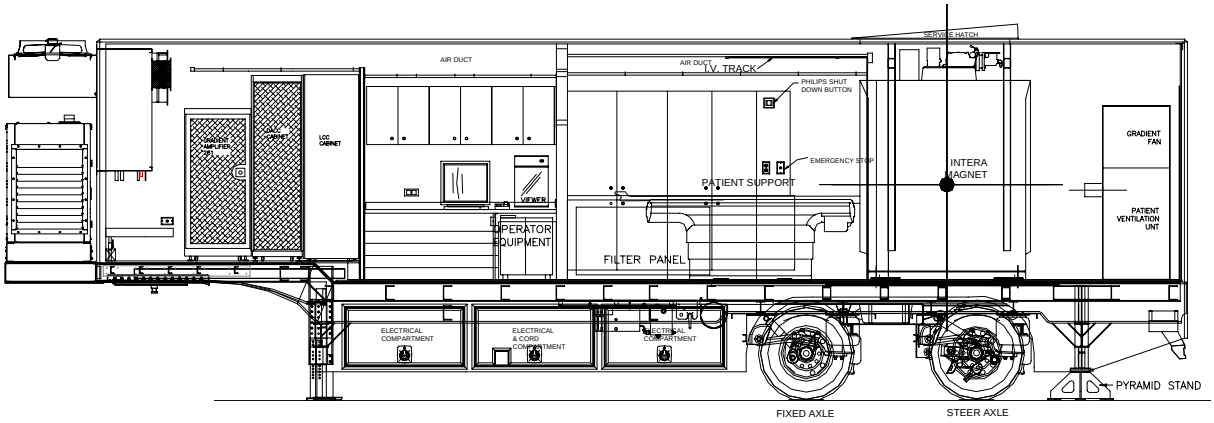
OSHKOSH SPECIALTY VEHICLES

Operator and Service Manual

PHILIPS INTERA 1.0 / 1.5 T
MRI SYSTEM
12.5m L x 2.5m W x 3.8m H Japan Unit



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OSHKOSH SPECIALTY VEHICLES

List of Revisions & Warnings

Revisions

00	Initial Release	February 2008

Notice

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

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

Volume I – Site Guide, Service/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
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Harvey, Illinois
60426
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(001) 800.839.0630 (24 hour service)
(001) 708.596.2480 (fax)

http://www.oshkoshsv.com

Warnings & Safety Alert Conventions

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

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

IMPORTANT — 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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Table of Contents

List of Figures

Section 1: Introduction

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

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

Figure 1: The Philips Mobile MRI System Japan

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

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

Section 2: Safety Guidelines

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

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

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

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

2.2 Magnet Safety

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

All personnel with pacemakers, metal implants and neurostimulators should avoid entering the exclusion zone of the magnetic field. The medical equipment manufacturer defines the exclusion zone of the magnetic field.

Do not bring ferrous materials into the exclusion zone. These items may become projectiles and cause serious injury, and / or property damage.

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

2.3 Chemical Safety

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

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

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

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

2.4 Electrical Safety

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

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

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

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

2.5 Transportation Safety

Walk around the unit to make certain that all doors are closed and locked and that the hydraulic lift is seated in the retaining cradles.

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

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

Consult with the local Ministry of Transport to determine if there are any travel restrictions or routes.

Section 3: Safety Systems

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

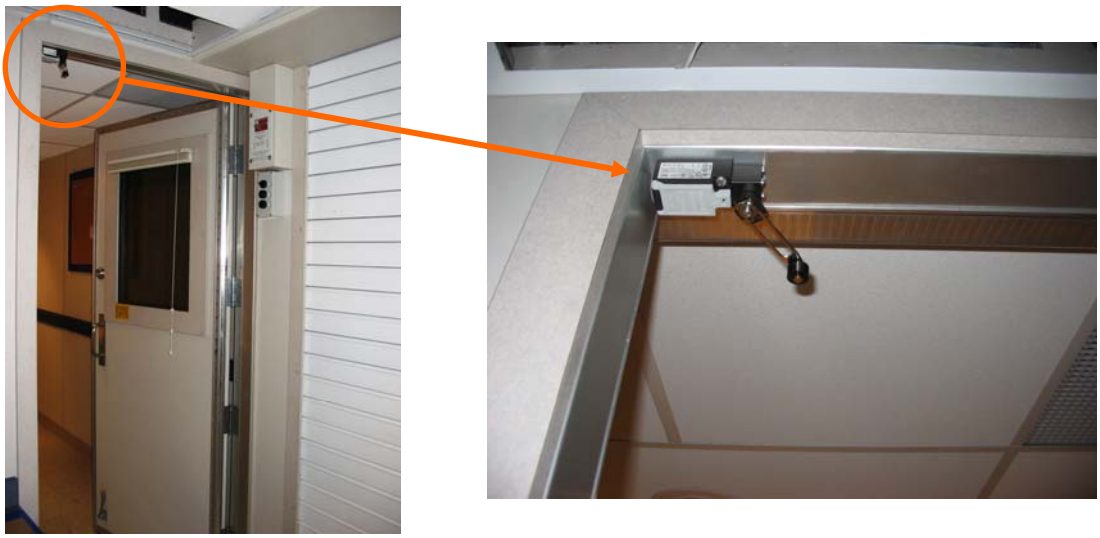

Figure 2: Interlocks

3.1 Door Interlock System

The Scan Room and Magnet Room are shielded from radio frequency interference. If doors that lead to these rooms are opened, radio frequencies can interfere with the scan image. A door interlock system has been incorporated into the mobile unit to ensure that proper scanning can take place.

This system provides a constant monitoring of the doors that have the interlock system. If one of these doors is opened, the technician will see a notification appear at the console stating that an RF door has been opened. All doors must be closed for scanning to take place. If a door is opened during a scan, scanning operations will be stopped. The door interlocks can be found at the following locations.

- On the interior door that leads into Scan Room. (RFI Interlock)
- On the exterior door that leads into the Magnet Room. (RFI Interlock)
- On the Roll Door that leading to the hydraulic lift. (Intruder Alarm Interlock)
- On the Staff Entry Door into the Control Room. (Intruder Alarm Interlock)
- On the Emergency Exit / Service Door in the Equipment Room. (Intruder Alarm Interlock)

3.2 Service Door Equipment Room

A service door has been installed on the right sidewall of the mobile unit. In the event of an emergency, this door can be used as an exit. When needed, this door can also be used when servicing the mobile unit.

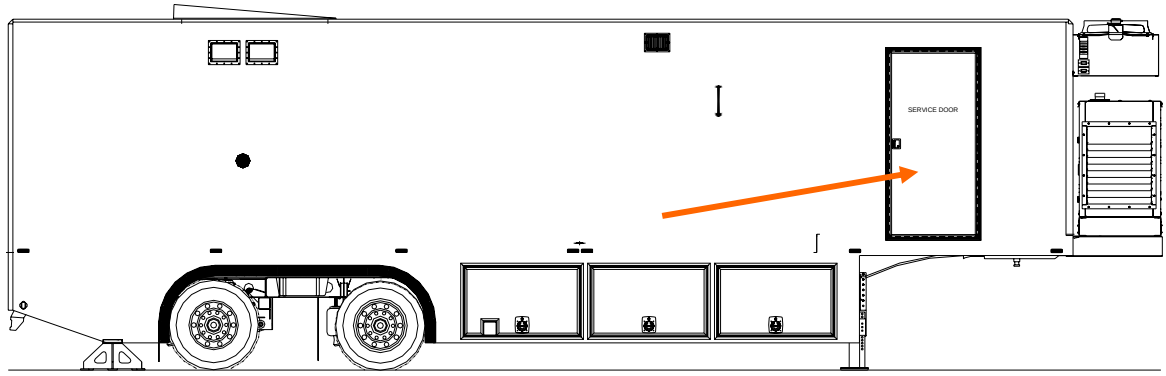

Figure 3: Service Door

3.3 Emergency Lighting

In the event that the main AC power fails, four dual beam emergency lights are provided. These lights will automatically illuminate when the main AC power is lost. These lights are located in the Control Room, Equipment Room, Scan Room, and Magnet Room. The emergency lighting system is wired into a 230V AC electrical system that allows the lights' internal circuitry to keep their batteries at 100% charge. The emergency lights will illuminate the exit doors from each room and last for approximately 90 minutes. Refer to **Figure 43: Emergency Lighting**.

3.4 Fire Suppression (manual)

Only one fire extinguisher is supplied with the mobile unit. The fire extinguisher is located in Control Room. Instructions for operation are clearly printed on the canister of the fire extinguisher. The fire extinguisher meets the following standards.

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

It has a charged weight of 3 lbs., 9 oz. (1.62 kg).

It is TUV listed.

It meets Ministry of Transport requirements.

Figure 4: Fire Extinguisher

3.5 Fire Detection System

A standard fire detection system is installed in the mobile unit. The fire detection system works via photoelectric smoke detectors and heart sensors located on the ceiling panels in each room of the mobile unit. In the event of a fire being detected, an alarm will sound.

Figure 5: Smoke Detector

The fire alarm control panel is responsible for monitoring the fire alarm system. For a brief list of instructions that explain how to use the system control buttons to test, reset, and silence the alarm, refer to the Oshkosh Specialty Vehicles Vendor Information binder for the product manual.

Figure 6: Fire Alarm Control Panel

Green LED	Mains Healthy
Red LED	General Fire
Red LED	Call Point Activated
Amber LED	Call Point Fault
Amber LED	General Fault
Amber LED	Fault Buzzer Muted
Amber Access LED	Access LED indicates that the access code has been entered.
(1) Silence / Mute / Locate Button:	This button will silence the alarm that is activated after the system has been tripped, indicating a fire.
(2) Reset / Test Lamps Button:	Pressing the reset button resets the system after it has been activated, provided the access code has been entered.
(3) Evacuation Resound Button:	Pressing the Evacuation Resound button will sound the alarm.
(*) Access Button:	Press the (*) button to access the controls.

System Operation - Fire

The operation of a smoke / heat detector will cause all smoke detector units to sound together with the internal alarm buzzer in the control panel along with an additional alarm in the facility, if so equipped. The source of the alarm can be easily determined as follows:

1. To access the controls, press the (*) Access Button.
2. Enter the Access Code (2) (1) (3).
3. The amber Access LED illuminates. Level 2 controls are enabled
4. Determine whether the alarm is genuine or not. If there is no need to evacuate, press the “(1) Silence / Mute / Locate Button”. All smoke alarms will silence except for the one originating the call.
5. Inspect this location.
6. When satisfied that the unit is safe and any fire has been extinguished, press the “(2) Reset / Test Lamps Button”, when appropriate, to reset the system.
7. If there is a new or recurring emergency, press the “(3) Evacuate” button to resound the alarm and evacuate the unit immediately.
8. Press the (*) Access Button.
9. Enter the Access Code (2) (1) (3).
10. The amber Access LED extinguishes. Level 2 controls are disabled.
11. The system is reset and ready for the next alarm.

