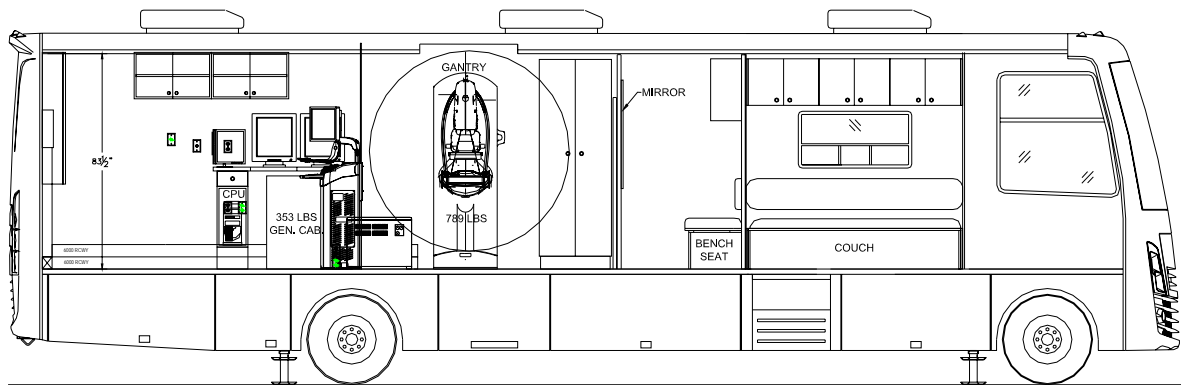


Figure 1: The GE Senographe Essential Mammography System



1.1 Mobile Self-propelled Unit Information

1.1.1 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 – 37'-10-3/4".

Overall Width – 8'-6" (102").

Overall Height – 12'-1" (145").

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

Section 2: Safety Guidelines



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 C for Lockout/Tagout procedures.



It is the operator's responsibility to make sure that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles.



Failure to do this can result in injury or death to the operator of the mobile self-propelled unit as well as irreparable damage to the mobile self-propelled unit.

Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel.



Dangerous voltages are present which could result in injury or death.

Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries.



Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles in accordance with ANSI Standards.



Be certain to disconnect the power before working on any of the electrical systems. Failure to do so can result in injury or death.

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

This safety section contains important safety 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.

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

2.1 General Safety Precautions

Make sure the work area is well ventilated.

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

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

Always keep tools clean and free of grease.

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

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



2.2 Electrical Safety



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 C for Lockout/Tagout procedures.



Before connecting or disconnecting from shore power, it is imperative that the shore power contactor disconnect switch 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.



It is the operator's responsibility to make sure that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles.

Failure to do this can result in injury or death to the operator of the mobile self-propelled unit as well as irreparable damage to the mobile self-propelled unit.



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



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, make sure 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 show 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 Gantry Room Overall

The Gantry Room houses the system components that support the medical system.

- Operator's Console
- Interior electrical panels
- Medical system
- Telephone
- Emergency stop button
- Cabinets for storage



Figure 2: Gantry Room Overall



3.2 Exterior Overall

This picture shows the entry door and the Wheel Chair access door on the right side of the unit.



Right Side

Figure 3: Exterior Overall

3.3 Communications Connections

This photo shows the Automatic Transfer Switch and Telephone & Data Connections. These are located in the left side rear underbody compartment.



Figure 4: Shore Communications Connections

3.4 Miscellaneous Rooms



Patient Dressing Room



Waiting Room

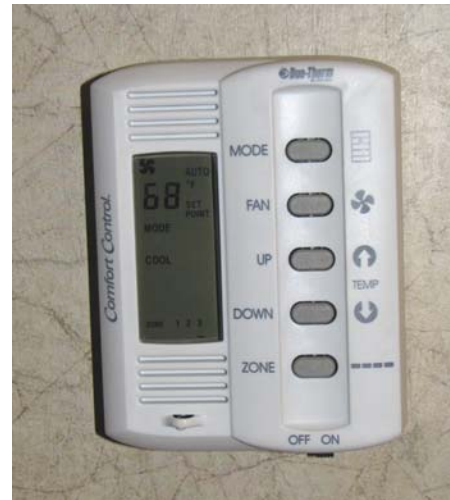
Figure 5: Miscellaneous Rooms

3.5 Mobile self-propelled Unit Controls

Located 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.



