

**GENERAC**<sup>®</sup>

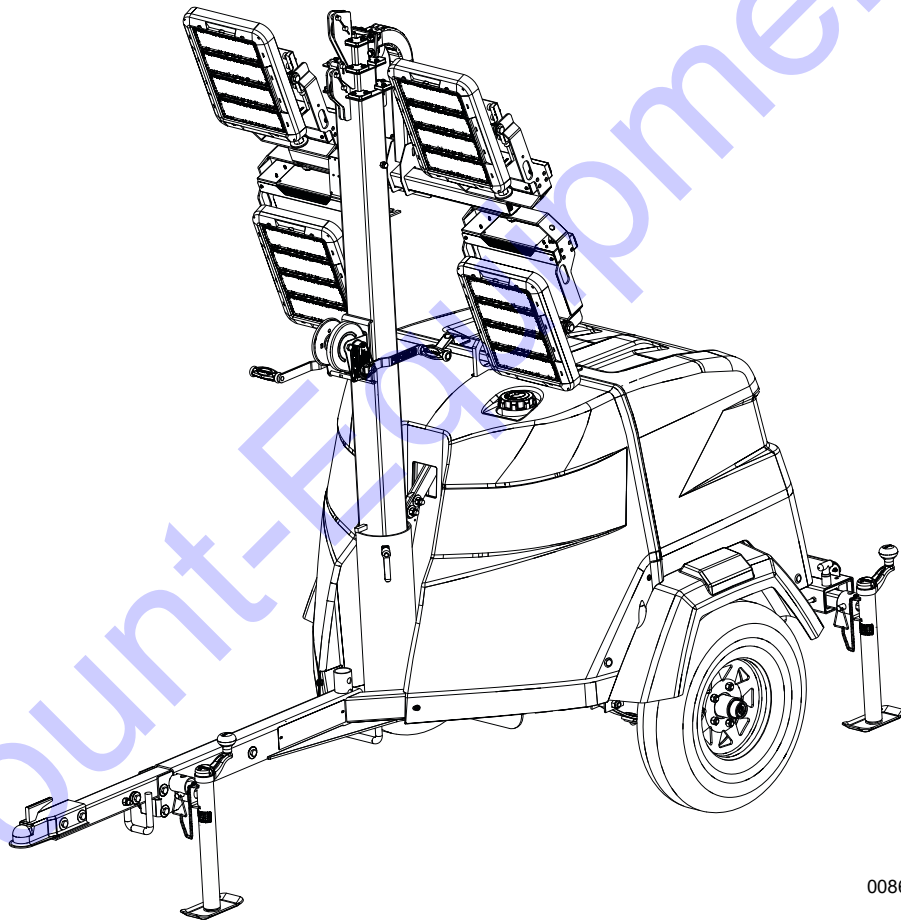
**MAGNUM**

*Owner's Manual*  
*Light Tower*

MLT6SMDS • MLT6SKDS

S/N 3002908801 and above

**PART 2**



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## Trailer Tongue Storage and Tow Positions

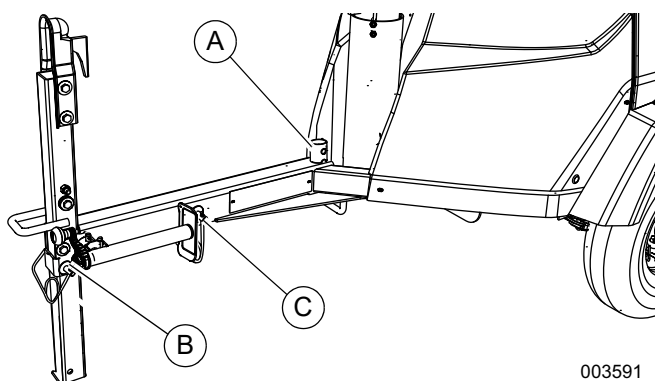
The trailer tongue is designed to fold upright for shipping and storage.

**IMPORTANT NOTE:** Do not attempt to tow the unit with trailer tongue in the storage position.

### Place Trailer Tongue in Tow Position

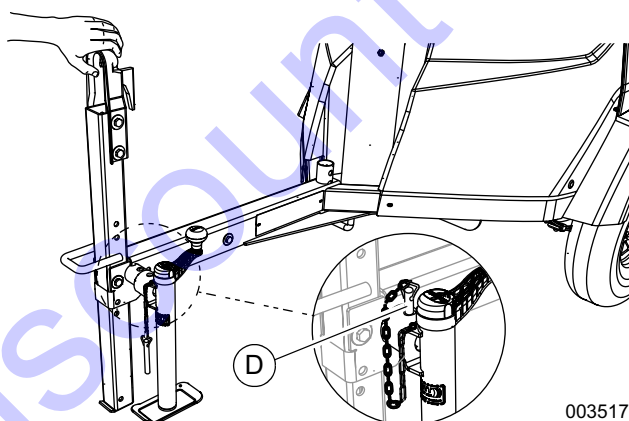
1. Verify unit is on a level surface and wheels are blocked.

**NOTE:** See [Figure 2-2](#). Unit ships from factory with jack in the storage location (A).



**Figure 2-2. Jack and Pin Locations**

2. Remove clevis securing jack parallel to ground.
3. Remove jack from tongue weldment. Hold jack vertically and extend until weldment on jack is aligned with tongue weldment.
4. See [Figure 2-3](#). Install jack and secure with clevis (D).



**Figure 2-3. Jack Installed**

5. See [Figure 2-2](#). Remove pins (B) and (C).



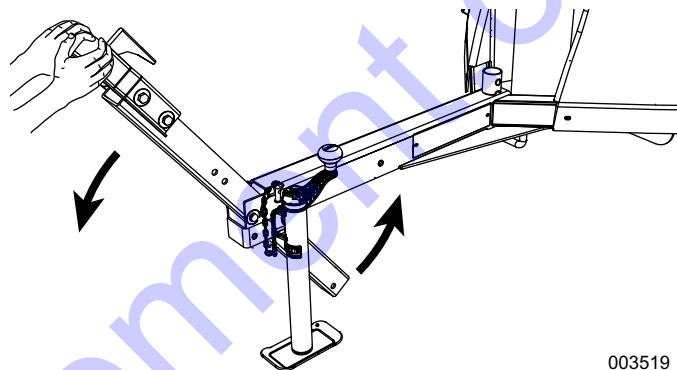
**CAUTION**

Pinching and crushing hazard. To avoid possible injury, keep fingers away from pivot point when folding or unfolding trailer tongue.

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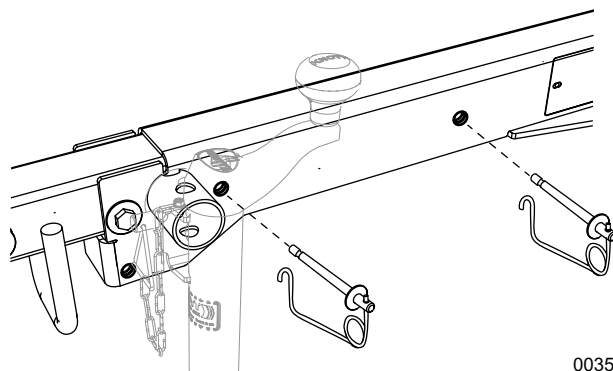
6. See [Figure 2-4](#). Using both hands, slowly lower trailer tongue into tow position.

**NOTE:** Varying levels of effort may be required depending on terrain.



**Figure 2-4. Lower Trailer Tongue into Tow Position**

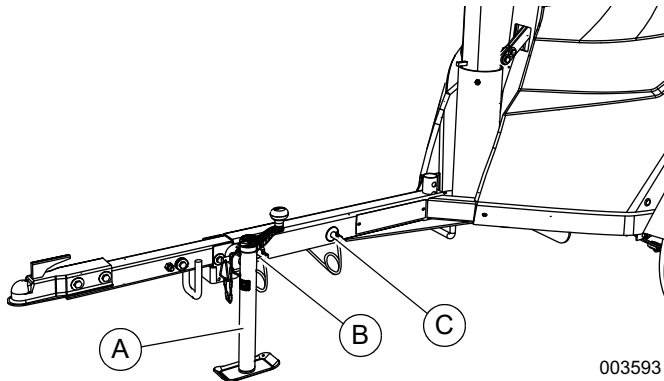
7. See [Figure 2-5](#). Install pins as shown to secure trailer tongue in tow position.



