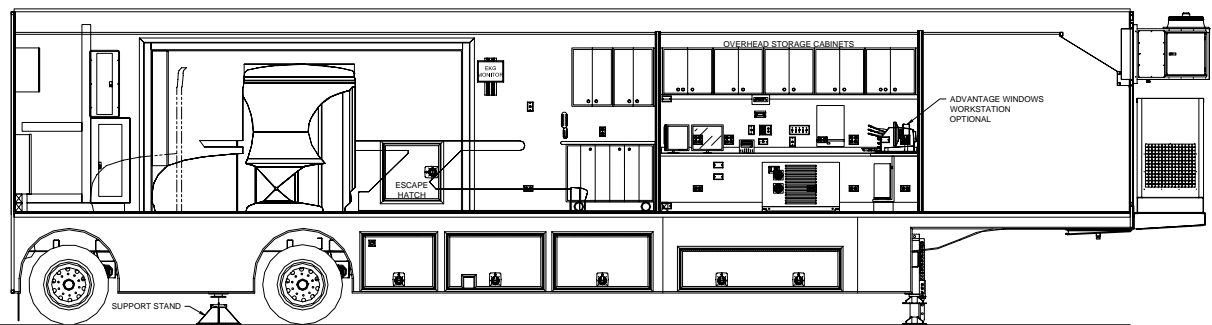




# Operator and Service Manual

## **GE DISCOVERY ST Mobile PET / CT System 48' L x 8'-6" W x 13'-6" H Alum USA Unit**



**NOTE: This manual only applies to units with front mounted Northern Air HVAC Systems.**

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### North America

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

### Europe

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

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



**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.**

## List of Revisions & Warnings

### Revisions

00                      New Release    June 2008

### Notice

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

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

Volume I – Site Guide, 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

16745 South Lathrop Avenue  
Harvey, Illinois 60426  
USA

(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.**



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.



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



The term “WARNING” is used whenever potential personal injury or death situations exist, requiring correct procedures / practices for prevention.



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.



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.**



# **Table of Contents**

<b>List of Revisions &amp; Warnings .....</b>	<b>3</b>
Revisions .....	3
Notice .....	3
Warnings & Safety Alert Conventions .....	4
<b>Section 1: Introduction .....</b>	<b>13</b>
<b>Section 2: Safety Guidelines .....</b>	<b>17</b>
2.1 Operator's General Safety Precautions.....	18
2.2 Electrical Safety .....	19
2.3 Transportation Safety .....	19
<b>Section 3: Mobile Unit Overview .....</b>	<b>21</b>
3.1 Canopy (optional) .....	21
3.2 Control Room Overall .....	22
3.3 Exterior Overall .....	23
3.4 Fuel Compartment.....	24
3.5 Gantry Room Overall.....	25
3.6 Glad-hand Connections .....	26
3.7 Hubbell All Weather Phone Cables .....	26
3.8 I.V. Track Rail .....	27
3.9 Levels, Digital .....	27
3.10 Mobile Unit Controls.....	28
3.11 Phone & Data Line Connections.....	29
3.12 Rear Stabilizing Legs .....	29
3.13 Front Landing / Stabilizing Legs.....	30
3.14 Stair Assembly .....	30
<b>Section 4: Safety Systems .....</b>	<b>31</b>
4.1 Emergency Lighting .....	31
4.2 Fire Suppression (manual) .....	32
4.3 Fire Detection System .....	33
System Operation .....	33
Pull Station.....	34
Power Backup System.....	34
4.4 FM-200 Fire Suppression System (Optional) .....	35
Control Unit Description.....	36
Enclosure with Door.....	36
Enclosure Door Options.....	36
Power Supply Unit .....	36
Printed Circuit Board.....	37
Operator Interface.....	38
LED Indicators .....	38
Control Switches.....	39
Digital Display .....	39
Buzzer.....	39
Initiating Device Circuits (System Inputs) .....	39
Detection Inputs.....	39



Manual Release.....	40
Abort Switch .....	40
Maintenance Switch .....	41
Supervisory Inputs.....	41
System Outputs .....	41
Notification Appliance Circuits (NACs) .....	42
Agent Release Circuits (ARC).....	42
Trouble Relay .....	42
System Operation.....	43
Pull Station .....	43
Input / Output Matrix.....	44
4.5 Platform lift .....	45
4.6 Marker Lights.....	45
4.7 Roll Door .....	45
4.8 System Shutdowns.....	46
Manual Shutdown (Emergency Stop / A1 Stop).....	46
Fire Detection Shutdown .....	46
4.9 Warning Lights .....	46
<b>Section 5: Mobile Unit Setup Procedure .....</b>	<b>47</b>
5.1 Park the Mobile Unit.....	47
5.2 Lower the Front Stabilizing Legs.....	48
5.3 Disconnect the Tractor .....	49
5.4 Lower the Rear Stabilizing Legs .....	49
5.5 Re-level the Mobile Unit .....	49
5.6 Disconnect the Tractor Air and Electrical Lines .....	50
5.7 Lower the Auxiliary Support Legs .....	50
5.8 Connect to Shore Power .....	51
5.9 Connect the Phone and Data Lines .....	52
5.10 Connect the Water Hose .....	53
5.11 Install the Stair Assembly .....	54
Stair Assembly without the Platform.....	54
Stair Assembly with the Platform.....	54
5.12 Platform lift Deployment .....	55
5.13 Extend the Slide-outs .....	55
5.14 Remove Restraining Hardware .....	56
<b>Section 6: Mobile Unit Transport Procedure.....</b>	<b>57</b>
6.1 Secure all Equipment .....	57
6.2 Retract Slide-outs to Transport Position .....	58
6.3 Return the Platform lift to the Transport Position .....	58
6.4 Remove and Store the Stair Assembly .....	59
Standard Stair System .....	59
Stair Assembly with Platform.....	59
6.5 Disconnect and Switch from Shore Power to Generator Power .....	60
6.6 Disconnect Phone and Data Lines.....	60
6.7 Disconnect the Water Hose .....	60
6.8 Raise the Auxiliary Support Legs .....	60
6.9 Connect the Tractor Air and Electrical Lines.....	61
6.10 Raise the Rear Stabilizing Legs .....	61
6.11 Connect the Tractor to the Mobile Unit.....	61
6.12 Retract the Front Stabilizing Legs .....	62



6.13	Verify that the Mobile Unit is ready for Transport .....	62
<b>Section 7: Electrical System.....</b>		<b>63</b>
7.1	480V AC and 120/208V AC Electrical Panels (interior).....	64
7.2	Automatic Transfer Switch (ATS) Panel (underbody) .....	65
7.3	Phase Power Monitor (underbody).....	66
7.4	Facility Power Connection .....	67
7.5	Power Cable .....	68
<b>Section 8: Generator .....</b>		<b>69</b>
8.1	Automatic Transfer Switch (ATS) .....	71
<b>Section 9: Humidity System .....</b>		<b>73</b>
9.1	System Operation .....	73
9.2	Water Supply .....	73
9.3	Humidity Settings.....	74
9.4	Electrical Connections .....	74
9.5	Instructions .....	74
	Attaching the Fresh Water supply line .....	74
<b>Section 10: HVAC System.....</b>		<b>77</b>
	Northern Air, Air Conditioning System.....	77
10.1	System Specifications and Descriptions.....	78
	Component Selection .....	78
	Evaporator Coils.....	78
	Compressors .....	78
	Condensing Coil .....	78
	Evaporator Fans.....	78
	Condenser Fans.....	79
	Micro-Processor Controlled:.....	79
	PGD Display:.....	79
	PCO Options: .....	79
	Refrigeration System:.....	79
	Condenser:.....	79
10.2	Air Conditioning.....	79
10.3	Exterior HVAC Specifications .....	79
10.4	Interior HVAC Specifications.....	80
10.5	HVAC Humidifier System.....	81
10.6	Underbody Compartment Heater.....	82
<b>Section 11: Platform Lift .....</b>		<b>83</b>
11.1	Safety Features.....	84
	Transport Pins.....	84
	Lift Controls.....	84
	Handrails.....	85
	Lift Up Indicator Light.....	85
	Remote Control Pendant .....	85
	Transport Warning Light .....	86
	Transport Warning Strobe Light.....	86
	Lift Transport Restraining Cable .....	86
	Lift Down Warning Strobe Light & Horn.....	86



11.2	Hydraulic System.....	86
	Operation.....	86
11.3	Platform lift Operation.....	87
	Deploying the Platform lift for use with the Mobile Unit.....	87
	Storing the Platform lift for Transport of the Mobile Unit.....	87
11.4	Platform Lift Upgrades.....	88
	Electrical Upgrade.....	88
	Hydraulic Upgrade.....	90
<b>Section 12: Intrusion Alarm (optional).....</b>		<b>91</b>
12.1	Operation.....	91
<b>Section 13: Stabilizing Legs.....</b>		<b>93</b>
13.1	Stabilizing Stands.....	94
13.2	Rear Air Suspension System Controls.....	94
<b>Section 14: Lighting System.....</b>		<b>95</b>
14.1	Emergency Lighting.....	95
14.2	Exterior Lighting.....	96
	Service Lighting.....	97
	Staff Door Lighting / Exterior Service Lighting.....	98
	Marker & Running Lights.....	98
14.3	Interior Lighting.....	99
	Control Room.....	99
	Gantry Room.....	100
14.4	Warning Lights.....	101
	AC Power Indicator Light.....	101
	Transport Warning Light.....	101
	Suspension Transport Warning Light.....	102
	Medical Equipment Transport Warning Light.....	102
	Power Loss Warning Strobe Light.....	102
	Lift Transport Warning Strobe Light.....	103
<b>Section 15: Slide-outs.....</b>		<b>105</b>
15.1	Slide-out Controls.....	105
	Expanding the Slide-outs.....	105
	Retracting the Slide-outs.....	106
<b>Section 16: General Maintenance.....</b>		<b>107</b>
16.1	Daily Maintenance.....	107
16.2	Weekly Maintenance.....	107
16.3	Monthly Maintenance.....	108
16.4	Quarterly Maintenance.....	109
<b>Section 17: Specific Maintenance.....</b>		<b>111</b>
17.1	Door Closer Adjustments.....	111
17.2	Electrical System.....	111
17.3	Generator System.....	112
17.4	Humidity System.....	112
17.5	HVAC System.....	112
17.6	Platform Lift.....	112





17.7	Stabilizing Legs .....	113
<b><u>Appendix A: Mobile Unit Checklist .....</u></b>		<b>115</b>
	Mobile Unit Setup Checklist .....	116
	Mobile Unit Transport Checklist .....	117
<b><u>Appendix B: Troubleshooting .....</u></b>		<b>119</b>
	AC Power Indicator Light is off...and White Strobe is flashing .....	119
	Transport Warning Light is on.....	119
	Suspension Transport Indicator Light is illuminated.....	120
	Medical System Transport Warning Light is on.....	120
	Humidity is out of specifications.....	121
	Humidifier Empty Water Light is illuminated.....	121
	Temperature is out of specifications.....	122
<b><u>Appendix C: HVAC Set Points.....</u></b>		<b>123</b>
	Temperature Controller Settings .....	123
	Humidity Settings.....	123
<b><u>Appendix D: A-1 Circuit Malfunction Checklist .....</u></b>		<b>125</b>
	Category 1 .....	125
	Category 2 .....	125
<b><u>Appendix E: Lockout/Tagout Procedures .....</u></b>		<b>127</b>
	Specific Energy Control Procedures .....	127
	Specialty Vehicle Trailer: GE Discovery ST PET/ CT System .....	127
	Affected Personnel to notify when the Specialty Vehicles Trailer is to be Locked Out: .....	127
	Shut down specifications for the Specialty Vehicle Trailers: .....	128
	Methods to dissipate energy:.....	128
	Method of Verifying the Isolation of the Machine or Equipment: .....	128
<b><u>Appendix F: Leveling The Mobile Unit.....</u></b>		<b>129</b>
	Normal Operation .....	129
	Manual Operation .....	130
<b><u>Appendix G: Quarterly Maintenance Checklist.....</u></b>		<b>131</b>





