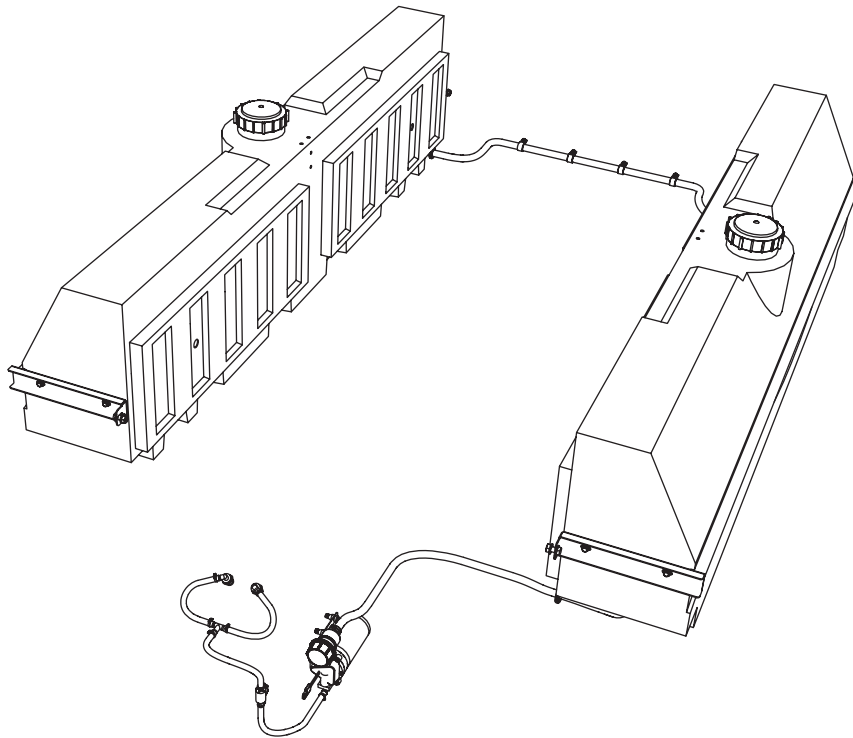




Hopper Spreader Pre-Wet Kit 200 & 250 Gallon Systems

#83730, 83735

Installation Instructions/Owner's Manual/Parts List



⚠ CAUTION

Read this manual before installing or
operating the pre-wet kit.

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SAFETY INFORMATION

SAFETY DEFINITIONS

⚠ WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

⚠ CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTE: Indicates a situation or action that can lead to damage to your pre-wet system and vehicle or other property. Other useful information can also be described.

SAFETY PRECAUTIONS

Improper installation and operation could cause personal injury and/or equipment and property damage. Read and understand labels and the Owner's Manual before installing, operating, or making adjustments.

⚠ WARNING

- Driver to keep bystanders a minimum of 25 feet away from operating pre-wet system.
- Before working with the pre-wet system, secure all loose-fitting clothing and unrestrained hair.
- Before operating the pre-wet system, verify all safety guards are in place.
- Before servicing the pre-wet system, wait for conveyor and spinner to stop.
- Do not climb into or ride on pre-wet system.

⚠ WARNING

Overloading could result in an accident or damage. Do not exceed GVWR or GAWR ratings as found on the driver-side door cornerpost of the vehicle. See Loading Section to determine maximum volumes of spreading material.

⚠ WARNING

- The drive shafts, conveyor, and spinner assemblies transmit great amounts of power and, accordingly, are hazardous when in operation. All maintenance, inspections, or operator adjustments must be made with all source power OFF.
- Keep pre-wet system and surrounding area clear of personnel and property when operating.
- When traveling, especially fully loaded, this machine may have a high center of gravity, and care should be exercised when turning or driving on banked surfaces.
- Unauthorized modifications to the pre-wet system and related components may impair the function and/or safety.

SAFETY INFORMATION

⚠ CAUTION

- Do not operate a pre-wet system in need of maintenance.
- Before operating the pre-wet system, reassemble any parts or hardware removed for cleaning or adjusting.
- Before operating the pre-wet system, remove materials such as cleaning rags, brushes, and hand tools from the pre-wet system.
- While operating the pre-wet system, use auxiliary warning lights, except when prohibited by law.
- Tighten all fasteners according to the Torque Chart. Refer to Torque Chart for the recommended torque values.

