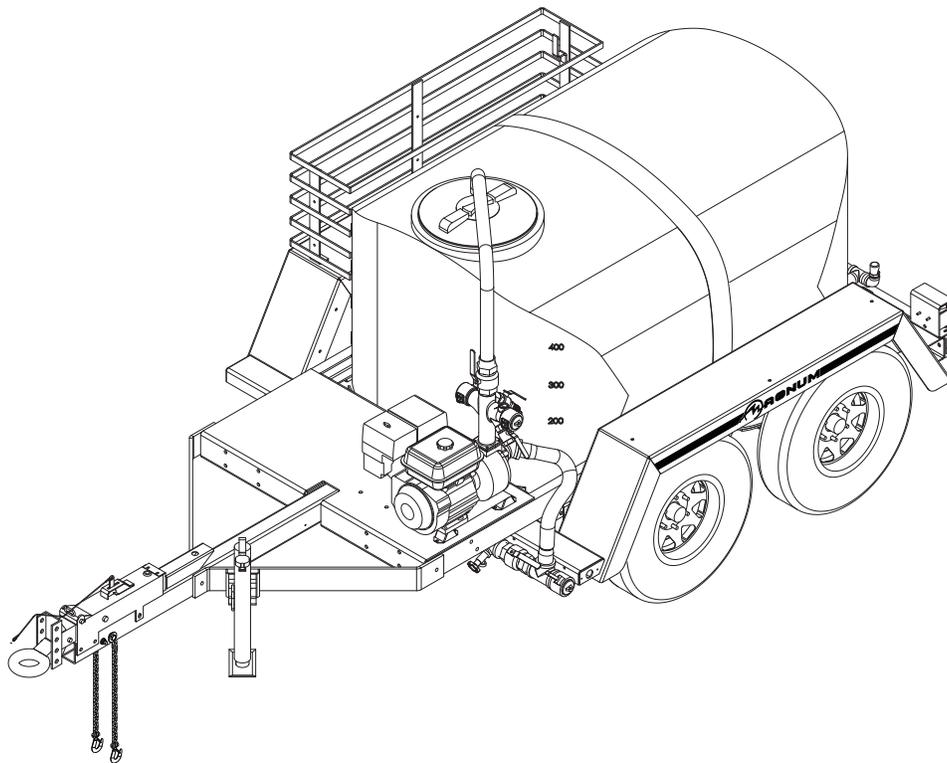




WATER TRAILER MWT500



OPERATING MANUAL

Parts manuals available online! www.m-p-llc.com

INTRODUCTION

This manual provides information and procedures to safely operate and maintain the water trailer. For your own safety and protection from physical injury, carefully read, understand, and observe the safety instructions described in this manual. *The information contained in this manual was based on machines in production at the time of publication. Magnum Power Products LLC reserves the right to change any portion of this information without notice.*

DO NOT MODIFY or use this equipment for any application other than which it was designed for.

Magnum Power Products LLC recommends that a trained and licensed professional perform all electrical wiring and testing functions. Any wiring should be in compliance with the United States National Electric Code (NEC), state and local codes and Occupational Safety and Health Association (OSHA) guidelines.

Keep a copy of this manual with the unit at all times. Additional copies are available from Magnum Power Products LLC, or can be found at www.m-p-llc.com. An engine operator's manual is supplied with the unit at the time of shipment from the factory. The manual provides detailed operation and maintenance procedures for the engine. Additional copies of the engine operator's manual are available from the engine manufacturer.

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For technical or parts QUESTIONS, please contact the Magnum Power Products LLC Customer Support or Technical Support team toll free at 1-800-926-9768. Please have your serial number available.

To ORDER SERVICE PARTS, please contact the dealer from which you purchased the unit, or call Magnum Power Products LLC to locate a dealer in your area.

Pump Make: _____

Pump Model Number: _____

Pump Serial Number: _____

Unit Model Number: _____

Unit Serial Number: _____

▲ WARNING

CALIFORNIA PROPOSITION 65 WARNING: Diesel engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects and other reproductive harm.

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SAFETY NOTES



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death. This manual contains DANGERS, WARNINGS, CAUTIONS, NOTICES and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury or death. The following formatting options will apply when calling the readers attention to the DANGERS, WARNINGS, CAUTIONS, NOTICES and NOTES.

▲ 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, may result in minor or moderate injury.

NOTICE

Indicates a hazardous situation which, if not avoided, may result in property or equipment damage.

Note: Notes contain additional information important to a procedure and will be found within the regular text body of this manual.

OPERATING SAFETY



Before using the water trailer be sure you read and understand all of the instructions! This equipment was designed for specific applications; DO NOT modify or use this equipment for any application other than which it was designed for. Equipment operated improperly or by untrained personnel can be dangerous! Read the operating instructions and familiarize yourself with the location and proper use of all instruments and controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate or set up the pump. The following points should be practiced at all times:

- The area immediately surrounding the water trailer should be clear and free of debris.
- **NEVER** start a unit in need of repair.
- Make sure the engine and pump are shut down before servicing or troubleshooting.
- Keep all body parts, loose clothing and any other obstructions away from moving parts.
- **NEVER** operate unit while tired, distracted, or under the influence of drugs or alcohol.
- **DO NOT** use the water in the supply tank for human consumption.
- Always keep the water tank cover in place. Stay out of tank!
- **DO NOT** drive over the hoses while they are pressurized or while the pump is running.
- **NEVER** leave the unit unattended while the pump is running.
- Keep all people and objects clear of all spray nozzles while the pump is running.
- Make sure lifting devices are attached securely and have enough weight-bearing capacity to lift or hold the equipment safely. Always remain aware of the position of other people around you when lifting or moving the equipment.