Lighting Controls



Environment Controls



Auto-Leveling System Controls

Figure 6 Mobile Self-propelled Unit Controls

3.5.1 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.

3.6 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.

The data lines utilize an RJ-45 connection and CAT-5E cabling.

The Hubbell all-weather phone connections are to be used with the customer provided Hubbell PH-6597 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 7: Phone & Data Line Connections



3.7 Stabilizing Legs

The stabilizing legs are extended underneath the front and 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. They are used to level the mobile self-propelled unit and decrease vibration caused by the medical system.



[Rear Stabilizing Legs](#)



[Front Stabilizing Legs](#)

Figure 8: Stabilizing Legs

The legs are normally controlled by using the Auto-Level System Control on the driver's left hand console. See [Figure 6 Mobile Self-propelled Unit Controls](#).

3.8 Stair Assembly

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

The Stair Assembly is an integral part of the unit. There are electrically operated and will open when the door is opened and close when the door is closed. They can be switched to remain deployed in the open position when the unit is set up for use.

When the door is opened, select ON with the control switch and the stairs will deploy.

With the switch in the OFF position, closing the door will allow the stairs to remain deployed.

With the control switch in the ON position, closing the door will cause the stairs to move to the stowed position.

NOTE: When the vehicle key is in the ignition the stairs will return to the stowed position regardless of the control switch position



Stair Control Switch



Stairs Deployed



Stairs Stowed

Figure 9: Stairs



3.9 Wheelchair Lift Set up Procedure

The wheelchair lift access door is located at the right front of the self propelled unit. The wheelchair lift cannot be accessed from the outside of the unit. See [Figure 11: Wheelchair Lift Controls](#) below for operating procedures.

1. Open the wheelchair access entry door and latch it in the full open position.



Figure 10: Wheelchair Lift Assembly



Main Power Switch



Remote Control Pendant

Figure 11: Wheelchair Lift Controls

2. Turn the main power switch ON.
3. Use the Remote Control Pendant to operate the lift.
4. Press the DEPLOY button to unfold the lift into position.
5. Press the DOWN button to lower the lift to the ground.
6. When the wheelchair patient is securely on the lift platform, press the UP button to raise the lift to floor height to allow the patient into the unit.
7. To stow the lift, press the STOW button to fold the lift into the unit.
8. Close the lift access entry door.



Figure 10: Continued

3.10 Water Connection

The fresh water connection for the humidifier is located on the right side rear underbody compartment door of the mobile unit.



Figure 12: Fresh Water Connection



Section 4: 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.

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

4.1 Fire Suppression (manual)

The fire extinguisher is supplied with the mobile self-propelled unit. It is located on the left next to the entry door. Instructions for operation are clearly printed on the canister of the fire extinguisher.



Figure 13: 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".



4.2 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.

4.3 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.

4.3.1 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 14: Manual Emergency Stop Button](#) 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.



This Emergency stop button is located in the Gantry Room left side

Figure 14: Manual Emergency Stop Button

4.3.2 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.

4.4 X Ray Precautions

An X Ray Indicator Light is provided next to the wheel chair 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.



Section 5: Mobile Self-propelled Unit Set up Procedure



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

5.1 Park the Mobile self-propelled Unit

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

5.2 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 26: Stabilizing Leg Auto-Leveling Control Panel](#) for the following procedure.

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.



5.3 Connect to Shore Power



Before connecting or disconnecting from shore power, make sure that the shore power contactor disconnect switch is in the OFF position.

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



It is the operator's responsibility to make sure that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles.

