

General Information

GENERAL

This is a commercially available mobile facility designed to provide the convenience of a Mobile Surgery Unit (MSU) to communities in need of advanced medical equipment. This mobile facility consists of a one station operating room, a pre-operative area, a post-operative area, a nurse's station, bathroom and vestibule and clean and soiled utility rooms installed with comprehensive telecommunications support in an expandable, self-contained mobile unit. This manual pertains to the mobile unit.

REPORTING SAFETY DEFECTS

The language specified in the National Highway Traffic Safety Administration (NHTSA) rule published in the Federal Register (49CFR575) November 27, 1989, is as follows:

"If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform NHTSA in addition to notifying **MOBILE MEDICAL INTERNATIONAL CORPORATION.**"

"If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and **MOBILE MEDICAL INTERNATIONAL CORPORATION.**"

To contact NHTSA you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (in the Washington, DC area) or write to NHTSA, U.S. Department of Transportation, Washington, DC 20590. You may also obtain more information about motor vehicle safety from the Hotline.

ABOUT THE OPERATORS MANUAL

This operator's manual, as well as specific manuals for the major individual items provided by Mobile Medical International Corporation contained within the Mobile Surgery Unit™, are provided to aid in the operation and maintenance of the unit. Please take the time to read through the manuals thoroughly.

IMPORTANT: These manuals should be kept with the unit at all times in an easily accessible location.

This manual contains descriptions of various systems of this unit, operating instructions, and maintenance procedures. Some of this information was extracted from the specific manuals referenced above and is meant to provide a convenient overview for daily use. Refer to these manuals, as well as those provided in the accompanying Appendix, for detailed operating and maintenance procedures.

!WARNINGS!, CAUTIONS! and NOTES

Throughout this manual there are "**!WARNINGS!**", "**CAUTIONS!**", and "**NOTES**" that must be observed.

!WARNING! FAILURE TO OBSERVE A WARNING COULD CAUSE **PERSONAL INJURY OR DEATH!**

CAUTION! Improper action or failure to take action could cause damage to the unit or components.

NOTE: Provides additional information.

!WARNINGS! and **CAUTIONS!** are listed on pages 5-10 of this section of the manual and have been entered where applicable throughout the manual. Before performing step-by-step procedures, review the complete procedure, and be aware of the many warnings, cautions and notes referenced.

!WARNINGS! and CAUTIONS!

It is important that the below listed warnings, cautions and notes be read and understood before operating the unit in order to prevent injury and/or damage.

!WARNING!

W1. Hydraulic System

The hydraulic system can cause extreme injury and even **DEATH!** if anyone is **TRAPPED BETWEEN MOVING PARTS**. Only trained and authorized personnel should operate the hydraulic system. It is very important that the person operating the control module is in constant communication with all other set-up staff personnel and that a system of commands be used. Examples of commands used include “Wall coming out”, and “Wall coming in”, the response to these commands should be “Clear” or “Stop.” Upon calling for a “Stop” the controller should respond with “All Stop” and should remove his hand from the control buttons. Prior to opening or closing any hydraulic system, visually inspect the area for any obstruction or unsafe condition and at all times control the access of people in the area. A detailed safety and obstruction inspection should be performed on the inside of the unit to ensure that nothing will be crushed.

!WARNING!

W2. Tractor / Coupling

NEVER permit anyone to stand behind the tractor or unit when coupling!
Back tractor toward unit so that the kingpin is centered as closely as possible to the throat of the fifth wheel.

!WARNING!

W3. Shorelines and Generator Lines

Shorelines and generator lines are heavy! Use proper lifting techniques to avoid injury.

!WARNING!

W4. Patient Station Closing Procedure

Care must be exercised to avoid pinching fingers or hands between the work surface and the cabinet.

!WARNING!

W5. Lifting Hazard-Air Lock and Drop-in Floor Panels Install and Breakdown Procedure

Use proper lifting techniques when lifting panels to avoid injury and to prevent the panels from falling out of your hands and doing damage.

!WARNING!

W6. Power Sources

Use care when working around any power sources. Ensure lock outs are in place before proceeding.
Failure to use caution may
result in **DEATH, SHOCK, FIRE, OR EQUIPMENT FAILURE AND/OR DAMAGE.**

!WARNING!

