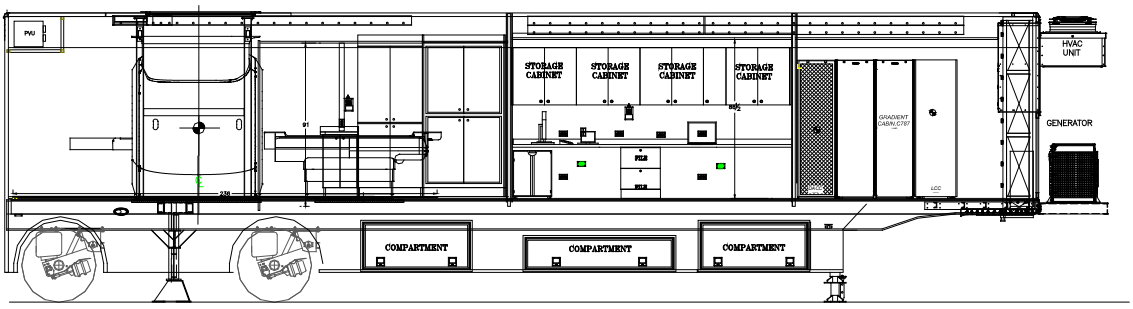
Operator and Service Manual

PHILIPS INGENIA OMEGA 1.5T

MRI SYSTEM

13’-6” H x 8’-6” W x 48’-0” L Unit



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List of Revisions & Warnings

Revisions

00	New Release	September 2013
01	Updated Lift Information	June 2019
02		
03		
04		
05		
06		

Notice

In accordance with our policy of product development, Advanced Mobility 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 Advanced Mobility Specialty Vehicles for assistance.

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

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

Volume II – Vendor Information

These volumes should be kept in the mobile unit at all times.

Any problems or questions related to the components or systems covered in this manual may be directed to:

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Warnings & Safety Alert Conventions

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

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

IMPORTANT — Whenever information exists that requires special attention to procedures to ensure proper operation of the equipment or to prevent its possible failure, the term "IMPORTANT" is used.

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

WARNING — **Whenever potential personal injury or death situations exit, requiring correct procedures / practices for prevention, the term "WARNING" is used.**

DANGER — **Whenever immediate hazards exist that could result in personal injury or death that cannot be eliminated by design safeguards, the term "DANGER" is used.**

 **This safety alert symbol indicates important safety messages in the manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.**

WARNING — **Electrical, mechanical, pneumatic, and hydraulic safety devices have been installed on this vehicle to help protect against personal injury and / or damage to equipment. Under no circumstances should any attempt be made to disconnect or in any way render any of these devices inoperative. If a malfunction of any safety device is discovered to exist, DO NOT operate the vehicle, but immediately notify appropriate maintenance personnel.**

Advanced Mobility 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 ADVANCED MOBILITY SPECIALTY VEHICLE'S SPECIFICATIONS, WHICH ADVERSELY AFFECT PERFORMANCE OR DURABILITY (or) ALTERATIONS OR MODIFICATIONS NOT RECOMMENDED OR APPROVED IN WRITING BY ADVANCED MOBILITY SPECIALTY VEHICLES (or) FOR EQUIPMENT DAMAGE OR PERSONAL INJURY OR DEATH AS A RESULT OF RENDERING ANY SAFETY DEVICE INOPERABLE.

Certain inherent risks are associated with heavy trailers due to the nature of their use. Personnel working in the area of these trailers are subject to certain hazards that cannot be met by mechanical means but only by the exercise of intelligence, care, and common sense. It is therefore essential for the owner of this equipment to have personnel involved in the use and operation of these trailers who are competent, careful, physically and mentally qualified, and trained in the safe operation of this equipment.

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List of Figures

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Section 1: Introduction

WARNING

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

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

Figure 1: The Philips Mobile MRI System

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As part of Advanced Mobility Specialty Vehicles' on-going program to improve its products and service, (and their effectiveness in enhancing safety, reliability, performance, productivity, and the useful service life of the equipment) Advanced Mobility Specialty Vehicles reserves the right to implement product changes and disseminate changes in design and service information without notice or recourse.

For questions regarding the Operation or Service of this unit call Advanced Mobility Specialty Vehicles at 708-235-2800.

Section 2: Safety Guidelines

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

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

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

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

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

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

CAUTION The maximum capacity of the stairs or platform in any combination is 375 pounds. Exceeding this capacity limit could result in damage to equipment or personal injury.

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

2.1 General Safety Precautions

Make sure the work area is well ventilated.

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

Follow all manufacturers' directions and request material data sheets where applicable.

Always keep tools clean and free of grease.

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

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

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2.2 Magnet Safety

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

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

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

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

2.3 Chemical Safety

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

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

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

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

2.4 Electrical Safety

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

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

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

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

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

2.5 Transportation Safety

Walk around the unit to make certain that all doors are closed and locked and that the Platform Lift is seated in the retaining cradles with the transport pins in place in the transport secured position.

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

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

Consult with the local DMV to determine if there are any travel restrictions or routes.

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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 Air Ride Control Valves