Failure to do this can result in injury or death to the operator of the mobile self-propelled unit as well as irreparable damage to the mobile self-propelled unit.



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



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.

1. See paragraph [7.3 Power Cable](#) Specific power cable instructions.
2. Make sure that the shore power disconnect is in the OFF position.
3. Open the underbody compartment door and remove the power cable from the underbody compartment of the mobile self-propelled unit.
4. Insert the Oshkosh Specialty Vehicles supplied connector into the shore power receptacle.
5. Move the shore power disconnect to the ON position. The unit will automatically switch to shore power.
6. Close the underbody compartment door; making sure that the access flap for the power cable has been released.
7. Shut down the generator on the right side of the unit if it is running.

There are two 12kVA Generators on the unit. The one on the right side of the unit powers the Medical system exclusively. It is backed up by a UPS designed to operate with the Mammography System.

The generator on the left side provides power for the vehicle itself. An automatic transfer switch (ATS) is connected to this generator and the shore power supply to provide power for the vehicle. If shore power fails, it is sensed by the ATS and switches over to the generator. The generator does not start automatically. Use the controls on the cab dash board to start and stop the generators.

5.4 Connect the Phone and Data Lines

The data line is in the left rear underbody storage compartment. The phone and data lines can now be connected from the outlet (located in the underbody compartment) to the receptacle (located at the shore facility). The phone lines use Hubbell all weather phone connections and cables. The data line makes use of CAT-5E cable and RJ-45 connections. Refer to [Figure 7: Phone & Data Line Connections](#).



5.5 Connect the Humidifier Water Hose

1. Remove the cap that covers the fresh water connection. Refer to [Figure 22: Fresh Water Connection](#).
2. Attach the supplied water hose to this fresh water connection.
3. Attach the other end of the hose to facility provided fresh water faucet.
4. Turn on the water at the faucet.
5. Open Ball Valve "A". Refer to [Figure 23: Humidifier Isometric Schematic](#) for location.
6. This will fill the water tank for the mobile unit. When the tank is full, close Ball Valve "A". If necessary, the fresh water tank can be filled by pouring water directly into the manual fill pipe.
7. In the event that the water tank is overfilled, an overflow drain has been provided that exits outside of the mobile unit.
8. In order to supply fresh water directly from the facility to the humidifier close Ball Valve "A". Refer to [Figure 23: Humidifier Isometric Schematic](#) for location.

5.6 Remove Restraining Hardware

Various items may be secured while the unit is being transported.

- These items consist of chairs, monitors, doors, cabinets, cameras, and printers.
- Remove all restraining equipment before using the medical system.

5.7 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.



Section 6: Mobile Self-propelled Unit Transport Procedure



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.



Before transporting the mobile self-propelled unit, check to make sure all warning lights as well as all exterior marker lights are working correctly.



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

6.1 Secure the Medical System per OEM Instructions

The medical system must be secured before 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 before transport of the mobile self-propelled unit.

6.2 Secure all Equipment

Various items must be secured before transporting the mobile self-propelled unit. Such items 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.

6.3 Remove the Shore Power Connection



Before connecting or disconnecting from shore power, it is imperative that the shore power contactor disconnect switch 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.



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 compartment.
3. Start the generator to provide power to the unit.
 - There are two 12kVA Generators on the unit. The one on the right side of the unit powers the Medical system exclusively. It is backed up by a UPS designed to operate with the Mammography System.
 - The generator on the left side provides power for the vehicle itself. An automatic transfer switch (ATS) is connected to this generator and the shore power supply to provide power for the vehicle. If shore power fails, it is sensed by the ATS and switches over to the generator. The generator does not start automatically. Use the controls on the cab dash board to start and stop the generators.



