

GENERAC[®]

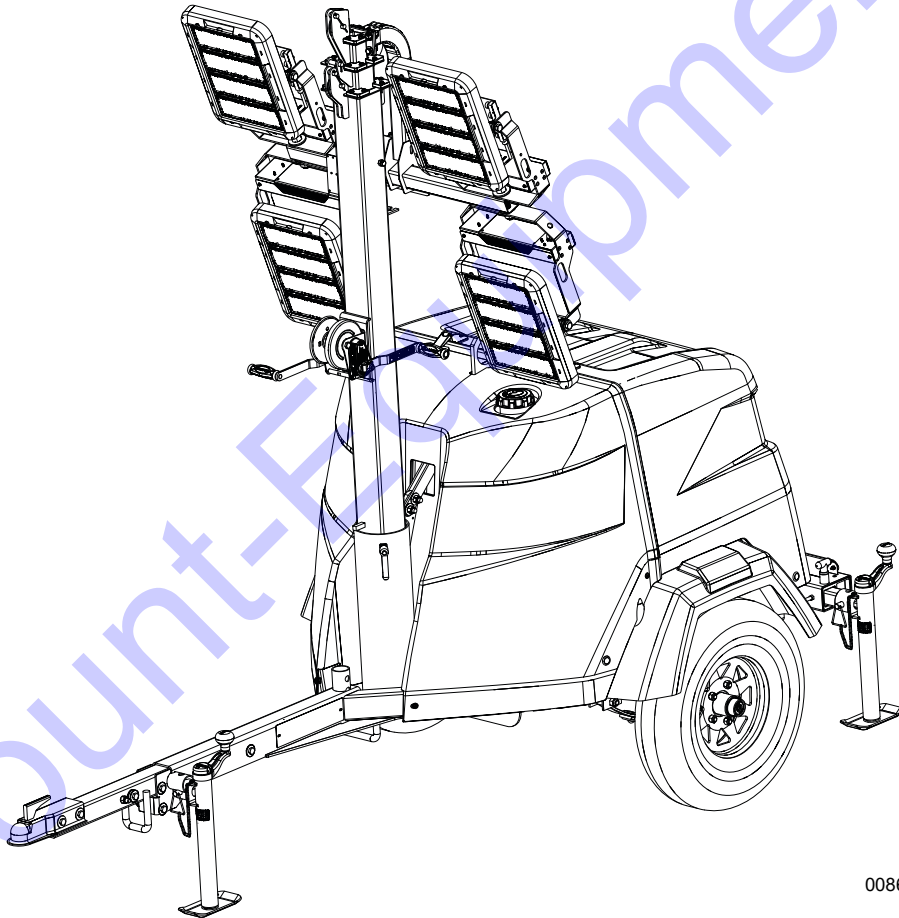
MAGNUM

Owner's Manual
Light Tower

MLT6SMDS • MLT6SKDS

S/N 3002908801 and above

PART 1



008615



www.discount-equipment.com

SAVE THIS MANUAL FOR FUTURE REFERENCE

Use this page to record important information about your light tower.

Unit Model Number	
Unit Serial Number	
Engine Model Number	
Engine Serial Number	
Generator Model Number	
Generator Serial Number	

Record the information found on your unit data label on this page. See [Unit Serial Number Locations](#).

Engine and generator serial numbers are located on separate data plates affixed to the engine and generator respectively. When contacting a Generac Mobile Products Authorized Service Dealer (GMP ASD) about parts and service, always provide the unit model and serial number.

Operation and Maintenance: Proper maintenance and care of the light tower ensures a minimum number of problems and keeps operating expenses at a minimum. It is the operator's responsibility to perform all safety checks, to verify that all maintenance for safe operation is performed promptly, and to have the equipment checked periodically by a GMP ASD. Normal maintenance, service, and replacement of parts are the responsibility of the owner/operator and, as such, are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage may contribute to the need for additional maintenance or service.

⚠ WARNING

CANCER AND REPRODUCTIVE HARM

www.P65Warnings.ca.gov.

(000393a)

⚠ WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to

www.P65Warnings.ca.gov/diesel.

(000394)

Table of Contents

Section 1: Introduction and Safety

Introduction	1
Read This Manual Thoroughly	1
Safety Rules	1
How to Obtain Service	1
General Hazards	2
Explosion and Fire Hazards	2
Trailer Hazards	2
Electrical Hazards	3
Battery Hazards	3
Fuel Hazards	4
Engine Safety	4
Operating Safety	4
Positioning the Unit	4
Starting the Unit	4
Raising and Lowering the Mast	5
Service Safety	5
Towing Safety	6
Hitch and Coupling	6
Running Lights	6
Wheels and Tires	6
Safe Towing Techniques	6
Reporting Trailer Safety Defects	6
Safety and Operating Decals	7