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

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

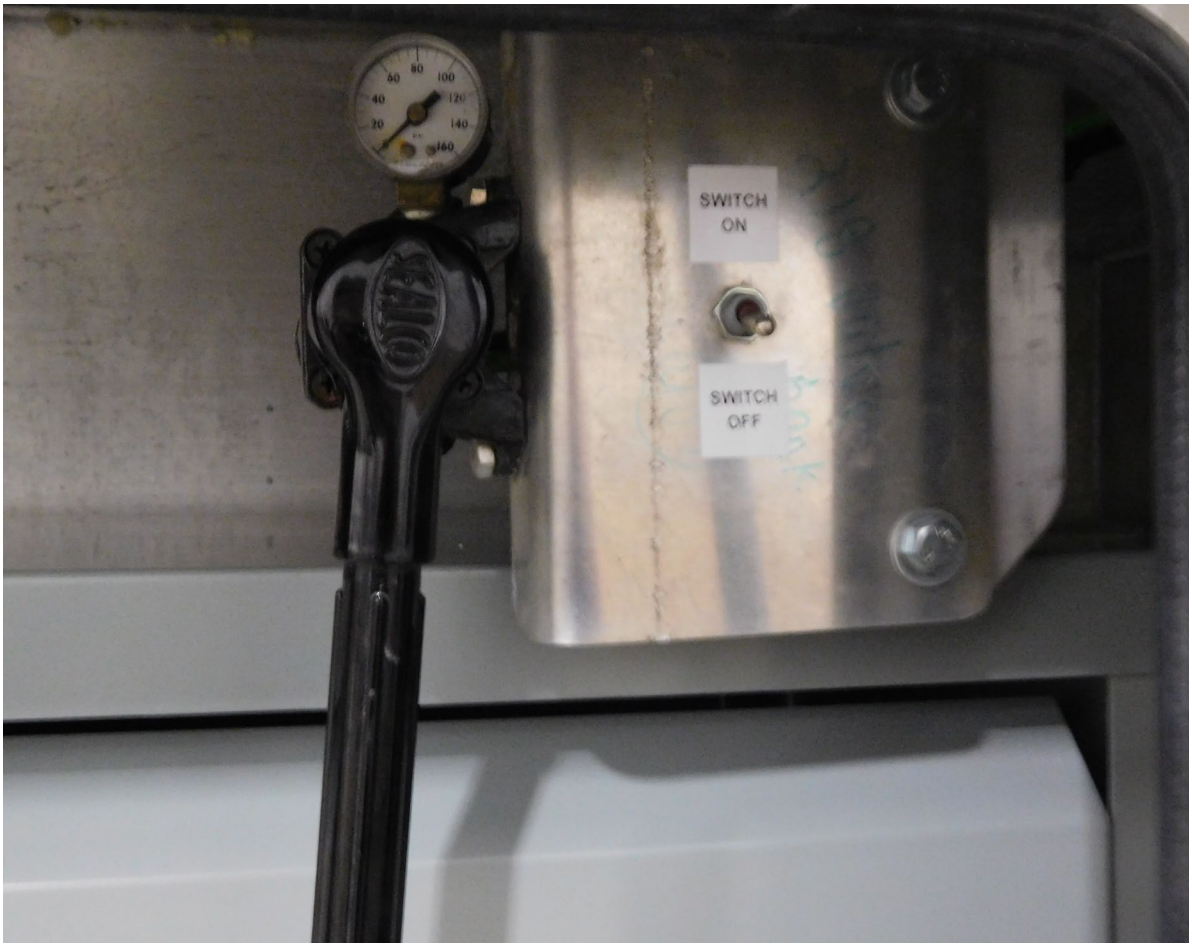

Figure 2: Air Ride Control Valve

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3.2 Canopy Optional

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

Figure 3: Canopy

3.3 Control Room Overall

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

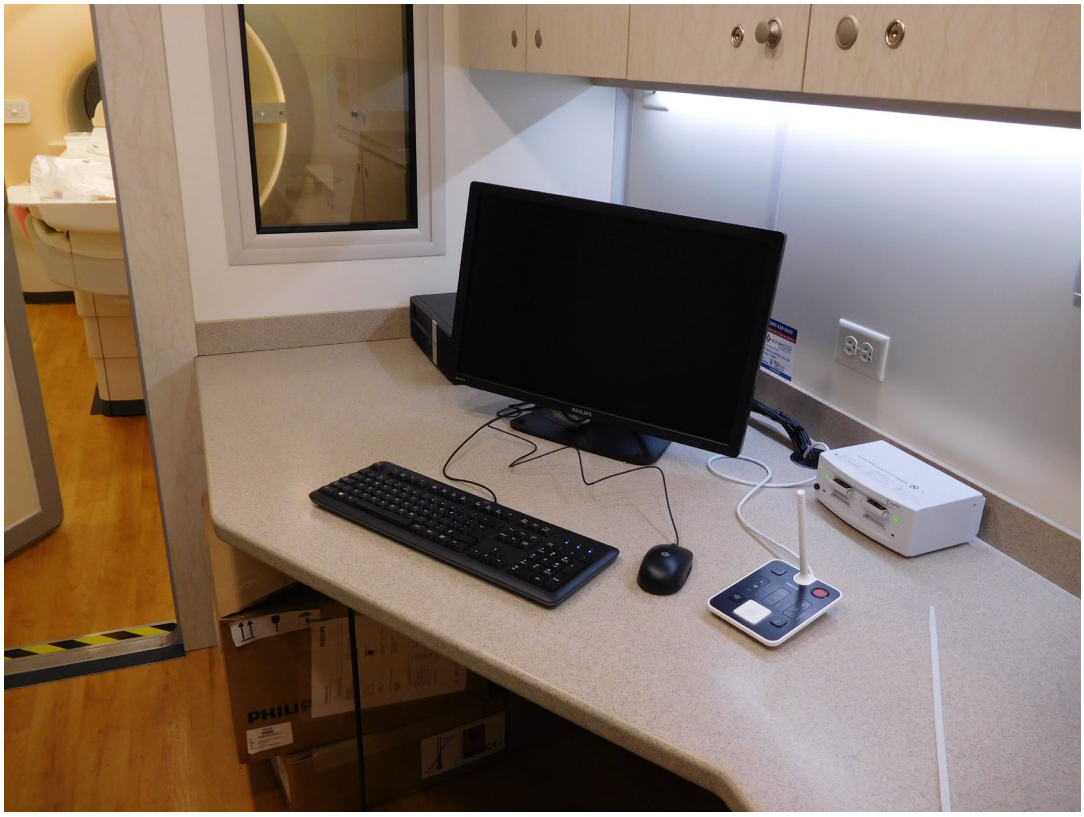

Figure 4: Control Room Overall

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3.4 Cryogen Compressor

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

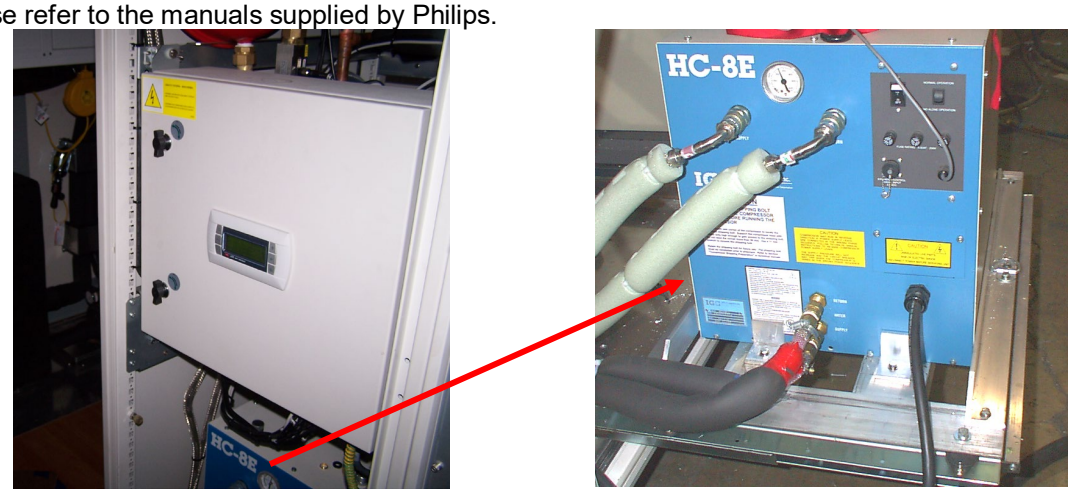

Figure 5: Cryogen Compressor

3.5 Exterior Overall

In these pictures the entry roll door, the HVAC unit and the emergency exit / service entry door to Equipment Room can be seen.

Right Side

Left Side

Figure 6: Exterior Overall

3.6 Fuel Compartment

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

Figure 7: Fuel Compartment

Fuel Gauge:	The fuel gauge is push button activated and will give an accurate reading of the available fuel supply.
Fuel Pump:	The fuel pump pumps the fuel from the fuel tank to the generator.
Fuel Separator:	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.

3.7 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 8: Glad Hand Connections

Emergency Airline:	Backup airline in the event that the main airline fails.
Service Airline:	The main airline for the mobile unit.
Standard Electrical Service:	The main electrical connection for the mobile unit.
Level	Front Mounted Spirit Level

3.8 Power Supply Control Panel

The Power Supply control panel provides the switching to start and stop shore power to the trailer when required.

Figure 9: Power Supply Control Panel

3.9 Phone and Data Connections

3.9.1 Telephone Service

The mobile unit is supplied with two (2) telephone connections that utilize RJ-45 outlets.

The customer is required to purchase the data connection cables for use with the data line connections. The data line connections each require a 50'-0" CAT-6 cable with RJ-45 connections.

3.9.2 Data Service

The mobile unit is supplied with three (3) data line connections that utilize RJ-45 outlets.

The customer is required to purchase the data connection cables for use with the data line connections. The data line connections each require a 50'-0" CAT-6 cable with RJ-45 connections.

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Figure 10: Phone and Data Connections

3.10 Equipment Room Overall

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

120/208V AC Distribution Panel 480V AC Distribution Panel

Figure 11: Equipment Room Overall

3.11 Exterior Entry Door

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

Figure 12: Exterior Staff Door

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3.12 Levels

The levels allow the mobile unit to be leveled both front to back and side to side. It is imperative that the unit be leveled prior to use.

Bubble Levels

Figure 13: Levels

3.13 Mobile Unit Controls

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

Scan Room Lighting

Control Room Lighting and E-Stop

Roll Door Controls and Platform lift “UP” light

Air Conditioning Remote Status Annunciator & Alarm Panel

Figure 14 Mobile Unit Controls

Control Room Light Switches:	ON / OFF light switch for Control Room fluorescent lights.
Exterior Light Switch:	ON / OFF light switch for the exterior lights.
MRI Emergency OFF Button (E-Stop):	The emergency stop button for the MRI system will stop all medical components. This will not stop the HVAC system. This is also commonly referred to as the A-1 Stop Button.
Roll Door Controls:	Controls the movement of the roll door.
Platform lift Warning Light:	Notifies the operator of the Platform Lift status. Whether it is raised or lowered.
Scan Room Light Switches:	ON / OFF light switch for Scan Room.

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3.14 Scan Room Overall

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

Figure 15: Scan Room Overall

3.15 Stabilizing Stands

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

Figure 16: Stabilizing Stands

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3.16 Stair Assembly

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

Figure 17: Stair Assembly (standard)

CAUTION The maximum capacity of the stairs or platform in any combination is 375 pounds. Exceeding this capacity limit could result in damage to equipment or personal injury.

3.17 Water Connection

The fresh water connection is located on the left side of the mobile unit. Please refer to the following illustrations.

Figure 18: Fresh water Connection

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OPTIONAL GAVEN DOOR

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 component literature binder.

Figure 19: Interlocks

4.1 Door Interlock System

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

A door interlock system has been incorporated into the mobile unit to ensure that proper scanning can take place. This system provides a constant monitoring of the doors that have the interlock system. If one of these doors is opened, the technician will see a notification appear at the console stating that an RF door has been opened. All doors must be closed for scanning to take place. If a door is opened during a scan, scanning operations will be stopped.

The door interlocks can be found at the following locations.

On the interior door that leads into Scan Room.

On the exterior door that leads into Magnet Room.