ENGINE SAFETY



Internal combustion engines present special hazards during operation and fueling! Failure to follow the safety guidelines described below could result in severe injury or death. Also read and follow all safety warnings described in the engine operator's manual. A copy of this manual was supplied with the unit when it was shipped from the factory.

- **DO NOT** run engine indoors or in an area with poor ventilation unless exhaust hoses are used. Engine exhaust contains carbon monoxide, a deadly, odorless and colorless gas which, if inhaled, can cause nausea, fainting, or death. Make sure engine exhaust cannot seep into closed rooms or ventilation equipment.
- **DO NOT** fill fuel tank near an open flame, while smoking, or while engine is running. **DO NOT** fill tank in an enclosed area with poor ventilation.
- **DO NOT** operate with the fuel tank cap loose or missing.
- **DO NOT** operate on a combustible surface.
- **DO NOT** touch or lean against hot exhaust pipes or engine components.
- **DO NOT** clean air filter with gasoline or other types of low flash point solvents.
- **DO NOT** operate the unit without a functional exhaust system. Prolonged exposure to sound levels in excess of 85 dB(A) can cause permanent hearing loss. Wear hearing protection when working around a running engine.
- Keep hands, feet and loose clothing away from moving parts on the pump and engine.
- Keep area around exhaust pipe and muffler free of debris to reduce the chance of an accidental fire.
- Shut down the engine if any of the following conditions exist during operation:
 1. Noticeable change in engine speed.
 2. Loss of pumping output.
 3. Sparking occurs.
 4. Engine misfires or there is excessive engine vibration.

TOWING SAFETY



Towing a trailer requires care! Both the trailer and vehicle must be in good condition and securely fastened to each other to reduce the possibility of an accident. Also, some states require that large trailers be registered and licensed. Contact your local Department of Transportation office to check on license requirements for your particular unit. Reduce speed when the tank is filled with water. **The tank is not baffled. There will be a noticeable water surge in the tank under heavy braking!**

- Check that the hitch and coupling on the towing vehicle are rated equal to, or greater than, the trailer's Gross Vehicle Weight Rating (GVWR).
- Check tires on trailer for tread wear, inflation and condition.
- **NEVER** tow trailer using defective parts! Inspect the hitch and coupling for wear or damage.
- Make sure the trailer hitch and the coupling are compatible. Make sure the coupling is securely fastened to the vehicle.
- Connect safety chains in a crossing pattern under the tongue and **ATTACH THE BREAKAWAY CABLE TO THE REAR BUMPER OF THE TOWING VEHICLE.** Do not attach the cable to the trailer hitch.
- Make sure directional and brake lights on the trailer are connected and working properly.
- Check that all lug nuts holding wheels on are tight and that none are missing.

- Maximum recommended towing speed for the water trailer are as follows:

With the tank empty, improved road:55 mph (89 km/h)
 With the tank full, improved road:45 mph (72 km/h)
 With the tank 1/2 full, improved road:45 mph (72 km/h)
 Any towing on unimproved roads:20 mph or less (32 km/h or less)

- Make sure all hoses and accessories are drained and properly secured in the storage bin before moving the trailer.

Before towing the trailer, check that the weight of the trailer is equal across all tires. A large angle between the trailer and tow vehicle will cause more weight to be carried by one axle, which could cause premature wear on the tires and axles and cause potentially unsafe operating conditions. Adjust the angle of the trailer tongue to keep the trailer as level as possible.

The trailer is equipped with hydraulic surge brakes or electric surge brakes. Check the operation of the brakes by braking the vehicle at a slow speed before entering traffic. Both the trailer and the vehicle should brake smoothly. If the trailer seems to be pushing, check the level in the surge brake fluid reservoir.

When towing, maintain extra space between vehicles and avoid soft shoulders, curbs and sudden lane changes. If you have not pulled a trailer before, practice turning, stopping and backing up in an area away from heavy traffic.

A film of grease on the coupler will extend coupler life and eliminate squeaking. Wipe the coupler clean and apply fresh grease each time the trailer is towed.

REPORTING TRAILER SAFETY DEFECTS

If you believe your trailer 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 notifying Magnum Power Products LLC.

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 an individual problem between you, your dealer, or Magnum Power Products LLC.

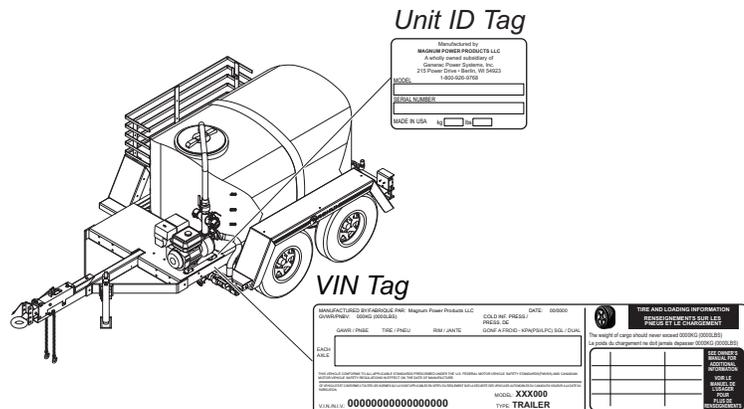
To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-888-327-4236 (TTY:1-800-424-9153), go to <http://www.safercar.gov>; or write to:

Administrator
 NHTSA
 1200 New Jersey Avenue S.E.
 Washington, DC 20590

You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

UNIT SERIAL NUMBER LOCATIONS

Refer to the locations illustrated to find the unit ID tag and VIN tag on your unit. Important information, such as the unit serial number, model number and Vehicle Identification Number (VIN) for your trailer are found on these tags. Record the information from these tags, so it is available if the tags are lost or damaged. When ordering parts or requesting technical service information, you may be asked to provide this information.



