



Industrial Power Equipment

Operator's Manual

with Maintenance Information

DLT 3kW Vertical Mast Light Tower



Important

Read, understand and obey these safety rules and operating instructions before operating this machine. Only authorized personnel shall be permitted to operate this machine. This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, contact us.

Contact Us:

Internet:
<http://www.ECHO-USA.com>

E-mail:
IPESales@ECHO-USA.com

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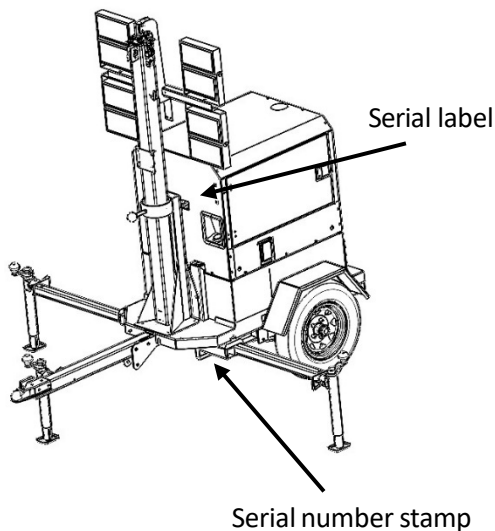
About this manual

AMIDA appreciates your choice of our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. This book is an operation and daily maintenance manual for the user or operator of a ECHO machine.

This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, contact ECHO.

Product Identification

The machine serial number is located on the serial label.



Intended Use

This machine is intended to be used only to provide lighting and electrical power to a work site. Use of this product in any other way is prohibited and contrary to its intended use.

Bulletin Distribution and Compliance

Safety of product users is of paramount importance to ECHO. Various bulletins are used by ECHO to communicate important safety and product information to dealers and machine owners.

The information contained in the bulletins is tied to specific machines using the machine model and serial number.

Distribution of bulletins is based on the most current owner on record along with their associated dealer, so it is important to register your machine and keep your contact information up to date.

To ensure safety of personnel and the reliable continued operation of your machine, be sure to comply with the action indicated in a respective bulletin.

Introduction

Contacting the Manufacturer

At times it may be necessary to contact ECHO. When you do, be ready to supply the model number and serial number of your machine, along with your name and contact information. At minimum, ECHO should be contacted for:

- Accident reporting
- Questions regarding product applications and safety
- Standards and regulatory compliance information
- Current owner updates, such as changes in machine ownership or changes in your contact information. See Transfer of Ownership, below.

Transfer of Machine Ownership

Taking a few minutes to update owner information will ensure that you receive important safety, maintenance and operating information that applies to your machine.

Please register your machine by filling out registration form and emailing it to IPEWarranty@ECHO-USA.com.



Danger

Failure to obey the instructions and safety rules in this manual will result in death or serious injury.

Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

Know and understand the safety rules before going on to the next section.

- 2 Always perform a pre-operation inspection.
- 3 Always perform function tests prior to use.
- 4 Inspect the workplace.
- 5 Only use the machine as it was intended.

- ☒ You read, understand and obey the manufacturer's instructions and safety rules—safety and operator's manuals and machine decals.

- ☒ You read, understand and obey employer's safety rules and worksite regulations.

- ☒ You read, understand and obey all applicable governmental regulations.

- ☒ You are properly trained to safely operate the machine.



Hazard Classification

Decals on this machine use symbols, color coding and signal words to identify the following:



Safety alert symbol—used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

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

WARNING

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

CAUTION

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

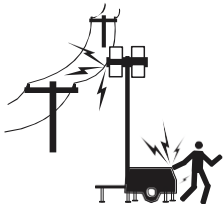
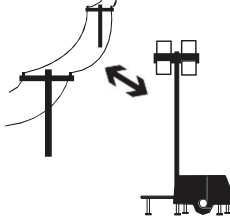
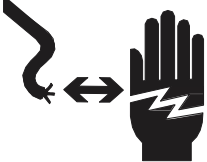
NOTICE

Indicates information considered important, but not hazard related (e.g. messages related to property damage)

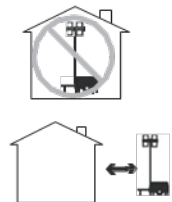
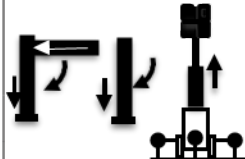
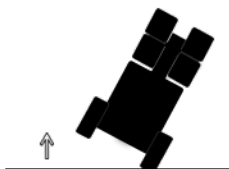
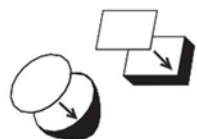
Safety Sign Maintenance

Replace any missing or damaged safety signs. Keep operator safety in mind at all times. Use mild soap and water to clean safety signs. Do not use solvent-based cleaners because they may damage the safety sign material.

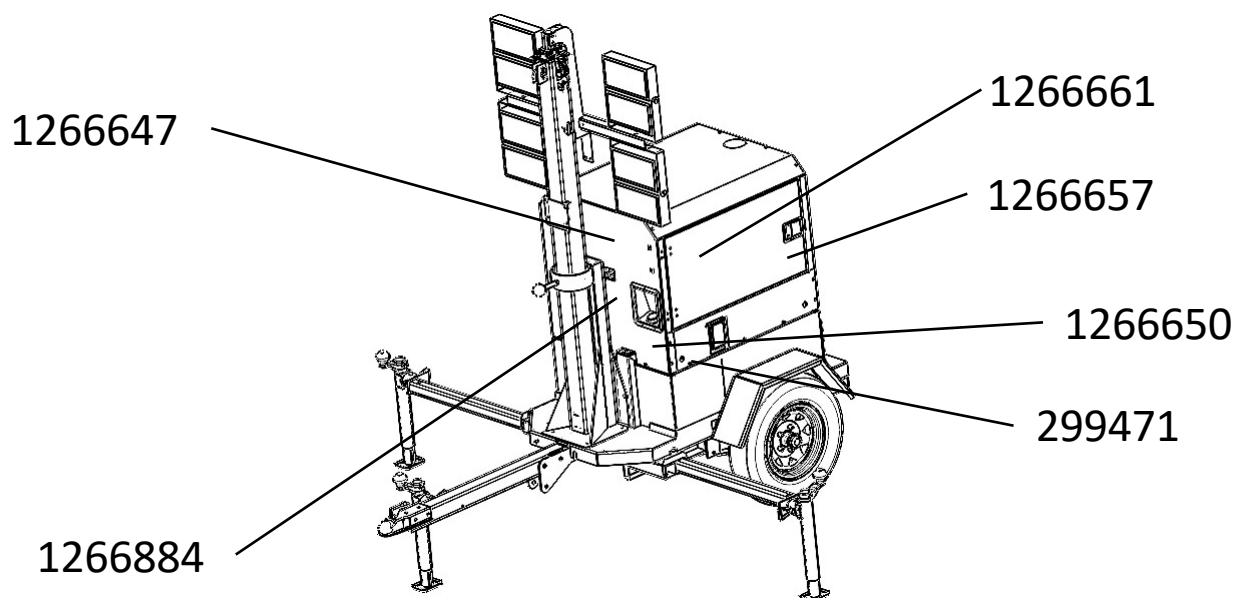
Symbol and Hazard Pictorials Definitions

				
Read the operator's manual	Electrocution hazard	Stop engine	Earth ground	Electrocution hazard
				
Maintain required clearance	Explosion / Burn hazard	Disconnect battery Read the service manual	Keep away from moving parts	Keep away from moving parts
				
Explosion / Burn hazard	Explosion / Burn hazard	Corrosive acid.	Explosion hazard	Do not use high energy starting aids on machines equipped with glow plugs or grid heater.
				
No smoking	No flame	No flame	Burn hazard	Stay clear of hot surfaces and components

Symbol and Hazard Pictorials Definitions

				
Burn hazard, hot components	Shattering glass hazard	Carbon Monoxide hazard	Do not use light tower indoors	Wear protective clothing
				
Lifting point	Tie-down point	Tip-over hazard	Deploy outriggers AND all jacks(4). before raising mast	Tip-over hazard, tow speed
				
Keep protective barriers in place	Electrocution/entanglement hazard	Electrocution/entanglement hazard	[Auto-Start feature] Flashing beacon indicates engine may start at any time	Access by authorized personnel only

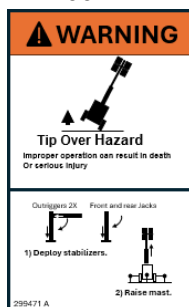
General Safety



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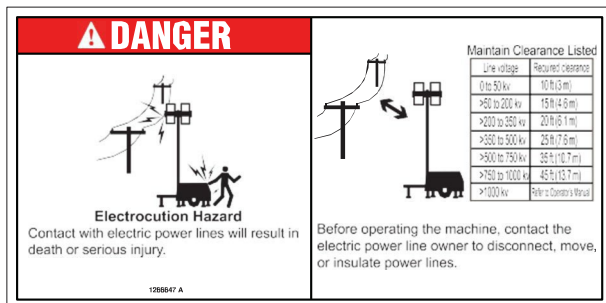
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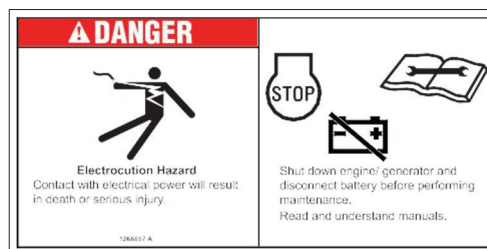
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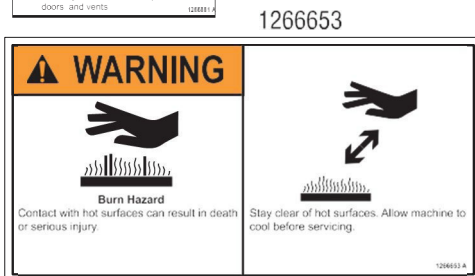
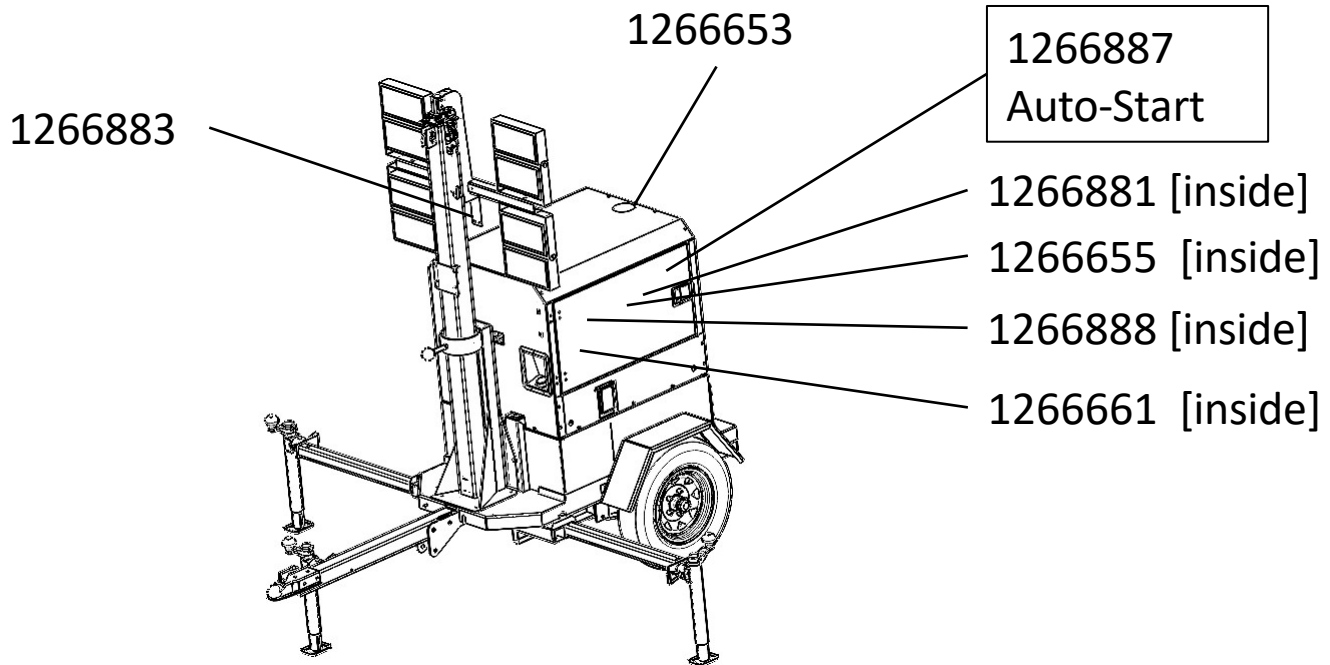
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General Safety