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4.2 Emergency Lighting

In the event that the main AC power fails, two dual beam emergency lights are provided. These lights will automatically illuminate when the main AC power is lost. They are located in Control Room and Equipment Room.

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

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

Figure 20: Emergency Lighting

4.3 Fire Suppression (manual)

Two fire extinguishers are supplied with the mobile unit. They are located in Control Room and Equipment Room. Instructions for operation are clearly printed on the canister of the fire extinguisher.

The fire extinguisher meets the following standards:

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

It has a charged weight of 2 lbs., 8 oz.

It is U.L. listed.

It meets D.O.T. requirements.

It is in accordance with N.F.P.A. Standard No. 10, “Portable Fire Extinguisher”.

Figure 21: Fire Extinguisher (Typical)

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4.4 Fire Detection System (optional)

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

Please refer to the product manual located in Volume II of the literature provided by Advanced Mobility Specialty Vehicles.

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

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

The smoke detector is used with both the standard fire alarm system as well as the optional fire suppression system.

Figure 22: Smoke Detector

Figure 23: 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.

4.4.1 System Operation

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

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

4.4.2 Pull Station

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

Figure 24: Fire Alarm Pull Station

4.4.3 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.

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4.5 NOVEC-1230 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 NOVEC-1230 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.

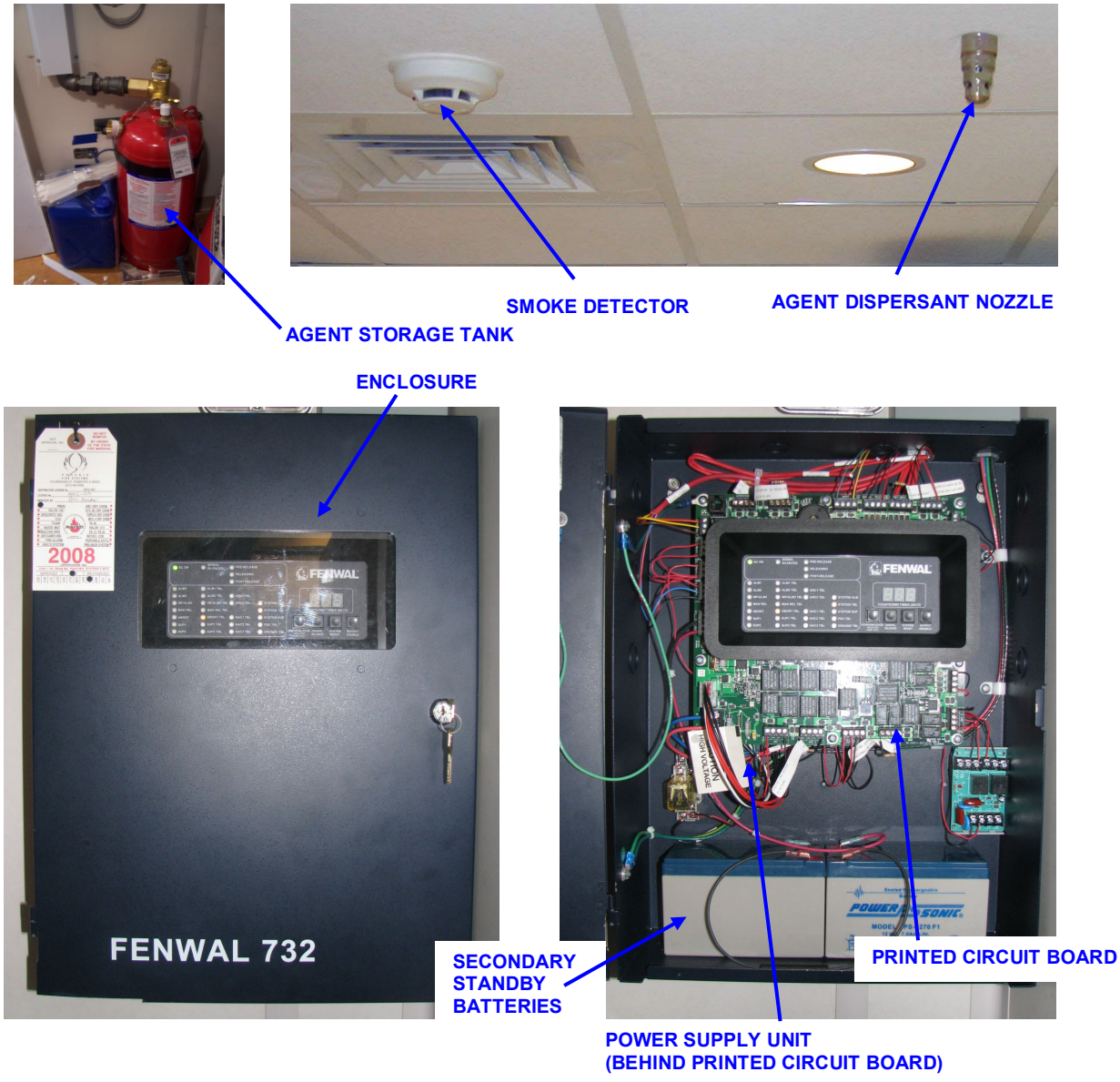

Figure 25: Fire Suppression Components

4.5.1 Control Unit Description

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

4.5.2 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.

4.5.3 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.

4.5.4 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).

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4.5.5 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

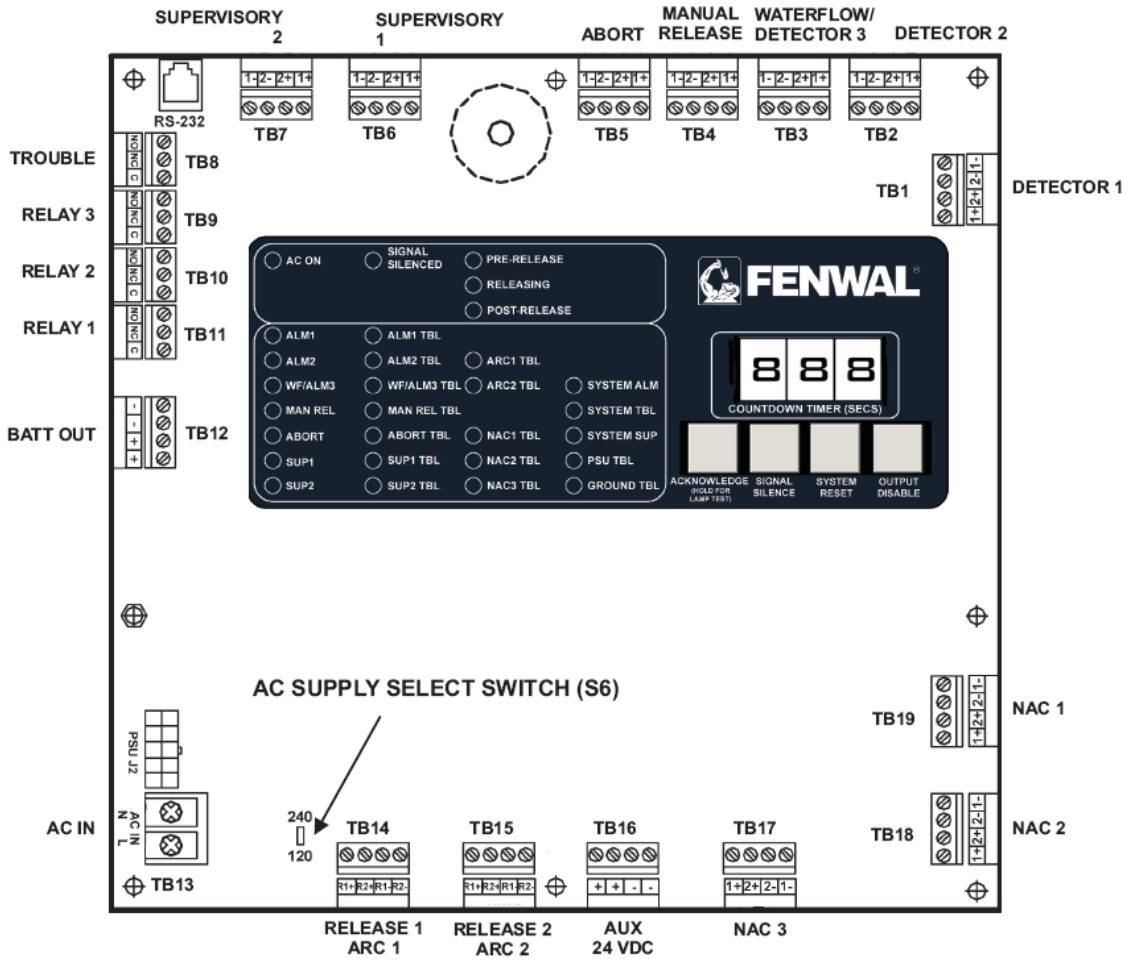

Figure 26: Printed Circuit Board (PCB)

4.5.6 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

4.5.7 LED Indicator Lights

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

Table 4.1 LED Indicator Light and Display Color

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

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4.5.8 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.