The operation of the break glass call point on the system control panel or any additional call points will cause all smoke / heat detector alarms to sound together with the internal alarm buzzer in the control panel. The source of the alarm will be indicated as “call point operated” which can readily be identified by inspecting the state of the call point glass. The system may then be reset following the steps outlined in 1 through 11 above.

System Operation - Fault

Various faults could occur which must be identified and corrected for the proper operation of the system.

1. AC Power Failure – The green LED extinguishes, the internal buzzer sounds and the General Fault amber LED illuminates. Investigate and restore the 230 VAC power source to the system.
2. Battery Fault – The General Fault LED flashes and the internal buzzer sounds every 40 seconds. Replace the battery in the control panel with an Ultralife Lithium PP3, 9 volt battery.
3. Smoke alarm faults will be indicated at the smoke alarm as described in the product manual.
4. Break glass call point Fault – Call point fault LED illuminates and the internal buzzer sounds every 10 seconds. Check the break glass in all call points and replace as necessary.
5. Mute Fault Buzzer – The fault buzzer can be muted. Muting the Fault tone is indicated by the General Fault / Buzzer Silenced LED flashing every 7 seconds.

Test Smoke / Heat Alarms

Test all smoke / heat detectors in turn observing correct operation of all alarms. Use the test button on each smoke / heat detector. Keep a detector in fire by continuing to press the test switch or use a recommended smoke test match or “Canned Smoke” spry. Each test will result in all interconnected detectors sounding an alarm and the following:

1. General Fire Indicator illuminates and all alarms sound.
2. Press (*) Access (2) (1) (3)
3. Access LED Illuminates
4. Press (1) Silence / Mute / Locate – All smoke / heat alarms except the initiating alarm will silence.
5. Release the test button or clear the smoke from the detector – The detector will automatically reset.
6. Press (2) Reset / Test Lamps Button – The panel internal buzzer silences and the General Fire LED extinguishes.

Test Call Points

Test all call points using the key provided.

1. Red call point operated LED illuminates. All interconnected smoke / heat detector alarms sound.
2. Press (*) Access (2) (1) (3)
3. Access LED Illuminates
4. Press (1) Silence / Mute / Locate – All smoke / heat alarms except the initiating alarm will silence.
5. Release the test button or clear the smoke from the detector – The detector will automatically reset.
6. Press (2) Reset / Test Lamps Button – The panel internal buzzer silences and the General Fire LED extinguishes.

3.6 Gauss Lines

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

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

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

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

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

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

3.7 Hydraulic Lift

There are multiple safety features for the hydraulic lift. For a full list of the safety features, please refer to **Section 11: Hydraulic Lift**.

3.8 Magnet Field Indicator

WARNING

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

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

3.9 Marker Lights

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

3.10 Oxygen Monitor (Optional)

The magnet that is located inside of the mobile unit uses liquid helium for cooling purposes. As the magnet is cooled, venting lines that are attached to the magnet allow *boil off* gasses to dissipate into the outside atmosphere. If there are any leaks however, oxygen depletion can occur unnoticed within Scan Room. For this reason, an oxygen monitor is used to monitor the oxygen concentration levels in this room.

Figure 7: Oxygen Monitor (Optional)

In case of AC power failure, the oxygen monitor is also supplied with a 12V DC battery.

If the oxygen level drops below 18%, the following actions will occur.

An alarm will sound notifying all personnel of the danger.

An exhaust fan located in the Magnet Room will automatically start in order to remove all *boil*-off gasses from the mobile unit.

The roll door located in Control Room will automatically open to provide additional venting.

3.11 Roll Door

Controls for the roll door are located both inside and outside of the mobile unit. On the exterior of the mobile unit, the controls can be found alongside the controls for the hydraulic lift. On the interior, the controls can be found next to the staff door.

In the event the power supply is lost, the mobile unit has been provided with a manual override (emergency release) for the roll door. Once the disconnect lever is pulled, the roll door can be moved manually either up or down.

Figure 8: Roll Door Emergency Release

3.12 System Shutdowns

There are different types of shutdowns that can take place on the mobile 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.

Scan Room and Control Room
Guarded Magnet Quench Buttons

Emergency Off button

Figure 9: Emergency Shutdown Buttons

Guarded Magnet Quench Button (Emergency Rundown Unit)

This *WILL* drop the magnet field. The magnet located inside of Scan Room is cooled by liquid helium. When the magnet quench button is depressed, the helium will be quenched from the magnet. This must only be done when there is an emergency related to the magnetic field. The Guarded Magnet Quench buttons are located in the Scan Room and Control Room. Refer to **Figure 9: Emergency Shutdown Buttons** for location.

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

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

Manual Shutdown (Emergency Stop)

This *WILL NOT* drop the magnet field. Manual shutdowns are those that require the operating personnel to depress “Emergency OFF” buttons in the event of an emergency. The “Emergency OFF” buttons are located in Control Room and Scan Room aboard the mobile unit. When these buttons are depressed, only the medical system will be shutdown. The trailer systems will still be operational.

3.13 Warning Lights

Warning lights have been provided to keep the operator and technician aware of the status of the mobile unit at all times. A description of each of the warning lights and their location can be found below. If any of the warning lights are illuminated, please refer to **Appendix B: Troubleshooting**, for additional information.

400 VAC Fault Light

The voltage warning light can be found on the 400 V AC electrical panel in the forward left underbody compartment of the mobile unit.

- This light will illuminate under the following conditions:
- The shore power to the mobile unit is out of phase.
- The shore power to the mobile unit is subject to low voltage.
- The shore power of the mobile unit has one or more phase leg problems.
- If the voltage warning light illuminates while connected to the shore power facility, the operator must switch to generator power until the problem has been corrected.
- If the problem persists, a qualified electrician must be called to remedy the problem.

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Air Bag Suspension Warning Light

CAUTION The air ride control valves must be in the normal ride position before the mobile unit can be transported. If the air ride control valves are not in the normal ride position, irreparable damage may occur to the mobile unit.

The Air Bag Suspension Warning Light is located on the exterior right side of the unit and will illuminate when the air bags for the rear suspension are either not inflated, or the air pressure is to low. The air bags must be properly inflated prior to transporting the mobile unit. Failure to properly inflate the air bags can result in irreparable damage to the mobile unit.

Transport Warning Light

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

The Transport Warning Light is located on the exterior right side of the mobile unit and will illuminate when the hydraulic lift is not in the proper transport position.

Generator OFF Warning Light

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

The Generator OFF Warning Light is located on the front wall exterior right side of the mobile unit and will illuminate when the mobile unit is not receiving power from the generator.

The mobile unit must have power at all times.

Section 4: Mobile Unit Overview

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

4.1 Air Ride Control Valves

CAUTION The air ride control valves must be in the normal ride position before the mobile unit can be transported. If the air ride control valves are not in the normal ride position, irreparable damage may occur to the mobile unit.

The air ride control valve adjusts the rear air suspension bags. When the mobile unit is being transported, the air ride control valve must be in the normal ride position. This valve is located on the right side in the underbody compartment below the stairs.

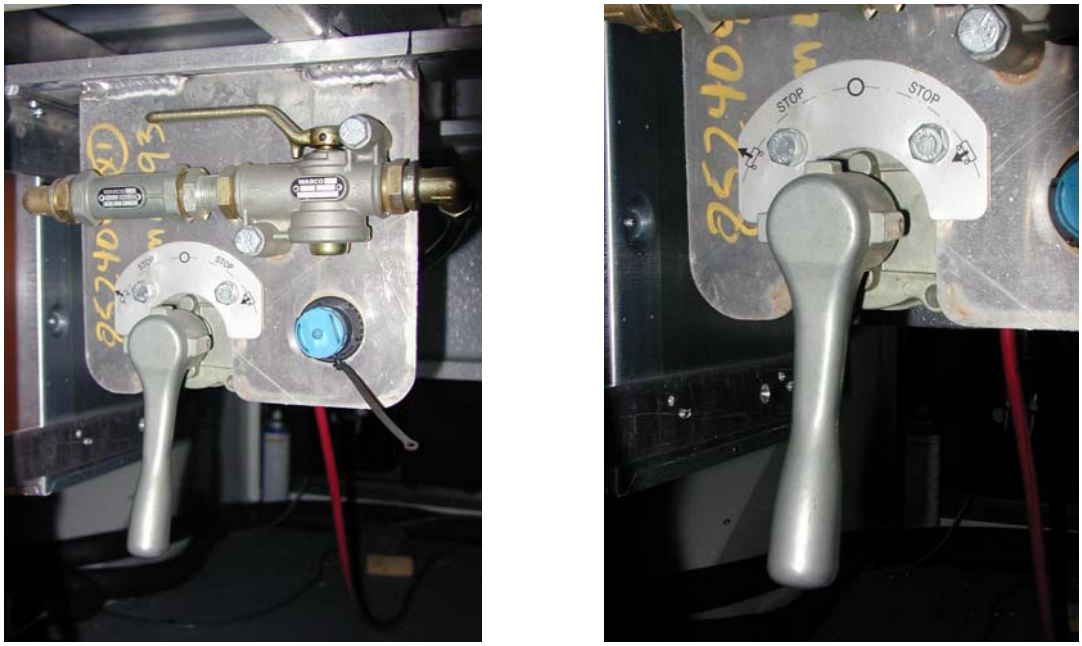


Figure 10: Air Ride Control Valves

Shown in “Normal Ride” position

Up Position:	Turn the valve lever fully to the left (counterclockwise).
Down Position:	Turn the valve lever fully to the right (clockwise).
Stop Position:	Turn the valve lever to the positions marked “STOP”.
Ride Position:	Turn the valve lever to the center position marked with a circle. The valve lever must be in this position prior to the mobile unit being transported.

4.2 Canopy (optional)

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

Figure 11: Canopy

4.3 Control Room Overall

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

Figure 12: Control Room Overall

4.4 Cryogen Compressor

The cryogen compressor is supplied by Philips and installed in the LCC Cabinet. For information regarding the cryogen compressor, please refer to the manuals supplied by Philips.