SAFETY SYMBOL SUMMARY

This equipment has been supplied with numerous safety and operating decals. These decals provide important operating instructions and warn of dangers and hazards. Replace any missing or hard to read decals and use care when washing or cleaning the unit. Decal placement and part numbers can be found in the parts manual. Below is a summary of the intended meanings for the symbols used on the decals.

 <p>Safety alert symbol; used to alert you to potential personal injury hazards.</p>	 <p>Asphyxiation hazard; operate in well ventilated area.</p>
 <p>Hot surface(s) nearby.</p>	 <p>Keep clear of spray bar.</p>
 <p>Impeller hazard; keep body parts clear.</p>	 <p>Anchor/tie down point.</p>
 <p>Do not stand on this surface.</p>	 <p>Crush/pinch point; keep body parts clear.</p>
 <p>Stop engine before fueling.</p>	 <p>Use unleaded gasoline only.</p>
 <p>Fire/explosion hazard; keep open flames away from unit.</p>	 <p>Do not step on this surface.</p>
 <p>Read and understand the supplied operator's manual before operating unit.</p>	 <p>Hearing protection required when operating unit.</p>
 <p>Splash hazard; stay clear when filling.</p>	 <p>Keep out of tank.</p>

SPECIFICATIONS

Read this manual carefully before attempting to use this equipment. The potential for property damage, personal injury or death exists if this equipment is misused or installed incorrectly. Read all of the manuals included with this unit. Each manual details specific information regarding items such as set up, use and service requirements. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MAGNUM MODEL

MWT500

Pump

Make	Tsurumi
Model	TE2-50HA
Type	Centrifugal
Fitting Type	2" Cam & Groove

Engine

Make	Honda
Model	GX120
Power - net prime* hp (kW)	3.5 (2.6)
Fuel Consumption - 100% net prime gph (Lph)	0.18 (0.68)
Fuel Consumption - 75% net prime gph (Lph)	0.14 (0.53)
Fuel Consumption - 50% net prime gph (Lph)	0.09 (0.34)
Operating Speed rpm	3600

Water Tank

Capacity gal (L)	500 (1895)
Fill Rate	3-4 min. full tank @ full throttle

Dimensions

L x W x H in (m)	160 x 77 x 64 (4.06 x 1.96 x 1.63)
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Weights

Trailer w/ Empty Water Tank lbs (kg)	1747 (792)
Trailer w/ Full Water Tank lbs (kg)	5747 (2607)

Capacities

Fuel Tank gal (L)	0.66 (2.50)
Maximum Pump Output gpm (Lpm)	137 (517)
Maximum Lift Suction ft (m)	28 (8.5)
Total Dynamic Head ft (m)	115 (35)
Maximum Pressure psi (kPa)	49.7 (343)
Maximum Pump Speed rpm	4000

Trailer

Number of Axles	2
Capacity (Axle Rating) lbs (kg)	3500 (1588)
Tire Size	ST225/75D15
Brakes	Hydraulic
Hitch (Standard)	3" Tow Ring
Maximum Tire Pressure psi	65

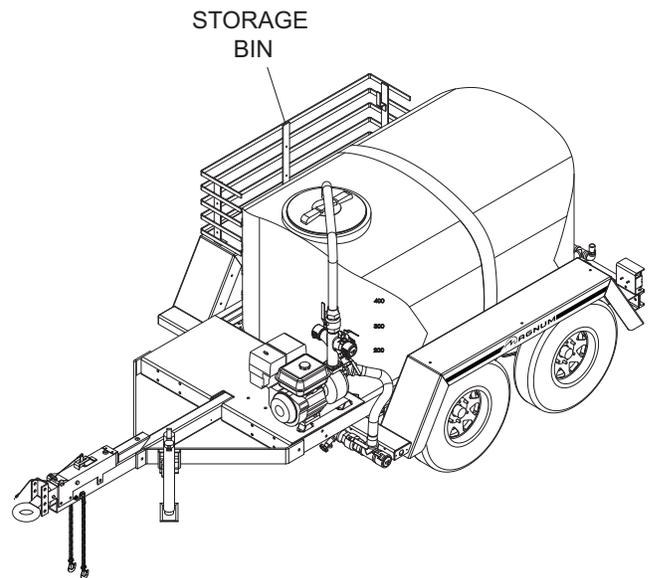
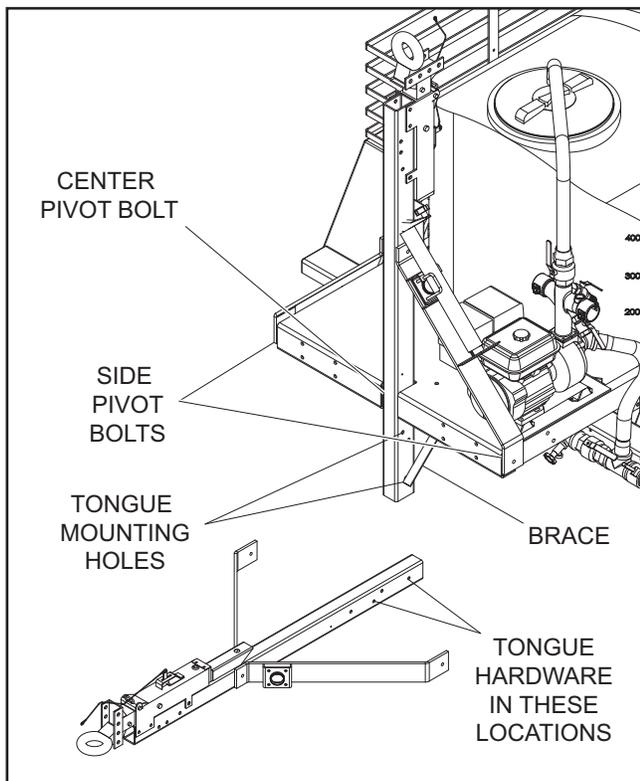
* The power rating of the engine indicated in this document is the net power output tested on a production engine for the engine model and measured in accordance with SAE J1349 at 3600 rpm. Mass production engines may vary from this value. Actual power output for the engine installed in the final machine will vary depending on numerous factors, including the operating speed of the engine in application, environmental conditions, maintenance, and other variables.