**Figure 2-5. Install and Secure Pins**

## Place Trailer Tongue in Storage Position

1. Verify unit is on a level surface and wheels are blocked.
2. See **Figure 2-6**. Extend jack (A) enough to allow minimum effort to pivot trailer tongue into storage position.



**Figure 2-6. Extend Jack and Remove Pins**

3. Remove pins (B) and (C) from trailer tongue.



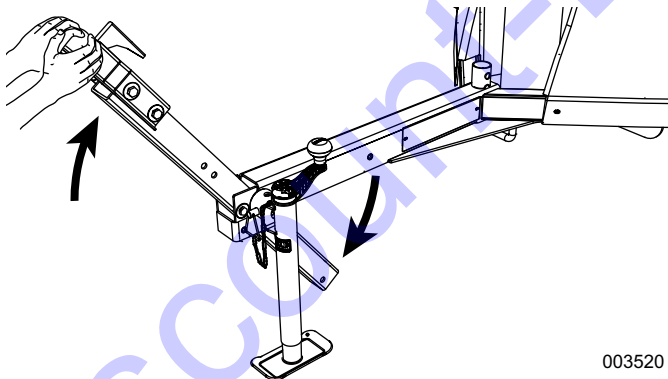
### CAUTION

Pinching and crushing hazard. To avoid possible injury, keep fingers away from pivot point when folding or unfolding trailer tongue.

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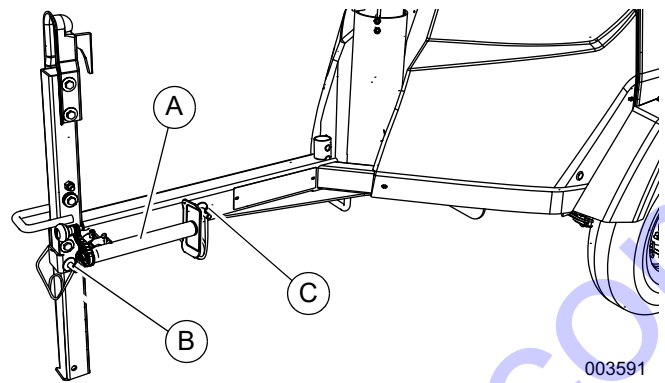
4. See **Figure 2-7**. Pivot trailer tongue into storage position.

**NOTE:** Varying levels of effort may be required depending on terrain.



**Figure 2-7. Pivot Trailer Tongue Into Storage Position**

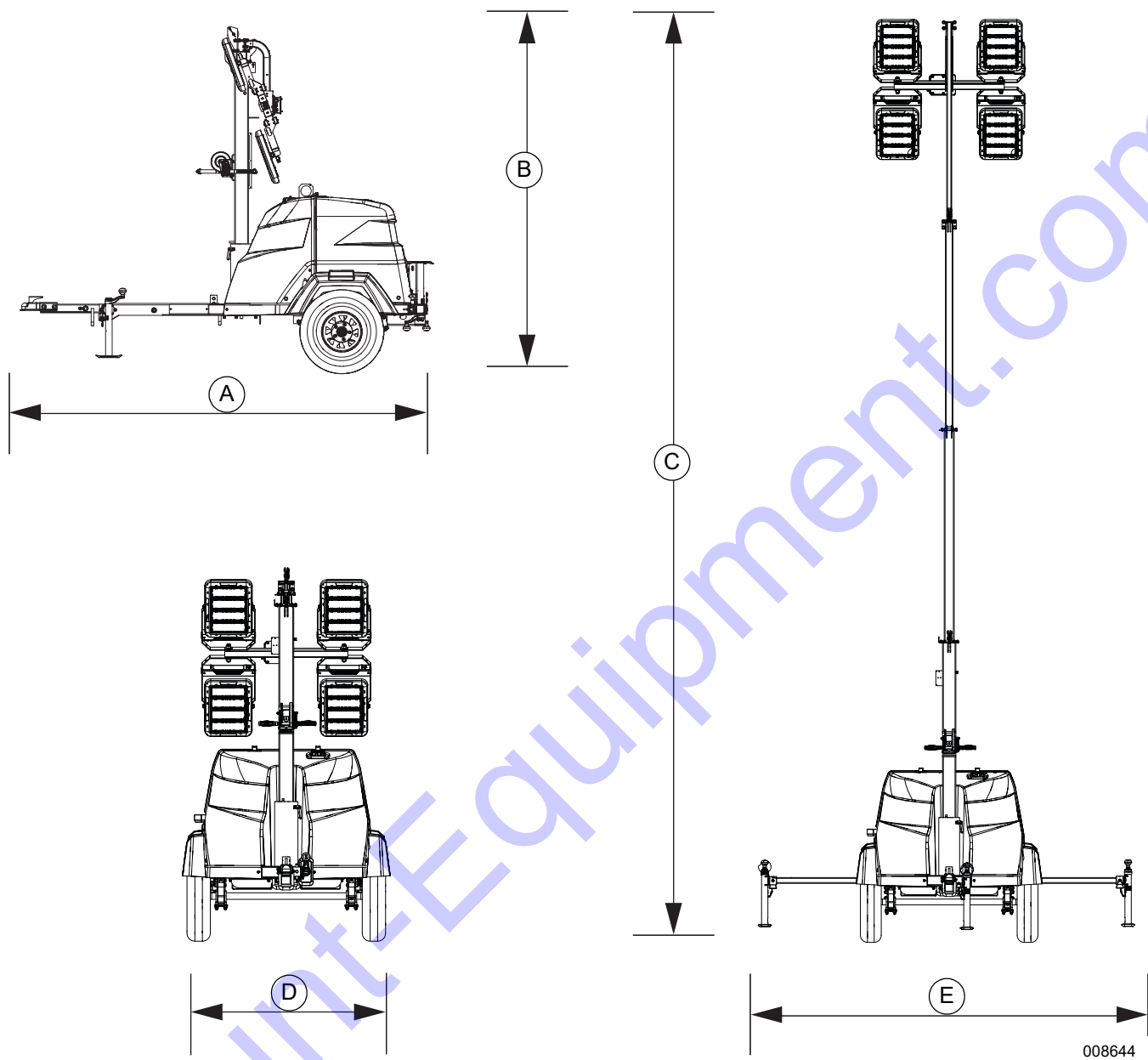
5. See **Figure 2-8**. Install pins (B) and (C) at locations shown to secure trailer tongue in storage position.



**Figure 2-8. Install Pins and Rotate Jack**

6. Remove clevis and remove jack (A) from tongue weldment.
7. Completely retract jack.
8. Rotate jack 90° counterclockwise, place jack on tongue weldment, and install clevis to secure jack parallel to ground.