4.5.9 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

4.5.10 Buzzer

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

4.5.11 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

4.5.12 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).

4.5.13 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.

4.5.14 Abort Switch

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

An abort switch is located next to the Entry 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 27: 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.

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4.5.15 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 28: Maintenance Switch

4.5.16 Supervisory Inputs

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

4.5.17 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

4.5.18 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 synchronized 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 non-silenceable 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.

4.5.19 Agent Release Circuits (ARC)

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

4.5.20 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.

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4.5.21 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 shut down.
- 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 shut down.
- The rear service exhaust fan will shut down.
- The fire remote contacts located in the remote box in the underbody compartment will state.

4.5.22 Pull Station

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

4.5.23 Input / Output Matrix

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

Table 4.2 Input / Output Matrix

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

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4.6 Gauss Lines

WARNING

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

IMPORTANT

The exclusion zone is restricted to within 6” of the outside walls of the trailer.

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

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

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

4.7 Magnet Field Warning Indicator

WARNING

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

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

4.8 Marker Lights

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

4.9 Roll Door

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

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

Figure 29: Roll Door Emergency Release

4.10 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.

Magnet Quench Buttons, Scan Room and Control Room

Figure 30: Emergency Shutdown Buttons

4.10.1 Magnet Quench Button (Emergency Rundown Unit)

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

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

Once the button has been depressed, the magnet will begin quenching while all the other systems continue to work normally.

4.10.2 Fire Detection System (standard)

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

- The fire horn will sound continuously.
- The strobe light will flash.

Section 5: Mobile Unit Setup Procedure

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

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

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

5.1 Park the Mobile Unit

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

5.2 Lower the Landing 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 46: Landing Leg Assembly** for the following procedure.

Move and hold the pump switch in the “Pump ON” position.

Pull the levers towards you to extend the landing / stabilizing legs to their extended position.

Extend the legs far until the front of the unit has been raised high enough to clear the fifth wheel.

Release the pump switch. The switch should automatically retract to the “Pump OFF” position.

5.3 Disconnect the Tractor

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

Verify that the mobile unit has been raised high enough to clear the fifth wheel.

Leave the air and electrical lines attached and disconnect the tractor from the mobile unit.

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5.4 Install the Rear Stabilizing Stands

After the front landing / stabilizing legs have been lowered into position and the tractor has been disconnected from the mobile unit, the rear stabilizing stands can be installed. The rear stabilizing stands must be installed prior to use of the medical system. Refer to **Figure 2: Air Ride Control Valve** and **Figure 16: Stabilizing Stands** for the following procedure.

Open the left side rear underbody compartment door to gain access to the air ride controls.

To raise the unit, turn the switch ON and place the lever in the UP position.

Raise the mobile unit high enough to insert the stabilizing stands. Move the switch to the OFF position.

Install the stands under the stand supports.

After the stands have been installed, turn the switch ON and place the lever in the DOWN position to deflate the air bags.

Completely lower the mobile until the supports are resting on the stabilizing stands.

Verify that the unit is level by checking the levels.

5.5 Re-level the Mobile Unit

After the preceding steps have been completed, the mobile unit may no longer be level. Re-level the unit if necessary using the levels that have been provided. Refer to **Figure 13: Levels** if needed. Set the trailer brakes.

5.6 Disconnect the Tractor Air and Electrical Lines

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

After the mobile unit has been re-leveled, the tractor air and electrical lines can safely be removed. Refer to **Figure 8: 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 46: Landing Leg Assembly** for the following procedure.

Remove the pin that is currently holding the safety leg in the transport position.

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 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. Please refer to **Figure 17: Stair Assembly (standard)** and follow the appropriate set of instructions for your unit.

Standard Stair Assembly

Remove the stair assembly from the underbody compartments.

Close the door to the underbody compartment.

Install the clip of the stair assembly into the channel located underneath the staff door.

Adjust the height of the stair legs as necessary to in order to level and secure the stairs.

Install the handrail into its operating position and secure in place with the hardware provided.

Stair Assembly with the Platform (optional)

Remove the stair assembly from the underbody compartments.

Close the door to the underbody compartment.

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.

While one person holds the platform in place, the other person should insert the adjustable legs into position to support the platform.

Adjust the legs as necessary in order to ensure the platform is both level and secure.

After the platform has been supported, the slip of the stair assembly can be safely placed into the channel located on the platform.

Insert the adjustable legs for the stair assembly at the base of the stairs.

Adjust the legs as necessary in order to ensure the stair assembly is both level and secure.

Place the handrails in their operating positions and secure them with the hardware provided.

⚠CAUTION The maximum capacity of the stairs or platform in any combination is 375 pounds. Exceeding this capacity limit could result in damage to equipment or personal injury.

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5.9 Connect to Shore Power

After the stair assembly has been installed, the hydraulic platform lift can be deployed for use. Please refer to Section 10: Hydraulic Platform Lift for the following procedure.

1. Open the underbody compartment doors.
2. Remove the handrails and lift pendant, and place them to the side for now.
3. Close the underbody compartment door.
4. Located next to the roll door, are the controls for the hydraulic platform lift. Insert the connector from the lift control pendant into the receptacle that is located on this control panel. **Note:** *For operator safety, this control pendant only has Up/Down capabilities. For deploying and stowing the platform the hard wired pendant must be used. It is located behind the compartment door rearward of the platform lift.*
5. Clear the platform sliding path by moving the storage safety latch manually. Hold the safety latch down manually with one hand and press the **Down** button on the control with the other hand until the platform locking ears clear the safety latch. Release the safety latch back to its original place.
6. Open the platform by pressing and holding the **Shift** and **Down** buttons simultaneously. **NEVER STAND DIRECTLY UNDER THE PLATFORM!** Press and hold the down button to lower the platform complete to the ground.
7. Once the platform has been lowered, install the handrails and secure them with the hardware provided.

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

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

The unit must first be connected to shore power before the medical system can be used.

5.10 Connect the Phone and Data Lines

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

The phone lines make use of CAT-6 cable and RJ-45 connections. The data lines make use of CAT-6 cable and RJ-45 connections. Refer to **Figure 10: Phone and Data Connections**.

5.11 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.

5.12 Prepare the Medical System per OEM Instructions

The medical system can now be prepared for use. Unlock the Scan Room door and follow the OEM instructions in order to prepare the system.

Section 6: Mobile Unit Transport Procedure

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

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

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

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

6.1 Secure all Equipment

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

The first type deals with the restraints that are used by the medical equipment manufacturer. Follow all instructions provided by the medical equipment manufacturer when applying restraints to the medical system. These instructions can be found in the system manuals provided by the medical equipment manufacturer.

The second type deals with the restraints that are used by the mobile unit manufacturer. Various items must be secured prior to transporting the mobile unit. Such items may consist of chairs, monitors, doors, cabinets, cameras, and printers. Use the supplied restraining hardware to secure these items before transporting the mobile unit.

6.2 Disconnect Phone and Data Lines

Please refer to **Figure 10: Phone and Data Connections**, for the following procedure.

Disconnect any phone and data lines that are currently attached to shore receptacles.

Open the compartment door and disconnect any phone and data lines that are connected in the underbody storage compartment.

Store the phone and data lines in the underbody storage compartment and close the compartment door.

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6.3 Switch from Shore Power to Generator Power

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

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

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

Open the left side center underbody compartment to access the power source controls.

Move the Generator Stop / Start selector switch to the START position.

Allow the generator to run for approximately five (5) minutes.

Move the Unit Power Selector switch to the GEN position. Be certain to pause for five seconds in the OFF position between selections.

Close the Equipment Room door.

6.4 Remove the Shore Power Connection

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

Please refer to **Figure 33: Shore Power Connection**, for the following procedure.

Open the underbody compartment door where the power cable is to be stored.

Move the shore power disconnect into the OFF position.

Unthread the lock ring that is securing the connection.

Remove the connector from the receptacle.

Return the power cable to the underbody storage compartment.

Before closing the compartment door, verify that the power cable access door is closed and latched.

6.5 Disconnect the Water / Waste Hoses

On the left side exterior of the mobile unit a water connection can be found. Be sure to fill the fresh water tank prior to disconnecting the fresh water supply. The fresh water tank must be filled on a daily basis.

Verify that the fresh water tank is full.

Turn off the water supply at the facility provided faucet.

Disconnect the hose from the faucet.

Remove the hose from the connection on the mobile unit.

Using the provided cap, cover the connection on the mobile unit.

Coil the hose and store in the underbody compartments.

