



# SPARTAN TOOL

FOR TOUGH CUSTOMERS. SINCE 1943.



## PRODUCT MANUAL Model 738

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Part #73800000



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# Warnings

- Read the safety and operating instructions before using any Spartan Tool product. Drain and sewer cleaning can be dangerous if proper procedures are not followed and appropriate safety gear is not utilized. Read the engine owners' manual for instructions and safety precautions on engine operation.
- Gasoline is extremely flammable and is explosive under certain conditions.
  - Refuel in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.
  - Do not overfill the fuel tank (there should be no fuel in the filler neck). After refueling, make sure the tank cap is closed properly and securely.
- Before starting unit, be sure to wear personal protective equipment such as safety goggles or face shield and protective clothing such as gloves, coveralls or raincoat, rubber boots with metatarsal guards, and hearing protection.
- Carbon monoxide exhaust and/or gasoline fumes from this equipment can create a hazardous atmosphere in confined spaces (which may include, but are not limited to, manholes and septic tanks), closed garages or other areas which may not be properly ventilated. In particular, excess gasoline fumes can create an explosion hazard. Such hazardous atmospheres can cause death or severe injury. Do not operate this equipment with its cart (used to house the engine and gasoline tank) located in any confined space or area with inadequate ventilation. Operate this equipment only when the cart is located outdoors or in an open, well-ventilated area.
- Ensure the jet hose has been placed in the pipe a minimum of 6 feet before engaging the water pressure to prevent the hose from coming out of the pipe prematurely and causing injury.
- Always shut off the water pressure before pulling the hose out of the pipe. Mark the hose a minimum of 6 feet from the end to help ensure the hose is not accidentally pulled out of the pipe while still under pressure. Shut off the water pressure when the hose mark is encountered.
- Never point the wash gun at anyone while operating the unit. Injury may result.
- Drains and sewer can carry bacteria and other infectious micro-organisms or materials which can cause death or severe illness. Avoid exposing eyes, nose, mouth, ears, hands, and cuts and abrasions to waste water or other potentially infectious materials during drain and sewer cleaning operations. To further help protect against exposure to infectious materials, wash hands, arms and other areas of the body, as needed, with hot, soapy water and, if necessary, flush mucous membranes with water. Also, disinfect potentially contaminated equipment by washing such surfaces with a hot soapy wash using a strong detergent.
- For any questions, contact Spartan Tool at the address shown below.



**CAUTION:** Portions of the system can still be under pressure even if the unit is not operating.

## CONTACT US

Spartan Tool LLC  
1618 Terminal Rod  
Niles, MI 49120  
800.435.3866  
SpartanTool.com

### CALIFORNIA PROP. 65

This product may contain an extremely small amount of lead in the coating. Lead is a material known to the State of California to cause cancer or reproductive toxicity.



## GENERAL

- Pipe Sizes: up to 12" diameter
- Max Water Pressure: 2,000 psi
- Max Water Flow: 12 GPM

## TRAILER

- Gross Vehicle Weight Rating (GVWR): 2125 lbs
- Hitch: 2" Ball Type (Class II)
- Tires: ST 175-80-R13, Blackwall
- Trailer Weight (Empty): 875 lbs
- Max Tongue Weight: 75 lbs
- Length x Width x Height: 120" x 57" x 48"
- Tank Capacity: 150 gal
- Wheels: 13"
- Maximum Recommended Towing Speed: 55 mph

## ENGINE

- 2 cylinder, air-cooled gasoline engine
- Model: 41.19 cu in (675cc) twin-cylinder
- Horsepower: 19 HP V-Twin
- Bore & Stroke: 2.96" x 2.99"
- Oil Capacity (with filter): 1.5 US qt
- Alternator: 15 Amp
- Starter: Electric
- Battery: 12 VDC

## PUMP

- Max Pressure: 2,000 psi
- Max Water Output: 12 GPM
- Max Temperature: 140° F
- RPM: 1460

- Plungers: 3

## FEATURES

- Triplex ceramic plunger pump delivers 2,000 psi at 12 GPM
- Electric start engine
- Automatic low-water shutoff
- Air-purge system protects against cold weather conditions
- 8-gallon fuel tank
- Equipped with 3/8" x 250' hose and open and closed nozzles
- Easily accessible pump inlet filter assembly
- Axles are torsion design with fully independent wheel suspension
- Pre-Wired lighting with standard 5-Pole plug
- Pivoting hitch jack with caster wheel provided on trailer tongue

## SAFETY

- 12" nozzle anti-turn device
- Bright colored 15' leader hose

## SKID-MOUNTED

- Compact installation for vans, trucks, pick-ups, and flatbed vehicles
- 90° pivoting multi-position hose reel
- Manhole hose protector included

## TRAILER

- Maneuverable by one person, even with a full water tank
- Rear-mounted operator controls
- Wide-track chassis
- 13" tires with spoke wheels
- 150-gallon water tank
- Locking toolbox
- 5-position nozzle holder
- Folding jackstand with wheel



# Jet Applications Areas

There are a wide variety of uses for the Spartan Model 738 Water Jet. Here are just a few:

- Apartments/Hotels  
Mains and garage drains, remove all grease and debris from main lines under the buildings.
- Factories  
Food processing plants and foundries have frequent drain and sewer blockages. Set up preventive maintenance contracts to avoid risk of total plant shutdown.
- Farms, Rural  
Clean and spray barns, pens and heavy farm equipment, revitalize drain field in septic systems and field tile.  
Clear blockages in liquid manure system.
- Housing Authorities  
Any drains, laundry lines, garbage chutes, clean-outs and many grease-removing applications.
- Institutions  
Clean-running drains and sewer lines are a "must" in hospitals, schools, prisons. Use in kitchens, remove lime deposits on buildings and clean parking lot drains.
- Municipals  
Open culverts for proper flood control, wash down manholes, clean lines in wastewater treatment plants.
- Residential  
Clean drain lines, septic lines, field tiles, culverts, swimming pools, surface cleaning and sandblasting.
- Restaurants  
Grease in drains is always a problem - Your Spartan Water Jet actually removes grease from the lines instead of simply punching a hole through the blockage, risking reaccumulation downstream.



Before hitching and towing on public roads, check that the tow vehicle uses a 2" ball on a hitch rated class II minimum, make sure keeper engages ball to secure hitch. Adjust if necessary.

*Because of the inherent water tank sloshing when towing, pull your jet empty at all times.*

The following 2 rules may limit your vehicles towing capacity and the tank fill level when towed. Determine towing capacity as described below and follow guidelines in using the lowest value from the 2 rules.

## TRAILER HITCH

Check rating of vehicle's trailer hitch

- Class 2 - 3,500 lbs. Towing capacity is required.

## VEHICLE GCWR (GROSS COMBINED WEIGHT RATING)

Towing capacity = GCWR minus vehicle weight minus cargo weight minus passenger weight.

- Note: GCWR is provided on your vehicle or in vehicle manual.

## VEHICLE TOWING CAPACITY

- Refer to the Vehicle Owners Manual for listed trailer towing capacity.
- Trailer towing capacity should equal GCWR minus vehicle weight, cargo weight, people weight, and (vehicle) fluids weight.
- Check axle load rotatings.

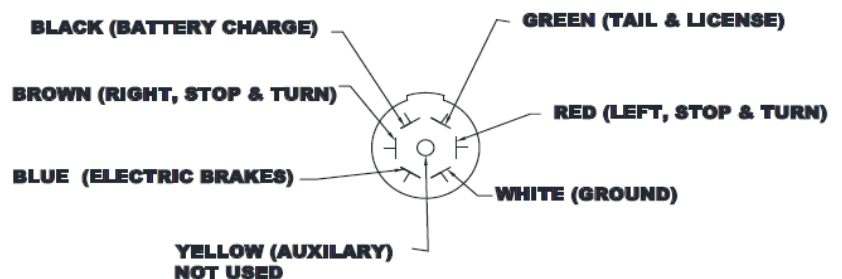
Wire the plug receptacle to your vehicle as show below.

- Note: The wire colors used on the jet running lights are also indicated in Fig. 7-1 for re-wiring to a different plug design.



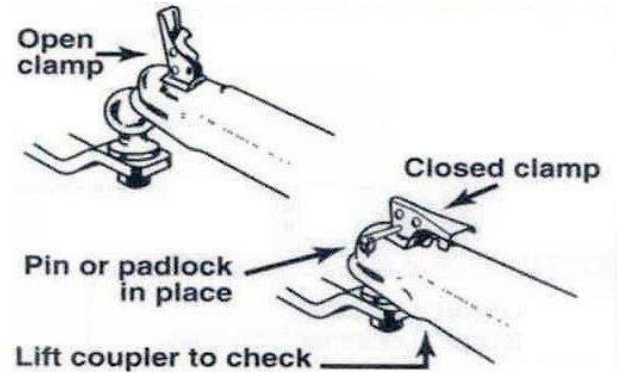
- Always use trailer lights.

View Looking Toward Receptacle



**FIG. 7-1**

# Towing Instructions



**NOTE:** The coupler will need to be adjusted up or down depending on vehicle hitch height to ensure the jetter is towed level.

## TOWING

1. Check that ball size is same as coupler.
2. Check that Ball Load Rating is the same or greater than Coupler Load Rating
3. Open clamp on hitch coupler.
4. Position hitch coupler above trailer hitch ball.
5. Lower trailer tongue until ball rests in ball socket.
6. Close hitch coupler clamp and secure with a pin or padlock.
7. Cross safety chains underneath coupler. Allow slack for trailer to turn. Attach chain hooks securely to tow vehicle frame.



**CAUTION:** Avoid sharp turns. This could bend, create extreme stress or fracture either the actuator or trailer tongue.

8. Fully retract hitch jack and remove caster wheel. This will provide adequate ground clearance for transport.
9. Return high pressure reel to towing position, engage the transit lock, and confirm reel lock is engaged.
10. You are now ready to tow your trailer. Maximum Recommended Towing Speed is 55 mph.



**CAUTION:** Always use safety chains. Chains hold trailer if connection fails.



# Pump and Pressure System



The pump and relief valve are the heart of your jet. They have been specifically designed for use with cold water (140°F max) for pipe jetting but can provide useful water flow for many other cleaning jobs using the optional wash down gun and special attachments. The positive displacement pump (each crankshaft revolution has to move a certain amount of water) uses 3 plungers (similar to pistons in an engine) to create water flow. Pressure is not created until the pump outlet is restricted with a valve or nozzle. The pump, valving, and hoses can support pressures up to 2,000 PSI.

- The regulator valve acts to direct the water flow to the water tank when the hose reel and gun valves are off or if nozzles provide too much restriction for total flow.
- Always use clean water to keep the regulator valve operating properly.
- The hose and nozzle are designed to allow full flow at 2,000 psi (3,200 engine rpm), and the wash down gun operates at 1,600 psi max pressure.
- If leaks develop in the system between the relief valve and hose reel valve (or gun valve) you will hear intermittent engine surges in by-pass as the by-pass pressure gradually drops and is built up again by the pump. Tighten or otherwise repair the leaks for smooth running.
- Always stop engine and release pressure before any plumbing changes or repairs.



**CAUTION:** Because of the inherent hazards with high pressure, use only Spartan high pressure hoses and components when repairing your machine.



If the nozzles become worn or if the gun is used with the jet hose, the regulator valve allows the same total flow but at a lower pressure because the restriction is lower. Replace the nozzles in order to maintain the desired pressure.

If nozzles become plugged, the regulator valve will direct some of the flow back to the water tank while providing pressures over maximum regulator setting. If these pressures are seen with normal engine speed (3,200 RPM) check and clean the nozzles. When using optional lengths of 1/4" hose the operating pressure can also exceed maximum setting at full GPM. Reducing engines RPM will produce lower pressures to prevent regulator valve from by-passing off and on. Continued operation at pressures over 2,000 PSI can cause engine overheat and reduce engine life.



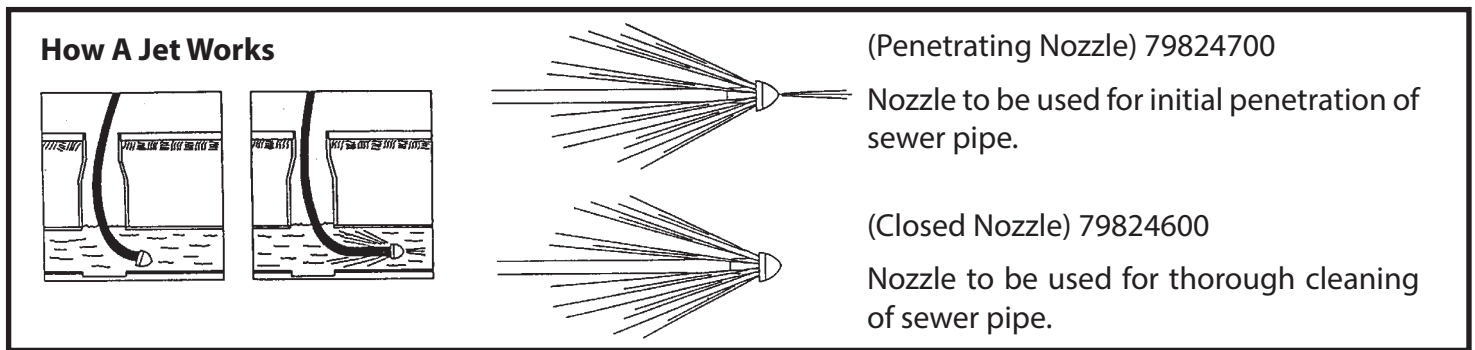
# High Pressure Water Jetting

High pressure water jetting is the utilization of high pressure water combined with sufficient water flow to remove debris in drain/sewer pipes. High pressure water jetting alone cannot do the job. You need proper flow to wash debris downstream where it can be collected and removed. High pressure water jetting can also be used to remove debris on surfaces.