### Unit Dimensions



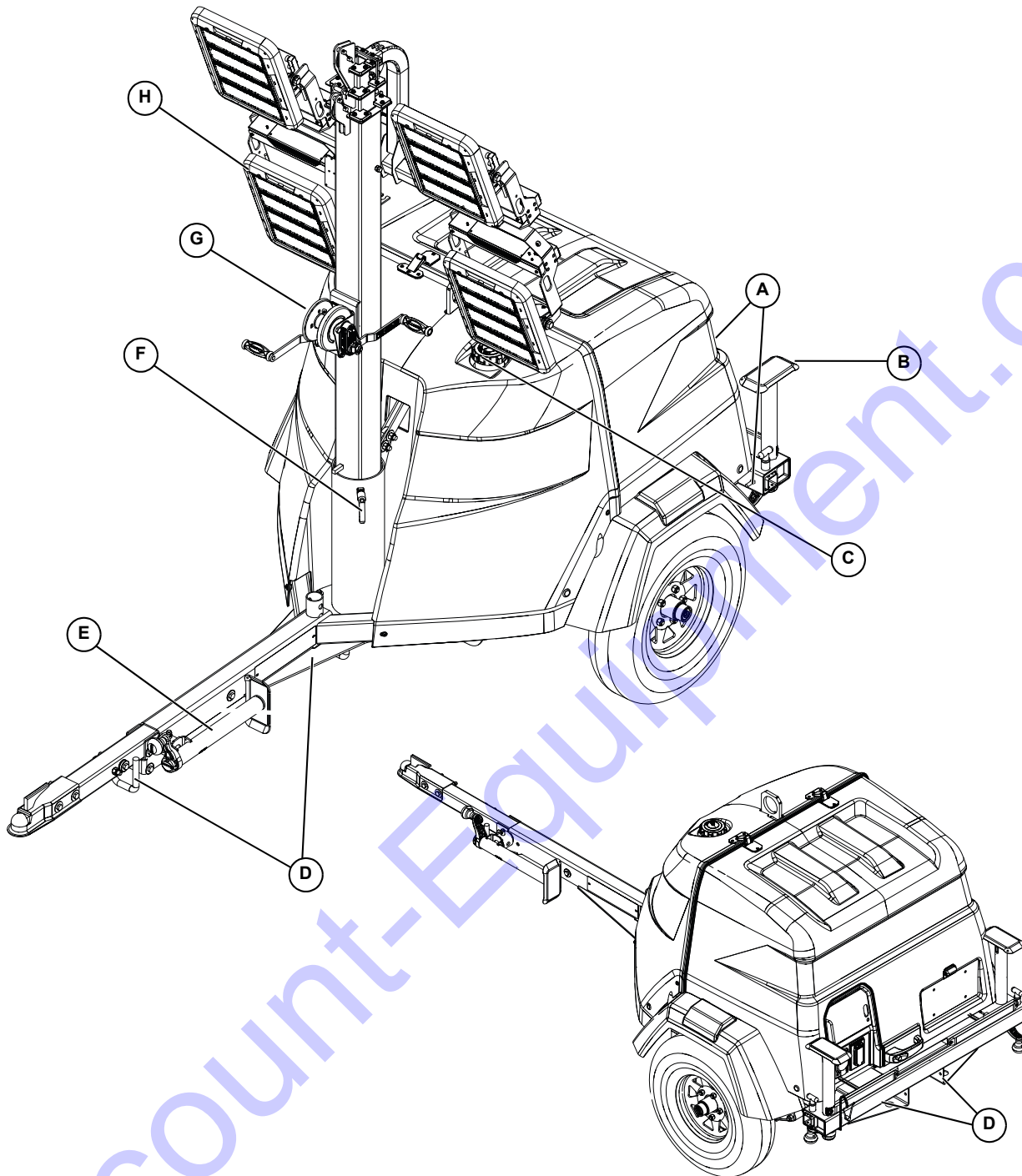
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**Figure 2-9. Unit Dimensions**

	A	B	C	D	E
<b>MLT6SMDS MLT6SKDS</b>	118 in (3 m)	101 in (2.6 m)	23 ft (7 m)	57 in (1.5 m)	120.5 in (3.1 m)

*Specifications are subject to change without notice.*

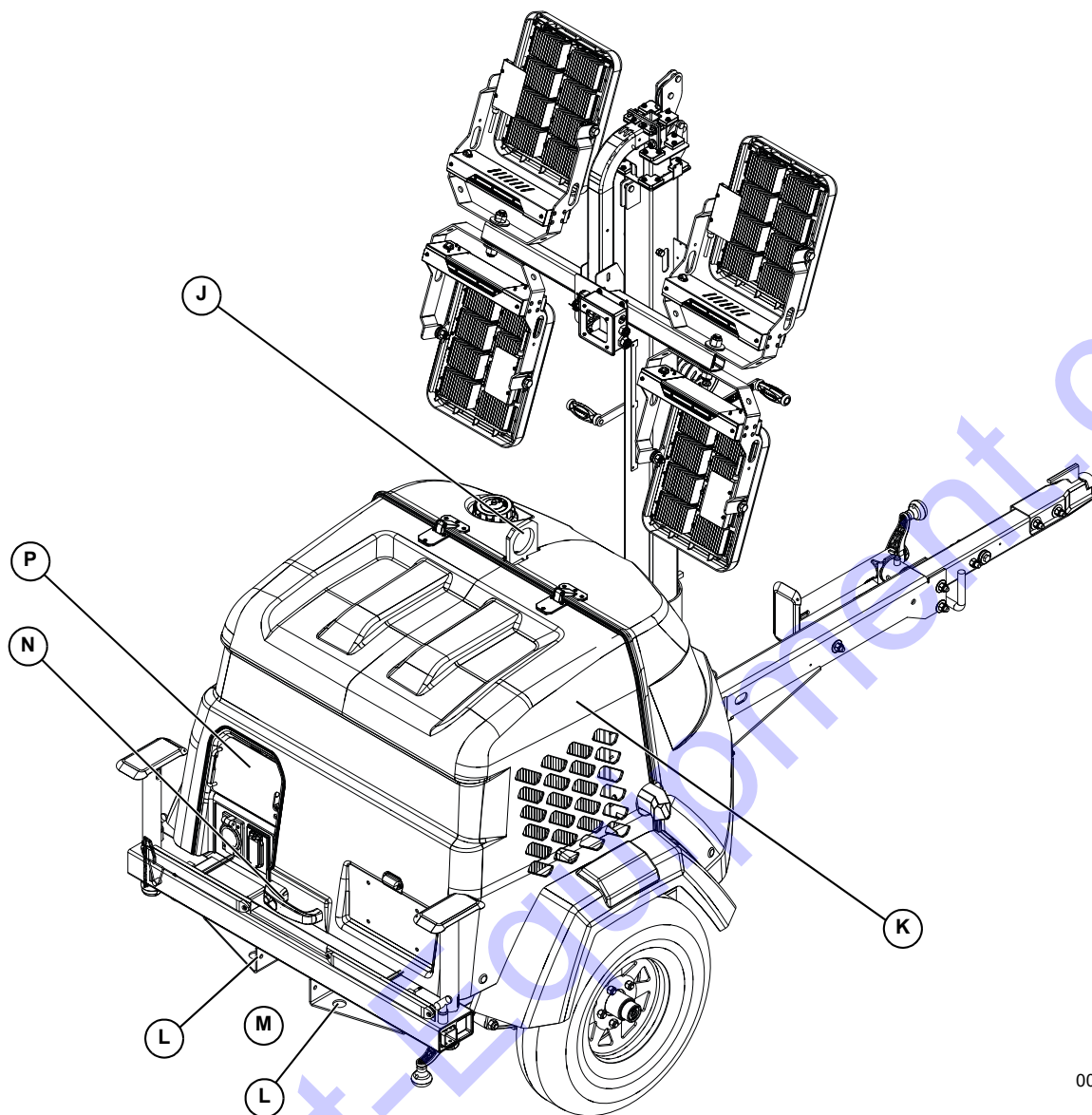
## Component Locations



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**Figure 2-10. Component Locations—Front and Left Side**

- |   |   |   |                    |
|---|---|---|--------------------|
| A | Grounding studs:<br>Interior: On enclosure floor behind controller<br>Exterior: On bumper | E | Tongue jack        |
| B | Outriggers and Jacks (2)  | F | Mast rotation knob |
| C | Fuel fill   | G | Winch              |
| D | Tie-down locations (4)  | H | Lights (4)         |



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**Figure 2-11. Component Locations—Rear and Right Sidezz**

- |   |                             |   |   |
|---|-----------------------------|---|---|
| J | Central lift point          | M | Tandem tow mount (optional—not shown)                                   |
| K | Engine/radiator access hood | N | Hood latch  |
| L | Forklift pocket             | P | Key start controller or Power Zone™-DLA controller (optional—not shown) |