Work Area Safety

▲ Electrocuting Hazards

This machine is not electrically insulated and will not provide protection from contact with or proximity to electrical current.

Before operating the machine, contact the electric power line owner to disconnect, move, or insulate power lines.

Obey all local and governmental regulations regarding required clearance from electrical power lines. Avoid overhead power lines and at a minimum, the required clearance contained in the chart below must be followed.

Line Voltage	Required Clearance	
0 to 50KV	10 ft	3.05 m
>50 to 200KV	15 ft	4.60 m
>200 to 350KV	20 ft	6.10 m
>350 to 500KV	25 ft	7.62 m
>500 to 750KV	35 ft	10.67 m
>750 to 1000KV	45 ft	13.72 m
over 1000KV	see below	

For power lines over 1000kV, the minimum clearance distance must be established by the utility owner or operator or by a registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.

Allow for mast movement, electrical line sway or sag, and beware of strong or gusty winds.

Do not operate the machine during lightning or storms.

Do not use the machine as a ground for welding.



Keep away from the machine if it contacts energized power lines. Personnel must not touch or operate the machine until energized power lines are shut off.

Do not connect wires directly to the generator. Connect auxiliary equipment only to the power outlets provided.

Do not perform service or replace the lamps with the engine/generator running or batteries connected.

This machine should be grounded in accordance with all local electrical codes. Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

There is a permanent conductor between the generator (static winding) and the frame.

Work Area Safety

⚠ Explosion and Fire Hazards

Do not start the engine if you smell or detect liquid petroleum gas (LPG), gasoline, diesel fuel or other explosive substances.



Stop engine before adding fuel.



Do not refuel the machine while it is hot. Allow to cool for several minutes before refueling.

Do not spill fuel inside the engine compartment.

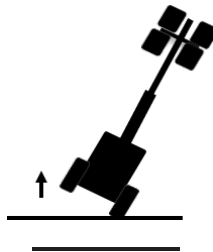
Refuel the machine and charge the battery only in an open, well-ventilated area away from sparks, flames and lighted tobacco.

Do not operate the machine in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.



Do not use high energy starting aids on machines equipped with glow plugs or grid heater.

⚠ Tip-over Hazards



Do not raise the mast unless all outriggers are properly deployed, the foot pads are in firm contact with the ground and the machine is level.

Do not set the machine up on a surface where it cannot be leveled using only the leveling jacks.

Do not hang objects from the lights or the mast.

Do not use the mast to raise material or personnel.

Do not move the machine unless the mast is lowered to the stowed position.



Do not raise the mast when wind speeds may exceed 60 mph / 97 km/h. Always deploy both outriggers and all four jacks.

Do not alter or disable machine components that in any way affect safety and stability.

Work Area Safety

Do not alter or disable machine components that in any way affect safety and stability.

Do not adjust or stow the outriggers when the mast is raised.

Be sure the tires are in good condition and the lug nuts tightened.



Do not place ladders or scaffolds against any part of the machine.

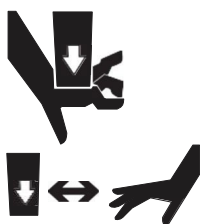
Do not use the machine on a moving or mobile surface or vehicle.

▲ Crushing Hazard



Do not raise or lower the mast unless the area below is clear of personnel and obstructions.

Keep hands and fingers away from any potential pinch points.



▲ Collision Hazards

Check the work area for overhead obstructions or other possible hazards.

Ensure that the collision area around the mast and light fixtures is clear before rotating the mast.

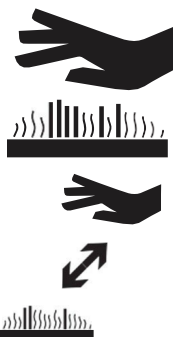
Stay clear of moving mast.

Always use the light fixture bar rotation lock before replacing light fixtures.

▲ Burn Hazards

Stay clear of hot components and surfaces.

Allow machine to cool before servicing.



Do not touch the lamp fixtures while they are turned on. Turn the lamps off and allow them to cool before touching.

Do not touch hot parts of the engine or tailpipe. Use protective gloves when handling hot parts.

Work Area Safety

▲ Bodily Injury Hazard

Breathing carbon monoxide can result in death or serious injury. Do not use the machine indoors. Use only outside, far from open windows, doors and vents.

Do not breathe exhaust fumes.

Do not work on this equipment when mentally or physically fatigued.

Do not work on this equipment when under the influence of drugs or alcohol.

Stay clear of belts and fan when engine is running.

Do not use where people will remain close to the lamps for more than a few minutes unless adequate shielding or other safety precautions are used.

Do not grasp the cable.

Use proper lifting techniques when lifting and positioning the tongue of the machine.

Read manuals. If you do not understand the information in the manuals consult your supervisor, the owner or the manufacturer.

▲ Fall Hazards

Do not climb or stand on any part of the light tower during maintenance or operation.

▲ Traffic Hazards

Stand clear of traffic when starting or checking the unit along the road.

▲ Damaged Machine Hazards

Do not use a damaged or malfunctioning machine.

Do not use a machine with a worn, frayed, kinked or damaged cable.

Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift. Immediately tag and remove from service a damaged or malfunctioning machine.

Be sure all maintenance has been performed as specified in this manual and the appropriate ECHO service manual.

Be sure the operator's manual is complete, legible and in the storage container located on the machine.

Be sure all decals are in place and legible.

Do not modify or alter the light tower without the prior written permission of the manufacturer.

Work Area Safety

▲ Component Damage Hazards

Do not turn the lights on unless the engine is running. Always turn the lights off before shutting down the engine.

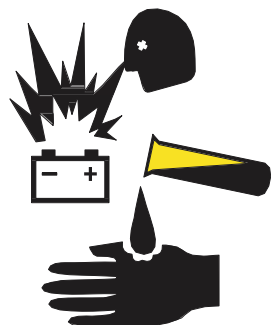
Do not replace lamp bulbs with any bulbs other than those specified on the machine and in this manual.

Note: Lamp bulbs contain mercury (Hg). Dispose of lamp bulbs according to local, state and federal laws.

Be sure lamp fixture connections are properly tightened before turning lights on.

▲ Battery Safety

Burn Hazards



Batteries contain acid. Always wear appropriate personal protective equipment, including gloves, face shield and long sleeve shirt when working with batteries.

Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

Do not use any battery charger greater than 12V to charge the battery.

Do not remove the vent caps from the battery when charging.

Do not expose the batteries or the charger to water or rain during charging.

Explosion Hazards



Keep sparks, flames and lighted tobacco away from batteries. Batteries emit explosive gas.



Do not contact the battery terminals or the cable clamps with tools that may cause sparks.

Electrocution/Burn Hazards

Avoid contact with electrical terminals.

Inspect the power cord for damage prior to each use.

Replace any damaged cord before operating.

Do not allow the power cord to become caught or crushed while raising, lowering or rotating the mast.

Avoid electrical shock from contact with battery terminals. Remove all rings, watches and other jewelry.

Lifting Hazard

Use the appropriate number of people and proper lifting techniques when lifting batteries.

Work Area Safety

▲ Towing Hazards

Read, understand and obey all of your tow vehicle manufacturer's recommendations, warnings and instructions before towing this machine.

Do not tow the machine unless the mast is retracted to the stowed position.

Do not tow the machine unless rear outriggers and all jacks have been retracted and stowed.

Do not overload your tow vehicle. Check the manufacturer's Gross Vehicle Weight Rating (GVWR). To obtain the gross vehicle weight, add the tongue weight of the trailer to the vehicle weight (including vehicle, passengers and cargo).

Do not load cargo on the machine. The light tower is not designed to carry any extra cargo.

Be sure the hitch is securely attached to the tow vehicle.

Be sure the safety chains are securely attached to the tow vehicle. Safety chains should be crossed below hitch.

Be sure that all driving lights are operational.

Be sure all hitch components, lights and mirrors and methods of attaching the trailer to the tow vehicle conform to local, state and federal regulations.

Do not tow the machine on public roads unless it meets all governmental regulations for towing.

Do not exceed 60 mph / 97 km/h. Obey all local and national towing speed laws.

Be sure to chock the wheels when parking on a hill.

Use extreme care and slow speeds while towing across uneven terrain, debris, holes or drop-offs.

