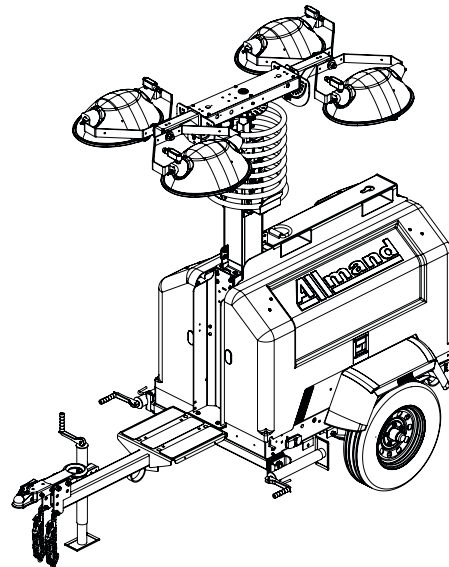
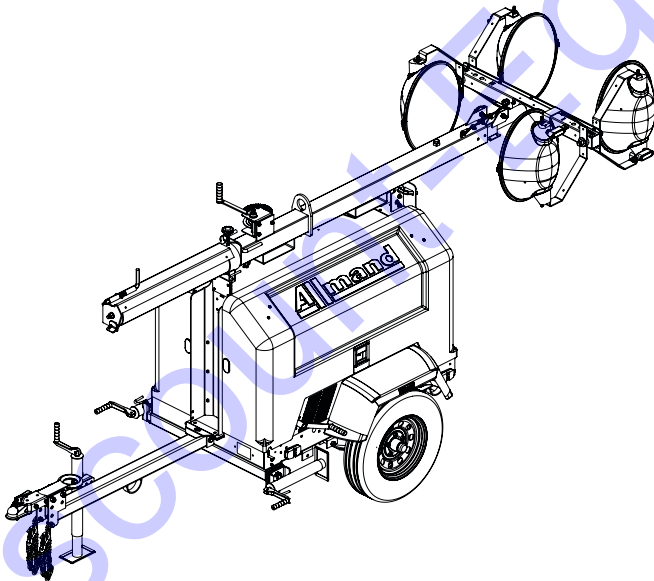




(en) **Operator's Manual**
50 & 60Hz NIGHT-LITE PRO II®



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Recording the equipment information will help when placing an order for replacement parts and/or decals.

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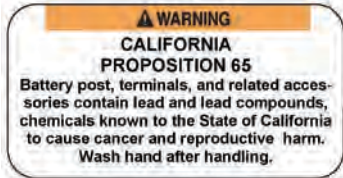
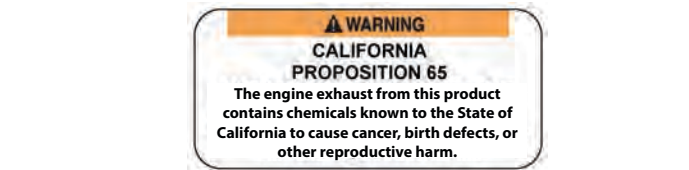
Unit model No: _____

Unit Vin: _____

Engine Model No: _____ Serial No: _____

Generator Model No: _____ Serial No: _____

Accessories: _____



Save these original instructions for future reference.



Manual Contents:

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Trailer, Transporting and Lifting7

General Service Information 13

Operation 17

Maintenance 24

Troubleshooting 29

Introduction

About This Manual

TAKE TIME TO READ THIS MANUAL THOROUGHLY

This instruction manual provides necessary instructions for the NIGHT-LITE PRO II light tower.

The information found in this manual is in effect at the time of printing. Allmand Bros Inc. may change contents without notice and without incurring obligation.

Any reference in this manual to left or right shall be determined by looking at the trailer from the rear.

Products Covered by This Manual

The following products are covered by this manual:

50Hz NIGHT-LITE PRO II

60Hz NIGHT-LITE PRO II with Laydown Tower

60Hz NIGHT-LITE PRO II with Vertical Tower

Safety

Safety Definitions

Safety statements are one of the primary ways to call your attention to potential hazards. Follow the precautions listed throughout the manual before operation, during operation and during periodic maintenance procedures for your safety, the safety of others and to protect the performance of equipment. Keep the decals from becoming dirty or torn and replace them if they are lost or damaged. Also, if a part needs to be replaced that has a decal attached to it, make sure to order the new part and decal at the same time.



This safety alert symbol appears with most safety statements. It means attention, become alert, your safety is involved! Read and abide by the message that follows the safety alert symbol.

DANGER

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

WARNING

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

CAUTION

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

NOTICE



Indicates a situation which can cause damage to the equipment, personal property and/or the environment, or cause the equipment to operate improperly.

NOTE:

Provides key information to make procedures easier or clearer.


Safety Precautions

The following section contains general safety precautions and guidelines that must be followed to reduce risk to personal safety. Special safety precautions are listed in specific procedures. Read and understand all of the safety precautions before operating or performing repairs or maintenance.

 **DANGER** 


Electrocution Hazard

- Always check overhead wires and obstructions before raising or lowering the light tower.
- Always follow the rules or instructions for your work site and state, province and national electric code for maintaining a safe distance from overhead wires.
- High voltage is present when engine is running. Never attempt to service electrical components while engine is running.
- Do not operate the light tower if the insulation on the electrical cord or other electrical wiring is cut or worn or if bare wires are exposed. Repair or replace damaged wiring before starting the engine.

 **WARNING**


Unsafe Operation Hazard

- Never permit anyone to install or operate the equipment without proper training.
- Read and understand this Operator's Manual and the Engine Operator's Manual before operating or servicing the light tower to ensure that safe operating practices and maintenance procedures are followed.
- Safety signs and decals are additional reminders for safe operating and maintenance techniques.

 **WARNING**


Fall Hazard

- Never carry riders on the equipment.

 **WARNING**


Modification Hazard

- Never modify the equipment without written consent of the manufacturer. Any modification can effect the safe operation of the equipment.

 **WARNING**



Exposure Hazard

- Always wear personal protective equipment, including appropriate clothing, gloves, work shoes, and eye and hearing protection, as required by the task at hand.

 **WARNING**




Rollover Hazard

- Do not raise, lower or use light tower unless all outriggers and jacks are positioned on firm ground.
- Never move or reposition the light tower while the light tower is extended in the vertical position.

 **WARNING** 

Explosion Hazard

- While the engine is running or the battery is charging, hydrogen gas is being produced and can be easily ignited. Keep the area around the battery well ventilated and keep sparks, open flame and any other form of ignition out of the area.
- Always disconnect the negative (-) battery cable before servicing equipment.
- Only use the starting procedure as described in the Engine Operator's Manual to start the engine.
- Never charge a frozen battery. Always slowly warm the battery to room temperature before charging.

 **WARNING**  

Fire And Explosion Hazard

- Diesel fuel is flammable and explosive under certain conditions.
- Never use a shop rag to catch fuel.
- Wipe up all spills immediately.
- Never refuel with the engine running.
- Store any containers containing fuel in a well ventilated area, away from any combustibles or sources of ignition.



WARNING

Exhaust Hazard

- All internal combustion engines create carbon monoxide gas during operation and special precautions are required to avoid carbon monoxide poisoning.
- Never block windows, vents or other means of ventilation if the equipment is operating in an enclosed area.
- Always ensure that all connections are tightened to specifications after repair is made to the exhaust system.



WARNING

Alcohol And Drug Hazard

- Never operate the light tower while under the influence of alcohol or drugs, or when ill.



WARNING

Entanglement / Sever Hazard

- Always stop the engine before beginning service.
- If the engine must be serviced while it is operating, remove all jewelry, tie back long hair and keep hands, other body parts and clothing away from moving/rotating parts.
- Verify that all guards and covers are attached properly to the equipment before starting the engine. Do not start the engine if any guards or covers are not properly installed on the equipment.
- Attach a "Do Not Operate" tag near the key switch while performing maintenance on the equipment.



WARNING

Piercing Hazard

- Avoid skin contact with high pressure hydraulic fluid or diesel fuel spray caused by a hydraulic or fuel system leak such as a broken hydraulic hose or fuel injection line. High pressure hydraulic fluid or fuel can penetrate your skin and result in serious injury. If you are exposed to high pressure hydraulic fluid or fuel spray, obtain prompt medical treatment.
- Never check for a hydraulic fluid or fuel leak with your hands. Always use a piece of wood or cardboard.



WARNING

Flying Object Hazard

- Always wear eye protection when cleaning the equipment with compressed air or high pressure water. Dust, flying debris, compressed air, pressurized water or steam may injure your eyes.



WARNING

Coolant Hazard

- Wear eye protection and rubber gloves when handling engine coolant. If contact with the eyes or skin should occur, flush eyes and wash immediately with clean water.



WARNING

Burn Hazard

- Light fixtures and some of the engine surfaces become very hot during operation and shortly after shutdown.
- Keep hands and other body parts away from hot engine surfaces.
- Handle hot components, such as light fixtures, with heat resistant gloves.



CAUTION

Tool Hazard

- Always use tools appropriate for the task at hand and use the correct size tool for loosening or tightening equipment parts.



CAUTION

Slip Hazard

- Immediately clean up any spilled liquid on the shop floor.
- Clean up accumulated dirt and debris on the shop floor at the end of each shift.

NOTICE


The statements that follow have NOTICE level issues. Damage to equipment or property can result if not followed.



- Any part which is found defective as a result of inspection or any part whose measured value does not satisfy the standard or limit **MUST** be replaced.
- Always tighten components to the specified torque. Loose parts can cause equipment damage or cause it to operate improperly.
- Follow the guidelines of the Environmental Protection Agency (EPA), Environment Canada (EC) or other governmental agencies for the proper disposal of hazardous materials such as engine oil, diesel fuel and engine coolant.
- Only use replacement parts specified. Other replacement parts may effect warranty coverage.



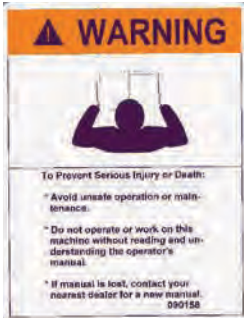
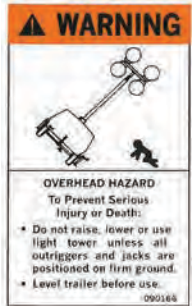
- Clean all accumulated dirt and debris away from the body of the equipment and its components before you inspect the equipment or perform preventative maintenance procedures or repairs. Operating equipment with accumulated dirt and debris will cause premature wear of equipment components.
- Never dispose of hazardous materials by dumping them into a sewer, on the ground, or into groundwater or waterways.
- Retrieve any tools or parts that may have dropped inside of the equipment to avoid improper equipment operation.
- If any alert indicator illuminates during equipment operation, stop the engine immediately. Determine the cause and repair the problem before continuing to operate the equipment.



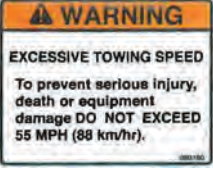


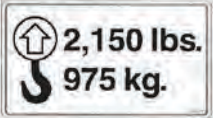
Safety Decals


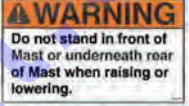

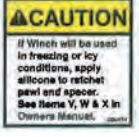


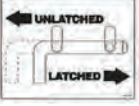
Before operating your unit, read and understand the following safety decals. The cautions, warnings, and instructions are for your safety. To avoid personal injury or damage to the unit, understand and follow all the decals.




	<p>WARNING</p> <p>If any safety or instructional decals become worn or damaged, and cannot be read, order replacement decals from your dealer.</p>
---	---











All Models:		
<p>A</p>	<p>DANGER - Contacting Power Lines. Contacting electric power lines when elevating the light tower will result in death or serious injury. Always maintain a safe distance from power lines when elevating the tower.</p> <p>Part No. 090165</p>	
<p>B</p>	<p>DANGER - Ground Rod. Operating the machine without first installing the ground rod will result in death or serious injury. Always drive the ground rod into the earth and connect the ground wire to the grounding lug on the trailer before operating the machine.</p> <p>Part No. 090163</p>	

<p>C</p>	<p>DANGER - Contacting High Voltage Components. Contact with high voltage components will result in death or serious injury. Always read the instructions in the Operator's Manual before servicing high voltage electrical components.</p> <p>Part No. 090002</p>	
<p>D</p>	<p>DANGER - Contacting High Voltage Components. Contact with high voltage components within this compartment will result in death or serious injury. Do not enter electrical compartments when engine is running. Always close cover before operating the machine.</p> <p>Part No. 090162</p>	
<p>E</p>	<p>WARNING - Read Operator's Manual. Read and understand the Operator's Manual before operating this machine.</p> <p>Part No. 090158</p>	
<p>F</p>	<p>WARNING - Use Outriggers. Elevating light tower without deploying the outriggers could cause machine to tip over and result in death or serious injury. Always deploy the outriggers on a firm level surface and make sure machine is level before raising the tower.</p> <p>Part No. 090166</p>	

G	<p>WARNING - Roll Over Hazard. Performing high speed sharp turns could cause trailer to roll over resulting in death or serious injury. Always slow to a safe speed when performing sharp turns.</p> <p>Part No. 090226</p>	 <p>WARNING</p> <p>ROLL OVER HAZARD</p> <p>To Prevent Injury or Equipment Damage:</p> <p>* Avoid high speeds and sharp turns when towing.</p> <p>090226</p>
H	<p>WARNING - Explosive Gases. Explosive gases could result in death or serious injury. Keep open flame and lighted materials away from battery.</p> <p>Part No. 090159</p>	 <p>WARNING</p> <p>COMBUSTIBLE GAS</p> <p>Can Cause Severe Burns or Blindness.</p> <p>* Keep sparks and open flame away from batteries.</p> <p>090159</p>
I	<p>WARNING - Excessive Towing Speed. To prevent serious injury, death or equipment damage, do not exceed 55 mph (88 km/h).</p> <p>Part No. 090160</p>	 <p>WARNING</p> <p>EXCESSIVE TOWING SPEED</p> <p>To prevent serious injury, death or equipment damage DO NOT EXCEED 55 MPH (88 km/hr).</p> <p>090160</p>
J	<p>WARNING - Automatic Engine Start. Engine may start unexpectedly. To avoid serious injury or death, always read instructions in LSC Operator's Manual before servicing.</p> <p>Part No. 105939</p>	 <p>WARNING</p> <p>AUTOMATIC ENGINE START</p> <p>Always close machine and disconnect battery before servicing. Refer to Operator Manual for specific instructions.</p> <p>105939</p>
K	<p>Operating Instructions. Read and understand the Operator's Manual before operating this machine.</p> <p>Part No. 102909</p>	 <p>OPERATING INSTRUCTIONS</p> <p>READ AND UNDERSTAND OPERATING MANUAL BEFORE OPERATING MACHINE</p> <p>BEFORE STARTING:</p> <ol style="list-style-type: none"> 1. Inspect/inspect machine for leaks or damage. 2. Make sure battery connections are clean and tight. 3. Check engine oil level. (See Manual) 4. Check tire inflation. (See Manual) <p>STARTING:</p> <ol style="list-style-type: none"> 1. Turn OFF all lights. 2. Turn the Start Switch counter clockwise to PRESTART position. Hold to break the Start Pin to engage the Prestart. Firmly seat engine manual. 3. Turn the Start Switch clockwise to START position. 4. Engine fails to start, repeat cycle. <p>NOTE: Do not let the engine run more than 10 minutes without allowing starter to cool for 30 seconds.</p> <p>STOPPING:</p> <ol style="list-style-type: none"> 1. Turn Right OFF with Control Lever. 2. Release all levers. 3. Turn switch to OFF position. <p>Make sure Control Pin is set back and check, batteries and other are fully recharged and locked into gear before leaving.</p> <p>102909</p>
L	<p>Lifting Ring Rating - 2150 lbs (975 kg)</p> <p>Part No. 106028</p>	 <p>2,150 lbs.</p> <p>975 kg.</p> <p>106028</p>