A high pressure water jet consists of a pump, a motor or engine, a hose reel, a given length of hose, and a various assortment of nozzles.

A pipe is cleaned with a high pressure water jet by directing water pressure and flow through a nozzle. Controlled water pressure and flow propels a water jet through the sewer pipe allowing it to remove and wash away the obstruction (See Fig. 11-1).

Ideally, a sewer pipe is cleaned from the lower end of the pipe and the hose propels itself to the higher end of the pipe. By slowly withdrawing the jet hose, the water pressure and flow cleans the line most effectively. When it is impossible to clean from the lower end of the pipe, the pipe must be water jetted several times to remove all the debris. A skilled operator can effectively clean a drain/sewer regardless of the obstacles in his or her way.



**Fig. 11-1**



# Water Tank Filling

Fill the water tank from a clean water source. Always flush rust out of hydrants before connecting fill hose (with garden hose fitting) to top fill valve. Your water supply hose may remain connected for further filling by controlling water flow at fill valve.

**NOTE:** If the next 4 items are not followed, cavitation of the pump could occur and reduce operating efficiency and severely damage the pump:



- Use water temperatures under 140°F.
- Ensure that water strainer is clean (check daily as needed).
- Make sure the strainer valve (between the tank and the pump) is fully open during operations. This valve stops tank flow to allow strainer service.
- The pump drain valve must be closed. It must not drip when engine is off and strainer valve is open.



## START UP

1. Check water tank level. This water jet is equipped with a low water shut-off switch that will prevent the engine from starting at low water levels.
2. Check fuel level.
  - **Note:** Also check engine and pump oil levels per manufacturer specifications (attached).
3. The hose reel valve may generally be placed on the ON (up) position during starting. However for manual start or marginal battery charge conditions, place the hose reel valve in the OFF (down) position for ease of starting.
4. Key-start the engine. Choke as necessary. Allow the engine to warm up at idle for 1 minute minimum.

## ENGINE SHUT-DOWN

1. Turn the engine key switch OFF. (The engine key switch must be OFF when the engine is not running to avoid battery draining.)



# Operation Set Up

Always locate the jet in the driest and safest place possible. Avoid high traffic areas and use flashers and safety cones. Position the jet so that the hose can be pulled directly off of the reel for use. Remember that jetting is most effective when you jet against the water flow. See Fig. 13-1 for the recommended positioning of the jet for best visibility during manhole work.



**NOTE:** Loosening the hose and damaging corners are minimized when the jet is parked as shown.

When operating upon unlevel ground, position the trailer with the hitch (tank sump) end pointed downhill.

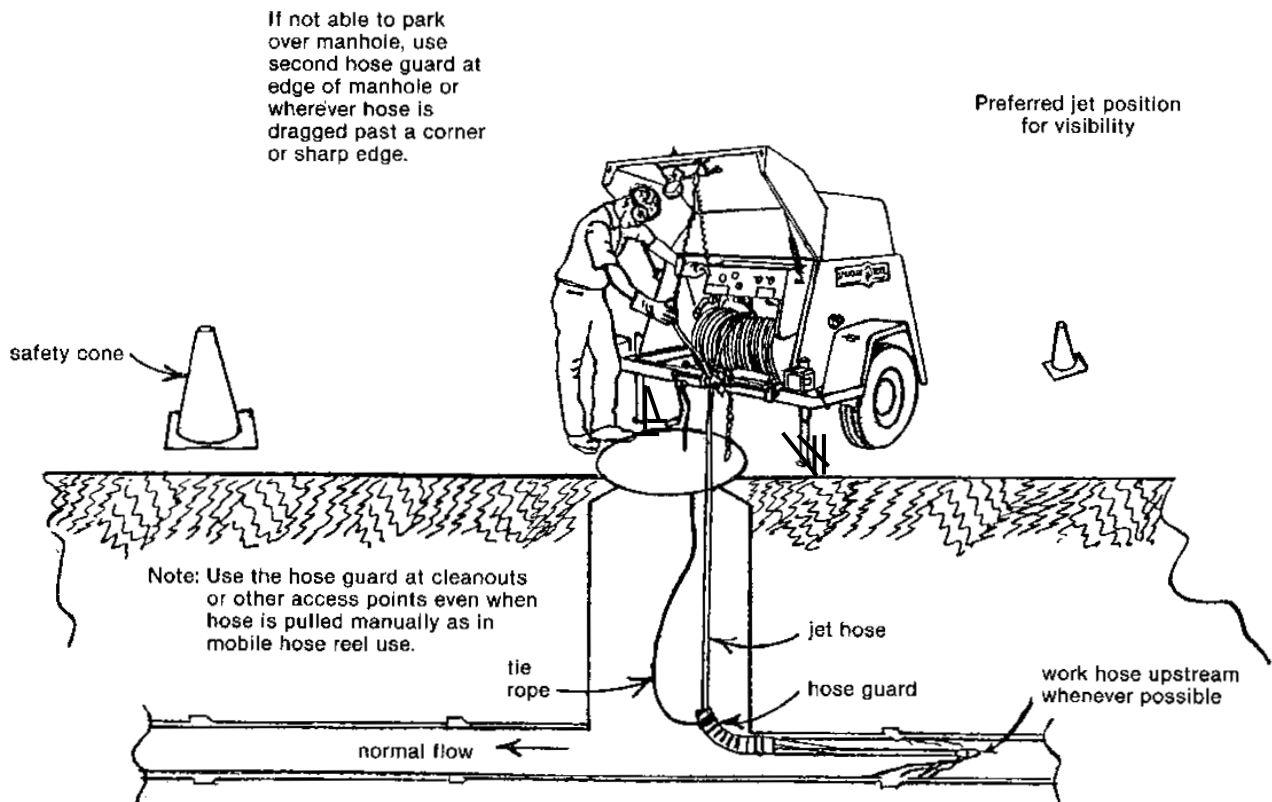
For non-manhole use, allow extra space for handling the hose before it is wound back on the reel or run the hose directly to the pipe inlet using extra hose guards to protect the hose from cutting when going around corners.



**WARNING:** Do not unhitch or operate trailer jet unhitched upon unlevel ground.

When unhitching the machine from towing vehicle, always follow these steps:

1. Place wheel chocks around trailer jet wheels
2. Lower hitch jack and pin clamp securely.
3. Disconnect ball hitch by raising the lever and jacking hitch up. Disconnect safety chains and light cord before driving away.



**Fig. 13-1**

# Operating Instructions



- Release the reel lock. Select and install the nozzle, hose guard(s) and roller guides.
- Always insert sewer hose several feet into the pipe opening before actuating hose reel valve. Never stand in front of the pipe opening when nozzle is near pipe opening. As described in "Setup Section," work upstream whenever possible.
- You are ready to start pipe cleaning operations after tank filling and engine starting procedures are followed. Advance engine throttle to full speed.



**NOTE:** At this time, put on safety goggles to prevent eye injury from flying water and debris.

- Now move the hose reel valve ON (up) and let out the hose as the nozzle pulls into the pipe. Untwist hose kinks as necessary before they enter the pipe. Proceed slowly and cautiously.
- Pull back 1-2 feet for every 4-5 feet of progress to make sure the hose is not burying itself or tying itself up in an open cavity or larger pipe. Continue working up the line while watching and feeling for speed changes as the nozzle makes its way into a blockage.
- When working over a manhole, you often will see dirty water, chunks of grease or debris flow past as the nozzle penetrates a blockage. When backed up water flows, the line is probably open. Continue working up the line to open restrictions as desired.
- Pull the "working" nozzle back slowly to re-clean and scour the pipe walls. When working through heavy and long blockages you may have to flush debris back to the machine every 5-10 feet. Repeat until the water runs clean from the pipe.



**WARNING:** Do NOT let engine run at full throttle without load (hose reel valve OFF) for longer than 1-2 minutes.

- The Model 738 will put out past 250' feet but you will find the going slower due to the pressure loss from the extra hose length. Unless longer operation is common, we recommend the hose extensions be added only when needed. If moving the jet before the job is done, the hose can be disconnected from the jet to avoid pulling hose completely out of the pipe and restarting.
- When finished, turn the water valve off (down) before removing the nozzle from the pipe.



**HINT:** Wind white tape around hose (a minimum of 6 feet from the end recommended) to warn of nozzle being too close to the pipe opening.

- Wind hose back onto reel, remove hose guard and install the hose end and nozzle in the holder. Put the pin in place. Lock the reel. Store all parts in tool box compartment. Idle engine for 30 seconds before stopping engine.



**REMINDER:** Engine key switch must be off to prevent battery drain when not using. Reverse setup instructions, drain tank and disconnect fill hose.

- Replace the manhole cover or pipe caps and clean up the machine before leaving the job site.

## OPERATING HINTS

The following techniques can be tried if the going gets slow.

- Grab the hose into an "S" shape and twist the hose to help it get around corners and off of pipe edges (see Fig. 8).

# Operating Instructions

- Turn the water valve off and pull the hose back out of the line. Look for traces of clay or other material to determine if nozzle is burying itself outside of the pipe.
- Try different nozzle or different pipe openings.
- Walk to nearby buildings and manholes and listen for a water sound to determine if hose is going where it should. The hose may tie itself up in a manhole and need help going into the next pipe. Use a pole or pipe to guide hose so entering the manhole can be avoided.

## PIPE JETTING PROCEDURE

- Although the Model 738 is capable of various high pressure cleaning operations, jetting pipes of 4" - 10" is typically the major work required of the jet. The hose reel is designed for outdoor applications. See sections on the mobile hose reel and 1/4" drain hose for indoor or remote applications and for lines smaller than 6".
- For **safety** reasons, always operate with 2 people when the pipe entrance is away from the jet location; one person should stay near the jet to control the machine operation while the other person works the hose and nozzle. The mobile hose reel should be used for remote control whenever the second person cannot be seen or heard by the machine operator.
- The sewer hose should always be replaced when the reinforcement cord can be seen due to a worn cover.
- The Model 738 nozzles are designed to match the pressure and flow performance of your jet. They are key to efficient operation because they convert all of the engine and pump power to water speed for hose pull and for cleaning impact.
- Nozzles "738 Closed" (73809400) and "738 Open" (73809300) are standard equipment. See parts section for part numbers to order additional nozzles or root cutters. Nozzle holes will wear after several months of continuous use. If the system operating pressure drops, try a new nozzle to check for wear. Check for nozzle plugging occasionally by removing the nozzle from the hose and holding up to the light. Clean by inserting small diameter wire if necessary. Plugged nozzles will cause poor hose pull even though the gauge pressure will show higher.

## ENCOUNTERING OBSTRUCTIONS

- When obstruction or corners are encountered it may be necessary to manually rotate the hose (See Fig. 8) to enable feed through that area. The rotation will cause the jetting nozzle to jump over or around those areas. When it becomes necessary to manually rotate the hose to clear obstructions, any rotations in one direction must be followed by an equal number in the opposite direction to prevent kinks from building in the hose.
- At times, it will be necessary to move the hose slightly in and out of the drain line to assist the jetting nozzle in clearing stubborn clogs, obstructions, or tight corners (See Fig. 9).



Fig. 8



Fig. 9



## WASH DOWN GUN

To use the wash-down gun, do the following:

1. Turn off by-pass valve (down).
2. Connect wash-down gun hose to end of 250 ft. hose.
3. Start unit and operate wash-down gun with hose reel valve in on (up) position.

The wash down gun is used to control the spray lance. The lance is attached by pulling back on the ring of the guns quick connect fitting. Insert adapter nipple of lance (or 1/4" hose) until ring can slide back to original position. The lance is equipped with an adjustable spray nozzle for general use. The wash down gun can also be used with the optional portable hose reel with 1/4" drain hose.



**CAUTION:** HOLD HAND GUN/WASH WAND WITH TWO HANDS AT ALL TIMES. Back pressure buildup on the wash wand/hand gun requires two hands firmly gripping the wand when the trigger is initially pulled.



**CAUTION:** Under no circumstances should you ever operate the wash down gun in the direction of any other person(s). To do so may cause serious damage to eyes or other bodily tissue and may even cause death.

## 1/4" DRAIN HOSE

The 1/4" hose and nozzle may be used to clean smaller diameter lines. Attach the 1/4" hose to the forward end of the wash down gun as described above.

Use the 1/4" drain hose on lines 2"-4" similar to the reel hose. Again, use care not to discharge water unless the hose is in the pipe. On inside lines, use short bursts of the gun to limit water backup.



**NOTE:** If 50', 75' or 100' 1/4" hoses are used with the reel hose, the pressure gauge may read more than 1750 psi. Adjust engine speed to reduce to desired pressure to avoid engine overheat.