Section 2: General Information

Specifications	11
Unit Serial Number Locations	12
Trailer Tongue Storage and Tow Positions	13
Place Trailer Tongue in Tow Position	13
Place Trailer Tongue in Storage Position	14
Unit Dimensions	15
Component Locations	16
Control Panel	18
Control Panel Features and Functions	18
Power Zone–DLA (If Equipped)	19
Controller Features and Functions	19
Operator Screens	20
Dusk to Dawn Screen	21

Section 3: Operation

Light Tower Setup	25
Raising the Mast—Manual Winch	26
Raising the Mast—Electric Winch (If Equipped)	27
Raising the Mast—Power Zone-DLA (If Equipped)	28
Prestart Checklist	29
Starting the Unit (Key Switch Models)	29
Preparing for Start-Up (Power Zone–DLA)	30
Select AUTO or MANUAL Mode	30
Manually Starting the Unit	30
Light Operation (Key Switch Models)	31
Light Operation (Power Zone–DLA (If Equipped))	31
Engine Derating	31
Wet Stacking	31
Dusk to Dawn Sensor (Power Zone–DLA) (If Equipped)	32
Customer Convenience Receptacles	32
Shutting Down the Unit	32
Shutting Down the Unit (Power Zone–DLA (If Equipped))	32
Automatic Shutdown	33
Lowering the Mast—Manual Winch	33
Lowering the Mast—Electric Winch (If Equipped)	33
Manually Lowering the Mast	34
Lowering the Mast—Power Zone-DLA (If Equipped)	34
Positive Air Shutdown (PAS) (If Equipped)	34
Test the PAS	34
Reset the PAS	35
Lower Radiator Hose Heater (If Equipped)	35
Tandem Tow (If Equipped)	35
Telemetry (If Equipped)	35
Spark Arrester (If Equipped)	35
Heated Fuel Filter (If Equipped)	35
Towing the Unit	36
Lifting the Unit	36
Tying the Unit Down	36

Section 4: Maintenance

Emissions Information	37
Daily Walk-Around Inspection	37
General Maintenance	37
Preparing for Service	37
Cleaning the Unit	37
Inspecting the Unit	37
Basic Maintenance Schedule	38
Resetting the Maintenance Alarms (If Equipped)	40
Manual Winch: Use, Operation, and Maintenance	40
Prior to Use	40
Operation	40
Maintenance	40
Electric Winch (If Equipped): Use, Operation, and Maintenance	40
Winch Mechanical Brake	41
Trailer Wheel Bearings	41
Jack Maintenance	41

Section 5: Troubleshooting

General Troubleshooting	43
Troubleshooting the Lights	44

Section 6: Wiring Diagrams

Mast Junction Box Wiring and Light Connections	45
AC Diagram MLT6SKDS - Non Power Zone/Key Equipped	46
AC Wiring Diagram MLT6SMDS - Non Power Zone/Key Equipped	47
AC Wiring Diagram—MLT6SKDS With Power Zone	48
AC Wiring Diagram—MLT6SMDS Power Zone (If Equipped)	49
DC Wiring Diagram—MLT6SMDS Non Power Zone/Key Equipped	50
DC Wiring Diagram—MLT6SMDS Power Zone (If Equipped)	51
DC Wiring Diagram MLT6SKDS - Without Power Zone	52
DC Wiring Diagram—MLT6SKDS Power Zone (If Equipped)	53

DC Wiring Option—Heated Fuel Filter – MLT6SMDS	54
DC Wiring Option—Heated Fuel Filter – MLT6SKDS	55
DC Wiring—Electric Winch Option	56
Trailer Lights Wiring	57
DC Wiring—Electric Winch Option—Power Zone (If Equipped)	58

Section 1: Introduction and Safety

Introduction

Thank you for purchasing a Generac Mobile Products, LLC product. This unit has been designed to provide high-performance, efficient operation, and years of use when maintained properly.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

Read This Manual Thoroughly



⚠️ WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

The owner is responsible for proper maintenance and safe use of the equipment. Comply with regulations the Occupational Safety and Health Administration (OSHA) has established, or with equivalent standards. Also, verify that the unit is applied, used, and maintained in accordance with the manufacturer's instructions and recommendations. Do nothing that might alter safe application/usage and render the unit in noncompliance with the aforementioned codes, standards, laws, and regulations.

Save these instructions for future reference. This manual contains important instructions for the unit that should be followed during setup, operation and maintenance of the unit and battery. ALWAYS supply this manual to any individual that will use this machine.

Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The alerts in this manual, and on tags and decals affixed to the unit, are not all inclusive. If using a procedure, work method, or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others and does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the unit, DANGER, WARNING, CAUTION, and NOTE blocks are used to alert personnel to special instructions

about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Alert definitions are as follows:

⚠️ DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

⚠️ WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

(000002)

⚠️ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety alerts cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

How to Obtain Service

When the unit requires servicing or repairs, contact a Generac Mobile Products Authorized Service Dealer (GMP ASD for assistance. Service technicians are factory-trained and are capable of handling all service needs. When contacting a GMP ASD about parts and service, always supply the complete model number and serial number of the unit as given on its data decal located on the unit. Record the model number and serial numbers in the spaces provided on the inside front cover of this manual.

General Hazards



⚠ DANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury. (000103)



⚠ WARNING

Hearing Loss. Hearing protection is recommended when using this machine. Failure to wear hearing protection could result in permanent hearing loss. (000107)



⚠ WARNING

Moving Parts. Keep clothing, hair, and appendages away from moving parts. Failure to do so could result in death or serious injury. (000111)



⚠ WARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire. (000108)

⚠ WARNING

Risk of injury. Do not operate or service this machine if not fully alert. Fatigue can impair the ability to service this equipment and could result in death or serious injury. (000215)



⚠ WARNING

Risk of burns. Allow engine to cool before draining oil or coolant. Failure to do so could result in death or serious injury. (000139)

Explosion and Fire Hazards



⚠ DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000105)



⚠ WARNING

Risk of Fire. Unit must be positioned in a manner that prevents combustible material accumulation underneath. Failure to do so could result in death or serious injury. (000147)



⚠ WARNING

Risk of Fire. Hot surfaces could ignite combustibles, resulting in fire. Fire could result in death or serious injury. (000110)

Trailer Hazards

⚠ WARNING

Personal injury. Trailer must be securely coupled to the hitch with the chains correctly attached. Uncoupled or unchained towing could result in death or serious injury. (000233a)

⚠ WARNING

Personal injury. Do not operate unit during transport. Doing so could result in death, serious injury, or property damage. (000231a)

⚠ WARNING

Crushing hazard. Verify unit is properly secured and on level ground. An unsecured unit can suddenly roll or move, causing death or serious injury. (000234a)

⚠ WARNING

Property or Equipment Damage. Tighten wheel lug nuts after first 50 miles to factory specifications. Failure to do so could result in death, serious injury, property or equipment damage. (000235)

Electrical Hazards



⚠ DANGER

Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury. (000145)



⚠ DANGER

Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury. (000104)



⚠ DANGER

Electrocution. Contact with bare wires, terminals, and connections while generator is running will result in death or serious injury. (000144)



⚠ DANGER

Electrocution. Verify electrical system is properly grounded before applying power. Failure to do so will result in death or serious injury. (000152)



⚠ DANGER

Electrocution. Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury. (000188)



⚠ DANGER

Electrocution. DO NOT use the unit if electrical cord is cut or worn through. Doing so will result in death or serious injury. (000263a)

Battery Hazards



⚠ DANGER

Electrocution. Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury. (000188)



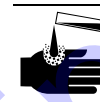
⚠ WARNING

Explosion. Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury. (000137a)



⚠ WARNING

Explosion. Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention. (000162)



⚠ WARNING

Risk of burn. Do not open or mutilate batteries. Batteries contain electrolyte solution which can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention. (000163a)

⚠ WARNING

Environmental Hazard. Always recycle batteries at an official recycling center in accordance with all local laws and regulations. Failure to do so could result in environmental damage, death or serious injury. (000228)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit the Battery Council International website at: <http://batteryCouncil.org>

Fuel Hazards



⚠ DANGER

Explosion and fire. Fuel and vapors are extremely flammable and explosive. No leakage of fuel is permitted. Keep fire and spark away. Failure to do so will result in death or serious injury. (000192)



⚠ DANGER

Risk of fire. Allow fuel spills to completely dry before starting engine. Failure to do so will result in death or serious injury. (000174)

- **DO NOT** fill fuel tank near an open flame, while smoking, or while engine is running. **DO NOT** fill tank in an enclosed area with poor ventilation.
- **DO NOT** operate with the fuel tank cap loose or missing.

Engine Safety

Internal combustion engines present special hazards during operation and fueling. Failure to follow the safety guidelines described below could result in severe injury or death. Read and follow all safety alerts described in the engine operator's manual. A copy of this manual was supplied with the unit when it was shipped from the factory.

- **DO NOT** run engine indoors or in an area with poor ventilation. Make sure engine exhaust cannot seep into closed rooms or ventilation equipment.
- **DO NOT** clean air filter with gasoline or other types of low flash point solvents.
- **DO NOT** operate the unit without a functional exhaust system.
- Shut the engine down if any of the following conditions exist during operation:
 - Noticeable change in engine speed.
 - Loss of electrical output.
 - Equipment connected to the unit overheats.
 - Sparking occurs.
 - Engine misfires or there is excessive engine/generator vibration.
 - Protective covers are loose or missing.
 - Ambient air temperature is above 120 °F (49 °C).