## List of Figures

Figure 1: The GE PET/CT System 48' x 102W Mobile Unit .....	14
Figure 2: Canopy.....	21
Figure 3: Control Room Overall .....	22
Figure 4: Exterior Overall .....	23
Figure 5: Fuel Compartment.....	24
Figure 6: Gantry Room Overall .....	25
Figure 7: Glad Hand Connections.....	26
Figure 8: Hubbell All Weather Phone Cables .....	26
Figure 9: I.V. Track.....	27
Figure 10: Digital Levels.....	27
Figure 11 Mobile Unit Controls .....	28
Figure 12: Phone & Data Line Connections .....	29
Figure 13: Rear Stabilizing Legs.....	29
Figure 14: Front Landing / Stabilizing Legs and Auxiliary Support Legs .....	30
Figure 15: Stair Assembly.....	30
Figure 16: Control Room Exit & Emergency Lighting .....	31
Figure 17: Fire Extinguisher.....	32
Figure 18: Smoke Detector .....	33
Figure 19: Fire Alarm Control Panel .....	33
Figure 20: Fire Alarm Pull Station .....	34
Figure 21: Fire Suppression Components .....	35
Figure 22: Printed Circuit Board (PCB).....	37
Figure 23: Abort Switch.....	40
Figure 24: Maintenance Switch.....	41
Figure 25: Roll Door Emergency Release .....	45
Figure 26: Emergency Shutdown Buttons .....	46
Figure 27: Landing & Stabilizing Leg Control Panel .....	48
Figure 28: Automatic Transfer Switch and Phase Power Monitor .....	52
Figure 29: Humidifier Tank Fill .....	53
Figure 30: 480V and 120/208V AC Electrical Panels .....	64
Figure 31: 480V AC ATS and Phase Power Monitor.....	65
Figure 32: 480V AC Phase Power Monitor .....	66
Figure 33: Shore Power Connection.....	67
Figure 34: Generator Compartment.....	70
Figure 35: 480V AC ATS.....	71
Figure 36: Fresh Water Connection.....	75
Figure 37: Humidifier System Isometric .....	76
Figure 38: Northern Air A/C Units .....	77
Figure 39: HVAC Components .....	80
Figure 40: Heater .....	82
Figure 41: Platform lift Progression.....	83
Figure 42: Platform Retaining Cradles.....	84
Figure 43: Remote Control Pendant .....	85
Figure 39: Platform Lift Power Switch.....	88
Figure 40: Platform Lift Strobe & Alarm .....	88
Figure 41: Platform Lift Threshold Sensor Mat .....	89
Figure 42: Platform Lift Service & Maintenance Controls .....	89
Figure 44: Intrusion Alarm Keypad .....	91
Figure 45: Front Stabilizing Leg Assembly .....	93
Figure 46: Air Bag Controls.....	94



Figure 47: Emergency Lighting.....	95
Figure 48: Compartment Light.....	96
Figure 49: Drop Light.....	97
Figure 50: Staff Door Lighting.....	98
Figure 51: Control Room Overall Lighting .....	99
Figure 52: Gantry Room Overall Lighting .....	100
Figure 53: Warning Lights.....	101
Figure 54: AC Power Loss Light.....	102
Figure 55: Lift Transport Warning Strobe .....	103
Figure 56: Slide-out Controls.....	106



## Section 1: Introduction



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.

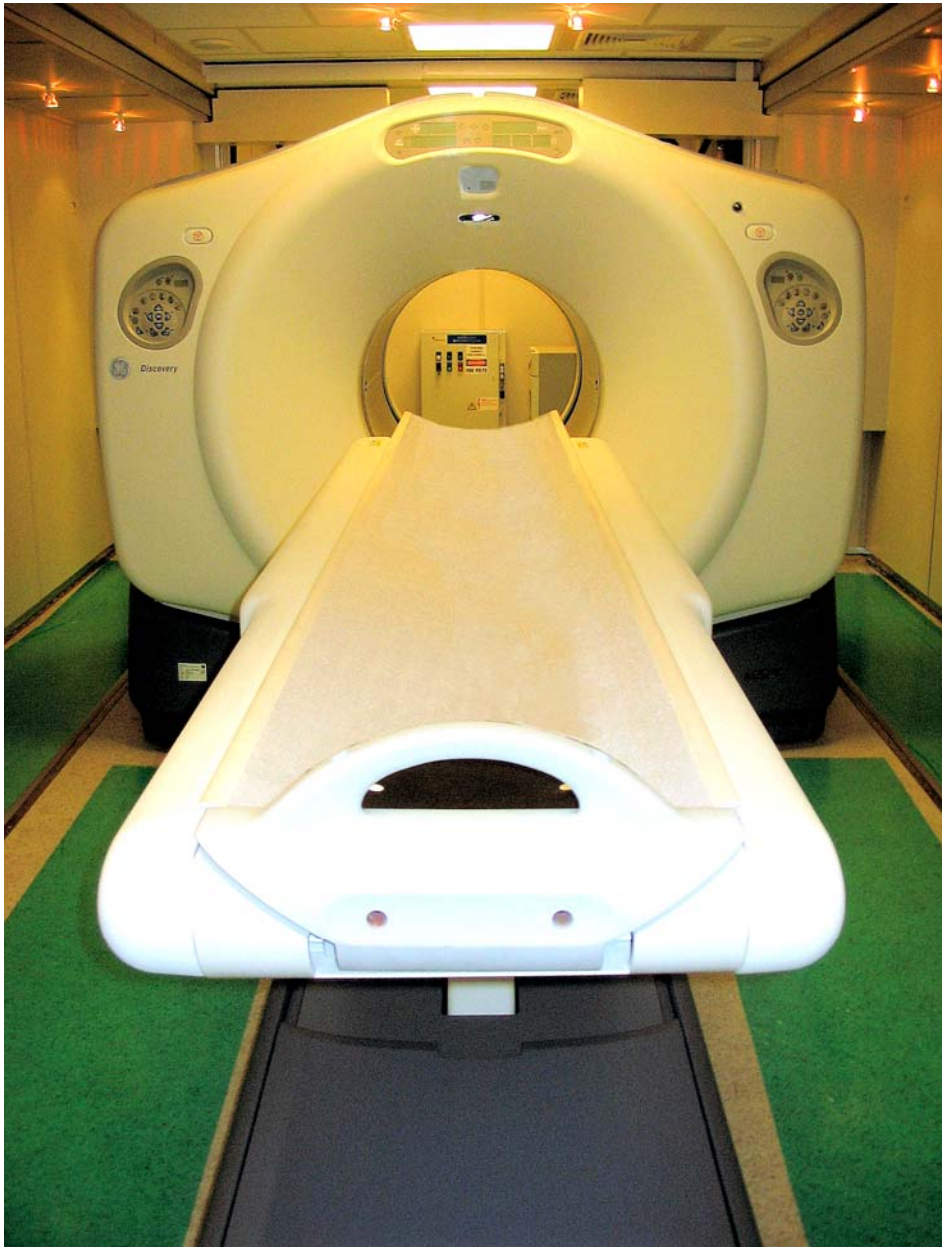


An outside radiation physicist consultant determines the x-ray shielding based upon unit layout that is provided by Oshkosh Specialty Vehicles and scatter patterns provided the medical equipment manufacturer. It is the operators' responsibility to ensure proper maintenance of the x-ray shielding. It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

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, and in compliance with the GEMS VCR program, designs and specifications are subject to change without notice.



**Figure 1: The GE PET/CT System 48' x 102W Mobile Unit**



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

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





## Section 2: Safety Guidelines



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.



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.



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.



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



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



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

Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.

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

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

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

**BEFORE** attempting to service the mobile unit, read this safety section as well as all other safety sections found in applicable manufacturer's manuals in the Vendor Information binder.

Please call Oshkosh Specialty Vehicles Customer Service at 800-839-0630 if you need help or advise regarding the Operation or Service of this unit.



## **2.1 Operator's General Safety Precautions**

- Your safety and the safety of other persons in the area of this vehicle are the result of your correct operation of this vehicle. Know the location, positions, and functions of all the controls. Know the meaning of the various Warning, Caution, Strobe, and Annunciator lights and their associated audible warning sounds.
- Read this manual completely and make sure you understand the contents. Make sure you understand, for example, the characteristics of speed, stability, brakes, and steering, etc. of this vehicle. Contact Oshkosh Specialty Vehicles, (800) 839-0630 if you have any questions.
- ALWAYS keep a copy of this manual with the vehicle.
- The safety information in the manual does not replace any other rules or laws for safety that are used in your area. Know the local rules or laws for safety. Make sure that your vehicle has the correct equipment to operate according to these rules or laws.
- All safety hazards that can possibly arise cannot be foreseen and noted in this manual. You must ALWAYS use common sense and apply the general as well as the specific 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.
- NEVER 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 Electrical Safety



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

See Appendix E for Lockout/Tagout procedures.



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.



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

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



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



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

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

## 2.3 Transportation Safety

- Walk around the unit to make certain that all doors are closed and locked.
- Make certain the platform lift is seated in the retaining cradles, the transport pins are in place, and the Lift Transport Safety Cable is in place and securely connected.
- Make sure that the stabilizing stands are removed and stored in the underbody compartment.



Before moving the trailer, the driver must ensure that the rear stabilizing stands have been removed and stored in the underbody compartment.

Failure to do so could result in damage to equipment, and/or severe personal injury or death.

- If any of the warning lights are illuminated or strobe lights are flashing, do not move the mobile unit.



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 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.

- Before moving the mobile unit, verify that all marker and running lights are working properly.
- Consult with the local motor vehicle authority to determine if there are any travel restrictions or routes.

## Section 3: Mobile 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.

### 3.1 Canopy (optional)

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



**Figure 2: Canopy**

### **3.2 Control Room Overall**

Control Room houses the system components that support the medical system. In this room, the operators console can be found, along with the privacy curtain, system controls, cabinets for storage, and all of the associated volumes of literature.



**Figure 3: Control Room Overall**

### **3.3 Exterior Overall**

In these pictures the platform lift, the staff entry door, and the generator housing can be seen.



Left Side



Right Side

**Figure 4: Exterior Overall**



### **3.4 Fuel Compartment**

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



**Figure 5: 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. Only use diesel fuel. |



### **3.5 Gantry Room Overall**

Gantry Room is divided into two (2) sections. The first section houses the medical system and the controls for the slide-outs. The other section of the room is located behind a curtain and stores the humidifier, the electrical distribution panels and the associated support equipment for the medical system.



**Figure 6: Gantry Room Overall**

### **3.6 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 7: Glad Hand Connections**

Emergency Airline:	Backup airline in the event that the main airline fails.
Key Lock Box:	A combination lock that holds a key to the mobile unit.
Service Airline:	The main airline for the mobile unit.
Generator Access:	The generator housing comes with locking doors to prevent unauthorized access.

### **3.7 Hubbell All Weather Phone Cables**

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



**Figure 8: Hubbell All Weather Phone Cables**

### 3.8 I.V. Track Rail

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



[Figure 9: I.V. Track](#)

### 3.9 Levels, Digital

The digital 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. Refer to Appendix F: Leveling The Mobile Unit



[Figure 10: Digital Levels](#)

### 3.10 Mobile Unit Controls

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



**Figure 11 Mobile Unit Controls**

- Gantry Room Light Switches: ON / OFF light switch for Gantry Room lights.
- Exterior Light Switch: ON / OFF light switch for the exterior lights.
- PGD Display: HVAC Status and Humidity information is digitally displayed at the Control Room Work Station.
- E Stop: Emergency stop button for the medical system.



### **3.11 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 a Hubbell all weather connection, while the data lines utilize an RJ-45 connection and CAT-5E cabling.