Part Number	Description
77719400	1/4" x 50' Hose
77719500	1/4" x 75' Hose
77708700	1/4" x 100' Hose

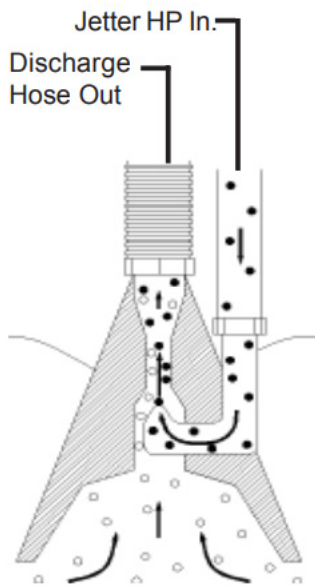
## MOBILE HOSE REEL - 73816800

The mobile hose reel is for remote use and control of the sewer hose. 400' total length of hose is in the practical maximum with the 250' or 150' length on the machine reel and the balance on the mobile reel.

To use, attach the machine reel hose to the valve of the mobile reel. Attach nozzle to mobile reel hose and make sure the mobile reel valve is off (handle perpendicular to valve body). Start jet as usual and open machine hose reel valve.

Now move the mobile reel to the pipe opening and use as before, using the mobile valve to control water flow (put hose in pipe before opening valve). To rewind hose, stand on front plate and use crank provided.

# Optional Accessories



**Fig. 9**

## VENTURI PUMP -

How the Venturi Effect works:

The venturi effect uses the venturi pumping attachment and your Spartan Jetter to create a vacuum effect to drain standing water. In Fig. 9, the black circles represent water from the jetter and the white circles represent the water to be pumped. The venturi has two parts: the Venturi Throat, which is a restricted section of the suction tube; and above that is the venturi itself which is the part where the tube widens and connects to the discharge hose. The water from your Spartan Jetter is accelerated through a venturi restriction which causes it to increase speed causing a pressure drop and creates the vacuum that sucks in more water at the base of the attachment.

### Venturi Pumping Attachment Operating Instructions

1. Attach high pressure hose directly to the suction head of the venturi attachment.
2. Lower suction head into water or liquid to be pumped. The discharge hose is 15 ft. long and this determines the maximum depth or distance liquids can be pumped.
3. At a depth of 15 ft., the venturi attachment will pump 35-40 gpm. If additional lengths of discharge hose are added, the pumped volume will decrease accordingly.
4. Be sure to keep the pumping head submerged at all times to ensure steady, continuous operation.
5. Start engine and bring jet to full pressure. Use the ball valve on high pressure hose reel to control venturi operation.



## Maintenance

Pump	Change oil after the initial 50 hours and then every 500 hours or less thereafter, depending upon operating conditions. Use SAE 90 Gear Oil.
Engine	Follow maintenance instructions in the engine manual.
Hose	Hose should be replaced when braid is visible.
Battery	Check fluid every week or 10 hours and fill with distilled water if needed.
Hitch	Tighten ball every 500 hours Torque tongue bolts to 74 ft/lbs.
Wheel Bolts	Check for proper tightness. (General machine inspection of bolts, nuts, etc. every 100 hours.)





Winterize machine when stored below 32° F.

Your machine can also be protected from freezing by using non alcohol based anti-freeze as follows:

## METHOD 1

- Connect air hose to blow out fitting located near the pump to purge air from the entire system.

## METHOD 2

- Drain tank completely.
- Add 50/50 mix anti-freeze to tank as follows:
  - 0° - 4 gal.
  - 30° - 6 gal.
- Remove nozzle and feed reel jetting hose into tank, open reel valve.
- Start engine and circulate water through system for 1 minute.
- Close reel valve and discharge water through gun and 1/4" hose if necessary.
- Check freeze protection of mix with tester and add more anti-freeze if necessary.
- Replace nozzle and hose.



**NOTE:** Some anti-freeze mixture can be caught and reused, but will have to be strengthened as necessary for adequate protection.



# Troubleshooting

<b>PROBLEM</b>	<b>POSSIBLE CAUSES</b>	<b>CORRECTIVE ACTION</b>
The pressure and/or delivery drops.	Worn or damaged nozzle.	Replace nozzle of proper size.
	Worn or damaged hose.	Repair or replace.
	Fouled inlet strainer.	Clean strainer.
	Broken Valve Spring.	Replace spring.
	Worn packing seals.	Replace packing seals.
	Fouled discharge valves.	Clean discharge valve assemblies.
	Worn or plugged relief valve on pump.	Clean, reset, and replace.
	Cavitation.	Check suction lines on inlet of pump for restrictions.
	Unloader.	Check for proper operation.
	Belt Slippage.	Tighten or replace belt.
Rough/pulsating operation with pressure drop.	Accumulator pressure.	Recharge/replace accumulator.
	Worn packing.	Replace packing.
	Inlet restriction.	Check system for stoppage, air leaks, and correctly sized inlet plumbing.
	Unloader	Check for proper operation.
	Cavitation.	Check inlet lines for restrictions and/or proper size.
Water in crankcase.	High humidity.	Reduce oil change interval.
	Worn seals.	Replace seals.
Noisy pump.	Worn bearings.	Replace bearings, refill crankcase oil with recommended lubricant.
	Cavitation.	Check inlet lines for restrictions and/or proper sizing.
	Low oil level.	Add oil.
	Worn or dirty valves.	Replace or clean.
Pressure drop at gun.	Restricted discharge plumbing.	Re-size discharge plumbing to flow rate of pump.
Excessive leakage.	Worn or cracked plungers.	Replace plungers.
	Worn packing/seals.	Adjust or replace packing seals.
	Excessive vacuum.	Reduce suction vacuum.
	Cracked plungers.	Replace plungers.
	Inlet pressure too high.	Reduce inlet pressure.
High crankcase temperature.	Wrong grade of oil.	Giant oil is recommended.
	Improper amount of oil in crankcase.	Adjust oil level to proper amount.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Engine will not run.	Check fuel levels.	Fill fuel tank.
	Check fuel valve.	Turn fuel valve ON.
	Check water level.	Fill water tank or check low water shut-down.
Low pressure or flow.	Clogged inlet filter.	Clean inlet filter element.
	Jetting nozzle worn.	Check for wear on orifice of jetting nozzle, replace nozzle if necessary. Use only approved jetting nozzles.
Erratic flow or pressure.	Worn or dirty pump valves.	Replace or clean.
	Worn or dirty regulator parts.	Replace or clean.
	Worn jetting nozzle.	Replace jetting nozzle.
Water leaking from pump head.	Worn pump seals.	Replace pump seals.

## How To Use Parts & Accessories



Spartan Tool will supply all parts or accessories you require as quickly as possible. In order to do so, we must have information from you, including machine serial number and part numbers.

Please record the VIN number of your machine in the space provided below:

Spartan Model 738

Vin No. \_\_\_\_\_

To order parts, look through the pictures until you find the part you require or an indication of where the part should be. Using the item number from the picture, go to that number on the adjacent page and check the description to determine if it is the part you desire.

Using the part numbers, please contact your Spartan Territory Manager or the factory in Niles, Michigan or online at [www.spartantool.com](http://www.spartantool.com).



# Special Note

Though much of your Model 738 Jet is user serviceable, trained professional mechanics may be needed with pump, plumbing, engine, lights, hitch and axle experience.

- Engine repair is best performed by your local engine repairman.
- Contact Spartan Tool or consult the Pump Repair Manual for all pump repair or troubleshooting.
- All plumbing repairs should use Spartan parts. The high pressure plumbing has been designed for pressures greater than 2000 psi. Substituting parts is dangerous and voids Spartan warranties. Use standard pipe sealing compound or "Teflon"® tape to seal all joints except swivel joints and hose nozzles (o-rings, seals, and tapered seat designs do not require sealing materials).

# Tire Safety Information



This portion of the User's Manual contains tire safety information as required by 49 CFR 575.6.

The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. It can be obtained and downloaded, free of charge, from the NHTSA website.

## Tire Safety Terminology Glossary

- **Cold tire inflation pressure** - the pressure in the tire before you drive
- **Gross Axle Weight Rating (GAWR)** - The maximum weight that any axle can support, as published on the Certification / VIN label on the front left side of the trailer. Actual weight determined by weighing each axle on a public scale, with the trailer attached to the towing vehicle.
- **Gross Vehicle Weight Rating (GVWR)** - The maximum weight of the fully loaded trailer, as published on the Certification / VIN label. Actual weight determined by weighing trailer on a public scale, without being attached to the towing vehicle.
- **Load rating** - The maximum load that a tire is rated to carry for a given inflation pressure.
- **Maximum load rating** - The load rating for a tire at the maximum permissible inflation pressure for that tire.
- **Maximum permissible inflation pressure** - The maximum cold inflation pressure to which a tire may be inflated.
- **Outer diameter** - The overall diameter of an inflated new tire.
- **Recommended inflation pressure** - The inflation pressure provided by the vehicle manufacturer on the Tire Information label and the Certification/VIN tag.
- **Rim** - a metal support for a tire or a tire and tube assembly upon which the tire beads are seated.
- **Vehicle maximum load on the tire** - The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

## Tire Information Placard

The Spartan 738's Federal Certification/VIN label is located on the forward half of the left (road) side of the unit. The VIN label will identify the units GVWR and GAWR.

The Spartan 738's Tire Information Placard can be located adjacent to the trailer's VIN (Certification) label at the left front of the trailer. The placard includes the 738's tire size, cold tire inflation pressure, and load limitations. The load limitation statement will give an indication of the maximum cargo capacity. Any items (cargo) added to the 738 must not cause the total weight of the 738 to exceed the stated GVWR.

## 738 Tire Information

The weight of cargo should never exceed **kg.** or **lbs.**

TIRE	SIZE	COLD TIRE PRESSURE
FRONT		
REAR		
SPARE		

**SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION**

# Tire Safety Information

## *Steps for Determining Correct Load Limit*

1. Locate the statement "The weight of cargo should never exceed 1157 kg or 2550 lbs" on your tire information placard.
2. This figure equals the available amount of cargo and luggage load capacity.
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity.

## **General Tire Information**

- Tire inflation pressure is the level of air in the tire that provides the load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure a tire requires to be properly inflated. Since tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.
- Improper inflation is the main cause of tire failure. Excessive loads and/or under inflation cause tire overloading, which leads to abnormal tire flexing. Check the cold tire inflation pressures at least once a week for proper inflation levels.
- The proper air pressure may be found on the Certification/VIN label and/or the Tire Information placard.  
High speed towing in hot conditions degrades the life of the 738's tires. The internal heat generated from high speeds breaks down the tire's internal structure. It is recommended to drive at moderate speeds.
- If the trailer is stored for an extended period of time, the tires should be fully inflated to the maximum rated pressure. The 738 should be stored in a cool, dry place. Use tire covers to protect the trailer tires from the harsh effects of the sun.

## **Tire Maintenance**

### *Checking Tire Pressure*

- The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper PSI when a tire is cold. A cold tire is one that has not been driven on for at least three hours. Since driving raises the tire's temperature, the internal air pressure also increases. To prevent inflated tire readings, the tire must be measured when cold.

### *Maintaining Proper Tire Pressure*

- a. Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the Owner's Manual.
- b. Record the tire pressure of all tires.
- c. If the tire pressure is too high in any tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until the correct pressure is reached.
- d. If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. Add the missing pounds of air pressure to each tire that is under inflated.
- e. Check all the tires to make sure they have the same air pressure.



**NOTE:** If the tires are warm due to driving, but testing confirms under inflation, fill the tire to the recommended cold inflation pressure. While the tire may be slightly under inflated due to extra pressure in the warm tire, it is safer to drive a slightly under inflated tire than to drive a significantly under inflated tire. Since this is a temporary fix, the tire must be re-checked and adjusted once a cold reading can be obtained.

## **Tire Size and Tread**

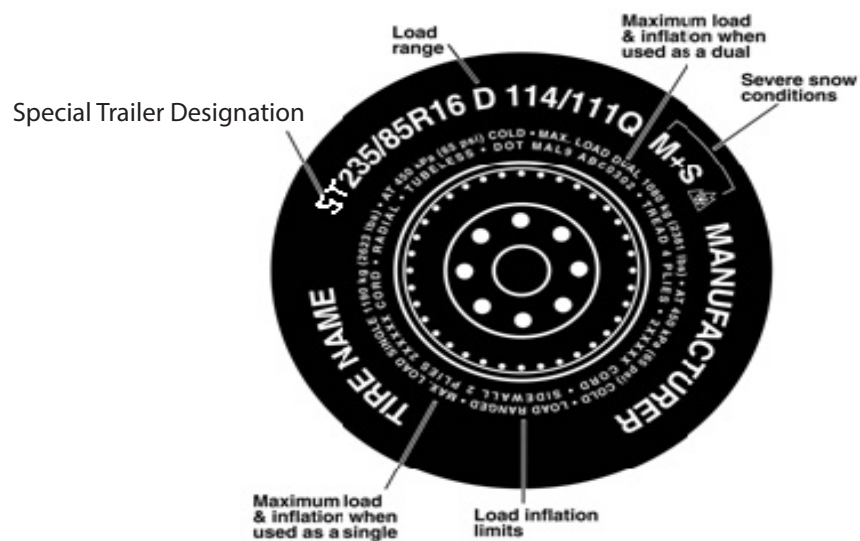
- Tires should be replaced when the tread is worn down 1/16 of an inch.
- Treadwear indicators on the bottom of the tire can be used as a guide. The indicators are raised sections spaced intermittently in the bottom of the tread grooves. If they appear even with the outside of the tread, the tire should be replaced.
- Replacement tires should be the same size as the 738's original tires. To prevent error and maintain safety, it is recommended that all replacement parts be purchased through Spartan Tool LLC.