With the wastewater hose still connected, drain the wastewater tank.

After the tank has drained, close the valve located in the underbody compartment above the wastewater connection.

Coil the wastewater hose and store in the underbody compartment.

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6.6 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.

⚠CAUTION The maximum capacity of the stairs or platform in any combination is 375 pounds. Exceeding this capacity limit could result in damage to equipment or personal injury.

6.6.1 Standard Stair System

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

6.6.2 Stair Assembly with the Platform (Optional)

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 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.

6.7 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 8: Glad Hand Connections** and follow the steps outlined below.

Back up the tractor to the mobile unit, but do not back under it at this time.

Attach the air and electrical lines from the tractor to the mobile unit. Do not set the trailer brakes

6.8 Remove the Rear Stabilizing Stands

Open the underbody compartment door that stores the rear stabilizing stands.

Open the left rear underbody compartment where the control panel that contains the switch and lever that controls the air suspension air bags is found.

Move this switch to the ON position and the lever to the UP position.

The rear air suspension system will automatically inflate and the mobile unit will rise to enable removing the stabilizing stands.

Remove the rear stabilizing stands. Place the stands in the rear underbody storage compartments.

Move the switch to the OFF position and the lever to the DOWN position inflate the bags for normal ride.

Close the underbody storage compartment doors.

6.9 Connect the Tractor to the Mobile Unit

Before connecting the tractor to the mobile unit, be certain that enough clearance has been left for the fifth wheel. If the fifth wheel cannot fit underneath the mobile unit, the front end must be raised.

Please refer to **Figure 8: Glad Hand Connections** and follow the steps outlined below.

Back up the tractor to the mobile unit, but do not back under it at this time.

Attach the air and electrical lines from the tractor to the mobile unit. Do not set the trailer brakes

6.10 Raise the Landing Legs

After the tractor has successfully connected to the mobile unit, the landing legs can be raised. Refer to **Figure 46: Landing Leg Assembly** for the following procedure.

Move and hold the pump switch in the ON position.

Push the levers away from you to retract the legs. This will lower the front end of the mobile unit.

Retract the legs to their transport positions.

Release the pump switch. The pump switch should automatically retract to the Pump OFF position.

6.11 Verify that the Mobile Unit is ready for Transport

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

Have the chairs, monitors, doors, cabinets, cameras, and printers been secured? Is the Scan Room door closed and locked? Make sure that all of these items have been secured with the supplied hardware prior to transporting the mobile unit.

Are all exterior doors closed and locked? If not, make sure that all exterior doors are closed and locked.

Are all running & marker lights working correctly? If not, replace any LED lights that are not working before transporting the mobile unit.

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Are any warning lights illuminated? If so, check to find the cause of the warning. Do not move the mobile unit if any warning lights are flashing. If further assistance is needed, refer to the Advanced Mobility Specialty Vehicles VOL II Vendor Information binder for the product manual, the Advanced Mobility Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Advanced Mobility Specialty Vehicles for service.

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

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

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

WARNING **It is the operator's responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Advanced Mobility 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.**

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

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

There are two panels used in the electrical system.

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

One 120V / 208V AC electrical panel that is located in Equipment Room of the mobile unit. This panel is responsible for the components aboard the mobile unit.

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7.1 120/208V AC Electrical Panel

The 120/208V AC electrical panel is responsible for the power supplies 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 31: 120 / 208V AC Electrical Panel

7.2 480V AC Electrical Panel

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

The 480V AC electrical panel is responsible for all incoming exterior power supplied to the mobile unit. If a problem exists with the equipment, a circuit breaker will trip in order to prevent damage. On the inside of the panel access door, a listing of all the circuit breakers can be found.

Figure 32: 480V AC Electrical Panel

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7.3 Facility Power Connection

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

Circuit Breaker	
Manufacturer:	Facility provided
Ampere Rating:	150A disconnect
Voltage	480V AC, 3Ø

Receptacle	
Manufacturer:	Crouse Hinds
Model:	AR 2041
Ampere Rating:	200A

Figure 33: Shore Power Connection

Advanced Mobility Specialty Vehicles Connector:	The plug that is provided by Advanced Mobility Specialty Vehicles for connection to the shore power receptacle.
Connector Lock Ring:	Secures the connections.
Power Cable:	The cable that runs between the shore power connections and the 480V ac electrical panel.
Shore Power Disconnect:	The shore power disconnect terminates the power to the receptacle. 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 Advanced Mobility Specialty Vehicles connector and power cable.
Shore Power Unit:	The complete shore power assembly.

7.4 Power Cable

Descriptions:	Specifications
Service Amps:	150 A
Plug:	Crouse Hinds; AP 20457, 600V AC, 200A
5 Wire:	4 pole

Descriptions:	Specifications
Cable:	P-116 MSHA, 150 A, a #1/0 4 conductor type G, 600V – 2000V, 90° C, 45'-0" long

Figure 34: Power Cable

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7.5 Special Grounding Note

The unit must have an earth driven ground rod within five (5) feet of the hospitable power receptacle. A grounding cable of a minimum #1/0 AWG must be connected between the grounding rod and the grounding pin of the hospital power receptacle. If required by local codes, another cable, to be kept as short as possible, may also be connected between the ground stud on the Incoming Power Distribution Panel and an earth driven ground rod.

Figure 35: Ground Connection

Section 8: Generator

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

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

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

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

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

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

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

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

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

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

The mobile unit is equipped with a generator that is mounted on the front of the unit in its own housing compartment. The generator supplies power to the unit during transport. Unless the full support generator has been selected, the generator cannot be used for performing medical procedures aboard the mobile unit. The power selector switch is located on the power supply control panel. The control panel can be found in the interior of the mobile unit inside of a cabinet.

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

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

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Figure 36: Generator

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 Generator Stop / Start Selector

The selector switch that controls the STOP and START settings of the generator can be found on the power supply control panel. The control panel can be found in the left side underbody compartment of the mobile unit.

When the generator is to be started, the selector switch must be in the START position. The generator cannot take the full load of the mobile unit until it has been allowed to run briefly. Do not move the Unit Power Selector switch to the GEN position until the generator has run for approximately five (5) minutes.

When the generator is to be stopped, the selector switch must be in the STOP position. Once the selector has been moved to the STOP position, the generator will enter into a five (5) minute cooling phase. When the phase has completed, the generator will stop. Do not attempt to stop the generator by repeatedly moving the selector to the “Stop” position.

8.2 Unit Power Selector

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

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

The Unit Power Selector is located on the power supply control panel. The control panel can be found in the left side underbody compartment of the mobile unit.

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

The OFF selection should only be used when the mobile unit is being serviced and only by qualified service personnel, as the mobile unit is to have power at all times.

The selector should be moved to the GEN selection when the mobile unit is to receive power from the onboard generator.

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8.3 480V AC FAULT Indicator Light

This indicator light is located on the power supply control panel. The control panel can be found in the interior of the mobile unit inside of a cabinet. The “480V AC FAULT” indicator light will illuminate if the incoming power source is experiencing any of the following problems:

The power to the mobile unit is out of phase.

The power to the mobile unit is subject to low voltage.

The power of the mobile unit has one or more phase leg problems.

If the “480V AC FAULT" indicator light illuminates, please refer to **Appendix B: Troubleshooting**.

Section 9: Humidity System

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

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

The humidifier is responsible for maintaining 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 Fill:	The exterior fill connection must be used to allow the mobile unit humidifier to provide the required humidity to the mobile unit.
Humidifier:	The humidifier provides the required humidity to the mobile unit per the medical manufacturers' requirements.
Humidity Controller:	The humidistat is responsible for the internal humidity of the mobile unit. The setting is preset at the factory to comply with the medical system manufacturers requirements.
Humidity Sensor:	Maintains an accurate reading of the humidity levels inside of the mobile unit.
Overflow Drains:	If by chance the water tank is over filled, overflow drains are provided. The drains lead through the floor to the exterior of the mobile unit.

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. If the humidity inside of the mobile unit becomes to high or to low, the "Humidity Warning" light will illuminate on the system panel. If this happens, please refer to

9.2 Water Supply

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

A ¾" I.P.S. male threaded hose connection is located under the front kick of the mobile unit, below
A ¾" G.H.T. male threaded hose connection is located under the front kick of the mobile unit, below the air conditioning units.

One 0.5" outer diameter PVC drain line from the steam cylinder for automatic drain cycles. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

One 0.5" outer diameter PVC drain line from the humidifier cabinet. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

One 0.5” outer diameter PVC overflow drain from the water supply tank. The drain penetrates the floor of the mobile unit in order to empty to the exterior.

Figure 37: Humidifier External Fresh Water Connection

9.3 Electrical Connections

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

The distribution panel supplies the required 480V AC power via a 15 amp, 3-phase breaker.