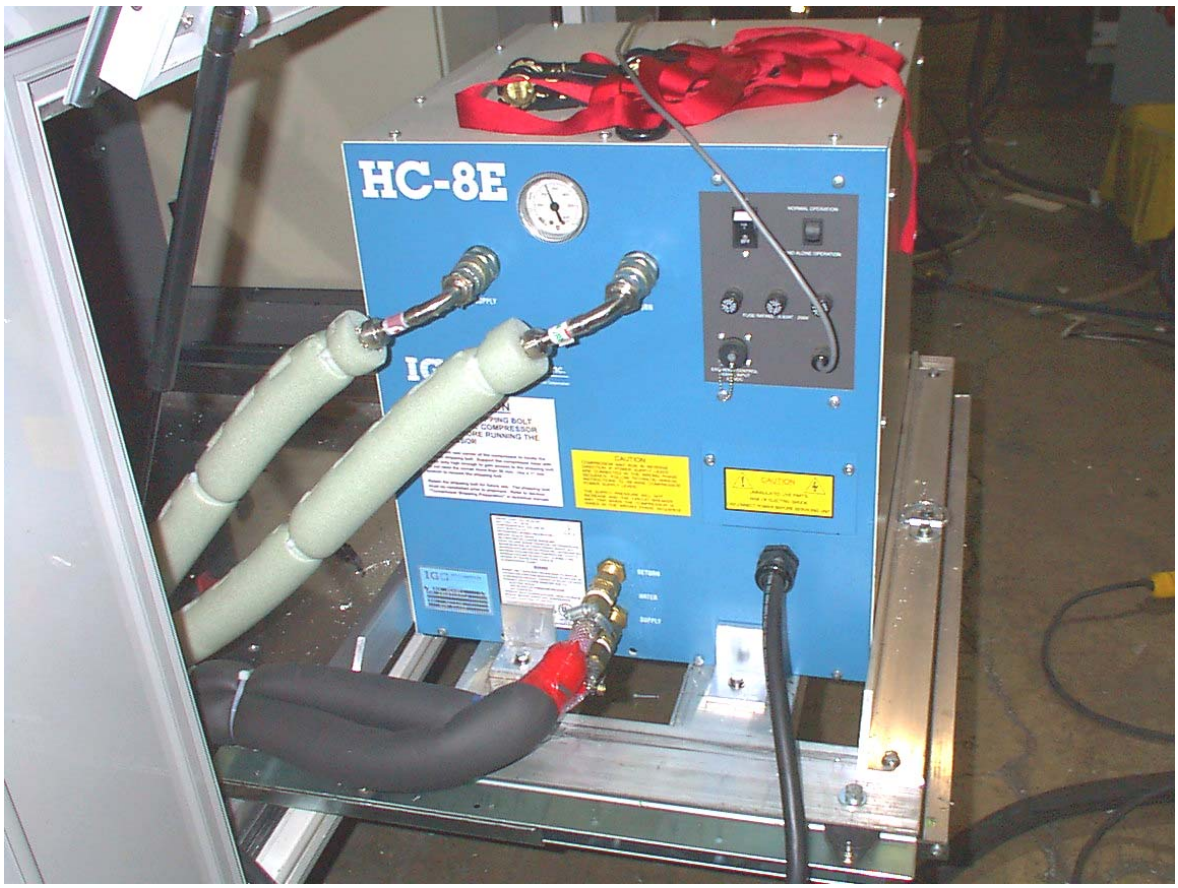


Figure 13: Cryogen Compressor

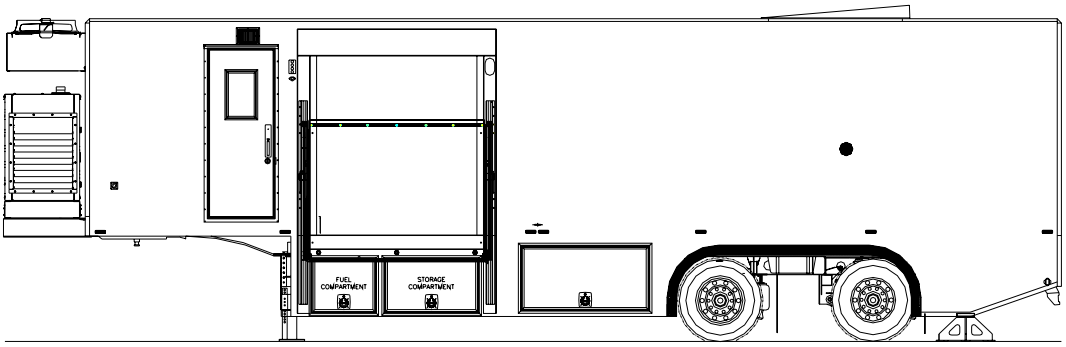
4.5 Equipmentl Room Overall

Equipment Room houses the system components that support the medical system, such as the humidifier and water tank, the fire alarm control panel, and the main electrical panels. Also located inside of Equipment Room are storage cabinets for the medical equipment.

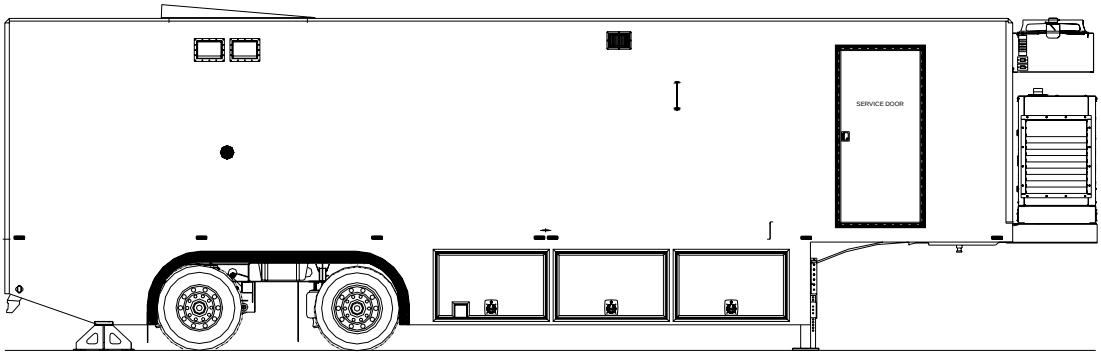
Figure 14: Equipment Room Overall

4.6 Exterior Overall

In these illustrations the hydraulic lift, the staff entry door, the generator housing, the HVAC units and the service entry door to Equipment Room can be seen.



Left Side



Right Side

Figure 15: Exterior Overall

4.7 Fuel Compartment

The fuel compartment stores the fuel tank, fuel gauge, fuel pump, and fuel separator.

Figure 16: Fuel Compartment

Fuel Gauge:	The fuel gauge is push button activated and will give an accurate reading of the available fuel supply.
Fuel Pump: (Not Shown)	The fuel pump pumps the fuel from the fuel tank to the generator.
Fuel Separator: (Not Shown)	The fuel separator removes debris from the fuel supply.
Fuel Tank:	The fuel tank stores and supplies fuel to the generator. The capacity of the fuel tank is 70 US gallons (264.90 liters). Only use diesel fuel.

4.8 Glad-hand Connections

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

Figure 17: Glad Hand Connections

Emergency Airline:	Backup airline in the event that the main airline fails.
Service Airline:	The main airline for the mobile unit.
Standard Electrical Service:	The main electrical connection for the mobile unit.
Generator Access:	The generator housing comes with locking doors to prevent unauthorized access.

4.9 Interior Door

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

Figure 18: Interior Door

4.10 I.V. Track Rail

A ceiling mounted I.V. track rail has been installed in the Scan Room.

Figure 19: I.V. Track

4.11 Levels

The levels allow the mobile unit to be leveled both front to back and side to side. It is imperative that the unit be leveled prior to use. The levels are located above the left rear taillight, above the glad-hand connections on the front of the trailer, and on the Landing/Stabilizing Leg Control Panel.

Bubble Levels

Figure 20: Levels

4.12 Mobile Unit Controls

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

Scan Room Lighting

Control Room, and Equipment Room Lighting

Roll Door Controls

Fire Alarm Pull Station and Fire Detection System Control Panel

HVAC PGD Display

Figure 21 Mobile Unit Controls

Control Room Light Switches:	ON / OFF light switch for Control Room lights.
Exterior Light Switch:	ON / OFF light switch for the exterior lights.
Fire Alarm Pull Station:	Emergency pull alarm to be used in the event of a fire.
MRI Emergency OFF Button: (E-Stop)	The emergency stop button for the MRI system will stop all medical components. This will not stop the HVAC system.
Roll Door Controls:	Controls the movement of the roll door.
Scan Room Light Switches:	ON / OFF light switch for Scan Room.
Halogen Lights:	ON / OFF light switch for the Halogen lighting.

4.13 Phone & Data Line Connections

The phone and data connections are located in the underbody compartments. The connections are used to connect the mobile unit to the shore facility. The telephone connections utilize and the data lines utilize an RJ-45 connection and CAT-5E cabling.

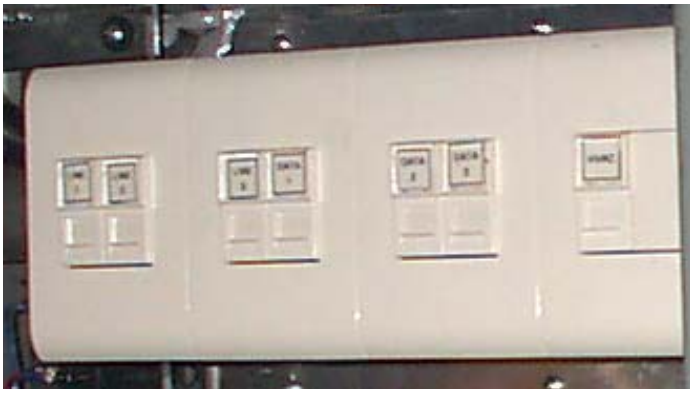


Figure 22: Phone & Data Line Connections

Phone Connections	The phone connections that are utilized are RJ-45's. The connections utilize CAT-5E cable and can be connected directly to the facility.
Data Connections	The data connections that are utilized are RJ-45's. The connections utilize CAT-5E cable and can be connected directly to the facility.
Fire Alarm Remote Box	The fire alarm remote box can be connected tot the facility to provide constant monitoring of the mobile unit.

4.14 Scan Room Overall

The Scan Room houses the medical equipment system. Also located in this room are storage compartments for the medical equipment. Placed alongside the storage compartments the emergency shutdown button and the magnet quench button can be found.

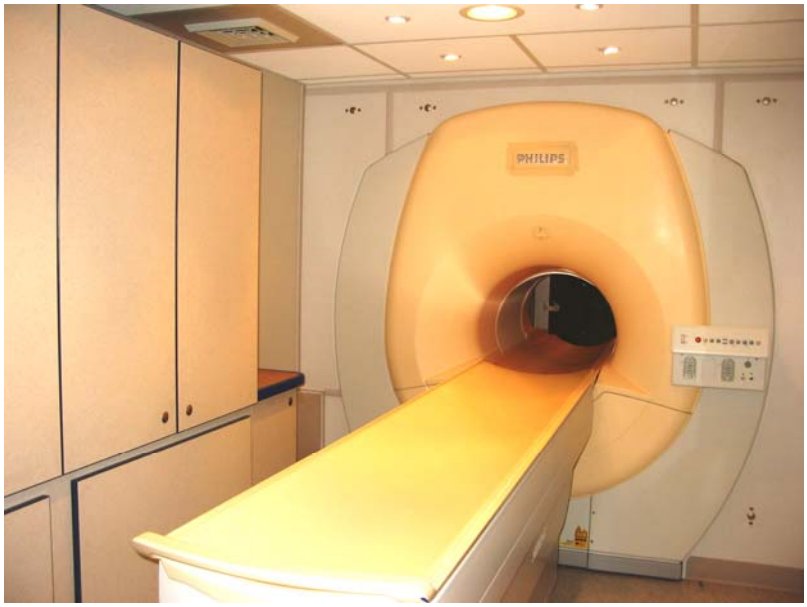


Figure 23: Scan Room Overall

4.15 Stabilizing Stands

The stabilizing stands are placed underneath the rear of the mobile unit when the medical system is in use. These stands help to level the mobile unit and decrease vibration, which can affect scan quality.