6.4 Disconnect the Humidifier Water Hose

1. The humidifier fresh water connection is located on the right side exterior near the rear of the mobile self-propelled unit. Be sure to fill the fresh humidifier water tank before disconnecting the fresh water supply.
2. Make sure that the humidifier water tank is full.
3. Turn off the water supply at the facility faucet.
4. Disconnect the hose from the faucet.
5. Remove the hose from the connection on the mobile self-propelled unit.
6. Using the cap provided, cover the connection on the mobile self-propelled unit.
7. Coil the hose and store in the underbody compartment.

6.5 Disconnect Phone and Data Lines

Please refer to [Figure 7: 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 left rear 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 on the hook provided in the underbody storage compartment and close the underbody compartment door.

6.6 Raise the Stabilizing Legs

1. After the phone and data lines have been removed and stored, the stabilizing legs can be raised. Refer to [Figure 6 Mobile Self-propelled Unit Controls](#) for the following procedure.
2. At the driver's left hand console, select "Retract all jacks" to raise the stabilizing legs.

6.7 Store the Stair Assembly for Transport

1. Before starting the engine to depart, check the interior of the unit one last time to make sure that all equipment is secure and ready for transport.
2. Close and lock the lower compartment doors with the key that is provided.
3. Retract the stairs into the stowed position.
4. Ensure that the stair assembly is in the stowed position when the door is closed.



6.8 Make sure 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 before 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 LED lights 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.





Section 7: Electrical System



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 C for Lockout/Tagout procedures.



Before connecting or disconnecting from shore power, make sure that the shore power contactor disconnect switch 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.



It is the operator's responsibility to make sure that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles.

Failure to do this can result in injury or death to the operator of the mobile self-propelled unit as well as irreparable damage to the mobile self-propelled unit.



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 at the left rear wall of 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 240V AC Distribution Panels and ATS Switch



Figure 15: 240V AC Electrical Panels

There are three panels used in the electrical system. These panels control the distribution of electrical power to the components aboard the mobile self-propelled unit.

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



Figure 16: 240V AC Automatic Transfer Switch

7.2 Facility Power Connection



Figure 17: Shore Power Connection

Although the shore power connection is 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.

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:	50A disconnect

Receptacle	
Manufacturer:	HUBBELL
Model:	#HBL9450A 240V AC Single Phase
Ampere Rating:	50 A



7.3 Power Cable

Descriptions:	Specifications
Service Amps:	50 A
4 Wire:	3 pole, Including neutral and ground
Cable:	50 A, 6 AWG 3 Conductor, w/ 8 AWG Ground, 60° C, 600V, 45'-0" (13.71m) long
Plug	HUBBELL # HBL9452C

The primary power cable has the HUBBELL HBL9452C 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.



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.



Section 8: Generator



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 C for Lockout/Tagout procedures.



Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel.

Dangerous voltages are present which could result in injury or death.



Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries.



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



Before connecting or disconnecting from shore power, make sure that the shore power contactor disconnect switch is moved to the OFF position.

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



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



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



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.



The ATS will automatically transfer to Shore Power when connected to a viable power supply. In the event of a Shore Power fault, the ATS will automatically transfer power to the generator. The generator must be started manually.



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



There are two 12kVA Generators on the unit. The one on the right side of the unit powers the Medical system exclusively. It is backed up by a UPS designed to operate with the Mammography System.

The generator on the left side provides power for the vehicle itself. An automatic transfer switch (ATS) is connected to this generator and the shore power supply to provide power for the vehicle. If shore power fails, it is sensed by the ATS and switches over to the generator. The generator does not start automatically. Use the controls on the cab dash board to start and stop the generators.

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 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 18: Right Side Generator (Medical System Power)



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.

The generator start switches are located in the Cab on the dash console below the radio.



[Figure 19: Generator Start / Stop Switches](#)



8.4 Generator Service Access

Remove the side panels as required to gain access to the generator for service.



Figure 20: Left Side Generator (Vehicle Power)

Section 9: Humidity System



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



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 right rear underbody compartment. 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 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)



9.2 Humidity Controller



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 21: Humidity Controller

9.3 Humidity Settings



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).