**Figure 12: Phone & Data Line Connections**

#### **Hubbell Phone Connections**

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

#### **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

### **3.12 Rear Stabilizing Legs**

The stabilizing Legs are extended underneath the rear of the mobile unit during the Auto-Leveling step in the set-up procedure. These legs help to level the mobile unit and decrease vibration caused by the medical system



**Figure 13: Rear Stabilizing Legs**

### **3.13 Front Landing / Stabilizing Legs**

The Front Landing / Stabilizing legs and auxiliary support legs can be found at front of the mobile unit. They are used to level the unit prior to use. Since the landing / stabilizing legs are hydraulically controlled, the manual auxiliary legs must also be used as a backup.



**Figure 14: Front Landing / Stabilizing Legs and Auxiliary Support Legs**

### **3.14 Stair Assembly**

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

There are two (2) possible (optional) configurations for the stair assembly. The first configuration attaches the stairs directly to the mobile unit, as shown, while the second configuration utilizes a platform. The stairs are then attached to the platform.

When using the platform, the stairs can be attached either perpendicular or parallel to the mobile unit.



**Figure 15: Stair Assembly**

## Section 4: Safety Systems

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

### 4.1 Emergency Lighting

- If the main AC power fails, three dual beam emergency lights automatically illuminate.
- They are located in the Dispensing Lab, Control Room and Gantry Room.
- The emergency lighting system is wired into a 120V AC electrical system that allows the lights internal circuitry to keep its batteries at 100% charge.
- The emergency lights will last for approximately 90 minutes.



[Figure 16: Control Room Exit & Emergency Lighting](#)

#### **4.2 Fire Suppression (manual)**

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



**Figure 17: Fire Extinguisher**

- It is a class A/B/C 1211 hand held unit.
- It has a charged weight of 5 lbs.
- It is U.L. listed.
- It meets D.O.T. requirements.
- It is in accordance with N.F.P.A. Standard No. 10, "Portable Fire Extinguisher".



### 4.3 Fire Detection System

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



**Figure 18: Smoke Detector**



**Figure 19: Fire Alarm Control Panel**

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

#### **System Operation**

1. During normal operation, the control unit remains in a supervisory mode. If one smoke detector goes into alarm, it will trigger the following actions.
2. The fire horn will sound continuously.
3. A "RED" alarm LED located on the front cover of the fire system control panel will illuminate.
4. The strobe light will flash.
5. The HVAC units will shutdown.

### **Pull Station**

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



**Figure 20: Fire Alarm Pull Station**

### **Power Backup System**

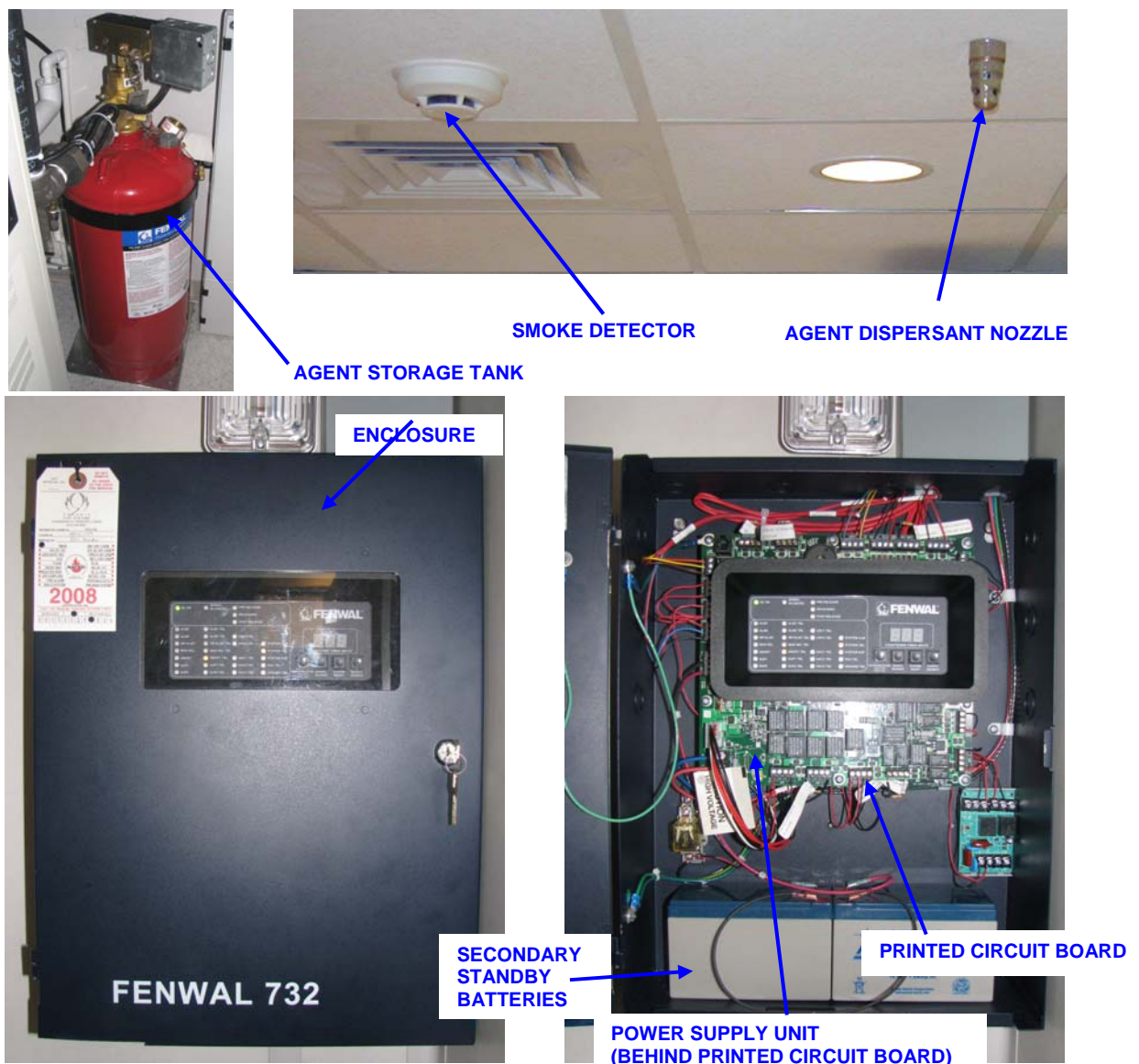
Primary 120V AC power to the fire system control panel is supplied from the 480V AC service panel. When the primary power is lost, on-line emergency batteries built into the system will provide 24 hours of supervisory power.

- When primary power is lost, both the green “POWER” LED and the yellow “TROUBLE” LED will flash.
- The “SYSTEM TROUBLE” and “POWER TROUBLE” LED’s will also begin to illuminate.
- The audible alert located inside of the system control panel will begin to BEEP.
- The emergency batteries are rechargeable gel celled. They are also float charged to provide quick recovery after primary power is restored.

#### **4.4 FM-200 Fire Suppression System (Optional)**

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

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



**Figure 21: Fire Suppression Components**



### **Control Unit Description**

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

### **Enclosure with Door**

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

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

### **Enclosure Door Options**

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

### **Power Supply Unit**

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

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

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

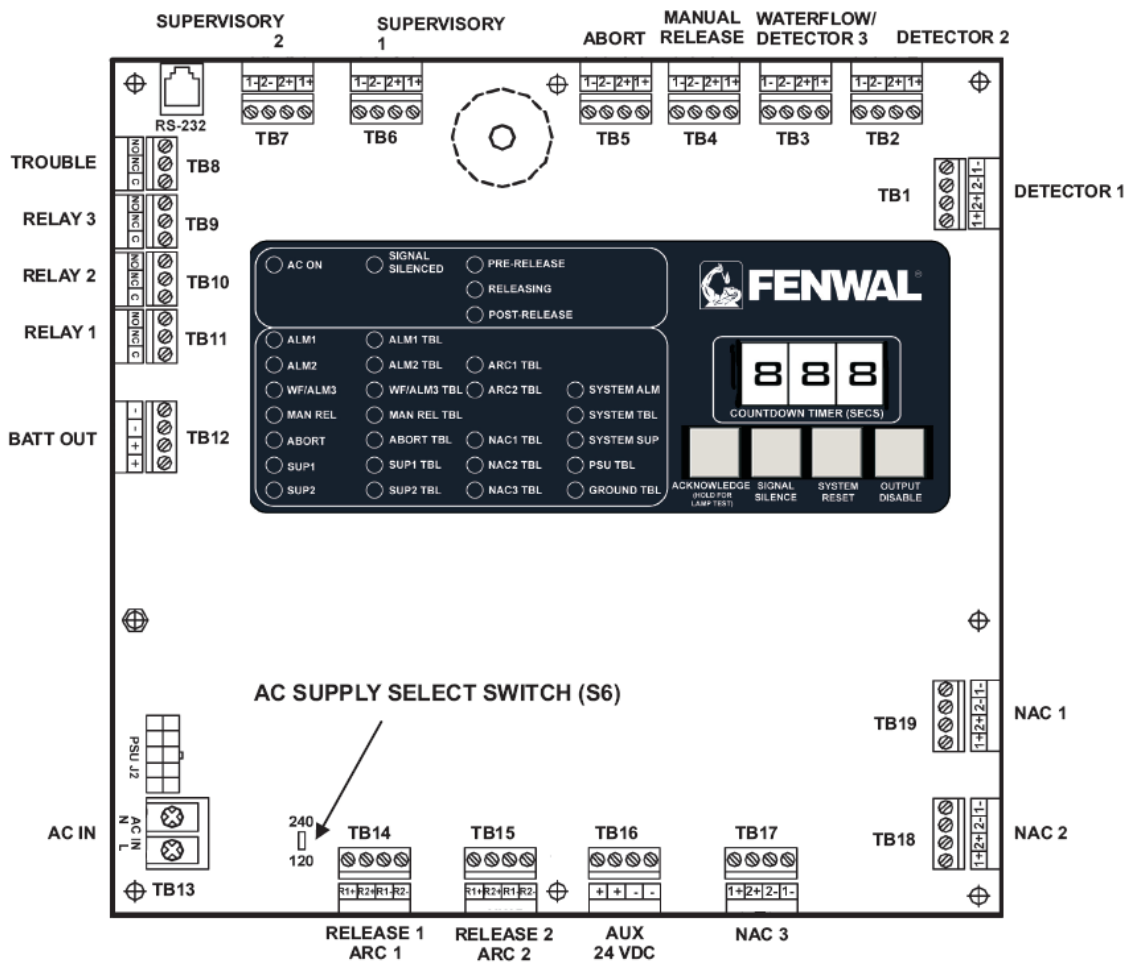
The power supply monitoring circuit provides a trouble signal if any of the following occur:

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

**Printed Circuit Board**

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

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



**Figure 22: Printed Circuit Board (PCB)**



**Operator Interface**

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

- LED Indicators
- Control Switches
- Digital Display
- Buzzer

**LED Indicators**

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

**Table 4-1. LED Indicator and Display Color**

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





### **Control Switches**

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

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

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

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

### **Digital Display**

The three digit display is used for the following:

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

### **Buzzer**

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

### **Initiating Device Circuits (System Inputs)**

The Fenwal 732 has the following system inputs:

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

### **Detection Inputs**

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

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

### Manual Release

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

### Abort Switch



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

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

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

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

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



**Figure 23: Abort Switch**

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



### Maintenance Switch

**IMPORTANT**

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

**IMPORTANT**

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

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

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

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



**Figure 24: Maintenance Switch**

### Supervisory Inputs

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

### System Outputs

The Fenwal 732 has the following system outputs:

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



### **Notification Appliance Circuits (NACs)**

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

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

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

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

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

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

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

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

### **Agent Release Circuits (ARC)**

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

### **Trouble Relay**

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



### **System Operation**

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

- If one smoke detector goes into alarm, the following steps will occur.
- The red LED marked "ALM1" or "ALM2" located on the front cover of the fire suppression system control panel will illuminate.
- The HVAC system will shutdown.
- The roll door will close (if applicable).
- The "PRE-RELEASE" LED will illuminate.
- If no other smoke detector goes into alarm, the fire system control panel will remain in alarm condition until the control panel is manually reset. To reset the control panel, open the front cover, and depress the system reset button.

