TEREX®

Operator's Manual

AL4L
AL5L

ANSI/CSA
North America
South America
Asia

with
Maintenance
Information

First Edition
Fifth Printing
Part No. 229101

Important

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

Contact Us:

Internet: www.terex.com

E-mail: awp.techpub@terex.com

Contents

First Edition: Fifth Printing, May 2015

Introduction

Owners, Users and Operators:

Thank you for choosing our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. We feel that you make a major contribution to safety if you, as the equipment users and operators:

1 **Comply** with employer, job site and governmental rules.

2 **Read, understand and follow** the instructions in this and other manuals supplied with this machine.

3 **Use good safe work practices** in a commonsense way.

4 **Only have trained/certified operators**, directed by informed and knowledgeable supervision, running the machine.

Danger

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

Do Not Operate Unless:

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

1 Avoid hazardous situations.

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

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

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

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

☑ You read, understand and obey all applicable governmental regulations.

☑ You are properly trained to safely operate the machine.

Introduction

Hazard Classification

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

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

⚠ DANGER Indicates a hazardous situation 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 moderate injury.

NOTICE Indicates a property damage message.

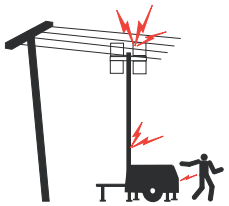
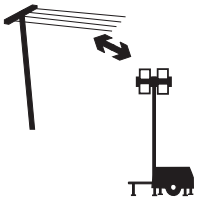
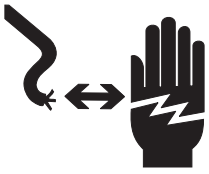
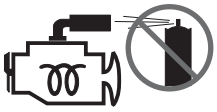
Intended Use

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

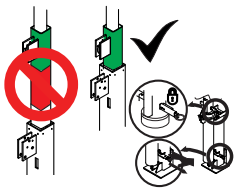
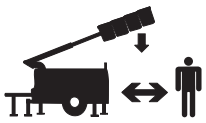
Safety Sign Maintenance

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

Symbol and Hazard Pictorials Definitions

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

Symbol and Hazard Pictorials Definitions

 Burn hazard	 Burn hazard	 Stay clear of hot exhaust	 Stay clear of hot surfaces under cover	 Tip-over hazard, tow speed
 Lifting point	 Tie-down point	 Carbon Monoxide hazard	 Wear protective clothing	 Retract mast, then pull pin
 Crushing hazard	 Stay clear of descending mast	 Tip-over hazard	 Deploy outriggers before raising mast	

General Safety

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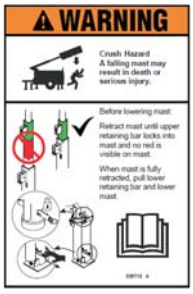

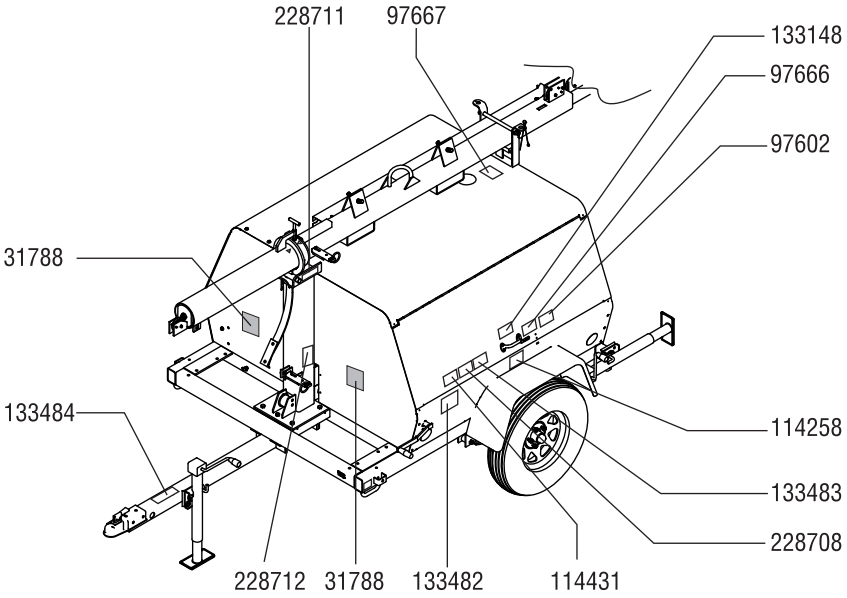

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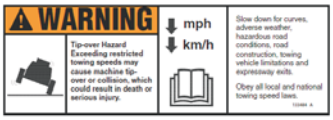

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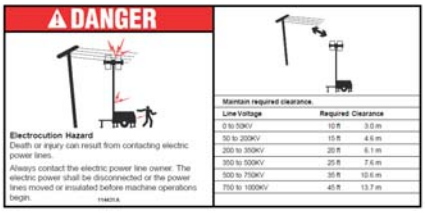

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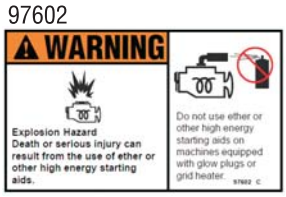

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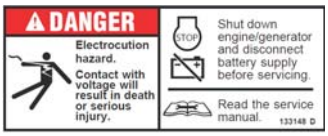

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General Safety

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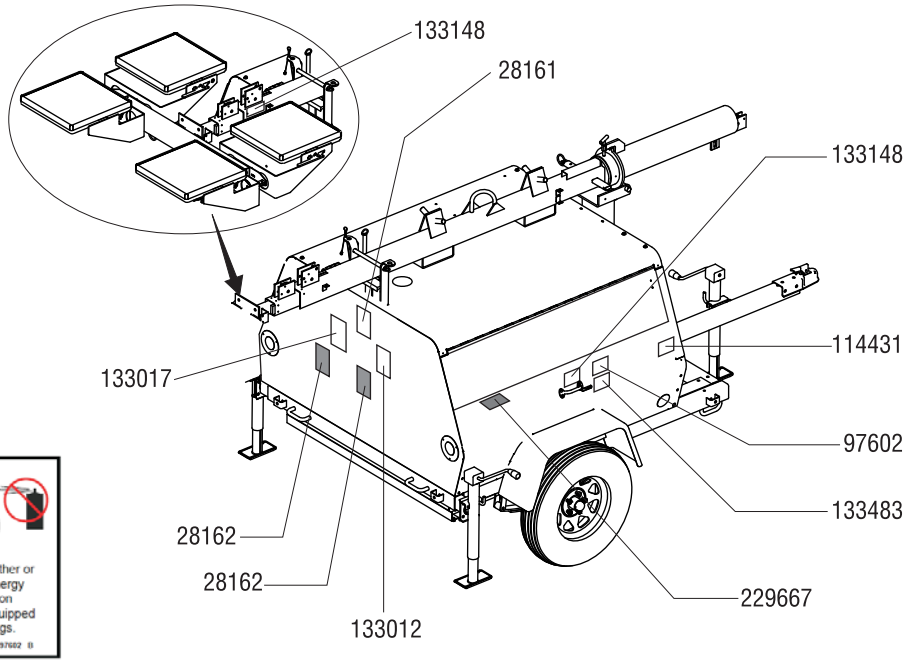

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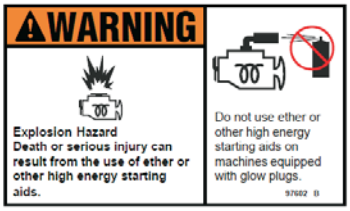

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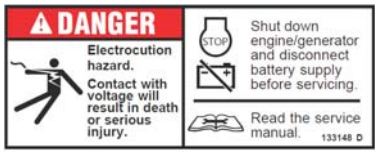

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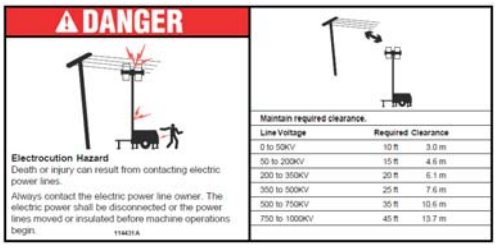

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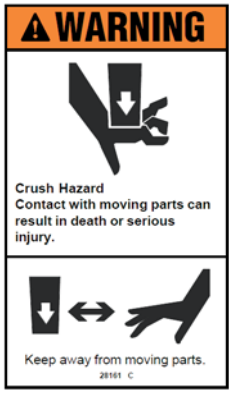

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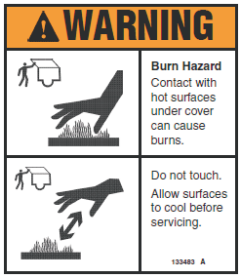

General Safety

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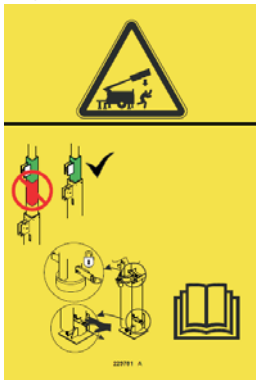