<p>Laydown Towers:</p>	
<p>A Trailer Setup. Brief instructions for setup, raising and lowering the tower, and preparation for towing.</p> <p>WARNING - Always read and understand the Operator's Manual before operating this machine.</p> <p>Part No. 103018</p>	 <p>WARNING</p> <p>SETUP TRAILER AND KISS WHEELS</p> <p>Always read and understand the Operator's Manual before operating this machine.</p> <p>103018</p>
<p>B WARNING - Do not stand in front of mast or underneath rear of mast when raising or lowering.</p> <p>Part No. 090003</p>	 <p>WARNING</p> <p>Do not stand in front of Mast or underneath rear of Mast when raising or lowering.</p> <p>090003</p>
<p>C WARNING - Non-vertical tower can cause severe injury or death. Keep all persons clear before raising or lowering mast. Do not extend or retract mast unless latch is securely in place.</p> <p>Part No. 090164</p>	 <p>WARNING</p> <p>NON-VERTICAL TOWER</p> <p>Can Cause Severe Injury or Death</p> <ol style="list-style-type: none"> 1. Keep all persons clear before raising or lowering mast. 2. Do not extend or retract mast unless latch is securely in place. <p>090164</p>
<p>D CAUTION - If winch is used in freezing or icy conditions, apply silicone to ratchet pawl and spacer. Refer to winch operator manual.</p> <p>Part No. 090474</p>	 <p>CAUTION</p> <p>If Winch will be used in freezing or icy conditions, apply silicone to ratchet pawl and spacer. Refer to winch operator manual.</p> <p>090474</p>
<p>E Lifting Instructions.</p> <p>WARNING - A minimum of two (2) tons lifting capacity is required to lift this machine.</p> <p>Part No. 103019</p>	 <p>LIFTING INSTRUCTIONS</p> <p>WARNING</p> <p>A minimum of 2 tons lifting capacity is required to lift this machine.</p> <p>103019</p>
<p>F WARNING - To prevent injury or machine damage, pull pin back to release mast from mast support before operating winch.</p> <p>Part No. 103020</p>	 <p>WARNING</p> <p>TO PREVENT INJURY OR MACHINE DAMAGE</p> <p>PULL PIN BACK TO RELEASE MAST FROM MAST SUPPORT BEFORE OPERATING WINCH.</p> <p>103020</p>
<p>G Mast Latch</p> <p>Part No. 090139</p>	 <p>UNLATCHED</p> <p>LATCHED</p> <p>090139</p>

Vertical Towers:	
<p>A Trailer Setup. Brief instructions for setup, raising and lowering the tower, and preparation for towing.</p> <p>WARNING - Always read and understand the Operator's Manual before operating this machine.</p> <p>Part No. 103021</p>	
<p>B WARNING - Standing under the light tower when it is being lowered could result in death or serious injury. Always stay clear of the light tower when the tower is being lowered.</p> <p>Part No. 101404</p>	
<p>C WARNING - You must lower the tower to the lowest position prior to moving the light tower trailer, or damage may occur. Hold the down switch for three (3) additional seconds after the tower appears to be down.</p> <p>Part No. 100247</p>	

Icon	Meaning	Icon	Meaning
	Engine Run		Disconnecting Circuit Breaker
	Engine Start		Raise Light Tower
	Engine Preheat		Lower Light Tower
	Hourmeter		Engine Oil Drain
	Worklight		Fluid Containment Drain

Trailing, Transporting And Lifting Preparing The NIGHT-LITE PRO II For Delivery Or Rental




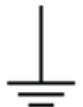


The NIGHT-LITE PRO II light tower requires service as well as proper operation in order to provide the performance and safety it was designed for. Never deliver or put machine into service with known defects or missing instructions or decals. Always instruct the customer in proper operation and safety procedures as described in this Operator's Manual. Always provide the manual with the equipment for proper and safe operation.

Pre-Operation Check List

- Visually inspect the equipment to ensure that all instructions and decals are in place and legible
- For laydown towers, inspect the light tower locking bar latch assembly which locks the light tower in the vertical position for proper operation.
- Check the hitch assembly and safety chains.
- Check the outriggers and jacks to make sure they operate properly.
- Inspect the light assemblies for damage and test for proper operation.
- Inspect the electrical wiring for signs of damage.

Operation Icons

The following table contains operation icons that may be found on the unit, along with the meaning of each icon.

Icon	Meaning	Icon	Meaning
	On (Power)		Trailer Interior Light
	Off (Power)		Earth Ground
	Engine Stop		Circuit Breaker



DANGER



Electrocution Hazard

- Do not operate the light tower if the insulation on the electrical cord or other electrical wiring is cut or worn, or if bare wires are exposed. Repair or replace damaged wiring before starting the engine.

- Check ground rod cable and the ground lug. Make sure they are clean, undamaged and functional.
- Inspect tires to insure good condition and proper inflation.
- Check engine oil, fuel, engine coolant levels and hydraulic fluid level.
- Check to make sure the Light Tower Operator's Manual, Engine Operator's Manual and Generator Operator's Manual are with the equipment.
- Inspect the machine physically for damage and repair if necessary.

NOTE: See appropriate section of the Engine Operator's Manual and Generator Operator's Manual for additional pre-operation checks.

After completing the pre-operation check list, operate the tower through a complete operation cycle, following the operating instructions contained in this manual.



WARNING

Unsafe Operation Hazard

- Never permit anyone to install or operate the equipment without proper training.

Always Read And Understand The Instructions First.

Before trailering, transporting or lifting, read **Safety**.

The complete engine and generator set is housed in a lockable enclosure with the frame fabricated from heavy gauge steel mounted on a two-wheel, leaf spring axle.

Before Trailering Or Transporting

- Lower the light tower and shut down the tower lights and the engine; See **Shutdown – Prepare For Trailering**.
- Visually inspect the trailer and equipment for damage. Repair or replace any components as needed before trailering.
- Check the trailer lights for proper operation.
- Inspect the tires to insure good condition and proper inflation.
- Inspect trailer axle and undercarriage for damage or loose parts.
- Check the hitch assembly and safety chains.

- Ensure the outriggers and jacks are properly stowed.
- Ensure the ground rod and cable are disconnected and properly stowed.
- Clean any spills from inside the trailer fluid containment area that may have occurred during operation.
- Ensure all compartment doors are closed and securely locked.

Shutdown – Prepare for Trailering

1. With the tower lights off, lower the light tower to the full DOWN position; See **Raising And Lowering The Light Tower**.

2. Turn the engine off. Refer to your Engine Operator's Manual for stopping procedure.

NOTE: See appropriate section of the Engine Operator Manual and Generator Operator's Manual for additional post – operation and shutdown procedures.

3. Adjust the light bar and light fixtures for trailering; see **Tower Light – Stowage For Trailering**.

NOTE: Visually inspect the light mounting brackets and hardware for loose fasteners or damaged brackets. Repair any problems before trailering.

4. Secure the light cords into the hook on the rear mast support. (Laydown Tower only).

5. Disconnect the ground rod cable from the ground lug. Remove the ground rod from the earth and clean and secure the ground rod and cable in the trailer.

6. Close, secure and lock all compartment doors.

7. Raise each rear stabilizer jack and rotate into trailering position (horizontal with outrigger bar).

8. Retract each outrigger bar and secure in the stowed position with latch pin.

NOTE: Be sure each outrigger jack is securely latched in transporting position.

9. Connect the trailer to the tow vehicle.

Vertical Tower Lights – Stowage for Trailering

The light bar and fixtures must be stowed before trailering or transporting.



WARNING



Burn Hazard

- The light fixtures become extremely hot during use.
- Always use caution and heat-resistant glove when handling the lights or allow the lights to sufficiently cool down before handling.

1. Ensure lights are off and tower is lowered to the full DOWN position; see **Raising And Lowering The Light Tower**.

2. Release the light bar park pin by pulling the ring and turning it 90 degrees so that the pin remains in the retracted position.
3. Rotate the light bar into the trailering / transport park position (in line with the trailer) and engage the park pin by twisting the park pin ring until the plunger is released and the pin engages and locks into the hole in the light bar.
4. Reposition the light fixtures for trailer / transport by rotating the lamp rotation bracket so that the light fixtures are in the horizontal position.
5. Rotate the lamp yoke so that it is in line with the light bar. Face the light fixtures toward the center of the trailer. See Figure 1.

*NOTE: If lights are to be removed for trailering / transporting, see **Tower Lights - Removal For Trailering (Optional)**.*

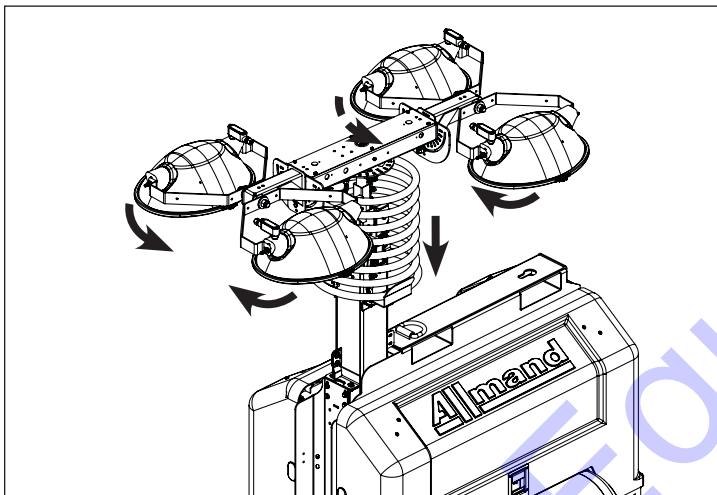


Figure 1

Laydown (Manual) Tower Lights - Stowage for Trailering

The light bar and fixtures must be stowed before trailering or transporting.



Burn Hazard

- The light fixtures become extremely hot during use.
 - Always use caution and heat-resistant glove when handling the lights or allow the lights to sufficiently cool down before handling.
1. Ensure lights are off and tower is lowered to the full DOWN position; see **Raising And Lowering The Light Tower**.
 2. Rotate the light bar into the trailering / transport park position (in line with front of the trailer) and tighten the tower lock knob.

3. Reposition the light fixtures for trailering / transport by rotating the lamp yoke perpendicular to the light bar. Face the light fixtures toward the center of the trailer. See Figure 2.
4. Lower mast into rear tower support and engage tower lock.

*NOTE: If lights are to be removed for trailering / transporting, see **Tower Lights - Removal For Trailering (Optional)**.*

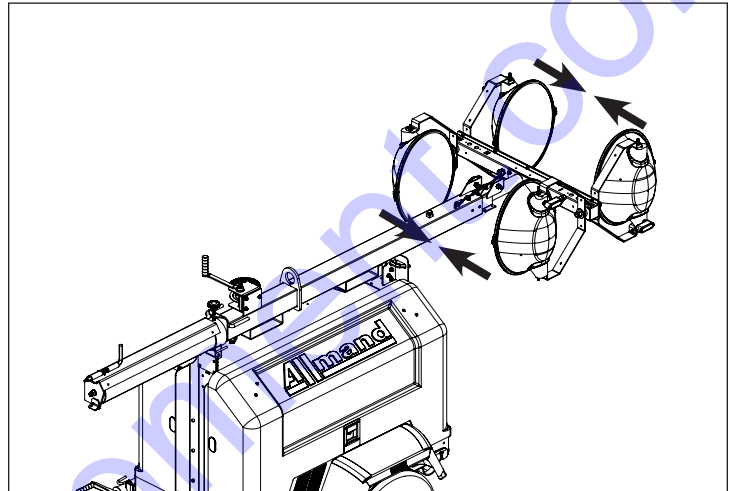


Figure 2

Tower Lights - Removal For Trailering (Optional)

Your light tower may be equipped with lights that can be removed for trailering / transport or for theft prevention.



Burn Hazard

- The light fixtures become extremely hot during use.
- Always use caution and heat-resistant glove when handling the lights or allow the lights to sufficiently cool down before handling.

1. Ensure lights are off and tower is lowered to the full DOWN position; see **Raising And Lowering The Light Tower**.
2. Disconnect the electrical cord for each light fixture at the light bar.
3. While supporting the light fixture, remove the nut and washer assembly (A, Figure 3) fastening the lamp yoke and remove each light fixture and lamp yoke.
4. Store each light fixture to avoid any damage during transport.

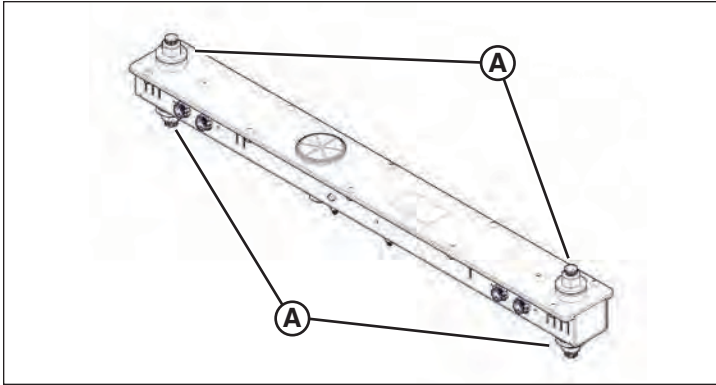


Figure 3

Trailer / Towing

Before trailering / towing the light tower trailer, read **Safety and Before Trailering Or Transporting**.

NOTICE:

Maximum highway speed is 55 mph (88 km/h) and maximum off highway speed is 10 mph (16 km/h). Do not exceed these limits or damage to light tower may occur.