⚠ CAUTION

Disconnect electric and/or hydraulic power and tag out if required before servicing or performing maintenance.

⚠ CAUTION

DO NOT leave unused material in hopper. Material can freeze or solidify, causing unit to not work properly. Empty and clean after each use.

⚠ CAUTION

Brine is typically a clear to cloudy white liquid with no odor. It may be irritating to the eyes, skin and respiratory system. Refer to the Brine Solution Material Safety Data Sheet (MSDS) for more information.

PERSONAL SAFETY

- Remove ignition key and put the vehicle in park or in gear to prevent others from starting the vehicle during installation or service.
- Wear only snug-fitting clothing while working on your vehicle or pre-wet system.
- Do not wear jewelry or a necktie, and secure long hair.
- Wear safety goggles to protect your eyes from battery acid, gasoline, dirt, dust, and brine.
- Avoid touching hot surfaces such as the engine, radiator, hoses, and exhaust pipes.
- Always have a fire extinguisher rated BC handy, for flammable liquids and electrical fires.

CELL PHONES

A driver's first responsibility is the safe operation of the vehicle. The most important thing you can do to prevent a crash is to avoid distractions and pay attention to the road. Wait until it is safe to operate Mobile Communication Equipment such as cell phones, text messaging devices, pagers, or two-way radios.

VENTILATION

⚠ WARNING

Vehicle exhaust contains lethal fumes. Breathing these fumes, even in low concentrations, can cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.

SAFETY INFORMATION

BATTERY SAFETY

⚠ CAUTION

Batteries normally produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

- Batteries contain sulfuric acid, which burns skin, eyes, and clothing.
- Disconnect the battery before removing or replacing any electrical components.

NOISE

Airborne noise emission during use is below 70 dB(A) for the pre-wet system operator.









VIBRATION

Operating pre-wet system vibration does not exceed 2.5 m/s² to the hand-arm or 0.5 m/s² to the whole body.

TORQUE CHART

⚠ CAUTION

Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the Torque Chart. Use standard methods and practices when attaching the pre-wet system, including proper personal protective safety equipment.

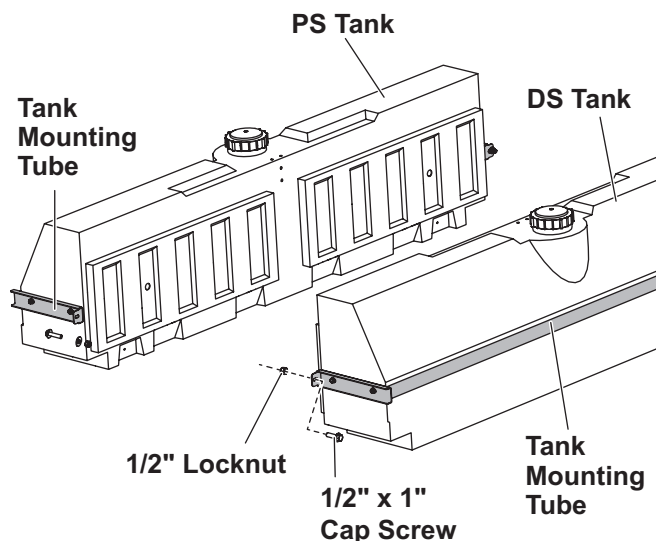
Recommended Fastener Torque Chart					
Inch Fasteners Grade 5 and Grade 8					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995
Metric Fasteners Class 8.8 and 10.9					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701
These torque values apply to fasteners except those noted in the instructions.					