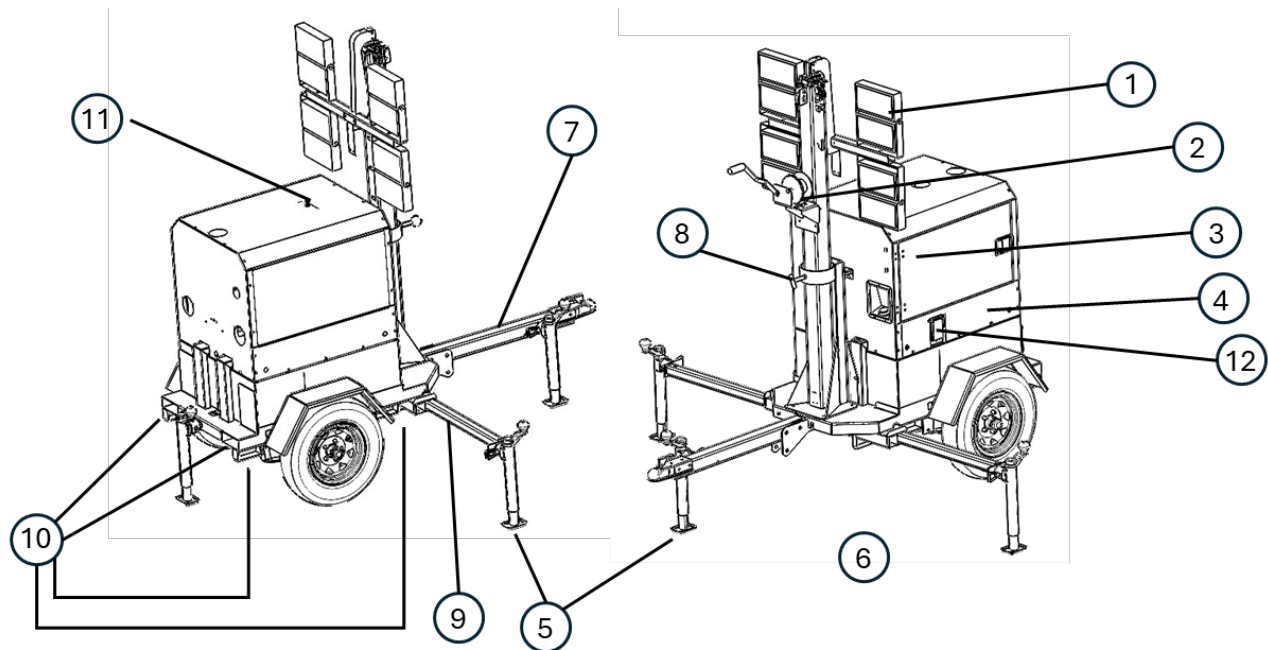
Note: Do not tow machine when engine is running! This can cause severe engine/radiator damage and **WILL NOT BE COVERED UNDER WARRANTY!**

Lockout After Each Use

When leaving the machine unattended, secure from unauthorized use. Unauthorized personnel may attempt to operate the machine without proper instruction, creating an unsafe condition.



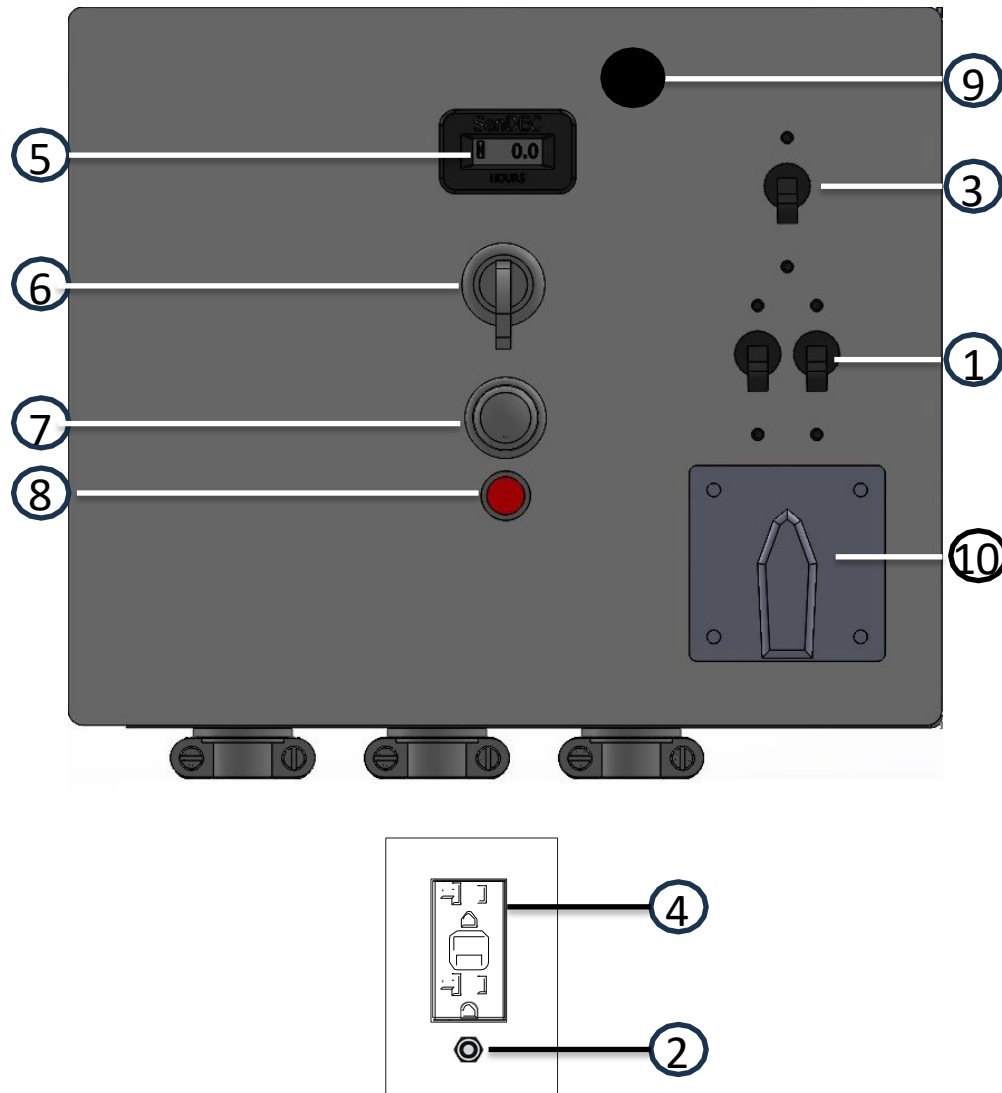
Legend



- 1) LAMPS
- 2) WINCH
- 3) CONTROL PANEL
- 4) MANUAL STORAGE
- 5) LEVELING JACK (4X)
- 6) TIE-DOWNS (4x)
- 7) TONGUE WITH TRAILER COUPLER

- 8) MAST HAND KNOB FOR MAST ROTATION LOCK
- 9) OUTRIGGER (2X)
- 10) FORKLIFT POCKETS (REAR AND SIDE)
- 11) LIFTING EYE
- 12) GFCI

Controls



Control Panel - Standard

1 Light switch

Move the light switch up to turn on the lights.
Move the light switch down to turn off the lights.

2 Circuit breaker for GFI receptacle

3 Main circuit breaker

Move the main circuit breaker switch up on the control panel before turning the individual light switches on or before attempting to use the convenience receptacles.

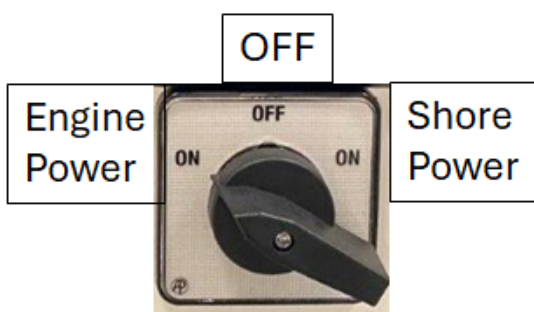


Controls

- 4 Duplex receptacle with GFI, 120V/20A
Convenience duplex receptacle with Ground Fault Interrupter (GFI).
- 5 Hour meter
The hour meter displays the number of hours the engine has operated.
- 6 Ignition switch for engine
Turn the ignition switch to the ignition position and hold the engine prime button down to prime the engine. The engine ECU will determine the amount of time the glow plugs will run based on engine temperature.
Turn the ignition switch to the start position to start the engine.
Turn the ignition switch to the off position to turn the engine off.

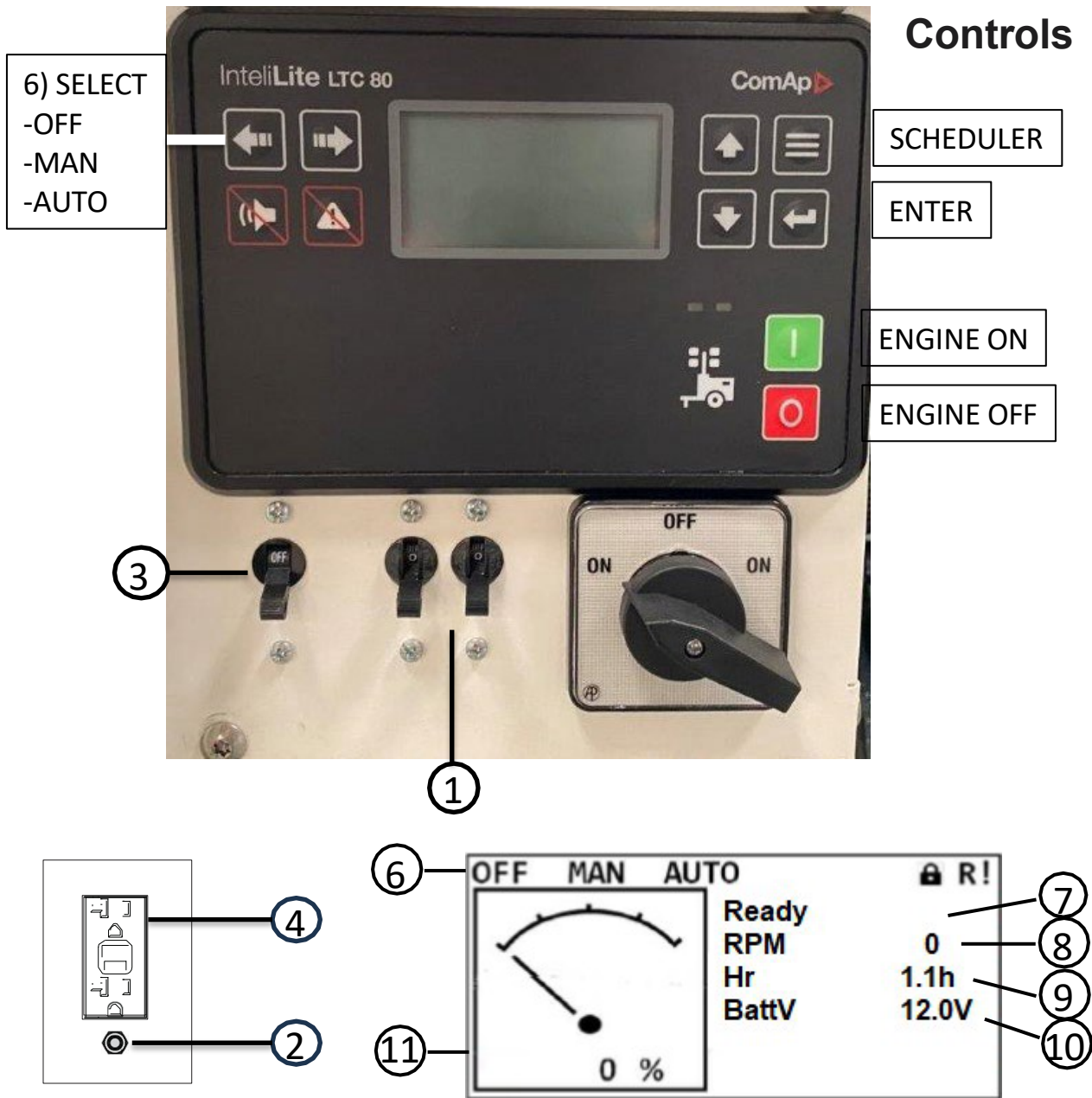
- 7 Engine prime button
With the ignition switch in the run position, press and hold the prime button until you hear the fuel pump turn on and then off. The engine ECU will determine how long the glow plugs run based on coolant temperature.
- 8 Fault code/ Glow plug light.
Light on blinking. Use decal on door to determine what the fault is.
- 9 Raise/lower switch (if equipped with electric winch)
Move the switch up to raise and extend the mast. Move the switch down to retract and lower the mast.