Trailer Component Identification (Figure 4)

- A. Tongue Jack – Used to raise, lower and level trailer tongue.
- B. Pintle Ring Hitch Coupler - 3 inch (75mm)
- C. Ball Hitch Coupler - 2 inch (50,8mm)
- D. Safety Chains – Safety connection to tow vehicle in case coupler disconnects.

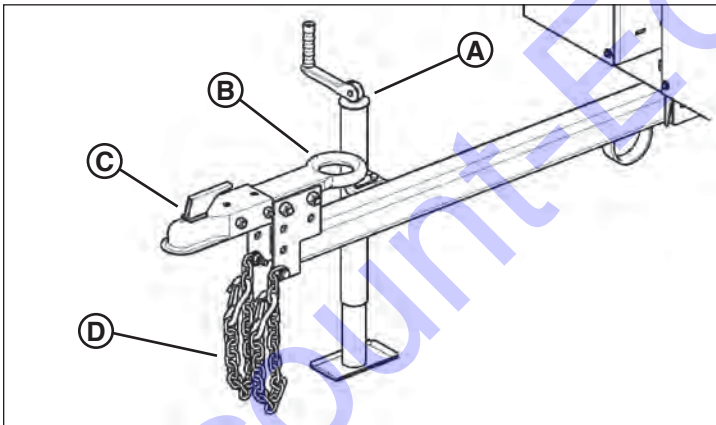


Figure 4

Towing Vehicle and Hitch Considerations

The towing vehicle must be able to safely pull the full trailer load. Never pull a trailer load that exceeds the vehicle's towing capacity; you risk losing control of the trailer and/or vehicle. Before trailering, always check your vehicle owner's manual for maximum towing/trailer load specifications and maximum gross vehicle weight specifications that include the fully loaded trailer.

The vehicle must have a towing hitch that is capable of safely handling the trailering load and tongue weight of the trailer.

! WARNING

Control Hazard

- A vehicle hitch that is underrated or improperly installed can lead to loss of control of the trailer and/or vehicle.
- Never use a hitch size or rating that does not match the trailer coupler specifications.

Connecting the Trailer Hitch Coupler and Lights

The trailer is equipped with a trailer coupler for a 2 inch (50,8mm) ball hitch and a 3 inch (75mm) lunette ring for a pintle hitch.

The trailer coupler must be reversed to use either the ball or lunette hitch coupler. To reverse the coupler, remove the two bolts and reposition the coupler as needed.

! WARNING

Control Hazard

- Ensure the coupler bolts are tightened before trailering.

Typical Lunette Ring Pintle Type Hitch and Coupler (Figure 5)

- A. Latch and Release Lever
- B. Trailer Coupler Lunette Ring
- C. Latch Lever Safety Pin
- D. Vehicle Hitch

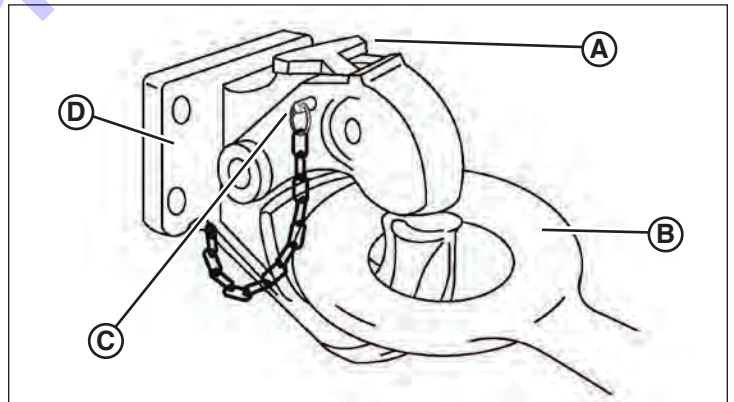


Figure 5

Typical Ball Type Hitch and Coupler (Figure 6)

- A. Latch and Release Lever
- B. Trailer Coupler Socket
- C. Coupler Clamp
- D. Vehicle Hitch and Ball
- E. Latch Lever Safety Pin

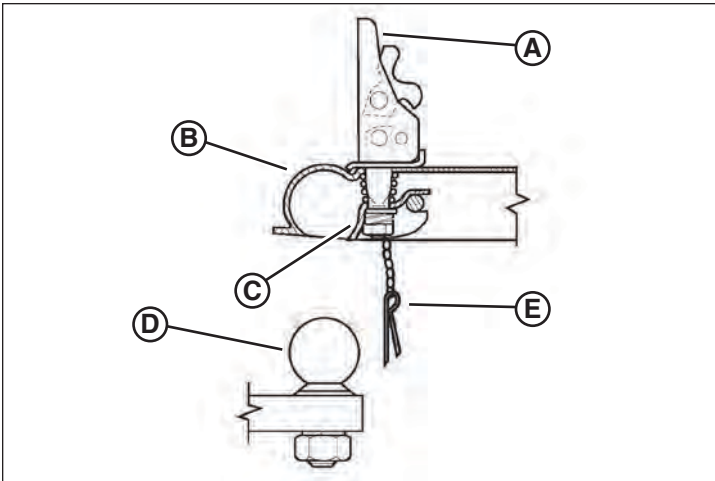


Figure 6

The trailer's safety chains prevent the trailer from completely detaching from the towing vehicle when underway.

NOTICE:

Safety chains must be rated at the same or greater weight capacity as the trailer's GVWR.

Before trailering, read **Before Trailering Or Transporting**.

1. Connect the tow vehicle hitch to the trailer coupler. Make sure the coupler is securely attached to the tow vehicle's hitch.
2. Connect the safety chains (A, Figure 7) to the vehicle's hitch frame and crisscross the chains under the trailer tongue to prevent the tongue from dropping to the road if the trailer separates from the hitch. Rig the chains as tight as possible with enough slack to permit free turning.

! WARNING
Control Hazard

- Attach the safety chains properly and securely between the towing vehicle and trailer before trailering.
- Never allow the safety chains to drag the ground when trailering.

3. Connect the light connector (B, Figure 7) from the vehicle harness to the trailer harness.

NOTE: The trailer may be equipped with a 4-pin flat connector or a 7-pin connector. Make sure that the tow vehicle has the correct mating connector.

4. Ensure there is adequate slack in the harness to prevent from binding or disconnecting when turning.

NOTICE:

Do not allow excessive harness slack. The harness can be damaged from scraping the ground.

5. Before trailering, check all lights for proper operation.

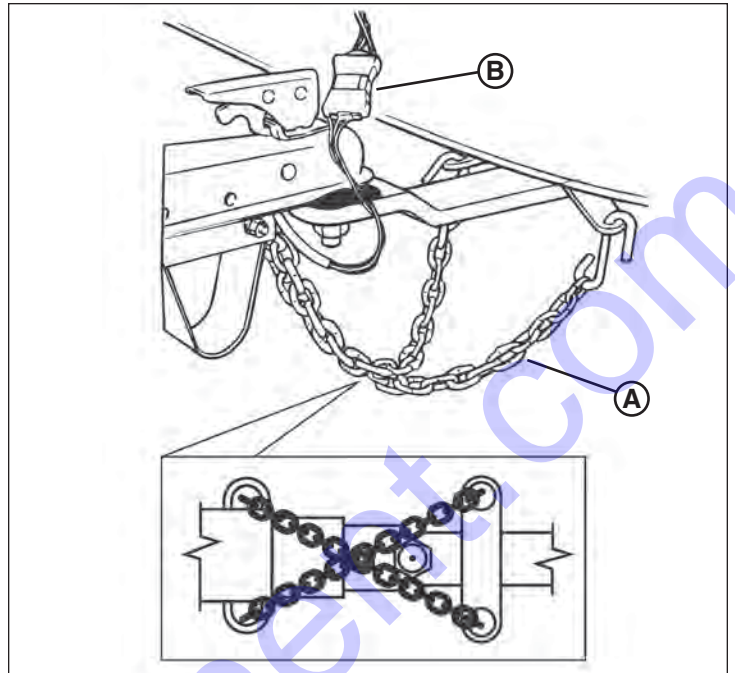


Figure 7

Lifting The Light Tower

When fully optioned and with a full load of fuel, the approximate fully loaded weight of the light tower trailer is 2000 lbs (907 kg).

The NIGHT-LITE PRO II light tower is equipped with top fork-lift pockets (A, Figure 8a and 8b) and a lifting eye (B) for lifting or hoisting.

! WARNING
Rollover Hazard

- Before lifting, lower the light tower and shut down the tower lights and the engine; see **Shutdown – Prepare for Trailering**.

! WARNING

Crush Hazard

- Always make sure the lifting device you are using is in good condition and is rated for the maximum capacity of the task to safely lift the light tower trailer.
- Always acquire assistance when using a forklift, crane or hoist and when unloading.
- Only use the lifting ring (vertical towers) or lifting eye (laydown towers) to lift or hoist the unit with a hoist or crane.
- For laydown towers, make sure the light tower is lowered into the rear tower support and the tower lock pin is fully engaged before lifting.
- Only use shackles or a locking-type hook when lifting.
- Do not stand or walk under the unit when lifted and keep others away.

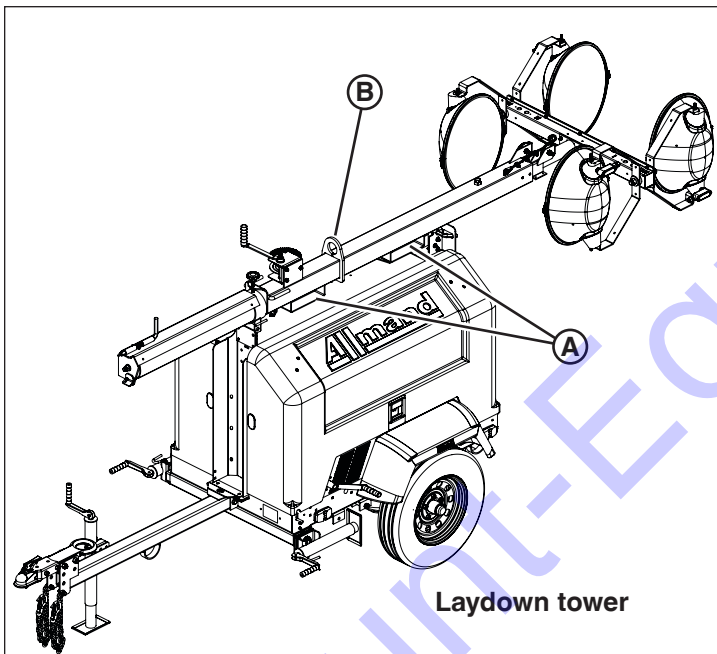


Figure 8a

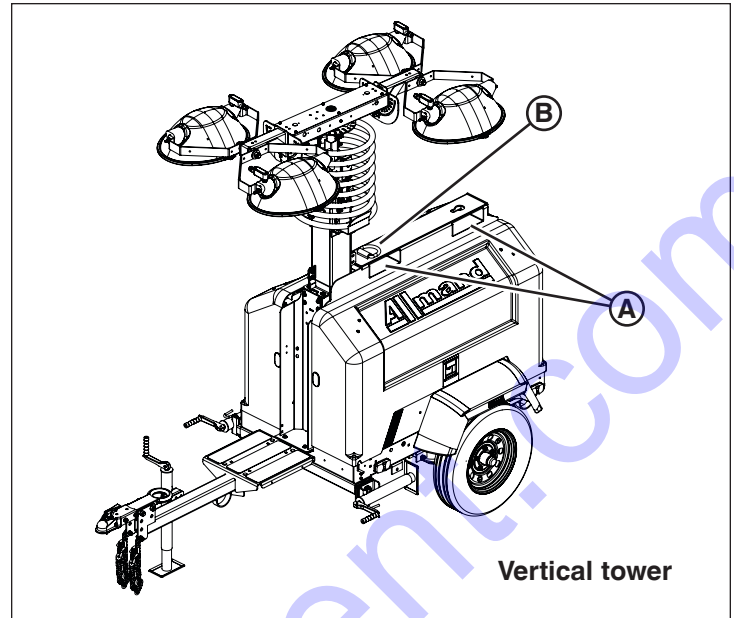


Figure 8b

Transporting On A Trailer

When transporting on a truck or trailer, always secure the unit using properly rated tie - down chains or straps connecting the light tower trailer frame to the towing trailer. The operator of the towing vehicle is responsible for securing the load properly.

NOTICE

To prevent damage to the tongue jack, rotate the jack in line with the tongue, and allow the tongue to rest on the trailer deck.

General Service Information

Equipment Identification

Laydown Tower

Compare Figure 9 with the table below.

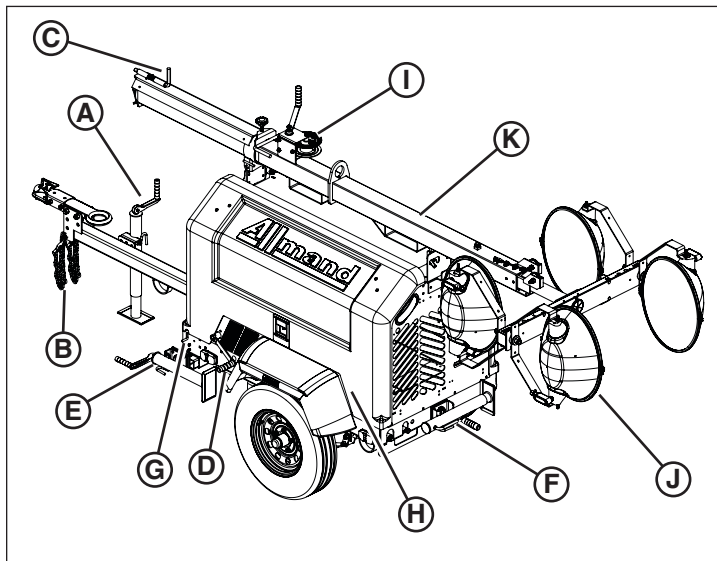


Figure 9

Ref	Description
A	Tongue Jack
B	Safety Chain
C	Locking Pin
D	Winch Handle
E	Front Stabilizer
F	Rear Stabilizer
G	Outrigger Retention Pin
H	Left Door and Engine Access
I	Tower Winch
J	Lampholder
K	Manual Tower

Vertical Tower

Compare Figure 10 with the table below.