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

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

### **Pull Station**

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



**OSHKOSH  
SPECIALTY  
VEHICLES**

**Input / Output Matrix**

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

**Table 4-2. Input / Output Matrix**

Input Output Matrix		EFFECT														
		Suppression Control											Bldg.			
		A	B	C	D	E	F	G	H	I	J	K	L	Alarm	Supervisory	
CAUSE	1 Panel Trouble	X													X	
	2 Smoke Detector (First)		X	X												X
	3 Smoke Detector (Second)					X	X	X								
	4 Manual Pull Station (Suppression)			X	X	X		X		X	X				X	
	5 Abort Button	X							X						X	
	6 Detection Cross Zoned				X			X								
	7 Discharge Timer Start				X											
	8 Discharge Timer Complete				X					X						
	9 Agent Release										X					

#### **4.5 Platform lift**

There are multiple safety features for the platform lift. For a full list of the safety features, please refer to: **Error! Reference source not found.**

#### **4.6 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.

#### **4.7 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 platform lift. On the interior, the controls can be found next to the staff door. A green indicator light is located next to the controls and will illuminate when the hydraulic platform lift is in the raised position and the door can be safely opened.

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 25: Roll Door Emergency Release**

#### **4.8 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.



Control Room



Gantry Room

**Figure 26: Emergency Shutdown Buttons**

#### **Manual Shutdown (Emergency Stop / A1 Stop)**

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 Gantry Room aboard the mobile unit. When these buttons are depressed, only the medical system will be shutdown. The HVAC system will still be operational.

- There is one (1) “Emergency Off” button located in Control Room.
- There is one (1) “Emergency Off” buttons located in Gantry Room.
- Phase / Voltage Shutdown
- If the incoming power is out of phase or the voltage is out of specification, a power monitor will automatically trip the shunt breaker that feeds the medical system.

#### **Fire Detection Shutdown**

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

#### **4.9 Warning Lights**

Please Refer to [Section 14: Lighting System](#) for additional information in regards to these systems.



## **Section 5: Mobile Unit Setup Procedure**



The GE 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 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.



Failure to remove the transport pins from the platform lift, prior to deployment, can result in structural damage to the mobile unit.



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

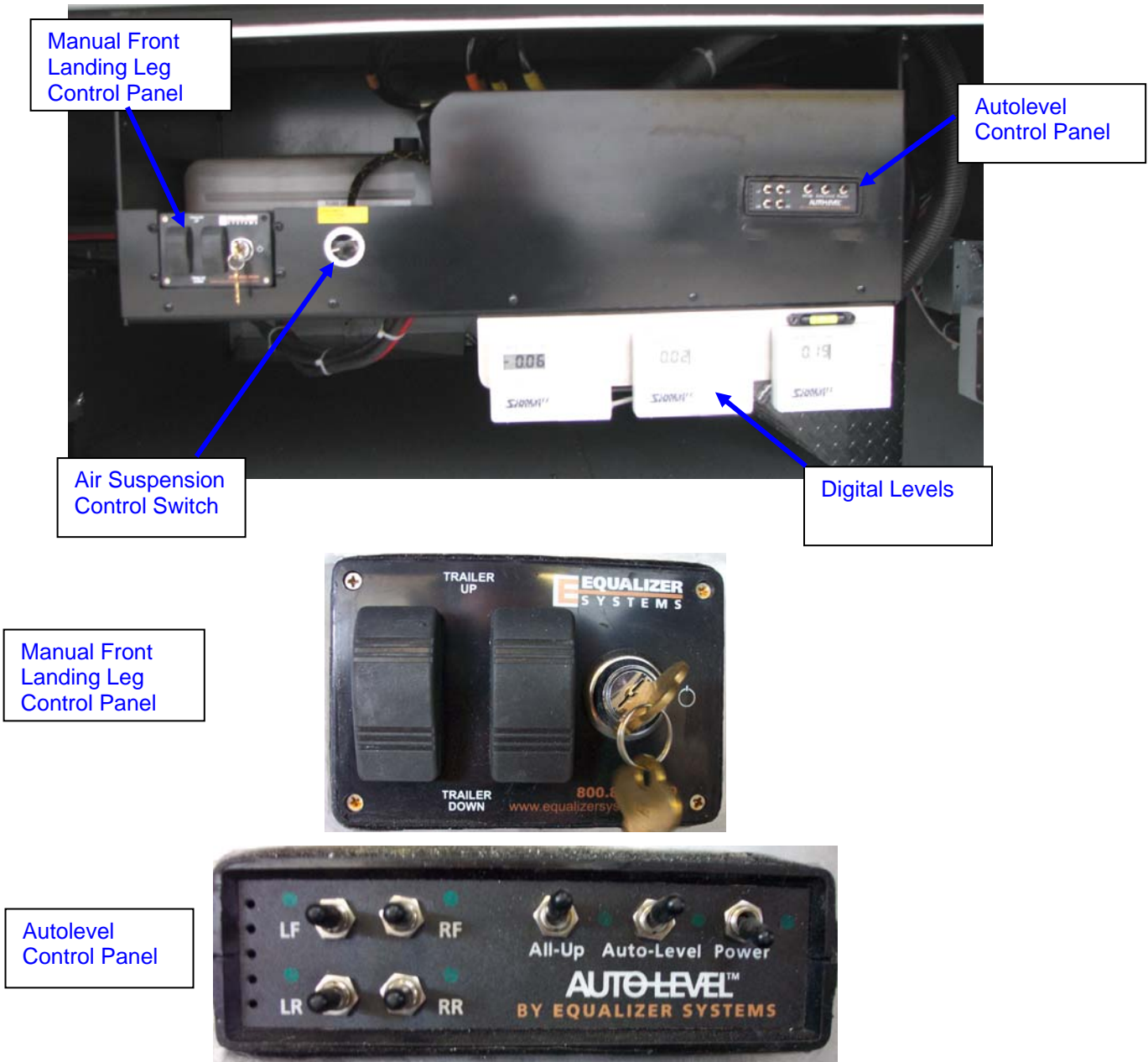
### **5.1 Park the Mobile Unit**

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



### 5.2 Lower the Front 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 27: Landing & Stabilizing Leg Control Panel](#) for the following procedure. If necessary, place aluminum ground plates from lower compartment under each leveling leg locations prior to operating leveling legs on trailer. Now move to the lower compartment where stabilizing leg /auto-leveling control panel is located.



**Figure 27: Landing & Stabilizing Leg Control Panel**



1. Extend front legs of trailer so tractor can be disconnected prior to leveling trailer.
2. Move the Key switch to the "Pump ON" position as shown in [Figure 27: Landing & Stabilizing Leg Control Panel](#) above.
3. Press the two rocker switches simultaneously toward "Trailer Up" on the trailer up / trailer down control box.
4. Extend the legs far until the front of the unit has been raised high enough to clear the fifth wheel.
5. Release the rocker switches.

### **5.3 Disconnect the Tractor**

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

Verify that the mobile unit has been raised high enough to clear the tractor fifth wheel, and then disconnect the tractor from the mobile unit. Do not disconnect the air and electrical lines.

### **5.4 Lower the Rear Stabilizing Legs**



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

1. After the tractor has pulled from the mobile unit, the rear stabilizing legs can now be lowered into position. Refer to [Figure 27: Landing & Stabilizing Leg Control Panel](#) and [Figure 13: Rear Stabilizing Legs](#) for the following procedure.
2. Using the Manual Control Rocker Switch, adjust the Landing Legs to level the trailer. Refer to [Figure 10: Digital Levels](#) for Level Location.
3. On the Autolevel Control Panel and turn the Power Switch and Autolevel Switch to "ON". The Autolevel system will automatically lower the rear stabilizing legs and level the trailer from front to rear and right to left. Check the Digital Levels in the lower compartment to ensure that the unit is level. If the Digital Levels indicate that the unit is out of level, the unit must be re-leveled. Proceed as indicated below.

### **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 digital levels that have been provided. Refer to [Figure 10: Digital Levels](#) if needed. Refer to [Appendix F: Leveling The Mobile Unit](#).



The unit must be level front-to-back and front side-to-side and rear side-to-side to within requirements listed below.

1. Check and set the "Rear Side-to-Side" to within  $\pm .05^\circ$ .
2. Check and set the level "Front-to-Back" to within  $\pm .10^\circ$ .
3. Check and set the "Front Side-to-Side" to within  $\pm .05^\circ$ .

**NOTE: As these settings directly interact on each other, at this point, re-verify all settings to be within above requirements. Re-adjust as required.**

## **5.6 Disconnect the Tractor Air and Electrical Lines**



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 7: Glad Hand Connections](#).

## **5.7 Lower the Auxiliary Support Legs**

After the preceding steps have taken place, the auxiliary support legs can now be lowered. Refer to [Figure 14: Front Landing / Stabilizing Legs and Auxiliary Support Legs](#) for the following procedure.

1. Remove the pin that is currently holding the auxiliary leg in the transport position.
2. Lower the auxiliary support 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**



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.



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



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



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.

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. Secure the connector lock ring to the shore facility.
5. Move the shore power disconnect to the “ON” position.

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

6. If any phase is not present or if the phase rotation is not correct, the 480 VAC Fault Light will illuminate, a piezo-electric horn will sound and a flashing strobe light on the front of the unit illuminates. Disconnect shore power immediately and investigate to determine the cause of the fault.
7. Close the underbody compartment door; making sure that the access flap for the power cable has been released.

**IMPORTANT**

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



**Figure 28: Automatic Transfer Switch and Phase Power Monitor**

**5.9 Connect the Phone and Data Lines**

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

The phone lines make use of Hubbell all weather connections. The data lines make use of CAT-5E cable and RJ-45 connections. Refer to [Figure 12: Phone & Data Line Connections](#).

### **5.10 Connect the Water Hose**

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



**Figure 29: Humidifier Tank Fill**

1. Remove the cap that covers the connection.
2. Attach the supplied water hose to this connection.
3. Attach the other end of the hose to facility provided faucet.
4. Turn on the water at the faucet.



### **5.11 Install the Stair Assembly**

There are two different options for the stair assembly. The first option is to attach the stairs directly to the mobile unit while the second option is to utilize the supplied platform as well. Both options can be setup easier with two people. The instructions are covered below.

#### **Stair Assembly without the Platform**

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.

#### **Stair Assembly with the Platform**

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

### **5.12 Platform lift Deployment**

1. After the stair assembly has been installed, the platform lift can be deployed for use. Please see Figure 41: Platform lift Progression for the following procedure.
2. Open the underbody compartment doors beneath the platform lift.
3. Remove the handrails and lift pendent, and place them to the side for now.
4. Close the underbody compartment door.
5. The receptacle for the remote control pendent is located next to the staff entry door. Insert the connector from the lift control pendent into the receptacle.
6. Remove the Lift Transport Restraining cable.
7. Remove the transport pins in order for the platform lift to be raised from its seated position in the cradles.
8. Using the remote, raise the lift high enough to clear the cradles
9. Carefully pull down the platform until it is parallel with the ground. A torsion bar is located within the platform lift hardware that will enable one person to move the lift into operating position.
10. Lower the platform to the ground using the lift control pendent.
11. Once the platform has been lowered, install the handrails and secure them with the hardware provided.

### **5.13 Extend the Slide-outs**

After the platform lift has been deployed the slide-outs for the mobile unit can now be extended.

1. Verify that the underbody compartment doors are closed and that no obstacles are in the path of the slide-outs.
2. Enter the mobile unit and remove the restraining hardware that is being used to hold the slide-outs in the transport position.



**Do not release the floor latch if the slide-out is extended. The floor cylinder is pressurized when the slide-out is extended and releasing the latch could result in severe personal injury.**

Before extending the slide-outs, release the hardware that is being used to hold the slide-out floors in place.

1. Extend the left side slide-out.
2. Extend the right side slide-out.
3. Verify that the slide-outs are in the extended position and that the floors have been completely lowered and that a seal has been made.



#### **5.14 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 usage of the medical system.



## Section 6: Mobile Unit Transport Procedure



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



The GE 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 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.