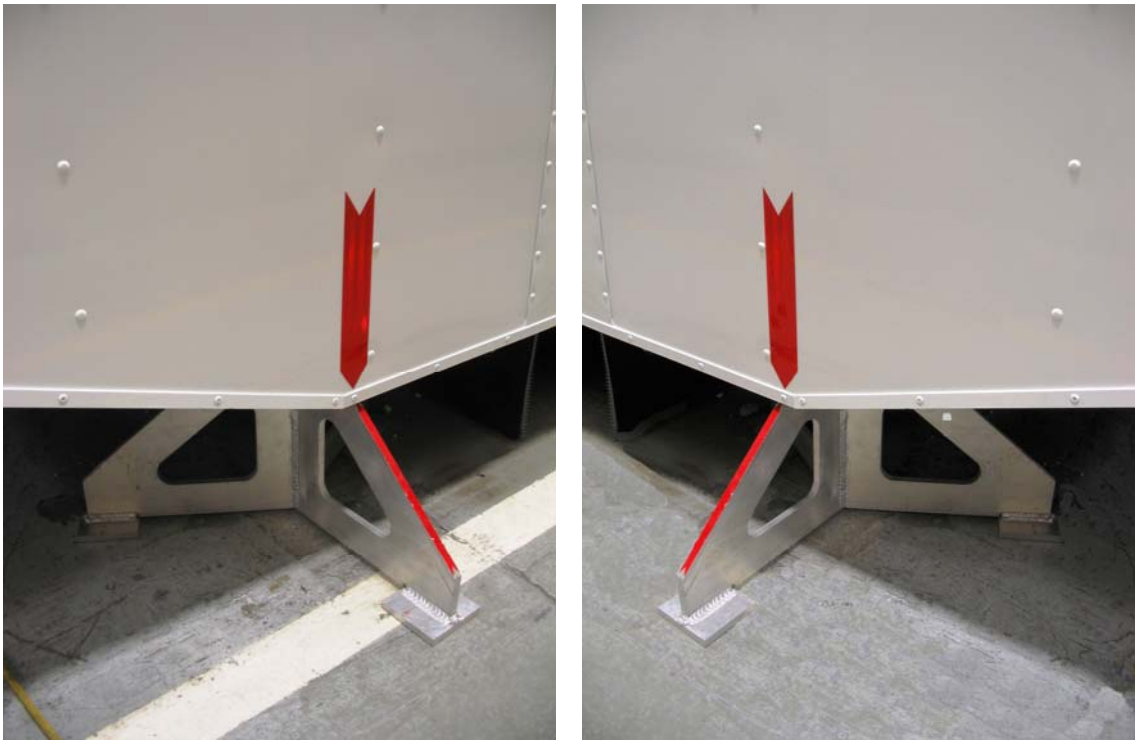


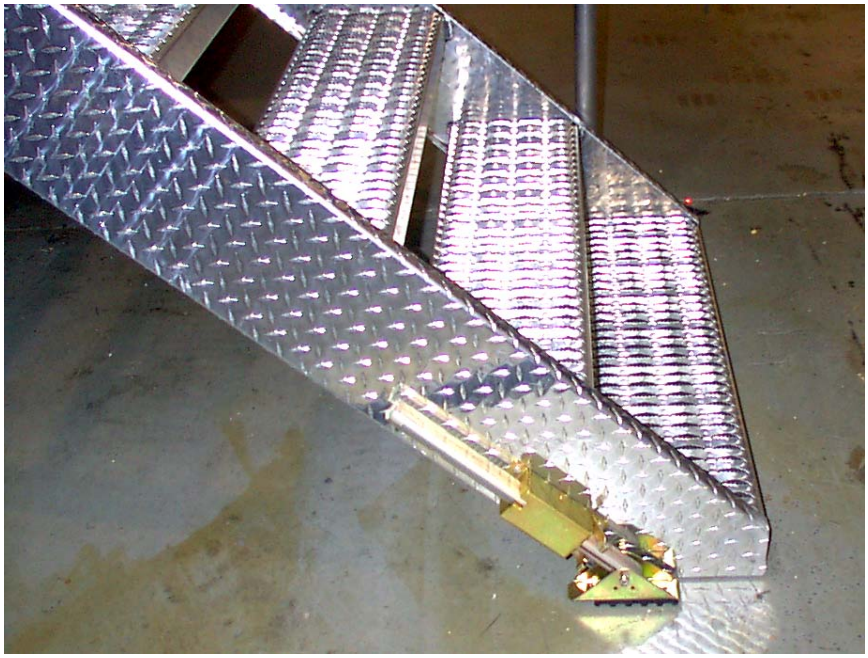
Figure 24: Stabilizing Stand

4.16 Stair Assembly

The stairs allow access to the interior of the mobile unit through the staff door. When assembling the stairs, please refer to the following illustrations.

Stair Assembly

Stair Clip and Channel



Adjustable Stair legs

Figure 25: Stair Assembly

Section 5: Mobile Unit Setup Procedure

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

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

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

5.1 Park the Mobile Unit

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

5.2 Lower the Landing / Stabilizing Legs

After the mobile unit has been parked on the pad per the site-planning guide, the landing / stabilizing legs must be lowered to stabilize the mobile unit before it can be used. Refer to **Figure 41: Landing / Stabilizing Leg Assembly** for the following procedure.

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

5.3 Disconnect the Tractor

After the landing / stabilizing legs have been lowered, the tractor must be removed from the mobile unit.

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

5.4 Install the Rear Stabilizing Stands

After the front landing / stabilizing legs have been lowered into position and the tractor has been disconnected from the mobile unit, the rear stabilizing stands can be installed. The rear stabilizing stands must be installed prior to use of the medical system. Refer to **Figure 10: Air Ride Control Valves** and **Figure 25: Stabilizing Stand** for the following procedure.

1. Open the underbody compartment door to gain access to the air ride controls.
2. Turn the lever counter clockwise to raise the mobile unit. (towards the arrow pointing up)
3. Raise the mobile unit high enough to insert the stabilizing stands.
4. Turn the lever to the position labeled “stop”.
5. Install the stands under the stand supports.
6. After the stands have been installed, turn the lever clockwise to lower the mobile unit. (toward the arrow pointing down)
7. Completely lower the mobile unit until the supports are resting on the stabilizing stands.
8. Keep the lever in the lowering position until the air suspension has been completely exhausted.
9. Turn the lever to the position labeled “stop”.
10. Engage the parking brake. Move the parking brake so that it is inline with the piping that is located beneath it.
11. Verify that the unit is level by checking the levels.

5.5 Re-level the Mobile Unit

After the preceding steps have been completed, the mobile unit may no longer be level. Re-level the unit if necessary using the levels that have been provided. Refer to **Figure 21: Levels** if needed. Set the trailer brakes.

5.6 Disconnect the Tractor Air and Electrical Lines

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

After the mobile unit has been re-leveled, the tractor air and electrical lines can safely be removed. Refer to **Figure 18: Glad Hand Connections**.

5.7 Lower the Safety Legs

After the preceding steps have taken place, the safety legs can now be lowered. Refer to **Figure 41: Landing / Stabilizing Leg Assembly** for the following procedure.

1. Remove the pin that is currently holding the safety leg in the transport position.
2. Lower the safety leg to within ½” of the sand shoe and insert the pin into the highest available hole to lock the leg in position.

5.8 Connect to Shore Power

WARNING

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

WARNING

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

CAUTION

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

Unless the unit has been supplied with a full support generator, the unit must first be switched to shore power before the medical system can be used.

1. Verify that the shore power disconnect is in the “OFF” position.
2. Open the underbody compartment door and remove the power cable from the underbody compartments of the mobile unit.
3. Insert the Oshkosh Specialty Vehicles supplied connector into the shore power receptacle and spin the lock ring clockwise to secure the connection.
4. Move the shore power disconnect switch to the “ON” position.
5. Close the underbody compartment door; making sure that the access flap for the power cable has been released.

5.9 Switch from Generator Power to Shore Power

CAUTION

When switching from generator power to shore power the “400V AC Warning Light” may illuminate and flicker. If the “400V AC Warning Light” stays illuminated, reconnect to generator power and call a certified electrician before attempting to reconnect to shore power.

CAUTION

When turning the power selector switch for the incoming power, 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.

1. Open the underbody compartment door to the belly box section.
2. Turn the Line selector switch to the “ON” position. Be certain to pause for five seconds in between selections.
3. Since minor fluctuations in power are common, the 400V AC Fault light may illuminate and flicker. If the light illuminates and stays ON steady, reconnect to generator power and call a certified electrician before attempting to reconnect to shore power.
4. If the 400V AC Fault light does not illuminate, the Generator control switch can be moved to the “STOP” position. Once this has been done, the generator will enter into a cooling phase and continue running for approximately five minutes. The generator will shut down automatically when this stage has completed.
5. Turn the Generator selector switch to the “OFF” position. Be certain to pause for five seconds in between selections.

5.10 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 and data lines make use of CAT-5E cable and RJ-45 connections. Refer to **Figure 23: Phone & Data Line Connections**.

5.11 Connect the Water Hose

The water connection can be found in the area of the fifth wheel on the left side.

Figure 26: Humidifier Tank Fill

1. Remove the cap that covers the connection.
2. Attach the supplied water hose to this connection. A male to male hose coupling adapter may be required.
3. Attach the other end of the hose to facility provided faucet.
4. Turn on the water at the faucet and open the valve at the mobile unit connection.

5.12 12V DC Hydraulic Lift Master Disconnect Switch

Refer to Figure 38: Hydraulic Lift Master Disconnect Switch, for the following procedure.

1. Open the underbody compartment door that leads to the 12V DC Hydraulic Master Disconnect Switch.
2. Turn the 12V DC Hydraulic Master Disconnect Switch to the “ON” position.
3. Close the underbody compartment door.

5.13 Install the Stair Assembly

Although not specifically required, the stair assembly may be easier to set up using two people. Refer to the instructions outlined below and to **Figure 26: Stair Assembly** for the following procedure.

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

5.14 Hydraulic Lift Deployment

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

IMPORTANT Be sure that the 12V DC Hydraulic Lift Master Disconnect Switch is in the “ON” position.

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

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

5.15 Remove Restraining Hardware

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

- The first type deals with the restraints that are used by the medical equipment manufacturer. Follow all instructions provided by the medical equipment manufacturer when adding or removing restraints from the medical equipment. These instructions can be found in the system manuals provided by the medical equipment manufacturer.
- The second type deals with the restraints that are used by the mobile unit manufacturer. 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 using the medical system.