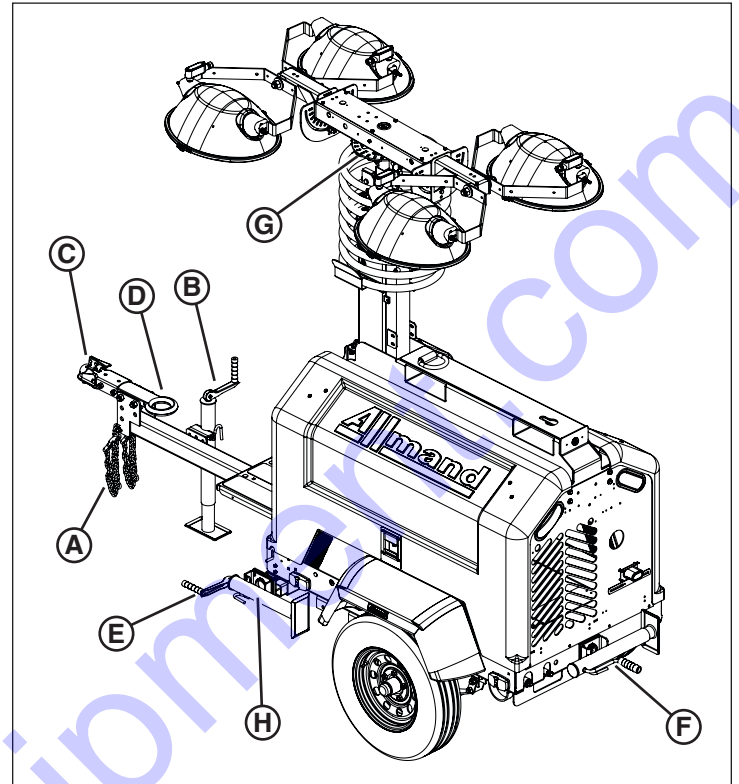


Figure 10

Ref	Description
A	Safety Chain
B	Tongue Jack
C	2 inch (50,8mm) Ball Hitch SAE Class 2
D	3 inch (75mm) Pintle Hitch
E	Outrigger Stabilizer
F	Rear Stabilizer
G	Park Pin
H	Outrigger

Model And Serial Numbers

Model and serial number information is required for product support and repair parts. The following descriptions show model and serial number locations of the primary components.

Trailer

All NIGHT-LITE PRO II trailers have a serial number plate (A, Figure 11) attached to the left front of the frame.

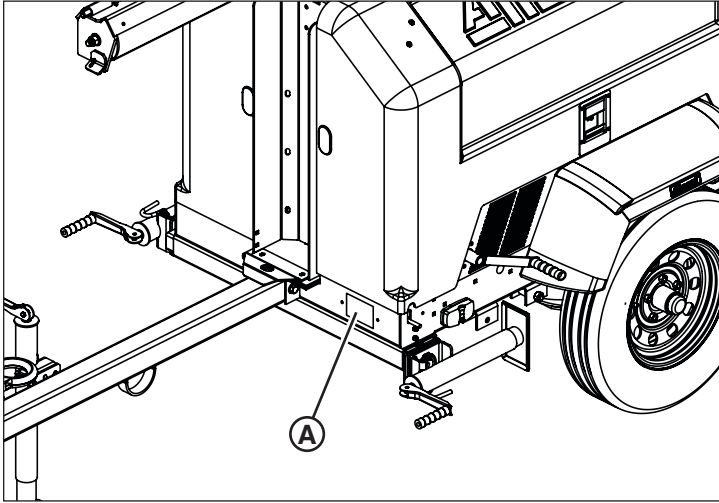


Figure 11

Generator

The generator has a serial number plate (A, Figure 12) attached to the side of the housing. The serial number is also stamped into the housing.

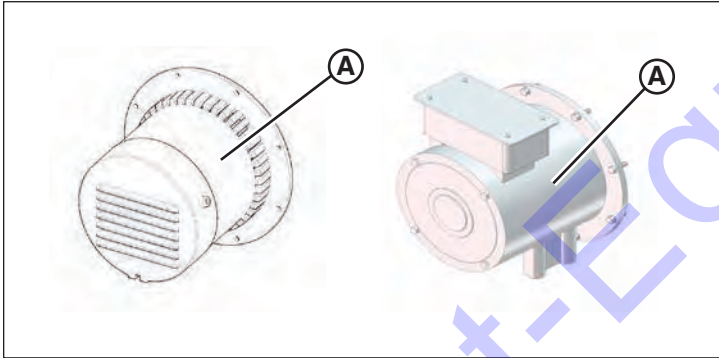


Figure 12

Engine

The KOHLER engine has the serial number plate (A, Figure 13) attached to the left side of the engine block, by the oil filter.

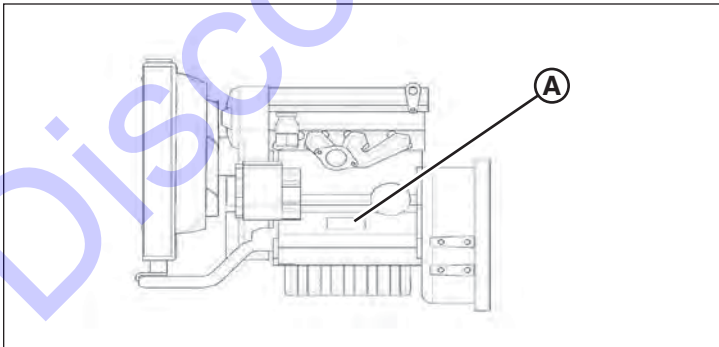


Figure 13

The CATERPILLAR® engine has a serial number plate (A, Figure 14) attached on the upper right side of the engine block above the fuel injection pump.

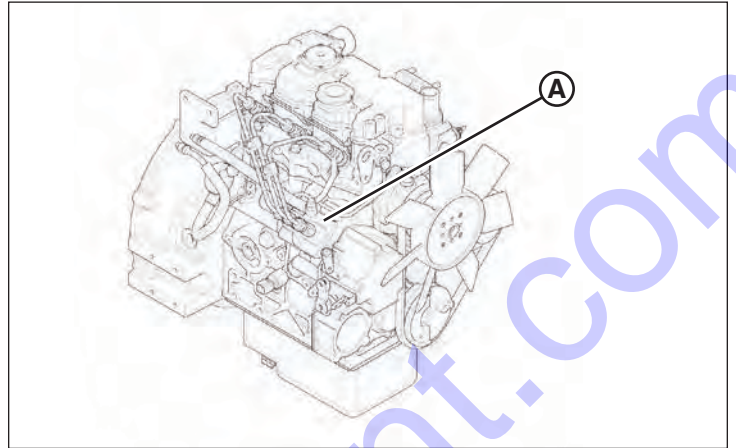


Figure 14

The KUBOTA engine has the serial number stamped on the engine block just below the exhaust manifold (A, Figure 15).

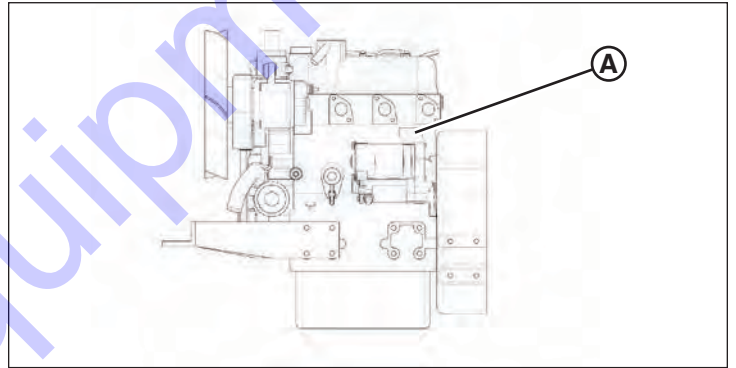


Figure 15

The MITSUBISHI engine has a serial number plate (A, Figure 15a) attached to the top of the engine.

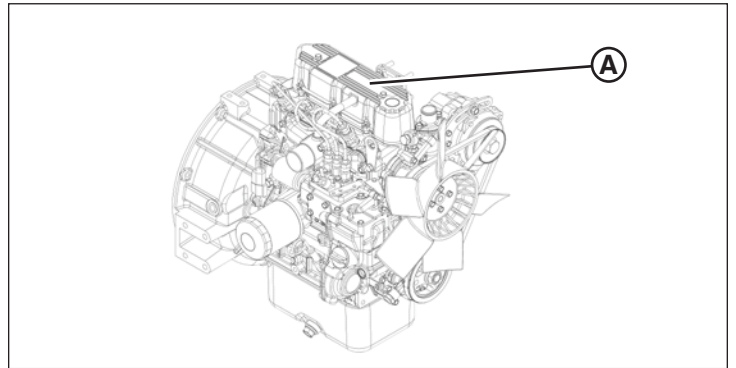


Figure 15a

Specifications (Standard and Optional Features)

NOTE: Refer to the Engine or Generator Operator's Manual for specific engine or generator specifications.

Trailer

Hitch Coupler	Adjustable height, reversible combination, 2 inch (50,8mm) ball, 3 inch (75mm) pintle hitch
Max Road Speed (paved road)	55 mph (88 km/h)
Max Off-Road Speed	10 mph (16 km/h)
Number of Axles	1
Axle Rating	2000 lbs (907,1 kg)
Tire Size and Rating	ST175/80D13 Load Range 'C'
Rims	13 x 4.5 JJ
Cold Tire Inflation Pressure	36 psi (248 kPa)
Door Locks	Standard
Trailer Lights: Stop, Turn and Running	D.O.T. Approved
Trailer Light Connector	4-Pin plug / 7-pin (optional)
Lifting Eye	Standard
Tie-Down Rings	Standard
Rear Forklift Pockets	Standard
Side Forklift Pockets	Standard
Top Forklift Pockets	Standard
Number of Stabilizers	4
Number of Outrigger Stabilizers	2
Tongue Jack	Standard
Ground Rod	Standard

Light Tower - Laydown

Sections	3
Manual Tower	Standard
Max Continuous Wind Load	53 mph (85 km/h) (with jack and outriggers deployed on firm level surface)
Light Bar Rotation	360°
Tower Cord Reel	Standard

Light Tower - Vertical

Sections	6
Vertical Tower	Optional
Max Continuous Wind Load	53 mph (85 km/h) (with jack and outriggers deployed on firm level surface)
Light Bar Rotation	360°

Overall Dimensions - Vertical Tower

Light Tower Height - Lowered	8 ft 4 in (2,54m)
Light Tower Height - Raised	25 ft (7,9m)
Length	9 ft 4 in (2,85m)
Width (outriggers retracted)	4 ft 3 in (1,3m)
Width (outriggers extended)	8 ft 4 in (2,54m)
Dry Weight	1740 lbs (790 kg)

Overall Dimensions - Laydown Tower

Light Tower Height - Lowered	5 ft 9 in (1,75m)
Light Tower Height - Raised	30 ft (9,1m)
Length with Fixtures	14 ft 7 in (4,45m)
Width (outriggers retracted)	4 ft 3 in (1,3m)
Width (outriggers extended)	8 ft 4 in (2,54m)
Dry Weight	1610 lbs (732 kg)

60Hz Generators

7.5 kW	Standard
8 kW	Optional
120VAC Convenience Outlet	Standard
125/250VAC Twist - Lock	Optional

50Hz Generators

6 kW	Standard
220VAC Shucko Outlet	Standard
230VAC	Optional

Tower Lights

SHO - HD 1250W Metal Halide (lumen rating: 150,000)	Standard 60Hz
SHO - HD 1000W Metal Halide (lumen rating: 110,000)	Standard 50Hz Optional 60Hz
SHO - HD 1000W and 1250W Metal Halide	Warm-Up Time: 2-4 minutes Re-Start Time: 10-15 minutes
Light Fixtures	Standard (sealed for all weather use)
Light Fixture Weight	15 lbs (6,75 kg)
LED 240W (Effective lumens: 20,000)	Optional 50Hz Optional 60Hz
LED Fixture	Seale to IP67
LED Fixture Weight	18 lbs (8,16 kg)

Engine - Kubota / CAT

	Optional	Optional	Optional
Model	Kubota D1005	Kubota D1105	CAT C1.1
Type	Water Cooled Diesel		
Cylinders	3	3	3
Displacement	61.1 cu in (1001cc)	68.5 cu in (1123cc)	69 cu in (1130cc)
Power @1800rpm (60Hz)	13.1hp (9.8kW)	15.4hp (11.5kW)	13.3hp (9.9kW)
Power @1500rpm (50Hz)	11.0 hp (8,2kW)	12.7hp (9,5kW)	11.5hp (8,6kW)
Power Outlet Derating	3% per 1000ft above 360ft 1% per 10° above 77° F		
NOTE: Horsepower ratings are established in accordance with Society of Automotive Engineers Small Engine Test Code - J1349 GROSS			
Fuel System	Indirect Injected Diesel		
Electrical System	12VDC Negative Ground		
Battery Type	Group 24		
Battery Rating	550 CCA (775 CCA Optional)		
Number of Batteries	1		
Weight	204.3 lbs (109kg)	204.3 lbs (109kg)	191 lbs (87kg)
Oil Capacity	5.4 qt (5,1L)	5.4 qt (5,1L)	3.9 qt (3,7 L)
Lubrication	Forced Lubrication By Pump		
Oil Filtration	Cartridge Type		
Cooling System	Pressurized radiator forced circulation with water pump		
Low Oil Pressure Shutdown	Standard all engines		
High Engine Temperature Shutdown	Standard all engines		
Glow Plug Cold Start Assist	Standard all engines		
Fuel	In North America, diesel fuels that meet ASTM D975 for Ultra Low Sulfur Diesel (ULSD) are required to be used. ULSD has a maximum sulfur content of 15 parts per million (PPM) or 15 mg/kg. Diesel fuel may be No. 1-D or No. 2-D.		

Engine Oil	Use a high quality engine oil of API (American Petroleum Institute) service class CG-4/CH-4/CI-4. Refer to the Engine Operator's Manual for more detailed engine oil requirements.
Fuel Tank	30 gal (114 L)
Cooling System	5.5 qt (5,2 L)
Overflow Reservoir	1.1 qt (1,0 L)

Engine - Mitsubishi / Kohler

	Optional	Standard
Model	Mitsubishi L3E	Kohler KDW 1003
Type	Water Cooled Diesel	
Cylinders	3	3
Displacement	58 cu in (952cc)	62.6 cu in (1028 cc)
Power @1800rpm (60Hz)	11.3hp (8.4kW)	13.4hp (12.2kW)
Power @1500rpm (50Hz)	8.3 hp (6.2kW)	11.5hp (8.6kW)
Power Outlet Derating	3% per 1000ft above 360ft 1% per 10° above 77° F	
NOTE: Horsepower ratings are established in accordance with Society of Automotive Engineers Small Engine Test Code - J1349 GROSS		
Fuel System	Indirect Injected Diesel	
Electrical System	12VDC Negative Ground	
Battery Type	Group 24	
Battery Rating	550 CCA (775 CCA Optional)	
Number of Batteries	1	
Weight	194 lbs (88kg)	191 lbs (87kg)
Oil Capacity	5.0 qt (4,7L)	2.5 qt (2,4L)
Lubrication	Forced Lubrication By Pump	
Oil Filtration	Cartridge Type	
Cooling System	Pressurized radiator forced circulation with water pump	
Low Oil Pressure Shutdown	Standard all engines	
High Engine Temperature Shutdown	Standard all engines	
Glow Plug Cold Start Assist	Standard all engines	

Fuel	In North America, diesel fuels that meet ASTM D975 for Ultra Low Sulfur Diesel (ULSD) are required to be used. ULSD has a maximum sulfur content of 15 parts per million (PPM) or 15 mg/kg. Diesel fuel may be No. 1-D or No. 2-D.
Engine Oil	Use a high quality engine oil of API (American Petroleum Institute) service class CG-4/CH-4/CI-4. Refer to the Engine Operator's Manual for more detailed engine oil requirements.
Fuel Tank	30 gal (114 L)
Cooling System	5.5 qt (5,2 L)
Overflow Reservoir	1.1 qt (1,0 L)

Optional Accessory Equipment

- Saf - T - Visor
- LSC Light Sequence Commander
- Heavy Duty Battery (775 CCA)
- Battery Heating Pad
- Engine Block Heater
- Sound Attenuation package
- 7-Blade RV Taillight Connector
- Bulldog Hitch (Ball/Pintle)
- VIN Package (for licensing)
- Quick - Disconnect Lamp Fixtures
- Shocker - Emergency Air Shutoff (Caterpillar / Kubota / Mitsubishi engines only)

Operation

Before performing any operation procedures, read **Safety**.