W7. Electric-Shock Hazard

This unit is supplied with high electric voltage and current. This voltage and current **could cause** serious injury or **DEATH!** Always use care when working around the electrical system. Turn the **POWER OFF AND LOCK OUT** prior to performing any maintenance on the electrical equipment.

It is recommended that all initial electrical connections to the outside power source be done by a competent licensed electrician. **BEFORE** turning on any breakers or electrical equipment inside the unit, personnel **MUST** check the phase sequence meter located in the main power panel for proper hook-up.

When checking the circuit breakers, refer to the electrical system section of this manual. Circuit breakers are either automatic or manual re-set type. If circuit breakers continue to trip, have the electrical system serviced.

All circuits are tested and inspected in accordance with Underwriter's Laboratory and the National Electrical Code - National Fire Protection Association (N.F.P.A. # 70). No attempt should be made to alter the wiring system.

!WARNING!

W8. Ground Rods Installation

This unit is supplied with high electric voltage and current. This voltage and current **COULD CAUSE** serious injury or **DEATH!** Always use care when working around the electrical system. To insure the provision of an adequate ground at all times the grounding rods **MUST** be installed before the generator is started or the shore-power is connected.

It is recommended that the safety ground is connected to approved metal rods driven into the earth at the designated width apart and to the designated depth as required by local code. As an alternate ground connection, an existing approved grounding location can be used if it meets the local code requirements. The safety ground **MUST** be maintained until the unit is shut down for movement to a new location. The last connection that should be removed is the safety ground.

!WARNING!

W9. Fueling

Be careful when fueling. Clean up any spilled fuel **IMMEDIATELY**. Spilled fuel creates a hazardous fire condition which *can* result in **SEVERE PERSONAL INJURY OR DEATH!**

!WARNING!

W10. Refrigerant is used in the refrigeration equipment

DEATH OR SERIOUS INJURY may result if personnel fail to observe safety precautions. Great care must be exercised to prevent liquid refrigerant, or refrigerant gas discharged under high pressure, from coming into contact with any part of the body. Extremely low temperature resulting from rapid expansion of liquid refrigerant or refrigerant gas discharged from under high pressure, can cause sudden and irreversible tissue damage through freezing.

All personnel must wear thermal protective gloves and a face shield or goggles when working in any situation where refrigerant contact with skin or eyes is possible. Application of excessive heat to any component in a charged system will cause extreme pressure that may result in a rupture, possibly explosive in nature.

Exposure of certain CFC (chlorofluorocarbon) and HCFC (halogenated chlorofluorocarbon) refrigerants to extreme heat or a very hot surface will cause a chemical reaction in the gas to form carbonyl chloride (phosgene), a highly poisonous and corrosive gas.

Generally, in their natural states, CFC and HCFC refrigerants are colorless, odorless vapors with no toxic characteristics, are heavier than air, and will disperse rapidly in a well-ventilated area. However, in an unventilated area, these refrigerants present a danger as an asphyxiate by displacing oxygen in the area.

!WARNING!

W11. Patient Lift Use

Before operating the lift, personnel **MUST HAVE READ AND BE FAMILIAR WITH** the operating instructions.

!WARNING!

W12. Patient Lift Operation

Use care when operating the lift! Ensure that no one is in or can come into the area where the lift will be operated!

!WARNING!

W13. Pinching Hazard

Care must be exercised to avoid pinching fingers or hands between permanent surfaces and the cabinets.

!WARNING!

W14. Starting Aids

DO NOT use ether as a cold weather starting aid.

The heat from the glow plugs may cause a sudden ignition of the ether vapor. This may result in **PERSONAL INJURY** or **DAMAGE** to the generator engine.

!WARNING!

W15. Engine Exhaust (Carbon Monoxide is Deadly!)

Carbon monoxide is an odorless, colorless gas, formed by incomplete combustion of hydrocarbon fuels. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal. Some of the symptoms or signs of carbon monoxide are:

DIZZINESS	VOMITING
INTENSE HEADACHE	MUSCULAR TWITCHING
WEAKNESS & SLEEPINESS	THROBBING IN TEMPLES

!WARNING!