9.4 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.

9.5 Instructions

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

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

To attach the water supply lines follow the procedure below:

9. Remove the cap that covers the fresh water connection. Refer to [Figure 22: Fresh Water Connection](#).
10. Attach the supplied water hose to this fresh water connection.
11. Attach the other end of the hose to facility provided fresh water faucet.
12. Turn on the water at the faucet.
13. Open Ball Valve "A". Refer to [Figure 23: Humidifier Isometric Schematic](#) for location.
14. This will fill the water tank for the mobile unit. When the tank is full, close Ball Valve "A". If necessary, the fresh water tank can be filled by pouring water directly into the manual fill pipe.
15. In the event that the water tank is overfilled, an overflow drain has been provided that exits outside of the mobile unit.
16. In order to supply fresh water directly from the facility to the humidifier close Ball Valve "A". Refer to [Figure 23: Humidifier Isometric Schematic](#) for location.



[Figure 22: Fresh Water Connection](#)



TANK FILL, FROM HOSE

OPEN VALVE "A"

TANK ONLY OR DIRECT CONNECT OPTIONS

CLOSE VALVE "A"

TANK DRAIN

OPEN VALVE "C"

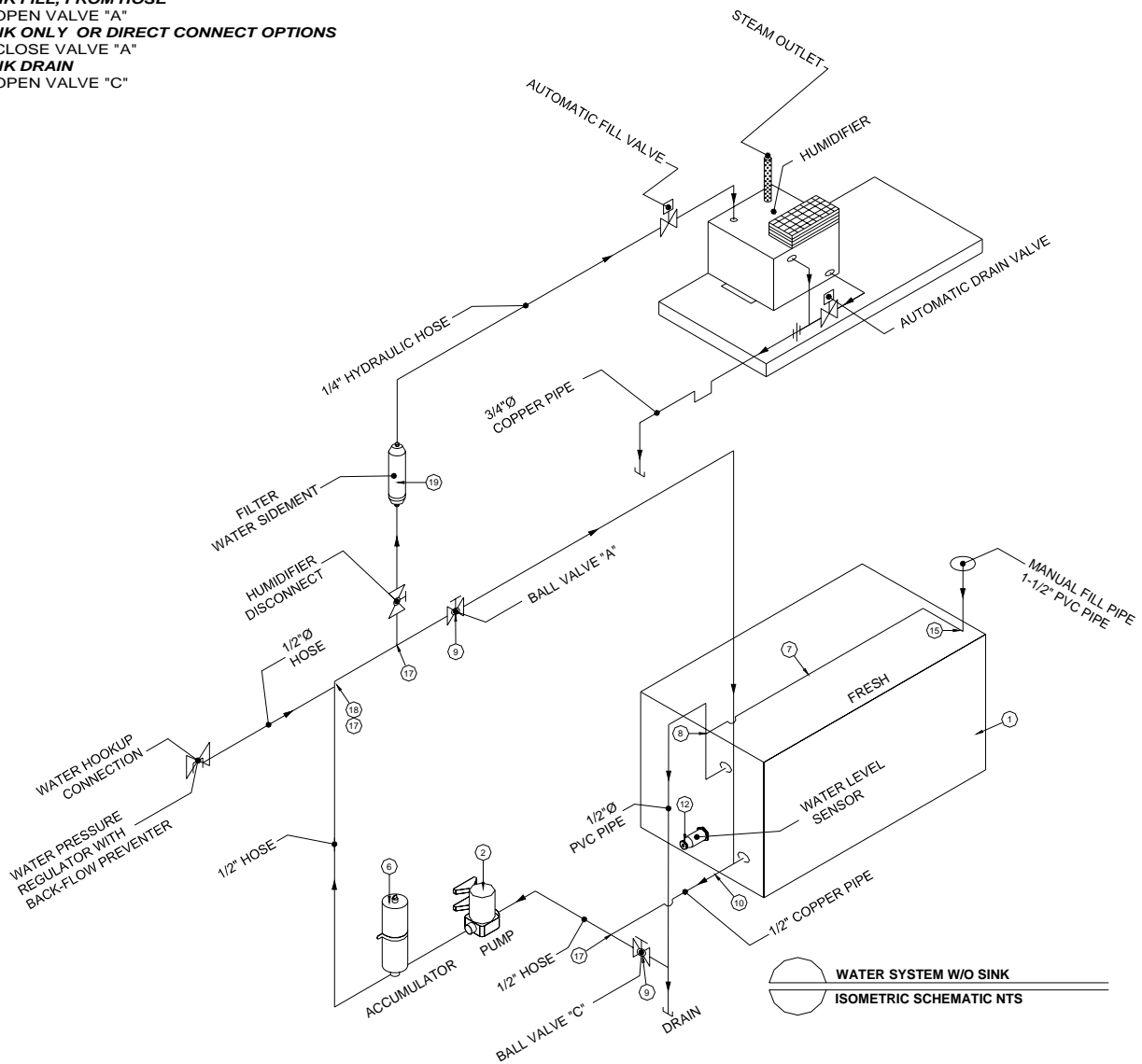


Figure 23: Humidifier Isometric Schematic

9.6 Maintenance

Due to the Drain and Flush feature, the Humidifier system is basically maintenance free.

The Water Sediment Filter should be replaced every 90 days to reduce sediment build-up in the humidifier tank. The filter is located in the underbody compartment with the water storage tank.