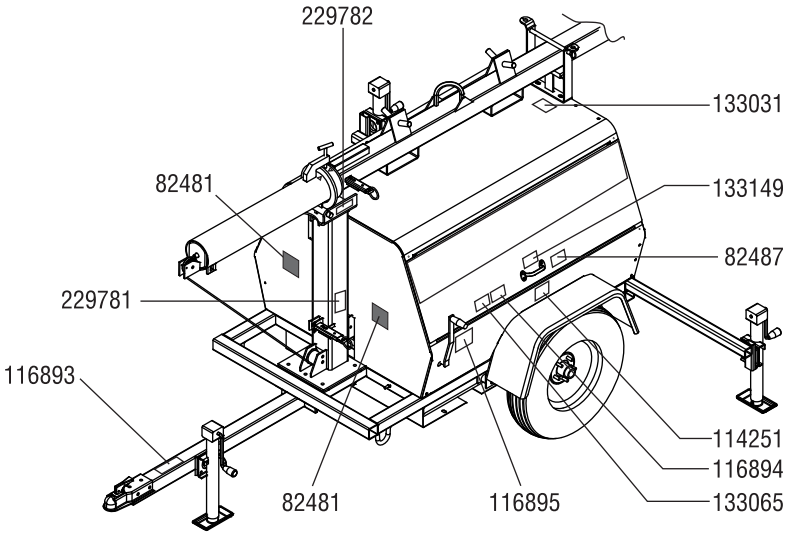

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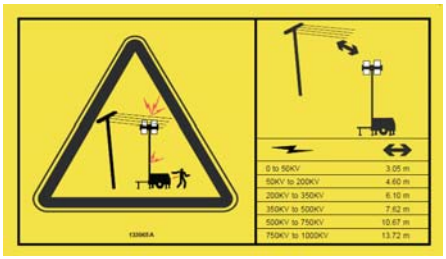

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General Safety

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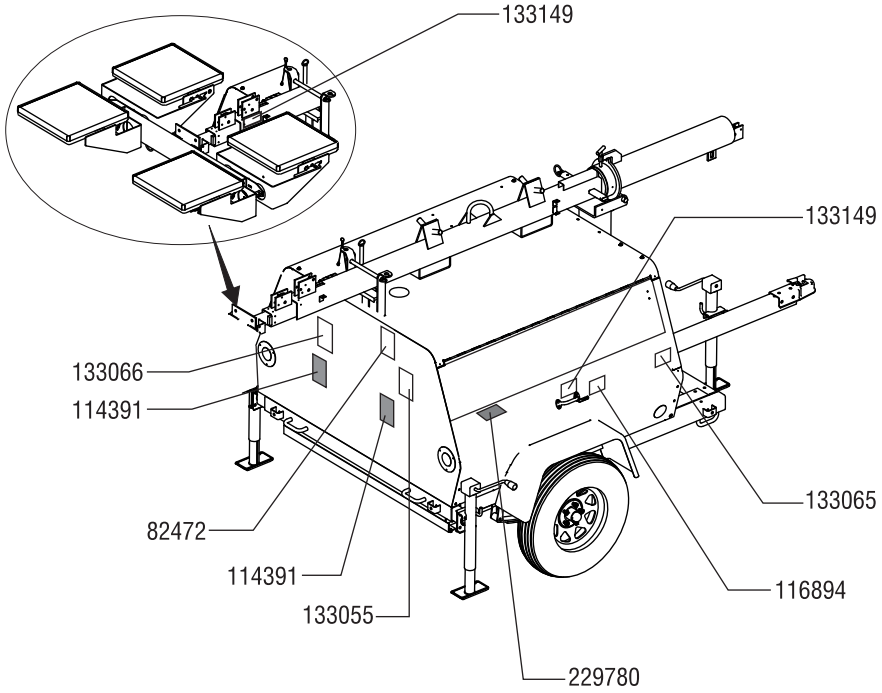

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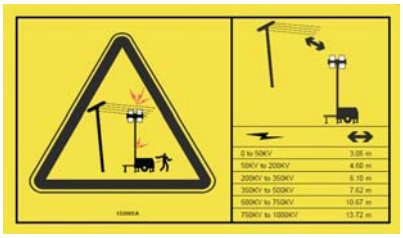

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Work Area Safety

⚠ Electrocution Hazards

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

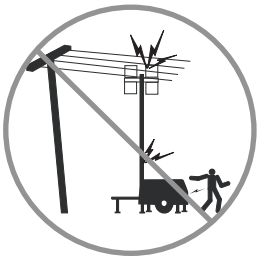
Obey all local and governmental regulations regarding required clearance from electrical power lines. At a minimum, the required clearance contained in the chart below must be followed.

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

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

Do not operate the machine during lightning or storms.

Do not use the machine as a ground for welding.



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

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

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

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

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

Do not disconnect the shore plug while the engine is running.

Do not perform service with the engine\generator running or the batteries connected. Turn off the engine/generator and disconnect the battery quick disconnect plug.

⚠ Explosion and Fire Hazards

AL4L with engine and AL5L:

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

Do not refuel the machine with the engine running.

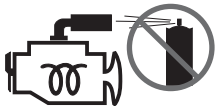
Do not refuel the machine while it is hot. Allow to cool for several minutes before refueling.

Do not spill fuel inside the engine compartment.

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

Work Area Safety

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



Do not spray ether into engines equipped with glow plugs.

All AL4L and AL5L:

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

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

⚠ Tip-over Hazards

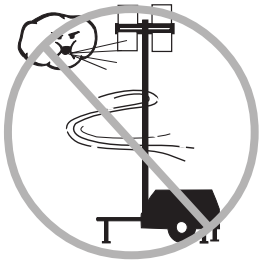
Do not raise the mast unless all outriggers are properly deployed, the foot pads are in firm contact with the ground and the machine is level.

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

Do not hang objects from the lights or the mast.

Do not use the mast to raise material or personnel.

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



Do not raise the mast when wind speeds may exceed 62 mph / 100 km/h. Do not alter or disable machine components that in any way affect safety and stability.

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

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

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

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

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

Work Area Safety

AL4L with batteries:

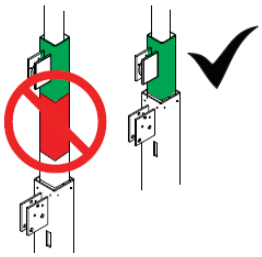
Do not use batteries that weigh less than the original equipment. Batteries are used as counterweight and are critical to machine stability. Each battery must weigh 88 pounds / 40 kg.

Do not remove batteries from the battery compartment unless all outriggers are lowered and in firm contact with the ground.

⚠ Crushing Hazard

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

Keep hands and fingers away from any potential pinch points.



Do not lower the mast until the mast is retracted and the upper retaining bar is locked into the mast. No red should be visible on the mast.

⚠ Collision Hazards

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

⚠ Burn Hazards

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

Allow surfaces to cool before servicing.

⚠ Bodily Injury Hazard

AL4L with engine and AL5L:

Do not use the machine indoors unless properly ventilated.

Do not breathe exhaust fumes.

Stay clear of belts and fan when engine is running.

All AL4L and AL5L:

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

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

Do not look directly into the lights when close to the lights.

Stay clear of moving mast.

Do not grasp the cable.

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

Work Area Safety

⚠ Fall Hazards

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

⚠ Traffic Hazards

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

⚠ Damaged Machine Hazards

Do not use a damaged or malfunctioning machine.

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

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

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

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

Be sure all decals are in place and legible.

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

⚠ Component Damage Hazards

AL4L with engine:

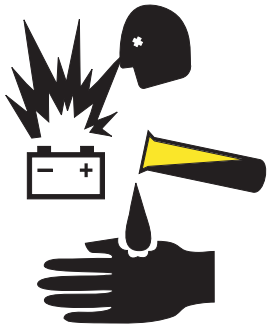
Do not turn the lights on unless the engine is running. Always turn the lights off before shutting down the engine.

All AL4L and AL5L:

Do not replace lamp assemblies with any assemblies other than those approved by Terex.

⚠ Battery Safety

Burn Hazards



Batteries contain acid. Always wear protective clothing and eye wear when working with batteries.

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

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

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

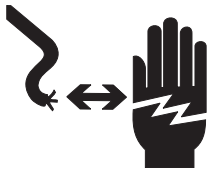
Explosion Hazards

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

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

Work Area Safety

Electrocution/Burn Hazards



Connect the battery charger to a grounded, AC 3-wire electrical outlet only.

Inspect daily for damaged cords, cables and wires. Replace damaged items before operating.

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

Component Damage Hazards

AL4L with batteries and AL5L:

Do not use any battery charger greater than 48V to charge the batteries.

Do not use an external charger or booster battery.

Disconnect the battery pack plug before removing the batteries.

AL5L and AL4L with engine:

Do not use any battery or charger greater than 12V to jump-start the engine.

Tip-over Hazard

AL4L with batteries

Do not use batteries that weigh less than the original equipment. Batteries are used as counterweight and are critical to machine stability. Each battery must weigh 88 lbs / 40 kg.