Operating Safety

Positioning the Unit



⚠ DANGER

High Voltage. Verify area above unit is clear of overhead wires and obstructions. Contact with high-voltage power lines will result in death or serious injury. (000260a)



⚠ WARNING

Burn hazard. Never operate lights with a damaged or missing lens cover. Lamps are hot and pressurized while in use. Unprotected lamps can shatter, causing severe injury. (000277)

- The area immediately surrounding the unit should be dry, clean, and free of debris.
- Position and operate the unit on a firm, level surface.
- If the unit is equipped with a frame grounding stud, follow any local, state, and National Electrical Code (NEC) guidelines when connecting.

Starting the Unit



⚠ DANGER

Electrocution. **DO NOT** use the unit if electrical cord is cut or worn through. Doing so will result in death or serious injury. (000263a)

⚠ WARNING

Equipment damage. Do not attempt to start or operate a unit in need of repair or scheduled maintenance. Doing so could result in serious injury, death, or equipment failure or damage. (000291)

Raising and Lowering the Mast



⚠️ WARNING

Electrocution. Do not set up or operate this unit if severe weather is expected. Lightning strikes can kill or cause severe injury even if you are not touching the unit. (000296)



> 60 mph

⚠️ WARNING

Do not set up the unit if high winds are expected. High winds can cause the unit to tip or fall, causing severe injury or machine damage. (000297)

⚠️ WARNING

Personal injury or equipment damage. Do not raise or lower the mast while the unit is operating. Doing so can break the lenses and cause the lamps to shatter. (000279)

⚠️ WARNING

Personal Injury. Stop immediately if the mast hangs up or the winch cable develops slack. Excess slack could cause the mast to collapse, resulting in personal injury or equipment damage. (000265)

⚠️ WARNING

Tipping hazard. Extend the outriggers and level the unit before raising the mast. Keep the outriggers extended while the mast is up. Failure to do so could cause the unit to tip and fall and could result in death or serious injury. (000266)

- Keep area around the unit clear of people while raising and lowering the mast.
- **ALWAYS** lower the mast when not in use.
- The tower extends up to 23 ft (7 m). Verify area above trailer is open and clear of overhead wires and obstructions.
- If for any reason any part of the mast hangs up or winch cable develops slack while raising or lowering tower, stop immediately and contact a GMP ASD.
- **NEVER** remove safety pin or pull mast locking pin while tower is up.

Service Safety

⚠️ WARNING

Accidental start-up. Disconnect negative battery terminal before servicing to prevent accidental engine rotation. Failure to do so could result in death or serious injury. (000148a)

This unit uses high voltage circuits capable of causing serious injury or death. Only a qualified and licensed electrician should troubleshoot or repair problems occurring in this equipment.

- Before servicing the unit, verify the control power switch and circuit breakers are OFF (O), and the negative (-) terminal on the battery is disconnected. **DO NOT** perform even routine service (oil/filter changes, cleaning, etc.) unless all electrical components are shut down.
- **ALWAYS** use extreme caution when servicing this unit in damp conditions. Do not service the unit if skin or clothing is wet. Do not allow water to collect around the base of the unit.
- **DO NOT** wash the unit with high pressure hoses, power washers, or steam cleaners. Water may collect in the unit, causing damage to electrical parts.
- Replace all missing and hard to read decals. Decals provide important operating instructions and warn of dangers and hazards.
- Wear heavy leather gloves when handling winch cables. Never let cables slip through bare hands.
- Only use mild soap and water to clean the lens covers. Other chemicals may damage the lens covers.

Towing Safety

Towing a trailer requires care. Both the trailer and vehicle must be in good condition and securely fastened to each other to reduce the possibility of an accident. Some states require that large trailers be registered and licensed. Contact your local Department of Transportation office to check on license requirements for your particular unit.

Hitch and Coupling

- Verify the hitch and coupling on the towing vehicle are rated equal to, or greater than, the trailer's gross vehicle weight rating (GVWR).
- Verify the trailer hitch and the coupling are compatible. Verify the coupling is securely fastened to the vehicle.
- **DO NOT** tow trailer using defective parts. Inspect the hitch and coupling for wear or damage.
- Connect safety chains in a crossing pattern under the tongue.
- Before towing the trailer, verify that the weight of the trailer is equal across all tires. On trailers with adjustable height hitches, adjust the angle of the trailer tongue to keep the trailer as level as possible.

Running Lights

Verify directional and brake lights on the trailer are connected and working properly.

Wheels and Tires

- Inspect trailer tires for wear and proper inflation.
- Verify wheel lug nuts are present and tightened to the specified torque.

Safe Towing Techniques

- Practice turning, stopping, and backing up in an area away from heavy traffic prior to transporting the unit.
- Maximum recommended speed for highway towing is 45 mph (72 km/h). Recommended off-road towing speed is 10 mph (16 km/h) or less, depending on terrain.
- When towing, maintain extra space between vehicles and avoid soft shoulders, curbs, and sudden lane changes.