## Control Panel

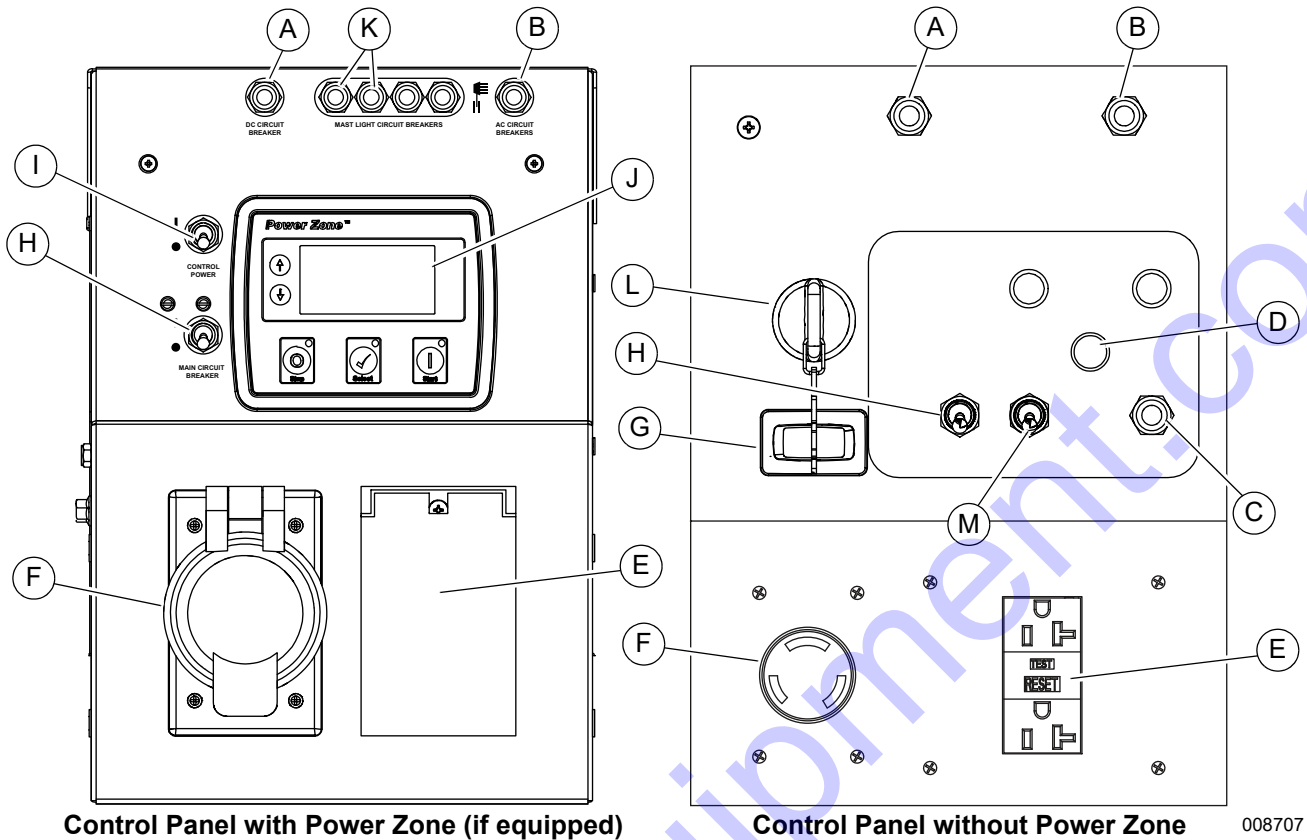


Figure 2-12. Control Panel Features

### Control Panel Features and Functions

**(A) DC circuit breaker**

Resets the DC electrical circuit that powers the control panel and engine components.

**(B) AC GFCI Circuit Breaker (20A)**

Resets the AC electrical circuit that powers the control panel.

**(C) 10A AC Breaker**

Internal breaker for lights.

**(D) Mast switch (if equipped)**

Raises and lowers the mast on units equipped with an electric winch.

**(E) 120V/20A GFCI receptacle**

Customer convenience receptacle for use in connecting auxiliary equipment such as fans, pumps, or drills. Includes a ground fault circuit interrupter (GFCI) test and reset button.

**(F) 240VAC/30A twist-lock receptacle**

Customer convenience receptacle for use in connecting auxiliary equipment such as fans, pumps, or drills.

**(G) Engine hour meter**

Displays number of hours the engine has run.

**(H) Main circuit breaker**

240V/30A breaker which disconnects power from the lights and control panel.

**(I) Control power switch**

Turns the controller ON and OFF.

**(J) Power Zone controller**

Monitors the unit and indicates operational status and fault conditions.

**(K) Mast light circuit breakers**

Circuit breakers with internal breakers dedicated to individual lights.

**(L) 4-Position key switch**

Operates the engine.

**(M) Light toggle switch**

Toggles all four lights ON or OFF.

## Power Zone–DLA (If Equipped)

The Power Zone–DLA is an AUTO start controller that monitors the unit and indicates operational status and fault conditions. The controller can be programmed to automatically start or stop based on time schedule, fault condition, or load demand.

The controller constantly monitors vital generator and engine functions for a number of preprogrammed alarm and fault conditions. When a fault condition occurs, the

engine shuts down automatically and the LCD window shows the fault that caused the shutdown. To resume operation, the fault condition must be corrected.

This controller records a history of unit performance, which may be viewed at any time and will not be lost when the controller is powered down.

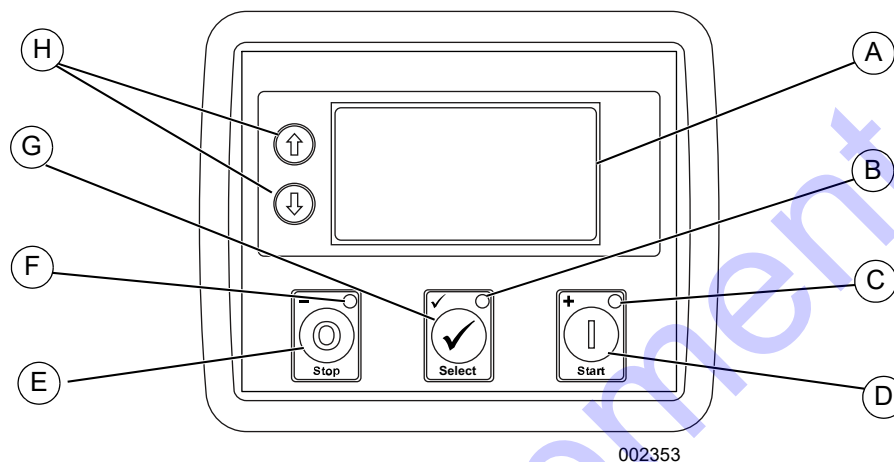


Figure 2-13. Power Zone–DLA Layout

### Controller Features and Functions

#### (A) The Liquid Crystal Display (LCD) Window

Displays the various operating screens. By viewing these screens, the operator can monitor both the engine and generator status while the unit is running.

#### (B) Select LED

Illuminates when the unit is running in AUTO mode.

#### (C) Start LED

Illuminates when the unit is running in MANUAL mode.

#### (D) Start Button

Starts the engine if there are no shutdown errors and the engine is in “ready to start” status.

#### (E) Stop Button

Shuts down the unit and puts the controller into STOP mode, whether in MANUAL mode or AUTO mode.

**NOTE:** To prevent damage to the generator and connected equipment, remove all loads from the generator by opening all circuit breakers (turn OFF [O]) before pressing the STOP button.

#### (F) Stop LED

Illuminates when the unit is in STOP mode and flashes when an Electrical Trip and Shutdown Fault has occurred.

#### (G) Select Button

Confirms entries chosen in the various edit menus and screens. Navigates between AUTO and MANUAL mode.

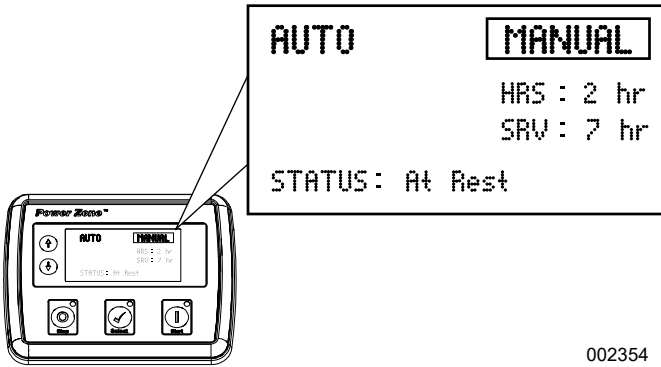
#### (H) Menu Navigation

Up/down arrows (↑, ↓) used to navigate through the various operator screens. They are also used to raise and lower the mast on units equipped with an electric winch.



### Operator Screens

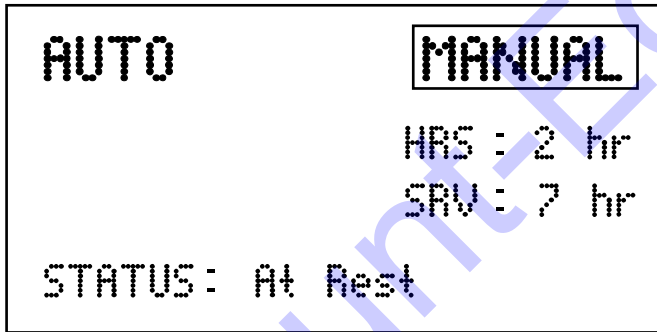
See [Figure 2-14](#). The operator screens display the most relevant and critical information needed to properly configure and use the unit. From these six screens, the operator can access information necessary to operate the unit under normal conditions.