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

9.4 Instructions

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

For additional information, refer to the Advanced Mobility Specialty Vehicles VOL II Vendor Information binder for the product manual, the Advanced Mobility Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Advanced Mobility Specialty Vehicles for service.

Section 10: HVAC System

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

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

Figure 38: A/C Unit

The Air Conditioning Unit is located at the front of the mobile unit above the generator housing.

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

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10.1 Air Conditioning & Chiller

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

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

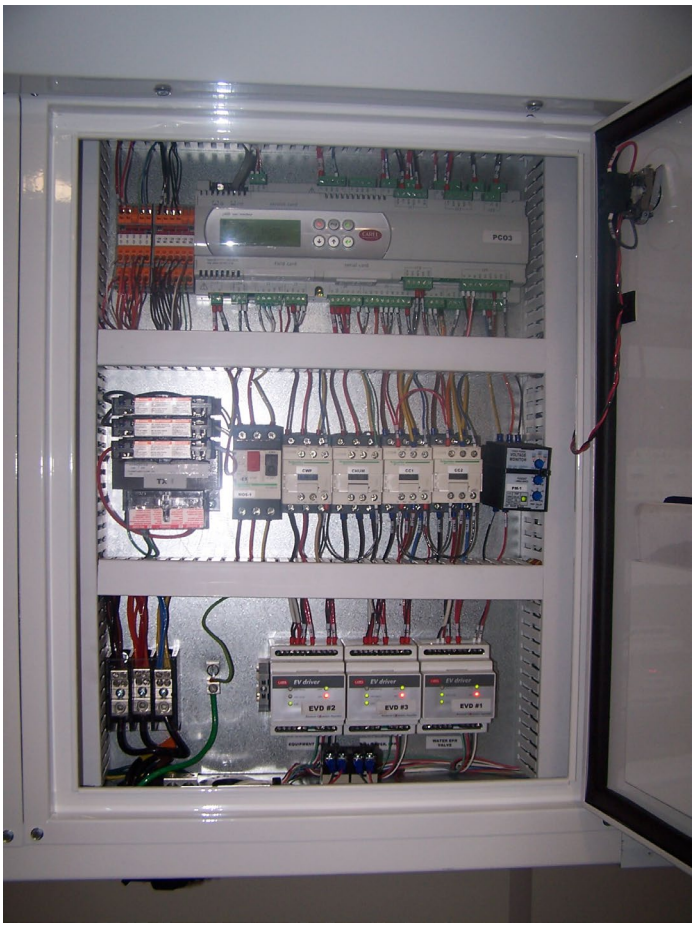

Figure 39: A/C / Chiller Control Panel

The A/C-Chiller's main control panel is located on the front wall of the equipment room. This panel is used to control the operation, temperature settings and display fault lights. Refer to the manufacturer's manual for information on fault lights.

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

A remote digital display and alarm panel is located in the control room at the operator's workstation. This panel provides a digital display of the operating condition of the HVAC System and has an audible warning signal for notification of an A/C-Chiller fault. The switch on the panel can be used to silence the audible alarm. In the event of a fault, the digital display panel provides specific fault information.

Figure 40: HVAC Remote Digital Display Panel

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

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.

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

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

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

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

10.2 Exterior HVAC Specifications

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

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10.3 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. 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 41: HVAC Components

10.4 Underbody Compartment Heater

Located in the same compartment, as the cryogen compressor, is the compartment heater in the right side compartments. This heater provides 1.5KW of heat. The compartment heater will activate when the temperature drops below 40°F and will deactivate when the temperature rises above approximately 45°F.

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

Figure 42: Heater

Section 11: Platform Lift

The mobile unit contains a hydraulic platform lift that is used to move personnel and equipment from the ground level to the floor level of the mobile unit. The hydraulic platform lift has a maximum capacity of 2000 and a maximum height of 53”.

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

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

Transport Position

Lowered

Handrails Installed

Raised

Figure 43: Hydraulic Platform Lift

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

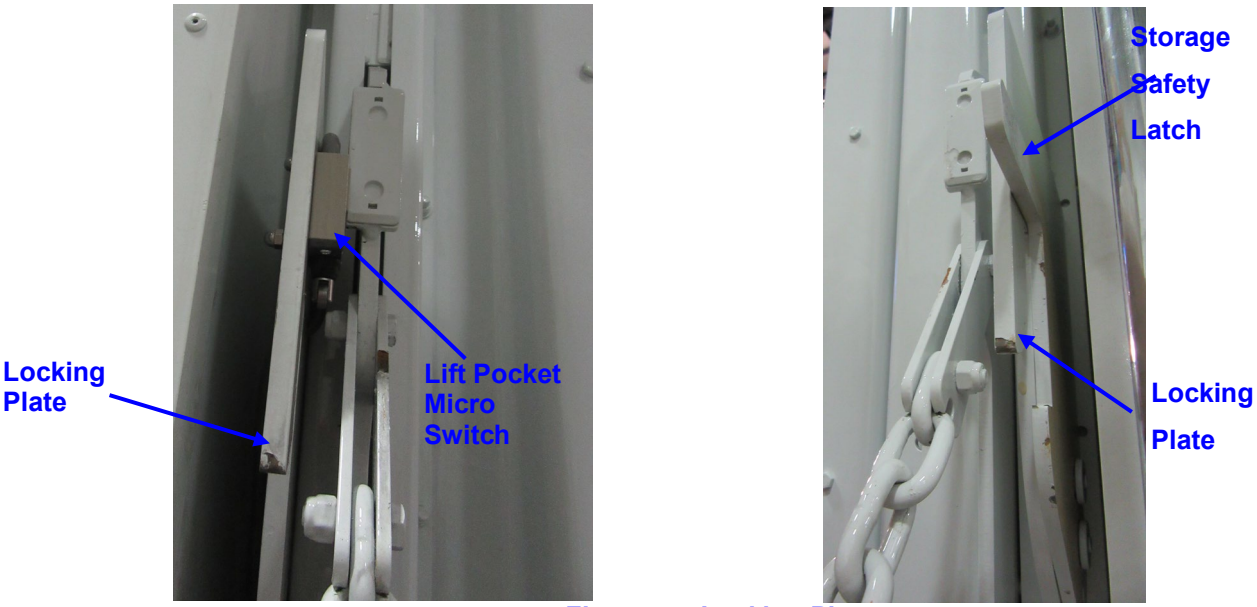

Figure 44: Locking Plates

111.1 Safety Features

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

111.1.1 Lift Controls

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

111.1.2 Handrails

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

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

111.1.3 Lift Up Indicator Light

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

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

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

111.1.4 Remote Control Pendant

Two remote control pendants are included for use with the hydraulic platform lift. One pendant plugs into a jack located between the staff entry door and the hydraulic platform lift roll door behind the lift control panel. The other is hard wired and is located behind the lower compartment door rearward of the lift. The pendants have expandable cords that allow the operator to be on or near the hydraulic platform lift while it is in operation. The remote control pendants work off the 12V DC power system. **Note:** *For operator safety, the removable control pendant only has Up/Down capabilities. For deploying and stowing the platform the hard wired pendant must be used.*

111.1.5 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 hydraulic platform lift is not in the proper transport position or if the Generator Vibration Isolation Mounts are unlatched. It is the Operator's responsibility to ensure that the Transport Warning Light is functioning properly and that the bulb element is in working order.

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

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111.1.6 Transport Warning Strobe Light

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

The Transport Warning Strobe Light is located on the exterior left side of the mobile unit and will illuminate when the hydraulic platform lift is not in the proper transport position. It is the Operator's responsibility to ensure that the Transport Warning Light is functioning properly and that the bulb element is in working order.

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

11.1.7 Lift Transport Restraining Cable

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

11.2 Hydraulic System

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

11.2.1 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 hydraulic platform lift can be operated with the remote control pendant or the exterior lift controls. The lift can be raised or lowered with these controls. In order to deploy the hydraulic platform lift when setting up the mobile unit, or to place the hydraulic 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.

11.3.1 Deploying the Platform Lift for use with the Mobile Unit

After the stair assembly has been installed, 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. Located next to the roll door, are the controls for the hydraulic platform lift. Insert the connector from the lift control pendant into the receptacle that is located on this control panel. **Note:** *For operator safety, this control pendant only has Up/Down capabilities. For deploying and stowing the platform the hard wired pendant must be used. It is located behind the compartment door rearward of the platform lift.*
5. Clear the platform sliding path by moving the storage safety latch manually. Hold the safety latch down manually with one hand and press the **Down** button on the control with the other hand until the platform locking ears clear the safety latch. Release the safety latch back to its original place.

