Owner's Manual: ECO-TOWER LED Light Tower

MODELS: WQ5000S-ECO, WQ5000H-ECO, WQ5000S-ECO-DV, WQ5000H-ECO-DV

For Technical Assistance contact:

www.westquip.ca

Technical Support – 780-960-5560

GENERAL INFORMATION

Specifications- Standard Manual Lift Models

MODEL	WQ5000S-ECO
Tower Lift System	
• Manual	2000LB manual hand crank winch with Auto-brake
Dimensions	
• Transport/Shipping	103"H (2626mm) x 44"W (1118mm) x 44"W (1118mm)
• Working Setup	264"H (6.7m) x 120"W (3.0m) x 120"L (3.0m)
Weight	
• WQ5000S	970lb (440kg)
Lighting	
• Light Assembly Type	300W 60 Hz LED floodlight (4) cULus IP68 LED modules and connectors
• LED Driver	Meanwell HLG-320H-30A 60Hz (4) cULus IP65
• Lumens	172,000 total lumens
AC Electrical Distribution	
• Input voltage/amperage	120V/15A 60 Hz inlet plug
• Convenience Receptacles (Output)	1 of 120V 15A 60 Hz duplex receptacle (Nema #5-15)
• ON/OFF light switch	1

MODEL	WQ5000S-ECO-DV (DUAL VOLTAGE)
Tower Lift System	
• Manual	2000LB manual hand crank winch with Auto-brake
Dimensions	
• Transport/Shipping	103"H (2626mm) x 44"W (1118mm) x 44"W (1118mm)
• Working Setup	264"H (6.7m) x 120"W (3.0m) x 120"L (3.0m)
Weight	
• WQ5000S	975lb (442kg)
Lighting	
• Light Assembly Type	300W 60 Hz LED floodlight (4) cULus IP68 LED modules and connectors
• LED Driver	Meanwell HLG-320H-30A 60Hz (4) cULus IP65
• Lumens	172,000 total lumens
AC Electrical Distribution	**DUAL VOLTAGE**
• Voltage Selector Switch (3 positions)	240V – OFF – 120V
• Input voltage/amperage	120V/15A 60 Hz (Nema #5-15) or 120/240 30A 60 Hz (Nema #L14-30) twistlock plug
• Convenience Receptacles (Output)	1 of 120V 15A 60 Hz duplex receptacle (Nema #5-15) 1 of 120/240 30A 60 Hz (Nema #L14-30) twistlock

Specifications- Hydraulic Lift Models

MODEL	WQ5000H-ECO
Tower Lift System	
• WQ5000H-ECO	12V hydraulic power pack with remote control, G24 battery/box, 12V 1.5A 'Smart charge' battery trickle charger
Dimensions	
• Transport/Shipping	103"H (2626mm) x 44"W (1118mm) x 44"W (1118mm)
• Working Setup	264"H (6.7m) x 120"W (3.0m) x 120"L (3.0m)
Weight	
• WQ5000H	1100lb (499kg)
Lighting	
• Light Assembly Type	300W 60 Hz LED floodlight (4) cULus IP68 LED modules and connectors
• LED Driver	Meanwell HLG-320H-30A 60 Hz (4) cULus IP65
• Lumens	172,000 total lumens
AC Electrical Distribution	
• Input voltage/amperage	120V/15A 60 Hz inlet plug
• Convenience Receptacles (Output)	1 of 120V 15A 60Hz duplex receptacle (Nema #5-15)
• ON/OFF light switch	1

MODEL	WQ5000H-ECO-DV (DUAL VOLTAGE)
Tower Lift System	
• WQ5000H-ECO	12V hydraulic power pack with remote control, G24 battery/box, 12V 1.5A 'Smart charge' battery trickle charger
Dimensions	
• Transport/Shipping	103"H (2626mm) x 44"W (1118mm) x 44"W (1118mm)
• Working Setup	264"H (6.7m) x 120"W (3.0m) x 120"L (3.0m)
Weight	
• WQ5000H	1105lb (501kg)
Lighting	
• Light Assembly Type	300W LED floodlight (4) cULus IP68 LED modules and connectors
• LED Driver	Meanwell HLG-320H-30A (4) cULus IP65
• Lumens	172,000 total lumens
AC Electrical Distribution	
• Input voltage/amperage	120V/15A 60Hz (Nema #5-15) or 120/240 30A 60Hz (Nema #L14-30) twistlock plug
• Convenience Receptacles (Output)	1 of 120V 15A 60Hz duplex receptacle (Nema #5-15) 1 of 120/240 30A 60Hz (Nema #L14-30) twistlock