INSTALLATION INSTRUCTIONS

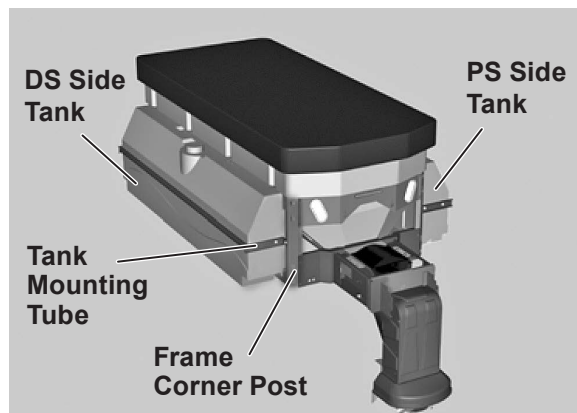
INSTALL TANKS AND HOSES

The hopper spreader must be removed from the vehicle for installation of the accessory pre-wet kit.

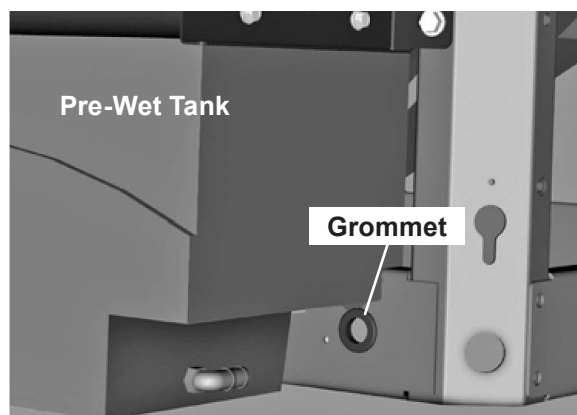
1. Confirm that the spinner drive is in the lowered position.
2. Remove one of the pre-wet tank assemblies from the shipping pallet. Position the tank against one side of the hopper frame so that it is centered between the frame corner posts. The projecting portions of the tank's inner wall will fit between the rails of the hopper frame. Push on the tank until it "clicks" into place and stays clicked into the frame.
3. Install the tank assembly to the hopper by inserting a 1/2" x 1" hex cap screw through the end tab of each tank mounting tube and the corresponding spreader frame corner post. Add a 1/2" locknut and tighten.



4. Repeat Steps 2 and 3 to install the second tank assembly on the opposite side of the spreader.

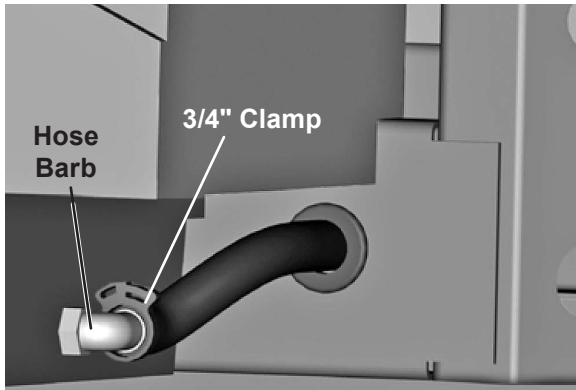


5. Install supplied rubber grommets into the holes in the lower frame rails at the front (cab) end of the spreader frame. The holes align with the ends of the pre-wet tanks.