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



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

### 6.1 Secure all Equipment



The following procedure must be accomplished prior to transporting this vehicle. If these items are not accomplished, the "Transport Warning Light", located on the left side of the mobile unit will remain illuminated.



If this vehicle will travel 1000 miles or more before scanning again, a Qualified Service engineer must prepare the medical system for transport. Call GE CARES at 1.800.437.1171 to arrange for service prior to transportation.

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.



## **6.2 Retract Slide-outs to Transport Position**

1. After the equipment has been secured in the transport position the slide-outs can now be retracted.
2. Verify that the underbody compartment doors are closed and that no obstacles are in the path of the slide-outs.
3. Verify that the slide-outs are completely extended.
4. Retract the right side slide-out.
5. Retract the left side slide-out.
6. Secure the slide-out floors into the transport position with the supplied hardware.
7. Secure the slide-outs with the restraining hardware provided.

## **6.3 Return the Platform lift to the Transport Position**

Please refer to [Section 11: Platform Lift](#), and follow the procedure outlined below.

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



#### **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.

There are two different options for the stair assembly. The first option is to attach the stairs directly to the mobile unit while the second option is to utilize the supplied platform as well. Both options can be taken down easier with two people. The instructions are covered below.

##### **Standard Stair System**

1. Close and lock the staff door with the key that is provided.
2. Open the door to the underbody storage compartment.
3. Loosen the hardware holding the 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.

##### **Stair Assembly with Platform**

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



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### **6.5 Disconnect and Switch from Shore Power to Generator Power**

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

#### **IMPORTANT**

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

### **6.6 Disconnect Phone and Data Lines**

1. Please refer to [Figure 12: Phone & Data Line Connections](#), for the following procedure.
2. Disconnect any phone and data lines that are currently attached to shore receptacles.
3. Open the compartment door and disconnect any phone and data lines that are connected in the underbody storage compartment.
4. Store the phone and data lines in the underbody storage compartment and close the compartment door.

### **6.7 Disconnect the Water Hose**

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

### **6.8 Raise the Auxiliary Support Legs**

Please refer to [Section 13: Stabilizing Legs](#) for the following procedure.

1. Remove the pins holding the auxiliary support legs in the locked positions.
2. Lift the auxiliary support 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 both auxiliary support legs. Failure to do this can damage the stabilizing legs when they are retracted.



### **6.9 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 7: 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.

### **6.10 Raise the Rear Stabilizing Legs**

Refer to [Figure 27: Landing & Stabilizing Leg Control Panel](#) for the following procedures.

1. Each stabilizing leg can be extended and retracted individually. The rear legs may be retracted together by selecting the "All UP" switch. This switch does not retract the front Landing Legs.
2. Open the underbody compartment door to gain access to the hydraulic controls.
3. Retract the rear stabilizing legs.
4. Turn the Air Suspension Control switch to "UP" to inflate the air bags.
5. Retract the rear stabilizing legs completely.

### **6.11 Connect the Tractor to the Mobile Unit**

1. 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. Each stabilizing leg is extended and retracted individually. Refer to [Figure 27: Landing & Stabilizing Leg Control Panel](#) for the following procedure.
2. Extend both of the front 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. 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.
5. Verify that the fifth wheel is locked into position.



### **6.12 Retract the Front Stabilizing Legs**

1. After the tractor has successfully connected to the mobile unit, the stabilizing legs can be retracted. Each stabilizing leg is extended and retracted individually. Refer to [Figure 27: Landing & Stabilizing Leg Control Panel](#) for the following procedure.
2. Retract the front stabilizing legs.
3. Close the underbody storage compartment door.

### **6.13 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.

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

## Section 7: Electrical System



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.



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.



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.



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

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

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

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

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

There are several panels used in the electrical system.

The Automatic Transfer Switch is located in the underbody compartments is responsible for all incoming power. A three-pole, 40-ampere AC Disconnect controls power to the 480:208V AC 30 KVA transformer also located in the underbody compartments between the ATS and the Transformer.

One 480V AC electrical distribution panel that is located at the rear of the Gantry Room in the mobile unit. This panel is responsible for the air conditioning and heating components aboard the mobile unit including the PET / CT System.

One 120/208V AC distribution panel that is located at the rear of the Gantry Room in the mobile unit. This panel is responsible for all other AC powered components aboard the mobile unit.

### 7.1 480V AC and 120/208V AC Electrical Panels (interior)

These electrical panels supply power to the equipment aboard the mobile unit. If a problem exists with the equipment, or the power supply to them, a circuit breaker will trip in order to prevent damage. On the inside of the panel access door, a listing of all the circuit breakers can be found.



[Figure 30: 480V and 120/208V AC Electrical Panels](#)



## 7.2 Automatic Transfer Switch (ATS) Panel (underbody)



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



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

The Automatic Transfer Switch is the 480V AC electrical panel that controls all incoming power to the mobile unit. From this location, the appropriate power supply is chosen and shore power monitored.



**Figure 31: 480V AC ATS and Phase Power Monitor**

### **7.3 Phase Power Monitor (underbody)**



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

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

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



**Figure 32: 480V AC Phase Power Monitor**

#### 7.4 Facility Power Connection



**Figure 33: Shore Power Connection**

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

Oshkosh Specialty Vehicles  
Connector:

The plug that is provided by Oshkosh Specialty Vehicles for connection to the shore power receptacle.

Power Cable:

The cable that runs between the shore power connections and the 480V ac electrical panel.

Shore Power Disconnect:

The shore power disconnect terminates the power to the receptacle. This must be in the "OFF" position when connecting to the receptacle.

Shore Power Receptacle Outlet:

The receptacle outlet that the shore facility has installed for use with the Oshkosh Specialty Vehicles connector and power cable.

Shore Power Unit:

The complete shore power assembly.

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

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

### **7.5 Power Cable**

Descriptions:	Specifications
Service Amps:	150 A
5 Wire:	3 pole plus neutral and ground
Cord:	150 A, a #1/0 4 conductor type W, 600V – 2000V, 90° C, 50'-0" (15.24m) long
Plug Model	Russellstoll #DS2504MP000/DF2029



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

## Section 8: Generator



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



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



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



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



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.



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.



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.



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



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. The generator supplies power to the unit during transport. The generator can also be able to power the medical system so the medical procedures can take place when shore power is unavailable. The generator is equipped with an electronic governor to maintain the proper frequency.



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

Once a year, the fuel separator should be checked for contamination and accumulation of dirt and debris.

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



**Figure 34: Generator Compartment**

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

### **8.1 Automatic Transfer Switch (ATS)**

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



**Figure 35: 480V AC ATS**





## Section 9: Humidity System



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



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

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

**Exterior Connection:** The facility must provide a fresh water supply for use with the mobile unit. The incoming supply is then attached to the connection.

**Humidifier:** The humidifier provides the required humidity to the mobile unit per the medical manufacturer's requirements.

**Humidity Controller:** The humidity controller is an integral part of the HVAC System and is set to the manufacturers' specifications to maintain the internal humidity of the mobile unit. The setting is preset at the factory to comply with the medical system manufacturer's requirements and should not be adjusted.

**Humidity Sensor:** Maintains an accurate reading of the humidity levels inside of the mobile unit.

### 9.1 System Operation

The humidifier system is capable of producing up to 12 pounds of steam per hour, at 15 amps. A sensor continually monitors the interior of the mobile 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 a facility provided water supply. Plumbing connections are as follows:

- One 1" female garden hose coupling for the water supply from the exterior of the mobile unit. (incoming)
- One 0.5" outer diameter copper 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. (drainage)

### **9.3 Humidity Settings**



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

The humidity low set point is 40% RH (relative humidity).

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

### **9.4 Electrical Connections**

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

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

A humidistat is connected to the humidifier via a controlling transformer cable.

### **9.5 Instructions**

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

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

#### **Attaching the Fresh Water supply line**

1. Remove the cap that covers the fresh water connection. Refer to [Figure 36: Fresh Water Connection](#).
2. Attach the supplied water hose to this fresh water connection.
3. Attach the other end of the hose to facility provided fresh water faucet.
4. Turn on the water at the faucet.
5. Open Ball Valve "A". Refer to [Figure 37: Humidifier System Isometric](#) for location.
6. This will fill the water tank for the mobile unit. When the tank is full, close Ball Valve "A". If necessary, the fresh water tank can be filled by pouring water directly into the manual fill pipe.
7. In the event that the water tank is overfilled, an overflow drain has been provided that exits outside of the mobile unit.
8. In order to supply fresh water directly from the facility to the humidifier close Ball Valve "A". Refer to [Figure 37: Humidifier System Isometric](#) for location.

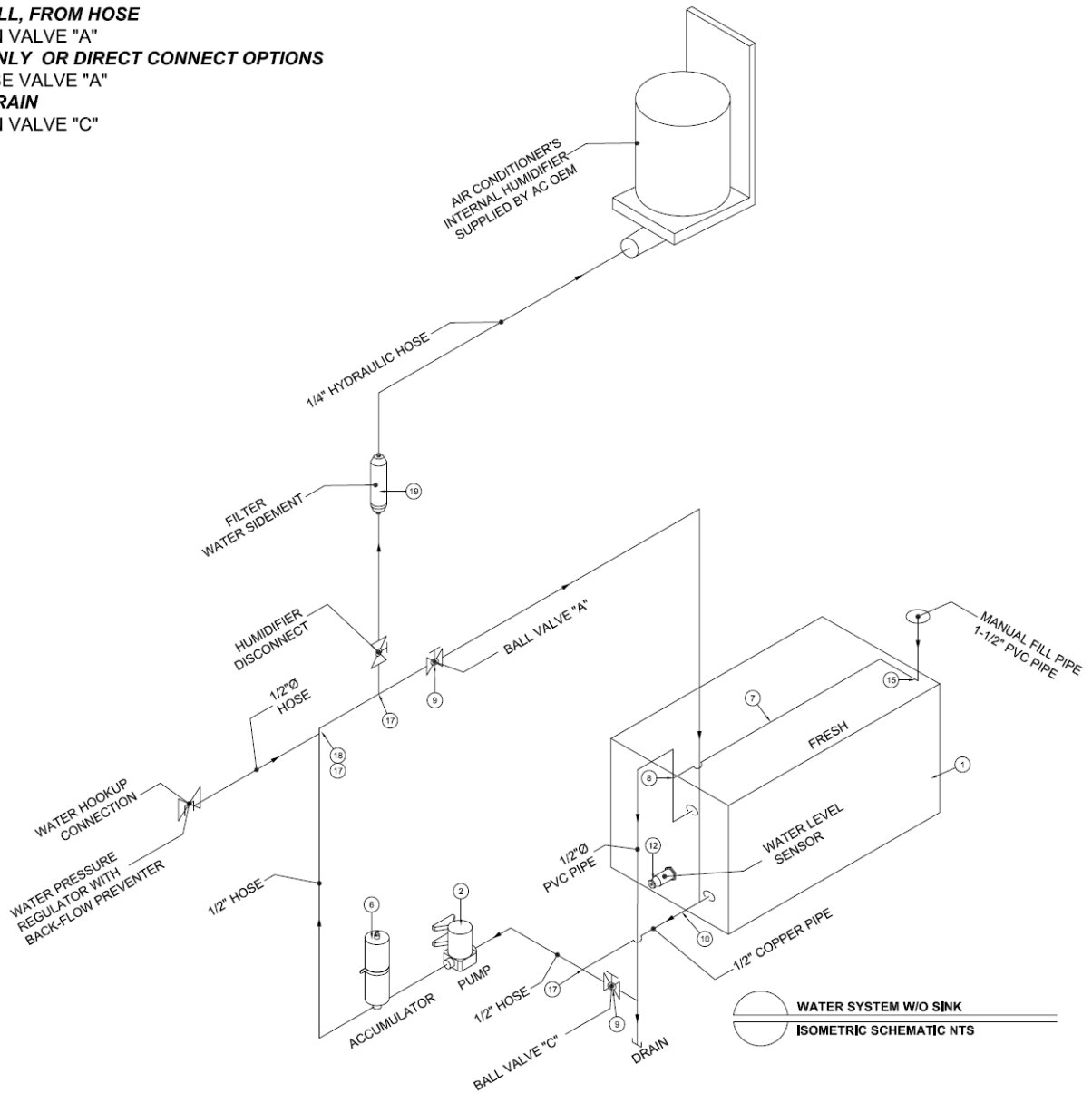


[Figure 36: Fresh Water Connection](#)



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**TANK FILL, FROM HOSE**  
 OPEN VALVE "A"  
**TANK ONLY OR DIRECT CONNECT OPTIONS**  
 CLOSE VALVE "A"  
**TANK DRAIN**  
 OPEN VALVE "C"



**Figure 37: Humidifier System Isometric**

## Section 10: HVAC System

### Northern Air, Air Conditioning System.



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



The Siemens 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.