ECO-TOWER SET UP

1. Place the unit on firm ground that is relatively flat.
2. Pull the locking pin on each outrigger and lower each outrigger and lock into position with locking pin. *(see Fig 1 to 4)*
3. Ensure the outrigger jacks are rotated so the jack pad is facing down and the locking pin is secured in the jack. *(see Fig 5)*
4. Adjust all four jacks by turning their handles clockwise until they are firmly in contact with the ground and the stand base is level.
5. Before raising the mast, it may be necessary to adjust the LED fixtures. The LED fixtures may be adjusted up, down, left or right by loosening the nuts on the trunnion and aiming them in the desired direction. Tighten the hardware completely and make sure the LED fixtures are connected to the junction box.

WARNING

The mast extends up to 23 ft. (7.0 m). Make sure the area above the unit is open and clear of overhead wires and obstructions.

WARNING

NEVER set the jacks on a soft surface. The surface must be solid enough to support the jacks without them sinking. Failure to properly select a solid surface may allow the light tower to become unstable and tip over in a high wind.

Fig 1

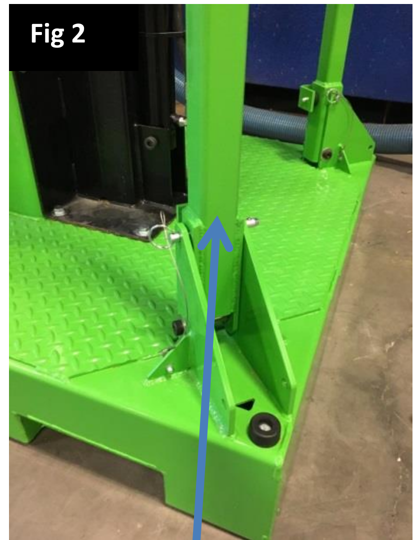


Fig 2

Remove locking pin and carefully lower outrigger legs.

Fig 3

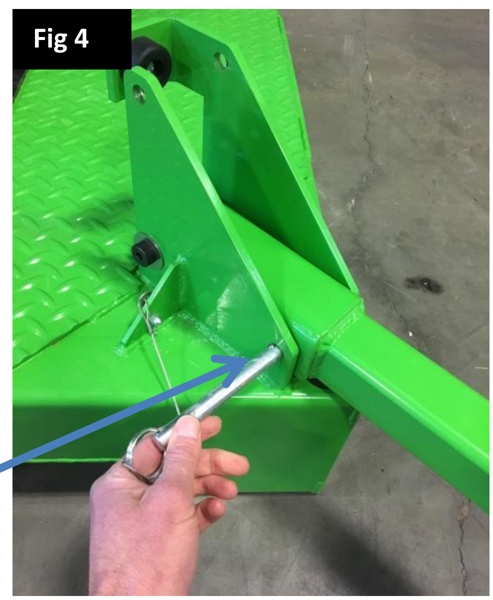


Fig 4

Insert locking pin to secure lowered outrigger leg in place.

Fig 5

Ensure jack pin is secured before levelling jack.

RAISING THE MAST- Manual Hand Winch

1. Set up and level the unit. *See Light Tower Setup*
2. Check the mast cables for excessive wear or damage. Make sure the cables are properly centered in each pulley. Do not use if cables are kinked, frayed or damaged.
3. Check the electrical cord for damage.
4. Operate the hand crank winch clockwise to slowly extend the mast, making sure the coiled electrical cord is extending at the top sections of the mast. STOP extending the mast when the 'Yellow' marked line on the 3rd mast section is visible *(as seen in Fig 6-7).*
5. Verify cable winds evenly around the winch drum to prevent cable damage.

RAISING THE MAST- Hydraulic Lift

1. Set up and level the unit. *See Light Tower Setup*
2. Check the mast cables for excessive wear or damage. Make sure the cables are properly centered in each pulley. Do not use if cables are kinked or frayed or damaged.
3. Check the electrical cord for damage.
4. Operate the 'UP ARROW' button on the remote hand control (*Fig 8*) to slowly extend the mast, making sure the coiled electrical cord is extending at the top sections of the mast. STOP extending the mast when the 'Yellow' marked line on the 3rd mast section is visible *(as seen in Fig 6-7).*

WARNING

The unit must be leveled with the outriggers extended before raising the mast. The outriggers must remain extended while the mast is up. Failure to level the unit or extend the outriggers will severely reduce stability and could allow the unit to tip and fall.