10) POWER SOURCE SELECTION SWITCH:



- ☐ (1) **ENGINE POWER:**
 - Engine (generator) power to light switches
 - [Shore power pigtail disconnected]
- ☐ (0) **OFF:**
 - All Power disconnected to light switches
- ☐ (2) **SHORE POWER:**
 - Power "IN" from Shore Power pigtail to light switches
 - Convenience receptacles not connected to shore power.
 - When connected to shore power the system 'Neutral bonded to ground' is disconnected from shore power
- ☒ For shore power connection - Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

Controls



Control Panel -

1 Light switch

Move the light switch up to turn on the lights.
Move the light switch down to turn off the lights.

2 Circuit breaker for GFI receptacle

3 Main circuit breaker

Move the main circuit breaker switch up on the control panel before turning the individual light switches on or before attempting to use the convenience receptacles.



Controls

- 4 Duplex receptacle with GFI, 120V/20A
Convenience duplex receptacle with Ground Fault Interrupter (GFI).
- 5 ComAp controller
- 6 Main screen 1) OFF 2) MAN 3) AUTO
- 7 Engine State: NotReady – Ready – [pre start] – [starting] – [running]
- 8 RPM: [of the engine]
- 9 Hr: [number of hours on the engine]
- 10 BattV: [battery voltage]
- 11 Fuel system: [in percentage with a line gauge]
- 12 Raise/lower switch (if equipped with electric winch)
Move the switch up to raise and extend the mast. Move the switch down to retract and lower the mast.

Controller functions:

Wake up: if the controller display is blank press the green “ON” button once. [The back light will turn off in 3 minutes and system sleep in 10 minutes.]

Select **OFF, MAN, AUTO** using the horizontal arrows



OFF – the system is off and will not start

MAN – the system can be started by pushing the green “ON” button – and off by pressing the “OFF” button.



The manual start function uses the AutoStart sequence [check for faults – prestart, glow plugs and fuel pump – start – verify start – close contactor, to allow AC power through to main breaker]

AUTO – the auto function will work in two different ways,

1. **“Sunrise / Sunset function”** - will turn the machine on at Sunset (with offset) and off at Sunrise (with offset).
2. **“Timer functions”** (8X) “on time” and “duration” will be entered. The time and duration can then repeated Daily/ Weekly/ Monthly/ Short Period. With a ‘Skip weekend’ option.

❖ **In AUTO mode – to turn the machine off you must first change to MAN mode and then push the OFF button.**

(See appendix for instructions on how to set / change Auto Functions

Inspections



Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

Know and understand the pre-operation inspection before going on to the next section.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Pre-operation Inspection Fundamentals

It is the responsibility of the operator to perform a pre-operation inspection and routine maintenance.

The pre-operation inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

The pre-operation inspection also serves to determine if routine maintenance procedures are required. Only routine maintenance items specified in this manual may be performed by the operator.

Refer to the list on the next page and check each of the items.

If damage or any unauthorized variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection again before going on to the function tests.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in the service manual.



Inspections

Pre-operation Inspection

- ☐ Be sure that the operator's manual is complete, legible and in the storage container located on the machine.
- ☐ Be sure that all decals are legible and in place. See Inspections section.
- ☐ Check for engine oil leaks and proper fluid level. Add oil if needed. See Maintenance section.
- ☐ Check for engine coolant leaks and proper coolant level. Add coolant if necessary. See Maintenance section.
- ☐ Check for battery fluid leaks and proper fluid level. Add distilled water if needed. See Maintenance section.
- ☐ Check for proper tire pressure and lug nut torque. Add air to tires if needed. See Maintenance section.

Check the following components or areas for damage, improperly installed or missing parts and unauthorized modifications:

- ☐ Electrical components, wiring and electrical cables
- ☐ Mast components
- ☐ Latches and pins
- ☐ Tires and wheels
- ☐ Trailer lights and reflectors
- ☐ Outriggers, leveling jacks and foot pads
- ☐ Winch

- ☐ Nuts, bolts and other fasteners
- ☐ Lamp fixtures, connections and bulbs
- ☐ Cable (kinks, frays and abrasions)
- ☐ Safety chains
- ☐ Engine and related components
- ☐ Fuel tanks
- ☐ Generator
- ☐ Grounding rod and lug

Check entire machine for:

- ☐ Cracks in welds or structural components
- ☐ Dents or damage to machine
- ☐ Excessive rust, corrosion or oxidation
- ☐ Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.
- ☐ Be sure the that the battery is in place and properly connected.
- ☐ After you complete your inspection, be sure that all compartment covers are in place and latched.

Inspections



Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.
- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.
- 3 Always perform function tests prior to use.**

Know and understand the function tests before going on to the next section.

- 4 Inspect the workplace.
- 5 Only use the machine as it was intended.

Function Test Fundamentals

The function tests are designed to discover any malfunctions before the machine is put into service. The operator must follow the step-by-step instructions to test all machine functions.

A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service. Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

After repairs are completed, the operator must perform a pre-operation inspection and function tests again before putting the machine into service.

Inspections

Function Tests

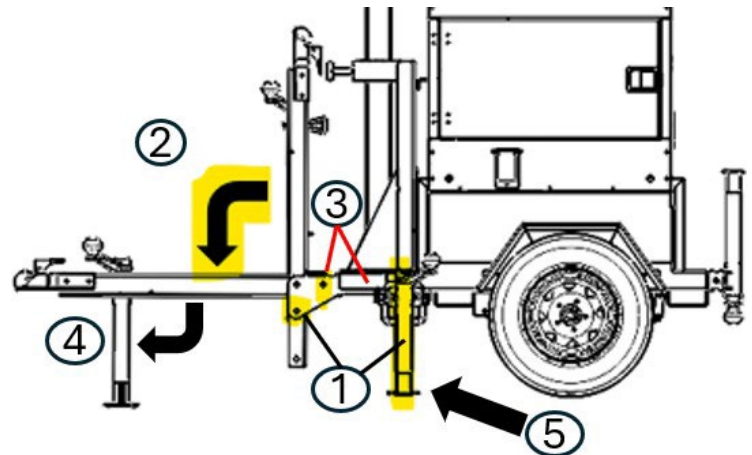
Lowering the tongue for use or towing

This light tower is equipped with a deployable tongue to maximize shipping units. Before towing or setting this machine up for operation on a work site for the first time follow the steps below. If the tongue has already been deployed properly proceed to the next section.

⚠ **Crush/Pinch hazard.** Keep hands and fingers away from any potential crush or pinch points during procedure.

- 1 Support the tongue so that it does not fall and remove the two tongue locking clips and pins shown and retain.
- 2 Rotate the tongue down into the light tower operating and towing position.
- 3 Re-install the locking clips and pins removed in step 1 to the new position (3). This will secure the tongue for light tower operation and towing.
- 4 Pull the jack release pin and rotate the tongue jack into vertical position.
- 5 Turn the leveling jack handle to lower the front outrigger foot pad and raise the tongue of the machine until the outrigger jacks are not contacting the ground.

- 6 Rotate the outrigger jacks to a horizontal position.



Inspections

Raising the tongue for storage or shipping

- 1 Rotate the outrigger jacks and lower them to the ground, lifting the tongue jack slightly off the ground.
- 2 Remove the locking clip from the tongue, lift the tongue and re-install the pin.
- 3 Turn the leveling jack handle to fully raise the front outrigger foot pad.
- 4 Pull the jack release pin and rotate the tongue jack into horizontal position.

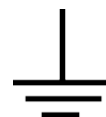
Setup

- 1 Position the light tower at the desired work site.
- 2 Chock the wheels.
- 3 Disconnect the trailer lights and the safety chains.
- 4 Open the latch on the trailer hitch.
- 5 Pull the release pin on the tongue jack and rotate into vertical position.
- 6 Turn the leveling jack handle to lower the front outrigger foot pad and raise the tongue of the machine enough to clear the tow vehicle.
- 7 Release the spring pin on the side outriggers and slide them out into the deployed position. Make sure the outriggers are locked in place. Rotate the leveling jack into vertical position.

- 8 Turn the leveling jack handles to level the machine. Level the machine using only the leveling jacks

Note: the outriggers are not designed to lift the tires of the unit off the ground.

- 9 Ground the light tower according to your local electrical code. A grounding lug is provided on the front of the machine, near the bottom.



Note: This machine should be grounded in accordance with all local electrical codes. Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

Test Machine Functions (models with manual winch)

By raising and lowering the mast back to the stowed position, the following functions will be tested: **winch, mast extension and mast rotation.**

- 10 Turn the winch handle clockwise until the mast raises approximately 2 feet / 60 cm.
 - ⦿ Result: A clicking sound should be heard as the mast raises.
- 11 Release the winch handle.
 - ⦿ Result: The winch brake should hold the mast.
- 12 Continue to turn the winch handle clockwise until the mast reaches desired height.
 - ⦿ Result: The mast sections should raise smoothly, free of hesitation or binding.
- 13 Turn the hand knob to release the mast rotation lock.



Inspections

- 14 Rotate the mast clockwise and then counterclockwise as far as it will go in either direction.
 - ⊙ Result: The mast should rotate smoothly and easily in both directions.
- 15 Rotate the mast to line up the arrows on the front of the mast.
- 16 Tighten the hand knob to secure the mast.
- 17 Attempt to rotate the mast in both directions.
 - ⊙ Result: The mast should not rotate.
- 18 Begin lowering the mast to the stowed position by turning the winch handle counterclockwise.
 - ⊙ Result: No clicking sound should be heard when the winch handle is turned.