Located in the illustration below, the following can be seen:

Front mounted Northern Air A/C Unit.

This A/C unit is responsible for the environments in Scan Room, Control Room and Hot Lab Area.



**Figure 38: Northern Air A/C Units**



## **10.1 System Specifications and Descriptions**

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

The HVAC system utilizes forced air.

The HVAC utilizes electricity as the source of power.

Heat producing appliances must be approved by Underwriters Laboratories, Inc. (U.L) and installed in accordance with the terms on their listings.

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

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

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

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

All aspects of the HVAC system such as damper settings, venting, component set points, and sensor placement are adjusted for optimum operation. Under no circumstances should these settings be altered.

Two separate and individually controlled units provide air conditioning and heating for the mobile unit.

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

Total cooling capacity (maximum): 94,500 Btuh

Total cooling capacity (minimum): 88,000 Btuh

### **Component Selection**

(Component ratings are at: 40°F evaporation / 110°F outside / 130°F condensing)

#### **Evaporator Coils**

Finned tube style coils capacity matched to trailer load. Coil selection was based on the maximum capacity for the available space within the a/c unit. The coil manufacturer developed capacity and specifications.

#### **Compressors**

The compressors are 4 HP Scroll compressors with a combined total capacity of 92,000 Btuh (46,000 Btuh ea.) at rated conditions. 480 volt, 3-phase, 60 hz, 3450 rpm. These compressors were selected based on the load in the trailer.

#### **Condensing Coil**

The condensing coil is a single coil capable of rejecting 100,000 Btuh at 110°F ambient and a 130°F condensing temperature with 6,000 cfm. The coil manufacturer provided capacities and specifications. Physical size limitations defined the max capacity available.

#### **Evaporator Fans**

The rated output of each the fan is 2,800 cfm at max system static pressure. Fan motors are 480V AC, 1 Amp and rotate at 1075 RPM.





### **Condenser Fans**

Condenser fans were rated at 6,000 cfm at 1" H<sub>2</sub>O static pressure, condenser fan motors rotate at 1050 RPM.

### **Micro-Processor Controlled:**

Carel PCO XS and PCO E controllers, monitor and control all functions of the system. This is not only reliable but also versatile.

### **PGD Display:**

This PGD displays and Controls air temperature and humidity. Additional features include alarm indicators of Low / High Pressure, low /high voltage, phase rotation and balance, as well as high and low temperature/humidity records with time and date stamps. The PGD will also display the refrigeration operating pressures. Therefore no pressure gauges are needed to check operation. (Optional)

### **PCO Options:**

The PCO can have complete diagnostic and reporting capabilities. Additional software can provide performance reports and service reminders. The system can send the reports or alarms to a central computer or pager. This would prove useful to signal potential problems before they occur, reducing down time.

### **Refrigeration System:**

Two single circuit evaporator coils, and one single circuit condensing coil. The system contains liquid line solenoid valves for maintaining discharge temperatures within one degree, externally equalized TEV's and a refrigerant receiver is sized to hold a winter charge. Optional Low and High refrigerant pressures are received through transducers then monitored by the PCO XS. (Optional) There are no additional switches to fail or leak. These pressure readings are also used to generate performance reports. A manually adjustable hot gas bypass valve is also used during low load conditions.

### **Condenser:**

Air cooled condenser, single circuit coil and heavy-duty high efficiency three phase motors.

## **10.2 Air Conditioning**

A common unit supplies conditioned air to the Hot Lab, Control Room, and Scan Room at a steady temperature. 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 sensors in the supply ducts control the A/C unit.

A remote alarm panel (PGD Display) is located in the control room near the operator's workstation. This displays and Controls air temperature and humidity. Additional features include alarm indicators of Low / High Pressure, low /high voltage, phase rotation and balance, as well as high and low temperature/humidity records with time and date stamps.

In order to ensure proper operation of the HVAC system at all times, refer to Section 16: General Maintenance and Section 17: Specific Maintenance.

## **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 to 110°F.



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#### **10.4 Interior HVAC Specifications**

A single air conditioning unit is mounted high on the front wall of the trailer. The size of the unit is dependent upon the system level. Refer to the Northern Air Service information provided in the Oshkosh Specialty Vehicles VOL II Vendor Information binder for the product manual. The condensing coils are directed up to prevent damage during transport. All internal components are commercial grade, and are vibration isolated from the system housing. The system housing is mounted as an integral part of the front wall to prevent water leakage. Discharge temperature in the scan and control rooms is controlled to reduce temperature fluctuations.

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



[HVAC Vents Discharge](#)



[HVAC Filter Access](#)

**[Figure 39: HVAC Components](#)**



### **10.5 HVAC Humidifier System**

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

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

The humidifier is responsible for maintaining the humidity levels within the mobile unit. The settings for the humidifier are set to meet the medical system manufacturer's 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.

See: [Section 9: Humidity System](#) for more information.

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

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

In order to ensure proper operation of the HVAC system at all times, refer to [Section 16: General Maintenance](#) and [Section 17: Specific Maintenance](#).

### **10.6 Underbody Compartment Heater**

Located in the underbody compartments are two (2) compartment heaters. These heaters provide 3KW of heat each at 120V AC, single phase. The compartment heater will activate when the temperature drops below 40°F and will deactivate when the temperature rises above approximately 45°F.

All aspects of the underbody have been insulated for all weather usage.



**Figure 40: Heater**

## Section 11: Platform Lift

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

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

These pictures are meant to represent the platform lift in different stages and not to accurately reflect the current design of the mobile unit.

Lift Transport  
Restraining  
Cable



Transport Position



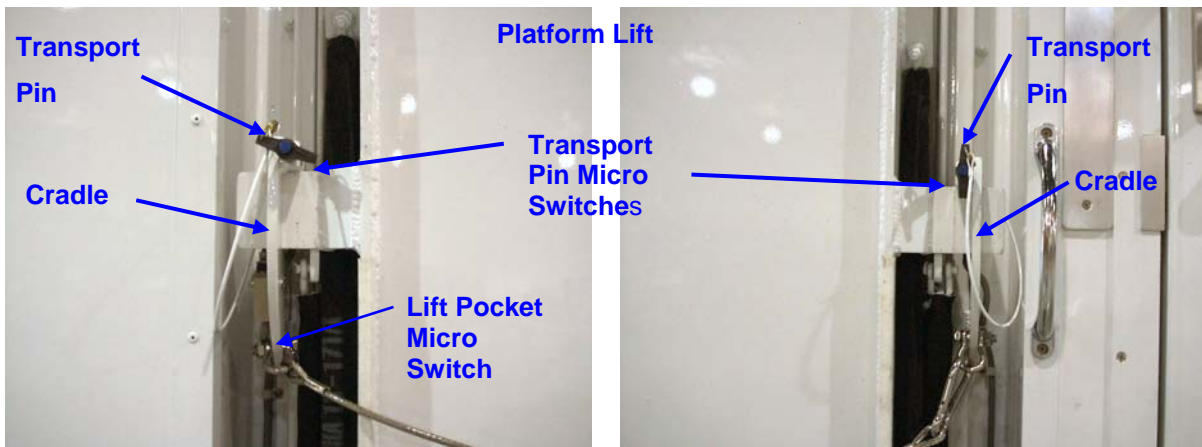
Lowered



Figure 41: Platform lift Progression

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

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



**Figure 42: Platform Retaining Cradles**

### **11.1 Safety Features**

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

#### **Transport Pins**



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

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

#### **Lift Controls**

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



### Handrails

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



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.



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

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

### Remote Control Pendant

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



**Figure 43: Remote Control Pendant**



### **Transport Warning Light**



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

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

### **Transport Warning Strobe Light**



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

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

### **Lift Down Warning Strobe Light & Horn**

The lift system incorporates a warning system that is activated by stepping on the pressure sensitive pad in the Control Room in front of the Roll Door. If the lift is not in the full "Up" position, stepping on the pad will cause the Warning Strobe light to illuminate and a Warning Horn to sound. Turning "OFF" the lift power, stepping off the mat, or raising the lift to full up position will silence the horn and turn off the strobe light.

## **11.2 Hydraulic System**

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

### **Operation**

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

### **11.3 Platform lift Operation**

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

#### **Deploying the Platform lift for use with the Mobile Unit**



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

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

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

#### **Storing the Platform lift for Transport of the Mobile Unit**

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

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

8. Open the underbody compartment door and store the remote control pendent and handrail assembly in the underbody storage compartment.

#### **11.4 Platform Lift Upgrades**

##### **Electrical Upgrade**

The electrical upgrades to the platform lift are as follows:

On/OFF Switch with an "ON" indicator light is located at the side of the Roll Door inside the Control Room. This switch is used by the Technician to enable or disable the platform lift power. See [Figure 44: Platform Lift Power Switch](#) below.



**[Figure 44: Platform Lift Power Switch](#)**

The Proximity Strobe and Audible Warning Alarm are located in the overhead panel above the Roll Door. These are activated by any weight placed on the Threshold Sensor Mat located at the threshold of the Roll Door inside the Control Room if the platform lift is not in the full "UP" position. To silence the alarm and turn "OFF" the strobe, raise the platform lift to the full "UP" position. See [Figure 45: Platform Lift Strobe & Alarm](#) below.



**[Figure 45: Platform Lift Strobe & Alarm](#)**

The Platform Lift Threshold Sensor Mat is located in the Control Room at the threshold of the Roll Door. Stepping on this mat or placing any significant weight on it will activate the Proximity Strobe and Audible Warning Alarm in the overhead above the Roll Door if the Platform Lift is not in the Full Up position. To silence the alarm and turn "OFF" the strobe, raise the platform lift to the full "UP" position. See [Figure 46: Platform Lift Threshold Sensor Mat](#) below.



[Figure 46: Platform Lift Threshold Sensor Mat](#)

The Service and Maintenance Controls are located in the lower right side compartment to the rear of the Platform Lift. The Keyed switch enables the two other controls to raise and lower the lift for storage and deployment and locks out the pendant controls. See [Figure 47: Platform Lift Service & Maintenance Controls](#) below.



[Figure 47: Platform Lift Service & Maintenance Controls](#)



### **Hydraulic Upgrade**

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

The hydraulic pump for the Platform Lift is located in the lower right side compartment to the rear of the Platform Lift. The new pump incorporates a hand operated pump lever and hand operated control valve for emergency use. See [Figure 47: Platform Lift Service & Maintenance Controls](#) above.

## 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 48: Intrusion Alarm Keypad**

### **12.1 Operation**

The alarm is operated via a keypad located by the staff door. When entering the mobile unit, the operator keys in a code to deactivate the alarm. When leaving the mobile unit, the operator keys in a code to activate the alarm. If either the staff entry door, or the compartment doors are opened while the alarm is activated, a siren will sound.

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





## Section 13: Stabilizing Legs



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

Both the stabilizing legs and the auxiliary support legs can be found at the front of the unit. The stabilizing legs installed on this mobile unit are only for the purpose of parking and stabilizing the mobile unit. Please refer to the product manual located in Volume II of the literature provided by Oshkosh Specialty Vehicles for additional information.