Pre-Operation Setup

Work Site Safety Considerations

Height



DANGER



Electrocution Hazard

- Always check overhead wires and obstructions before raising or lowering the light tower.
- Always follow the rules or regulations for your work-site, and state, province and national electric code for maintaining a safe distance from overhead wires.

Ground Surface



WARNING

Rollover Hazard

- Rollover Hazard. Do not set up on an incline of more than 2.8° (5% grade) front-to-back and side-to-side.
- Do not position or set up on unlevel or unstable ground. Only set up on smooth, flat and solid ground surfaces.

Wind



WARNING

Rollover Hazard

- Do not operate with the light tower extended in winds exceeding 53 mph (85 km/h).

When the light tower is in the operating position it is located in the middle of a three-point outrigger system for optimum balance and stability. This system was engineered to allow the light tower to remain operational in sustained winds of 53 mph (85 km/h) with the light tower extended to full height and the outriggers in position on a firm level surface.

Pre-Operation Check List

Always perform the following checks before traveling to the work site and before operation. Repair or replace any components as required before operation.

NOTE: See appropriate section of the Engine Operator's Manual and Generator Operator's Manual for additional pre-operation checks.

After completing the pre-operation check list, operate the light tower through a complete operation cycle.

- Visually inspect the equipment to ensure that all instructions and decals are in place and legible.
- For laydown light towers, inspect the light tower locking bar latch assembly, which locks the light tower in the vertical position, for proper operation.
- Check the hitch assembly and safety chains.
- Check the outriggers and jacks to make sure they operate properly.
- Inspect the light assemblies for damage and test for proper operation.
- Inspect electrical wiring for signs of damage.



DANGER



Electrocution Hazard

- Do not operate the light tower if the insulation on the electrical cord or other electrical wiring is cut or worn, or if bare wires are exposed.

- Check the ground rod cable and the ground lug. Make sure they are clean, undamaged and functional.
- Inspect the tires to ensure good condition and proper inflation.
- Check engine oil, fuel, engine coolant levels and hydraulic fluid levels.
- Check to make sure the Light Tower Operator's Manual, Engine Operator' Manual and Generator Operator's Manual are with the equipment.
- Physically inspect the machine for damage and repair if necessary.

Leveling and Stabilizing the Trailer

WARNING

Rollover Hazard

- Do not set up on unlevel ground. Only set up on smooth, flat and solid ground surfaces.
- Always level the light tower trailer before raising the light tower.

The NIGHT-LITE PRO II must be leveled to 2.8° (5% grade) or less, front-to-back and side-to-side.

1. Position the NIGHT-LITE PRO II on an adequate site; see **Work Site Safety Considerations**.
2. Block each wheel on each side with a suitable wheel chock (A, Figure 16).

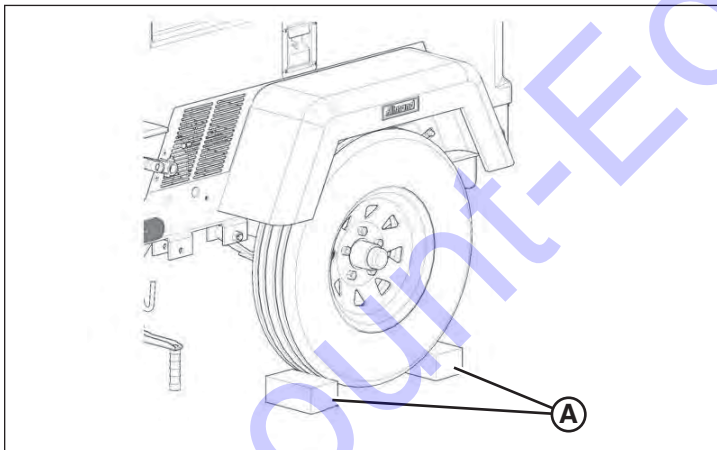


Figure 16

3. Extend the front outrigger stabilizers, and lock in place with the outrigger lock pin (A, Figure 17).
4. Rotate each outrigger stabilizer jack perpendicular with the ground, and lock in place with the jack pin (C, Figure 17). Do the same with the rear stabilizer jack (A, Figure 18).

5. Adjust each stabilizer jack (B, Figures 17 and 18) and the tongue jack (A, Figure 19) to achieve proper leveling.

NOTE: Turning the handles clockwise will raise the jacks, and counterclockwise will lower the jacks.

WARNING

Rollover Hazard

- All stabilizer jacks must be supported by a flat, level solid ground surface.

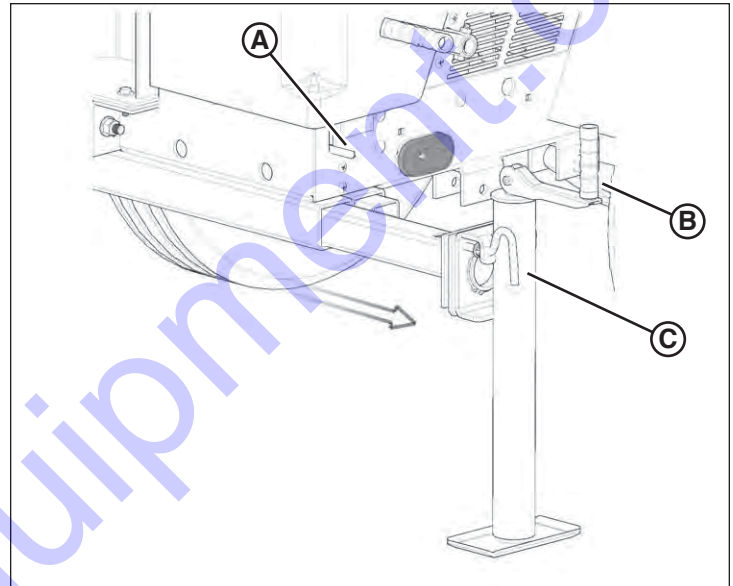


Figure 17

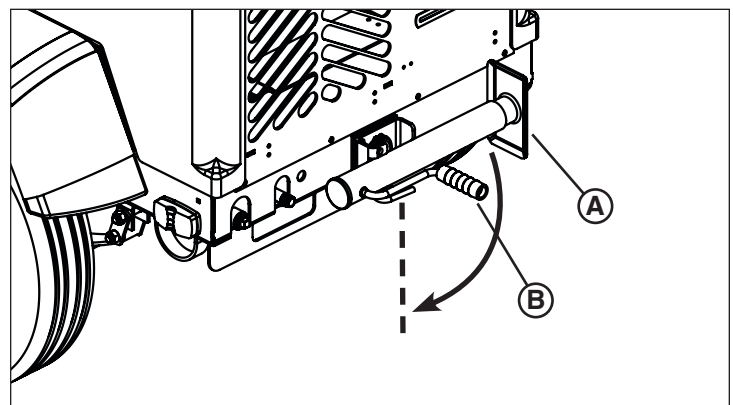


Figure 18

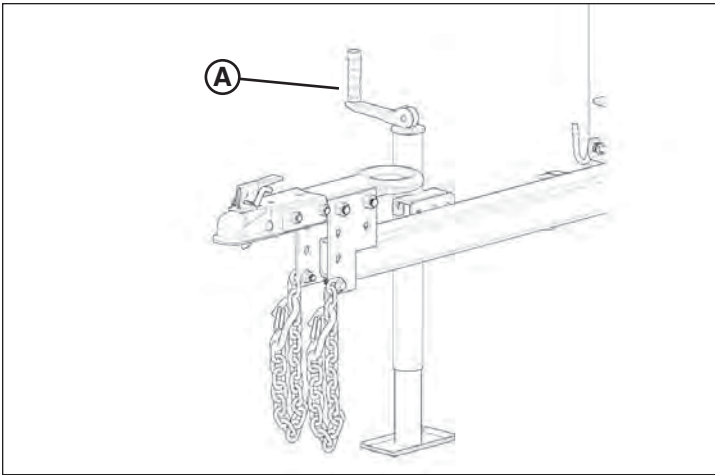


Figure 19

Installing the Ground Rod

The ground rod is a safety device that may reduce the chance of personal injury from stray electrical current. Therefore, Allmand recommends using the ground rod. However, it is the user's responsibility to determine the requirements and/or applicability of state, province or national electrical code which governs the use of the ground rod.

Remove the ground rod (D, Figure 20) from the storage location inside the left panel (A). Drive the ground rod fully into the ground (E) using a hammer. Attach the supplied cable (C) to the rod, then attach the cable to the ground lug (B) on the unit. Make sure the cable connections are tightened.

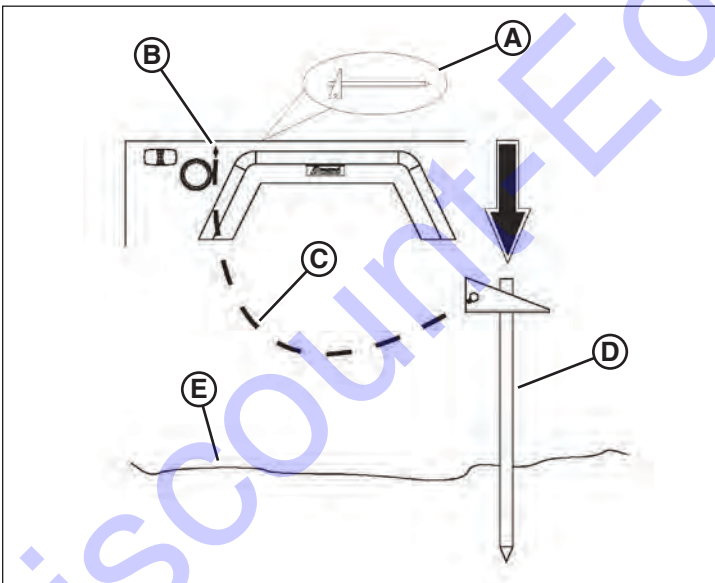


Figure 20

Engine Operation

Before starting the engine or operating the light tower, read **Safety**.

The Allmand NIGHT-LITE PRO II Series light towers are powered by a diesel engine and generator unit.

Pre - Start Checks

1. Check the engine oil and add oil if required. Fill the engine with the proper grade of lubricating oil; refer to the Engine Operator's Manual for oil specifications.
2. Check and add diesel fuel as required.
3. Ensure that the air cleaner is firmly attached and air cleaner seals and hose clamps are properly sealed. Air cleaner element should be checked and replaced if necessary.

Engine Control Panels

CAT / Kubota / Mitsubishi Control Panel

The CAT, Kubota and Mitsubishi engine control panels consist of the engine start/stop key (A, Figure 21) and hour meter (B).

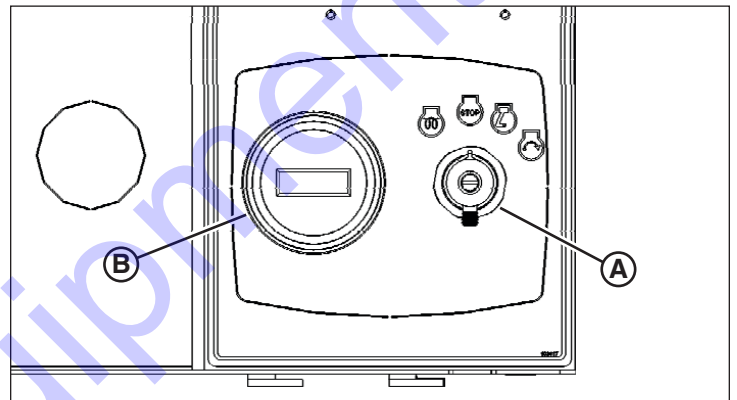


Figure 21

Kohler Control Panel

The Kohler engine control panel consists of the engine start/stop key (A, Figure 22), hour meter (B), and engine warning indicator lights (C).

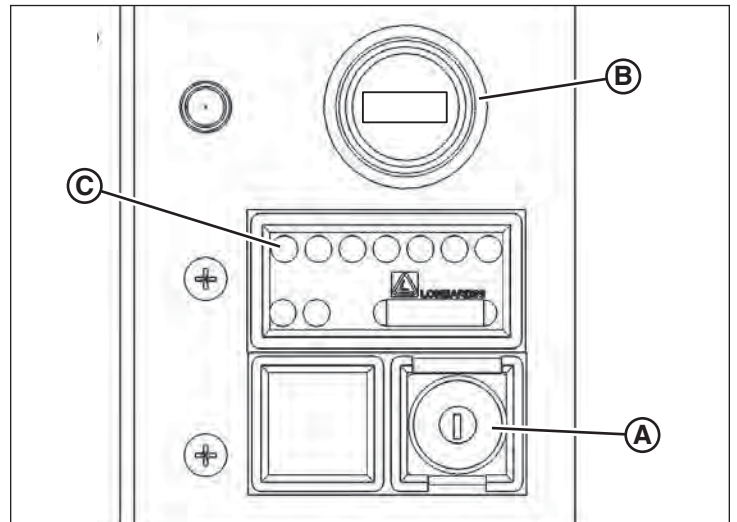


Figure 22

LSC Control Panel

The LSC Engine control panel consists of the main panel on/off switch (A, Figure 23), and LSC control panel with LCD display (B).