## Tire Balance and Wheel Alignment

- Tires must be properly balanced to avoid vibrations and shaking of the trailer. A wheel alignment adjusts the angles of the wheels to position them correctly relative to the trailer's frame. Such adjustments can maximize the life of the tires, but should be performed by a qualified technician.

## Tire Repair

- A punctured tire can be repaired by plugging the hole and patching the area that surrounds the puncture hole. A small puncture in the tire tread can be repaired, but punctures to the sidewall should not. Tires should be removed from the rim to be properly inspected before plugging.



**Fig. 36-1**

## Tire Fundamentals

- Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire. It also provides a tire identification number for safety standard certification and in case of a recall.

## Tire Safety Tips

### Preventing Tire Damage

- Slow down before driving over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway.

### Tire Safety Checklist

- Check tire pressure regularly (at least once a month).
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure tire valves have valve caps.
- Check tire pressure before any long trips.
- Do not overload trailer. Check the Tire Information Placard for the maximum recommended trailer load.



# Safety Information

Confirm that:

- The coupler is secured to the hitch and is locked.
- Electrical connections are made.
- There is appropriate slack in the safety chains.
- The tires are not visibly low on pressure, and the cargo is secure and in good condition.

## Reporting Safety Defects

If you believe that your vehicle has a defect that 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 Spartan Tool 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 individual problems between you, your dealer, or Spartan Tool LLC.

To contact NHTSA, you may either call the Vehicle 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>.

Spartan Tool LLC  
1618 Terminal Road  
Niles, MI 49120





For our terms and conditions, including warranty, please visit <https://spartantool.com/pages/terms-and-conditions>. For warranty assistance, please contact us at (800) 435-3866 or [customerservice@spartantool.com](mailto:customerservice@spartantool.com).

## **CONTACT US**

Spartan Tool LLC  
1618 Terminal Road  
Niles, MI 49120  
800.435.3866  
SpartanTool.com



# APPENDIX A

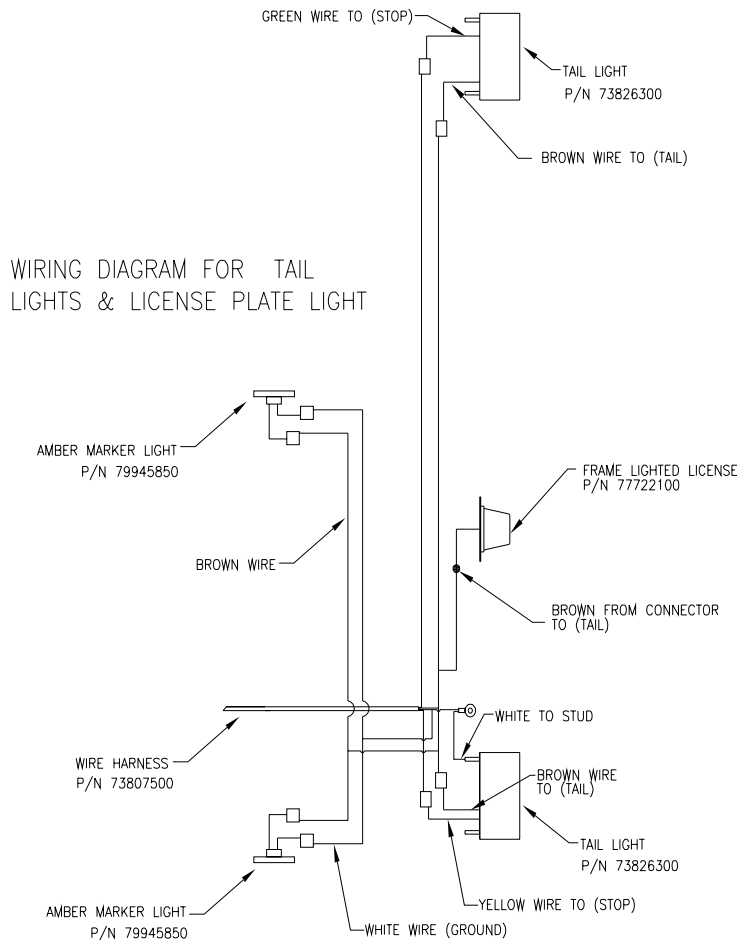
## Diagrams Published in 2011 Manual



### ELECTRICAL COMPONENTS

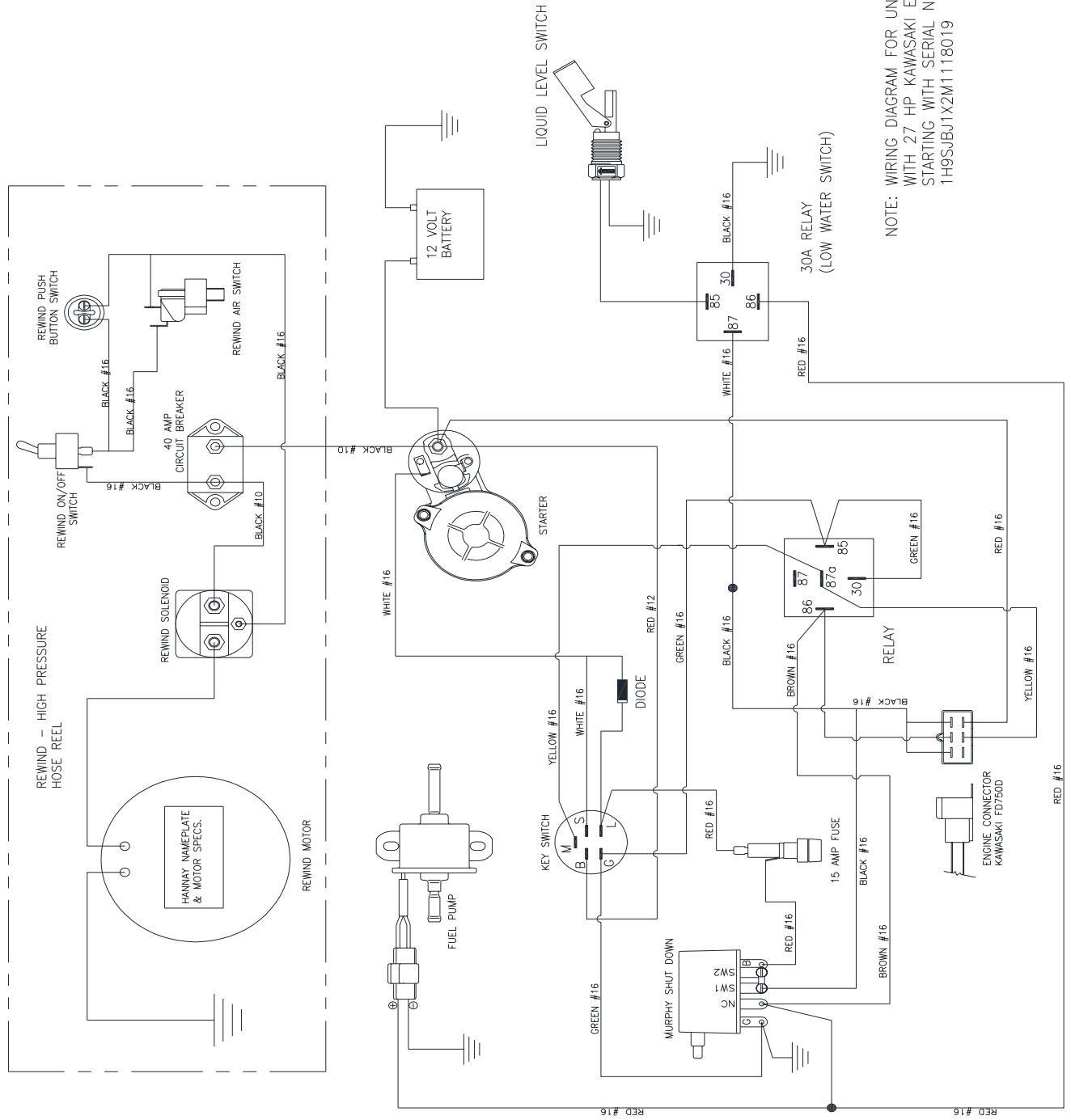
Part Number	Description
44036500	Receptacle: Vehicle - (mounts on vehicle)
44055000	Plug: Trailer Lights - (inserted into above receptacle)
77731600	Connector Plug Set

### WIRING DIAGRAMS



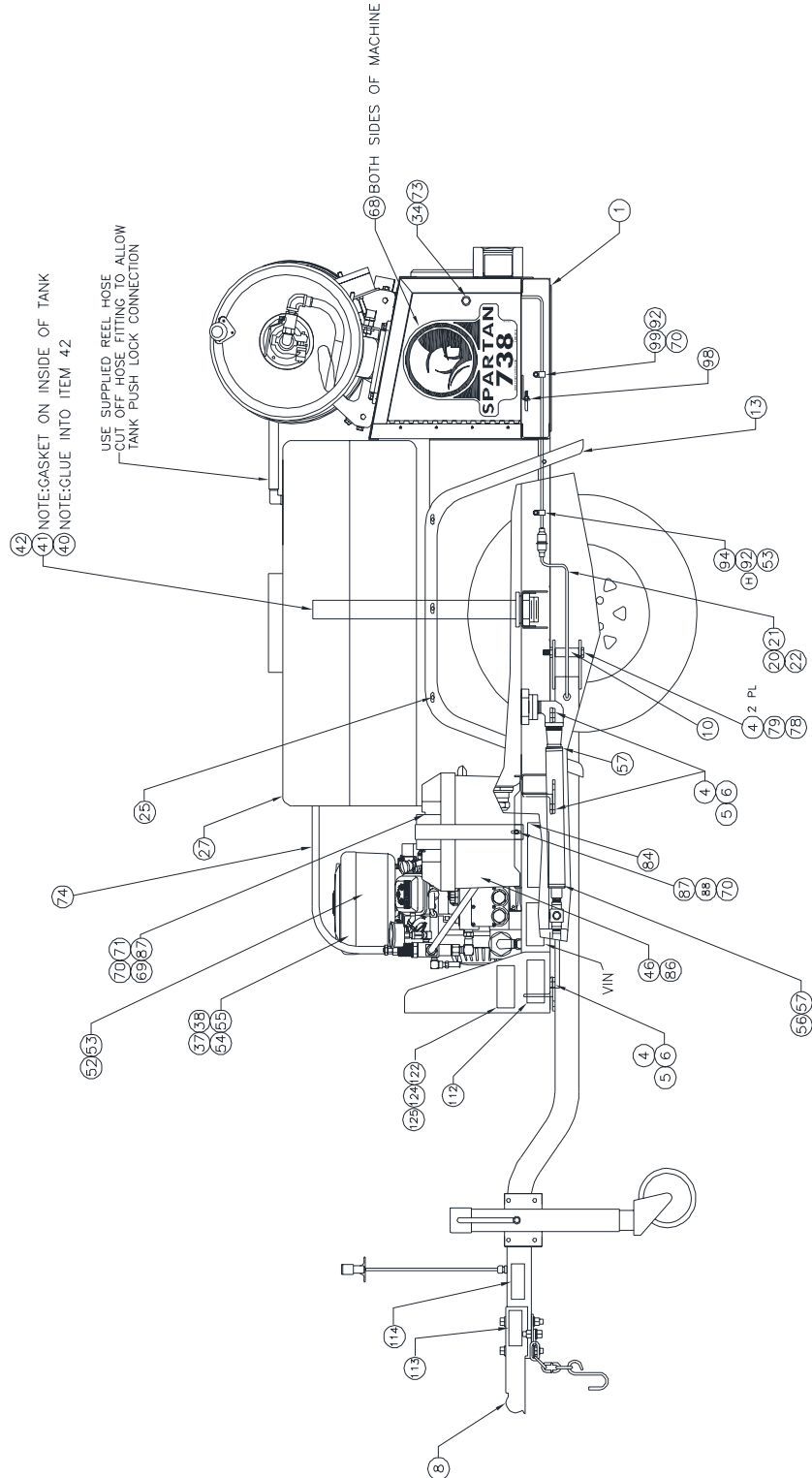
# Appendix A Diagrams Published in 2011 Manual