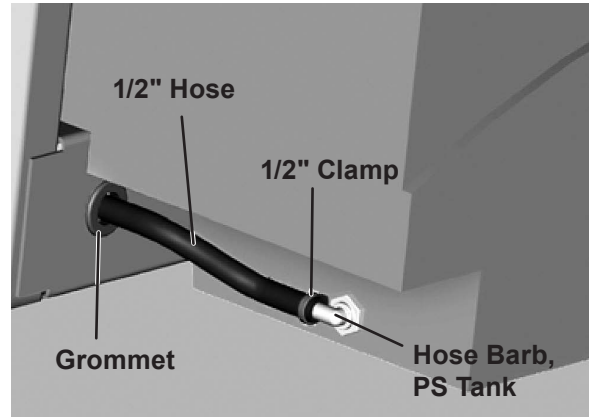


INSTALLATION INSTRUCTIONS

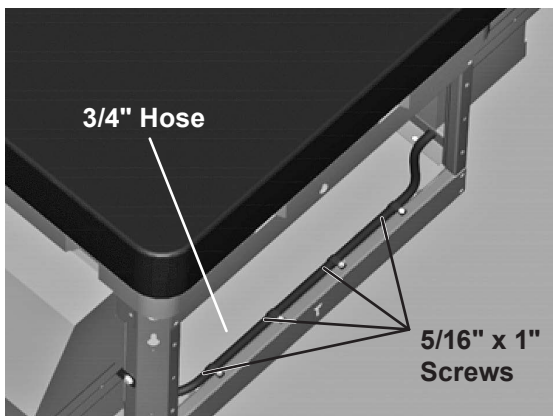
6. Insert one end of the supplied 3/4" diameter hose through the grommet on the driver's side of the frame. (Lubricating the grommet with warm soapy water will make this easier). Slide the end of the hose onto the hose barb at the bottom of the pre-wet tank. Secure the hose to the barb using a supplied 3/4" plastic clamp.



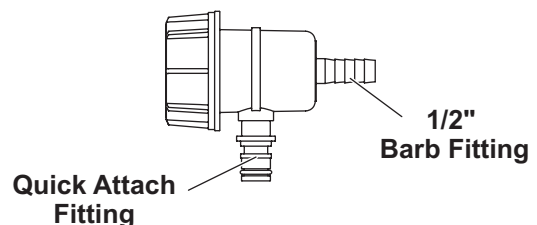
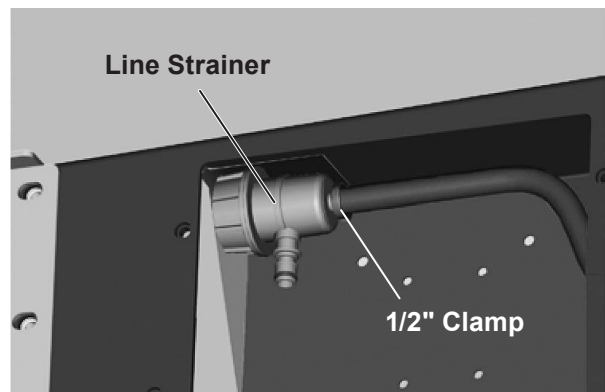
9. Install the remaining rubber grommet into the hole in the spreader frame at the tailgate end of the passenger-side pre-wet tank. Insert one end of the supplied 1/2" hose through the grommet and onto the hose barb already installed on the tank and secure it with a supplied 1/2" plastic hose clamp.



7. Repeat Step 6 on the opposite side of the frame, installing the other end of the hose to the second pre-wet tank.
8. Use the supplied 5/16" x 1" hex washer head self-drilling screws and 1" rubber-coated clamps to secure the 3/4" hose along the lower frame rail. Install the 4 screws and clamps evenly spaced across the rail.



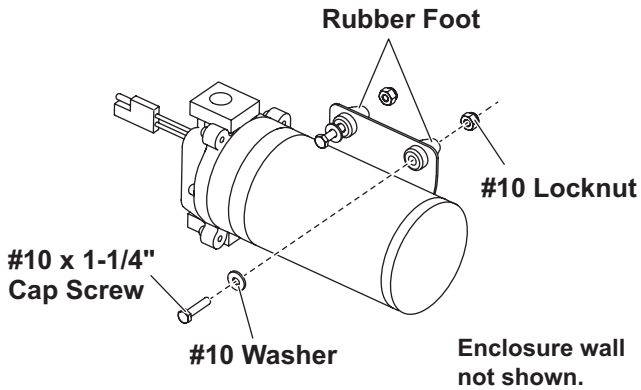
10. Remove the auger extension cover from the spreader. Push the other end of the 1/2" hose through the passenger-side oval-shaped hole in the forward (hopper-side) wall of the auger extension assembly.
11. Slide the end of the hose over the 1/2" barb fitting on the line strainer and secure it with the remaining 1/2" plastic hose clamp.