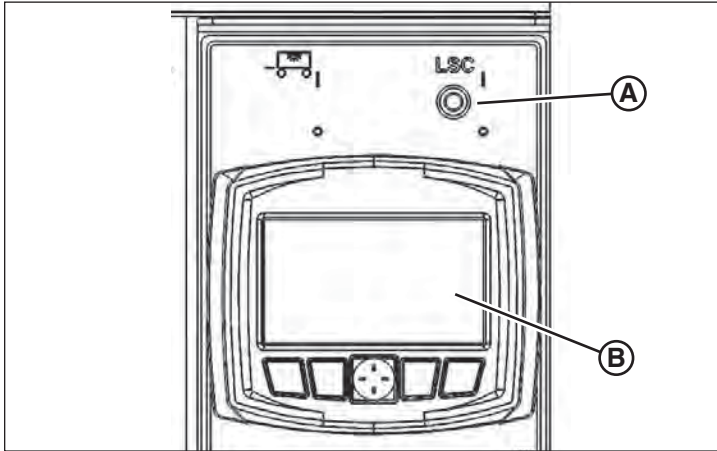


Figure 23

Starting the Engine

The Starting procedure is different depending on the engine model used. Refer to your Engine Operator's Manual for the starting procedure. For LSC, refer to the LSC Operator's Manual.

Cold - Weather Starting

The cold - weather starting procedure is different depending on the engine model used. Refer to your Engine Operator's Manual for the cold - starting procedure.

If Engine has Run Out of Fuel

1. Refill the fuel tank.
2. Refer to your Engine Operator's Manual for the starting procedure.

Notice:

Do not operate starter for more than 10 seconds without allowing 30 seconds to pass between starting attempts. Possible starter damage could result from excessive heat caused by cranking too long.

Notice:

If the engine develops sufficient speed to disengage the starter but does not keep running (a false start), the engine rotation must be allowed to come to a complete stop before attempting to restart the engine.

Notice:

If starter is engaged while the flywheel is rotating, the starter pinion and flywheel ring gear may clash, resulting in damage to the starter or flywheel ring gear.

Stopping the Engine

The engine stopping procedure may differ depending on the engine model. Refer to your Engine Operator's Manual for engine stopping procedures. For LSC, refer to the LSC Operator's Manual.

Automatic Engine Shutdown System

The engine is equipped with an automatic engine shutdown system to prevent excessive engine damage in the event of a low oil or overheat condition. For additional information, refer to your Engine Operator's Manual.

Low Oil Pressure Shutoff

Should a low oil pressure condition occur, the oil pressure sending unit breaks the circuit between the battery and the fuel solenoid, allowing the spring load to immediately move the fuel control to the shutoff position.

High Coolant Temperature Shutoff

Should a high coolant temperature condition occur, the temperature sending unit breaks the circuit between the battery and the fuel solenoid, allowing the spring load to immediately move the fuel control to the shutoff position.

Tower Light Operation

Laydown Tower Light Operation

Before operating the tower lights, read **Safety**.

The laydown light tower is raised and lowered by a manual winch actuating a 3-section telescoping mast.



WARNING

Rollover Hazard

- Before raising, lowering or operating the tower lights, the trailer must be set up, properly leveled and stabilized, and ground rod installed: see **Pre-Operation Setup**.



WARNING

Crush Hazard

- Allow adequate clearance around and above trailer when raising or lowering the light tower.
- Ensure that there are no obstructions or persons near the light tower when raising or lowering the light tower.

Light Bar and Light Fixture Adjustment (Laydown Tower)

Lights - Work Site Adjustment

The light fixtures must be adjusted to the desired work angle before raising the tower.

With the light tower fully lowered and the lights off, the light fixtures can be manually rotated into the desired working position.

To adjust each light fixture, manually swivel each light fixture at its base (A, Figure 24) into the desired working position.

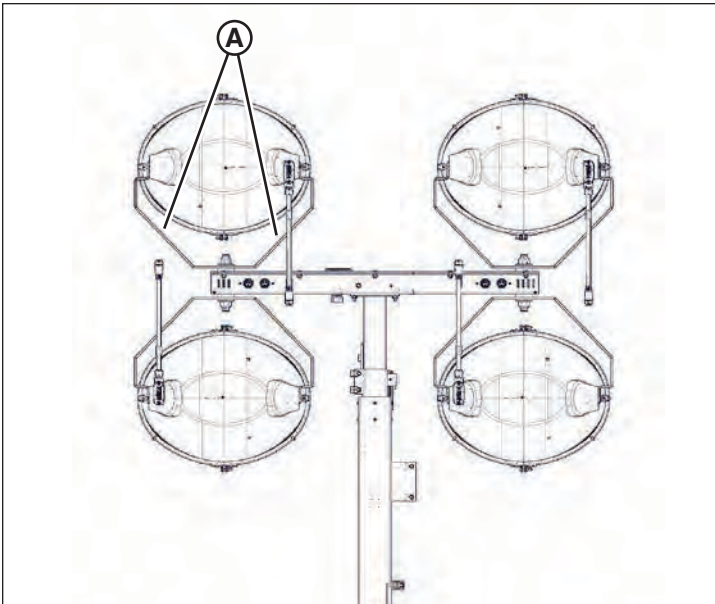


Figure 24

Lights - Trailing storage

The light bar and light fixtures must be stowed properly for trailing or transporting. See **Tower Lights - Stowage for Trailing**.

Vertical Tower Light Operation

Before operating the tower lights, read **Safety**.

The vertical light tower is raised and lowered by a hydraulic pump actuating a 6-section telescoping mast.



WARNING

Rollover Hazard

- Before raising, lowering or operating the tower lights, the trailer must be set up, properly leveled and stabilized, and ground rod installed: see **Pre-Operation Setup**.



WARNING

Crush Hazard

- Allow adequate clearance around and above trailer when raising or lowering the light tower.
- Ensure that there are no obstructions or persons near the light tower when raising or lowering the light tower.

Light Bar and Light Fixture Adjustment (Vertical Tower)

Lights - Work Site Adjustment

The light bar and light fixtures must be adjusted to the desired work angle before raising the light tower.

With the light tower fully lowered and the lights off, the light bar assembly and light fixtures can be manually rotated into the desired working position.

To adjust the light bar, release the light bar park pin (A, Figure 25) by pulling the ring and turning it 90 degrees so that the pin remains in the retracted position.

With the light bar park pin released, the light bar is designed to be manually rotated with enough resistance so that the bar will stay in the desired position once the operator has directed the lights on the work zone.

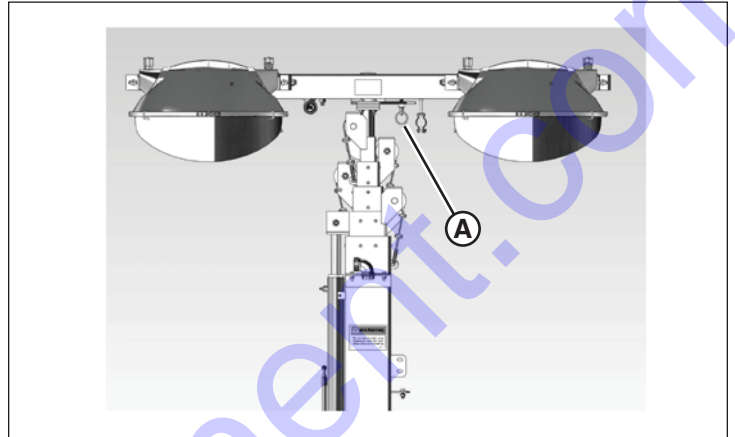


Figure 25

If the light bar rotates too easily or does not stay in position, remove the cap plug from the center of the light bar cover and tighten the nut to achieve the desired resistance and replace the cap plug.

To adjust each light fixture, manually swivel each light fixture at its base (A, Figure 26) into the desired working position.

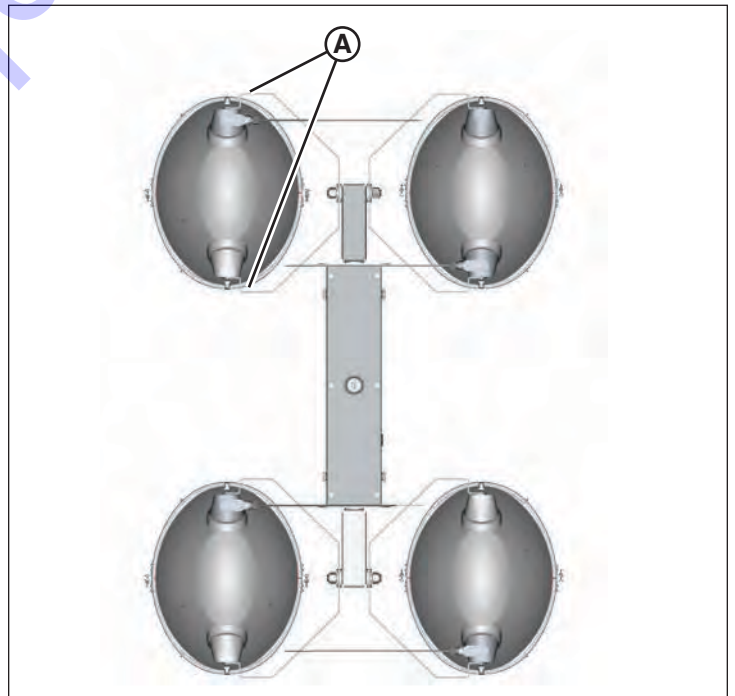


Figure 26

Lights - Trailing Storage

The light bar and light fixtures must be stowed properly for trailering or transporting. See **Tower Lights - Stowage for Trailing**.

Raising And Lowering The Light Tower - Laydown Tower

The manual winch tower (A, Figure 27) can be raised and extended by operating two hand crank winches. One winch, mounted with the handle extending through the side of the trailer frame, raises and lowers the mast from the horizontal towing position to the vertical position and back. The second winch mounted on the tower extends and retracts the telescopic sections.

Raising

1. Before raising the light tower, adjust the tower lights to the desired work position; see **Light Bar and Light Fixture Adjustment (Laydown (Manual) Tower)**.
2. Turn the lights off; see **Light Control Panel**.
3. Release the pin (B, Figure 27) that secures the mast to the rear mast support.
4. Operate the hand crank (C, Figure 27) on the right side of the trailer to raise the mast from horizontal to vertical.
5. Engage the automatic spring lock pin (E, Figure 27).
6. Operate the hand crank winch (D, Figure 27) on the tower clockwise to raise the lights vertically.
7. To rotate lights, turn the upper black knob (F, Figure 27) counterclockwise and turn the tower with the handles (G). Retighten knob.

Lowering

1. Turn lights off; see **Light Control Panel**.
2. Loosen the upper black knob (F, Figure 27) and rotate tower until handles (G) are parallel with the front of the trailer and retighten knob.
3. Operate the upper hand crank winch (D, Figure 27) counterclockwise to lower the lights to the lowest vertical position.

6. Operate the lower hand crank on the side of the trailer counterclockwise to lower the mast into the horizontal towing position.
7. Secure the light cords into hook on the rear tower support.
8. Secure the rear support release pin (B, Figure 27), locking the mast to the rear tower support for towing.

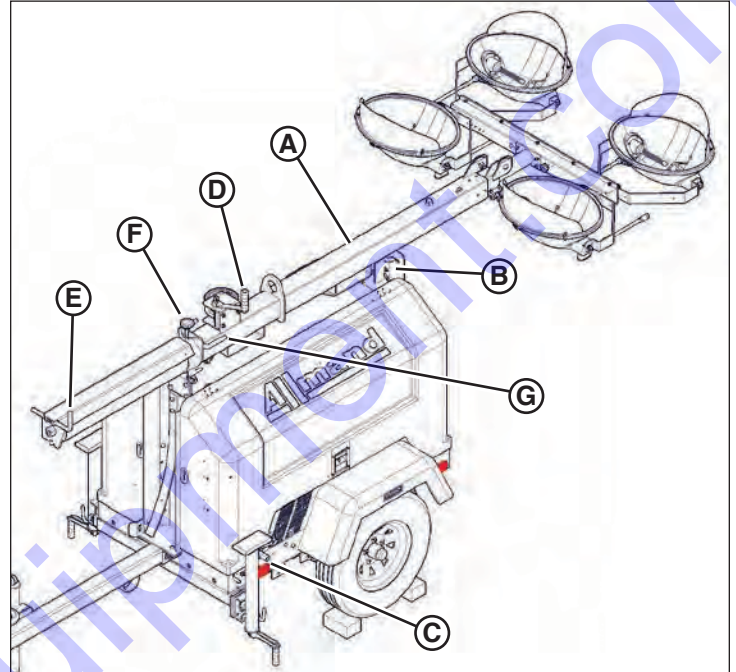


Figure 27

Raising And Lowering The Light Tower - Vertical Light Tower

NOTE: The hydraulic actuated light tower (A, Figure 28) uses 12VDC battery power to operate. The light tower may be raised and lowered as needed with the ignition on but without the engine running.

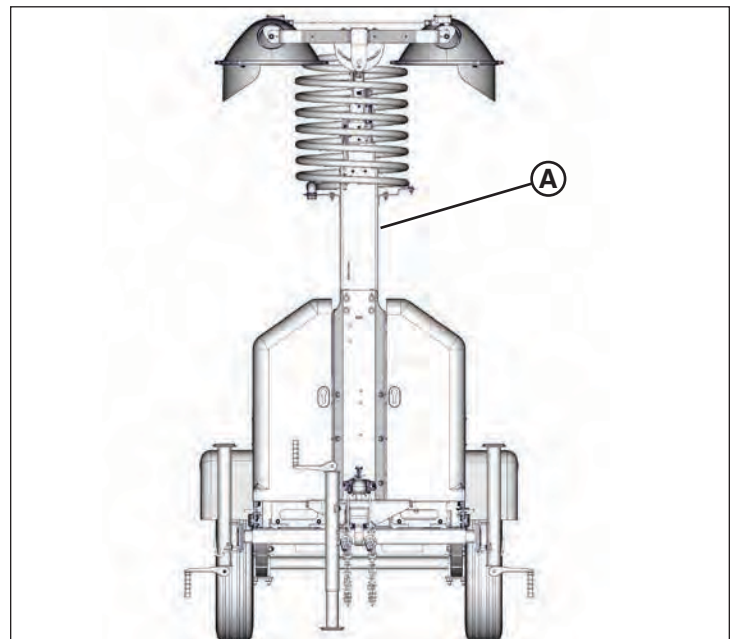


Figure 28

WARNING

Tip Hazard

- Lowering the light tower to the horizontal position before lowering the mast to the lowest vertical position could cause the trailer to tip over, resulting in death or serious injury. Always use the hand crank winch on the light tower to lower the tower vertically first, before using the winch on the side of the trailer to lower the light tower to the horizontal towing position.

4. Operate the lower hand crank winch (C, Figure 27) on the side of the trailer clockwise to take up any slack in the cable.
5. Disengage the automatic spring lock (E, Figure 27).

Raising

NOTICE:

Before raising light tower, visually inspect equipment for damage or wear and repair or replace components as required. Never operate the light tower with damaged or malfunctioning components.