5.16 Canopy Deployment

If the canopy option has been installed on the mobile unit, it can now be deployed. Please follow the instructions below and refer to **Figure 11: Canopy**.

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

Section 6: Mobile Unit Transport Procedure

WARNING Be certain that the 12V DC Hydraulic Lift Master Disconnect Switch is in the "OFF" position prior to transport of the mobile unit. Failure to move the switch to the "OFF" position can result in injury or death.

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

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

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

CAUTION Before transporting the mobile 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.

6.1 Canopy Retraction

The canopy can now be retracted. Please follow the instructions below and refer to **Figure 11: Canopy**.

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

6 2 Secure all Equipment

Two types of restraints need to be supplied before transporting the mobile unit. They are as follows:

- The first type deals with the restraints that are used by the medical equipment manufacturer. Follow all instructions provided by the medical equipment manufacturer when applying restraints to the medical system. These instructions can be found in the system manuals provided by the medical equipment manufacturer.
- The second type deals with the restraints that are used by the mobile unit manufacturer. Various items must be secured prior to transporting the mobile 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 unit.

6.3 Return the Hydraulic Lift to the Transport Position

Please refer to **Section 11: Hydraulic Lift**, and follow the procedure outlined below.

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

6.4 Remove and Store the Stair Assembly

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

Although not specifically required, the stair assembly may be easier to remove and store using two people. Refer to the instructions outlined below and to **Figure 26: Stair Assembly** for the following procedure.

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

6.5 Switch from Shore Power to Generator Power

⚠ 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.

Please refer to **Section 8: Generator** for the following procedure.

1. Open the underbody compartment door to the 400V AC electrical panel.
2. Move the Generator switch to the “START” position.
3. Once the generator has started, it must be allowed to warm up for approximately 5 minutes.
4. After the generator has warmed up, move the Generator selector switch to the “ON” position. When moving this switch a 5 second pause must be taken in the “OFF” position between selections. Failure to do this can result in equipment damage.
5. Move the Line selector switch to the “OFF” position. When moving this switch a 5 second pause must be taken in the “OFF” position between selections. Failure to do this can result in equipment damage.

6.6 Remove the Shore Power Connection

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

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

Please refer to **Section 7: Electrical System** for the following procedure.

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

6.7 12V DC Hydraulic Lift Master Disconnect Switch

WARNING Be certain that the 12V DC Hydraulic Lift Master Disconnect Switch is in the “OFF” position prior to transport of the mobile unit. Failure to move the switch to the “OFF” position can result in injury or death.

Please refer to **Section 11: Hydraulic Lift** for the following procedure.

1. Open the underbody compartment door that leads to the 12V DC Hydraulic Master Disconnect Switch.
2. Turn the 12V DC Hydraulic Master Disconnect Switch to the “OFF” position.
3. Close the underbody compartment door.

6.8 Disconnect Phone and Data Lines

Please refer to **Figure 23: Phone & Data Line Connections** for the following procedure.

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

6.9 Disconnect the Water Hose

The water connection can be found in the area of the fifth wheel on the left side.

1. Close the valve on the mobile unit.
2. Turn off the water supply at the facility provided faucet.
3. Disconnect the hose from the faucet.
4. Remove the hose from the connection on the mobile unit.
5. Cover the hose connection on the mobile unit with the cap provided.
6. Coil the hose and store in the underbody compartments.

6.10 Raise the Safety Legs

Please refer to **Section 13: Landing / Stabilizing Legs** for the following procedure.

1. Remove the pins holding the safety legs in the locked positions.
2. Lift the safety legs high enough for the pin to be inserted into the lowest available hole, thereby holding the leg as high as possible.
3. Make sure this has been done for all safety legs. Failure to do this can damage the landing / stabilizing legs when they are retracted.

6.11 Connect the Tractor Air and Electrical Lines

In order to remove the rear stabilizing stands, the air and electrical lines must first be connected from the tractor to the mobile unit. Please refer to **Figure 18: Glad Hand Connections** and follow the steps outlined below.

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

6.12 Remove the Rear Stabilizing Stands

CAUTION The rear stabilizing stands must be removed prior to the connecting the tractor to the mobile unit. Failure to do this can result in equipment damage

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

Refer to **Figure 10: Air Ride Control Valves** and to **Figure 25: Stabilizing Stand** for the following procedure.

1. Open the underbody compartment door to gain access to the air ride controls.
2. Turn the air ride control valve counterclockwise to raise the mobile unit. (toward the arrow pointing up)
3. Raise the mobile unit high enough to remove the stabilizing stands.
4. Turn the air ride control valve to the position labeled “stop”.
5. After the stands have been removed, turn the air ride control valve to the center position that is marked with a circle. This is the “Normal Ride” position. The unit will automatically adjust to position. The air ride controls must be in the normal ride position before the mobile unit can be transported.
6. Return the stabilizing stands to the storage compartments.
7. Close the underbody compartment door.

6.13 Connect the Tractor to the Mobile Unit

Before connecting the tractor to the mobile unit, be certain that enough clearance has been left for the fifth wheel. If the fifth wheel cannot fit underneath the mobile unit, the front end must be raised. If it is necessary to raise the front of the mobile unit to clear the fifth wheel, please follow the steps below. Please refer to **Section 13: Landing / Stabilizing Legs**, for the following procedure.

1. Move and hold the pump switch in the “ON” position.
2. Pull the levers towards you to extend the legs. This will lift the front end of the mobile unit.
3. Extend the legs high enough to clear the fifth wheel only.
4. Release the pump switch. The pump switch should automatically retract to the “Pump OFF” position.
5. Check to verify that enough room has been made for fifth wheel clearance and proceed with caution to connect the tractor to the mobile unit.
6. Verify that the fifth wheel is locked into position.
7. Open the underbody compartment door in order to gain access to the parking brake.
8. Disengage the parking brake. Move the parking brake lever so that it is perpendicular to the piping located beneath it.
9. Close the underbody compartment door.

6.14 Raise the Landing / Stabilizing Legs

After the tractor has successfully connected to the mobile unit, the landing / stabilizing legs can be raised. Refer to **Figure 41: Landing / Stabilizing Leg Assembly** for the following procedure.

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

6.15 Verify that the Mobile Unit is Ready for Transport

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

- 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 unit.
- Is the Hydraulic Lift Master Disconnect Switch been moved to the disconnect position? Make sure the switch is in the disconnect position prior to transporting the unit.
- Are all exterior doors closed and locked? If not, make sure that all exterior doors are closed and locked.
- Is the hydraulic lift in the transport position, fully seated in its retaining cradle? If not, make sure that the hydraulic lift is in the transport position, fully seated in the cradle, transport pins inserted, and magnetic contacts are aligned.
- Are all running & marker lights working correctly? If not, replace any bulb that is not working before transporting the mobile unit.
- Are any warning lights illuminated? If so, check to find the cause of the warning. Do not move the mobile unit if any warning lights are flashing. If further assistance is needed, refer to the Oshkosh Specialty Vehicles Service/Operators Manual binder for a list of local service representatives or call Oshkosh Specialty Vehicles for further assistance.
- Is the fuel tank full? Check the fuel gauge, located in the underbody compartment and fill the fuel tank if necessary.

Section 7: Electrical System

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

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

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

CAUTION As power supplies can be subject to fluctuations, it is common for the voltage warning light to flicker. If the voltage warning light stays illuminated, the power source is outside of the ±5% of 400V AC range. Please refer to the “Troubleshooting” section for additional information if this occurs.

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

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

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

There are three panels used in the electrical system.

The Shore Power input panel connects the 200V AC Shore Power to the 400/230V AC Step-up transformer.

One Panel provides the wiring terminations for power distribution from the transformer to the 400/230V AC Panel.

One 400/230V AC electrical panel that is located in the underbody compartments of the mobile unit. This panel controls all incoming power and its monitoring and distribution. Shore power is monitored for Phase Rotation and Voltage. This panel also provides the means to start and stop the onboard generator, if required.

7.1 400/230V AC Electrical Panels

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.

CAUTION When switching from generator power to shore power the “400V AC Warning Light” may illuminate and flicker. If the “400V AC Warning Light” stays illuminated, reconnect to generator power and call a certified electrician before attempting to reconnect to shore power.

CAUTION When turning the LINE / OFF / GENERATOR 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.

The 400/230V AC electrical panels control all incoming exterior power supplies to the mobile unit. From this location, the power supply can be chosen and monitored, and the generator can be started and stopped.

Figure 27: 400/230V AC Electrical Panel Controls

Line Power Selector Switch:	This power selector switch is used to control the Line power. The switch has two settings, “ON” and “OFF”.
Generator Power Selector Switch:	This power selector switch is used to control the Generator power. The switch has two settings, “ON” and “OFF”.
400 V AC Fault Light:	The 400 VAC Fault Light provides a visual warning if the voltages are in excess of ±5% of 400V or improper phase rotation is detected.
400 V AC OKAY Light	This light indicates that the voltages and phase rotation are acceptable.
Generator Start/Sop Switch:	The generator Start/Stop switch is used to Start and Stop the generator.

7.2 Facility Power Connection

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

Circuit Breaker	
Manufacturer:	Facility provided
Ampere Rating:	400 A disconnect

7.3 Power Cable

The power cable consists of individual leads for each phase and ground. L_1, L_2, & L_3, are each 50 feet long, 250MCM 445 Amp Rated. The Ground cable is 50 feet long 1/0 AWG 170 Amp rated

Connectors	
Manufacturer:	Model:
Leviton	L_1 – Phase “A” – #17D23-E, Black, Male
Leviton	L_2 – Phase “B” – #17D23-H, Brown, Male
Leviton	L_3 – Phase "C" – #17D23-W, Grey, Male
Leviton	Ground – #17D23-G, Green, Male

Section 8: Generator

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

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

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

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

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

CAUTION When switching from generator power to shore power the “400V AC Warning Light” may illuminate and flicker. If the “400V AC Warning Light” stays illuminated, reconnect to generator power and call a certified electrician before attempting to reconnect to shore power.

CAUTION When turning the LINE / OFF / GENERATOR 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 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 Philips medical system requires the HVAC system to be supplied power at all times. During transit of the mobile unit via the generator and when the unit is in the parked position via shore power.

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

The mobile unit is equipped with a generator that is mounted on the front of the unit in its own compartment below the air conditioning units. The generator supplies power to the unit during transport. Unless the full support generator has been selected, the generator cannot be used for performing medical procedures aboard the mobile unit. The selector switch is located on the 400V AC electrical panel in the underbody compartment.

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

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

The fuel separator should be checked for contamination and accumulation once a year.