INSTALLATION INSTRUCTIONS

INSTALL PUMP AND HOSE ASSEMBLY

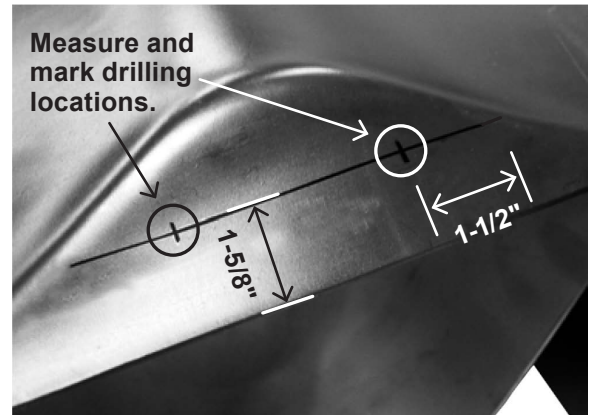
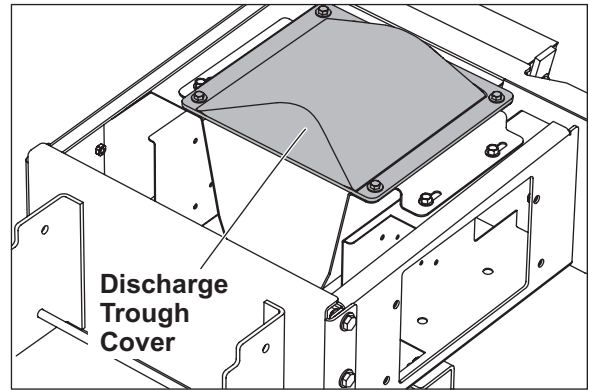
1. Position the pump so the reservoir is toward the rear of the auger extension enclosure and the pump inlet port is facing upward. Install the pump using the supplied #10 x 1-1/4" cap screws, washers, and locknuts. Tighten the fasteners until the four rubber pump feet are slightly compressed.



2. Insert the quick attach fitting on the line strainer into the inlet port of the pump. Push the tab on the pump until it clicks into position.



3. On the discharge trough cover, measure and mark a line running 1-5/8" in from the rear edge. Measure 1-1/2" in from each end of the line and mark those locations as shown below.

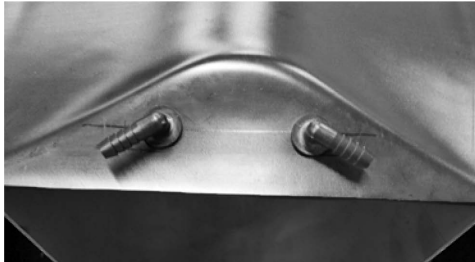


4. Drill 11/16" holes through the trough cover at the marked locations.

INSTALLATION INSTRUCTIONS

- Remove the nuts from the supplied 11/16" x 3/8" 90° nozzles and insert the nozzles through the drilled holes. Align the barbs to be parallel with the angle of the trough cover as shown. Thread the nuts back onto the nozzles and tighten.

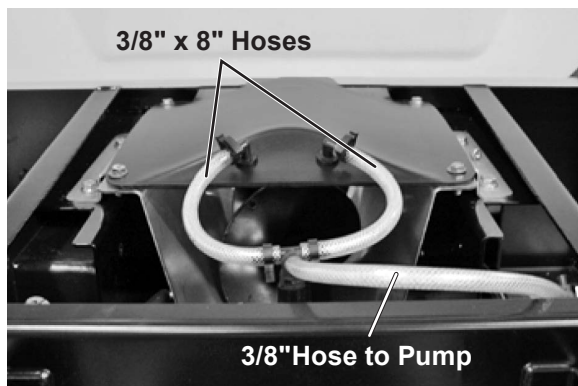
Align
barbs.



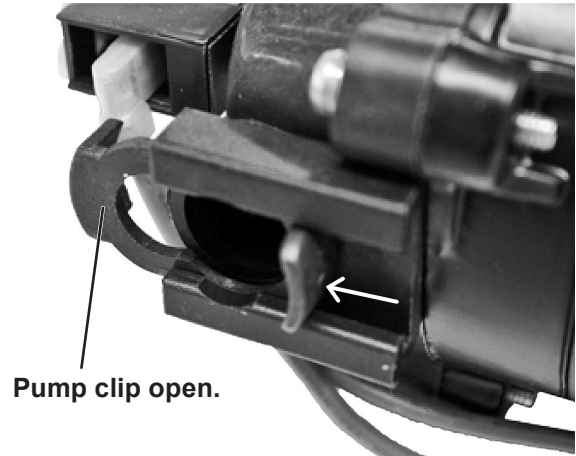
Reinstall
nuts.