## Wiring Diagrams



# Appendix A Diagrams Published in 2011 Manual

## 738 FINAL ASSEMBLY - 73800000



# Appendix A Diagrams Published in 2011 Manual

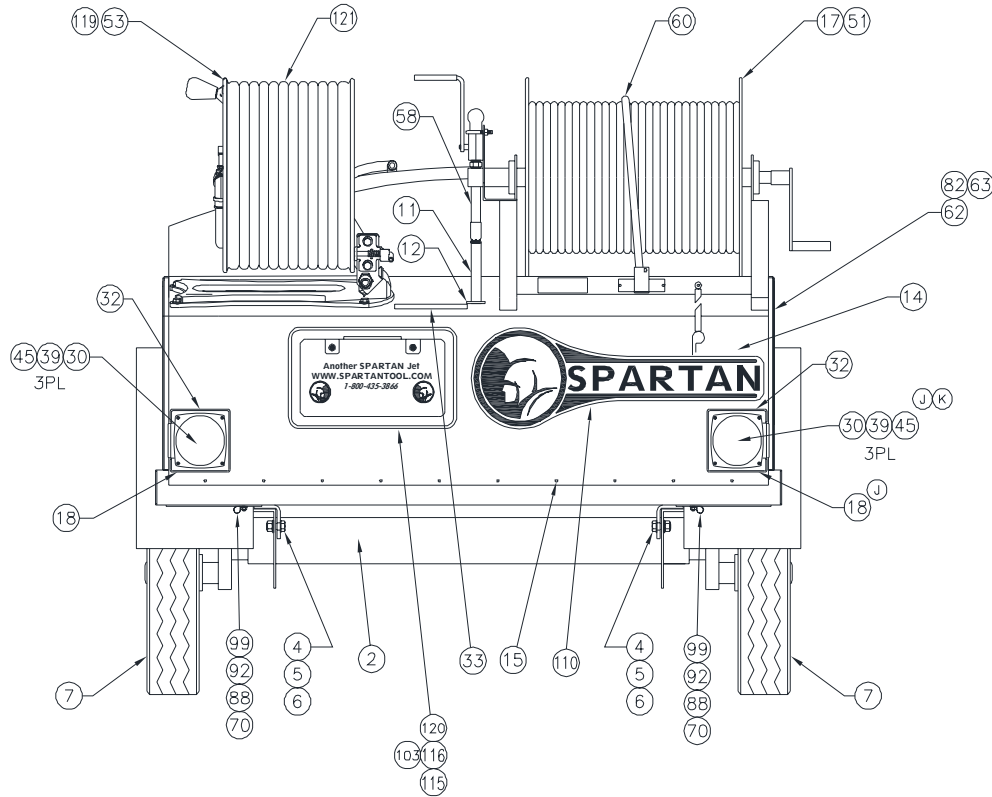
## 738 Final Assembly - 73800000

Item	Part Number	Description	Qty.
1	73823800	Weldment, Frame	1
2	73804300	Axle	2
4	73826900	Washer, 1/2" Flat	22
5	77744800	Nut, 1/2-13 Stover Lock	10
6	77745800	Screw, 1/2-13 x 1-1/4	10
7	73803700	Assy, Tire & Wheel	2
	73803500	Tire Only	
	73803600	Wheel Only	
8	73803800	Assy, Hitch Tube	1
10	73815100	Spacer Towbar	1
11	73807300	Assy, High Pressure Pipe	1
12	73807400	Rubber Grommet 7/8 ID	2
13	77710500	Fender	2
14	73805100	Cover, Toolbox	1
15	77726500	Rivet, Pop -3/16 x 3/16 Grip	6
17	73808900	Assy, HP Reel	1
18	73826400	Weldment, Tail-Light Housing	2
20	73807500	Wiring Harness	1
21	77768800	Tie Wire-Plastic	28
22	77768900	Holder, Wire Tie	8
24	77766100	Clip, Frame	1
25	77805100	Bolt, Carriage 5/16-18 x1	6
27	73807600	Assy, Water Tank	1

Item	Part Number	Description	Qty.
30	73826300	Light, Tail	2
32	77739800	Decal, Caution Rear Reel	2
33	77739900	Decal Warning Rear	1
34	73806200	Lock, Door	2
37	73807700	Assy, Power Pak 738	1
38	77728900	Cap, Battery Cable	1
39	01950800	Nut, Kep Hex 1/4-20	6
40	73808000	Pipe, Overflow 22" Lg	1
41	73852700	Gasket, Tank	1
42	73803800	Adapter, 1-1/2" Tank	1
45	00113700	Screw, Hex Hd Cap 1/4-20 x 3/4	2
46	79847800	Battery, Diesel 850 CCA	1
50	77785200	Mount, Motor	4
51	02939000	Screw, Cap 5/16-18 x 3/4	12
52	77738300	Screw, Cap Hex 3/8-16 x 3/4	4
53	03366300	Washer, 3/8 Flat	15
54	73815300	Cable, Negative Battery - 32"	1
55	73815200	Cable, Positive Battery - 40"	1
56	77710200	Hose, 1-1/4 ID	2
57	77736900	Clamp, Hose	2
58	73808100	Assy, HP Hose - 19" Lg	1
59	73808200	Assy, HP Hose - 24" Lg	1

# Appendix A Diagrams Published in 2011 Manual

## 738 Final Assembly - 73800000

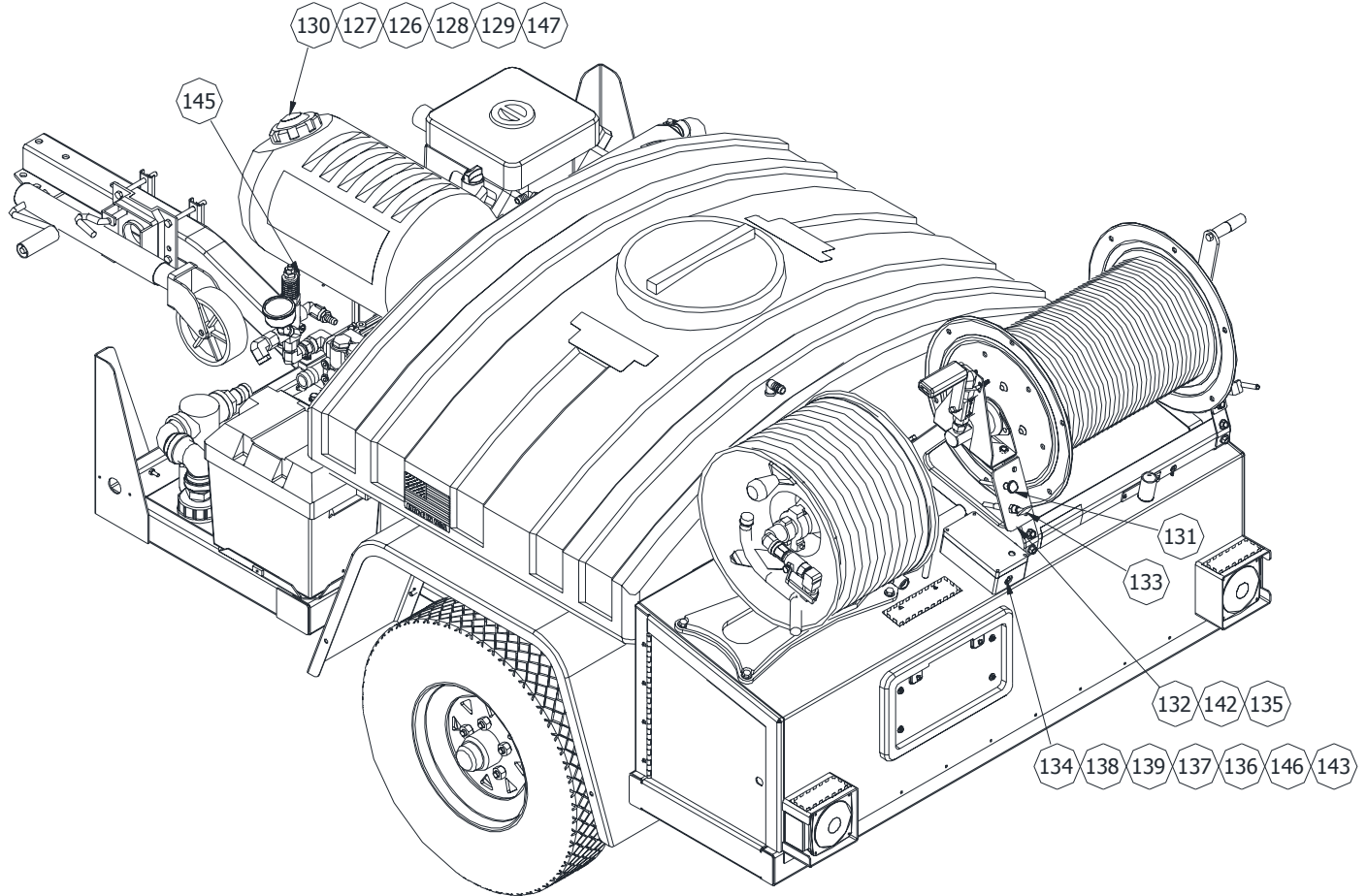


Item	Part Number	Description	Qty.
60	73808600	Assy, Hose 3/8-250	1
62	73809300	Nozzle, Open	1
63	73809400	Nozzle, Closed	1
68	73817100	Decal, Spartan 738	2
69	00115300	Screw, Hex Hd 5/16-18 x 1-1/4	4
70	02825100	Washer, Flat 1/4	11
71	73815400	Spacer, Rubber	2
73	73815600	Screw, Mach 6-32 x 1/4	4
74	77705000	Hose, Push Lok	2 ft
78	77769300	Locknut, 1/2-20 UNF	1
79	73808800	Bolt, 1/2 x 4 Bowmalloy	1
80	77733300	Ring Terminal 5/16"	2
82	77724000	Bushing, Reducer 1/2 x 3/8	1

Item	Part Number	Description	Qty.
84	58546301	Decal, Warning Battery	1
86	75815300	Modified Battery Box	1
87	75814700	Strap, Battery Hold Down	1
88	04728200	Bolt, Hex Hd 1/4-20 x 3/8	4
92	73821200	Nut, Nylock Lock 1/4-20	18
94	72715100	Clamp, Hose 1-1/8	9
97	79842100	Clamp, Hose 3/16	2
98	521400-04	U-Bolt 1" x 1-3/4" (1/4-20)	1
99	79842200	Clamp, Hose 1/2	3
103	03850100	Nut, Kep 10-32	4
107	73826700	Assy, Wire Harness 30A Relay	1
110	75815400	Decal, Spartan	1

# Appendix A Diagrams Published in 2011 Manual

## 738 Final Assembly - 73800000



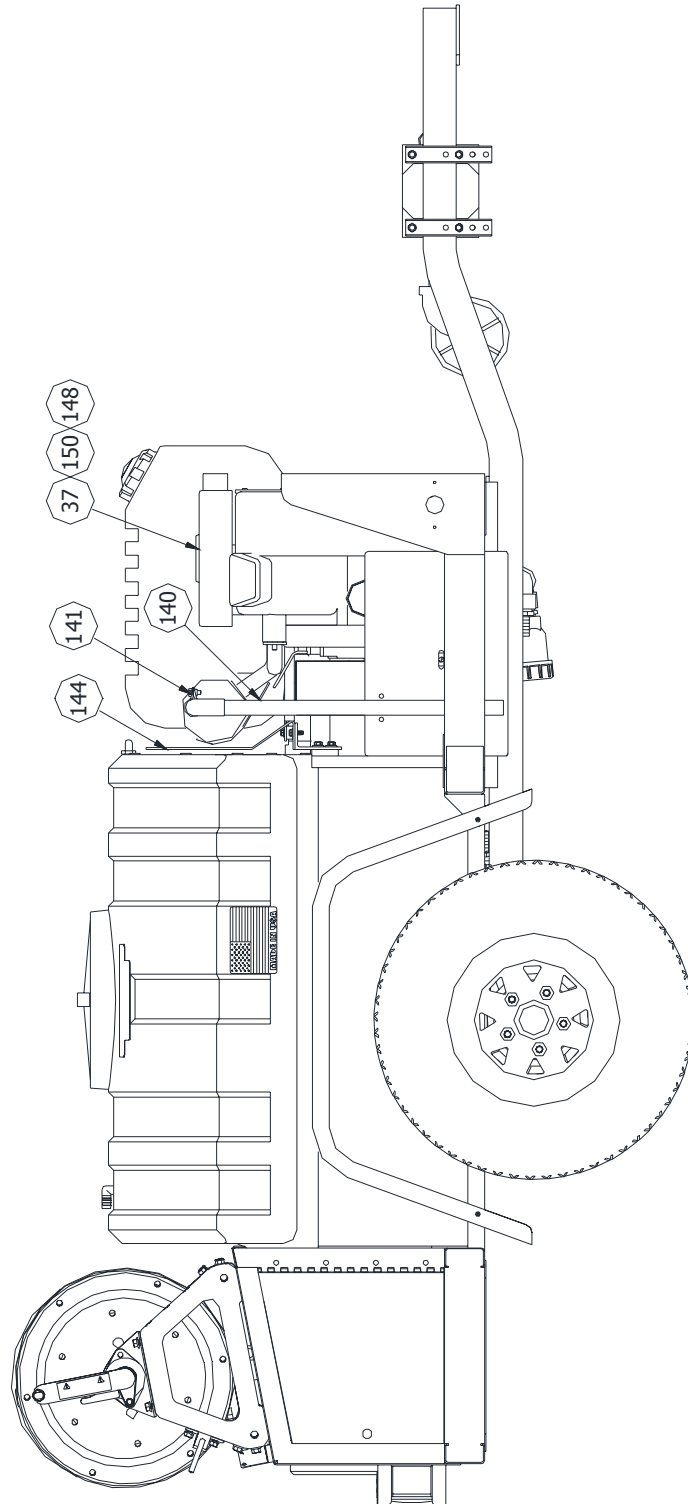
Item	Part Number	Description	Qty.
112	75866100	Decal, 738/758 Tire & Loading	1
113	79952300	Decal, Wheel & Lug Nuts	1
114	79952400	Decal, Safety Chain	1
115	00162400	Washer, Flat 3/16	12
119	75867000	Fill Reel Assy 2010	1
120	77722100	Frame, Lighted License	1
121	79944100	Hose, Garden 5/8 x 100	1
122	79945850	Light, Side Marker Amber	2
127	77766300	Decal, Danger No Smoking	1
128	75802300	Sheet, Gas Tank	1
129	75805400	Angle, Gas Tank	1
130	75815100	Decal, Gasoline Only	1
131	75807400	Control, Choke	1
132	73852600	Plate, Throttle & Choke Cable	1
133	77771501	Key, 1/4 x 1/4 x 1-5/8	1
134	73833100	Screw, Hex Hd 3/8-16 x 1	1