6. Open the platform by pressing and holding the **Shift** and **Down** buttons simultaneously. **NEVER STAND DIRECTLY UNDER THE PLATFORM!** Press and hold the down button to lower the platform complete to the ground.
7. Once the platform has been lowered, install the handrails and secure them with the hardware provided.

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11.3.2 Storing the Platform Lift for Transport of the Mobile Unit

1. Lower the Platform Lift to the ground.
2. Remove the restraining hardware and handrails and temporarily place them to the side.
3. Raise the lift to a maximum height and fold the lift upwards to a vertical position. Gas shocks are 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.

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 45: Intrusion Alarm Keypad

12.1 Operation

The alarm is operated via a keypad located by the Entry 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 entry door or the compartment doors are opened while the alarm is activated, a siren will sound.

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

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Section 13: Landing Legs

⚠CAUTION 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, stabilizing, and minor leveling of the mobile unit. For additional information, please refer to the OEM supplied literature. The literature can be found in the product information binders that have been included with the mobile unit.

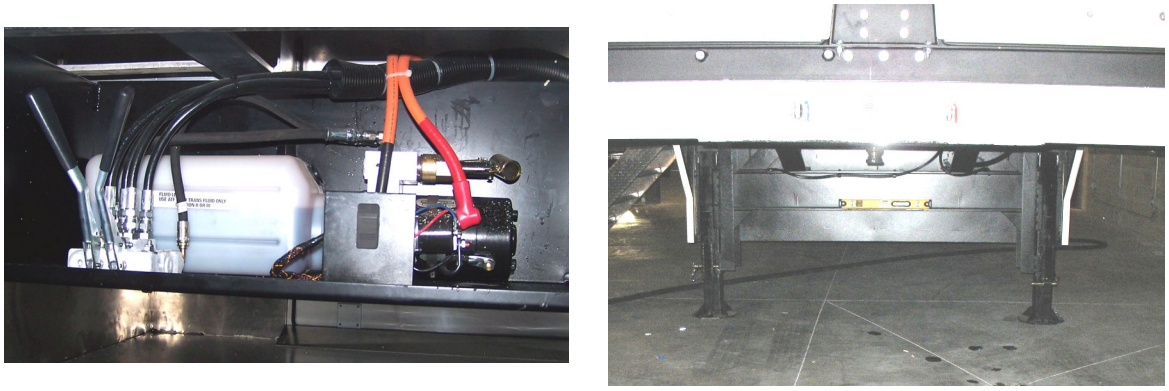

Figure 46: Landing Leg Assembly

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 Right Leg:	Controls the Front right side leg.
Lever Left Leg:	Controls the Front left side leg.
Pump ON / OFF Switch	The switch must be held in the ON position when extending or retracting the legs.
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.

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 Control

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

DEFLATE: (For Set up only)

When the switch is in the On / DEFLATE 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.

NORMAL RIDE: (For Transport)

When the switch is in OFF/ NORMAL RIDE position, the rear suspension will inflate and the mobile unit will automatically rise to transport height. Failure to turn the selector to the NORMAL RIDE position prior to transporting the mobile unit, can cause irreparable damage to both the mobile unit and medical system. The switch MUST be in the NORMAL RIDE position to install or remove the Stabilizing Stands.

Figure 47: Air Bag Control

Section 14: Lighting System

The lighting systems installed in the mobile unit can be divided into either interior lighting, or exterior lighting. Listed below is a description of the lights provided.

14.1 Emergency Lighting

In the event that the main AC power fails, two dual beam emergency lights are provided. These lights will automatically illuminate when the main AC power is lost.

They are located in the Control Room and Equipment Room. The emergency lighting system is wired into a 120V AC electrical system that allows the lights internal circuitry to keep their batteries at 100% charge.

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

Figure 48: Emergency Dual Beam Lighting

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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** .

14.2.1 Entry Door Lighting

An exterior light is located above the Entry door. This provides for additional illumination of the Platform Lift and the stairs when the facility provided lighting is insufficient. The switch for this light is located inside of the mobile unit on the raceway next to the Entry door.

Figure 49: Entry Door Lighting

14.2.2 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.

14.3.1 Equipment Room

The light controls for the lighting in Equipment Room are located just inside the Entry 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 50: Equipment Room Lighting

14.3.2 Control Room

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

- Switches located next to the Entry door control the lighting located in the Control Room ceiling panels, and Equipment Room ceiling panels.

Figure 51: Control Room Lighting

14.3.3 Scan Room

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

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- Two switches located next to the Scan Room door controls the lighting located in the ceiling panels
- The center mounted patient prep light is located directly above the patient table and is controlled by another switch located next to the Scan Room door.

Figure 52: Scan Room Lighting

14.4 Warning Lights

AC Power Light and Platform lift Transport Warning Light

Figure 53: 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**.

14.4.1 Power Warning Light

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

The Power Warning Light is located on the exterior left side of the mobile unit and will illuminate when the mobile unit is receiving power. When it is not illuminated, it signifies to the operator that power is not applied to the system. A qualified electrician should be called immediately to look at the electrical system. Refer to **Appendix B: Troubleshooting**.

Section 15: General Maintenance

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

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

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

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

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

15.1 Daily Maintenance

Water tanks should be checked for proper water levels.

Fuel tank should be checked for proper fuel levels.

During cold weather, verify that all underbody heaters are operational.

Keep the air intake grills on the computer cabinets for the medical system free and clear of obstructions.

Keep the A/C grills clean and free of debris.

Check and verify that no warning lights are illuminated.

15.2 Weekly Maintenance

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

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

Check the primary and downstream blower A/C filters. Clean and replace if necessary. A/C must be “OFF” to check and replace filters. Refer to **Figure 41: HVAC Components** for location.

Check the oil and water levels in the generator and refill if necessary.

Check the electrolyte levels in the DC batteries and fill if necessary using only distilled water.

Check all running lights, marker lights, brake lights, and turn signals.

Check tire pressure and verify that all wheels are at the pressure specified by the tire manufacturer.

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.

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15.3 Monthly Maintenance

Lubricate the side rails of the roll door with Mobil – Mobilith AW2 heavy-duty multipurpose industrial grease.

Lubricate all RF interlock switches.

Put a few drops of 20W oil, or similar graphite oil, on the swivel pin of all door hinges. Only use dry graphite on the key openings of all door locks.

Check the operation of the smoke detectors and vacuum internally.

Check the fire extinguisher gauges for safe charges.

Inspect the power cables for any damage.

Check the cable tie downs.

Check for cut, damaged, or loose wire connections.

Check and verify that all connector bolts are tight and secure.

A qualified A/C technician must check the A/C condensers every month. Refer to the Air Conditioning Owner's Manual for more information.

Lubricate the front landing / stabilizing legs.

Check the refrigerant level in the water chiller unit.

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

15.4 Quarterly Maintenance

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.

A copy of your vehicles completed quarterly Preventive Maintenance Checklist may be required for warranty reimbursement.

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

Thank you for choosing Advanced Mobility Specialty Vehicles. If you have any questions call us at 1-708-235-2800. We'll be happy to assist you.

Section 16: Specific Maintenance

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

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

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

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

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

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

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

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

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

16.1 Door Closer Adjustments

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

16.2 Electrical System

Inspect the power cables for any damage.

Check the cable tie downs.

Check for cut, damaged, or loose wire connections.

Check and verify that all connector bolts are tight and secure.

16.3 Cryogen Compressor

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

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16.4 Humidity System

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

The fresh water tank supplies the humidifier and sink (if applicable) with water. The water levels must be maintained at all times.

Check the water tank to determine the water level.

Open the overflow valve.

Attach one end of a hose to the exterior water tank fill valve and the other end to the shore supply.

Turn on the water source to begin filling the tank.

After the water tank is full, turn off the water source.

Detach the hose at both ends and place in the underbody storage compartments.

Turn off the overflow control valve.

16.5 HVAC System

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

The HVAC system is designed specifically to maintain only the internal environment of the mobile unit. The HVAC system is not designed to handle areas outside of the mobile unit such as adjoining corridors or hallways.

It is important to be sure that the doors, partitions, and baffling are in the intended positions before running the medical system.

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.

A/C condensers must be cleaned every two months by a certified A/C technician.

16.6 Platform Lift

Lubricate the hydraulic platform lift side rails and pivot points with an ample amount of ZEP 2000, AMST Part Number 6100811.

16.7 Landing Legs

Once a year, perform the preventative maintenance on the landing legs and the landing leg controls. Refer to the accompanying manual for the landing gear system.

Extend the landing legs and coat lightly with clean grease.

Grease the alemite fittings and check the valve on each leg. Use “NGLI” lithium grease with a grade of “00” or “0”.

Check the fittings and the hydraulic lines for leaks or worn spots. Replace all defective fittings and lines as necessary.

Check for loose bolts and nuts. Tighten as necessary.