1. Before raising the light tower, adjust the tower lights to the desired work position; see **Light Bar and Light Fixture Adjustment**.
2. If required, start engine. Refer to your Engine Operator's Manual for starting procedure.
3. Turn the lights off; see **Light Control Panel**.
4. Press the light tower hydraulic lift switch (A, Figure 29) up to raise the light tower to the desired height.

Lowering

1. If required, start engine. Refer to your Engine Operator's Manual for starting procedure.
2. Turn the lights off; see **Light Control Panel**.
3. Press the tower light hydraulic lift switch (A, Figure 29) down to lower the light tower to the desired height or to the full DOWN position.
4. When tower reaches the bottom, run switch for 3 additional seconds to ensure that the tower is at its lowest possible position.

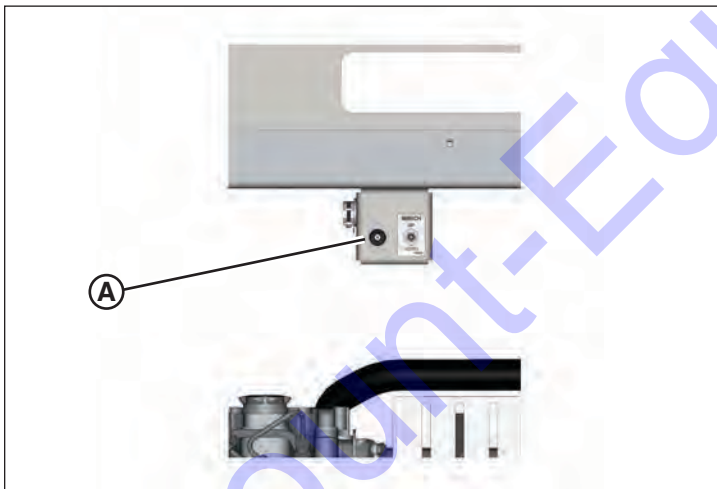


Figure 29

Light Control Panel

The four tower light fixtures are protected by four breaker switches (A, Figure 30) located on the light control panel.

The lights are automatically controlled by the sequenced lighting system (SLS). Simply leave the breaker switches in the ON position for automatic light control. However, the breaker switches may be turned off for individual light control.

Lights On

Start the engine and the lights will sequence on automatically.

Turn one or more light breaker switches (A, Figure 30) to the OFF position for individual light control.

Lights Off

Turn the engine off, and the lights will shut down automatically.

NOTE: The lights will turn off a fraction of a second ahead of engine shutdown; this prevents capacitor damage.

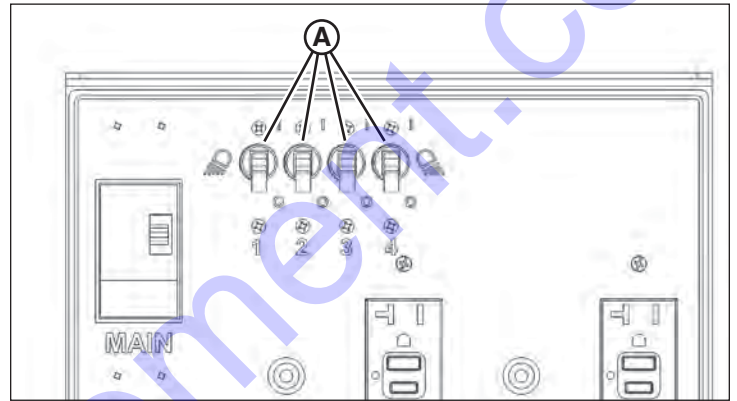


Figure 30

Shutdown Procedure

Shutdown - Short period

1. With the lights off, lower the light tower to the full DOWN position; see **Raising and Lowering the Light Tower**.
2. Turn the engine off. Refer to your Engine Operator's Manual for stopping procedure.

Shutdown - Long-Term or Prepare for Trailing

See **Long-Term Storage** or **Shutdown - Prepare for Trailing**.

Auxiliary AC Outlet Operation

Depending on model options, the 240VAC 1-phase control panel is equipped with any of the four following outlet packages:

- Two GFCI outlets (B, Figure 31), each protected by a 20A circuit breaker (C), OR
- Two Twistlock outlets (B, Figure 32), each protected by a 30A circuit breaker (C), and one GFCI outlet (D), protected by a 20A circuit breaker (E), OR
- Two RV outlets (B, Figure 33), each protected by a 30A circuit breaker (C), OR
- Two Shucko outlets (B, Figure 34), each protected by a circuit breaker (C). (50Hz Models only)

Power is supplied to the outlets of any outlet package only when the engine / generator is running and the main circuit breaker (A, Figures 31 - 34) is in the ON position.

If any of the outlet circuit breakers trip:

1. Disconnect the load from the outlet.
2. Turn off the tower lights (if used).
3. Correct the excessive load problem and wait 10 minutes to allow the generator to cool down before reconnecting the load.

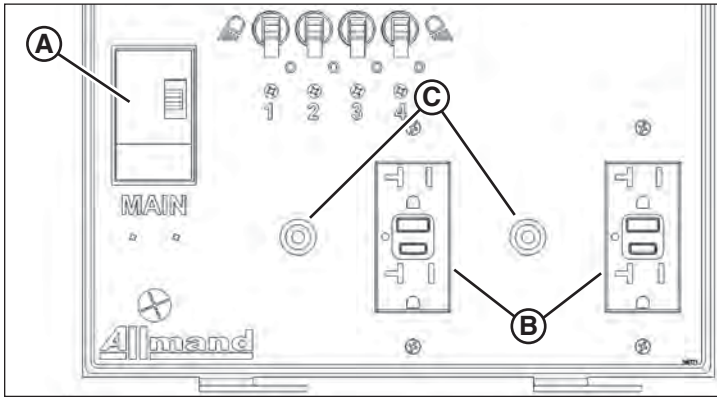


Figure 31

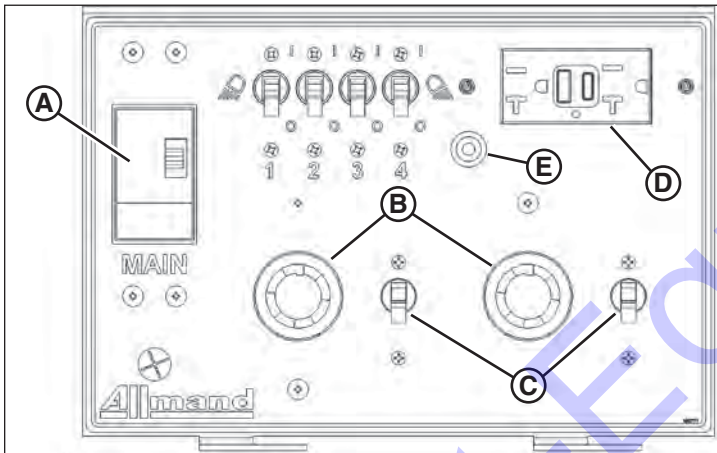


Figure 32

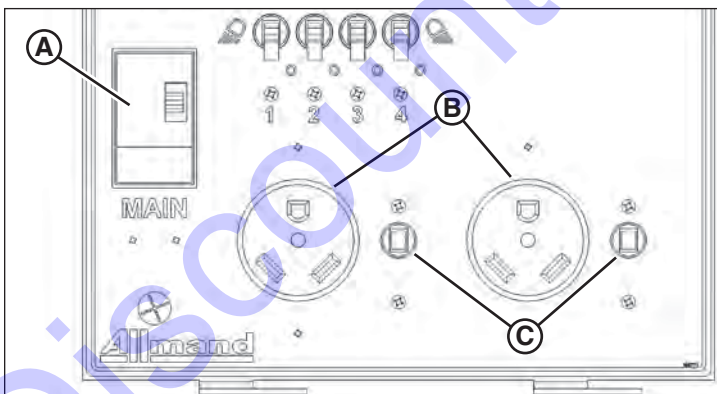


Figure 33

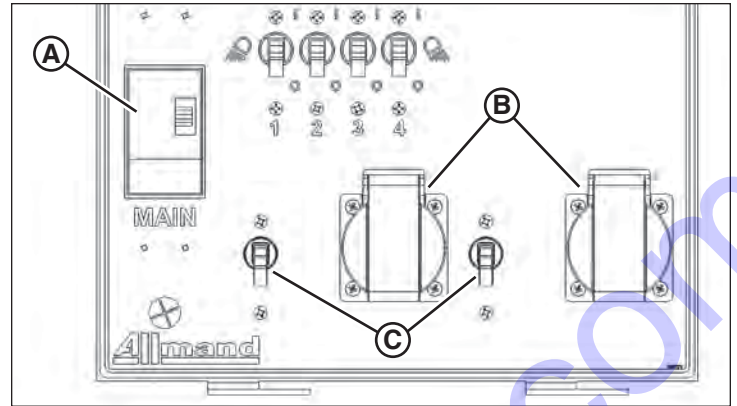


Figure 34

Maintenance

Before performing any maintenance procedures, read **Safety**.

Scheduled maintenance prevents unexpected downtime, reduces the number of accidents due to poor equipment performance and helps extend the life of the light tower.

Proper maintenance and care of your light tower and trailer is a must for safe and reliable operation. Use the following maintenance and care guidelines in addition to those scheduled by your shop equipment maintenance schedule.

Where equipment is operated under severe conditions (very dusty, extreme heat or cold, etc.), affected items should be serviced more frequently.

Engine

Refer to the Engine Operator's Manual for all engine scheduled maintenance procedures.

Changing and Adding Engine Oil

Use a high-quality engine oil of API (American Petroleum Institute) service class CG-4/CH-4/CI-4. Refer to the Engine Operator's Manual for detailed engine oil specifications and service procedures.

All models are equipped with remote oil drains.

Engine Filters

Refer to the Engine Operator's Manual for air, oil and fuel filter service procedures.



Electrical System

Generator

Refer to the Generator Operator's Manual for all generator schedule maintenance procedures.

Ballast Panel

The ballast panels are located on the front of the light tower trailer. The ballast panels can be accessed by opening the doors and removing the ballast covers. Each ballast panel contains two tower light lamp ballast (A, Figure 35) and capacitors (B). For additional wiring information, refer to the separate Wire Schematic Manual.

 **DANGER** 

Electrocution Hazard

- Only qualified electricians should service or perform replacement procedures. Ballast and capacitors are capable of discharging high voltage. Always use appropriate personal safety clothing and gear when servicing electrical components.
- High voltage is present when engine is running. Never attempt to service electrical components while engine is running.
- Do not operate the light tower if the insulation on the electrical wiring is cut or worn, or if bare wires are exposed. Repair or replace damaged wiring before starting the engine.

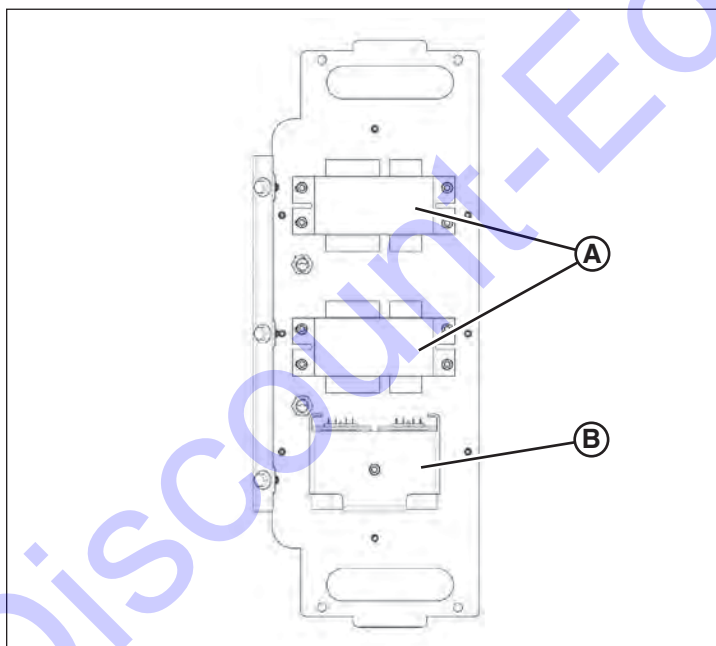
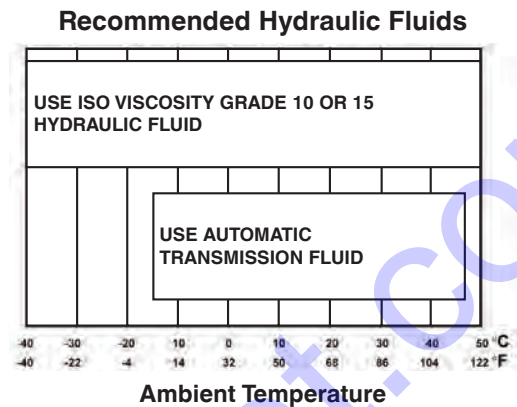


Figure 35

Hydraulic Pump

Hydraulic Oil Specifications



Adding Hydraulic Oil

Fill the reservoir (Figure 36) with automatic transmission fluid or any clean hydraulic fluid having a viscosity index that is suitable for the climate conditions in which the unit will be operated. Refer to the preceding table.

NOTE: Standard units are supplied with automatic transmission fluid (ATF), and arctic units are supplied with long life synthetic hydraulic fluid.

Priming the Hydraulic Pump

Pumps that have been disassembled for repair, or pumps that have been replaced require proper priming to avoid possible pump failure. A pump is said to be "primed" when the internal portions of the pump are filled with oil and all air has been expelled. To prime the pump:

1. Make sure that the oil reservoir (A, Figure 36) is filled with oil to the full mark.
2. Place a catch pan under the pump to catch excess oil.
3. Loosen the hose end (B, Figure 36) to allow oil and air to escape.
4. Turn on the ignition switch and move the tower raise / lower switch to the "raise" or up position. Do so intermittently, or "jog" the pump. This will expel air and oil through the loosened fitting. Repeat until oil flow is free of air.
5. Re-tighten the hose end. Turn off the ignition switch.
6. Remove the catch pan and dispose of the oil following the guidelines of governmental agencies.
7. Replenish the oil in the reservoir to the full mark.