PREPARATION FOR USE

1. Block the wheels on both sides of the tire.
2. Loosen the side pivot bolts on both sides of the trailer.
3. Secure the tongue to the base of the tank fill pipe with a rope or chain.
4. Loosen the center pivot bolt and remove the tongue brace and hardware from the trailer frame.
5. Carefully lower the tongue.
6. Insert the tongue hardware in the two tongue mounting holes shown below. **DO NOT** reuse the nylon locking nuts.
7. Tighten all tongue hardware and pivot bolts to 80-109 ft-lbs (108-148 Nm).

NOTICE

This unit was shipped from the factory with the accessories and hoses inside the tank. Remove the hoses and accessories before using this equipment. Make sure all items are secured to the hose storage bin before moving or towing the water trailer. Failure to do so may result in loss of equipment, property damage, or personal injury.



FILLING THE WATER TRAILER

NOTICE

The tank can only be used with polyethylene tolerant fluids. Use of the tank with incompatible chemicals will cause leaks or tank failure. The tank is NOT fire resistant. Never expose the tank to open flame or excessive heat. Protect the tank from sharp impacts, especially in cold temperatures. Keep sharp objects away from the tank to avoid punctures.

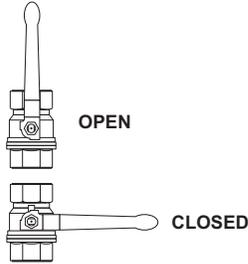
To fill the tank from a hydrant:

1. Remove the tank cover (A).
2. Open valve 1 and close valves 2, 3 and 4. Make sure the gravity drain bibb (H) is closed.
3. Attach the hydrant adapter to the hydrant. Attach the threaded end of the 2" rigid fill hose to the hydrant adapter.
4. Remove the end plug (B) from the upper manifold. Attach the cam-lock fitting on the 2" rigid fill hose to the manifold and secure the cam-lock fitting. Make sure there are no bends or sharp kinks in the fill hose.
5. Slowly open the hydrant valve. The tank should begin to fill from the supply pipe (C) by the municipal water pressure.
6. Fill the tank to the desired level and close the hydrant valve.
7. Remove the 2" rigid fill hose from the hydrant and allow the hose to drain. Remove the hydrant adapter and then remove the hose from the cam-lock fitting on the upper manifold. Return the hose and hydrant adapter to the storage bin.
8. Replace the end plug on the upper manifold (B) and secure the cam-lock fitting.
9. Replace the tank cover (A).

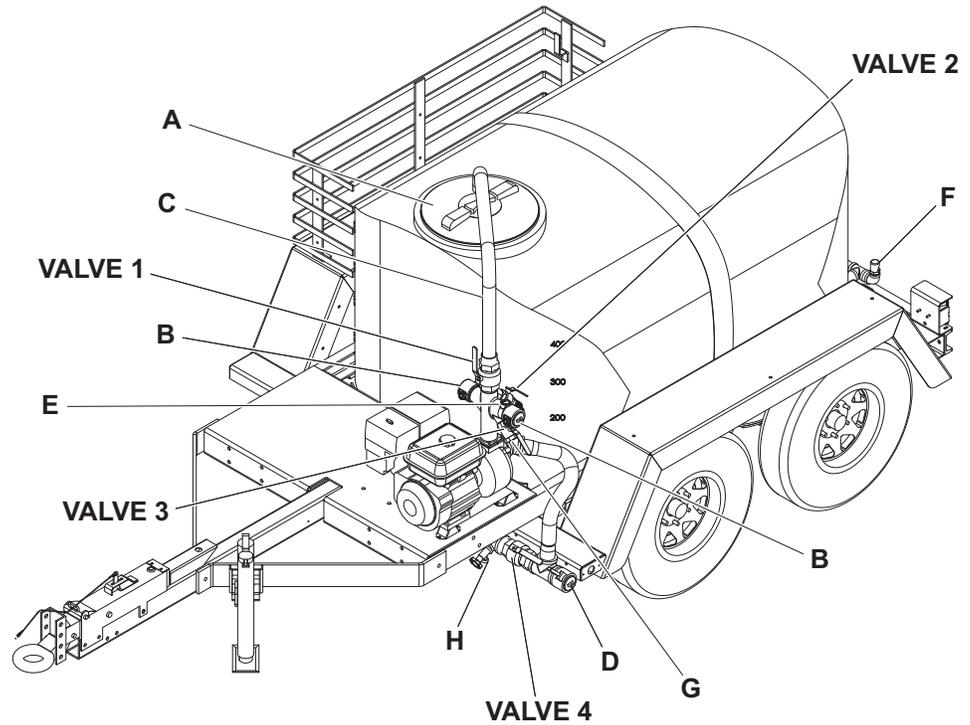
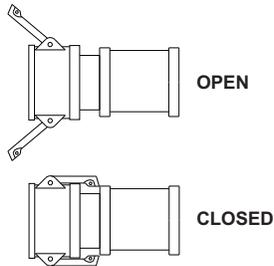
To fill the tank from a body of water:

1. Remove the tank cover (A).
2. Open valve 1 and close valve 2, 3 and 4. Make sure the gravity drain bibb (H) is closed.
3. Remove the end plug from the lower manifold (D). Attach the cam-lock end of the 2" rigid fill hose to the cam-lock fitting (D).
4. Attach the basket strainer to the threaded end of the 2" rigid fill hose and put the hose into the water supply.
5. Prime the pump by filling the pump housing through the access hole (E) on the top of the pump housing. Start the pump engine. Refer to the engine owner's manual for proper starting and operation procedures. The tank should begin to fill from the supply pipe (C).
6. Fill the tank to the desired level and stop the pump engine.
7. Close valve 1. Remove the 2" rigid fill hose from the cam-lock fitting on the lower manifold (D) and allow the hose to drain. Return the hose to the storage bin.
8. Replace the end plug on the lower manifold (D) and secure the cam-lock fitting.
9. Replace the tank cover (A).

BALL VALVE OPERATION



CAM-LOCK FITTINGS



DISCHARGING FROM THE WATER TRAILER

⚠ DANGER

NEVER REACH INTO THE PUMP HOUSING TO CLEAR DEBRIS WHEN THE PUMP ENGINE IS RUNNING. SERIOUS PERSONAL INJURY MAY RESULT!

⚠ WARNING

DO NOT use the water in the supply tank for human consumption! Even if the water being put into the tank is potable, it cannot be used for human consumption because the storage tank is not made of food grade material.

⚠ WARNING

Keep all people and objects clear of all spray nozzles when the pump is running. Property damage or personal injury could result.

To discharge from the rear spray nozzles:

1. Open valve 4 and close valves 1, 2 and 3. Make sure the gravity drain bibb (H) is closed.
2. Start the pump engine. Refer to the engine owners manual for proper starting and operation procedures.
3. With the engine running, open valve 2. The tank should now discharge from the rear spray nozzles (F).
4. If required, tow the trailer through the desired area. Keep the trailer level by adjusting the ring hitch on the surge brake coupler.
5. Once the tank is empty, shut the pump engine off. Close valves 1 and 4.

To discharge from the 2" flexible spray hose:

1. Close valves 1, 2, 3 and 4. Make sure the gravity drain bibb (H) is closed.

2. Remove the end plug (B) from either side of the upper manifold. Attach the cam-lock fitting on the 2" flexible spray hose to the manifold and secure the cam-lock fitting. Make sure there are no sharp bends or kinks in the 2" flexible spray hose and make sure the nozzle is closed.
3. Open valve 4.
4. Start the pump engine. Refer to the engine owner's manual for proper starting and operation procedures. The 2" flexible spray hose should pressurize and be ready for use. Twist the hose to turn on and off, and to adjust the fanning spray.
5. Once the tank is empty, shut the pump engine off. Remove the 2" flexible spray hose from the upper manifold and allow the hose to drain. Return the hose to the storage bin.
6. Replace the end plug on the upper manifold (B) and secure the cam-lock fitting.
7. Close valve 4.

To discharge from the 5/8" flexible spray hose:

1. Close valves 1, 2, 3 and 4. Make sure the gravity drain bibb (H) is closed.
2. Attach the 5/8" flexible spray hose to the fitting (G) on the end of the upper manifold. Make sure there are no sharp bends or kinks in the 5/8" flexible spray hose.
3. Open valve 4.
4. Start the pump engine. Refer to the engine owner's manual for proper starting and operation procedures.
5. Open valve 3. The 5/8" flexible spray hose should pressurize and be ready for use.
6. Once the tank is empty, shut the pump engine off. Remove the 5/8" flexible spray hose from the upper manifold and allow the hose to drain. Return the hose to the storage bin.
7. Close valves 3 and 4.

To discharge from the lower manifold gravity drain bibb:

1. Close valves 1, 2, 3 and 4.
2. Attach the 5/8" flexible spray hose to the lower hose bibb (H). Make sure there are no sharp bends or kinks in the 5/8" flexible spray hose.
3. Open the lower hose bibb (H). The tank should drain through the 5/8" flexible spray hose.
4. Once the tank is empty, close the lower hose bibb (H). Remove the 5/8" flexible spray hose from the lower hose bibb (H) and allow the hose to drain. Return the hose to the storage bin.