Reporting Trailer Safety Defects

If you believe your trailer has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Generac Mobile Products, LLC.

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 an individual problem between you, your dealer, or Generac Mobile Products, LLC.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-888-327-4236 (TTY:1-800-424-9153), go to <http://www.safercar.gov>; or write to:

Administrator
NHTSA
1200 New Jersey Avenue S.E.
Washington, DC 20590

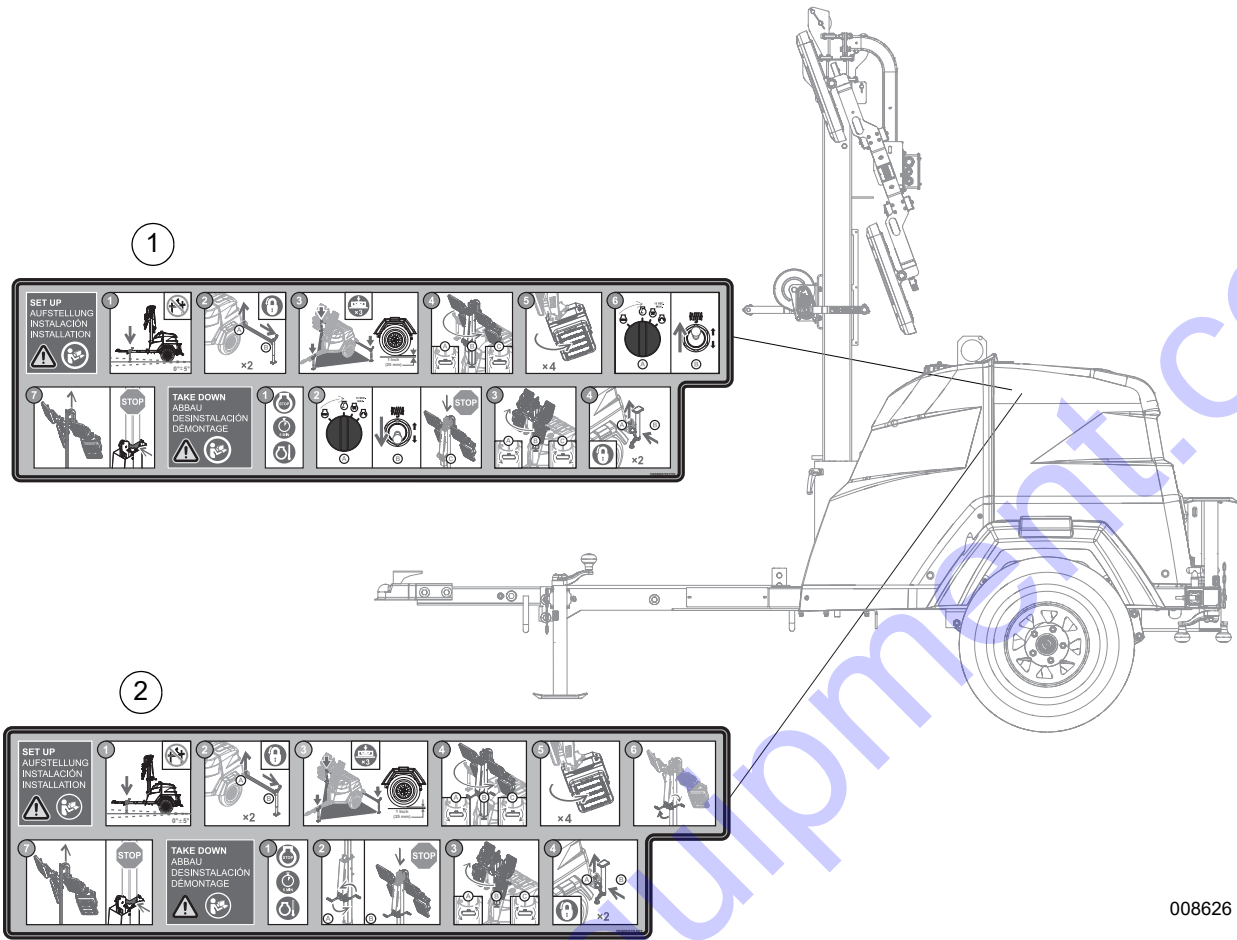
You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

Safety and Operating Decals

See [Figure 1-1](#) through [Figure 1-3](#). This unit features numerous safety and operating decals. These decals provide important operating instructions and warn of dangers and hazards. The following diagrams illustrate decal locations and descriptions.

Replace any missing or hard-to-read decals and use care when washing or cleaning the unit. Decal part numbers can be found in the parts manual at www.generacmobileproducts.com.