16.8 RF Shielding

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

Clean RF door trim with denatured alcohol and wipe with a clean cloth.

Check the door hinges, stops, and latches for proper operation.

Ensure that the door opens and closes without binding.

Close up of RF door trim

Figure 54: RF Shielding

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Appendix A: Mobile Unit Checklist

WARNING	**It is the operator's responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Advanced Mobility Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.**
WARNING	**Before connecting or disconnecting from shore power, it is imperative that the shore power connections be moved to the "OFF" position. Failure to do this can result in injury or death to the operator of the mobile unit.**
WARNING	**Make sure that all electrical parts are serviced only by a certified electrician or qualified personnel. Dangerous voltages are present which could result in injury or death.**
WARNING	**Always make sure that eyes are protected while servicing the unit. Wear safety goggles when prying, drilling, grinding, or working with batteries. Wear safety goggles over regular prescription glasses unless the lenses are made of hardened glass and can serve as safety goggles.**
WARNING	**Be certain to disconnect the power before working on any of the electrical systems.**
CAUTION	The Philips medical system requires the HVAC system to be supplied power at all times. During transit of the mobile unit via the generator and when the unit is in the parked position via shore power.
CAUTION	Always inspect the power cable, connectors, and fasteners prior to usage. If during inspection, it is suspected that either internal or external damage has occurred, have a certified electrician inspect and repair the damage before using.
CAUTION	When switching from generator power to shore power the yellow "480V AC Warning Light" may illuminate and flicker. If the yellow "480V AC Warning Light" stays illuminated, reconnect to generator power and call a certified electrician before attempting to reconnect to shore power.
CAUTION	The landing / stabilizing legs and rear suspension are not to be used to raise the mobile unit off the ground. The legs are meant only to level the unit and place it in a parked position. If the legs are used in an attempt to raise the mobile unit from the ground, serious damage may occur to the mobile unit.
CAUTION	Failure to completely exhaust the suspension before uncoupling the airlines may result in damage to the suspension of the mobile unit.
CAUTION	The rear stabilizing stands must be removed prior to the connecting the tractor to the mobile unit. Failure to do this can result in equipment damage
CAUTION	The air ride control valves must be in the normal ride position before the mobile unit can be transported. If the air ride control valves are not in the normal ride position, irreparable damage may occur to the mobile unit.
CAUTION	Before transporting the mobile unit, check to verify all warning lights as well as all exterior marker lights are working correctly.
IMPORTANT	When servicing the unit be certain that a first aid kit and fire extinguisher are within reach at all times.

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Mobile Unit Setup Checklist

Park the mobile unit on the pad per the site-planning guide.

DO NOT set the trailer brakes.

Lower the front landing / stabilizing legs.

Disconnect the tractor while leaving the air and electrical lines engaged.

Raise the rear of the mobile unit and install the rear stabilizing stands. Exhaust the rear suspension.

Re-level the mobile unit as needed. Use the front landing / stabilizing legs as well as the rear suspension as necessary.

Disconnect the tractor air and electrical lines.

Lower the auxiliary support legs and insert the pins.

Install the stair assembly.

Deploy the Platform Lift.

Verify that the shore power disconnect is in the OFF position and connect to the power cable to the shore power receptacle. Place the shore power disconnect in the ON position.

Move the power selector switch to the LINE position and verify that the incoming power supply is good.

Move the Generator Stop / Start selector switch to the STOP position.

Connect the phone and data lines.

Connect the water supply and the waste water connections.

Remove all restraining hardware.

Prepare the medical system per OEM instructions.

Check for any warning lights.

Deploy the Roll Door Canopy, if equipped.

Mobile Unit Transport Checklist

Retract the Canopy, if equipped.

Return the Platform Lift to the transport position.

Secure all medical equipment per OEM requirements.

Secure all equipment; this includes all moveable objects such as chairs, monitors, doors, cabinets, cameras, and printers.

Move the Generator Stop / Start selector switch to the START position. Allow the generator to run for approximately five (5) minutes.

Move the power selector switch to the GEN position.

Lock the Entry door and remove and store the stair assembly.

Move the shore power disconnect to the OFF position and disconnect the power cable.

Disconnect the water supply and the waste water connections.

Disconnect phone and data lines.

Raise the auxiliary support legs.

Connect the tractor air and electrical lines.

Raise the rear of the unit and remove the rear stabilizing stands and store them in the underbody compartment. **Return the air ride control switch and valve to the normal ride positions.**

Lower the landing / stabilizing legs enough to couple the tractor to the unit.

Connect the tractor to the mobile unit.

Raise the landing / stabilizing legs.

Verify that the mobile unit is ready for transport.

Are all exterior doors closed and locked?

Is the Platform Lift in the transport position, fully seated in its retaining cradle?

Are all running & marker lights working correctly?

Are any warning lights illuminated?

Is the fuel tank full?

Is the optional fire suppression system unarmed?

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 Advanced Mobility Specialty Vehicles VOL II Vendor Information binder for the product manual, the Advanced Mobility Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Advanced Mobility Specialty Vehicles for service.

Humidity is out of specifications…

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

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

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Problem		Check for:	Solution:
	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 30% and 60% RH (relative humidity). If the humidifier is running and the humidity level does not change, a problem exists within the humidity system. Please refer to the Advanced Mobility Specialty Vehicles VOL II Vendor Information binder for the product manual, the Advanced Mobility Specialty Vehicles VOL I Service/Operation Manual binder for a list of local service representatives, or contact Advanced Mobility Specialty Vehicles for service.

Temperature is out of specifications…

The desired room temperature is 72ºF (22.2ºC). If the temperature is out of specifications, either too high or too low, refer to the following table.

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

Appendix C: HVAC Set Points

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

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

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

The Thermostat Control for the Control Room is set at 68°F in order to provide the desired temperature of 72°F.

The Thermostat Control for the Scan Room is set at 67°F in order to provide the desired temperature of 72°F.

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

The humidistat set point is 40% relative humidity.

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

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

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Appendix D: A-1 Circuit Malfunction Checklist

Category 1

Visual Checks – Check for the most common occurrences.

Has the Start button been depressed?

Is the mobile unit on shore power?

Is the CB5 circuit breaker, in the 480V AC electrical panel, in the ON position?

For further troubleshooting, contact Advanced Mobility Specialty Vehicles for assistance.

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Appendix E: Lockout/Tagout Procedures

Specific Energy Control Procedures

Machine or Equipment for this Procedure:

Specialty Vehicle Trailer: Philips MRI 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	120V AC room circuits	When servicing or performing installation inside specific sections of the trailer
Electrical	12V DC	When servicing the following: Platform lift, Landing Leg circuit, Transport Warning lights, underbody compartment lights
Electrical	12V DC From Battery	When servicing the following: Platform lift, Landing Leg circuit, Transport Warning lights, underbody compartment lights

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

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

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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 120V AC	Wall switch or circuit breaker	Distribution panel for circuit breaker, wall switch for room circuits	Lock and tag with a Universal Wall Switch Lockout, Universal Circuit Breaker Lockout
Roll Door Electrical 120V AC	Circuit Breaker, Service Switch	CB in 208 V AC Panel, Switch in overhead panel above door	Lock and tag with a Universal Switch Lockout, Universal Circuit Breaker Lockout
Power to lift panels Electrical 12V DC	Remove Battery Cables	Left side underbody compartment, On battery.	Lock and tag with a Circuit Breaker Lockout attachment device
Electrical 12V DC From Battery	Remove Battery Cables	Left side underbody compartment, On battery	Lock and tag with a Plug Lockout attachment device
Medical System Philips MRI	Circuit Breaker	CB in 480V AC Distribution Panel in equipment area	Lock and tag with or without lockout hasp
Air Conditioning System 480V AC	40A Circuit Breaker	CB in 480V AC Distribution Panel and Chiller are a single unit.	Lock and tag with or without lockout hasp
Air Conditioning System Blowers 120V AC	15A Circuit Breaker	CB in 120/208V AC Distribution Panel.	Lock and tag with or without lockout hasp
Heating System	15A Circuit Breaker	CB in 480V AC Distribution Panel	Lock and tag with or without lockout hasp

Methods to dissipate energy:

N/A

Method of Verifying the Isolation of the Machine or Equipment:

Voltmeter

Appendix F: Quarterly Maintenance Checklist

ADVANCED MOBILITY MOBILIZING YOUR MISSION

PREVENTIVE MAINTENANCE CHECKLIST

Company Performing Preventive Maintenance:

Service Technician:

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

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

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

Generator	3M	6M	9M	12M	Comments

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

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

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

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

Comment :

Signature of Technician: _____ Date: _____

AMST
a Kentucky Trailer company

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(708) 235-2002 fax

Custom Specialty Solutions

An ISO9001:2015 Certified Company