Item	Part Number	Description	Qty.
135	75814000	Nut, Nylon Locking 3/8-16	1
136	75818600	Screw, Cap M10 x 25 mm	1
137	73835400	Washer, Split Lock M10	1
138	73835100	Nut, Hex 1/2-13	1
139	73835300	Screw, Hex Hd 1/4-20 x 3/4	1
140	73835200	Screw, Hex Hd 1/4-20 x 3/4	1
141	73834900	Washer, Flat 1/4 USS	1
142	75813900	Washer, Lock Split 1/4	1
143	61018000	Fuse Holder	1
144	73834100	Shield, Heat (Rear)	1
145	73834300	Spacer, Fuel Tank Bracket	2
146	73834700	Keys, Ignition 19 HP Kawasaki	1
147	75817900	Cap, Fuel Tank w/Gauge	1
148	79849800	Hose, Fuel 5/15	2
149	75808700	Conduit, Throttle Control	1
150	73834200	Spacer, Power Pack	4



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## 738 Final Assembly - 73800000





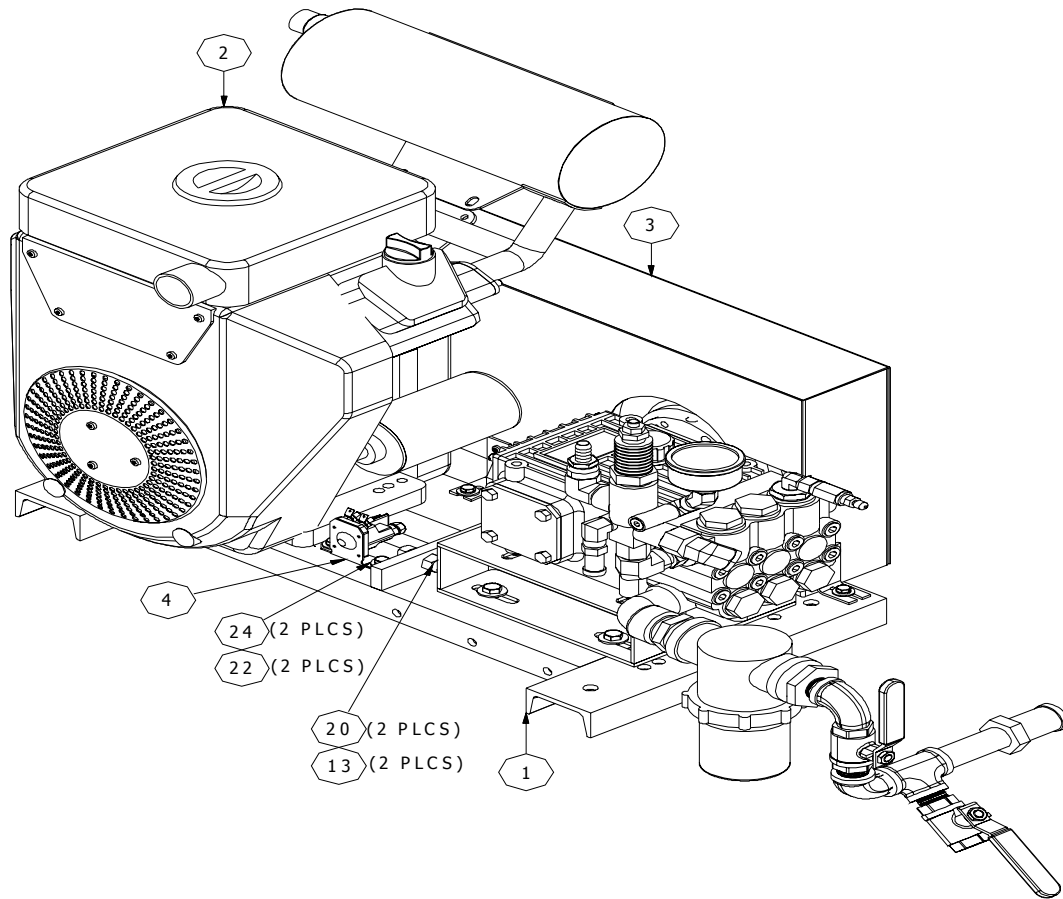
# Appendix A Diagrams Published in 2011 Manual

## 738 Pump Assembly - 73811500

Item	Part Number	Description	Qty.
1	73810200	Pump	1
3	41064100	Coupling, Pipe 3/4 NPT	1
4	54215501	Bushing, Reducer 1-1/4 x 3/4	1
9	73810700	Valve, Pop Off	1
10	73810800	Unloader	1
11	73818800	Gauge 3000 PSI, 1/4 CBM	1
12	72705900	Elbow, 45° Street 1/4" High Pressure	1
14	73811000	Tee, 3/4" (Galv. Steel)	1
15	73827400	Nipple, Reducer 1-1/4 x 1 NPT	1
16	73811700	Nipple, Reducer 3/4 x 1/2 High Pressure	1
17	77701600	Strainer, 1-1/4" NPT In Line	1
18	77704900	Fitting, Push Lock 1/2 NPT	1
19	77705101	Elbow, 90° Street 1/2 NPT	2
20	71707400	Valve, Check w/ Air Valve	1
22	77724300	Elbow, 90° Street 1/4 NPT	2
26	71707300	Elbow, 90° Male 1/4 x 1/8 NPT	1
28	77782400	Valve, Ball 3/4" NPT	2
29	77788200	Elbow, 90° Street 3/4 NPT	2
31	75803200	Elbow, 90° Street 1" NPT	1
33	79948130	Nipple, 3/4 NPT Znc Plt Steel	3
34	542103-05	Plug Hx 3/4 Stl	1
35	75803500	Plug 1" MNPT Stainless Stl	1
36	73827000	Filter Gasket	1

# Appendix A Diagrams Published in 2011 Manual

## 738 POWER PAK - 73807700

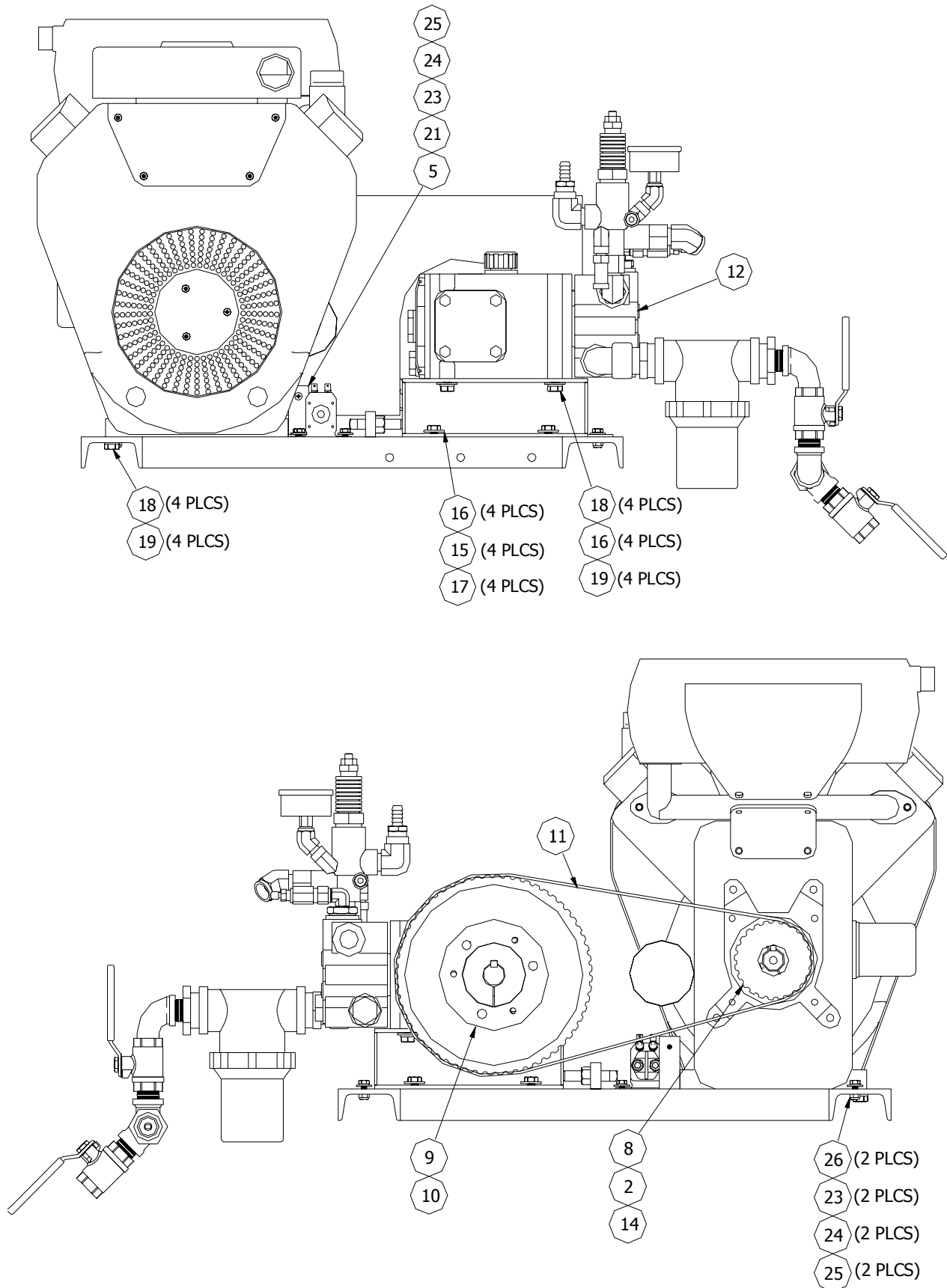


Item	Part Number	Description	Qty.
1	73801600	Weldment, Power Pak Support	1
2	73831500	Engine, 19 HP Kawasaki	1
	73819300	Solenoid, Fuel	1
	73852900	Starter, 19 HP Kawasaki	1
3	75820300	Weldment, Belt Guard	1
4	73833600	Solenoid, Starter	1
5	75820800	Bracket, Belt Guard	1
6	75811600	Bushing H 1-1/8	1
7	73828000	Weldment, Pump Mount 738	1
8	73810000	Sheave, Engine Drive, 24 Teeth	1
9	73810400	Sheave, Driven (60H150SF)	1
10	73810500	Bushing, Driven (SF x 28 mm)	1
11	73810600	Belt Drive (480H150)	1

Item	Part Number	Description	Qty.
12	73811500	Assembly, 73811500	1
13	77727100	Bolt, Belt Adjustment	2
14	79823400	Key, 1/4 x 1/4 x 1-5/8	1
15	521035-03	Screw, Hex Hd 3/8-16 x 1	4
17	522132-00	Nut, Nylon Locking 3/8-16	4
18	75822800	Screw, Cap M10 x 25 mm	8
19	44029500	Washer, Split Lock M10	8
20	00778000	Nut, Hex 1/2-13	2
22	00113600	Screw, Hex Hd 1/4-20 x 3/4	2
23	521012-03	Screw, Hex Hd 1/4-20 x 3/4	3
24	02825100	Washer, Flat 1/4 USS	4
25	00165400	Washer, Lock Split 1/4	4