ID	Description	ID	Description
1	Setup and Take-Down Instructions (Electric)	16	Control Panel Label (not shown)
2	Setup and Take-Down Instructions (Manual)	17	Neutral Bonded to Frame
3	Danger—Overhead Power Lines	18	Not A Step
4	Warning—Electrical Storms and High Wind	19	Warning—High Temperature: Do Not Remove Guard
5	Owner's Manual Location	20	Mast Junction Box Wiring (inside)
6	Electric Shock Hazard	21	Warning—Do Not Retract Outriggers With Tower Up
7	Warning—Hot Surface	22	Stowed Position
8	Warning—Pressurized Liquid	23	Lifting Point
9	Warning—Entanglement Hazard	24	Forklift and Tie-Down Point
10	Warning—Cutting Hazard	25	Engine Operation
11	Disconnect Battery Before Servicing	26	Ultra Low Sulfur Diesel Fuel Only
12	Danger—Carbon Monoxide	27	Danger—Fuel and Fueling Hazards
13	Electrical Ground Connection	28	Tie-Down Point
14	Danger—Winch Operation	29	Towing Instructions
15	Warning—Diesel Exhaust		



008626

Figure 1-1. Decal Locations (1 of 3)

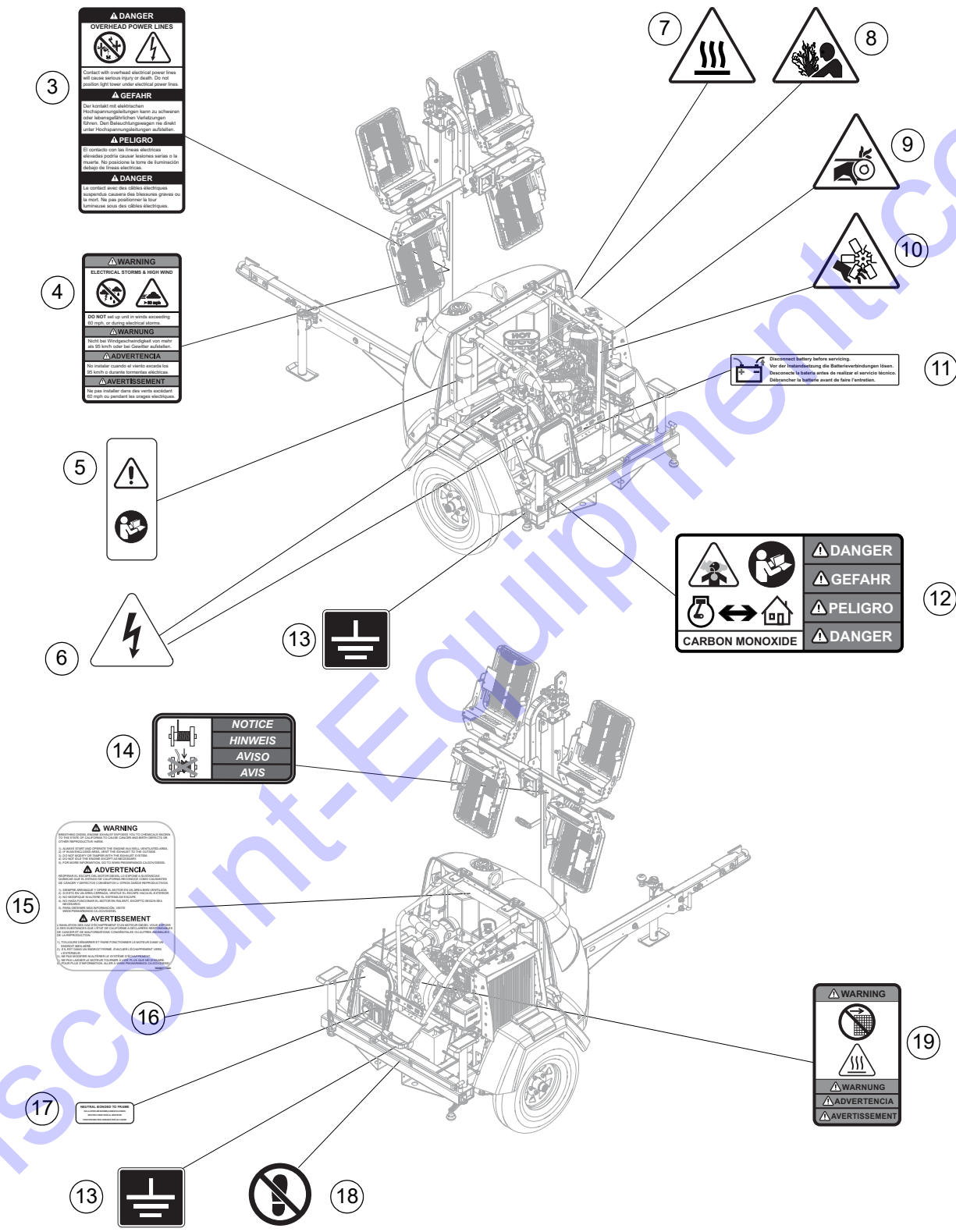


Figure 1-2. Decal Locations (2 of 3)