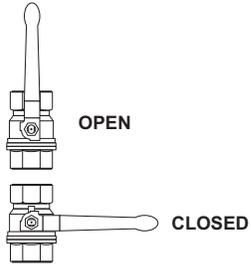
⚠ WARNING

DO NOT allow the pump to run dry. DO NOT run the pump engine with all the valves closed. The pump will overheat, causing severe equipment damage. Never leave the unit unattended when the pump engine is running!

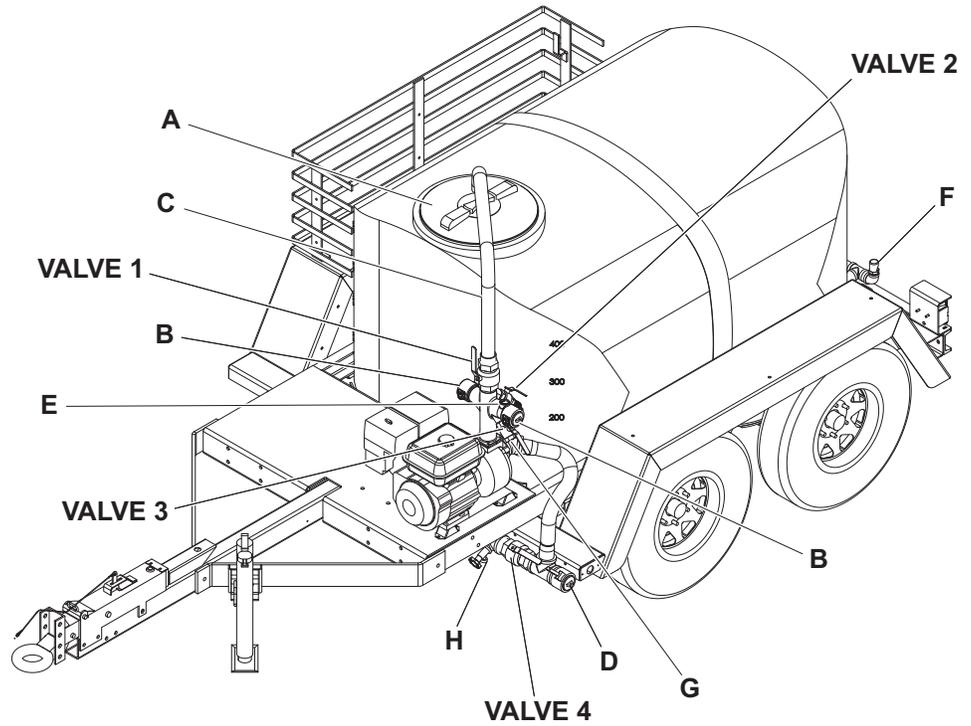
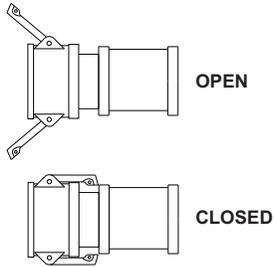
⚠ WARNING

DO NOT drive over the hoses while they are pressurized or if the pump is running. This will cause a rapid increase/decrease in line pressure. This condition could damage the pump engine, pump housing, or rupture hoses, causing injury to people nearby.

BALL VALVE OPERATION



CAM-LOCK FITTINGS

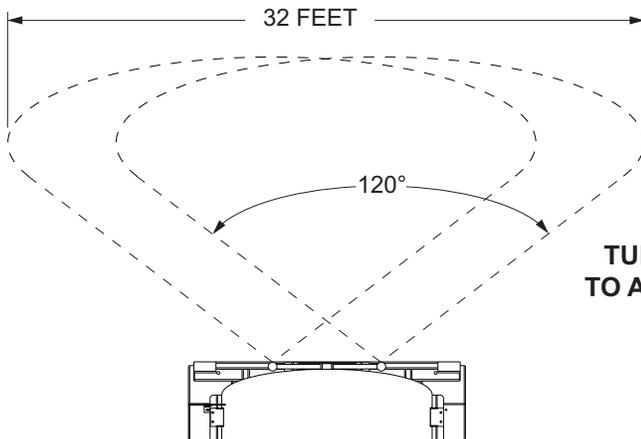


REAR SPRAY BAR ADJUSTMENT

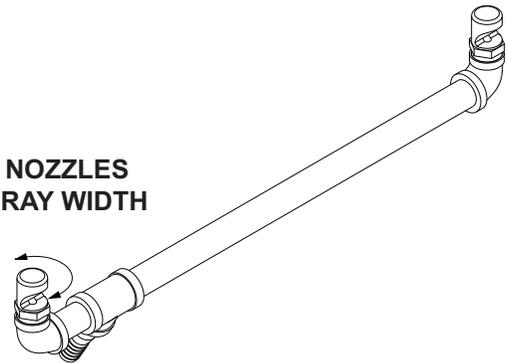
The rear spray bar discharges water in a fan shaped pattern, approximately 32 ft (9.75 m) wide. Depending on the application or job requirements, the spray pattern can be adjusted in a wider or narrower pattern.

⚠ WARNING

NEVER attempt to adjust the spray nozzles, valves, or hoses when the pump engine is running.



TURN THE SPRAY NOZZLES TO ADJUST THE SPRAY WIDTH



WATER TRAILER MAINTENANCE

▲ WARNING

NEVER attempt to perform any maintenance procedures when the pump engine is running. Failure to shut the pump engine down could result in serious personal injury.