WARNING

Do not start the unit if the insulation on the electrical cord is cut or worn through. Bare wires in contact with the mast or frame may energize the unit and cause electrocution. Repair or replace a damaged cord.

WARNING

Do not over extend or completely raise the tower past the 'YELLOW LINE'.

Over extending the mast may make lowering the mast difficult in freeze/thaw conditions during the winter season (see lowering the Mast section for details).

LOWERING THE MAST- MANUAL HAND WINCH

1. Turn OFF the lights.
2. Operate the hand crank winch counter-clockwise to lower the mast to its lowest position. Verify the electrical cord does not get caught in or pinched by, the mast while it is being lowered.

LOWERING THE MAST- HYDRAULIC LIFT

1. Turn OFF the lights.
2. Operate the 'DOWN ARROW' button on the remote control device (*Fig 8*). Verify the electrical cord does not get caught in or pinched by, the mast while it is being lowered.

WARNING

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 and equipment damage.

BEST PRACTICE

Before lowering the mast it is best to fully raise the tower above the stop line to its maximum height. This will break any ice build-up in the mast sections that may form during winter operation. *(See Winter Operation below)*

NOTE: WINTER OPERATION

The freezing and thawing during winter may cause your mast section to freeze in place. If the mast hangs up or the winch cable develops slack DO NOT continue to lower the tower. Immediately RAISE the tower to put tension back on the mast cable. Failure to put tension back on the cable could cause the mast to collapse, resulting in personal injury and equipment damage.

If a mast section has stuck in place, completely extend the tower. Fully extending the tower may break this frozen section loose allowing the mast to lower.

BEST PRACTICE: Before lowering the mast it is best to fully raise the tower above the stop line to its maximum height. This will break any ice build-up in the mast sections that may form during winter operation.

In the event, the mast hangs up and will not lower contact Westquip Diesel Sales technical support.

DANGER WARNING

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.

NOTICE

The mast is intended for use ONLY to support the LED fixtures supplied. Do not use the mast as a hoist or for any other purposes

Fig 6

Do not extend mast past yellow STOP line

Fig 7

Correct mast position. Just below yellow STOP line

Fig 8

Hydraulic Control

PRESTART CHECKLIST

- ✓ Verify the unit is level.
- ✓ For grounding requirements, follow any local or industry grounding guidelines.
- ✓ Verify the main light switch is OFF
- ✓ Inspect all electrical cords; repair or replace any that are cut or worn or damaged.
- ✓ Verify all winch cables are in good condition and centered on each pulley. Do not use if cables are kinked or beginning to unravel.
- ✓ Verify shore power connection is functional and correct voltage and frequency are present.

SAFETY WARNING

Do not set up or operate the unit in high winds. Always lower the tower when winds may exceed 55 mph (85km/h). Failure to do so may cause the tower to tip over causing serious injury, death, and damage to the unit.

EQUIPMENT DAMAGE WARNING

Input power must be between 100-250 Volts 60 Hz at point of utilization or damage to LED lighting and drivers may occur.

Never energize lighting prior to the correct voltage and frequency being present.

For long runs of cable, check convenience outlet voltage prior to hooking up any piece equipment to ECO Tower.

ECO Tower lighting will work at voltages between 100-250V AC 60Hz while other equipment may be damaged at irregular voltages

EQUIPMENT DAMAGE WARNING

If powered by a generator, ensure the generator is brought up to correct operating speed *60Hz* to reduce the risk of under frequency damage.

STORAGE: HYDRUALIC MASTS

Read page 10 for storage instructions

TURN THE UNIT ON, 120V VERSION (*FIG 9)*

1. Connect tower to a 120V 15 AMP Outlet
2. Turn Switch On
3. The LED lamps will illuminate.
4. Your tower is equipped with an additional convenience power receptacle. *Remaining power on the circuit will be passed through*
5. If powering other equipment from a convenience receptacle, ensure the correct voltage for connected equipment is present. ECO Tower lighting will work at voltages between 100-250V AC 60Hz while other equipment may be damaged at irregular voltages.