**Figure 2-14. Operator Screens Location**

### Home Screen

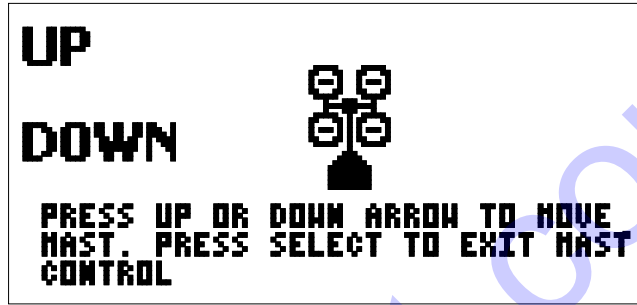
See [Figure 2-15](#). The Home screen is the default screen of the controller and displays after the controller is powered up and the unit management software is loaded. It displays the controller mode, total operating hours, hours left until the next service interval, engine operating status, and engine rpm. If the unit is in AUTO mode, the Home screen may also display whether the scheduler or “dusk to dawn” is enabled.



**Figure 2-15. Home Screen**

### Mast Operation Screen

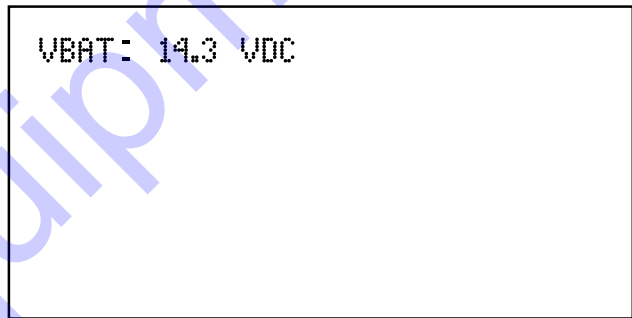
See [Figure 2-16](#). Mast Operation Screen allows the operator to raise or lower the mast.



**Figure 2-16. Mast Operation Screen**

### Battery Voltage Screen

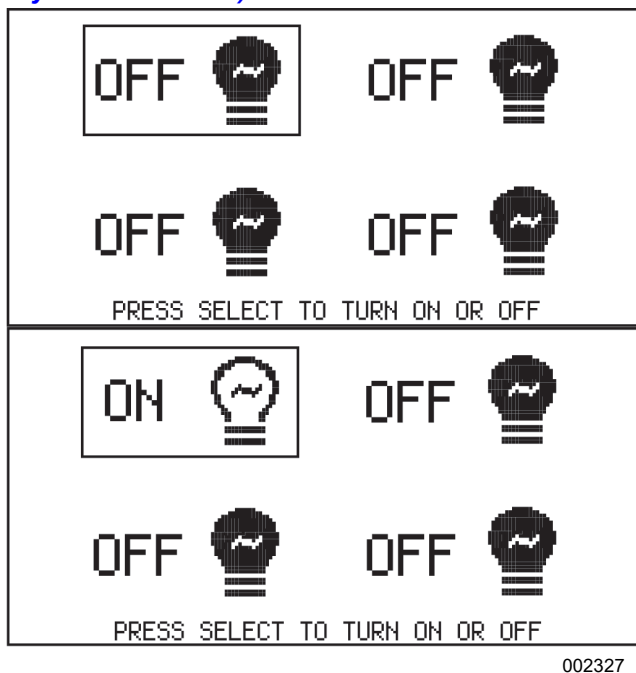
See [Figure 2-17](#). Displays the engine battery voltage. A normal reading is 12-14V on 12 volt systems (with the engine running).



**Figure 2-17. Battery Voltage Screen**

### Lights Screen

See [Figure 2-18](#). The Lights screen allows the operator to turn the lights on and off. Refer to [Light Operation \(Key Switch Models\)](#) for more information.

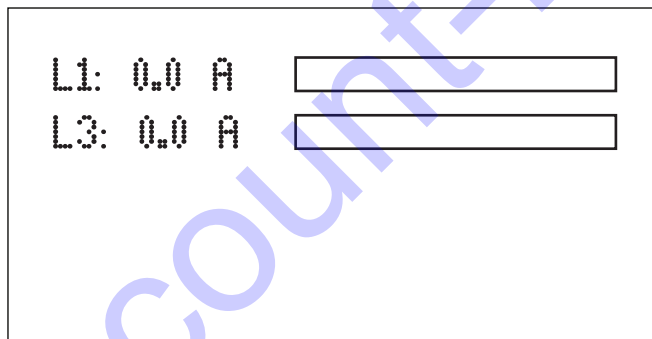


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**Figure 2-18. Lights Screen**

### Line Amperage Screen

See [Figure 2-19](#). The Line Amperage screen displays the AC output amperage produced by the generator in amps (A). The load balance for each line (L1 and L3) is displayed in both numerical and graphical form. It is important to maintain a balanced load distribution between lines for optimum generator performance.

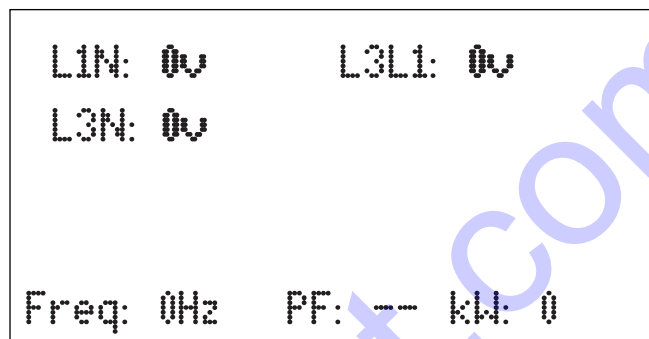


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**Figure 2-19. Line Amperage Screen**

### Generator Screen

See [Figure 2-20](#). The Generator screen displays the average line voltage, frequency (in Hertz), and power factor for the generator while in operation.



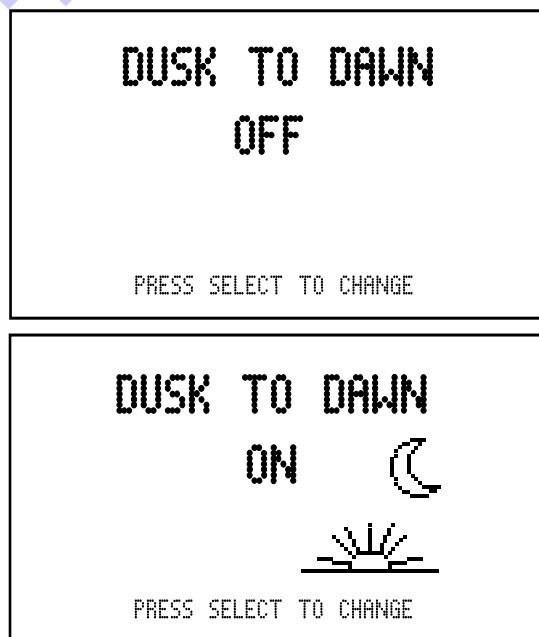
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**Figure 2-20. Generator Screen**

### Dusk to Dawn Screen

**NOTE:** This feature will only work in AUTO mode.

See [Figure 2-21](#). The Dusk to Dawn screen enables or disables the “dusk to dawn” function. This function uses a photo sensor to detect the surrounding light level, automatically starting the engine and turning the lights on at dusk. The engine will run and the lights will remain illuminated until dawn.



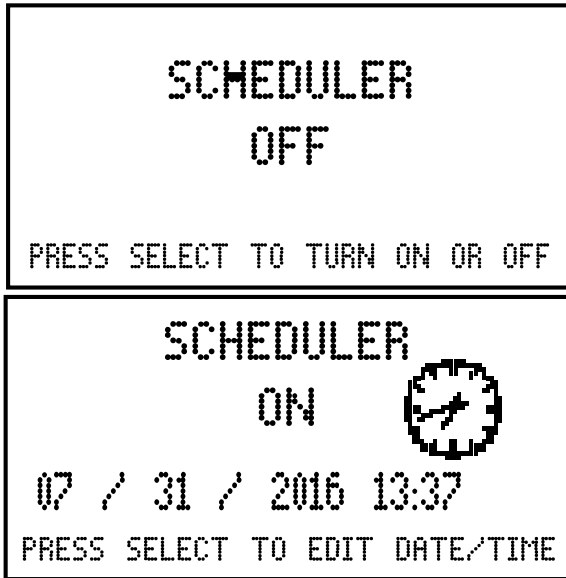
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**Figure 2-21. Dusk to Dawn Screen**

**Scheduler Screen**

**NOTE:** This feature will only work in AUTO mode.

See [Figure 2-22](#). The Scheduler screen allows the operator to program specific times for the lights to turn on and off. Once programmed, the Scheduler will start the engine and illuminate the lights until the designated shutdown time.