008627

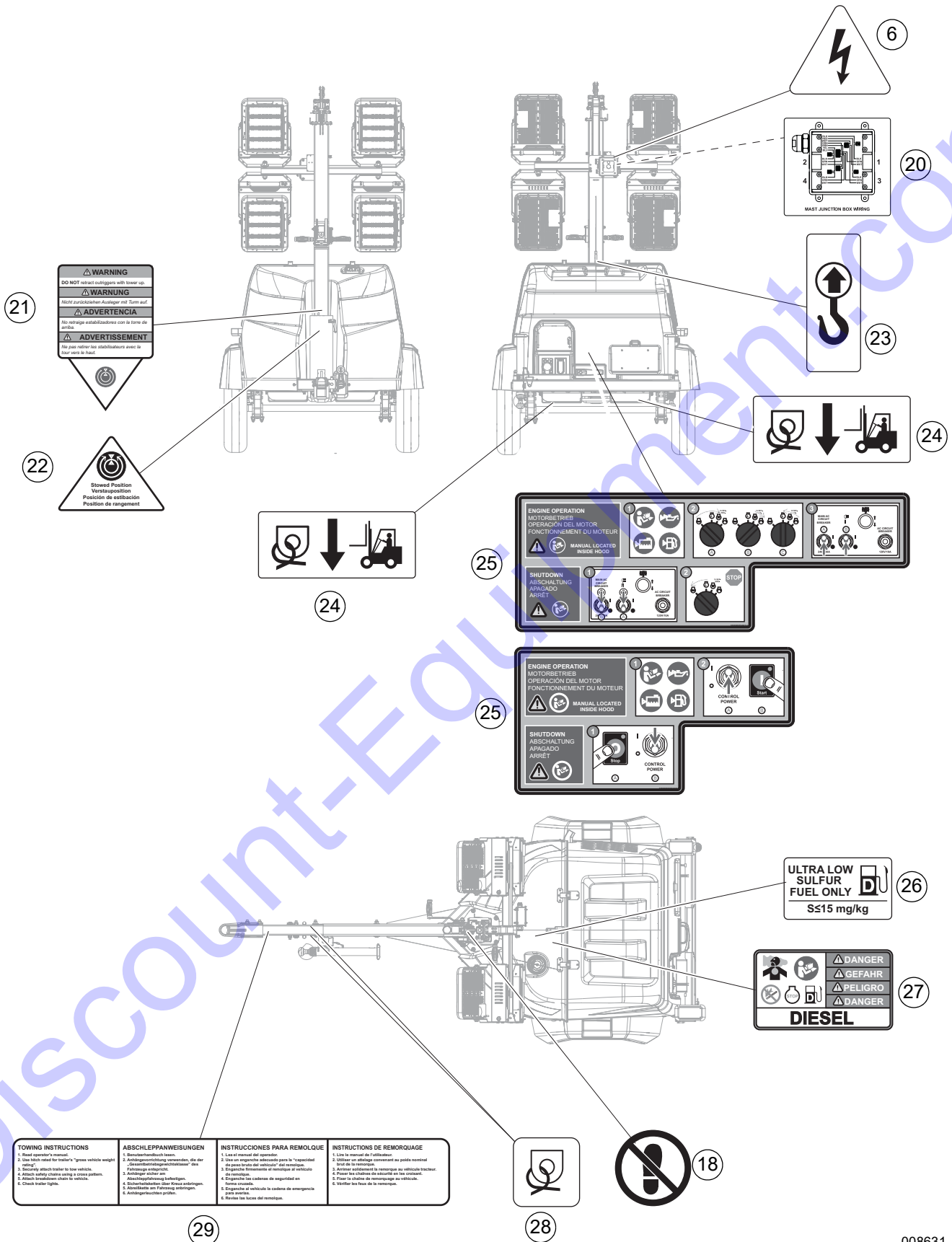


Figure 1-3. Decal Locations (3 of 3)