It is mounted on the ceiling of the compartment between the compartment door and the dome light. See [Figure 24: Humidifier Water Sediment Filter](#) below for location.



[Figure 24: Humidifier Water Sediment Filter](#)



Section 10: HVAC System



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. NEVER change these settings.



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.

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.

For information on the three roof-mounted air conditioning units, 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.

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.
- All warning and identification labels as required are installed at the factory.



10.2 Thermostat Controls

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



Figure 25: Thermostat Temperature Control

Section 11: Stabilizing Legs



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, 9,000-pound capacity electric 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 26: Stabilizing Leg Auto-Leveling 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.



Section 12: 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.

12.1 Exterior Lighting

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

12.1.1 Underbody Compartment Lighting

Located inside of the underbody compartments there are wall mounted halogen lights.

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



Figure 27: Compartment Light

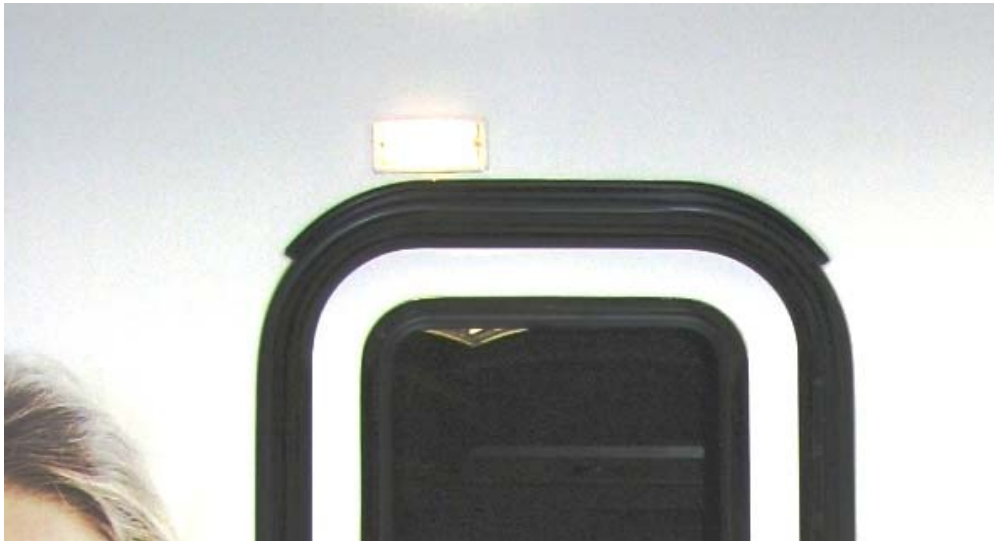


12.1.2 Entry Door Lighting

The entry door lighting is provided by a fixture that is located above the entry door.