Test Machine Functions (models with optional electric winch)

By raising and lowering the mast back to the stowed position, the following functions will be tested: **winch, mast extension and mast rotation.**

- 19 Move the raise/lower switch up until the mast raises approximately 2 feet / 60 cm.
 - ⊙ Result: The mast sections should raise smoothly, free of hesitation or binding.
- 20 Release the raise/lower switch.
 - ⊙ Result: The winch brake should hold the mast.
- 21 Continue to raise the mast until the mast reaches full vertical position.
 - ⊙ Result: The mast should raise smoothly, free of hesitation or binding.
- 22 Turn the hand knob to release the mast rotation lock.

- 23 Rotate the mast clockwise and then counterclockwise as far as it will go in either direction.
 - ⊙ Result: The mast should rotate smoothly and easily in both directions.
- 24 Rotate the mast to line up the arrows on the front of the mast.
- 25 Tighten the hand knob to secure the mast.
- 26 Attempt to rotate the mast in both directions.
 - ⊙ Result: The mast should not rotate.
- 27 Move the raise/lower switch down until the mast is in the fully retracted position.
 - ⊙ Result: The mast should lower smoothly, free of hesitation or binding.

Test the Lights

- 28 Make sure the circuit breakers and the light switches are in the off position.
- 29 Start the engine. See Starting the Engine in the Operating Instructions section.
- 30 Turn the main circuit breakers to the on position.
- 31 Turn the light switches to the on position.
 - ⊙ Result: The lights should come on.

Note: Make sure the circuit breaker and the light switches are turned off before shutting down the engine.

Inspections



Do Not Operate Unless:



You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.
- 3 Always perform function tests prior to use.
- 4 Inspect the workplace.**

Know and understand the workplace inspection before going on to the next section.

- 5 Only use the machine as it was intended.

Workplace Inspection Checklist

Be aware of and avoid the following hazardous situations:

- ☐ drop-offs or holes
- ☐ bumps, floor obstructions or debris
- ☐ sloped surfaces
- ☐ unstable or slippery surfaces
- ☐ overhead obstructions and high voltage conductors
- ☐ hazardous locations
- ☐ inadequate surface support to withstand all load forces imposed by the machine
- ☐ wind and weather conditions
- ☐ the presence of unauthorized personnel
- ☐ other possible unsafe conditions

Workplace Inspection Fundamentals

The workplace inspection helps the operator determine if the workplace is suitable for safe machine operation. It should be performed by the operator prior to moving the machine to the workplace.

It is the operator's responsibility to read and remember the workplace hazards, then watch for and avoid them while moving, setting up and operating the machine.



Inspections

Inspection for decals with words.

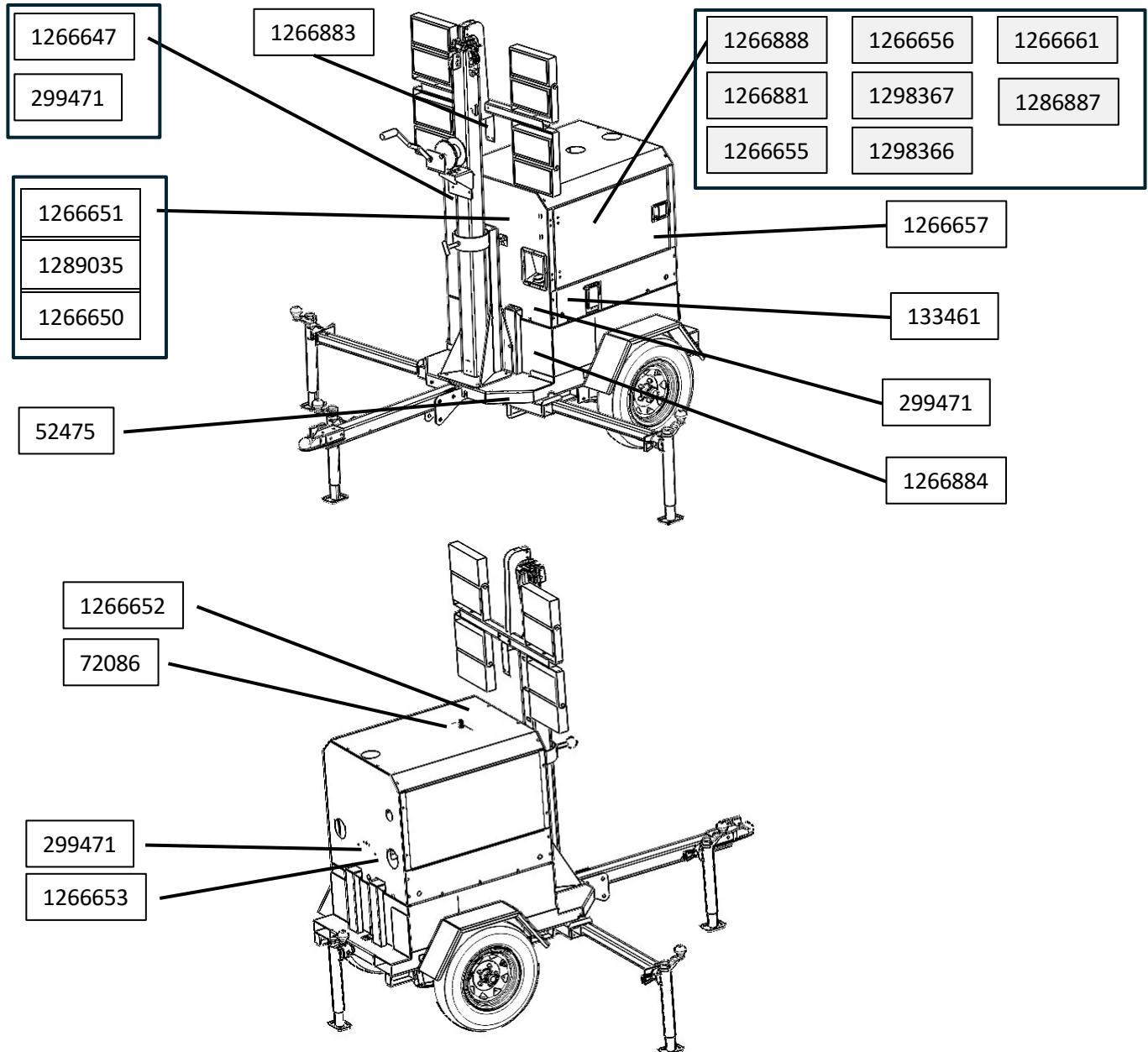
Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place

Below is a numerical list with quantity and descriptions.

Part No.	Decal Description	Qty
52475	Label – Transport Tie-down	
72086	Label – Lifting Point	1
133062	Label – Ground	1
133461	Instruction – Tire Specifications	1
299195	Cosmetic – AMIDA Logo	
299196	Cosmetic – APT4V	
299471	Warning - tip over Hazard outriggers	2
1266647	Danger – Electrocution hazard	1
1266649	Cosmetic – AMIDA Logo, APT4V	
1266650	Danger – Explosion Hazard	1
1266651	Label – Diesel	1
1266653	Danger – Burn hazard	1
1266655	Warning – Improper Operation	1
1266656	Instructions – Operating Instructions	1
1266657	Danger – Electrocution hazard	1
1266661	Warning – Explosion Hazard	1
1266881	Danger – Inhalation Hazard	1
1266883	Danger – Electrocution Hazard J-BOX	1
1266884	Warning – Tow Speed	1
1266887	Danger – Auto-start Hazard	1
1266888	Danger – Explosion Hazard, Battery	1
1289035	Ultra low sulfur diesel	1
1298366	CA prop 65	1
1298367	Breathing diesel engine exhaust	1

Inspections

 Shaded decals are located underneath the cover.



Operating Instructions



Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.
 - 1 Avoid hazardous situations.
 - 2 Always perform a pre-operation inspection.
 - 3 Always perform function tests prior to use.
 - 4 Inspect the workplace.
 - 5 **Only use the machine as it was intended.**

Fundamentals

The Operating Instructions section provides instructions for each aspect of machine operation. It is the operator's responsibility to follow all the safety rules and instructions in the operator's manual.

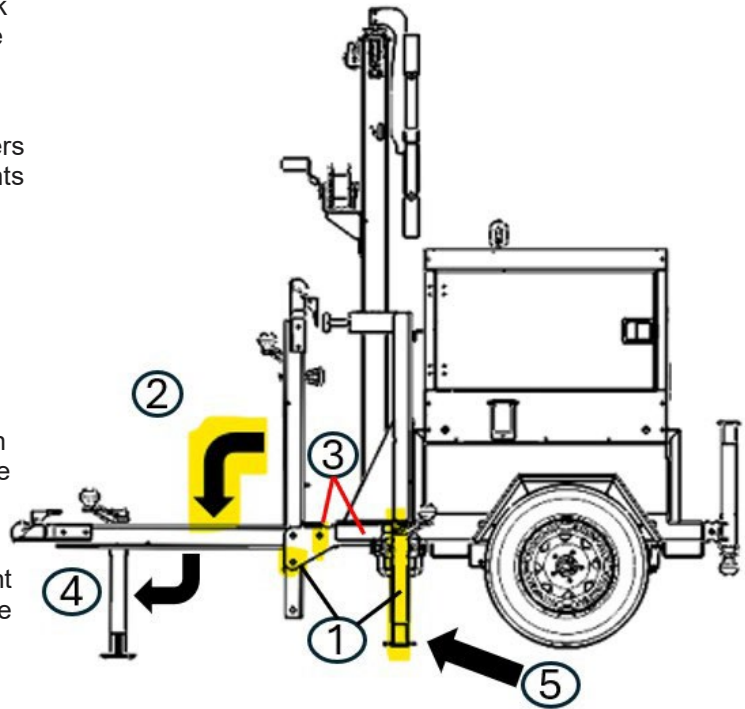
Only authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's manual. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.

Operating Instructions

Lowering the tongue for use or towing

This light tower is equipped with a deployable tongue to maximize shipping units. Before towing or setting this machine up for operation on a work site for the first time follow the steps below. If the tongue has already been deployed properly proceed to the next section.

- ▲ **Crush/Pinch hazard.** Keep hands and fingers away from any potential crush or pinch points during procedure.
- 1 Support the light tower with outrigger jacks. remove the tongue locking clip and pin (1) shown and retain.
- 2 Rotate the tongue down into the light tower operating and towing position.
- 3 Re-install the locking clip and pin removed in step 1 to the new position (3). This will secure the tongue for light tower operation and towing.
- 4 Turn the leveling jack handle to lower the front outrigger foot pad and raise the tongue of the machine until the outrigger jacks are not contacting the ground.
- 5 Rotate the outrigger jacks to the horizontal position and lock in place.



Operating Instructions

Raising the tongue for storage or shipping

- 1 Rotate the outrigger jacks and lower them to the ground, lifting the tongue jack slightly off the ground.
- 2 Remove the locking clip from the tongue, lift the tongue and re-install the pin.
- 3 Turn the leveling jack handle to fully raise the front outrigger foot pad.
- 4 Pull the jack release pin and rotate the tongue jack into horizontal position.