Lifting Hazard

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

AL4L with batteries:

Do not use batteries that weigh less than the original equipment. Batteries are used as counterweight and are critical to machine stability. Each battery must weigh 88 pounds / 40 kg.

Work Area Safety

⚠ Towing Hazards

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

Do not tow the machine unless the mast is retracted and lowered to the horizontal position and the travel lock pin is secured.

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

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

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

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

Be sure the safety chains (if required) are securely attached to the tow vehicle.

Be sure that all driving lights are operational.

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

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

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

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

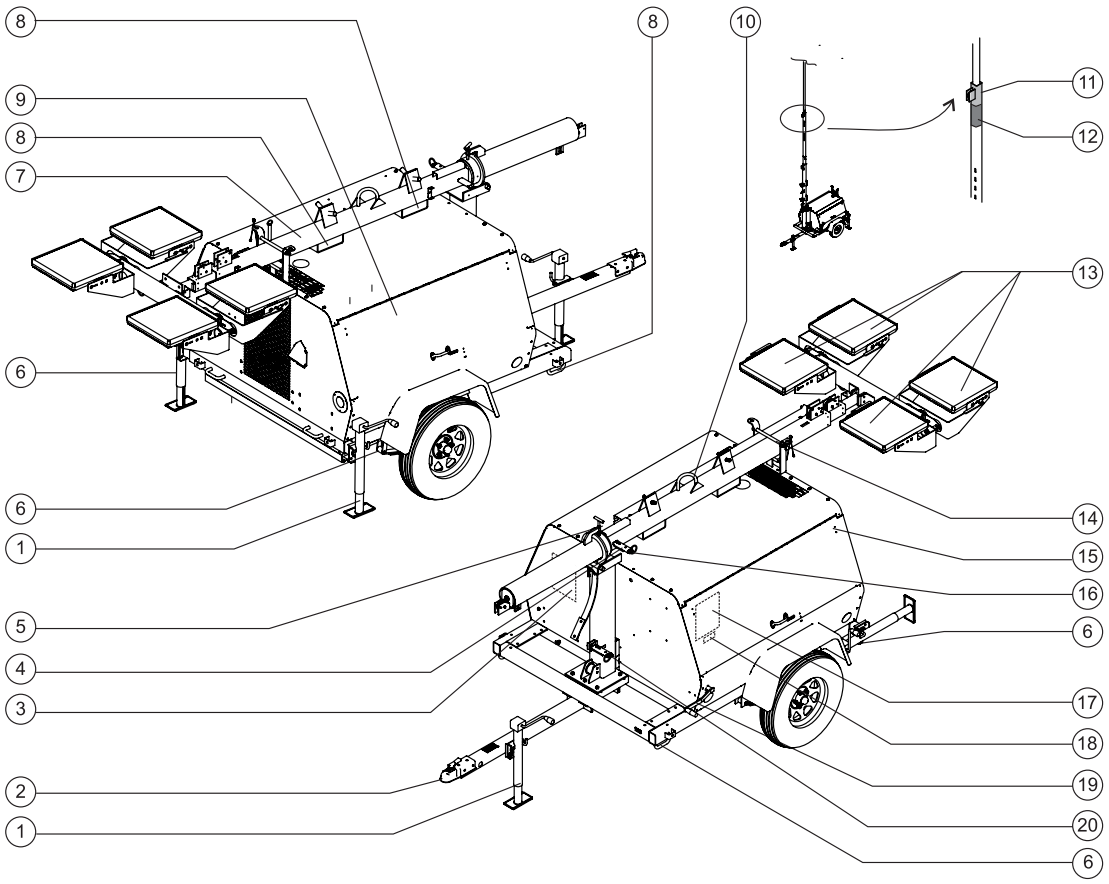
Use extreme care and slow speeds while towing across uneven terrain, debris, holes or drop-offs.

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

Lockout After Each Use

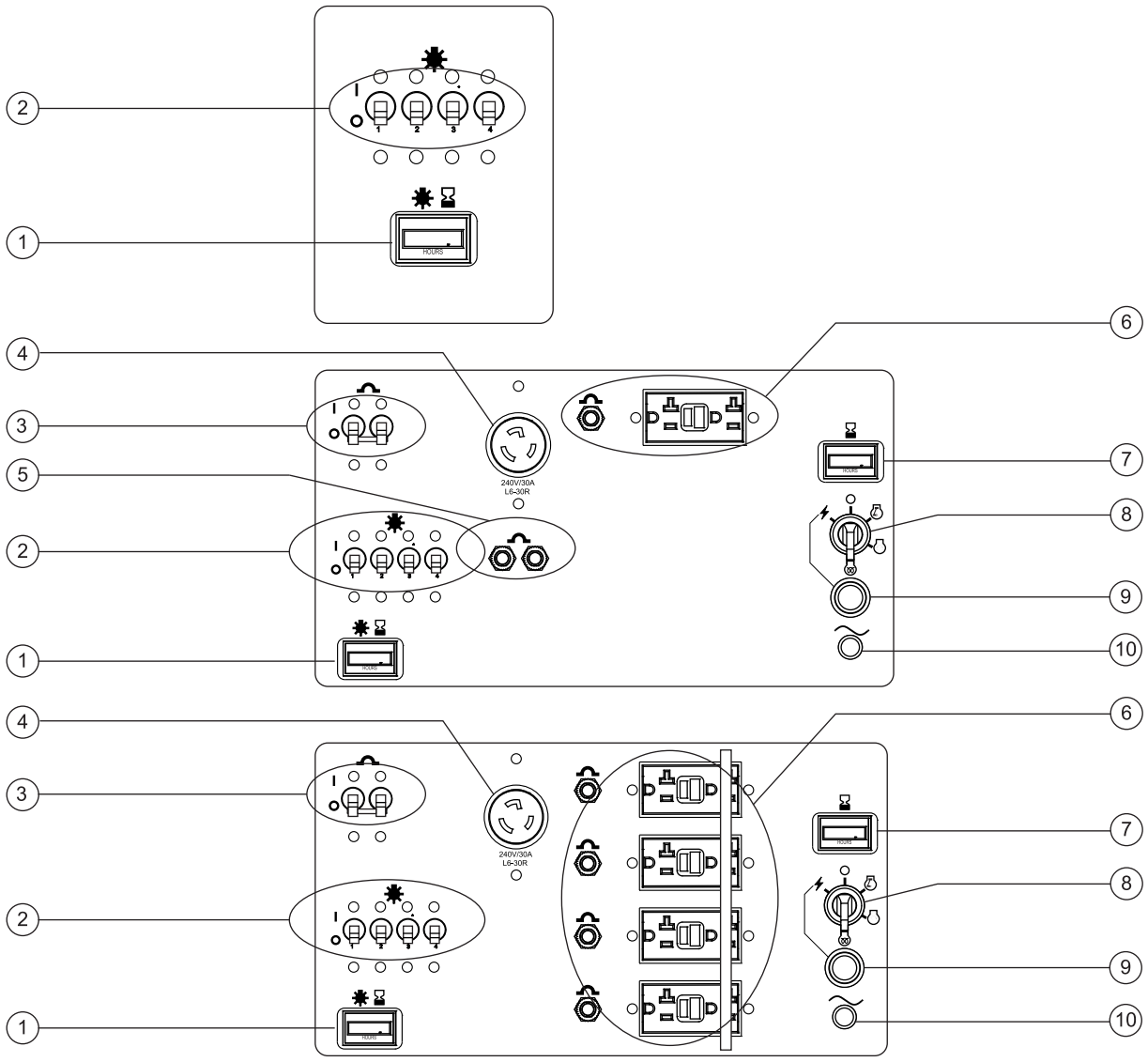
When leaving the machine unattended, secure from unauthorized use. Unauthorized personnel may attempt to operate the machine without proper instruction, creating an unsafe condition.

Legend



1 Outrigger with leveling jack
2 Tongue with trailer hitch
3 Shore plug (if equipped)
4 Upper retaining bar
5 T-handle for mast rotation lock
6 Tie-downs
7 Mast
8 Forklift pockets
9 Curbside door
AL4L with batteries: Battery access
AL4L with engine: Engine access
AL5L: Engine and battery access
10 Lifting eye
11 Green stripe
12 Red stripe
13 Lights
14 Travel lock pin
15 Roadside door
AL4L with batteries: Battery access
AL4L with engine: Engine access
AL5L: Engine and battery access
16 Upper retaining bar
17 Control panel (located inside cabinet)
18 Charger plug (AL4L with batteries and AL5L) (located inside cabinet, below control panel)
19 Raise/lower winch (for models with manual winch)
20 Lower retaining bar

Controls



1 Light hour meter
2 Light switches
3 Main circuit breaker
4 T-lock receptacle
5 Circuit breaker for DC power supply (AL4L with engine)
6 Duplex receptacle with GFI, 120V/20A
7 Hour meter, engine
8 Ignition switch for engine
9 Engine prime button
10 Alternator failure light

Controls

Control Panel

1 Light hour meter

The light hour meter displays the number of hours the lights have operated.