This light is meant to illuminate the entry door.

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



Door Entry Light

Figure 28: Entry Door and Exterior Service Lighting

12.1.3 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.

12.2 Interior Lighting

The interior lighting system can be divided as follows.



DC Lighting



AC Lighting



Figure 29: Overall Interior Lighting

12.3 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.

X Ray ON Indicator Light

An X Ray ON Indicator Light is provide and located next to the rear wheel chair access door at the right rear side of the mobile self-propelled unit to notify everyone close by that medical procedures are in progress.

X Ray ON Indicator Lights are also located above the Gantry Room entry door.



Equipment Loading Door



Gantry Room Door Entry

Figure 30: X-Ray "ON" Indicator Light



Section 13: General Maintenance



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 C for Lockout/Tagout procedures.



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



Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries.



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



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

13.1 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.

13.2 Weekly Maintenance

1. Check the oil and water levels in the generator and refill if necessary.
2. Check the electrolyte levels in the DC batteries and fill if necessary using only distilled water.
3. Check all running lights, marker lights, brake lights, and turn signals.
4. A qualified technician should check the tire pressure in accordance pressure recommended by the tire manufacturer.
5. Check wheel lug nuts with torque wrench and make sure that all inner and outer wheels, both the front and rear, are tightened in accordance with the truck chassis manufacturer's specifications.



13.3 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 gauge for safe charge.
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 make sure that all connector bolts are tight and secure.
8. Lubricate the stabilizing legs.
9. Check wheel lug nuts with torque wrench and make sure that all inner and outer wheels, both the front and rear, are tightened in accordance with the truck chassis manufacturer's specifications.
10. 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 18: Right Side Generator](#).

13.4 Quarterly Maintenance

1. Once a year, check the generator fuel separator for contamination or debris.
2. Once a year, perform the preventative maintenance on the stabilizing legs and controls. Refer to the accompanying manual for the landing gear system.
3. Rotate the tires.
4. Check wheel lug nuts with torque wrench and make sure that all inner and outer wheels, both the front and rear, are tightened in accordance with the truck chassis manufacturer's specifications.

Section 14: Specific Maintenance



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 C for Lockout/Tagout procedures.



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



Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries.



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



Image quality can be impaired with improper door closer adjustment.



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

14.1 Electrical System

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

14.2 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 in the generator bay. Please refer to [Figure 18: Right Side Generator](#).
2. Once a year, check the fuel separator for contamination or debris.



14.3 Humidity System



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

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.

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

14.4 HVAC System



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

The HVAC system is designed specifically to maintain only the internal environment of the mobile 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 be sure that the doors, partitions, and baffling are in the intended positions before running the medical system.

14.5 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. Extend the stabilizing legs and coat lightly with clean grease.
3. Grease the alemite fittings and check the valve on each leg. Use "NGLI" lithium grease with a grade of "00" or "0".
4. Check for loose bolts and nuts. Tighten as necessary.

Appendix A: Mobile Self-propelled Unit Checklist



It is the operator's responsibility to make sure that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles.

Failure to do this can result in injury or death to the operator of the mobile self-propelled unit as well as irreparable damage to the mobile self-propelled unit.



Before connecting or disconnecting from shore power, make sure that the shore power contactor disconnect switch 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.



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



Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries.

Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles in accordance with ANSI Standards.



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



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.



Always inspect the power cable, connectors, and fasteners before 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.



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.



Before transporting the mobile self-propelled unit, check to make sure all warning lights as well as all exterior marker lights are working correctly.



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.