- Slide the ends of the hose assembly's two 3/8" x 8" hoses onto the barbs and secure them with 3/8" plastic hose clamps as shown. Route the long hose down to the pump compartment.



- Connect the 5/8" x 3/8" 90° quick attach fitting on the long hose to the pump's outlet port. Slide the pump clip to the right to secure the hose.

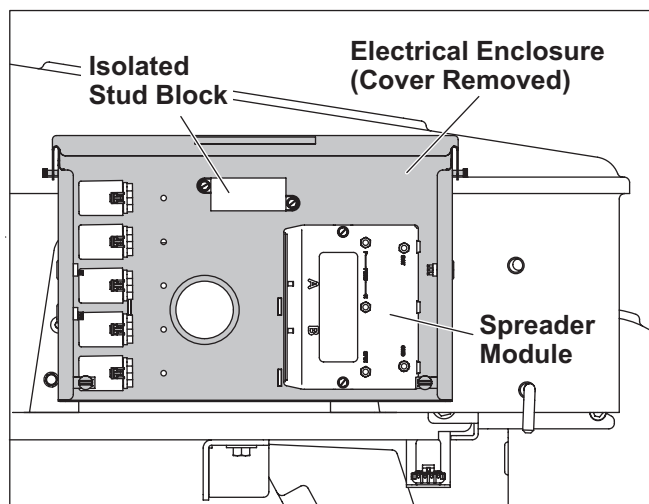


INSTALLATION INSTRUCTIONS

INSTALL THE PUMP HARNESS

Refer to the "Pre-Wet Harness Wiring Diagram" on the next page.

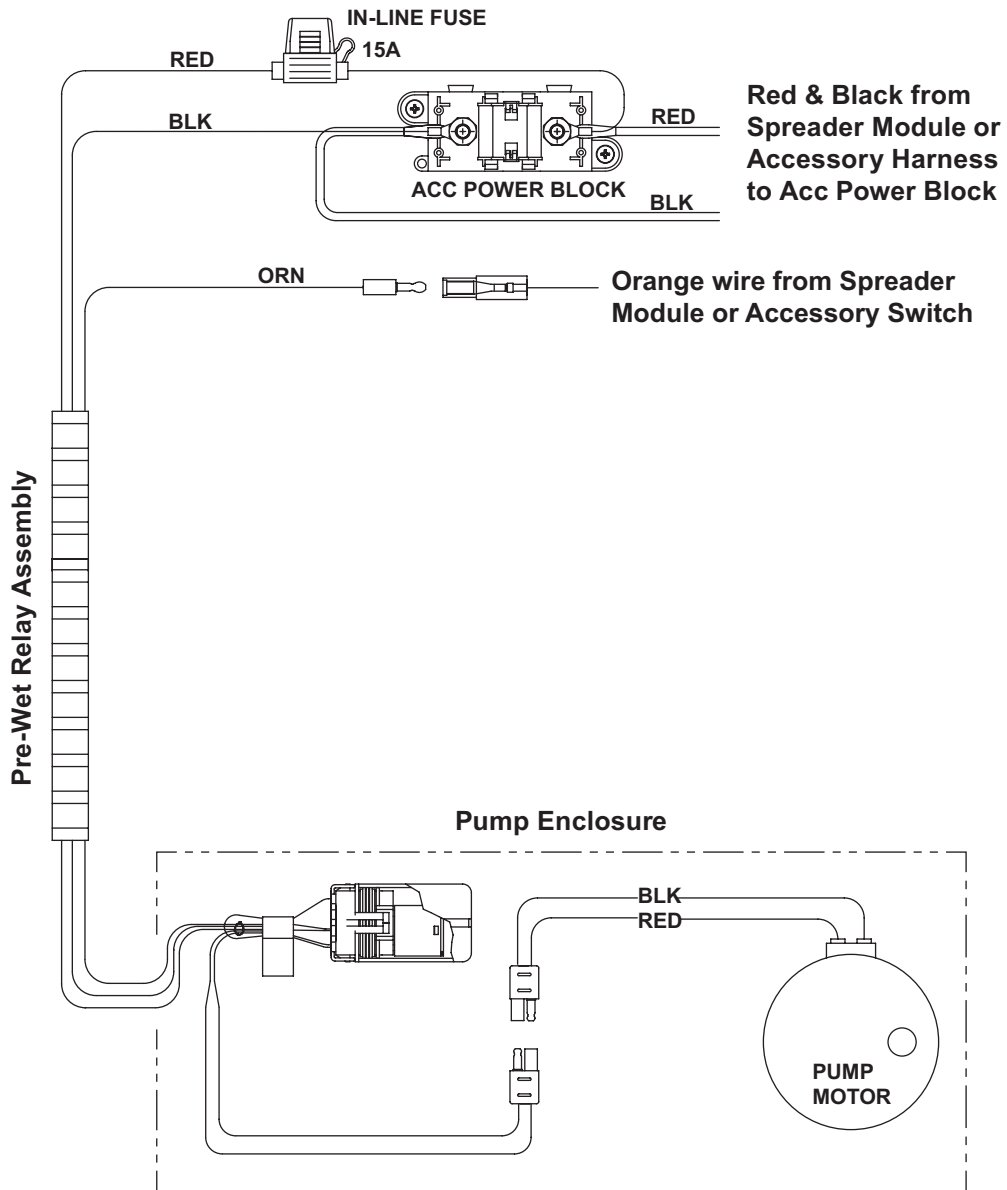
1. Remove the cover from the electrical enclosure located on the driver's side of the auger extension enclosure.
2. Connect the molded plug on the pump motor to the molded plug on the pre-wet relay assembly harness. Apply dielectric grease when connecting the plugs.
3. Route the other end of the harness over the discharge trough cover and into the electrical enclosure through the large opening in the rear wall of the enclosure.