2 Light switches

Move each light switch up to turn on the indicated light. Move each light switch down to turn off the indicated light.

3 Main circuit breaker

AL5L: Move the main circuit breaker switch up on the control panel before attempting to use the convenience receptacles. Move the main circuit breaker switch down to turn off power to the convenience receptacles. The lights can be used with the main circuit breaker switch in either position.

AL4L with engine: Move the main circuit breaker up on the control panel before turning on the lights. Move the main circuit breaker switch down to turn off the lights.

4 T-lock receptacle

5 Circuit breakers for DC power supply (AL4L with engine)

6 Duplex receptacle with GFI, 120V/20A

Convenience duplex receptacle with Ground Fault Interrupter (GFI).

7 Hour meter, engine

The engine hour meter displays the number of hours the engine has operated.

8 Ignition switch for engine

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

Hold the prime button down and turn the ignition switch to the start position to start the engine.

Turn the ignition switch to the off position to turn the engine off.

9 Engine prime button

With the ignition switch in the run position, press and hold the prime button for 15 seconds before starting the engine. Release the prime button when the engine starts.

10 Alternator failure light

Light on indicates that the engine's DC alternator isn't producing enough voltage.

Inspections

Do Not Operate Unless:

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

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

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

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Pre-operation Inspection Fundamentals

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

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

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

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

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

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

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

Inspections

Pre-operation Inspection

- ❑ Be sure that the operator's manual is complete, legible and in the storage container located on the machine.
- ❑ Be sure that all decals are legible and in place. See Inspections section.
- ❑ Check for proper tire pressure and lug nut torque. Add air to tires if needed. See Maintenance section.
- ❑ Check for battery fluid leaks and proper fluid level. Add distilled water if needed. See Maintenance section.
- ❑ **AL4L with engine and AL5L:** Check for engine oil leaks and proper fluid level. Add oil if needed. See Maintenance section.
- ❑ **AL4L with engine and AL5L:** Check for engine coolant leaks and proper coolant level. Add coolant if necessary. See Maintenance section.

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

- ❑ Electrical components, wiring and electrical cables
- ❑ Mast components
- ❑ Mast locking pins
- ❑ Latches and pins
- ❑ Tires and wheels
- ❑ Trailer lights and reflectors
- ❑ Outriggers, leveling jacks and foot pads
- ❑ Winch
- ❑ Nuts, bolts and other fasteners
- ❑ Lamp fixtures, connections and bulbs
- ❑ Cable (kinks, frays and abrasions)
- ❑ Safety chains
- ❑ **AL4L with engine and AL5L:** Engine and related components
- ❑ **AL4L with engine and AL5L:** Fuel tanks
- ❑ **AL4L with engine and AL5L:** Generator

Check entire machine for:

- ❑ Cracks in welds or structural components
- ❑ Dents or damage to machine
- ❑ Excessive rust, corrosion or oxidation

- ❑ Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.
- ❑ Be sure the that the battery is in place and properly connected.
- ❑ After you complete your inspection, be sure that all compartment covers are in place and latched.

Inspections

Do Not Operate Unless:

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

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

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

4 Inspect the workplace.

5 Only use the machine as it was intended.

Function Test Fundamentals

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

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

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

Function Tests

Setup

1 Position the light tower at the desired work site.

2 Chock the wheels.

3 Disconnect the trailer lights and the safety chains.

4 Open the latch on the trailer hitch.

5 Pull the release pin on the tongue jack and rotate into vertical position.

6 Turn the leveling jack handle to lower the front outrigger foot pad and raise the tongue of the machine enough to clear the tow vehicle.

Release the spring pin on the side outriggers and slide them out into the deployed position. Make sure the outriggers are locked in place. Rotate the leveling jack into vertical position.

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

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

8 Check the bubble level (if equipped) on the front of the machine to make sure the machine is level.

Inspections

9 Ground the light tower according to your local electrical code. A grounding rod is supplied inside the cabinet and a grounding lug is provided on the front of the machine, near the bottom.

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

Test Machine Functions

By raising and extending, then retracting and lowering the mast back to the horizontal position, the following functions will be tested: **winches, latches, mast extension and mast rotation.**

10 Remove the retaining pin and travel lock from the top of the mast.

11 Turn the raise/lower winch handle clockwise until the mast raises approximately 2 feet / 60 cm.

⊙ Result: A clicking sound should be heard as the mast raises.

12 Release the winch handle.

⊙ Result: The winch brake should hold the mast.

13 Continue to raise the mast until the lower retaining bar locks into the mast.

⊙ Result: The mast sections should raise smoothly, free of hesitation or binding.

14 Insert the retaining pin through the lower retaining bar.

15 Turn the winch handle clockwise until the mast extends approximately 2 feet / 60 cm.

⊙ Result: A clicking sound should be heard as the mast extends.

16 Release the winch handle.

⊙ Result: The winch brake should hold the mast.

17 Continue to extend the mast until the mast reaches full vertical position. Stop extending the mast when the red line is visible on the mast.

⊙ Result: The mast should extend smoothly, free of hesitation or binding.

18 Turn the T-handle to release the mast rotation lock.

19 Rotate the mast clockwise and then counterclockwise as far as it will go in either direction.

⊙ Result: The mast should rotate smoothly and easily in both directions.

20 Rotate the mast to line up the arrows on the front of the mast.

21 Tighten the T-handle to secure the mast.

22 Attempt to rotate the mast in both directions.

⊙ Result: The mast should not rotate.

23 Turn the winch handle counterclockwise until the upper retaining bar locks into the mast and no red line is visible on the mast.

⊙ Result: No clicking sound should be heard when the winch handle is turned.

24 When the mast sections are fully retracted, pull the lower retaining bar.

Inspections

25 Begin lowering the mast to the horizontal position by turning the winch handle counterclockwise.

⊙ Result: No clicking sound should be heard when the winch handle is turned.

26 Turn the winch handle counterclockwise until the mast is lowered into the travel lock.

27 Insert the travel lock pin and the retaining pin.

Test the Lights - AL4L with engine

28 Make sure the circuit breakers and the light switches are in the off position.

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

29 Start the engine. See Starting the Engine in the Operating Instructions section.

30 Turn the main circuit breakers to the on position.

31 Turn the light switches to the on position.

⊙ Result: The lights should come on.

Test the Lights - AL4L with batteries and AL5L

32 Make sure the circuit breakers and the light switches are in the off position.

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

33 Turn the light switches to the on position.

⊙ Result: The lights should come on.

Inspections

Do Not Operate Unless:

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

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

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

5 Only use the machine as it was intended.

Workplace Inspection Fundamentals

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

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

Workplace Inspection Checklist

Be aware of and avoid the following hazardous situations:

❑ drop-offs or holes

❑ bumps, floor obstructions or debris

❑ sloped surfaces

❑ unstable or slippery surfaces

❑ overhead obstructions and high voltage conductors

❑ hazardous locations

❑ inadequate surface support to withstand all load forces imposed by the machine

❑ wind and weather conditions

❑ the presence of unauthorized personnel

❑ other possible unsafe conditions

Inspections

Inspection for Decals with WordsAL5L and AL4L with Engine

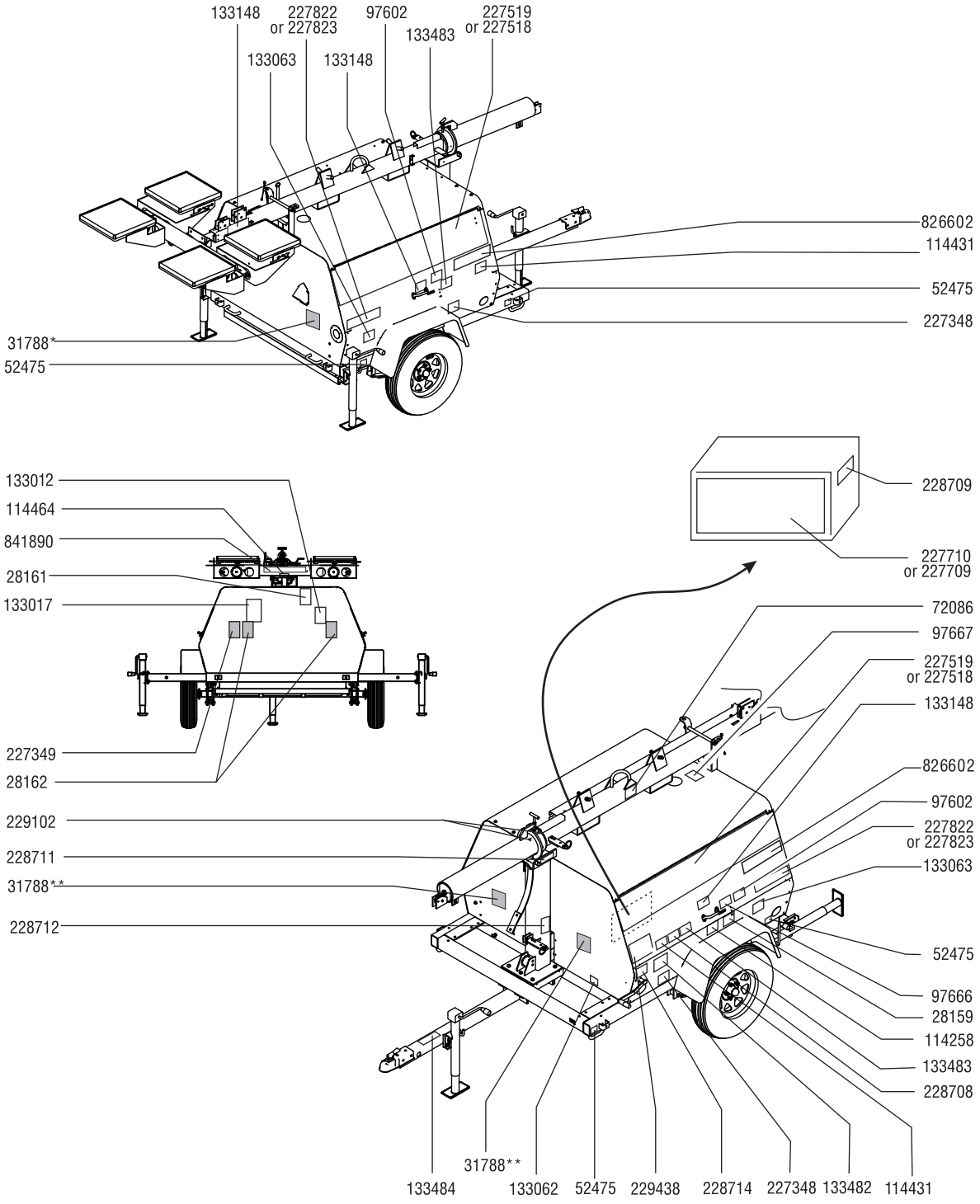
Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place.

Below is a numerical list with quantities and descriptions.

Part No.	Decal Description	Qty
28159	Label – Diesel	1
28161	Warning – Crushing Hazard	1
28162	Warning – Bodily Injury Hazard	2
31788	Danger – Explosion/Burn Hazard, AL5L	2
31788	Danger – Explosion/Burn Hazard, AL4L with engine	1
52475	Label – Transport Tie-down	4
72086	Label – Lifting Point	2
97602	Warning – Explosion Hazard	2
97666	Warning – Improper Operation	1
97667	Warning – Burn Hazard	1
114258	Danger – Explosion Hazard	1
114431	Danger – Electrocution hazard	2
114464	Label – Travel lock	1
133012	Danger – Burn/Carbon Monoxide Hazard	1
133017	Warning – Crushing Hazard	1
133062	Label – Ground	1
133063	Label – Transport Diagram	2
133148	Danger – Electrocution hazard	3
133482	Warning – Tip-over Hazard, Outriggers	1
133483	Warning – Burn Hazard	2
133484	Warning – Tow Speed	1
227348	Instructions – Tire Specifications	2
227349	Instructions – Kubota V1505 Engine Specifications	1
227518	Cosmetic – Terex Logo	2
227519	Cosmetic – Terex Logo, AL5	2
227709	Label – Control Panel, AL4L with Engine	1
227710	Label – Control Panel, AL5L	1
227822	Cosmetic – AL5L	2
227823	Cosmetic – AL4L	2
228708	Danger – CO Hazard	1
228709	Label - Neutral Bond	1
228711	Warning – Crush Hazard	1
228712	Warning – Crush Hazard, Mast	1
228714	Label – Manual Winch	1
229102	Label - Arrow	2
229483	Instructions – Operating Instructions	1
826602	Cosmetic – Shore Plug, AL4L with engine	2
841890	Conspicuity Tape	1

Shading indicates decal is hidden from view, i.e. under covers

Inspections



Inspections

Inspection for Decals with WordsAL4L with Batteries

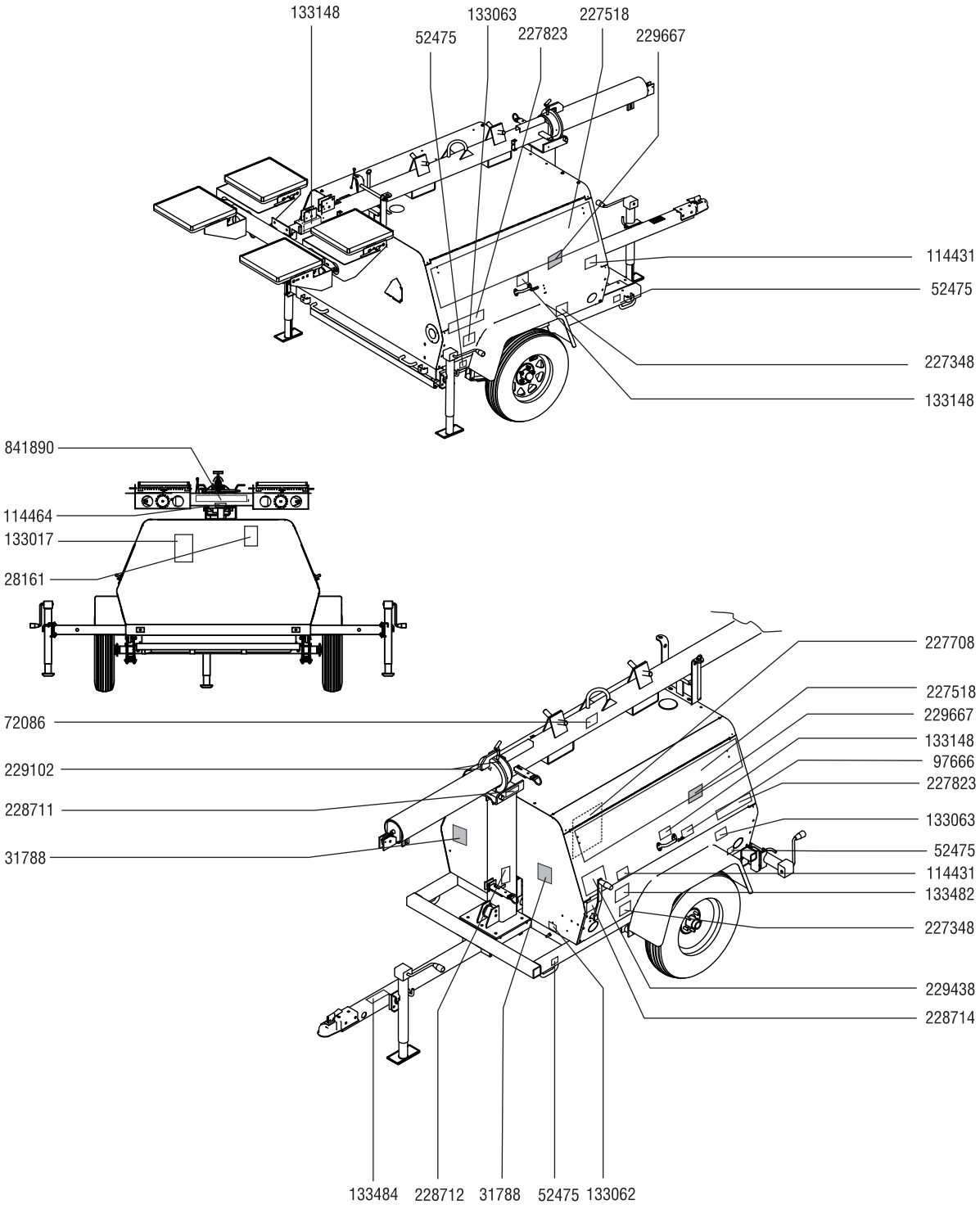
Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place.

Below is a numerical list with quantities and descriptions.