W16. REFRIGERANT UNDER PRESSURE is used in the operation of this equipment.

Death on contact or severe injury may result if you fail to observe safety precautions. Never use a heating torch on any part that contains refrigerant. Do not let liquid refrigerant touch you and do not inhale refrigerant gas.

!WARNING!

W17. DANGEROUS CHEMICAL, Refrigerant R407-C HCFC is used in this equipment.

!WARNING!

W18. DANGEROUS CHEMICAL, Refrigerant R22 HCFC is used in this equipment.

CAUTION!

C1. Procedures Used During Transport:

Prior to moving the unit, perform the pre-transport checks and a thorough walk around inspection of the Mobile Surgery Unit. Refer to Section 3, Pages 38 and 39.

CAUTION!

C2. Raising Unit off Fifth Wheel

DO NOT raise the unit off the fifth wheel until the jacks have sufficient unit weight to support the unit, then slide the fifth wheel out of the pin.

CAUTION!

C3. Fifth Wheel

ALWAYS make sure the unit is picked up by the fifth wheel! A unit kingpin that is too high enters the fifth wheel incorrectly. Damage to the kingpin, cargo, or fifth wheel can occur by running a kingpin up the fifth wheel plate.

CAUTION!

C4. Varying Conditions

Varying conditions such as lubrication, temperature, ice, snow, and mud could all affect a secure couple!
A visual check must always be made to ensure that the coupling is secure!

CAUTION!

C5. Judgment of Coupling

NEVER judge a coupling by sound alone!

CAUTION!

C6. Parking the Unit

The unit should not be parked over underground utility lines **OR** parked beneath utility lines.

CAUTION!

C7. Surface Weight Capacity

Be cognizant of the load-bearing capacity of the parking surface with regard to underground parking, buildings or other sub-structures.

CAUTION!

C8. Equipment Securing

All equipment inside the unit **MUST BE SECURED** to prevent movement during transportation. Movement may damage equipment.

CAUTION!

CAUTION!

C9. Wall Slide Tubes and Tracks

The maintenance of these areas in accordance with procedures in Section 3 Page 22 Paragraph 12 is very important to ensure problem-free operation. Ensure that the wall slide tubes and tracks are clear of debris and that the rollers are operating properly.

CAUTION!

C10. Electrical connections to outside power sources

ALL initial electrical connections to outside power sources and any electrical system service should be completed by a competent licensed electrician.

CAUTION!

C11. Phase Agreement Check

Failure to perform a phase agreement check each time the unit is connected to a new source may result in equipment damage.

CAUTION!

C12. Belly Box Lights or Emergency Light Packs

DO NOT leave belly box lights on for extended periods of time. Ensure all emergency light battery packs are off or disconnected when unit is not connected to a power source.

When left *on* they could cause the batteries to run down or fail.

CAUTION!

C13. UPS Battery Pack

The UPS battery pack is meant to supply short term back-up power to allow uninterrupted completion of work-in-progress scans in case of a power failure. Use of the UPS system for any purpose other than emergency power may result in damage to the UPS system. Refer to the UPS System Operator's Manual.

The UPS battery pack can pose an electric shock hazard if used improperly.

CAUTION!

C14. Patient Lift Switch

Do **NOT** keep the switch pushed after the lift stops moving. Holding the switch could **DAMAGE** the hydraulic system!

CAUTION!

C15. Landings

Use two people to position the landings and steps to avoid losing control of the landing.

CAUTION!

C16. Leveling the Unit

Prior to deploying expandable walls, it is very critical that you verify by checking the levels on the unit that the trailer body is in a level position from side to side and front to back.

CAUTION!

C18. Cranking the Starter

Excessive cranking might overheat and **DAMAGE** the starter!
Do no engage the started for longer than 20 seconds and
Allow 2 minutes for the starter to cool down.

CAUTION!

C19. Application of Volts to the Starting Circuit

DO NOT APPLY MORE THAN 12 VOLTS TO THE STARTING CIRCUIT AT ANY TIME! Over voltage will destroy the glow plugs in 2 - 3 seconds. If it is necessary to use an additional power source, use a 12 volt battery connected in parallel.