4. Remove the cover from the isolated stud block.
5. Attach the ring terminal on the red wire of the pre-wet harness to the POSITIVE (+) terminal of the isolated stud block.
6. Attach the ring terminal on the black wire of the pre-wet harness to the NEGATIVE (-) terminal of the isolated stud block.
7. Connect the male bullet terminal of the pre-wet wire assembly harness to the orange wire coming from the spreader module. Apply dielectric grease when connecting the bullet terminal.
8. Reinstall the covers onto the isolated stud block and the electrical enclosure.
9. Secure all harnessing to prevent damage to the wires, coiling up any excess length as needed.
10. Replace the auger extension cover.

INSTALLATION INSTRUCTIONS

PRE-WET HARNESS WIRING DIAGRAM



MAINTENANCE

PERIODIC MAINTENANCE

- Wash spreader and pre-wet components after each use to prevent material build-up and corrosion.
- To prevent corrosion, use dielectric grease on all electrical connections each time power or signal plugs are disconnected.
- Inspect unit for defects such as broken, worn, or bent parts.
- Inspect all tubing, hoses, and harnesses for cracks and leaks.
- Clean the line strainer as needed. Do this when the brine tanks are empty. To access the filter, unscrew the end cap of the line strainer, then remove the filter cover.
- Retighten bolts, screws, and other connections after first use and as needed.

CLEANING

- Clean the spreader and pre-wet tanks as desired. When power washing, keep away from electronics.
- Use caution if you are flushing the pumping system with water, as it will accumulate in the valves and can cause damage if the water inside freezes. Use antifreeze if unit is to be stored in freezing temperatures.