Setup

- 1 Position the light tower at the desired work site.
- 2 Chock the wheels.
- 3 Disconnect the trailer lights and the safety chains.
- 4 Open the latch on the trailer hitch.
- 5 Pull the release pin on the tongue jack and rotate into vertical position.
- 6 Turn the leveling jack handle to lower the front outrigger foot pad and raise the tongue of the machine enough to clear the tow vehicle.
- 7 Release the spring pin on the side outriggers and slide them out into the deployed position. Make sure the outriggers are locked in place. Rotate the leveling jack into vertical position.

- 8 Turn the leveling jack handles to level the machine. Level the machine using only the leveling jacks

Note: the outriggers are not designed to lift the tires of the unit off the ground.

- 9 Ground the light tower according to your local electrical code. A grounding lug is provided on the front of the machine, near the bottom.



Note: This machine should be grounded in accordance with all local electrical codes. Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

Starting the Engine

Note: The main circuit breaker and the light switches must be off before starting the engine.

Note: There must be fuel in the fuel tank in order to start the engine.

Engine Start - Standard Control Panel

- 1 Turn the ignition switch to the ignition position and hold the engine prime button down to prime the engine.

Note: the engine ECU will determine how long the glow plugs will run based on engine coolant temperature.

- 2 Hold the prime button down and turn the ignition switch to the start position to start the engine.
- 3 Release the prime button when the engine starts.



Operating Instructions

Engine Start - ComAp Control Panel (manual start)

- 1 Wake up the controller by pushing the green start button.
- 2 Select operation mode, **MAN**.
- 3 The engine will start when the green start button is pressed for more than 3 seconds.
- 4 The engine will start.
- 5 Push the off button on the Controller to stop the engine.

Engine Start - ComAp Control Panel (auto start)

- 1 Select operation mode, **AUTO**
- 2 There are two Auto-Start modes, Sunrise/Sunset or Timed (8x). To properly set up the timer and functions it must be programmed prior to use. [see appendix]
- 3 Be sure to turn the main breaker and light breakers "ON"

Note: the controller blocks AC voltage to the system until the engine is verified to be running.

- 4 The unit will display a visual and audible warning just before the start sequence.
- 5 If a timer sequence is programmed the unit will start at that time.
- 6 At any time when the unit is running pressing the stop button will turn the engine off.

Extending the Mast

- 1 Turn the winch handle clockwise until the mast reaches vertical position.
- 2 Turn the hand knob to release the mast rotation lock.
- 3 Rotate the mast to the desired position.
- 4 Tighten hand knob to secure mast in the desired position.

Retracting the Mast

- 1 Rotate the mast to align the arrows on the mast before retracting.
- 2 Tighten hand knob to secure mast in the desired position.
- 3 Turn the winch handle counter clockwise until the mast is in the stowed position.

Rotating the Mast

- 1 Turn and loosen the hand knob fully to release the mast rotation lock.
- 2 Rotate the mast to the desired position.
- 3 Tighten the hand knob to secure the mast in the desired position.



Operating Instructions

Operation of Lights [LED Gen power]

Note: The engine must be running before the lights are turned on.

- 1 Be sure the position of the lights is adjusted before raising the mast.
- 2 Start the engine
- 3 Turn on the main circuit breaker switches on the control panel.
- 4 Turn on the lights using the individual light switches.

Note: Lights can be turned off and on with no delay.

- 5 Turn the lights off by turning the circuit breaker switches to the off position.
- 6 Make sure the lights are turned off before engine is shut down. [except for when in AutoStart mode.]

Operation of Lights [LED Shore power]

- 1 Be sure the position of the lights is adjusted before raising the mast.
- 2 Turn OFF main circuit breaker
- 3 Turn OFF individual light switches
- 4 Turn Power selection switch to OFF
- 5 Attach power source to Shore power pigtail on the side of the control box.

Note: For shore power connection - Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

- 6 Turn Power selection switch to (2) Shore Power.
- 7 Turn ON individual light switches.

Note: The main breaker and receptacles are not connected to the Shore power circuit.

Note: Lights can be turned off and on with no delay.

- 8 Turn the lights off by turning the individual light switches to the OFF position.
- 9 Make sure the Power selection switch is turned OFF before disconnecting the shore power pigtail.

Operating Instructions

Electrical Outlets

Electrical outlet is located on the roadside, of the cabinet below the door.

Electrical outlet is activated by the main breaker when the engine is running.

Electrical outlets are NOT connected to the Shore power circuit.

Air Shutoff System (if equipped)

Auto air shutoff system

- 1 When the auto air shutoff system detects a fuel-rich environment the engine will shutdown.
- 2 To reset the system, remove the machine from the fuel-rich environment.

E-Stop system

- 1 If needed, push in the fuel cutoff system Emergency Stop button located on the front of the machine.
- 2 Pull out the Emergency Stop button on the front of the machine to reset the system.

After Each Use

Select a safe parking location—firm level surface, clear of obstruction and traffic. Retract mast and stow outriggers before moving machine.

Lock cabinet door.

Operating Instructions

Towing

- 1 **CAUTION: SHUT ENGINE OFF BEFORE MOVING THE LIGHT TOWER! Failure to do so can cause severe engine/radiator damage and WILL NOT BE COVERED UNDER WARRANTY!**
- 2 Rotate the light bar perpendicular to the tongue of the machine and tighten the Hand knob, into the notch, to secure and align the arrows.
- 3 Fully lower the mast to the stowed position – be sure to have no tension on the winch cable.
- 4 Make sure the door is closed and secured.
- 5 Retract the outrigger leveling jacks and pull the spring pins, on all jacks, rotate and secure them into the horizontal travel position.
- 6 Pull the spring pins on each outrigger and slide them into the stowed and secured position.
- 7 Raise the tongue of the machine by turning the tongue jack handle.
- 8 Position the transport vehicle under the coupler on the tongue of the machine.
- 9 Open the latch on the coupler.
- 10 Turn the tongue jack handle to lower the tongue.
- 11 Close the latch on the coupler.
- 12 Turn the tongue jack handle to raise the jack wheel. Pull the spring pin on the tongue jack and rotate and secure it into the horizontal travel position.
- 13 Attach safety chains. Chains should be crossed below hitch.
- 14 Connect and test the trailer lights.

Towing Information

Driving a vehicle/trailer combination is different from driving a vehicle alone. Below are some standard safety recommendations not intended to replace driver towing experience and skill.

Inspect all connections at each stop.

All tires must be properly inflated. Do not overinflate the tires. Tire pressures go up during driving. Checking the tire pressure when the tires are warm will give you an inaccurate pressure reading.

Increase the distance between your vehicle and the vehicle in front of you to twice the normal following distance when towing a trailer. Allow more following distance in adverse weather.

Slow down for downgrades and shift your transmission into a lower gear if applicable.

Slow down for curves, adverse weather, hazardous road conditions, road construction, towing vehicle limitations and expressway exits.

Heavy winds, excessive speed, load shifting or passing vehicles can cause a trailer to sway while driving. If this occurs, do not brake, speed up or turn the steering wheel. Turning the steering wheel or applying the brakes could cause the vehicle and trailer to jackknife. Reduce speed and keep the steering wheel straight.

If the vehicle and/or trailer travels off the paved road, hold the steering wheel firmly and reduce speed. Apply the brakes carefully and gradually. Do not turn sharply. Slow down to a speed that allows you to gradually turn the steering wheel to get back on the road. Proceed with caution when entering traffic.

When passing other vehicles, be sure to leave enough room for the extra length of towed item. You will need to go much farther beyond the slower vehicle before you can return to your lane.

Avoid sudden movements when turning.



Transport and Lifting Instructions



Observe and Obey:

- ☑ ECHO provides this securement information as a recommendation. Drivers are solely responsible for making sure machines are properly secured and the correct trailer is selected pursuant to US Department of Transportation regulations, other localized regulations, and their company policy.
- ☑ ECHO customers needing to containerize any ECHO product should source a qualified freight forwarder with expertise in preparing, loading and securing construction and lifting equipment for international shipment.
- ☑ The transport vehicle must be parked on a level surface.
- ☑ The transport vehicle must be secured to prevent rolling while the machine is being loaded.
- ☑ Be sure the vehicle capacity, loading surfaces and chains or straps are sufficient to withstand the machine weight. See the serial label for the machine weight.
- ☑ Common sense and planning must be applied to control the movement of the machine when lifting it with a crane or forklift.

Securing to Truck or Trailer for Transit

Before loading the light tower onto a trailer refer to "Raising the tongue or storage and shipping" in the "Operating Instructions" section of this manual.

Rotate the light bar parallel to the tongue of the machine and tighten the hand knob, into the notch, to secure.

Fully lower the mast to the stowed position.

Fully retract, raise and lock all outrigger jacks and outriggers.

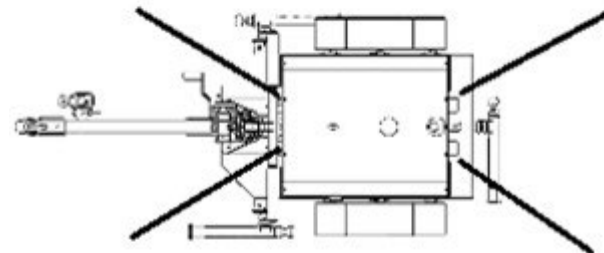
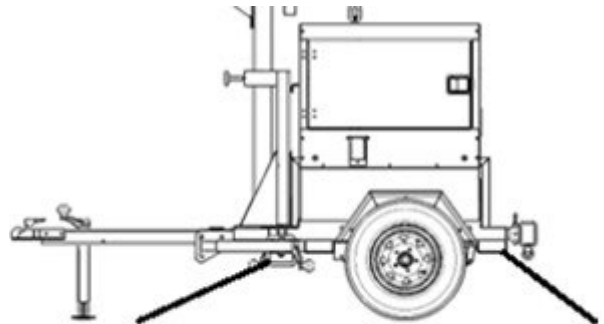
Close and secure the cabinet doors.

Inspect the entire machine for loose or unsecured items.

Use the tie-down points for anchoring down to the transport surface.

Use a minimum of four chains to secure the light tower.

Adjust the rigging to prevent damage to the chains.



Transport and Lifting Instructions



Observe and Obey:

- ☑ Only qualified riggers should rig the machine.
- ☑ Only certified crane operators should lift the machine and only in accordance with the applicable crane regulations.
- ☑ Be sure the crane capacity, loading surfaces and straps or lines are sufficient to withstand the machine weight. See the serial label for the machine weight.

Lifting the Machine with a Crane or Forklift

Fully lower the mast to the stowed position.

Rotate the light bar perpendicular to the tongue of the machine and tighten the hand knob into the notch to secure and align the arrows.