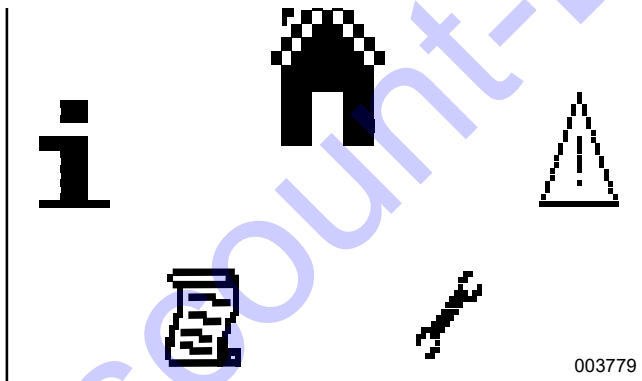


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**Figure 2-22. Scheduler Screen**

**Maintenance Screens**

See [Figure 2-23](#). The information displayed on the maintenance screens can be used to identify, diagnose, and troubleshoot unit shutdown conditions and poor unit performance.



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**Figure 2-23. Maintenance Screens**

Icon	Description
	Event log screen
	About screen

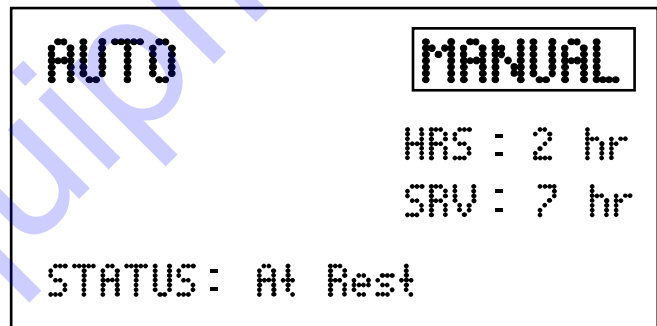
Proceed as follows to enter the navigation menu:

1. Press both the ↑ and ↓ buttons simultaneously.
2. To select the required icon, press the ↑ button to cycle right and the ↓ button to cycle left until the desired operator screen section is reached.
3. Press the Select (✓) button to enter the desired operator screen section.

**NOTE:** Every time the operator screens are entered, the home icon will be located at the top of the screen.

**Home Screens**

See [Figure 2-24](#). The Home (🏠) screen is the default screen of the controller and displays after the controller has powered up. The controller automatically returns to Home screen from any other screen after a period of inactivity.

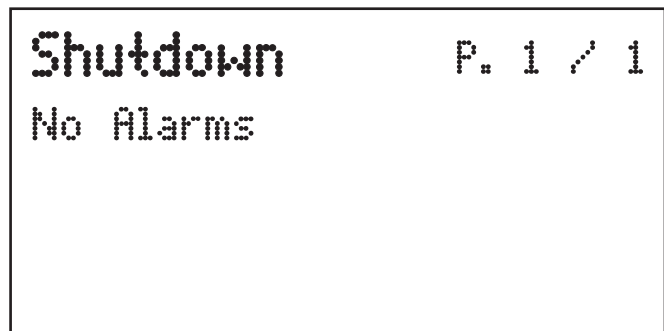


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**Figure 2-24. Home Screen (MANUAL Mode Shown)**

**Alarms Screen**

See [Figure 2-25](#). The Alarms (⚠️) screen displays all the alarms, warnings, and engine Diagnostic Trouble Code (DTC) faults. When an alarm occurs, the controller automatically switches to this screen and remains there until the alarm is cleared. The Stop LED also flashes.



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**Figure 2-25. Alarms Screen**

Icon	Description
	Home screen
	Alarms screen
	Maintenance screen

- **Warnings** are non-critical alarm conditions and do not affect the operation of the generator system. They serve to draw the operator’s attention to an undesirable condition. By default, warning alarms are self-resetting when the fault condition is removed.
- **Electrical trips** stop the generator in a controlled manner. On initiation of the electrical trip condition, the controller de-energizes all the outputs, including the lights, to remove the load from the generator. Once this has occurred, the controller starts the cooling timer and allows the engine to cool off-load before shutting down the engine.
- **Shutdown alarms** stop the generator immediately. On initiation of the shutdown condition, the controller de-energizes all the outputs, including the lights, to remove the load from the generator. Once this has occurred, the controller shuts the generator set down immediately to prevent further damage.
- **DTC faults** are displayed by the controller.

**Table 2-1. Possible DTC Faults**

Fault	DTC Description
Check Engine Fault	A fault not recognized by the controller has been detected. Contact the engine manufacturer for support.
Low Oil Pressure	Engine oil pressure has fallen below its configured low oil pressure alarm level.
Underspeed	Engine speed has fallen below its configured underspeed alarm level.
Overspeed	Engine speed has risen above its configured overspeed alarm level.
Low Fuel Level	Engine’s fuel level has fallen below its configured low fuel level alarm.
Battery Under/Over Voltage	Engine’s DC supply has fallen below or risen above its configured alarm level.

To view the active alarms, repeatedly press the ↑ and ↓ buttons until the LCD window displays the alarm.

Continue to press the ↑ and ↓ buttons to cycle through the alarms.

To exit the alarm screen, press the ↑ and ↓ buttons simultaneously to enter the navigation menu. Once entered, cycle to the desired operator screen.

**NOTE:** The alarm condition must be corrected before a reset will take place. If the alarm condition remains, it is not possible to reset the unit. The exception to this is the Low Oil Pressure alarm and similar ‘active from safety on’ alarms, as the oil pressure is low with the engine at rest.

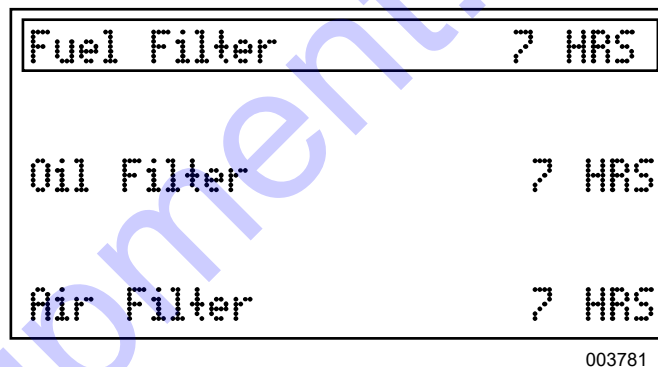
To clear alarms that stop the generator, refer to [Resetting the Maintenance Alarms \(If Equipped\)](#).

**NOTE:** The LCD backlight is on if the unit has sufficient voltage while the unit is turned on, unless the unit is cranking. In this case, the backlight is turned off.

If the controller is left in STOP mode for a period of inactivity, the controller enters POWER SAVE mode. To ‘wake’ the controller, press the Stop (O) button.

**Maintenance Screen**

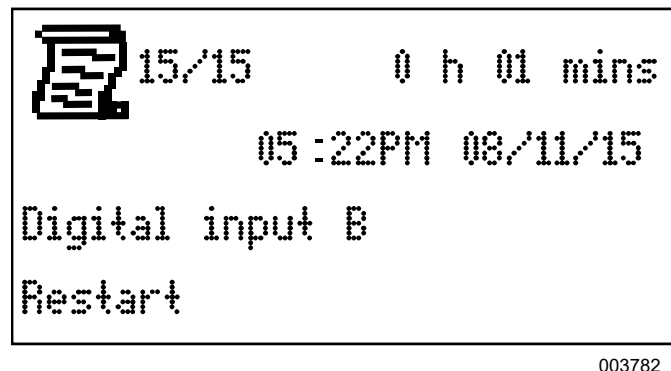
See [Figure 2-26](#). The Maintenance screen (🔧) displays the maintenance alarms configured into the controller. The three alarms are for servicing the fuel filter, oil filter, and air filter.



**Figure 2-26. Maintenance Screen**

**Event Log Screen**

See [Figure 2-27](#). The controller’s event log (📖) displays a list of the last 15 recorded electrical trips or shutdown events and the engine hours at which they occurred. Once the log is full, any subsequent electrical trip or shutdown alarm overwrites the oldest entry in the log. The log always contains the most recent shutdown alarms.