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

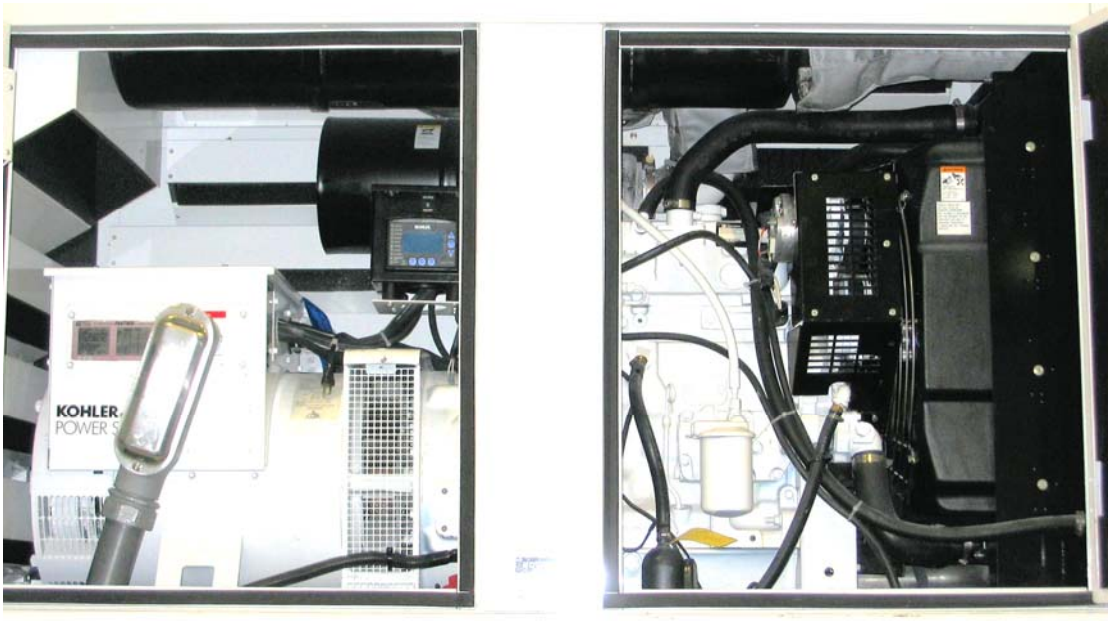


Figure 28: Generator Compartment

230V AC Outlet:	An additional outlet has been provided for the operator of the mobile unit to be used if needed.
Air Filter:	The air filter is responsible for removing all contaminants from the generators air supply.
Battery:	The battery is used to start the generator.
Fuel Filter:	The fuel filter is responsible for removing all contaminants from the fuel supply.
Fuel Pump:	Supplies the generator with fuel from the fuel tank.
Generator Motor:	The actual motor of the generator.
Microcomputer:	The microcomputer provides the operator with information that is needed for service purposes.
Oil Filter:	The oil filter is responsible for removing all contaminants form the oil supply.

8.1 Generator Start/Stop Switch

This switch is located in the underbody compartment of the mobile unit on the 400V AC electrical panel, and is labeled “Generator START/STOP”. To start the generator, select the START position and the generator unit will start automatically. When the generator is started, it needs to warm up for approximately five (5) minutes before it can take on the load of the mobile unit.

To stop the generator, select the STOP position. When the generator is stopped, it will enter into a cool down phase that will last approximately five (5) minutes. During this time, the generator will continue to run even though “STOP” has been selected.

8.2 Line / Off / Generator Selector

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

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

A Line / Off / Generator selector switch is located on the 400V AC electrical panel. This selector switch is used to select the incoming power source for the mobile unit. Please refer to **Figure 28: 400/230V AC Electrical Panel Controls** .

The line power selection should be made when the mobile unit is going to receive power from a shore facility, such as a hospital.

The off selection should be made when the mobile unit is in service. Only service personnel should make this selection, as the mobile unit is to have power at all times.

The generator selection should be made when the mobile unit is to receive power from the onboard generator. If the full support generator option has been selected, the generator option can also be used to perform scans.

8.3 400V AC Fault Warning

If the 400V AC Fault warning light illuminates, the power is out of phase, has one or more phase leg problems, or is subject to under or over voltage. The 400V AC Fault warning light is located on the 400V AC electrical panel located in the underbody compartment of the mobile unit. If the warning light illuminates, please refer to **Appendix B: Troubleshooting**.

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

Figure 29: Humidifier Supply Tank

Exterior Fill:	The exterior fill connection allows the water supply tank to be filled from the exterior of the mobile unit.
Humidifier:	The humidifier provides the required humidity to the mobile unit per the medical manufacturers' requirements.
Humidity Controller:	The humidistat is responsible for the internal humidity of the mobile unit. The setting is preset at the factory to comply with the medical system manufacturers requirements.
Humidity Sensor:	Maintains an accurate reading of the humidity levels inside of the mobile unit.
Interior Fill:	Allows the water tank to be filled form the interior of the mobile unit.
Overflow Drains:	If by chance the water tank is over filled, overflow drains are provided. The drains lead through the floor to the exterior of the mobile unit.
Water Supply Tank:	The water tank stores water for the humidifier.

9.1 System Operation

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

9.2 Water Supply

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

- One .75” (1.90cm) garden hose thread faucet for filling the water supply tank from the exterior of the mobile unit.
- One 0.5” (1.27cm) outer diameter PVC drain line from the steam cylinder for automatic drain cycles. The drain penetrates the floor of the mobile unit in order to empty to the exterior.
- One 0.5” (1.27cm) outer diameter PVC drain line from the humidifier cabinet. The drain penetrates the floor of the mobile unit in order to empty to the exterior.
- One 0.5” (1.27cm) outer diameter PVC overflow drain from the water supply tank. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

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 the Equipment Room on the plenum wall next to the air filter access door. The relative humidity setting for the mobile unit is 40%. The humidifier must not be altered from its factory setting.

9.4 Humidity Settings

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

- The humidity low set point is 30% RH (relative humidity).
- The humidity high set point is 60% RH (relative humidity).

9.5 Electrical Connections

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

The distribution panel supplies the required 400V 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.

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

Filling the water supply tank

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

- A ¾" G.H.T. male threaded hose connection is located under the front kick of the mobile unit, below the air conditioning units.
- One 0.5" outer diameter PVC drain line from the steam cylinder for automatic drain cycles. The drain penetrates the floor of the mobile unit in order to empty to the exterior.
- One 0.5" outer diameter PVC drain line from the humidifier cabinet. The drain penetrates the floor of the mobile unit in order to empty to the exterior.
- One 0.5" outer diameter PVC overflow drain from the water supply tank. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

Section 10: HVAC System

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.

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

Figure 30: A/C Unit

Located in the illustration above, the following items can be seen.

Combination A/C and Chiller Unit	This A/C unit controls the environments in Scan Room, Magnet Room, Control Room and Equipment Room. The Chiller supplies chilled liquid to the magnet shield cooler compressor.

10.1 Air Conditioning & Chiller

A common unit supplies air conditioning and chilled liquid. Discharging conditioned air into the equipment room at a steady temperature provides air conditioning. This air is then drawn from the equipment room and distributed to the balance of the mobile unit by two ceiling mounted blowers. The right side blower supplies air to the control room and the left side blower supplies air to the scan room and behind the magnet. If necessary, the air is heated by an in-duct heater prior to discharge. Sensing bulbs located in the return-air stream control the heaters, and a sensor in the equipment room controls the A/C unit.

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

Figure 31: A/C / Chiller Control Panel

The A/C-Chiller's main control panel is located on the front wall of the equipment room. This panel is used to control the operation, temperature settings and display fault lights. Refer to the manufacturer's manual for information on fault lights. **The factory settings provide the proper environment for the MR system, and should not be adjusted.**

A remote PGD alarm panel is located in the control room near the operator's workstation. This panel has a display and a buzzer for notification of an HVAC or A/C-Chiller fault. The switch on the panel can be used to silence the audible alarm. In the event of a fault, the PGD panel can be used to access the main control panel for specific fault information.

Figure 32: PGD Alarm Panel

In order to ensure proper operation of the HVAC system at all times, refer to **Section 15: General Maintenance** and **Section 16: Specific Maintenance**.

10.2 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.

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

10.3 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 (-28.9°C) to 110°F (43.4°C).

10.4 Interior HVAC Specifications

A single 45,000 Btu unit is mounted high on the front wall of the trailer. The condensing coils are directed up to prevent damage during transport. All internal components are commercial grade, and are vibration isolated from the system housing. The system housing is mounted as an integral part of the front wall to prevent water leakage. Discharge temperature in the scan and control rooms is controlled to reduce temperature fluctuations.

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

HVAC Vent Discharge

HVAC Filter Access

Figure 33: HVAC Components

10.5 Underbody Compartment Heater

The underbody compartment heater is located in the same compartment as the cryogen compressor. This heater provides 1.5KW of heat. The compartment heater will activate when the temperature drops below 40°F (4.45°C) and will deactivate when the temperature rises above approximately 45°F (7.23°C).

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

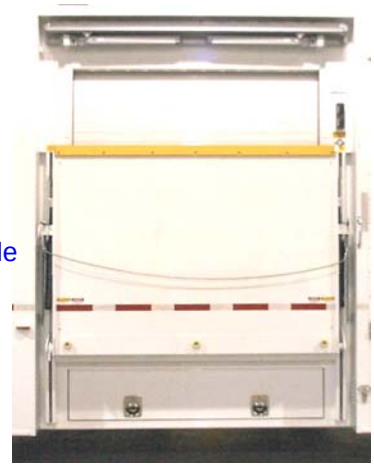
Figure 34: Heater

Section 11: Hydraulic Lift

The mobile unit contains a hydraulic platform lift that is used to move personnel and equipment from the ground level to the floor level of the mobile unit. The hydraulic platform lift has a maximum capacity of 1500 pounds (682 kilograms) and a maximum height of 53” (1.34 meters).