**Figure 49: Front Stabilizing Leg Assembly**

Stabilizing Leg Controls:	The control box houses the stabilizing leg controls.
Stabilizing Leg:	Allows the mobile unit to be parked without the tractor being attached to the unit.
Digital Levels:	Allows the mobile unit to be leveled both front to back and side to side.
Lever 1:	Front Left side leg.
Lever 2:	Front Right side leg.
Air Suspension Control Switch	The "ON" position deflates the air bags. The "OFF" position inflates the air bags for normal ride.
Pump ON / OFF Switch	The switch must be held in the ON position when extending or retracting the legs.
Auxiliary Support Legs:	The auxiliary support legs provide a fixed leg for use as a backup in case the stabilizing legs fail.
Sand Shoe:	Helps prevent the stabilizing legs from sinking due to weight.



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### **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 stored in the rearmost underbody compartments. When in use, the stands must be centered underneath the rear supports of the mobile unit.

### **13.2 Rear Air Suspension System Controls**



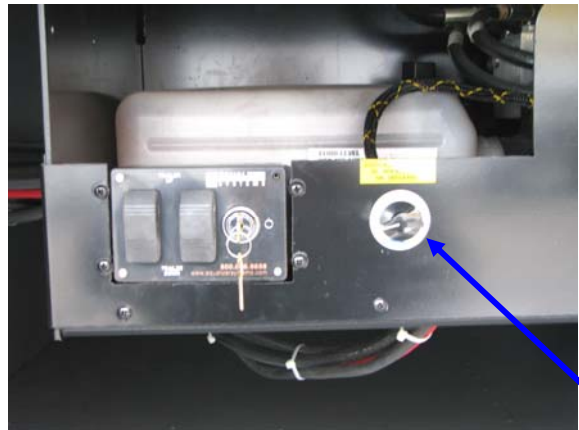
If the rear air suspension is not functioning properly the mobile unit must not be moved. If the mobile unit is moved, irreparable damage can occur to the medical system and the mobile unit itself.

The rear air suspension controls are located on the landing / stabilizing leg control box. Locate on this control panel a switch that reads "OFF" to the far left and "ON" to the far right.

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

When the selector is in the "OFF" position, the rear suspension will inflate and the mobile unit will automatically rise to transport height.

Failure to turn the selector to the "OFF" position prior to transporting the mobile unit can cause irreparable damage to both the mobile unit and medical system.



**Figure 50: Air Bag Controls**

## Section 14: Lighting System

The lighting provided for the mobile unit can be divided into either interior lighting, or exterior lighting. Explanations concerning the installed lighting fixtures are listed below.

### 14.1 Emergency Lighting

In the event that the main AC power fails, three emergency lights are provided. These lights will automatically illuminate when the main AC power is lost. The lights are located in the Dispensing Room, Control Room and Gantry Room. The emergency lighting system is wired into a 120V AC electrical system that allows the lights internal circuitry to keep its batteries at 100% charge. The emergency lights will illuminate the staff door in Gantry Room and last for approximately 90 minutes.



Control Room Emergency Light



Gantry Room Emergency Light



Dispensing Room Emergency Light

**Figure 51: Emergency Lighting**

## **14.2 Exterior Lighting**

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

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

### Underbody Compartment Lighting

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



**[Figure 52: 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 53: Drop Light**

A cord-o-matic drop light with a 50'-0" cable is supplied with the mobile unit. There are two droplights aboard 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 120V AC outlet.

### **Staff Door Lighting / Exterior Service Lighting**

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

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

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



**Figure 54: Staff Door Lighting**

### **Marker & Running Lights**

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

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



### **14.3 Interior Lighting**

The interior lighting system can be divided as follows.

#### **Control Room**

The light controls for the lighting in Control Room are located just inside the access door to that leads into Control 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.



**Figure 55: Control Room Overall Lighting**



### Gantry Room

The light controls for the lighting in Gantry Room are located just inside the access door to that leads into Control 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.



**Figure 56: Gantry Room Overall Lighting**

## 14.4 Warning Lights



**Figure 57: Warning Lights**

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

### AC Power Indicator Light



The GE 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 AC Power Indicator Light is located on the exterior left side of the mobile unit and will illuminate when the mobile unit is receiving power.

The mobile unit must have power at all times.

### Transport Warning Light



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

The Transport Warning Light is located on the exterior left side of the mobile unit and will illuminate when the platform lift is not in the proper transport position or if one of the interior doors is not in the proper position for transport. 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/Operator Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.

### **Suspension Transport Warning Light**



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 Suspension Transport Warning Light is located on the exterior left side of the unit and will illuminate when the air bags for the rear suspension are either not inflated, or the air pressure is too 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.

### **Medical Equipment Transport Warning Light**



If the System Transport Warning Light is illuminated, the mobile unit must not be moved. The medical system must be placed into its transport position per the OEM supplied instructions. Failure to do so can result in irreparable damage to the medical system. Follow the OEM supplied instructions to place the medical system in its transport position.

If the medical system is in the proper transport position and the light still appears, a possible problem exists within the medical system. Please refer to the OEM supplied literature, the list of local service representatives, or contact Oshkosh Specialty Vehicles for service. The OEM supplied literature and the list of local service representatives can be found in the product information binders that have been included with the mobile unit.

### **Power Loss Warning Strobe Light**

The Power Loss Warning Strobe light is above the generator on the front wall exterior left side of the mobile unit. This strobe light will flash when power to the unit is lost. Restoring power will extinguish the light.



**Figure 58: AC Power Loss Light**

### Lift Transport Warning Strobe Light



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

The Transport Warning Strobe Light is located on the exterior left side of the mobile unit and will illuminate when the platform lift is not in the proper transport position. It is the Operator's responsibility to ensure that the Transport Warning Strobe 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/Operator Manual binder for a list of local service representatives, or contact Oshkosh Specialty Vehicles for service.



[Figure 59: Lift Transport Warning Strobe](#)





## Section 15: Slide-outs

This section contains important information in regards to general safety guidelines that must be followed at all times. Before servicing the mobile unit, read the section on safety and all other sections on safety found in any OEM supplied literature. The OEM supplied literature can be found in the product information binders that have been included with the mobile unit.

### 15.1 Slide-out Controls

The controls for the slide-outs are located in Gantry Room. One button for each slide-out controls both extend and the retract movements.

When extending or retracting the slide-outs, please follow the instructions below:

#### Expanding the Slide-outs

After the stair assembly has been deployed the slide-outs for the mobile unit can now be extended.

Verify that the underbody compartment doors are closed and that no obstacles are in the path of the slide-outs.

Enter the mobile unit and remove the restraining hardware that is being used to hold the slide-outs in the transport position.



**Do not release the floor latch if the slide-out is extended. The floor cylinder is pressurized when the slide-out is extended and releasing the latch could result in severe personal injury.**

Release the hardware that is being used to hold the slide-out floors in place.

Extend the left side slide-out.

Extend the right side slide-out.

Verify that the slide-outs are in the extended position and that the floors have been completely lowered.

### Retracting the Slide-outs

After the equipment has been secured in the transport position the slide-outs can now be retracted.

Verify that the underbody compartment doors are closed and that no obstacles are in the path of the slide-outs.

Verify that the slide-outs are completely extended.

#### **IMPORTANT**

Before retracting the slide-outs, run the slide-outs to the fully extended position. This will ensure that the air cylinders that actuate the floor sections are pressurized and prevent binding of the floor sections.

Retract the right side slide-out.

Retract the left side slide-out.

Secure the slide-out floors into the transport position with the supplied hardware.

Secure the slide-outs with the ratcheting strap provided.



Slide-out Control Switches and Slide-out Emergency Stop Button

[Figure 60: Slide-out Controls](#)



## **Section 16: General Maintenance**



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



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



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



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



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

### **16.1 Daily Maintenance**

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

### **16.2 Weekly Maintenance**

1. Lubricate the platform lift side rails and pivot points with an ample amount of ZEP 2000, OSV Part Number 6100811.
2. Check the A/C filters and replace if necessary.
3. Check the oil and water levels in the generator and refill if necessary.
4. Check the electrolyte levels in the DC batteries and fill if necessary using only distilled water.
5. Check all running lights, marker lights, brake lights, and turn signals.
6. A qualified technician should check tire pressure and verify that all wheels are at the correct pressure as specified by the tire manufacturer.
7. 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.



### **16.3 Monthly Maintenance**

1. Lubricate the side rails of the roll door with Mobil – Mobilith AW2 heavy-duty multipurpose industrial grease.
2. Lubricate all Gantry Room 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 stabilizing legs.
12. 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.



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#### **16.4 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.

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

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



## Section 17: Specific Maintenance



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



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



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



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



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.



Image quality can be impaired with improper door closer adjustment.



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



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

### 17.1 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 VOL II Vendor Information manual for proper adjustment. Adjust door closer as required to insure proper non-slamming door action.

### 17.2 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.

### **17.3 Generator System**

1. The generator oil, as well as the oil filter, air filter, and fuel filter must be changed every 250 hours or six months of service, whichever comes first. The number of hours the generator has been in operation can be obtained by checking the microcomputer controller located on top of the staging unit in the generator bay. Please refer to refer to Figure 34: Generator Compartment.
2. Once a year, check the fuel separator for contamination or debris.

### **17.4 Humidity System**

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

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

### **17.5 HVAC System**



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

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.

### **17.6 Platform Lift**

Lubricate the platform lift side rails and pivot points with an ample amount of ZEP 2000, OSV Part Number 6100811, on a weekly basis.



### **17.7 Stabilizing Legs**

1. Once a year, perform the preventative maintenance on the stabilizing legs and the stabilizing leg controls. Refer to the accompanying manual for the stabilizing gear system.
2. Change the oil in the 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 stabilizing 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.







## Appendix A: Mobile Unit Checklist



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.



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.



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



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



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



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



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



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.



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



Failure to completely exhaust the suspension before uncoupling the airlines may result in damage to the suspension of the mobile unit.



The air ride control valves must be in the "OFF" / normal ride position before the mobile unit can be transported. If the air ride control switch is not in the normal ride position, irreparable damage may occur to the mobile unit.



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



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. Set the trailer parking brake.
2. Lower the front 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. Exhaust the rear suspension.
6. Re-level the mobile unit as needed.
7. Disconnect the tractor air and electrical lines.
8. Lower the auxiliary support legs.
9. Verify that the shore power disconnect is in the "OFF" position and connect to the power cable to the shore power receptacle.
10. Move the shore power disconnect to the "ON" position. The ATS will automatically switch from generator power to shore power.
11. Connect the phone and data lines.
12. Connect the water supply connection.
13. Install the stair assembly and platform, if equipped.
14. Remove the Lift Transport Restraint Cable and Transport Pins.
15. Deploy the Platform Lift.
16. Remove all slide-out restraining hardware.
17. Expand the slide-outs.
18. Activate the patient table release button and manually slide the table toward the gantry from the locked position.
19. Remove any other restraining hardware.
20. Check for any warning lights.
21. Prepare all medical equipment for use per the OEM provided instructions.



### **Mobile Unit Transport Checklist**

1. Retract the canopy, if equipped.
2. Secure all equipment; this includes all medical equipment per OEM requirements.
3. Secure all moveable objects such as chairs, monitors, doors, cabinets, cameras, and printers.
4. Slide the patient table towards the column until it's in the locked position.
5. First verify the slide-outs are fully expanded and then retract the slide-outs.
6. Secure the slide-outs and slide-out floors with hardware provided.
7. Close and lock all interior doors.
8. Return the Platform Lift to the transport position.
9. Insert the Transport Pins and connect the Lift Transport Restraint Cable securely in place.
10. Remove and store the stair assembly.
11. Move the shore power disconnect to the "OFF" position and disconnect to the power cable from the shore power receptacle. The generator will automatically start and supply power to the unit.
12. Disconnect the phone and data lines.
13. Disconnect the water supply connection.
14. Raise the auxiliary support legs.
15. Connect the tractor air and electrical connections.
16. Return the rear suspension selector switch to the "OFF" position for transport in order to inflate the rear air bags to remove the stabilizing stands.
17. Connect the tractor to the mobile unit.
18. Raise the front stabilizing legs.
19. Verify that the mobile unit is ready for transport.
  - a. Are all exterior doors closed and locked?
  - b. Is the Platform Lift in the transport position, fully seated in its retaining cradle?
  - c. Are the transport pins in place for the Platform Lift?
  - d. Is the Lift Transport Safety Cable securely in place?
  - e. Are all running & marker lights working correctly?
  - f. Are any warning lights illuminated?
  - g. Is the fuel tank full?
  - h. Verify that the air suspension system is fully inflated and at the proper ride height. . The lowest point of the trailer sidewall should be approximately 15" above ground level.