**Figure 2-27. Event Log Screen**

Proceed as follows to view the event log:

1. Press both ↑ and ↓ buttons simultaneously to display the navigation menu.
2. Cycle to the event log section and press the Auto button to enter.

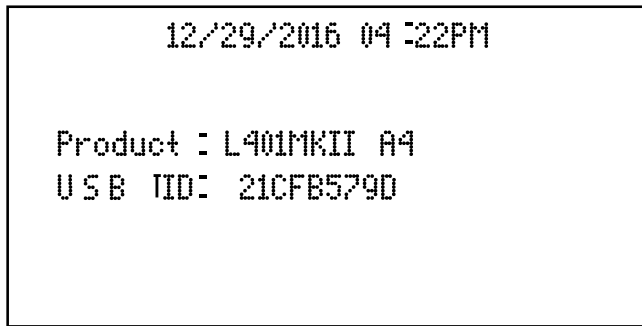
3. Repeatedly press the ↑ or ↓ buttons until the LCD window displays the desired event.

Continuing to press down the ↑ or ↓ buttons will cycle through past alarms. Eventually the most recent alarm will display and the cycle begins again.

To exit the event log, press the ↑ and ↓ buttons simultaneously to enter the navigation menu. Once entered, cycle to the desired operator screen.

#### About Screen

See [Figure 2-28](#). The About (i) screen contains information about the controller such as the controller's date and time, the product and USB identification number, and the application and engine version.

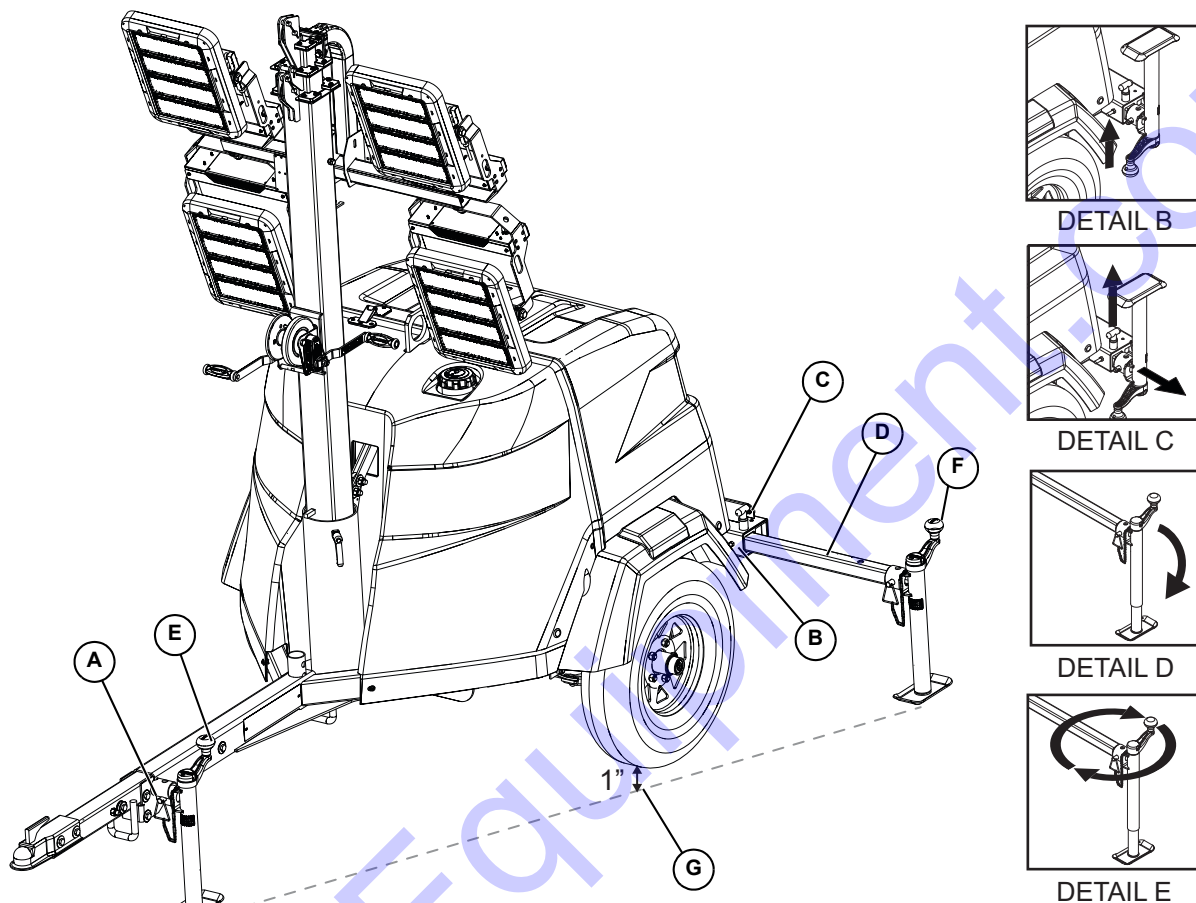


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**Figure 2-28. About Screen**

# Section 3: Operation

## Light Tower Setup



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**Figure 3-1. Set Up Outriggers and Jacks**



**⚠ DANGER**

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



**⚠ WARNING**

> 60 mph Do not set up the unit if high winds are expected. High winds can cause the unit to tip or fall, causing severe injury or machine damage. (000297)

1. For maximum light coverage, position the unit at ground level or in a spot higher than the area being illuminated by the lamps.

**NOTE:** The mast extends up to 23 ft (7 m).

2. Place the unit on firm ground that is relatively flat (less than 5° slope), and then block the wheels to prohibit movement. This will make it easier to level the unit.
3. See **Figure 3-1**. Pull the locking pin (A) on the tongue jack (E) and rotate the jack 90°. Reinstall the locking pin. Rotate the jack handle clockwise to raise the trailer tongue off the towing vehicle.
4. A grounding stud (B) is located on the rear frame of the trailer near the left side outrigger. For grounding requirements, follow local, state, or National Electrical Code (NEC) guidelines.
5. See Details C—D. Pull the locking pins (C) on the outriggers (D) and pull each outrigger out until the spring loaded locking pin snaps back into place. Pull the locking pin on each outrigger jack (F) and rotate each jack 180° so the jack pad is facing down. Reinstall the locking pin.

6. See Detail E. Rotate each jack handle clockwise to start leveling the trailer. Adjust all three jacks by rotating their handles clockwise until they are firmly in contact with the ground. Continue until the wheels are approximately 1 in (2.5 cm) off the ground (G).
7. Before raising the mast, it may be necessary to adjust the lamps. The lamps may be adjusted up, down, left, or right by aiming them in the desired direction.

the mast rotation knob to secure the mast in position.

4. Using both hands, rotate the winch (B) to slowly extend the mast. Verify the coiled electrical cord is extending at the top sections of the mast. Stop extending the mast when the colored mark (D) on the second mast section is visible as seen in Detail D.

## Raising the Mast—Manual Winch



### **⚠ DANGER**

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

### **⚠ WARNING**

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

### **⚠ WARNING**

Tipping hazard. Do not extend the mast beyond the colored mark on the second mast section. The unit can become unstable and tip or fall, causing injury. (000262)