Section 2: General Information

Specifications

DESCRIPTION	UNITS	MLT6SMDS	MLT6SKDS
Engine			
Manufacturer		Mitsubishi®	Kubota®
Model		L3E-W461ML	D1005-E3BG1-MGM-1
EPA Tier	—	Tier 4	Tier 4 Final
Fuel Consumption—Full Load	gph (Lph)	0.67 (2.54)	0.68 (2.57)
Fuel Consumption—Lights Only	gph (Lph)	0.34 (1.29)	0.29 (1.10)
Battery Type—Group Number	—	24	24
Battery Voltage	quantity per unit	12V (1)	12V (1)
Battery Rating	cold-cranking amps (CCA)	440	440
Generator			
Make	—	Marathon®	
Model	—	201CSA5423	
Output - Standby	kW (kVA)	6.0 (6.0)	
Output Voltage	volts	120V/240V, single phase	
Output Amperes 120V (240V)	amperes	15 (25)	
Frequency	Hertz	60	
Weights			
Dry Weight	lbs (kg)	1,310 (594)	1,350 (612)
Operating Weight	lbs (kg)	1,600 (726)	1,620 (735)
Capacities			
Fuel Tank Volume	gal (L)	40.8 (154.5)	40.8 (154.5)
Usable Fuel Volume	gal (L)	39.9 (151)	39.9 (151)
Coolant (including engine)	qt (L)	4.5 (4.3)	4.8 (4.5)
Oil (including filter)	qt (L)	5.0 (4.7)	5.4 (5.1)
Maximum Run Time at Full Load			
Full Load	hours	60	59
Lights Only	hours	117	138
AC Distribution			
Circuit Breaker Size	amperes	30	
Trailer			
Hitch—Standard	—	2 in (51 cm) ball	
Maximum Tire Pressure	psi (kPA)	50 (345)	
<i>Specifications are subject to change without notice.</i>			

Unit Serial Number Locations

Refer to the illustration to locate the unit ID tag and Vehicle Identification Number (VIN) tag on the unit. Important information, such as the unit serial number, model number, VIN, and tire loading information are found on these tags. Record the information from these tags so it is available if the tags are lost or damaged. When ordering parts or requesting assistance, you may be asked to provide this information.

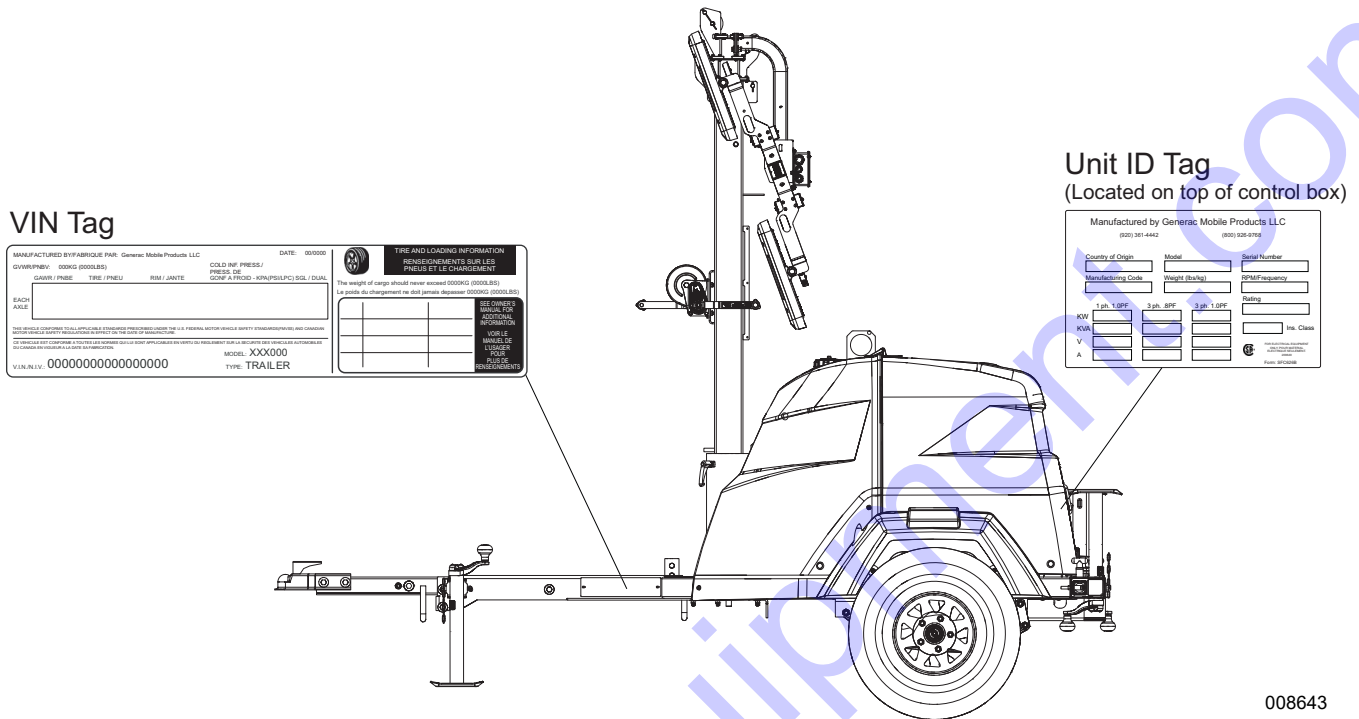


Figure 2-1. Serial Number Locations

008643