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



Mobile self-propelled Unit Set up Checklist

1. Park the mobile self-propelled unit on the pad per the site-planning guide.
2. Lower the stabilizing legs and level the mobile self-propelled unit as needed.
3. Make sure that the shore power disconnect is in the OFF position and connect to the power cable to the shore power receptacle.
4. Move the shore power disconnect to the ON position. The ATS will automatically switch from generator power to line power.
5. Connect the phone and data lines.
6. Connect the humidifier water supply connection.
7. Remove restraining hardware.
8. 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. Make sure 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. Disconnect the humidifier water supply connections.
5. Disconnect the phone and data lines.
6. Raise the Stabilizing Legs.
7. Make sure that all doors including lower compartments are closed and locked.
8. Make sure that the mobile self-propelled unit is ready for transport.
 - Are all exterior doors closed and locked?
 - Are all running & marker lights working correctly?
 - Are any warning lights illuminated?
 - Is the fuel tank full?
 - 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.

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.	Make sure 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.



Problem		Check for:	Solution:
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 make sure 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	Make sure 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, make sure that cold air is blowing.
	3.	Check to see if the A/C disconnect is in the OFF position.	Turn the A/C disconnect to the ON position.
	4.	The Thermostat settings are correct.	Make sure that the Thermostat 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, make sure that warm air is blowing.
	3.	Check to see if the A/C disconnect is in the OFF position.	Turn the A/C disconnect to the ON position.
	4.	The Thermostat settings are correct.	Make sure that the Thermostat is set at 72°F. Please contact Oshkosh Specialty Vehicles for further assistance.





Appendix C: Lockout/Tagout Procedures

Specific Energy Control Procedures

Machine or Equipment for this Procedure:

Specialty Vehicle Self-propelled Unit: GE Senographe Essential 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	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

People 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 240V 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 240V AC	Wall switch or circuit breaker	240V 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	240V AC Distribution Panel in equipment area	Lock and tag with or without lockout hasp
Air Conditioning System	Circuit Breaker	240V AC Distribution Panel in equipment area	Lock and tag with or without lockout hasp
Heating System	Air Conditioning Circuit Breaker	240V AC Distribution Panel in equipment area	Lock and tag with or without lockout hasp

Methods to dissipate energy:

N/A

Method of Make sureing the Isolation of the Machine or Equipment:

Voltmeter



Appendix D: 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					
Make sure heat strip operation					
Inspect/clean evaporator coil					
Clean/inspect condenser coils					
Inspect electrical contactors					
Make sure refrigerant pressures					
Inspect refrigeration piping abrasion					
Lubricate fan motors if applicable					
Inspect covers/fasteners					
Make sure compressor amp draw					
Make sure condensate pans/drains					
Make sure Condenser motor operation					



Truck	3M	6M	9M	12M	Comments
Load test van battery (lift)					
Make sure van battery charger					
Inspect bay door shocks/hardware					
Make sure bay light operation					
Check door hinges/stops/latches for proper operation					
Check Fire system Last Inspection Date _____					
Inspect stair operation					
Inspect interior flooring					
Make sure bay heater operation					
Inspect cabinet latches and hinges					
Check phone/communication lines					
Make sure hub fluid levels					
Inspect undercarriage/frame					
Inspect airbags/airlines/fittings					
Inspect shocks/bushings					
Inspect Tires / Rotate as needed					

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					
Make sure radiator coolant level					
Make sure coolant freeze point & pH					
Make sure block heater operation					
Inspect housing mounting bolts					
Inspect muffler/brackets					
Make sure battery charging voltage					
Load test battery/clean terminals					
Make sure voltage & hertz output					



Record hours run since last P.M. (_____) Recorded Generator Hours					
Inspect & Clean Lower Air Filter					
Inspect & Clean Compartment Door Air Filter					

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

Humidifier	3M	6M	9M	12M	Comments
Inspect/replace steam tank					
Make sure humid control set point					
Inspect/fill water reservoir					
Clean fill and drain valves					
Make sure 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: _____