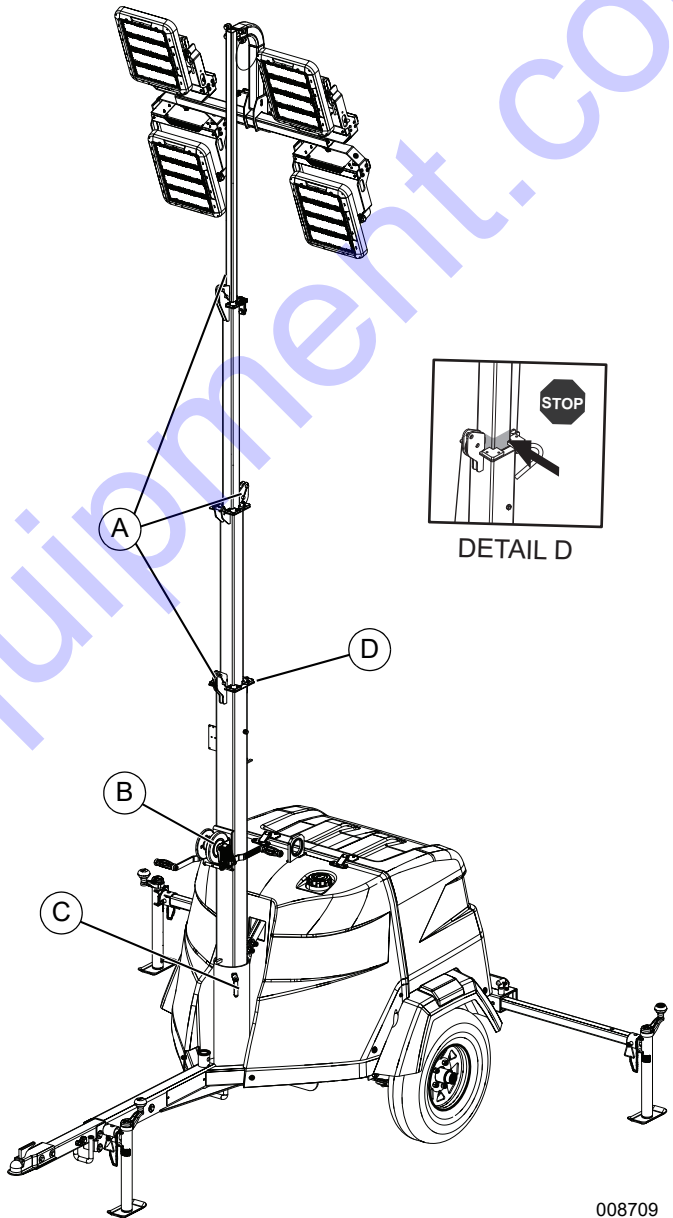
### **⚠ WARNING**

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

### **⚠ WARNING**

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

1. Set up and level the unit. See [Light Tower Setup](#).
2. See [Figure 3-2](#). Inspect the mast cables for excessive wear or damage. Verify the cables are properly centered in each pulley (A). Inspect the electrical cord for damage.
3. Rotate the mast by loosening the mast rotation knob (C) at the bottom of the mast. Turn the mast until the lights face in the desired direction. Tighten



**Figure 3-2. Pulley Locations—Manual Winch**

**IMPORTANT NOTE:** Contact a GMP ASD immediately if the mast hangs up or the winch cable develops slack.

## Raising the Mast—Electric Winch (If Equipped)



### **⚠ DANGER**

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

(000263a)

### **⚠ WARNING**

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

(000266)

### **⚠ WARNING**

Tipping hazard. Do not extend the mast beyond the colored mark on the second mast section. The unit can become unstable and tip or fall, causing injury.

(000262)

### **⚠ WARNING**

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

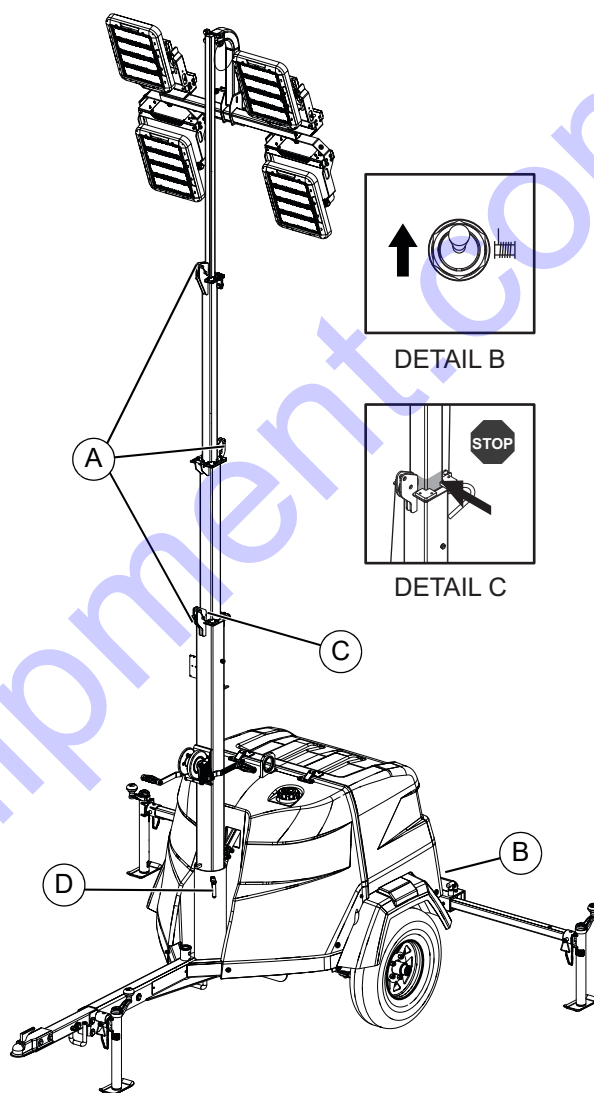
(000265)

### **⚠ WARNING**

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

(000279)

1. Set up and level the unit. See [Light Tower Setup](#).



008710

**Figure 3-3. Switch & Pulley Locations—Electric Winch**

2. See [Figure 3-3](#). Inspect the mast cables for excessive wear or damage. Verify the cables are properly centered in each pulley (A). Inspect the electrical cord for damage.
3. Rotate the mast by loosening the mast rotation knob at the bottom of the mast (D). Turn the mast until the lights face in the desired direction. Tighten the mast rotation knob to secure the mast in position.

**NOTE:** On Key Switch models, key must be in RUN position to operate electric winch.

4. Press and hold the winch control switch (Detail B) upward to telescope the mast to the desired height. While doing so, verify that the coiled electrical cord



is extending at the top sections of the mast. Stop extending the mast when the colored mark (C) on the second mast section is visible as seen in Detail C.

**IMPORTANT NOTE: A limit switch on the main mast section will disconnect power to the electric winch to prevent overextending the mast.**

**IMPORTANT NOTE: Contact a GMP ASD immediately if the mast hangs up or the winch cable develops slack.**

## Raising the Mast—Power Zone-DLA (If Equipped)



### ⚠ DANGER

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

### ⚠ WARNING

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

### ⚠ WARNING

Tipping hazard. Do not extend the mast beyond the colored mark on the second mast section. The unit can become unstable and tip or fall, causing injury. (000262)

### ⚠ WARNING

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

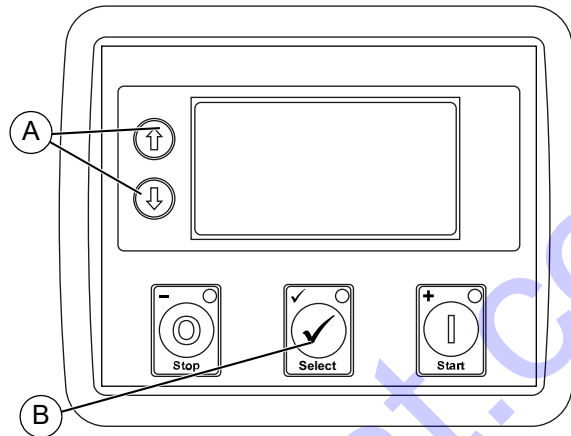
### ⚠ WARNING

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

**NOTE:** Units with the Power Zone-DLA do not have a mast switch for the electric winch.

1. Set up and level the unit. See [Light Tower Setup](#).
2. Turn the control power switch to on.

3. See [Figure 2](#) and [Figure 3-5](#). Press the up/down arrows (A) until the mast screen is shown.



002353

Figure 3-4. Power Zone Controller

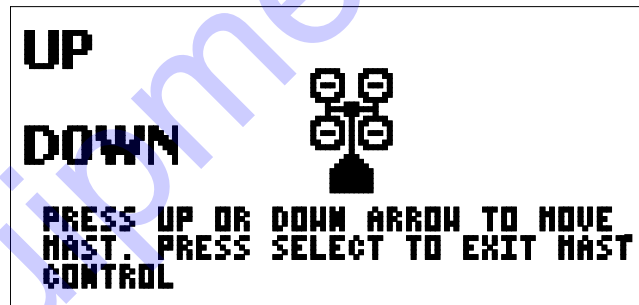


Figure 3-5. Raising the Mast Screen

4. Press the SELECT button (B); the UP/DOWN on the display will begin to flash. Press the arrows as needed until the mast is at the desired height. See [Figure 3-3](#). Do not extend past the colored mark (C).
5. Press SELECT again to exit the mast control screen.

**IMPORTANT NOTE: Contact a GMP ASD immediately if the mast hangs up or the winch cable develops slack.**