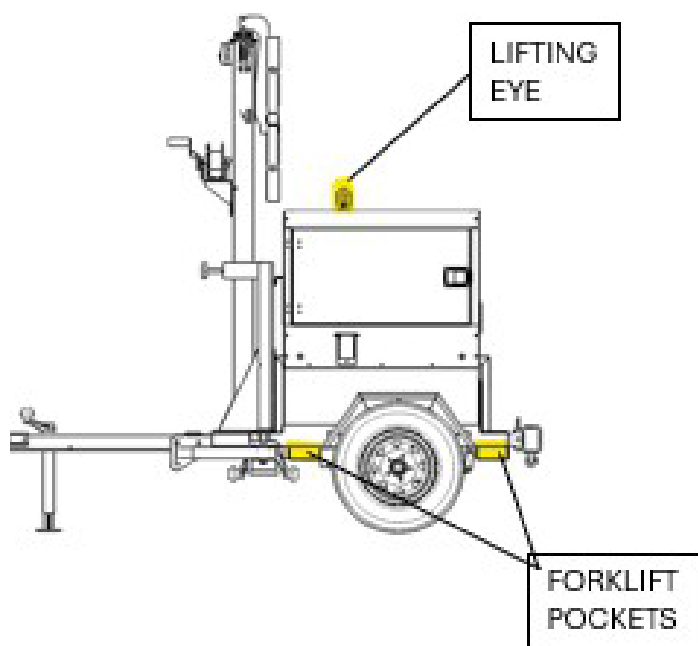
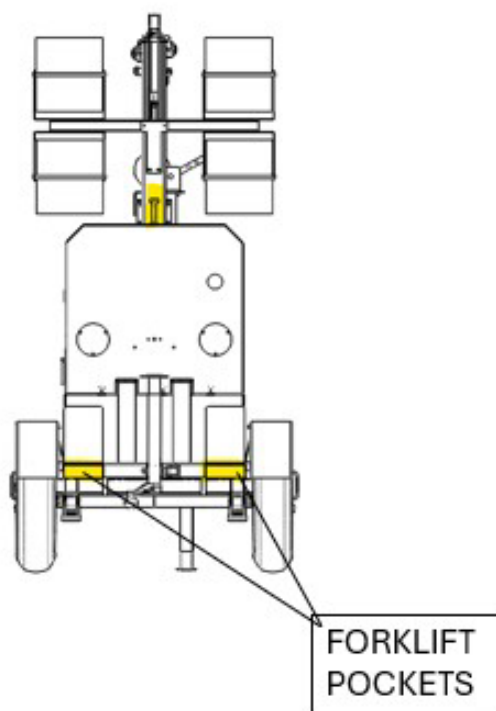
Fully retract, raise and lock all outrigger jacks and outriggers.

Close and secure the cabinet doors.

Inspect the entire machine for loose or unsecured items.

Use the lifting eye to lift the machine using a crane.

Use the designated forklift pockets to lift the machine using a forklift.



Maintenance



Observe and Obey:

- ☐ Only routine maintenance items specified in this manual shall be performed by the operator.
- ☐ Scheduled maintenance inspections shall be completed by qualified service technicians, according to the manufacturer's specifications and the requirements specified in the service manual.
- ☐ Use only ECHO approved replacement parts.
- ☐ If this machine is equipped with the auto-start feature ensure that the toggle switch is in the middle, or OFF, position before performing any maintenance.

Check the Engine Oil Level



Maintaining the proper engine oil level is essential to good engine performance and service life. Operating the machine with an improper oil level can damage engine components.

Note: Check the oil level with the engine off.

- 1 Check the oil level dipstick. Add oil as needed.

Kubota D-1105 Engine

Oil type -API class CF or higher	10W-30
Oil type - cold conditions	10W-30

Maintenance Symbols Legend

The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.



Indicates that tools will be required to perform this procedure.



Indicates that new parts will be required to perform this procedure.

Maintenance

Check the Engine Coolant Level



Maintaining the engine coolant at the proper level is essential to engine service life. Improper coolant level will affect the engine's cooling capability and damage engine components. Daily checks will allow the inspector to identify changes in coolant level that might indicate cooling system problems.

- ▲ Burn hazard. Beware of hot engine parts and coolant. Contact with hot engine parts and/or coolant may cause severe burns.

Note: Do not remove the radiator cap.

- 1 Check the fluid level in the coolant recovery tank. Add fluid as needed.
- ⊙ Result: The fluid level should be at the FULL mark.

Refer to the engine manufacturer's operator manual.

Check the Batteries



Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

- ▲ Electrocution hazard. Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.
 - ▲ Explosion/burn hazard. Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water. Keep all open flames and sparks away.
- 1 Wear appropriate personal protective equipment including gloves, face shield and long sleeve shirt.
 - 2 Be sure that the battery cable connections are tight and free of corrosion.
 - 3 Be sure that the battery hold-down bracket is in place and secure.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate the corrosion on the battery terminals and cables.

Maintenance

Check the Tire Pressure



- ⚠ Bodily injury hazard. An over-inflated tire can explode and may cause death or serious injury.
- ⚠ Collision hazard. An excessively worn tire can cause poor handling and continued use could result in tire failure.
- ⚠ Tip-over hazard. Do not use temporary flat tire repair products.

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

- 1 Check the tire surface and sidewalls for cuts, cracks, punctures and uneven or excessive tread wear. Replace the tire if uneven or excessive tread wear is found.
- 2 Check each wheel for damage, bends and cracks. Replace the wheel if any damage is found.

Note: Tires and wheels must be replaced with tires and wheels of the specifications listed.

- 3 Check each tire with an air pressure gauge. Add air as needed.
- 4 Check the torque of each lug nut.

Scheduled Maintenance

Maintenance performed quarterly, annually and every two years must be completed by a person qualified to perform maintenance on this machine according to the procedures found in the service manual for this machine.

Machines that have been out of service for more than three months must receive the quarterly inspection before they are put back into service.

Tire Specifications, U.S.

Tire Size	ST175/80D13	Load B
Lug nut torque	80 ft/lbs	108 Nm
Tire pressure (cold)	35 psi	241 kpa



Specifications

APT4V (Vertical Mast)

Height, stowed	8 ft 1 in	2.46 m
Length, stowed	5 ft 9 in	1.75 m
Width, stowed	3 ft 11 in	1.19 m
Extended mast height	22 ft 2 in	6.75 m
Total weight, no fuel	1400 lbs	635 kg

(Machine weights vary with option configurations. See serial label for specific machine weight.)

Tongue weight	210 lbs	95 kg
Tire size, U.S.	ST175/80D13	Load C
Engine type		

3.1 kW Kubota Z482

Fuel capacity, standard	56 gallons 215 liters
Run time, standard LED3 unit	
(56-gallon tank- Full load)	290 hrs Generator
options	Marathon 3.1 kW, 60 Hz

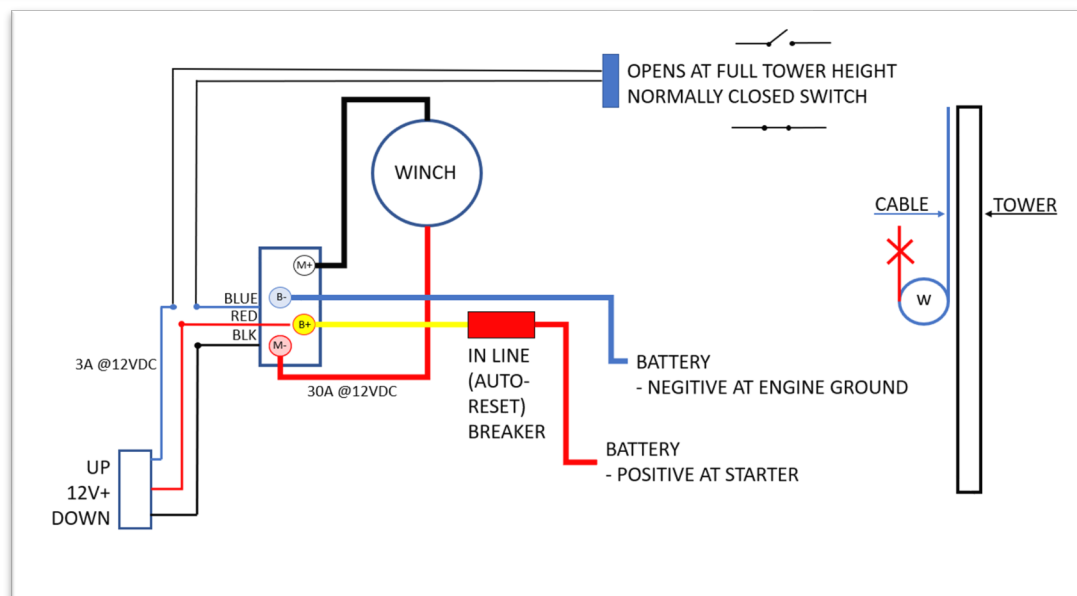
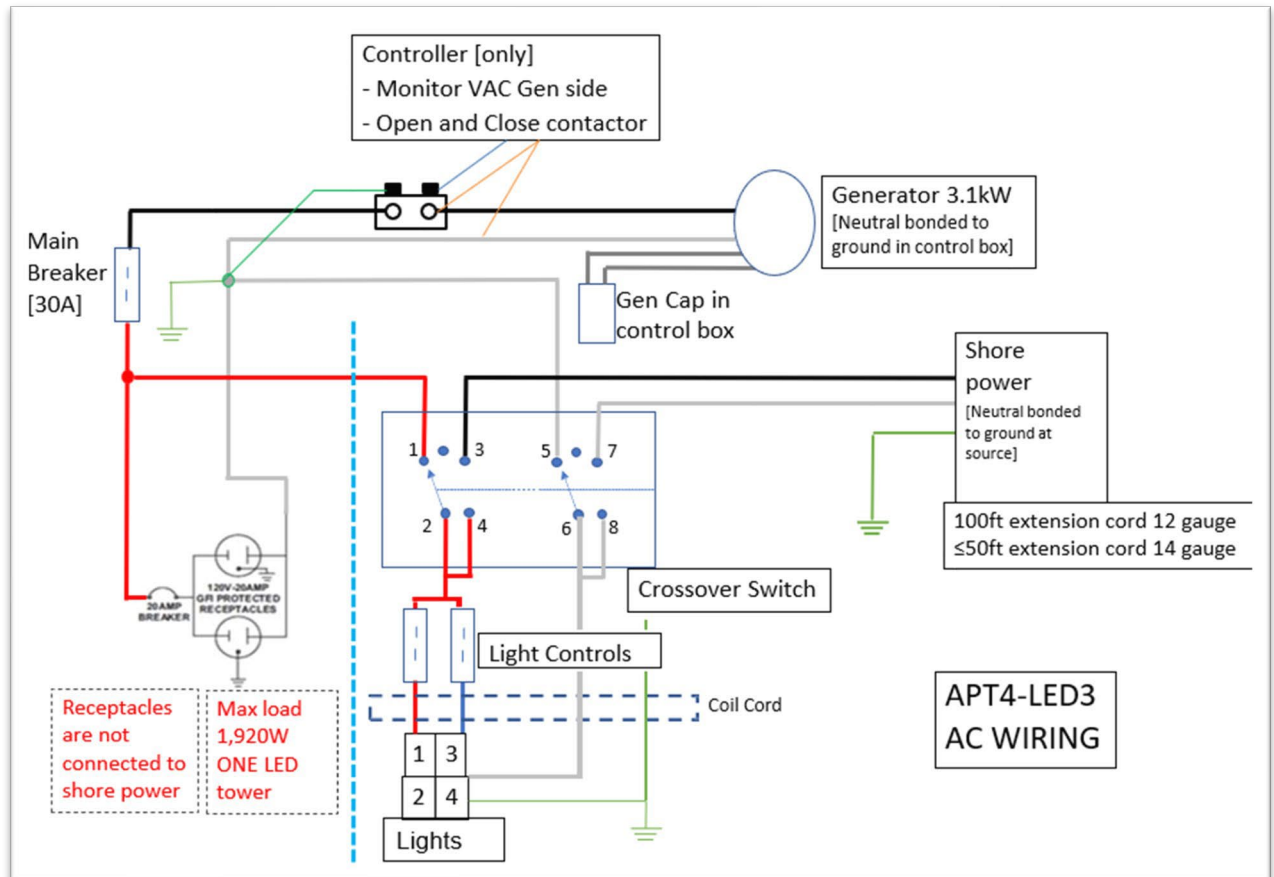
Total lighting output	
Four LED lights	52.000lms
Replacement bulbs	LED head with Driver complete