Part No.	Decal Description	Qty
28161	Warning – Crushing Hazard	1
31788	Danger – Explosion/Burn Hazard	2
52475	Label – Transport Tie-down	4
72086	Label – Lifting Point	2
97666	Warning – Improper Operation	1
114431	Danger – Electrocution hazard	2
114464	Label – Travel lock	1
133017	Warning – Crushing Hazard	1
133062	Label – Ground	1
133063	Label – Transport Diagram	2
133148	Danger – Electrocution hazard	3
133482	Warning – Tip-over Hazard, Outriggers	1
133484	Warning – Tow Speed	1
227348	Instructions – Tire Specifications	2
227518	Cosmetic – Terex Logo	2
227708	Label – Ground Control Panel, AL4L with Batteries	1
227823	Cosmetic – AL4L	2
228711	Warning – Crush Hazard	1
228712	Warning – Crush Hazard, Mast	1
228714	Label – Manual Winch	1
229102	Label - Arrow	2
229438	Instructions – Operating Instructions	1
229667	Warning – Tip-over Hazard, Batteries	2
841890	Conspicuity Tape	1

Shading indicates decal is hidden from view, i.e. under covers

Inspections



Inspections

Inspection for Decals with Symbols - AL5L and AL4L with Engine

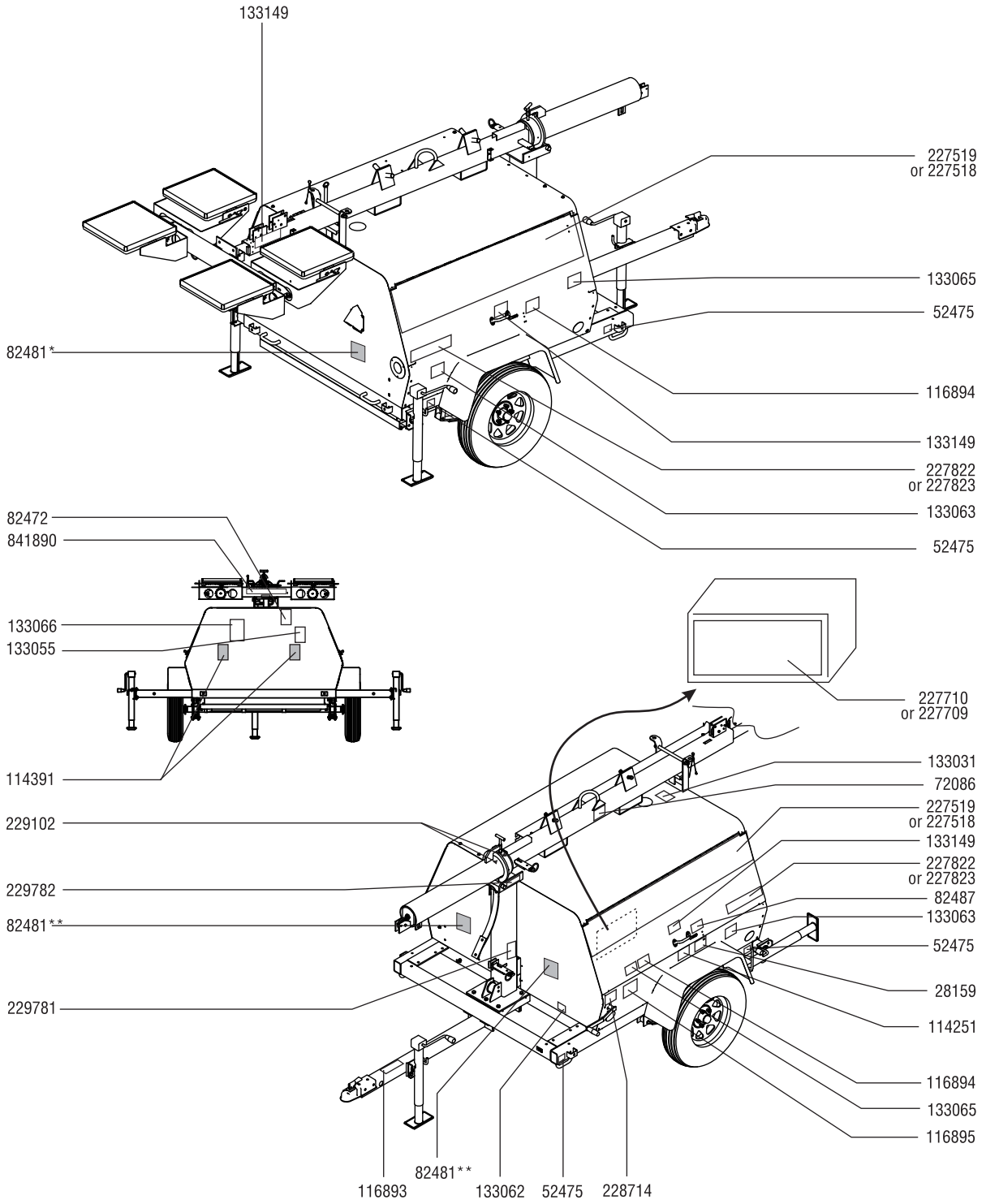
Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place.

Below is a numerical list with quantities and descriptions.

Part No.	Decal Description	Qty
28159	Label – Diesel	1
52475	Label – Transport Tie Down	4
72086	Label – Lifting Point	2
82472	Label – Crushing Hazard	1
82481	Label – Battery/Charger Safety, AL5L	2
82481	Label – Battery/Charger Safety, AL4L	1
82487	Label – Read the Manual	1
114251	Label – Explosion Hazard	1
114391	Label – Bodily Injury Hazard	2
116893	Label – Tow Speed	1
116894	Warning – Burn Hazard	2
116895	Label – Tip-over Hazard, Outriggers	1
133031	Label – Burn Hazard	1
133055	Label – Burn/Carbon Monoxide Hazard	1
133062	Label – Ground	1
133063	Label – Transport Diagram	2
133065	Label – Electrocution Hazard	2
133066	Label – Crushing Hazard	1
133149	Label – Electrocution Hazard	3
227518	Cosmetic – Terex Logo	2
227519	Cosmetic – Terex Logo, AL5	2
227709	Label – Control Panel, AL4L with Engine	1
227710	Label – Control Panel, AL5L	1
227822	Cosmetic – AL5L	2
227823	Cosmetic – AL4L	2
228714	Label – Manual Winch	1
229102	Label - Arrow	2
229781	Label – Crush Hazard, Mast	1
229782	Label – Crush Hazard	1
841890	Conspicuity Tape	2

Shading indicates decal is hidden from view, i.e. under covers

Inspections



Inspections

Inspection for Decals with Symbols - AL4L with Batteries

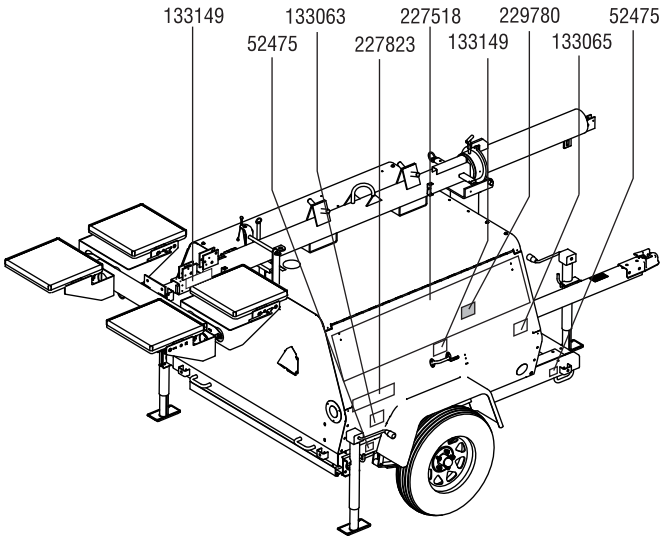
Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place.

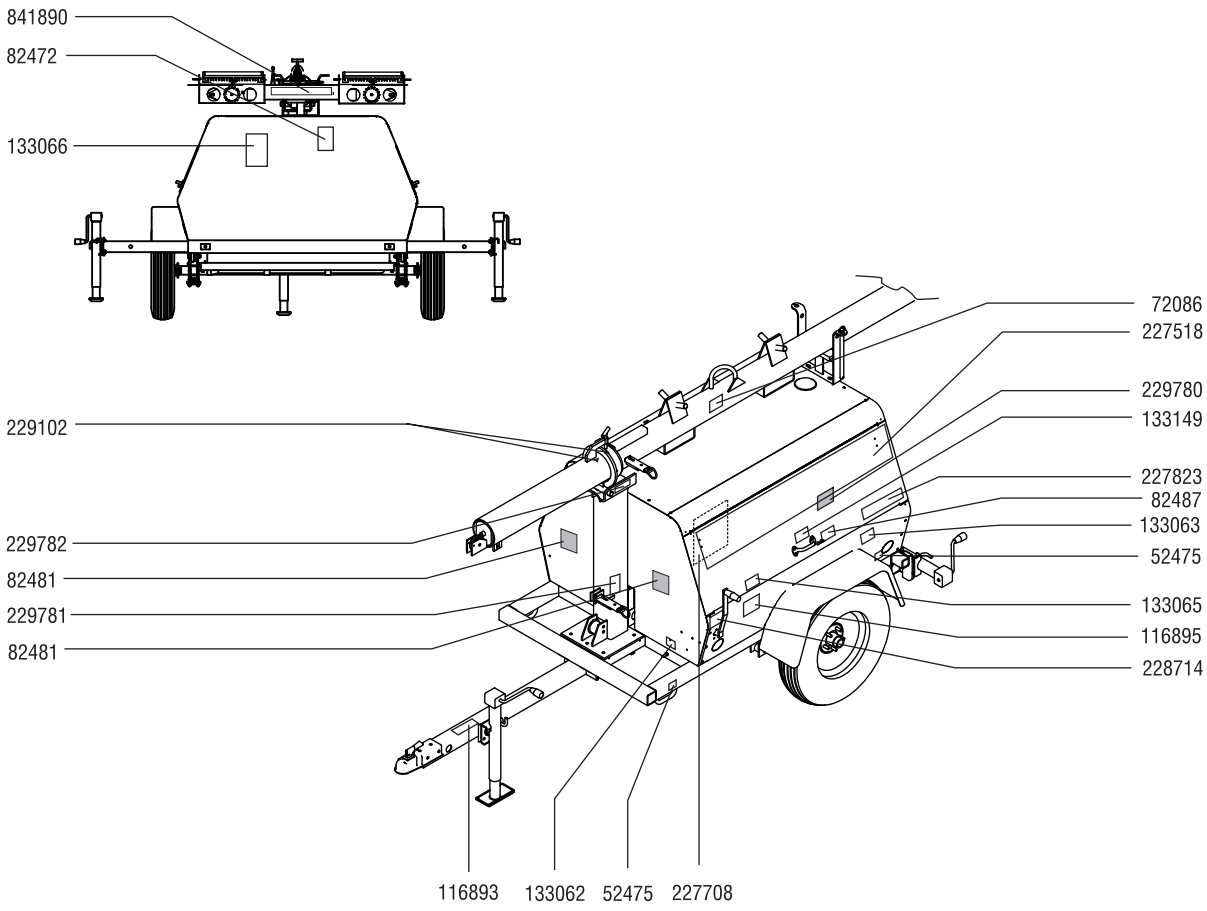
Below is a numerical list with quantities and descriptions.