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

Lift Transport Restraining Cable



Transport Position

Lowered

Handrails Installed

Raised

Figure 35: Hydraulic Lift

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

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

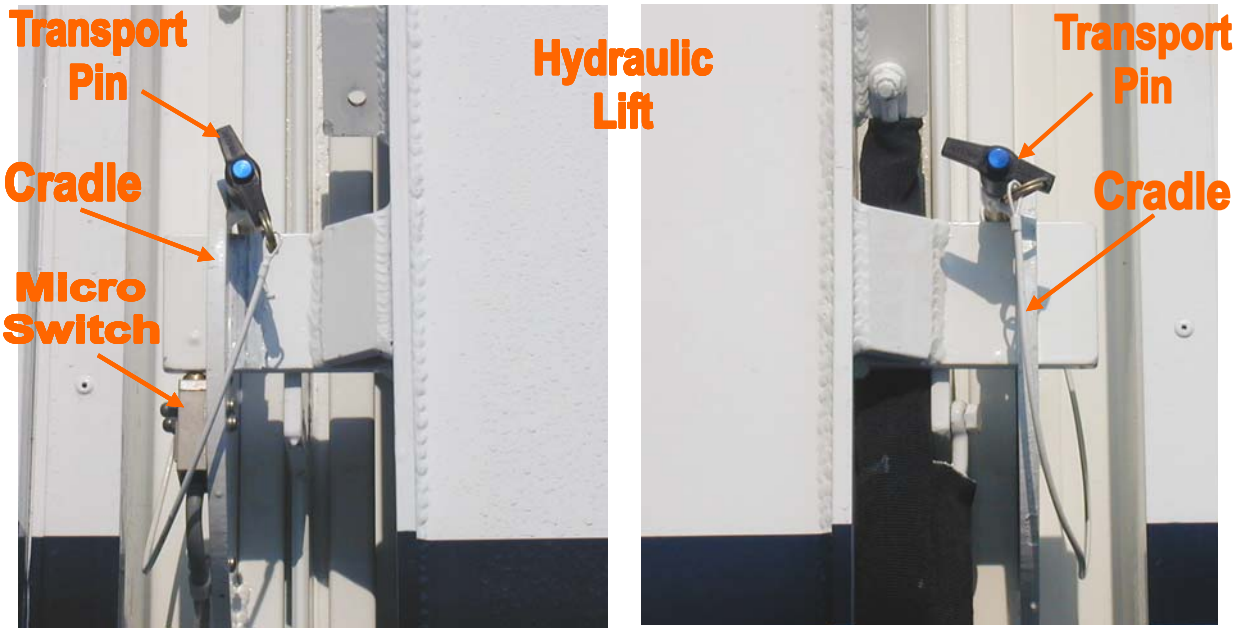


Figure 36: Retaining Cradles

11.1 Safety Features

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

12V DC Hydraulic Lift Master Disconnect Switch

WARNING Be certain that the 12V DC Hydraulic Lift Master Disconnect Switch is in the “OFF” position prior to transport of the mobile unit. Failure to move the switch to the “OFF” position can result in injury or death.

The 12V DC Hydraulic Master Disconnect Switch is located in the underbody compartment of the mobile unit. This switch will cut the power supply to the hydraulic lift so that it does not mistakenly deploy during transport.

Figure 37: Hydraulic Lift Master Disconnect Switch

Transport Pins

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

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

Lift Controls

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

Figure 38: Hydraulic Lift Controls

Lift / Roll Door Interlock

When the lift is in the raised position the roll door can be opened. The roll door cannot be opened unless the lift is raised. Additionally, the lift cannot be lowered if the roll door is open.

Remote Control Pendent

A remote control pendent is included for use with the hydraulic lift. The pendent plugs into a jack located between the staff door and the hydraulic lift roll door below the lift control panel. See **Figure 39: Hydraulic Lift Controls** above. The pendent has an expandable cord that allows the operator to be on or near the hydraulic lift while it is in operation. The remote control pendent works off the 12V DC power system

Handrails

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

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

Lift Up Indicator Light

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

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

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

Transport Warning Light

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

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

Transport Warning Strobe Light

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

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

Lift Transport Restraining Cable

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

11.2 Hydraulic System

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

Operation

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

11.3 Hydraulic Lift Operation

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

Deploying the Hydraulic Lift for use with the Mobile Unit

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

After the stair assembly has been installed, the hydraulic lift can be deployed for use.

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

Storing the Hydraulic Lift for Transport of the Mobile Unit

After the stair assembly has been removed, the hydraulic lift can be stored for transport.

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

Section 12: Intrusion Alarm (optional)

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

Figure 39: Intrusion Alarm Keypad

12.1 Operation

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

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

Section 13: Landing / Stabilizing Legs

CAUTION

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

Both the landing / stabilizing legs and the safety legs can be found at the front of the unit. The landing / stabilizing legs installed on this mobile unit are only for the purpose of parking, minor leveling, and stabilizing the mobile unit. For additional information, refer to the Oshkosh Specialty Vehicles Vendor Information binder for the product manual.

Figure 40: Landing / Stabilizing Leg Assembly

Landing / Stabilizing Leg Controls:	The control box houses the landing / stabilizing leg controls.
Landing / Stabilizing Leg:	Allows the mobile unit to be parked without the tractor being attached to the unit.
Levels:	Allows the mobile unit to be leveled both front to back and side to side.
Lever 1: (Left lever facing the panel)	Controls the front right side leg.
Lever 2: (Right lever facing the panel)	Controls the front left side leg.
Pump ON / OFF Switch	The switch must be held in the ON position when extending or retracting the legs.
Safety Legs:	The safety legs provide a fixed leg for use as a backup in case the landing / stabilizing legs fail.
Sand Shoe:	Helps prevent the landing / stabilizing legs from sinking due to weight.

13.1 Stabilizing Stands

The stabilizing stands are inserted beneath the rear supports of the mobile unit, and allow the mobile unit to be stabilized for all medical procedures. The stands are inserted at the rear of the mobile unit. The markings on the stands must line up with the markings on the mobile unit.

13.2 Air Bag Controls

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

The rear air bag controls are located in the underbody compartment. These controls provide the following options for the rear air bags;

- The rear air bags can be inflated for inserting or removing the stabilizing stands.
- The rear air bags can be deflated for allowing the mobile unit to rest on the stabilizing stands.
- The rear air bags can be set to the transport position.

Shown in the “Deflated” position

Figure 41: Air Bag Controls

Section 14: Lighting System

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

14.1 Emergency Lighting

In the event that the main AC power fails, four emergency lights are provided. These lights will automatically illuminate when the main AC power is lost. The lights are located in Control Room, Scan Room, Magnet Room, and Equipment Room. The emergency lighting system is wired into a 230V AC electrical system that allows the lights internal circuitry to keep its batteries at 100% charge. The emergency lights will illuminate the exit door in each room and last for approximately 90 minutes.

Figure 42: Emergency Lighting

14.2 Exterior Lighting

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

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

Underbody Compartment Lighting

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

Figure 43: Compartment Light

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

Service Lighting

Figure 44: Drop Light

Two cord-o-matic drop lights with 50'-0" (15.24m) cables are supplied with the mobile unit. The first is to be found in Equipment Room and the other is to be found in the underbody storage compartments. The light is generally used during service applications when additional light is required. The light is plugged into a nearby miscellaneous 230V AC outlet.

Staff Door Lighting

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

Figure 45: Staff Door Lighting

Marker & Running Lights

All lights are 24V DC, and are powered by the tractor. All wiring is run through the underbody wire harnesses. The top marker lights are wired through a 0.5” (1.27cm) loom pipe that is run through the sidewalls of the mobile unit. The wires terminate at the glad-hands which are located in the front of the mobile unit for tractor hookup. Two electrical connections are supplied on the glad-hands, one six terminal connection and one seven terminal connection.

14.3 Interior Lighting

The interior lighting system can be divided as follows.

Equipment Room

The light controls for the lighting in Equipment Room are located just inside the access door to that leads into Equipment Room. Recessed light fixtures are located in the ceiling panels and have been strategically placed for effective illumination of the equipment both during operation and while being service. Control switch is located in the Control Room.

Figure 46: Equipment Room Lighting

Control Room

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

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

Another switch controls the Control Room and Equipment Room halogen lighting.

Figure 47: Control Room Lighting

Scan Room

There are three different lighting systems for Scan Room. The systems are as follows.

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

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

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

Figure 48: Scan Room Lighting

Magnet RoomU

Magnet Room Lighting

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

The Lighting control switches.

Figure 49: Lighting and Switches

14.4 Warning Lights

Figure 50: Warning Lights

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

Generator OFF Warning Light

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

The Generator OFF Warning Light is located on the front wall exterior right side of the mobile unit and will illuminate when the mobile unit is not receiving power from the generator.

The mobile unit must have power at all times.

OSHKOSH SPECIALTY VEHICLES

Air Bag Suspension Warning Light

CAUTION The air ride control valves must be in the normal ride position before the mobile unit can be transported. If the air ride control valves are not in the normal ride position, irreparable damage may occur to the mobile unit.

The Air Bag Suspension Warning Light is located on the exterior right side of the unit and will illuminate when the air bags for the rear suspension are either not inflated, or the air pressure is to low. . **The mobile unit cannot be transported if this light is on**. Make sure that the air ride control valves are in the normal ride position. Refer to **Appendix B: Troubleshooting** for more information. The air bags must be properly inflated prior to transporting the mobile unit. Failure to properly inflate the air bags can result in irreparable damage to the mobile unit.

Transport Warning Light

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

The Transport Warning Light is located on the exterior right side of the mobile unit and will illuminate when the hydraulic lift is not in the proper transport position. . Before the mobile unit can be transported, this light needs to be off. Refer to **Appendix B: Troubleshooting** for more information.

Transport Warning Strobe Light

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

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

400 V AC Fault Light

The 400V AC Fault warning light can be found in the underbody compartment of the mobile unit on the 400/230V AC electrical panel.

- This light will illuminate under the following conditions:
- The shore power to the mobile unit is out of phase.
- The shore power to the mobile unit is subject to low voltage.
- The shore power of the mobile unit has one or more phase leg problems.
- If the 400 VAC Fault warning light illuminates while connected to the shore power facility, the operator must switch to generator power until the problem has been corrected.
- If the problem persists, a qualified electrician must be called to remedy the problem.

Section 15: General Maintenance

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.

15.1 Daily Maintenance

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

15.2 Weekly Maintenance

1. Clean RF door trim with a mild cleaning solvent and wipe with a clean cloth.
2. Lubricate the hydraulic platform lift side rails and pivot points with an ample amount of ZEP 2000, OSV Part Number 6100811.
3. Check the primary and downstream blower A/C filters. Clean and replace if necessary. A/C must be “OFF” to check and replace filters. Refer to **Figure 33: HVAC Components** for location.
4. Check the oil and water levels in the generator and refill if necessary.
5. Check the electrolyte levels in the DC batteries and fill if necessary using only distilled water.
6. Check all running lights, marker lights, brake lights, and turn signals.
7. Check tire pressure and verify that all wheels are at the pressure specified by the tire manufacturer.
1. 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.

15.3 Monthly Maintenance

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

15.4 Quarterly Maintenance

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

Section 16: Specific Maintenance

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

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

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

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

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

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

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

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

16.1 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.

16.2 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.

16.3 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 **Figure 29: Generator Compartment**, and the Oshkosh Specialty Vehicles Vendor Information binder for the product manual.
2. Once a year, check the fuel separator for contamination or debris.

16.4 Cryogen Compressor

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

16.5 Humidity System

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

The fresh water tank supplies the humidifier and sink (if applicable) with water. The water levels must be maintained at all times. Follow the steps outlined below and please refer to , if necessary.

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

16.6 HVAC System

CAUTION

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

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

16.7 Hydraulic Lift

Lubricate the hydraulic lift side rails and pivot points with an ample amount of Mobil – Mobilmet S-122 multipurpose water-soluble cutting oil on a weekly basis.

16.8 Landing / Stabilizing Legs

1. Once a year, perform the preventative maintenance on the landing legs and the landing leg controls. Refer to the accompanying manual for the landing gear system.
2. Change the oil in the landing / stabilizing leg control box and refill with six (6) quarts 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.