CAUTION!

C20. Stairs

Use two people to lift and position stairs for both use and transport in order to avoid injury upon lifting or losing control. Take caution when stepping onto platform of the tractor as not to lose your balance. Area may be slick in cold climates. Always use handles to assist in mounting or exiting the rear of the tractor.

CAUTION!

C21. Hydraulic Pumps

Hydraulic pumps run consistently when any pump (power) switch is activated. Prolonged running of pumps can deplete 12 volt battery power which will cause you to not be able to raise or lower the unit. Turn off every pump (power) switch and the hydraulic red rotary switch when not moving the leveling, landing gears or stabilizer jacks.

CAUTION!

C22. Brands of Oil

Do not mix brands of oil! Each brand contains its own additives, additives of different brands could react and produce properties harmful to your engine.

CAUTION!

C23. Expansion of Rear Expandable

Release the expansion control switch as soon as the sound of the floor dropping is heard to avoid damage to expandable and walls.

MSU MAJOR COMPONENT LISTING

Each unit is provided with a set of manuals which is presented at delivery. The Mobile Medical International Corporation portion describes the major functions, procedures, and practices that should be used to operate the MSU unit. In addition, all technical literature received from original equipment manufacturers (OEMs) is included in the manual set. **BEFORE** this unit is put into service the warranty cards should be completed and mailed. This will ensure proper service and maintenance. **BE SURE TO KEEP ALL VENDOR LITERATURE!**

<u>ITEM:</u>	<u>MANUFACTURER / MODEL:</u>	<u>SERIAL/PART NO:</u>
53 x 8'8.6"MSU UNIT Mobile Surgery Unit™	MOBILE MEDICAL INTERNATIONAL CORPORATION	1N9PU53249W202704

UNIT DIMENSIONS AND WEIGHT

MOBILE MEDICAL INTERNATIONAL CORPORATION

Unit: Year / Model: 2009 (Shell Manufactured)
Year / Model: 2009 (Unit Integrated)

S/N: MSU 1017-NEF

VIN: 1N9PU53249W202704

Tractor: Year / Model: *(as applicable)*

Date MSU Released From Mobile Medical International Corporation Factory: **October 2009**

MSU DIMENSIONS: Unit **ONLY**

LENGTH = 53
HEIGHT = 13' 6"
WIDTH = 8' 6"

TRACTOR DIMENSIONS: *(as applicable)*

LENGTH = --
HEIGHT = --
WIDTH = --

MSU WEIGHT AND CAPACITIES

ACTUAL SHIPPING WEIGHT: Unit **ONLY**

Trailer Axle Weight = 29,400 lbs.
Landing Gear Weight = 32,700 lbs.
TOTAL WEIGHT = 62,100 lbs.

ACTUAL SHIPPING WEIGHT: Tractor **ONLY** *(as applicable)*

Steer Axle Weight = -- lbs.
Drive Axle Weight = -- lbs.
TOTAL WEIGHT = -- lbs.

Total weight of complete Unit = _____ lbs. *(as applicable)*

KEY LEGEND

<u>KEY #</u>	<u>DESCRIPTION</u>	<u>COMPLETE</u>
AA	Master Exterior Door	YES
1AA	Main Exterior Door	YES
2AA	Emergency Exit Exterior Door	YES
3AA	Utility Room Door (Exterior)	YES
CH545	12 Volt / Communications Door	YES
LL410	Breaker Panel (General, Emergency, HVAC)	YES
CH751	Front Access Doors under HVAC	YES
CH751	Inside Cabinets	YES
6550	Landing & Leveling Gear Door	YES
PT15	Paper Towel Dispenser	YES
250	Humidifier	YES
C415A	Automatic transfer Switch	YES
MM101	Security / Fire Alarm Panel	YES
801	Alarm Panel Battery Disable	YES
34512	Exterior Security Alarm (Upper and Lower Areas)	YES
841379	OR Door (Interior)	YES
227979	Pre-Op Door (Interior)	YES
IDEC (0)	Sterilizer Cabinet	YES
CH751	EMO (Emergency Stop)	YES
SC10	Fire Boxes (Pull/Red)	YES