Part No.	Decal Description	Qty
52475	Label – Transport Tie Down	4
72086	Label – Lifting Point	2
82472	Label – Crushing Hazard	1
82481	Label – Battery/Charger Safety	2
82487	Label – Read the Manual	1
116893	Label – Tow Speed	1
116895	Label – Tip-over Hazard, Outriggers	1
133062	Label – Ground	1
133063	Label – Transport Diagram	2
133065	Label – Electrocution Hazard	2
133066	Label – Crushing Hazard	1
133149	Label – Electrocution Hazard	3
227518	Cosmetic – Terex Logo	2
227708	Label – Ground Control Panel, AL4L with Batteries	1
227823	Cosmetic – AL4L	2
228714	Label – Manual Winch	1
229102	Label - Arrow	2
229780	Warning – Tip-over Hazard, Batteries	2
229781	Label – Crush Hazard, Mast	1
229782	Label – Crush Hazard	1
841890	Conspicuity Tape	1

Shading indicates decal is hidden from view, i.e. under covers

Inspections





Operating Instructions

Do Not Operate Unless:

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

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Fundamentals

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

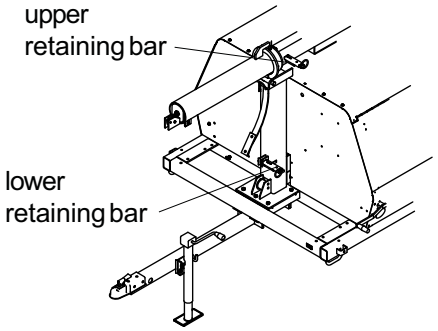
Only trained and authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's, safety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

Operating Instructions

Setup

Make sure the machine is set up according to the Setup procedure in the Function Test section.

Setup



Raising the Mast

1 Remove the retaining pin and the travel lock pin from the top of the mast.

2 Turn the winch handle clockwise until the lower retaining bar locks into the mast.

3 Insert the retaining pin into the lower retaining bar before extending the mast.

Extending the Mast

1 Remove the retaining pin and pull the upper retaining bar.

2 Turn the extend/retract winch handle clockwise to extend mast sections.

Attention: Stop extending the mast when red is visible on mast. Continuing to extend the mast when red is visible can result in machine damage.

Retracting the Mast

1 Rotate the mast to align the arrows on the mast before retracting.

2 Turn the winch handle counterclockwise until the upper retaining bar locks into the mast and no red line is visible on the mast.

Lowering the Mast

1 When the mast sections are fully retracted, pull the lower retaining bar.

2 Turn the winch handle counterclockwise.

3 When mast is fully lowered into the travel lock, insert the travel lock pin and retaining pin.

Rotating the Mast

1 Turn the T-handle to release the mast rotation lock.

2 Rotate the mast to the desired position.

3 Tighten the T-handle to secure the mast in the desired position.

4 Rotate the mast to align the arrows on the mast before retracting.

Operating Instructions

Starting the Engine

Starting the Engine – AL4L with engine and AL5L

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

Note: If the machine is equipped with dual fuel tanks, there must be fuel in both tanks in order to start the engine.

1 Move the ignition switch to the run position.

1 Press and hold the prime button for 15 seconds.

1 While holding down the prime button, move the ignition switch to engine start.

Operation of Lights - AL4L with engine

Using engine power

Note: On machines equipped with a shore plug, the shore plug should be plugged into the T-lock receptacle.

1 Start the engine. The engine must be running before the lights are turned on.

2 Turn on the main circuit breaker switches on the control panel.

3 Turn on the lights using the individual light switches.

4 Turn the lights off using the individual light switches. Make sure the lights are turned off before engine is shut down.

Using shore power

1 Disconnect the shore plug from the T-lock receptacle.

2 Connect the shore plug to a 4-pole extension cord (230V AC only). Connect the extension cord to a grounded AC circuit.

3 Turn on the lights using the individual light switches.

4 Turn the lights off using the individual light switches.

Operating Instructions

Operation of Lights - AL4L with batteries

1 Be sure the batteries are fully charged or be sure the charger is plugged in.

2 Turn on the lights using the individual light switches.

3 Turn the lights off using the individual light switches.

Operation of Lights - AL5L

The lights will turn on with engine power, battery power or with the charger plugged in.

1 To use engine power, start the engine.
To use battery power, go to step 2.
To use charger power, plug in the charger.

2 Turn on the main circuit breaker switches on the control panel.

3 Turn on the lights using the individual light switches.

4 Turn the lights off using the individual light switches. Make sure the lights are turned off before engine is shut down.

Operation and Charging the Batteries - AL4L with batteries

Charge the batteries after use. Lights blinking indicate that the batteries need to be charged.

To charge the batteries, plug in the charger plug. Use an appropriate power cord and connect to a grounded AC circuit.

AL4L machines with batteries can be plugged into an AL5L machine for use or charging. Be sure the AL5L machine is running and main circuit breaker is on before plugging in AL4L machines. Plug AL4L machines in one at a time.

Use an appropriate power cord and plug the AL4L charger plug into a receptacle on the AL5L control panel. Verify that the indicator lights on the AL4L charger are on.

AL4L machines with batteries can be used with the charger plugged in. The lights will turn on, but the batteries will not charge.

Operation and Charging the Batteries - AL4L with engine

There is no battery pack to charge on this machine. The starter battery charges when the engine is running.

Operating Instructions

Operation and Charging the Batteries - AL5L

The batteries are charged when the engine is running, when the charger cord is plugged in to the convenience receptacles or when the charger is plugged in. Lights blinking indicate that the batteries need to be charged.

To charge the batteries with the charger, plug in the charger plug. Use an appropriate power cord and connect to a grounded AC circuit.

AL5L machines can be used with the charger plugged in. The light will turn on, but the batteries will charge slowly.

When the engine is running, the AL5L can charge other machines. Up to 3 AL4L machines can be charged if the AL5L charger cord is plugged in to the convenience receptacles. When the engine is running, up to 4 AL4L machines can be plugged in to an AL5L machine, but the AL5L batteries will not charge. Be sure the AL5L machine is running and the main circuit breaker is on before plugging in the AL4L machines. Plug AL4L machines in one at a time.

Grounding Lug

A grounding rod is located inside the door on the road side of the machine.

Drive the rod into the ground and connect it to the grounding lug located on the chassis near the base of the tower.

Electrical Outlets (if equipped)

Electrical outlets are located on the control panel.

After Each Use

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

Remove the key or lock cabinet door.

Operating Instructions

Towing

1 **CAUTION: SHUT ENGINE OFF BEFORE MOVING THE LIGHT TOWER! Failure to do so can cause severe engine/radiator damage and WILL NOT BE COVERED UNDER WARRANTY!**

2 Fully retract and lower the mast to the stowed position.

3 Lower the light bar to the stowed position.

4 Make sure the travel lock pin is securely locked in place.

5 Make sure the covers are closed and secured.

6 Pull the spring pins on each outrigger and slide them into the stowed and secured position..

7 Raise the tongue of the machine by turning the tongue jack handle.

8 Position the transport vehicle under the coupler on the tongue of the machine.

9 Open the latch on the coupler.

10 Turn the tongue jack handle to lower the tongue..

11 Close the latch on the coupler.

12 Rotate the tongue jack to the stowed position and secure with the lock pin.

13 Attach safety chains.

14 Connect and test the trailer lights.

Towing Information

Driving a vehicle/trailer combination is different from driving a vehicle alone.

Inspect all connections at each stop.

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

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

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

Slow down for curves, hazardous road conditions, freeway exits, and when driving in adverse weather.

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

If the vehicle and/or trailer travels off the paved road, hold the steering wheel firmly and let up on the gas pedal. Do not apply the brakes. Do not turn sharply. Slow down to under 25 mph / 40 km/h. Gradually turn the steering wheel to get back on the road. Proceed with caution when entering traffic.

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

Avoid sudden movements when turning.