Tower rotation	non-continuous
Maximum towing speed	60 mph 97 km/h
Maximum wind speed	60 mph 97 km/h
Sound level (dba rating)	71 dba @ 23 ft / 7 m

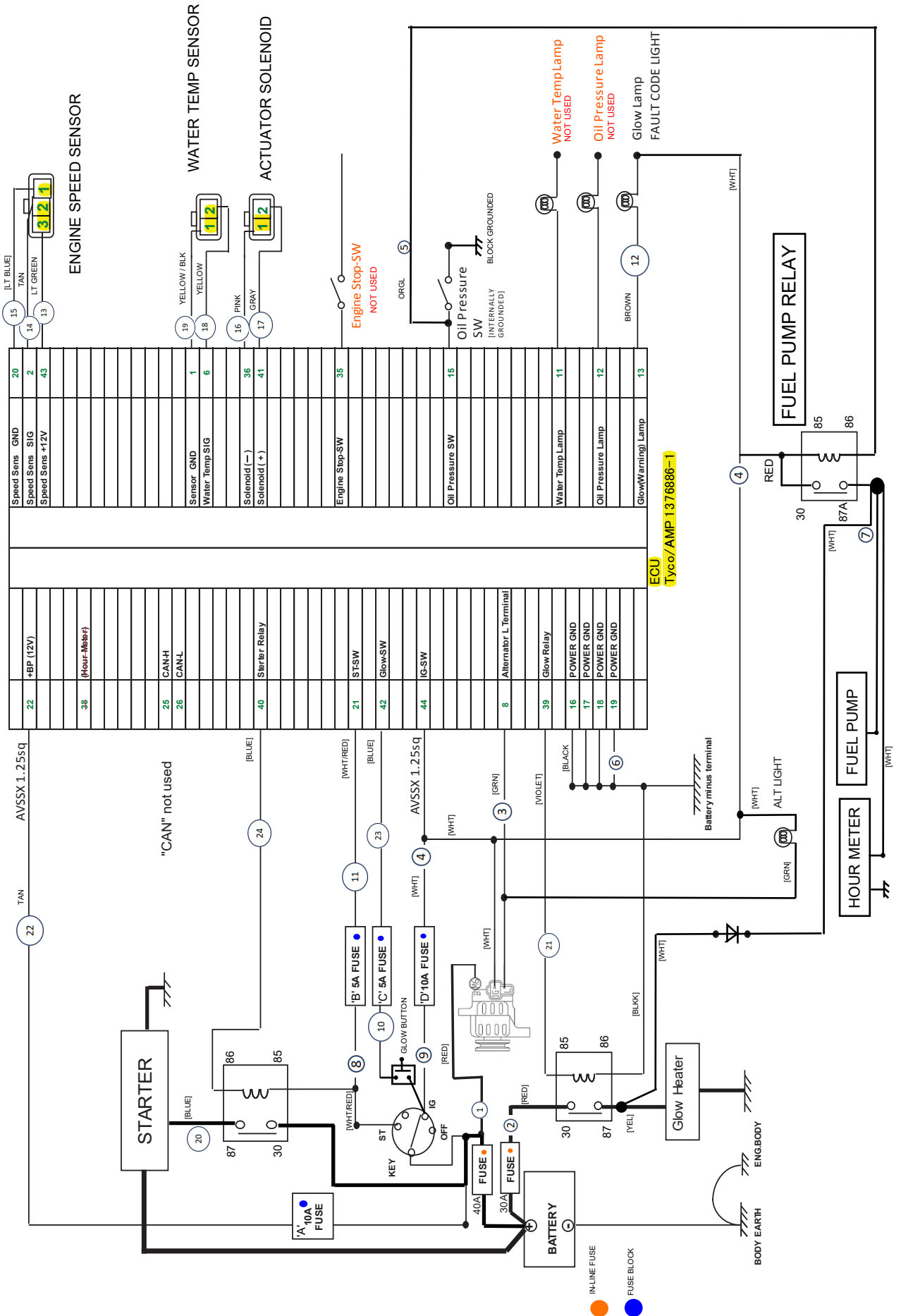
Product specifications are subject to change without notice or obligation.



AC – SCHEMATIC FOR LED3



DLT 3kW: Engine Controller System Schematic



Appendix: PROGRAMMING THE SUNRISE/ SUNSET AND TIMER FUNCTIONS

CONTROLLER AUTO-START FUNCTION

To 'Wake up' the controller: if the controller is blank press the green "ON" button once. [The back light will turn off in 3 minutes and system sleep in 10 minutes.] 

Select **OFF, MAN, AUTO** using the arrows



OFF: – the system is off and will not start

MAN: – the system can start by pushing the green "ON" button – and off by pressing the "OFF" button.



The manual start function uses the AutoStart sequence [check for faults – prestart, glow plugs and fuel pump – start – verify start – close contactor, to allow AC power through to main breaker]

AUTO: Auto has two types of timers. 1) "Sunrise / Sunset function" and 2) "Timer functions" (8X).

1) "Sunrise / Sunset function"

to set up this function the user will need to use the following buttons:

Menu button



"At any time repeatedly pressing the menu button will get you back to the home screen."

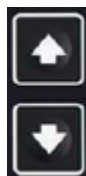
Enter button



Horizontal arrows



Vertical arrows



To start programming use the menu button then scroll down to scheduler using the vertical buttons

Then press 'enter'

The following screens will be displayed. Use the horizontal arrow buttons to scroll through:

- TIME
- DATE
- TIME ZONE (see time zone data)
- DST SWITCHING MODE [daylight savings time]
- SUNRISE SUNSET FUNCTION

Use the **Enter button** to change this function and the **vertical arrow buttons** to select 'lights on' and then **enter button** again to lock this function.

- **Lights ON**
- no function
- disabled

When "lights ON" is selected the following screens display. Use the horizontal buttons to move and the enter button to change.

- LATITUDE [search Google for your location]
- LONGITUDE [search Google for your location]
- SUNRISE OFFSET [before (- minutes) after (+minutes)]
- SUNSET OFFSET [before (- minutes) after (+minutes)]

This function will turn the light tower on every day at sunset and off at sunrise [with offset selected]

The offset is a way to turn the machine off 'before' sunrise/sunset with any number up to -300 minutes or 'after' with any number up to +300 minutes.

2) "Timer functions" (8X)

Use the menu button and scroll to 'scheduler' press enter button. The following screens will be displayed. Use the horizontal arrow buttons to scroll through:

- TIME
- DATE
- TIME ZONE (see time zone data)

Appendix: PROGRAMMING THE SUNRISE/ SUNSET AND TIMER FUNCTIONS

- DST SWITCHING MODE [daylight savings time]
- SUNRISE SUNSET FUNCTION
 - **'Disabled'**
- TIMER 1 FUNCTION – press 'enter' and then scroll to 'lights ON'
 - **Lights ON**
 - no function
 - disabled

Any time a timer function is set to 'Lights ON' the next screen will show the setup screen

- **TIMER 1 SETUP**
Press 'enter' and choose one of the following:
 - OFF
 - **ONCE**
 - REPEATED
- Press 'enter' again
- Timer 1 setup – **First Occur. Date** [set date]
 - Use horizontal buttons and enter to select dd/mm/yyyy and vertical buttons to change
 - Press 'enter' again to move to the next screen
- Timer 1 setup – **First Occur. Time** [to set on time]
 - Use horizontal buttons and enter to select HH:MM and vertical buttons to change
 - Press 'enter' again to move to the next screen
- Timer 1 setup – **Duration**
 - Use horizontal buttons and enter to select HH:MM and vertical buttons to change
 - Press 'enter' again to move to the next screen
- If this date/ time/ duration will be used for several days – **TIMER 1 SETUP 'Repeated'** the following choices will be shown:
 - Daily
 - Weekly
 - Monthly
 - Short Period

Select the format that works for your application and press 'enter' the next screen will ask for the duration in days. Press 'enter'

again and you can choose to 'skip' weekends or 'postpone' to have a delayed start schedule.

"At any time repeatedly pressing the menu button will get you back to the home screen."

The controller has 8 timer functions to turn on and off the machine whenever you want.

The following page gives a visual representation of the screens that you will see.

Time Zone Data:

Eastern standard time	GMT -5
Central standard time	GMT -6
Mountain standard time	GMT -7
Pacific standard time	GMT -8

Reporting Safety Defects

**ECHO Industrial Power Equipment
400 Oakwood Road
Lake Zurich, IL 60047**

Reporting Safety Defects

If you believe that your vehicle 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 ECHO.

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 any individual problems between you or ECHO.

To contact NHTSA you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (366-0123 in Washington DC area) or write to:

**NHTSA
U.S. Department of Transportation
400 7th Street SW, (NSA-11)
Washington DC 20590**

You can also obtain information about motor vehicle safety from the Hotline.

California Proposition 65

Warning

The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Towing Checklist: (use at each stop)

Before Towing

- Kickstand is securely stowed
- Travel lock is securely locked in place
- Towing hitch is properly secured to tow vehicle
- Safety chains (if required) are properly attached and secure (chains are crossed below hitch)
- All lights are connected and working
- Tires are properly inflated

Before Driving

- Fasten safety restraints
- Properly adjust mirrors

On the Road

- Do not exceed 60 mph / 97 km/h. Obey all local and national towing speed laws
- Check connections and tire pressure at each stop
- Slow down for hazardous conditions
- Allow extra distance for following and passing other vehicles



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