The following items should be checked EVERY DAY:

- Engine oil level in the pump engine.
- All hoses, valves and couplings for leaks or bulges.
- Brake fluid level in the surge brake coupler or battery connections on electric brake models.
- Trailer tires for proper inflation and wear.
- All trailer lights and wiring.
- Make sure all of the hoses and accessories are accounted for and securely fastened to the storage bin.
- Check all lug nuts on the trailer wheels for tightness.
- Check all hardware for tightness. Tighten or replace any loose or missing components.
- Grease the trailer axle bearings every three months or 1000 miles.

Keep the water trailer free of mud, oil, or chemicals. When washing the trailer, do not spray water on the engine or surge brake coupler. Replace any missing or hard to read decals immediately; contact your Magnum Power Products LLC dealer for replacements.

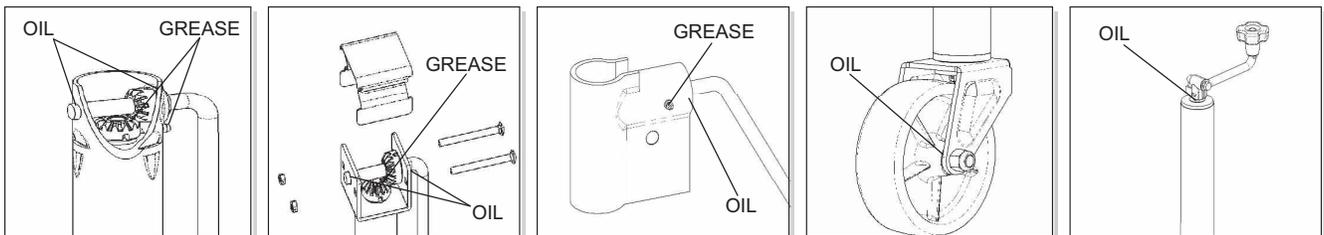
This water trailer is designed for specific applications. Do not modify or use this unit for any application other than which it was designed for.

PUMP AND ENGINE MAINTENANCE

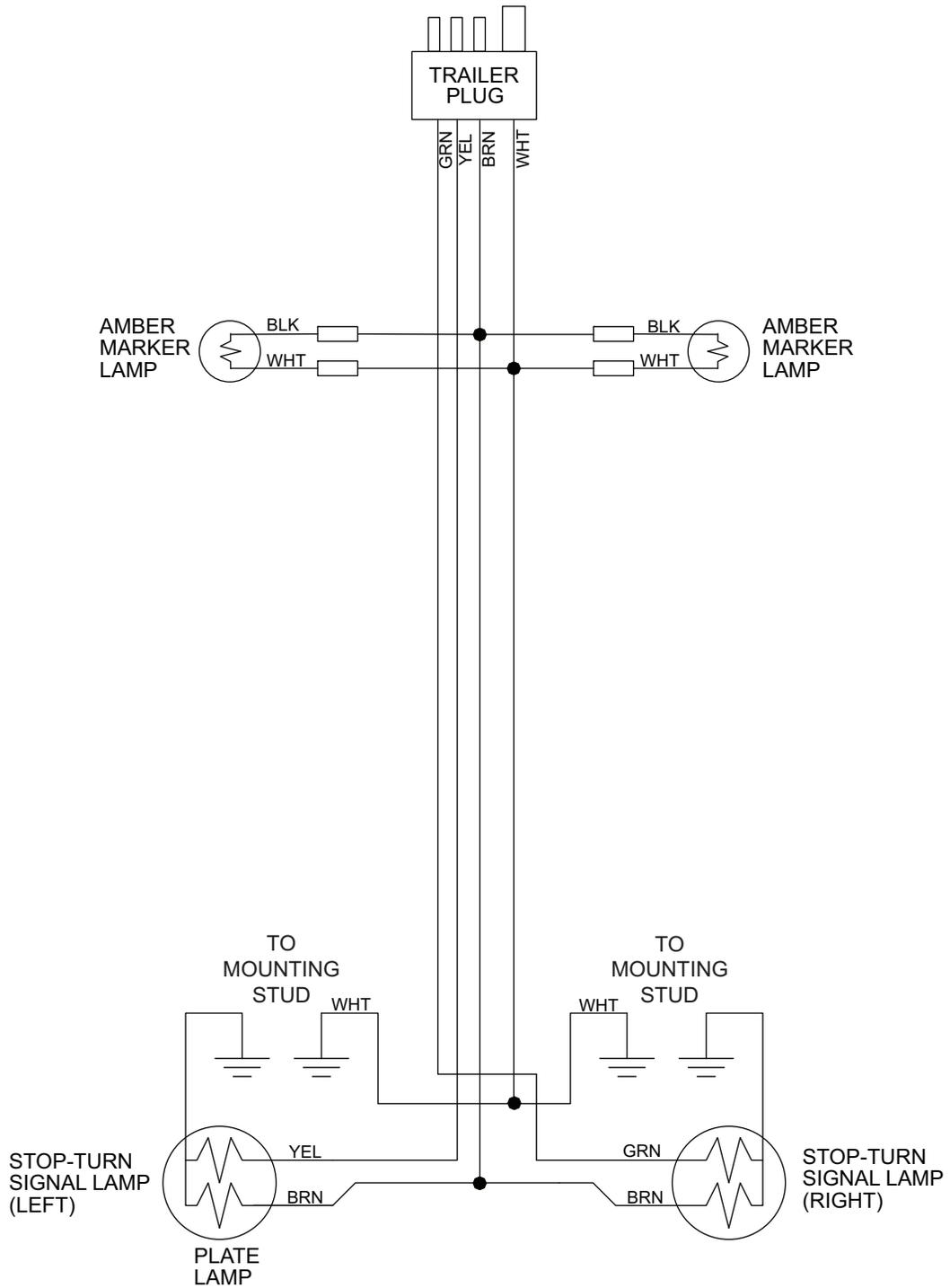
Consult the pump instruction manual and the engine owner's manuals that were supplied with this unit for periodic maintenance procedures. If the water trailer is going to be stored for an extended period of time, certain precautions must be taken to ensure reliable start up in the future. Consult the pump instruction manual and the engine owner's manuals that were supplied with this unit for long term storage procedures.