# Appendix A Diagrams Published in 2011 Manual

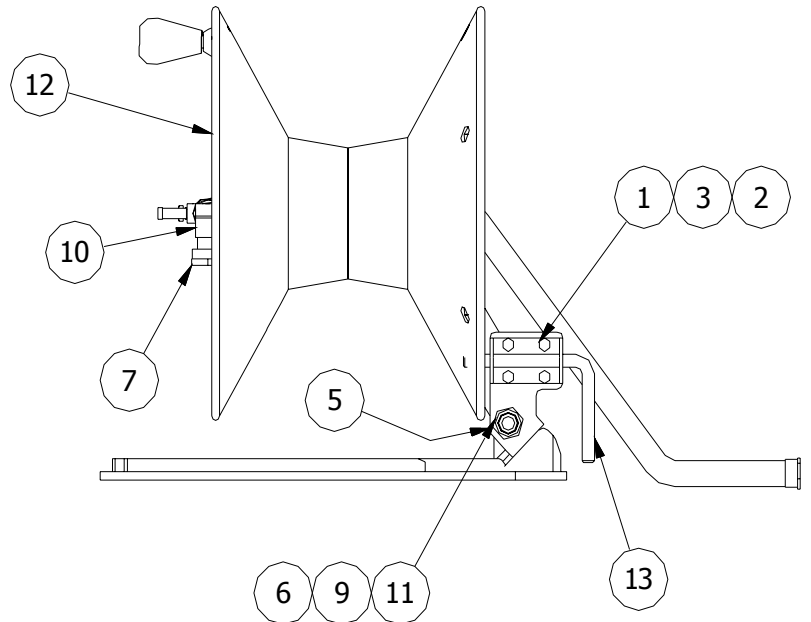
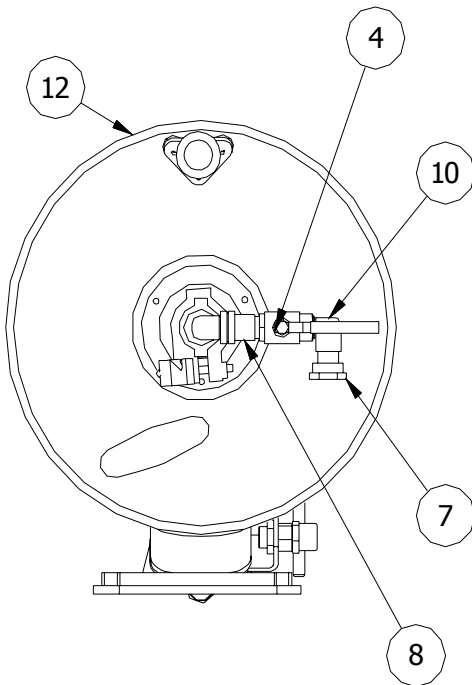
## 738 Power Pak - 73807700



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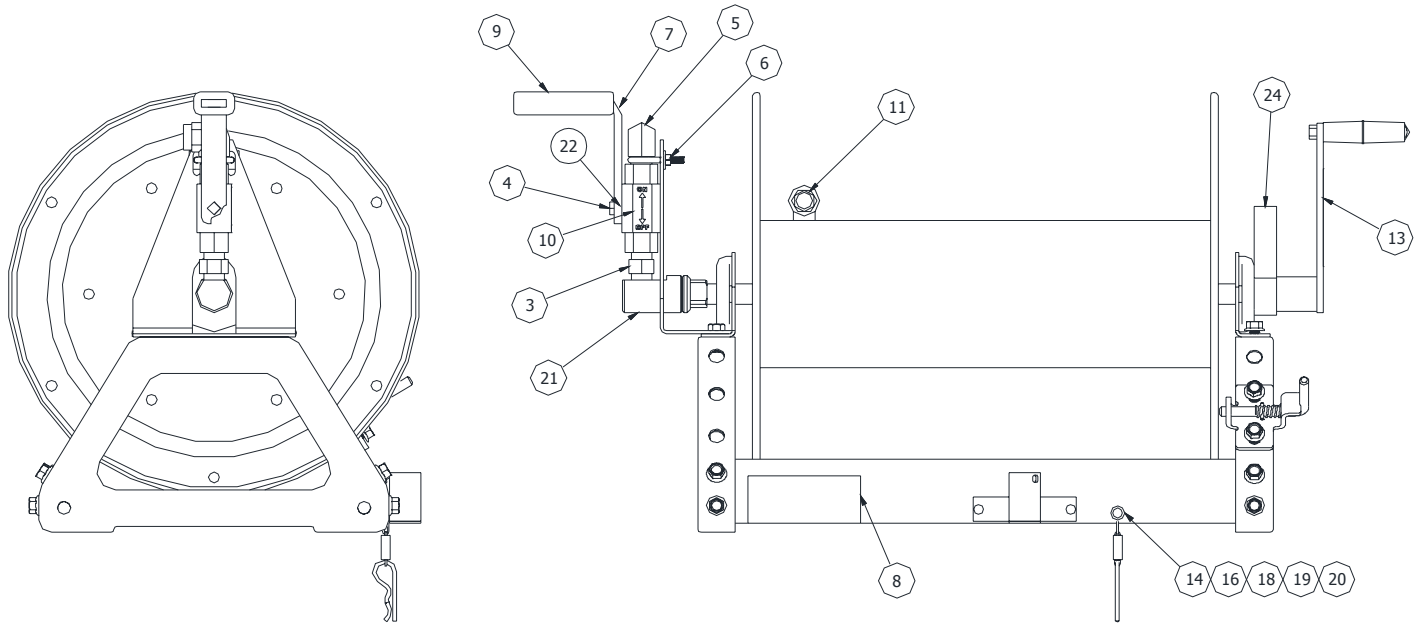
## 75867000 FILL REEL ASSEMBLY

Item	Part Number	Description	Qty.
1	00113901	Screw, Hex Hd Cap 1/4-20 x 1 Zn	4
2	02821200	Nut, Nylock Jam 1/4-20	4
3	02825100	Washer, Flat 1/4 USS	4
4	72704800	Valve, Ball 1/2 M x 1/2 F	1
5	75867010	Bracket, Fill Reel Latch -2010	1
6	75867020	Locknut, Pipe 1/2" NPT	1
7	75867030	Adapter, 3/4 GHT SWVL - 1/2 NPT	1
8	75867040	Adapter, 3/4 FGHT - 1/2 FNPT	1
9	77770800	Nipple, Hex 1/2 NPT	1
10	79904464	St El 90D 1/2 NPT Brass	1
11	79904492	Adapter, Garden Hose 3/4M - 1/2FM	1
12	79940300	Rapid Reel, 2008 Fill	1
13	79966320	Latch, Spring Bolt Zn Plt	1



# Appendix A Diagrams Published in 2011 Manual

## H.P. REEL ASSEMBLY - 73808900



Item	Part Number	Description	Qty.
1	73802800	Reel, High Pressure	1
2	73805800	Support, Ball Valve	1
3	77770800	Nipple, Hex 1/2 NPT	1
4	75814600	Valve, Ball 1/2 FNPT w/Decal	1
5	77705101	Elbow, 90 Deg. Street 1/2"	1
6	77778900	U-Bolt, 3/4 w/Nuts	1
7	73816100	Handle, HP Valve	1
8	72707800	Decal, Warning - HP Water Jet	1
9	71102500	Grip, Foam Black	1
10	73817800	Decal, Ball Valve On/Off	1
11	73820600	Bushing, Reducer 1/2 x 3/8	1

Item	Part Number	Description	Qty.
13	73817500	Handle, Reel	1
14	00162400	Washer, Flat 3/16 USS	1
15	73816000	Weldment, Hose Holster (HP Reel)	1
16	77726500	Rivet, Blind 3/16 Dia. (.062 - .125)	3
18	77737100	Pin, Hair 9 Gauge 2.45" Long	1
19	77749400	Tubing, Heat Shrink 3/8	1
20	77726800	Chain, #5 Double Loop	1
21	73819000	Assembly, Reel Swivel	1
22	73818900	Ball Valve Stop Washer	1
24	73828400	Tensioner, Cam Lock Brake (Reel)	1







# Appendix A Diagrams Published in 2011 Manual

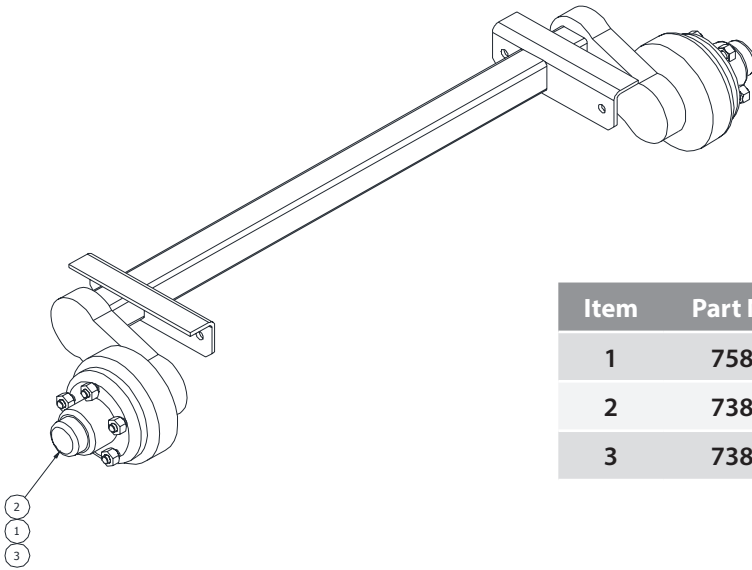
## 738 Hitch Tube Assembly - 73806800



Item	Part Number	Description	Qty.
1	73808700	Weldment, Hitch Tube	1
2	73852800	Assy., Tube	1
3	79960000	Chain, Safety	2
4	77731500	Wire, Trailer Primary Jacketed	10.5'
5	77731600	Connector, Plug Set	1
6	77764200	Grip, Cord	2
7	44036500	Trailer Connector, Vehicle End	1
8	44055000	Trailer Connector, Trailer End	1
9	73826900	Washer, 1/2" Flat High Strength	6
10	77744800	Locknut, 1/2-13 Stover	2
11	77745800	Screw, Hex Hd Cap 1/2-13 x 1/4	2
12	73808800	Bolt, 1/2-20 x 4"	2
13	73803300	Tongue Coupler 2-1/2" Sq.	1
15	77749500	Decal, 2" Ball Only	1
16	77769300	Lock-Nut 1/2-20 UNF	2
17	77770900	Rubber Boot (Not Shown) for Item 7	1

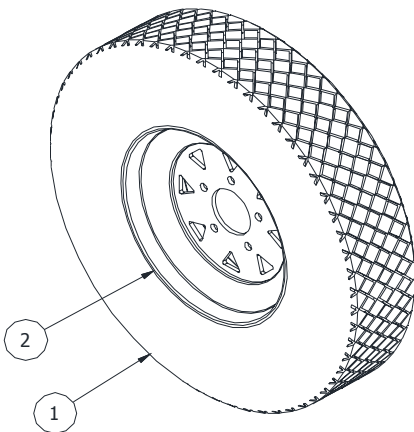
# Appendix A Diagrams Published in 2011 Manual

## AXLE-2300 LB 73804300



Item	Part Number	Description	Qty.
1	75800700	Plug, EZ Lube	2
2	73819400	Protector, Bearing	2
3	73819500	Bra, Bearing Protector	2

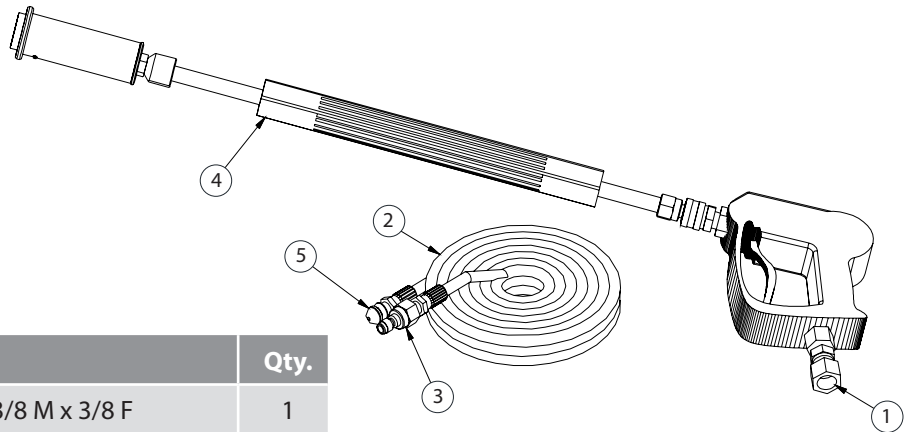
## ASSY, TIRE & WHEEL 73803700



Item	Part Number	Description	Qty.
1	73803500	Tire, 13" Radial-Repair Part	1
2	73803600	Wheel, 13 x 4-1/2- Repair Part	1

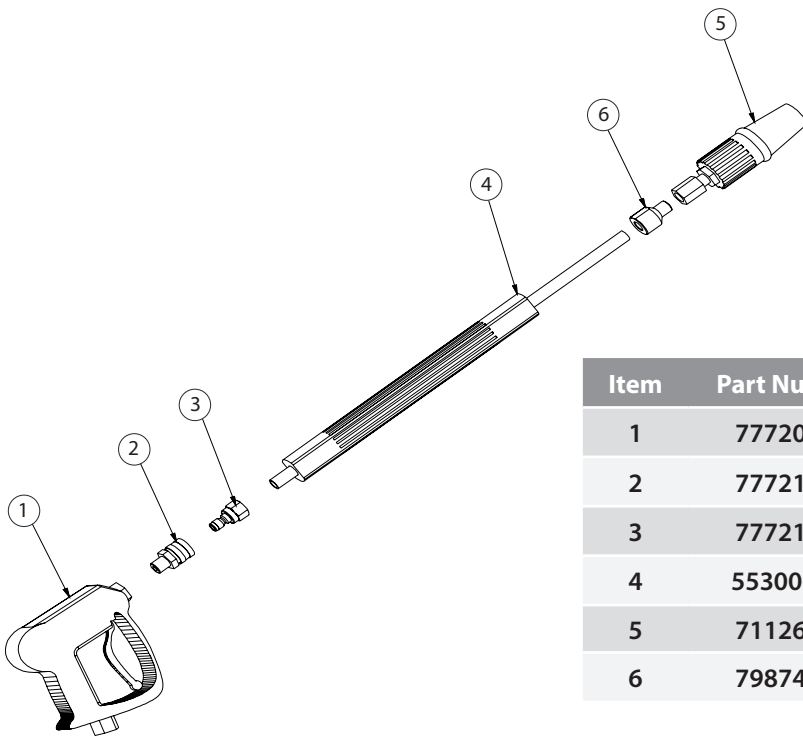
# Appendix A Diagrams Published in 2011 Manual