Transport and Lifting Instructions

Observe and Obey:

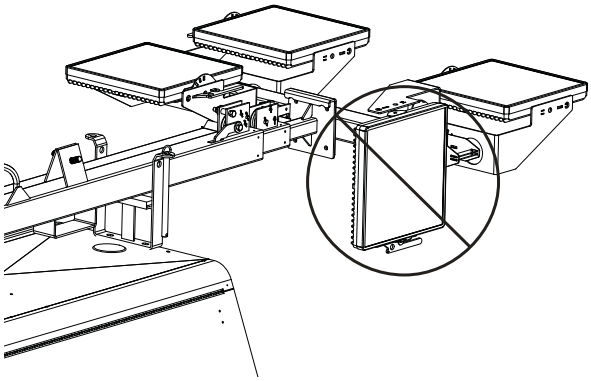
- ☑ Terex Corporation provides this securement information as a recommendation. Drivers are solely responsible for making sure machines are properly secured and the correct trailer is selected pursuant to US Department of Transportation regulations, other localized regulations, and their company policy.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

Securing to Truck or Trailer for Transit

Fully retract and lower the mast to the stowed position.

Secure the mast for transport with the travel lock pin.

1 Turn all 4 light fixtures so they are parallel with the ground.



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

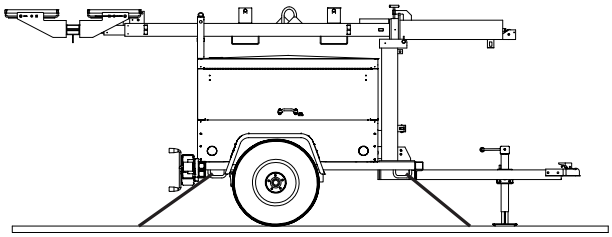
Close and secure the cabinet doors.

Inspect the entire machine for loose or unsecured items.

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

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

Adjust the rigging to prevent damage to the chains.



Transport and Lifting Instructions

Observe and Obey:

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

Lifting the Machine with a Crane

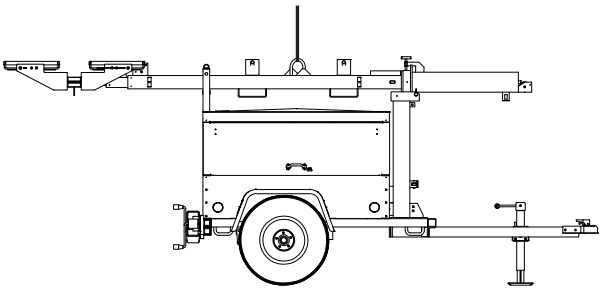
Fully retract and lower the mast to the stowed position.

Secure the mast for transport with the travel lock pin.

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

Close and secure the cabinet doors.

Use the lifting eye on the mast to lift the machine.



Maintenance

Observe and Obey:

☑ Only routine maintenance items specified in this manual shall be performed by the operator.

☑ Scheduled maintenance inspections shall be completed by qualified service technicians, according to the manufacturer's specifications and the requirements specified in the responsibilities manual.

☑ Use only Terex approved replacement parts.

Maintenance Symbols Legend

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

Indicates that tools will be required to perform this procedure.

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

Check the Engine Oil Level - AL4L with Engine and AL5L

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

Note: Check the oil level with the engine off.

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

Kubota D-1105 Engine	
Oil type	10W-30
Oil type - cold conditions	5W-20

Check the Engine Coolant Level - AL4L with Engine and AL5L

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

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

Note: Do not remove the radiator cap.

1 Check the fluid level in the coolant recovery tank. Add fluid as needed.

⊙ Result: The fluid level should be at the FULL mark.

2 Refer to Kubota Operator's Manual K683-89169 (Terex part number 893020)

Maintenance

Check the Batteries

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

⚠ Electrocution hazard. Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

⚠ Bodily injury hazard. Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

1 Put on protective clothing and eye wear.

2 Be sure that the battery cable connections are tight and free of corrosion.

3 Be sure that the battery hold-down brackets are in place and secure.

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

Check the Tires and Wheels

⚠ Bodily injury hazard. An over-inflated tire can explode and may cause death or serious injury.

⚠ Collision hazard. An excessively worn tire can cause poor handling and continued use could result in tire failure.

⚠ Tip-over hazard. Do not use temporary flat tire repair products.

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

1 Check the tire surface and sidewalls for cuts, cracks, punctures and uneven or excessive tread wear. Replace the tire if uneven or excessive tread wear is found.

2 Check each wheel for damage, bends and cracks. Replace the wheel if any damage is found.

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

3 Check each tire with an air pressure gauge. Add air as needed.

4 Check the torque of each lug nut.

Tire Specifications, U.S.		
Tire Size	ST205/75R15	Load C
Lug nut torque	90 ft/lbs	122 Nm
Tire pressure (cold)	50 psi	3.4 bar

Maintenance

Scheduled Maintenance

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

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

Wet Stacking

A diesel engine,like all internal combustion engines, to operate at maximum efficiency has to have exactly the right air to fuel ratio and be able to sustain the operational temperature it designed to run at for a complete burn of the fuel. When a diesel engine is operated on light loads it will not attain its correct operating temperature. When the diesel engine is allowed to run for extended periods below its designed operating temperature, unburned fuel is exhausted and noticed as wetness in the exhaust system, hence the phrase "Wet Stacking".

Terex suggests a minimum load of 30 percent of nameplate to prevent wet stacking, inversely related to temperature (the lower the ambient temperature the higher the minimum load).

Terex recommends testing at least monthly for a minimum of 30 minutes at not less than 80 percent of the nameplate rating. The proper installation and use of a load bank can prevent loss of capacity and increased maintenance caused by unburned fuel due to wet stacking.

If Wet Stacking Has Occured

If you have a light tower that is already wet stacked, it is recommended that the load bank be used in progressive steps outlined below.

Assure that the generator set is properly grounded and connected to the load bank as instructed by the manufacturer.

Start using less than 25 percent of the nameplate rating until the engine is warmed up.

Progressively increase the load as the generator set will allow without shutting down.

Continue to run for 20 minutes per step.

When you reach 80 percent of the nameplate rating, run the generator set for a maximum of 45 minutes or until the exhaust on the unit runs clean.

Shut down the engine and allow it to fully cool down.

Start the engine again and run at 80 percent load for an additional 30 minutes.

A full engine service is recommended after this type of wet stack burns off.

Specifications

AL4L		
Height, stowed	5 ft 8 in	1.73 m
Length, stowed	14 ft 11 in	4.55 m
Width, stowed	5 ft 8 in	1.73 m
Extended mast height	30 ft	9.14 m
AL4L with engine Total weight, no fuel	1986 lbs	901 kg
AL4L with batteries Total weight	2092 lbs	949 kg
(Machine weights vary with option configurations. See serial label for specific machine weight.)		
Tongue weight		
With engine, single tank	107 lbs	49 kg
With engine, dual tank	83 lbs	38 kg
With batteries	110 lbs	50 kg
Tire size, U.S.	ST205/75R15	Load C
Engine type	Kubota	13.6 HP
Fuel capacity, single tank	30 gallons	114 liters
Fuel capacity, dual tank	50 gallons	189 liters
AL4L with engine Generator specifications	Marathon 6 kW, 60 Hz	
AL4L with batteries Battery specifications	8 @ 315 AH	
Total lighting wattage Four lights	1080 watts	
Tower rotation	359 degrees non-continuous	
Maximum towing speed	60 mph	97 km/h
Maximum wind speed	62 mph	100 km/h

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice or obligation.

AL5L		
Height, stowed	5 ft 9 in	1.75 m
Length, stowed	15 ft 3 in	4.65 m
Width, stowed	6 ft 9 in	2.06 m
Extended mast height	30 ft	9.14 m
Total weight, no fuel	2828 lbs	1283 kg
(Machine weights vary with option configurations. See serial label for specific machine weight.)		
Tongue weight	146 lbs	66 kg
Tire size, U.S.	ST205/75R15	Load C
Engine type	Kubota	13.6 HP
Fuel capacity, single tank	30 gallons	114 liters
Generator	Marathon 8 kW, 60 Hz	
Battery specifications	8 @ 315 AH	
Total lighting wattage Four lights	1080 watts	
Tower rotation	359 degrees non-continuous	
Maximum towing speed	60 mph	97 km/h
Maximum wind speed	62 mph	100 km/h

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Reporting Safety Defects

Terex
18340 NE 76th Street
PO Box 97030
Redmond, WA 98073-9730

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to Terex Corporation.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in any individual problems between you, your dealer or Terex Corporation.

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

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

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

California Proposition 65

Warning

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

Towing Checklist (Use at each stop)

Before Towing

- All covers are closed and jacks, outriggers, and mast are locked and secured in the travel position.
- Towing hitch is properly secured to tow vehicle
- Safety chains are properly attached and secure (chains are crossed below hitch)
- All lights are connected and working
- Tires are properly inflated

Before Driving

- Fasten safety restraints
- Properly adjust mirrors

On The Road

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

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