TURN THE UNIT ON, 120/240V DV VERSION (*FIG 10)*

1. Connect tower to either 120/240V 30 Amp *Nema #L14-30* or 120V 15 Amp *Nema #5-15* power and ensure proper voltage and frequency are present.
2. For 120/240V Nema #L14-30 input, set the switch to (1). *Both 120V and 120/240V convenience receptacles will be energized. 120V convenience receptacle will have full 15 amp output*
3. For 120V Nema #5-15 input, set switch to (2). *Only the 120V convenience receptacle will be energized. The remaining power of the circuit will be available*
4. The LED lamps will illuminate.
5. Your tower is equipped with additional convenience power receptacles. They may be used to run auxiliary equipment or additional ECO towers.
6. LED lights will work between 100-250V AC. For long runs of cable, use 120/240 Nema #L14-30 and ensure the voltage is between 100-250V AC 60Hz.
7. If powering other equipment from the convenience receptacle(s), ensure the correct voltage for connected equipment is present. ECO Tower lighting will work at voltages between 100-250V AC 60Hz while other equipment may be damaged at irregular voltages.

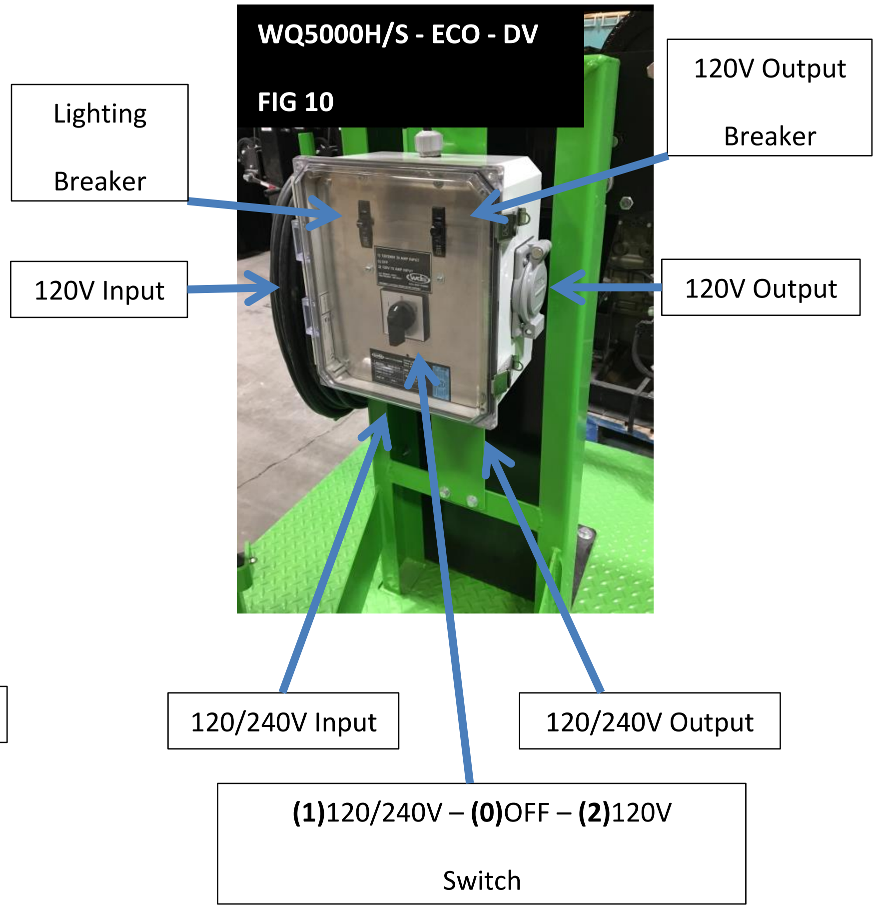
TURN THE UNIT OFF

1. Turn off and disconnect any auxiliary equipment.
2. Turn lights OFF using switch (For ECO-DV, 0 is OFF)
3. After the unit shuts down, disconnect the input power cord. **For ECO-DV versions, breakers are not rated as switches. Using the breakers as switches will pre-maturely wear out the breaker. Placing the switch in the off position (0) will disconnect power to convenience receptacles.*

STORAGE: HYDRAULIC MASTS

Hydraulic Eco Towers come equipped with an onboard battery maintainer. The battery maintainer is powered when the switch is set to position 1 or 2 on Dual Voltage Models. When storing, the best practice is to supply power to the Eco Tower. Set the switch to the position of your input, and turn the left breaker (lighting breaker FIG 10) off. 120V ECO Tower models, the battery maintainer is always powered when the unit is plugged into a correct power source.