16.9 RF Shielding

When the mobile unit leaves the factory, the RF room is certified at 85 db or better. Weekly checks are required to verify the integrity of the RF room.

Clean RF door trim with a mild cleaning solvent and wipe with a clean cloth.

Close up of RF door trim

Figure 51: RF Shielding

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Appendix A: Mobile Unit Checklist

WARNING	It is the operator's responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.
WARNING	Before connecting or disconnecting from shore power, it is imperative that the shore power connections be moved to the "OFF" position. Failure to do this can result in injury or death to the operator of the mobile unit.
WARNING	Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.
WARNING	Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.
WARNING	Be certain to disconnect the power before working on any of the electrical systems.
CAUTION	The Philips medical system requires the HVAC system to be supplied power at all times. During transit of the mobile 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	When switching from generator power to shore power the "400V AC Warning Light" may illuminate and flicker. If the "400V AC Warning Light" stays illuminated, reconnect to generator power and call a certified electrician before attempting to reconnect to shore power.
CAUTION	When turning the LINE / OFF / GENERATOR 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	The landing / stabilizing legs and rear suspension are not to be used to raise the mobile unit off the ground. The legs are meant only to level the unit and place it in a parked position. If the legs are used in an attempt to raise the mobile unit from the ground, serious damage may occur to the mobile unit.
CAUTION	Failure to completely exhaust the suspension before uncoupling the airlines may result in damage to the suspension of the mobile unit.
CAUTION	The rear stabilizing stands must be removed prior to the connecting the tractor to the mobile unit. Failure to do this can result in equipment damage

CAUTION The air ride control valves must be in the normal ride position before the mobile unit can be transported. If the air ride control valves are not in the normal ride position, irreparable damage may occur to the mobile unit.

CAUTION Before transporting the mobile unit, check to verify all warning lights as well as all exterior marker lights are working correctly.

IMPORTANT If the mobile unit is on uneven ground, the provided aluminum shims can be used to help level the mobile unit. Only use the shims that have been provided by Oshkosh Specialty Vehicles.

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

Mobile Unit Setup Checklist

1. Park the mobile unit on the pad per the site-planning guide.
2. Lower the front landing / stabilizing legs.
3. Disconnect the tractor while leaving the air and electrical lines engaged.
4. Raise the rear of the mobile unit high enough to install the rear stabilizing stands.
5. Install the rear stabilizing stands.
6. Exhaust the rear suspension.
7. Re-level the mobile unit as needed. Use the front landing / stabilizing legs and the rear stabilizing stands, as necessary.
8. Set the trailer brakes.
9. Disconnect the tractor air and electrical lines.
10. Lower the safety legs.
11. Verify that the shore power disconnect is in the “OFF” position and connect to the power cable to the shore power receptacle.
12. Move the shore power disconnect to the “ON” position.
13. Move the selector switch on the 400V AC electrical panel from “GENERATOR” to “OFF” to “LINE”.
14. Connect the phone and data lines.
15. Install the stair assembly.
16. Move the 12V DC Hydraulic Master Disconnect Switch to the “ON” position.
17. Remove the Lift Transport Restraining Cable and Transport Pins and deploy the hydraulic lift.
18. Remove all restraining hardware.
19. Deploy the canopy over the roll door.
20. Check for any warning lights.

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Mobile Unit Transport Checklist

1. Retract the canopy over the roll door.
2. Secure all equipment. This includes all medical equipment per OEM requirements as well as all moveable objects such as chairs, monitors, doors, cabinets, cameras, and printers.
3. Return the hydraulic lift to the transport position.
4. Insert the Transport Pins and connect the Lift Transport Restraining Cable securely in place.
5. Remove and store the stair assembly.
6. Start the generator and switch from “LINE” power to “GENERATOR” power.
7. Move the shore power disconnect to the “OFF” position, disconnect the power cable and store it in the underbody compartment.
8. Disconnect phone and data lines.
9. Raise the safety legs.
10. Connect the tractor air and electrical lines.
11. Remove the rear stabilizing stands.
12. Return the air ride control valves to the normal ride position.
13. Connect the tractor to the mobile unit.
14. Raise the landing / stabilizing legs.
15. Verify that the mobile unit is ready for transport.
16. Are all exterior doors closed and locked?
17. Is the hydraulic lift in the transport position, fully seated in its retaining cradle?
18. Are all running & marker lights working correctly?
19. Are any warning lights illuminated?
20. Is the fuel tank full?

Appendix B: Troubleshooting

If any of the following troubleshooting guides do not correct the problem, or if the problem worsens, please refer to the Oshkosh Specialty Vehicles Vendor Information binder for the product manual, the Oshkosh Specialty Vehicles Service/Operators Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

Humidity is out of specifications…

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

Problem		Check for:	Solution:
The humidity inside of the mobile unit is too high.	1.	Check for exterior doors that have been left open during humid conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors 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 30% and 60% RH (relative humidity). If the humidifier is still running constantly, contact Oshkosh Specialty Vehicles for service.
	4.	Check to see if the “ALARM” LED is illuminated.	If further information is needed, please refer to the Oshkosh Specialty Vehicles Vendor Information binder for the product manual, the Oshkosh Specialty Vehicles Service/Operators Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

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

Hydraulic Lift is inoperable….

If the hydraulic lift is inoperable verify that the 12V DC Master disconnect switch is in the “ON” position. If the switch has been moved to the “ON” position and the lift is still inoperable a problem exists within the hydraulic lift. Please refer to the Oshkosh Specialty Vehicles Vendor Information binder for the product manual, the Oshkosh Specialty Vehicles Service/Operators Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

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 unit is too warm.	1.	Check for exterior doors left open during warm weather conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors should remain closed all of the time.
	2.	Check for blocked or dirty air vents and/or air conditioner filters.	Clean the air vents and/or change the air conditioner filters. After this has been done, 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 Thermostat Control settings are correct.	Verify that the Thermostat Control for the Control Room is set at 68°F (20ºC) and 67 F (19.5ºC) for the Scan Room. Please contact Oshkosh Specialty Vehicles for further assistance.
Problem:		Check for:	Solution:
The temperature inside of the mobile unit is too cold.	1.	Check for open exterior doors left open during cold weather conditions.	The HVAC system can only support the environment of the mobile unit. Unless opened for use, all exterior doors should remain closed all of the time.
	2.	Check for blocked or dirty air vents and/or air conditioner filters.	Clean the air vents and/or change the air conditioner filters. After this has been done, 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 Thermostat Control settings are correct.	Verify that the Thermostat Control for the Control Room is set at 68°F (20ºC) and 67 F (19.5ºC) for the Scan Room. Please contact Oshkosh Specialty Vehicles for further assistance.

Transport Warning Light is on…

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

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

Problem:		Solution:
The hydraulic lift is not in the proper transport position.	1.	Make sure that the hydraulic lift is in the proper transport position, and that the 12V DC Master Disconnect Switch has been moved to the “OFF” position.
The hydraulic platform lift is not in the proper transport position.	1.	Make sure that the hydraulic platform lift is seated in the cradles.
	2.	Make certain that the transport pins have been inserted.
	3.	If Emergency Air from the tractor is connected to the trailer, the Transport Warning Strobe light will also be activated. Ensure that #s 1 & 2 above have been accomplished.

Appendix C: HVAC Set Points

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

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

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

- The Thermostat Control for the Control Room is set at 68°F (20.0°C) in order to provide the desired temperature of 72°F (22.2°C).
- The Thermostat Control for the Scan Room is set at 67°F (19.5°C) in order to provide the desired temperature of 72°F (22.2°C).

The humidity sensor set points are 30% through 60% relative humidity.

- The humidistat set point is 40% relative humidity.

The factory settings provide the proper environment for the MR system, and should not be adjusted.

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

Appendix D: A-1 Circuit Malfunction Checklist

Category 1

Visual Checks – Check for the most common occurrences.

- Has the Start button been depressed?
- Is the mobile unit on shore power or under power via the generator?

Category 2

Component Checks (some tools are required).

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

Check the emergency off button in Scan Room. N.C.?

Check the functionality of the emergency off buttons (E-Stop). Are they working correctly?

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

Appendix E: Lockout/Tagout Procedures

Specific Energy Control Procedures

Machine or Equipment for this Procedure:

Specialty Vehicle Trailer: **Philips Intera MRI System - Japan**

Control of Hazardous Energy:

Type of Hazardous Energy		When is it Necessary to Lock Out
Electrical	200V AC	When Servicing input power to trailer from Shore Power.
Electrical	400V AC	When servicing main electrical power line
Electrical	230V AC room circuits	When servicing or performing installation inside specific sections of the trailer
Electrical	12V DC	When servicing the following: Patient Lift, Landing Leg circuit, Transport Warning lights, underbody compartment lights
Electrical	12V DC From Battery	When servicing the following: Patient Lift, Landing Leg circuit, Transport Warning lights, underbody compartment lights

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

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

Shut down specifications for the Specialty Vehicle Trailers:

Energy Type and Rating:	Type of Energy Isolating Device:	Location of Energy Isolating Device:	Lockout Device Used:
Main Power Feed from Shore Power 200V AC	Circuit Breaker or Disconnect	At Facility Source of Shore Power	Lock and tag with or without lockout hasp
Main power feed Electrical 400V 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 230V AC/ 100V AC Outlets	Wall switch or circuit breaker	230Vac or 100V AC Distribution panel for circuit breaker, wall switch for room circuits	Lock and tag with a Universal Wall Switch Lockout, Universal Circuit Breaker Lockout
Roll Door Electrical 230V AC	Circuit Breaker, Service Switch	CB in 400 V AC Panel, Switch in overhead panel above door	Lock and tag with a Universal Switch Lockout, Universal Circuit Breaker Lockout
Power to lift panels Electrical 12V DC	Remove Battery Cables	Right side underbody compartment, On battery.	Lock and tag with a Circuit Breaker Lockout attachment device
Electrical 12V DC From Battery	Remove Battery Cables	Right side underbody compartment, On battery	Lock and tag with a Plug Lockout attachment device
Medical System Philips MRI	Circuit Breaker	MDE Main Distribution Panel in equipment area	Lock and tag with or without lockout hasp
Air Conditioning System 400V AC	40A Circuit Breaker	CB in 400VAC Distribution Panel and Chiller are a single unit.	Lock and tag with or without lockout hasp
Air Conditioning System Blowers 400V AC	15A Circuit Breaker	CB in 400V AC Distribution Panel.	Lock and tag with or without lockout hasp
Heating System	15A Circuit Breaker	CB in 400VAC Distribution Panel	Lock and tag with or without lockout hasp

Methods to dissipate energy:

N/A

Method of Verifying the Isolation of the Machine or Equipment:

Voltmeter

Appendix F: Quarterly Maintenance Checklist

PREVENTIVE MAINTENANCE CHECKLIST

Company Performing Preventive Maintenance:

Service Technician:

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

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

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

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

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

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

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

Comment :

OSHKOSH SPECIALTY VEHICLES

Signature of Technician: _____ **Date:** _____