## WASH DOWN ACCESSORY PACKAGE 73817300



Item	Part Number	Description	Qty.
1	73816500	Adapter, Swivel 3/8 M x 3/8 F	1
2	77719500	Hose, 1/4" x 75'	1
3	77721400	Coupler, Quick Gun Male	1
4	77799800	Handgun Lance Vnozzle Assembly	1
5	77815800	Nozzle, 1/4" Domed (6)	1

## HANDGUN LANCE VNOZZLE ASSEMBLY - 77799800



Item	Part Number	Description	Qty.
1	77720100	Gun, Hand	1
2	77721300	Coupler, Quick Gun, 1/4" NPT Male	1
3	77721400	Coupler, Quick Gun, Male	1
4	553006-01	Lance, Insulated Grip, 18"	1
5	71126100	Nozzle - Variable .080	1
6	79874400	Fitting, Wand Anti-Kickback	1

# Appendix A Diagrams Published in 2011 Manual

## 73827300 PUMP PARTS & REPAIR KITS

Item	Part Number	Description	Qty.
1	73810205	Crankcase	1
2	73810206	Oil Fill Plug w/Gasket	1
3	73810207	Crankcase Cover	1
3A	73810208	Oil Sight Glass w/Gasket	2
4	73810209	O-ring	1
5	73810210	Oil Drain Plug	1
5A	73810211	Gasket for Oil Drain Plug	1
5B	73810212	Plug w/Gasket	1
6	73810213	Screw	4
6A	73810214	Spring Washer	4
7	73810215	Bearing Cover Open	1
8	73810216	Bearing Cover Closed	8
8A	73810217	Shim	1
9	73810218	O-ring	2
10	73810219	Screw, w/Washer	8
11	73810220	Radial Shaft Seal	1
12	73810221	Bearing	1
12A	73810222	Bearing	1
13	73810223	Crankshaft	1
14	73810224	Key	1
15	73810225	Connecting Rod Assembly	3
15A	73810226	Screw w/Washer	6
16	73810227	Plunger Assy, 25 mm	3
16A	73810228	Plunger Base	3
16B	73810229	Plunger Pipe, 25 mm	3
16C	73810230	Centering Sleeve	3
16D	73810231	Tensioning Screw	3
16E	73810232	O-ring	3
16F	73810233	Backup Ring	3
16G	73810234	Copper Washer	3
17	73810235	Crosshead Pin	3
18	73810236	O-ring	3
19	73810237	Oil Seal	3

Item	Part Number	Description	Qty.
20	73810238	Seal Case	3
21	73810239	O-ring	3
22	73810240	O-ring	3
23	73810241	V-Sleeve, 25mm	3
23A	73810242	Spacer Ring	3
23B	73810243	Weep Seal	3
24	73810244	Pressure Ring	6
25	73810245	Weep Return Ring	3
26	73810246	Manifold	1
27	73810247	Valve Seat	6
27A	73810248	Valve Assembly	6
28	73810249	Valve Plate	6
29	73810250	Valve Spring	6
30	73810251	Valve Spring Retainer	6
31	73810252	O-ring	6
32	73810253	Plug	6
33	73810254	O-ring	6
34	73810255	Cap Screw	8

### PLUNGER PACKING KIT (73810256)

Part Number	Description	Qty.
73810239	O-ring	3
73810240	O-ring	3
73810241	V-Sleeve	3
73810243	Weep Seal	3
73810244	Pressure Ring	6

### OIL SEAL KIT (73810257)

Part Number	Description	Qty.
73810237	Oil Seal	3

### VALVE ASSY. KIT (73810258)

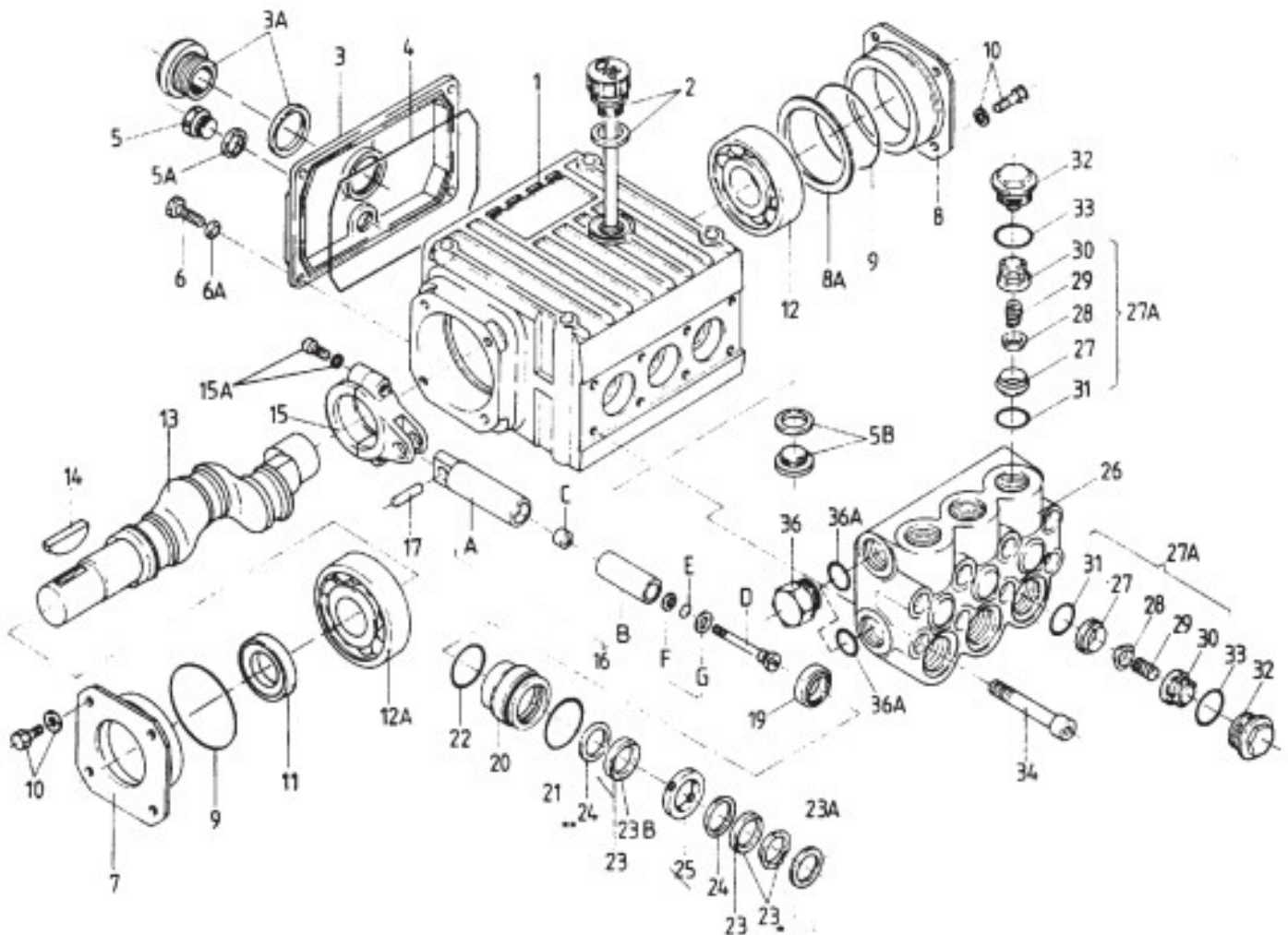
Part Number	Description	Qty.
73810248	Valve Assy., Complete	6
73810233	O-ring	6

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## 738 PUMP TORQUE SPECIFICATIONS

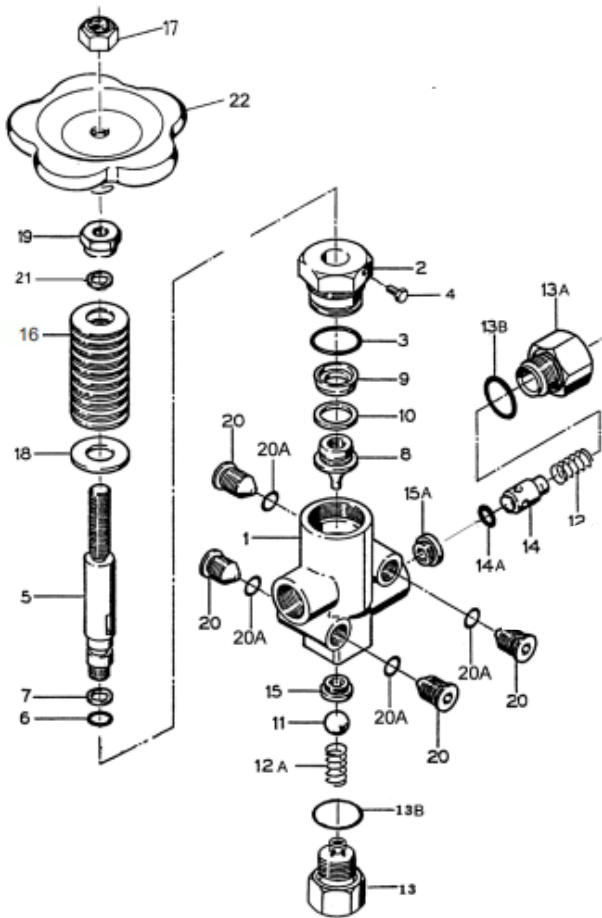
Item	Part Number	Description	Torque Amount
15A	73810226	Screw w/Washer	216 in. - lbs.
16D	73810231	Tensioning Screw	240 in. - lbs.
32	73810253	Plug	125 ft. - lbs.
34	73810255	Cap Screw	35 ft. - lbs.

## 73827300 PUMP - EXPLODED VIEW



# Appendix A Diagrams Published in 2011 Manual

## 738 UNLOADER - 73810800



### REPAIR KIT 73810827

Item	Part Number	Description	Qty.
3	73810803	O-ring, Valve Cap	1
6	73810806	O-ring, Plug	4
6A	73810807	O-ring, Valve Stem	1
7	73810808	BackUp Ring, Valve Stem	2
9	73810810	Cup, 23mm	1
10	73810811	BackUp Ring, Piston	1
13B	73810817	O-ring, Spring Retainer	2
14A	73810819	O-ring, Outlet Valve	1

Item	Part Number	Description	Qty.
1	73810801	Valve Body	1
2	73810802	Valve Cap	1
3 *	73810803	O-ring, Valve Cap	1
4	73810804	Set Screw, Valve Cap	1
5	73810805	Valve Stem	1
6 *	73810806	O-ring, Plug	4
6A *	73810807	O-ring, Valve Stem	1
7 *	73810808	BackUp Ring, Valve Stem	2
8	73810809	Piston	1
9 *	73810810	Cup, 23mm	1
10 *	73810811	BackUp Ring, Piston	1
11	73810812	Ball, Inlet	1
12	73810813	Spring, Outlet Valve	1
12A	73810814	Spring, Inlet	1
13	73810815	Inlet Adapter	1
13A	73810816	Spring Retainer, Outlet Valve	1
13B *	73810817	O-ring, Spring Retainer	2
14	73810818	Outlet Valve	1
14A *	73810819	O-ring, Outlet Valve	1
15	73810820	Seat, Inlet Valve - S.S.	1
15A	73810821	Seat, Outlet Valve - Brass	1
16	73810822	Spring, Red 2400 PSI	17
17	73810823	Nut	1
18	73810824	Washer, Spring	1
19	73810825	Adjusting Nut	1
20	73810826	Plug, 1/4"	4

\* Included in Repair Kit  
(73810827)

# Appendix A Diagrams Published in 2011 Manual

## OPTIONAL 738 ACCESSORIES

Part Number	Description
73809300	Nozzle, Open
73809400	Nozzle, Closed
77724000	Reducer 1/2 x 3/8
75700200	Q-Nozzle
73820700	Nozzle, Grenade Bomb with Reducer
73700200	Rotating Nozzle
73821500	3/8 x 15 ft. Leader Hose
73700100	3/8 x 75 ft. Hose
73808601	3/8 x 150 ft. Hose
73808602	3/8 x 250 ft. Hose
73808600	3/8 x 350 ft. Hose
73808603	1/4 x 33 ft. Hose
*77719400	1/4 x 50 ft. Hose
77719500	1/4 x 75 ft. Hose
77708700	1/4 x 100 ft. Hose
73816800	Mobile Hose Reel
77763700	Venturi Pump
*77799800	Handgun Lance Vari-Nozzle Assembly
*73816500	Adapter, Swivel 3/8M to 3/8F
73817300	Wash Down Accessory Kit
44237200	468 Root Cutter
34/3-1	3" - Model 34 Root Cutter
34/3-2	4" - Model 34 Root Cutter
34003701	Root Cutter Adapter Hose
199106-04	Foot Pedal Valve Kit
77773903	Foot Pedal
77800600	Hose Guard (Tiger Tail)

\* Included in Washdown Accessory Kit





# SPARTAN TOOL

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