WQ5000H/S – ECO
FIG 9
120V Input
120V Output
(UP)On – (DWN)Off
Switch


WQ5000H/S - ECO - DV
FIG 10
Lighting
Breaker
120V Input
120V Output
Breaker
120V Output
120/240V Input
120/240V Output
(1)120/240V – (0)OFF – (2)120V
Switch

LIFTING AND TRANSPORT

This unit is equipped with a lifting eye and forklift pockets for lifting the unit on and off a transport vehicle.

1. Ensure the equipment being used to lift the unit has sufficient capacity.
2. Ensure the mast is completely lowered.
3. Ensure the outriggers are fully retracted and secured with locking pins.
4. Ensure all electrical inputs and outputs are disconnected, and the cord is secured
5. Ensure light fixtures are secured.
6. Lift the units with a sling or chain from the central lift point (*Fig 13)* or use a forklift to lift through the forklift pockets. (*Fig 11-12)*
7. Ensure LED fixtures or mast will not be damaged when lifting.
8. Tie-down straps should be used to fasten the unit in place during transport. Straps can be placed over the top of the platform deck or through the forklift pockets.

Fig 11

Fig 12

Fig 13

Transport setup. Load using forklift pockets or lift eye.

MAINTENANCE

WARNING
DISCONNECT ALL ELECTRICAL SOURCES BEFORE SERVICING

DAILY INSPECTION

Perform an inspection every day. Look for conditions that could hinder performance or safety.

GENERAL MAINTENANCE

In order for the equipment to operate safely and properly over a long period of time, periodic maintenance and repairs are necessary. DO NOT perform maintenance or repairs unless all the electrical components are OFF.

1. Clean unit after each use, remove mud and debris
2. Avoid spraying direct water into convenience outlets
3. Inspect the condition of electrical inlets and outlets. DO NOT use if damaged
4. Inspect the condition of electrical cords. DO NOT use the unit if insulation is cut or worn through.
5. Verify winch cables are in good condition and centered on each pulley. DO NOT use a cable that is kinked or starting to unravel.
6. Replace winch cable if damaged.
7. Check mounting hardware and fasteners for tightness and tighten if necessary.
8. Gears, ratchet pivot point and shaft bushings must be lubricated with a thin film of grease.
9. Inspect tower winch for proper operation and replace winch if it has been damaged.
10. Check each jack and replace them if not operating properly.
11. Ensure all jack and outrigger pins are functional and in place.

HYDRAULIC LIFT MAINTENANCE

1. Inspect condition of 12V battery. The battery may require charging if left in storage for an extended period. (See page 10)
2. Remove the hydraulic power pack lid and confirm the presence of hydraulic fluid.
3. Check operation of the lift system.

NOTE: HYDRAULIC PUMP PRESSURE AND SPEED CALIBRATIONS ARE ALL PRE-SET AT FACTORY TO RECOMMENDED SETTINGS AND TYPICALLY SHOULD NOT REQUIRE ADJUSTMENT
PLEASE CONTACT WESTQUIP FOR ANY TECHNICAL ASSISTANCE

TROUBLESHOOTING

WARNING
DISCONNECT ALL ELECTRICAL SOURCES BEFORE SERVICING

LED LIGHTS WILL NOT COME ON

- Fixtures are not plugged in.
- No AC output from the shore power connection. Possible circuit breaker tripped.
- Incorrect electrical voltage. Must be 100-250V or damage to electrical drivers will occur.
- Incorrect electrical frequency. Must be 60Hz or damage to electrical drivers will occur.
- Faulty LED Driver/Power supply.
- Light switch defective.
- Extension cord gauge too small for distance.

LED LIGHTS FLASHING

- Faulty LED Driver/Power supply. Or overheated. Allow to cool and re-try. Replace if required.
- Voltage is too low.
- Incorrect electrical voltage. Must be 100-250V or damage to electrical drivers will occur.
- Incorrect electrical frequency. Must be 60Hz or damage to electrical drivers will occur
- Extension cord gauge too small.

HYDRAULIC TOWER WILL NOT RAISE OR LOWER

- No DC power to pump. Check the battery condition and replace it if necessary.
- The hydraulic pump is low on oil.
- The hydraulic pump is defective.
- A hose leaking hydraulic oil.
- The relief valve has been opened.
- Tower Section is frozen. See Winter Operation in Lowering the Mast Section
- *See Hydraulic power unit trouble shooting section.*

END

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