JACK MAINTENANCE

The following procedures should be performed at least annually: For side-wind models, the internal gearing and bushings of the jack must be kept lubricated. Apply a small amount of automotive grease to the internal gearing by removing the jack cover, or if equipped, use a needle nose applicator or standard grease gun on the lubrication point found on the side of the jack near the crank. Rotate the jack handle to distribute the grease evenly. A lightweight oil must be applied to the handle unit at both sides of the tube for side-wind models. If equipped, the axle bolt and nut assembly of the caster wheel must also be lubricated with the same light weight oil. For top-wind models, apply a lightweight oil to the screw stem.

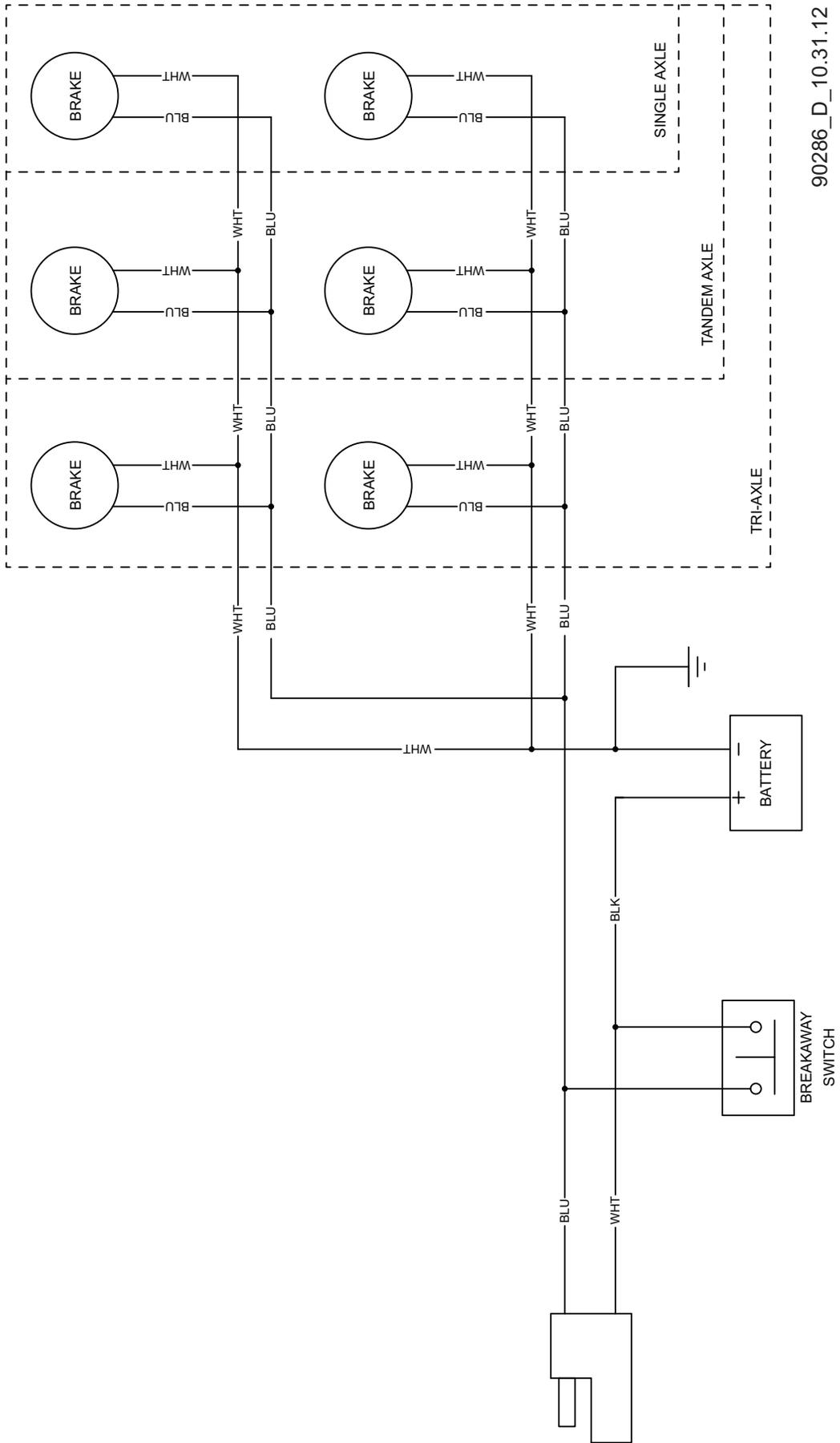


TRAILER WIRING DIAGRAM



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WIRING HARNESS - ELECTRIC BRAKE OPTION



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PART NO: 40859
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