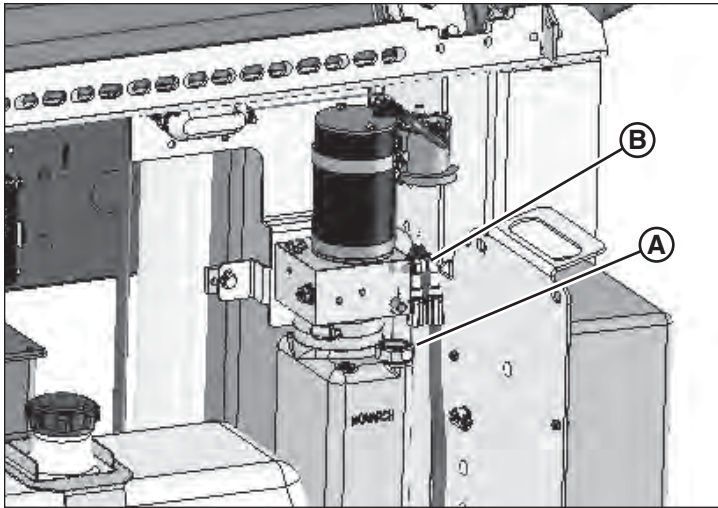


Figure 36

Once the pump has been primed, the cylinder should be purged of air. To purge the cylinder of air:

1. Make sure that the oil reservoir is filled with oil to the full mark.
2. Clean the bleeder fitting (A, Figure 37) on the upper end of the cylinder barrel.
3. Place a bleeder hose over the end of the bleeder fitting. Place the other end of the bleeder hose in a suitable catch container.
4. Turn on the ignition switch and move the tower raise / lower switch to the “raise” or up position.
5. Open the bleeder fitting. Allow oil and air to bleed out of the cylinder. Close the bleeder when oil flow is free of air.
6. Remove the catch container and the bleeder hose. Dispose of the oil in the catch container following the guidelines of governmental agencies.
7. Move the tower raise / lower switch to the “lower” or down position. Be sure that the tower is fully lowered. Turn off the ignition switch.
8. Replenish the oil in the reservoir to the full mark.

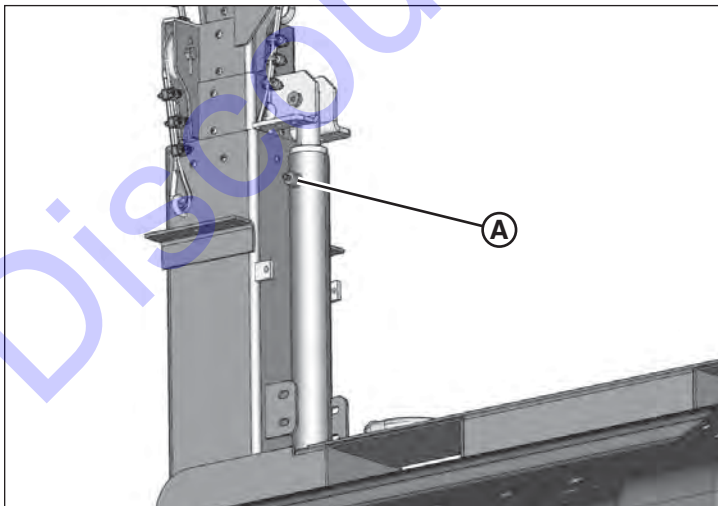


Figure 37

Light Tower And Lamps

Changing Lamps



WARNING



Burn Hazard

- The light fixtures become extremely hot during use.
- Always use caution and heat-resistant glove when handling the lights or allow the lights to sufficiently cool down before handling.

1. Turn off the lights and shut off the engine. Allow the bulbs and fixtures to cool.
2. Lower the light tower to full DOWN.
3. Loosen the lens channel screws (E, Figure 38) to allow the removal of the lens channel (F).
4. Remove the silicone gasket (G, Figure 38) and lens (H).
5. Remove the support clip screws (A, Figure 38) and support clip (B).
6. Carefully remove the old lamp (C, Figure 38), and install the correct replacement lamp. See **Specifications**.
7. Clean the reflector (D, Figure 38) and lens.
8. Install the support clip and screws.
9. Install the silicone gasket and lens. Replace if worn or damaged.
10. Install the lens channel and screws.
11. Test the new lamp to ensure proper operation.

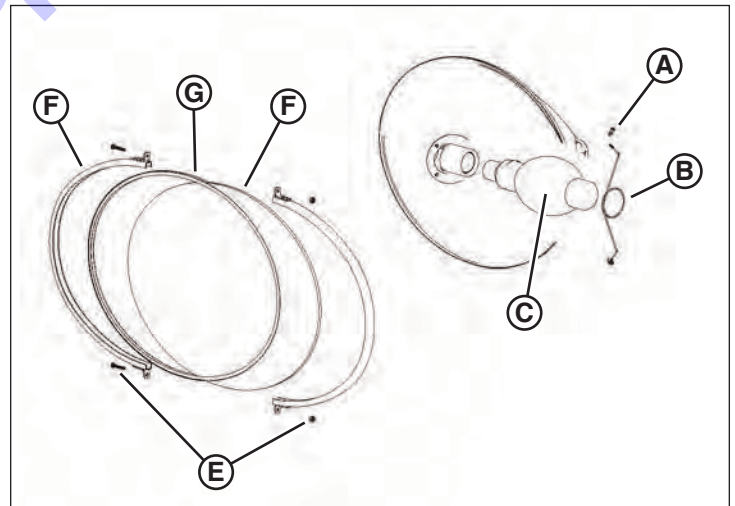


Figure 38

Trailer

Proper maintenance and care of your trailer is a must for safe and reliable operation. Follow these maintenance and care guidelines in addition to those scheduled by your shop equipment maintenance schedule.

Frame

1. Check the coupler operation and for corrosion or damage; replace as needed.
2. Inspect the trailer frame and body panels for rust, nicks and chips. Use the proper touch-up paint to touch up nicks or scratches. Contact your dealer for additional information.
3. Inspect the axle, springs and undercarriage for wear and damage. Replace as needed.
4. Inspect the outrigger bars, front and rear stabilizer jacks and locking mechanisms for proper operation, wear and damage. Replace as needed.
5. Inspect the safety chains for wear and corrosion damage. Replace as needed.

Grease Points

Use N.G.L.I. consistency #2 high-temperature anti-friction bearing lubricating grease for all trailer mechanical pivot points.

Trailer Wheels and Tires



WARNING

Towing Hazard

- Never tow the trailer with damaged tires, rims or lug nuts.

1. Check the tires for any cracks, cuts or damage. Repair or replace the damaged tires before towing.
2. Check the air pressure of the trailer tires when cold. See the chart for axle loads and tire inflation below. Never over or underinflate tire.

GVWR	2000 lbs	907 kg
GVWR Front Axle	2000 lbs	907 kg
Tires	ST175/80D13 Load Range 'C'	
Rims	13 x 4.5JJ	
Cold Tire Inflation	36 psi	248 kPa

3. Check the wheel rims for any cracks or damage.
4. Make sure all the lug nuts are in place. Never tow the trailer with missing or improperly tightened lug nuts.
5. Check that the lug nuts are tightened properly. The correct torque for the lug nuts is 90 lb-ft (122 Nm).

6. When torquing lug nuts, always use a criss-cross pattern (Figure 39).

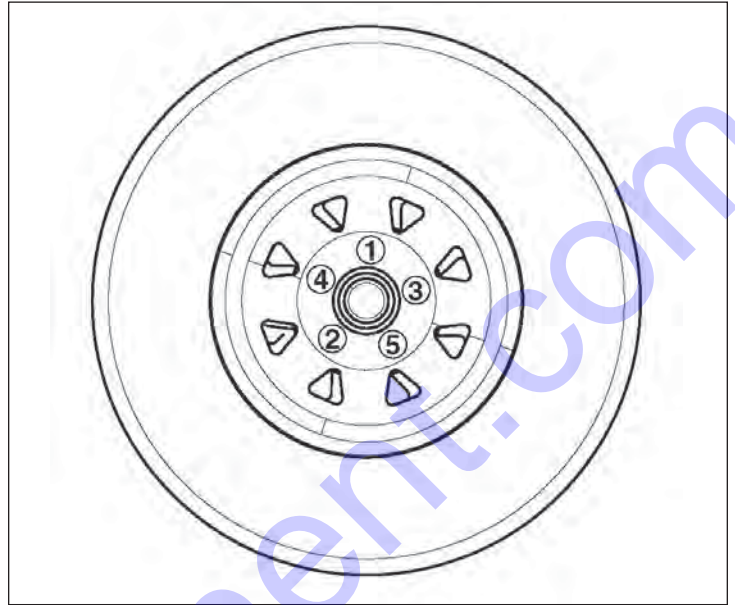


Figure 39

Wheel Bearings

Wheel bearings require periodic maintenance and scheduled replacement. More frequent service may be required under extremely dusty or damp operating conditions. The best protection against failure is to keep the wheel bearings clean and fully lubricated.

Typical wheel hub bearing assembly (Figure 40):

- A - Hub grease seal
- B - Inner hub wheel bearing
- C - Wheel hub
- D - Outer hub wheel bearing
- E - Washer
- F - Cotter pin
- G - Castle nut
- H - Dust cover

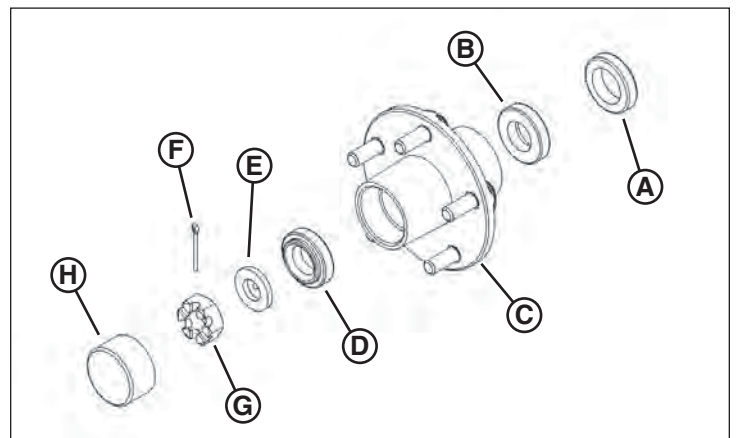


Figure 40

When replacing or repacking wheel bearings, always:

- Use a high-quality wheel bearing grease.
- Avoid mixing grease types.
- Clean all components thoroughly of all grease and inspect for damage and wear. Replace as needed.
- Always use a new grease seal and cotter pin.
- Keep all components clean during assembly.
- Replace any component that is operationally questionable.
- Always replace bearings and races as a set. Never mix bearings and races. Bearing part numbers are sometimes found on the bearing races; always use the correct bearing set.
- Pack grease into the bearing before installing it.
- Do not over-tighten or under-tighten the bearing nut. Wheel bearings should only be tightened by hand (spin the wheel while tightening). Back off the nut to insert the cotter pin. The wheel should spin freely but without play. DOWN position.
- Pack some grease in the inner hub area and dust cap and ensure the dust cap fits tightly.

Trailer Lighting



WARNING

Towing Hazard

- Never tow the trailer with inoperable trailer lights.

Lights are a vital safety feature of your trailer and are also required by state law. Keep the lights in proper working order.

- Check the trailer lights and harness for damage or wear. Repair or replace as needed.
- Ensure the harness is secured to the trailer and does not hang down onto the ground.
- Check the taillight housing assemblies for damage or leaks. Use silicone or rubber sealant to seal the lens or harness, as required, or replace the housing assembly. Electrical grease will help protect the sockets and prevent their corrosion.
- When replacing bulbs, ensure the proper bulb is used and use a small amount of electrical grease in the sockets to prevent corrosion.

For trailer wiring schematic information, refer to the separate Wire Schematic Manual.

Long-Term Storage

Proper maintenance is required when the light tower and trailer will be stored or removed from operation for long periods of time.

Refer to the Engine Operator's Manual and the Generator Operator's Manual for all engine and generator long-term storage procedures.

1. Lower the light tower to the full DOWN position.
2. Make any repairs necessary to ensure the equipment is fully functional upon recommissioning.
3. Clean and wash the frame and body panels. Apply an anticorrosion coating to all surfaces where applicable.
4. Clean any oil or liquid spills inside the engine compartment.
5. Clean all electrical wiring and components by hand using non-corrosive cleaner.
6. Clean the light tower and light fixture assemblies.
7. Disconnect and remove the battery.
8. Use a suitable cover to protect the light tower and trailer.
9. Properly support the trailer axle on jack stands or other suitable supports to allow the tires to remain off the ground during storage.

Cleaning

Keeping the light tower clean is important to ensure proper operation. Dirt and dust buildup acts as an insulator and may cause the engine, generator and light assemblies to operate at excessively high temperatures.

Use the following as cleaning guidelines:

- Use caution when using compressed air or water / steam pressure washers. Do not pressure – clean electrical components, as this may damage electrical components.
- Clean the light tower and remove all dust, dirt or other foreign material.
- Inspect and clean the cooling air intake and exhaust louvers of the enclosure. Make sure they are clean. Remove dirt or any buildup that may restrict the cooling air flow.
- Clean the light tower and its components with a damp cloth or sponge.
- Inspect and clean all engine linkages so they operate properly.


Cleaning and Draining the Trailer Fluid Containment Tray

Allmand NIGHT-LITE PRO II light towers contain a fluid containment tray designed to catch fuel, oil or coolant spills. Should a spill occur, position a suitable container beneath the unit and remove the drain plug. After the fluid has been drained, reinstall the drain plug and dispose of the fluid properly in accordance with governmental guidelines.


Troubleshooting

Before performing any troubleshooting procedures, read the following safety messages, and read **Safety**.

For engine and generator troubleshooting, see the Engine Operator's Manual and Generator Operator's Manual or contact your dealer.



DANGER



Electrocution Hazard

- Only qualified electricians should service or perform replacement procedures. Ballast and capacitors are capable of discharging high voltage. Always use appropriate personal safety clothing and gear when servicing electrical components.
- High voltage is present when engine is running. Never attempt to service electrical components while engine is running.
- Do not operate the light tower if the insulation on the electrical wiring is cut or worn, or if bare wires are exposed. Repair or replace damaged wiring before starting the engine.

Always follow the electrical component manufacturer specifications for voltage and test procedures.

Troubleshooting Chart

Problem	Possible Cause
No light (one or more lights)	1. Circuit breakers in the outlet box are not turned on or have tripped.
	2. Lamps are not allowed time to cool after last being lit. You must allow 15 minutes between the time the lights are shut off and the time they are restarted.
	3. The lamp or lamps are burned out or broken.
	4. One or more of the lamps are not screwed in securely.
	5. Plug and socket at light bar not securely pushed together and locked.
	6. The temperature of the ballast is below -29°C (-20°F). The efficiency of the capacitors in the ballast is not enough to ignite the lamps. For operations where the temperature of the ballast falls below -29°C (-20°F), some means of warming the ballast must be used.
	7. Low electrical system voltage.
	8. A loose connection in the back of the lamp socket in the lamp holder.
	9. A circuit breaker or breakers are defective.
	10. A loose connection on the terminal board.
	11. The engine and generator are not running up to speed. (1800 RPM)
	12. A wrong style replacement lamp (requiring a different ballast) has been installed.
	13. Too much power is being drawn from the auxiliary outlets.
	14. Capacitor or transformer has failed.
	15. Corrosion has occurred on the lamp bases.

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