## Appendix B: Troubleshooting

If any of the following troubleshooting guides do not correct the problem, or if the problem worsens, please refer to the Oshkosh Specialty Vehicles 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.

### AC Power Indicator Light is off...and White Strobe is flashing

If the AC Power Indicator Light is "OFF" and the white power loss strobe light is flashing then the mobile unit is not receiving AC power. The mobile unit must have power at all times. If the mobile unit is on site, shore power must be connected.

If the mobile unit is being transported, then the vehicle must be stopped and the following items checked. Please refer to the product manual located in Volume I of the literature provided by Oshkosh Specialty Vehicles. Also located in the volume is a list of local service representatives. For any additional information, please contact Oshkosh Specialty Vehicles.

<b>Generator power is connected when the A/C power Off strobe light illuminates:</b>	
1.	Verify that the fuel tank has fuel.

### Transport Warning Light is on...



**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, 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:

<b>Problem:</b>	<b>Solution:</b>
The platform lift is not in the proper transport position.	1. Make sure that the 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.
Dispensing Room Door is not in the proper transport position	1. Make sure the door is open and latched in position for transport.
Gantry Room Door is not in the proper transport position	2. Make sure the door is open and latched in position for transport.

**Suspension Transport Indicator Light is illuminated...**



If the Suspension Transport Indicator Light is on, the mobile unit must not be moved. If the mobile unit is moved without the rear air suspension functioning properly, irreparable damage can occur to the mobile unit.

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

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

**Medical System Transport Warning Light is on...**



If the System 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.

If the System Transport Warning Light is illuminated, 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 medical system is not in the proper transport position.	1. Move the medical system into the proper transport position per the manufacturers supplied instructions.

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





**Humidity is out of specifications...**

The humidity settings for the mobile unit are 35% RH to 45% 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 35% and 45% RH (relative humidity). If the humidifier is still running constantly, contact Oshkosh Specialty Vehicles for service.
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 to see if the humidifier disconnect is in the "ON" position.	Move the humidity disconnect to the "ON" position and verify that the humidifier is set between 35% and 45% RH (relative humidity). If the humidifier is running and the humidity level does not change, a problem exists within the humidity system.

**Humidifier Empty Water Light is illuminated**

If the humidifier empty water light is illuminated, the humidifier water tank is low or empty. Refill the water tank. The tank can be filled internally through the fill pipe or can be filled by connecting the water hose to the humidifier water connection on the side of the unit and to the facility.



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**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 Penn Control settings are correct.	Verify that the Penn Control is set at 68°F. Please contact Oshkosh Specialty Vehicles for further assistance.
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 Penn Control settings are correct.	Verify that the Penn Control is set at 72°F. Please contact Oshkosh Specialty Vehicles for further assistance.



## Appendix C: HVAC Set Points



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



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

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

### Temperature Controller Settings

The high temperature sensor is set at 72°F. If the ambient temperature in the mobile unit reaches 72°F, the HVAC system will automatically start in order to cool the unit.

The low temperature sensor is set at 68°F. If the ambient temperature in the mobile unit reaches 68°F, the HVAC system will automatically start in order to warm the unit.

### Humidity Settings

The humidistat set point is 35% relative humidity.





## **Appendix D: A-1 Circuit Malfunction Checklist**

### **Category 1**

Visual Checks – Check for the most common occurrences.

Is the circuit breaker, in the 480V AC electrical panel, in the “ON” position?

### **Category 2**

Component Checks – (some tools may be required).

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

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

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





## Appendix E: Lockout/Tagout Procedures

### Specific Energy Control Procedures

#### Machine or Equipment for this Procedure:

Specialty Vehicle Trailer: GE Discovery ST PET/ CT System

#### Control of Hazardous Energy:

Type of Hazardous Energy	When is it Necessary to Lock Out
Electrical 480V AC	When servicing main electrical power line
Electrical 120/208V AC room circuits	When servicing or performing installation inside specific sections of the trailer
Electrical 12V DC	When servicing the following: Generator, Platform lift, Slide-outs, Hydraulic System, Digital Levels
Electrical 12V DC From Battery	When servicing the following: Generator, Platform lift, Slide-outs, Hydraulic System, Digital Levels

#### 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





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**Shut down specifications for the Specialty Vehicle Trailers:**

Energy Type and Rating:	Type of Energy Isolating Device:	Location of Energy Isolating Device:	Lockout Device Used:
Main power feed Electrical 480V AC	Circuit Breaker or Plug	Normally located above the Facility Power Shore	Lock and tag with or without lockout hasp
Light or outlet circuits Electrical 120/208V AC	Wall switch or circuit breaker	Distribution panel for circuit breaker, wall switch for room circuits	Lock and tag with a Universal Wall Switch Lockout, Universal Circuit Breaker Lockout
Generator Power engaged when main power is lost	Generator Breaker Switch	Inside service panels, on front of Generator control cover.	Lock and tag with a Circuit Breaker Lockout attachment device
Power to lift panels Electrical 12V DC	Breaker Switch	Inside service panels	Lock and tag with a Circuit Breaker Lockout attachment device
Electrical 12V DC From Battery	Remove Battery Cables	On battery	Lock and tag with a Plug Lockout attachment device
Medical System GE Discovery ST PET / CT	100A 3 Phase Circuit Breaker	480V AC Panel in equipment area	Lock and tag with or without lockout hasp
Air Conditioning System	40A 3 Phase Circuit Breaker for each system	480V AC Panel in equipment area	Lock and tag with or without lockout hasp
Heating System	Air Conditioning Circuit Breaker	480V AC Panel in equipment area	Lock and tag with or without lockout hasp
Slide-out Heaters	15A 2 Pole Single Phase Circuit Breaker	120/208V AC Panel in equipment area	Lock and tag with or without lockout hasp

**Methods to dissipate energy:**

N/A

**Method of Verifying the Isolation of the Machine or Equipment:**

Voltmeter



## Appendix F: Leveling The Mobile Unit

**NOTE: ALL PERSONS NOT DIRECTLY INVOLVED WITH THE LEVELING PROCESS TO BE OUT OF THE MOBILE DURING THE LEVELING PROCEDURE.**

### Normal Operation

1. Park the mobile on pad per site planning guide and set the parking brake
2. Lower the front stabilizing legs.
3. Rotate the pump switch to the "Pump On" position.
4. Push the levers away from you to extend the stabilizing legs to their extended position.
5. Extend the legs far enough to raise the unit enough to clear the fifth wheel.
6. Rotate the pump switch to the "Pump Off" position.
7. Turn on the Digital Displays and allow the displays to operate a minimum of 30-45 sec. prior to their use.
8. Verify the mobile has been raised high enough to clear the fifth wheel and then disconnect the tractor from the mobile unit. **DO NOT** disconnect the air and electrical lines.
9. Install the rear stabilizing stands by placing the stands underneath the rear of the mobile unit where the structural supports are located. (Between rear axles).
10. Return to the landing/stabilizing leg controls at the front of mobile.
11. Locate the "Suspension Control" switch and turn to the "ON" position. The rear air suspension system will automatically deflate and the mobile will lower itself onto the rear stabilizing stands.
12. Check to verify that the structural supports of the mobile unit are centered on the stabilizing stands. If the supports are not centered, then the mobile must be raised and the stands must be adjusted accordingly.
13. Once the air has been completely deflated from the rear suspension, observe the readout on the digital display marked "Rear Side to Side".

**Note: The display is to read within  $\pm .15^\circ$  for proper "Rear Side to Side" leveling. Do this level adjustment first!**

14. Adjust the "Front to Back" levelness of the mobile unit. This accomplished by pushing or pulling both landing/stabilizing leg control levers at the same time to achieve proper "Front to Back" levelness.

**Note: GE Medical Systems requires a reading within  $\pm .10^\circ$  for proper "Front to Back" leveling.**

15. Adjust the "Front Side to Side" levelness of the mobile. Push or Pull the corresponding landing/stabilizing leg control to adjust the "Front Side to Side" digital display.

**Note: Using the "Rear Side to Side" display reading as a reference, the proper "Front Side to Side" leveling should be within  $\pm .05^\circ$  of the "Rear Side to Side" reading.**



16. Re-verify that all the digital display are still with the above mentioned requirements, if not adjust accordingly.
17. The mobile is now properly sited, continue set-up of the mobile unit.

### **Manual Operation**

Manual operation is available for emergency lowering or raising of the landing legs in the unlikely event that normal power is not available.

1. Insert the handle into the hand pump.
2. Push or Pull the valve lever corresponding to the leg that you wish to operate and begin pumping. The hand pump will operate the legs in the direction dependent on which way you are operating the hand valve. You must continue to hold the valve open while you pump.
3. If, when operating the hand pump, you begin to feel a great amount of resistance, either the hand valve lever is not being held open or you have reached the end of the stroke of the leg.

**NOTE: Once sufficient pressure has built up to operate the dual pilot check valve, extension or retraction of the leg is approximately 1/8" per pump stroke.**



# Appendix G: Quarterly Maintenance Checklist



## PREVENTIVE MAINTENANCE CHECKLIST

Company Performing Preventive Maintenance:

Service Technician:

Trailer ID # :	Date	Date	Date	Date	
<b>HVAC</b>	<b>3M</b>	<b>6M</b>	<b>9M</b>	<b>12M</b>	<b>Comments</b>
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					
<b>Chiller</b>	<b>3M</b>	<b>6M</b>	<b>9M</b>	<b>12M</b>	<b>Comments</b>
Inspect electrical contactors					
Verify refrigerant pressures					
Inspect refrigeration piping abrasion					
Inspect pump seal					
Lubricate motors					



Clean/replace aluminum filters					
Inspect covers/fasteners					
Verify operating/alarm controls					
Verify CW supply temp 45-75 F					
Inspect/replace glycol filter					
Clean/ inspect condensing coils					
Verify/adjust glycol level					
Verify Condenser motor operation					

Trailer	3M	6M	9M	12M	Comments
Test/inspect lift gate					
Inspect rails/ pins					
Inspect lift fittings/pivot points					
Clean / lubricate slide rails					
Verify lift switches and remote					
Load test van battery (lift)					
Verify hydraulic fluid level					
Verify van battery charger					
Verify roll door controls					
Inspect roll door mounting bolts					
Inspect roll door clutch/hardware					
Inspect roll door side track rails					
Inspect roll door key way					
Inspect awning					
Inspect bay door shocks/hardware					
Verify bay light operation					
Inspect clean and RF door gasket. Verify RF door operation					
Verify RF door lock and the handle operate correctly					
Check RF door for binding and loose hardware.					
Check door hinges/stops/latches for proper operation					
Inspect Slide outs for operation					
Inspect Slide out compressor					



Empty compressor drain and verify Y-strainer is cleaned out					
Check Fire system Last Inspection Date _____					
Inspect stair mounts					
Inspect interior flooring					
Verify bay heater operation					
Inspect cabinet latches and hinges					
Verify phone/communication lines					
Inspect landing gear					
Inspect locking pins					
Inspect air drive or air/hydraulic					
Inspect air tanks					
Verify hub fluid levels					
Inspect undercarriage/frame					
Inspect airbags/airlines/fittings					
Inspect shocks/bushings					
Inspect Tires / Rotate as needed					
Note hub meter mileage _____					

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



Record hours run since last P.M. ( _____ ) Recorded Generator Hours					
--	--	--	--	--	--

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

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

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

Comment :

Signature of Technician: \_\_\_\_\_

Date: \_\_\_\_\_