END OF SEASON AND STORAGE

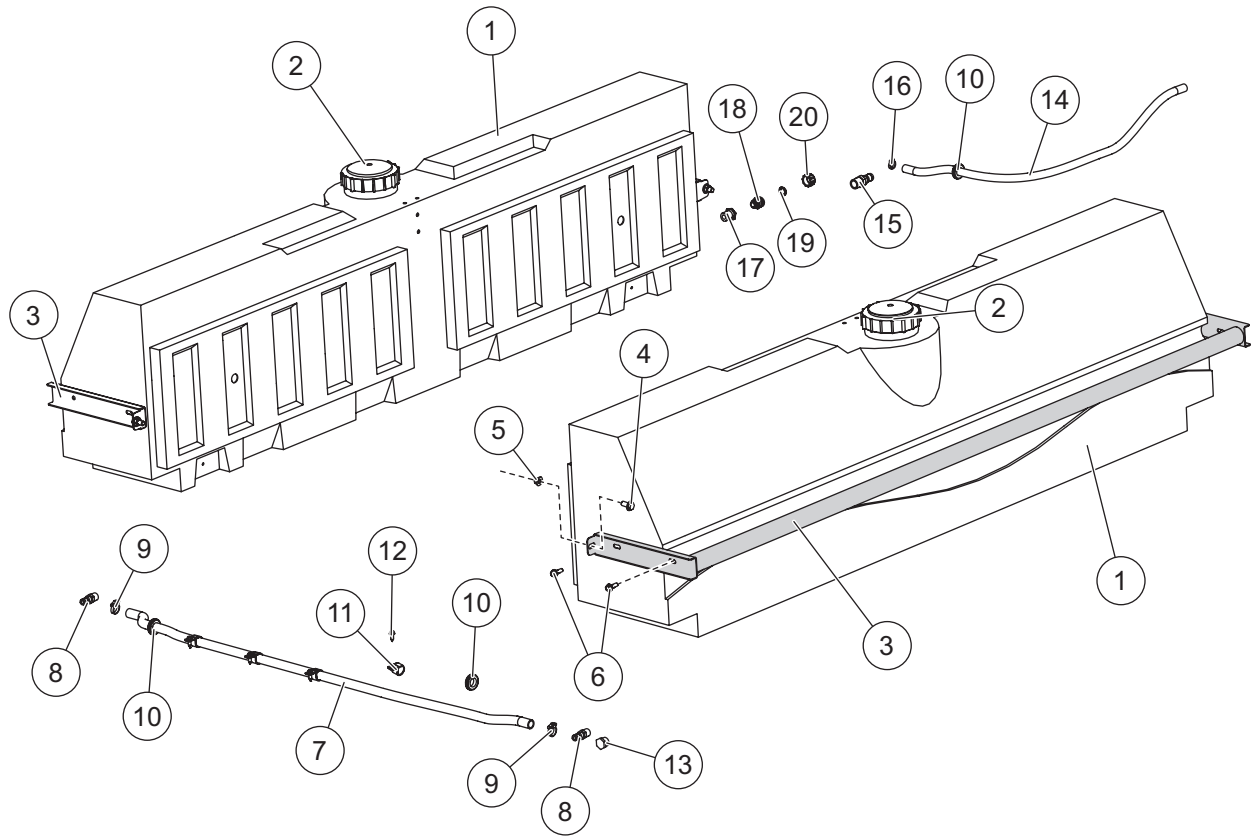
- Before long periods of storage, flush out the tanks and pumping system to remove salt build-up and prevent corrosion.
- Do not leave unused material in the spreader hopper or pre-wet tanks for a prolonged period of time.

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Suggested Solution
Pump is not operating.	1. Loose electrical connection.	1. Check all electrical connections for corrosion.
	2. Blown fuse.	2. Replace the fuse.
	3. Pump seized.	3. Replace the pump.
Control shut down.	1. Loose electrical connection.	1. Check all electrical connections for corrosion.
	2. Electrical short.	2. Check for bare or burned wires.
	3. Control failure.	3. Replace the control.
	4. Blown fuse.	4. Replace the fuse.
Material being spread is not wet.	1. Pre-wet system is not running.	1. See "Pump is not operating" above.
Spray is uneven.	1. Spray hose is clogged.	1. Clean spray hose with fresh water.
	2. Spray hose is damaged.	2. Replace the spray hose.
Pump is leaking.	1. O-ring fittings are loose.	1. Verify that O-ring fittings are fully installed.
	2. O-rings are damaged or worn.	2. Replace the O-rings.
	3. Pump housing is damaged.	3. Replace the pump.

PARTS LIST

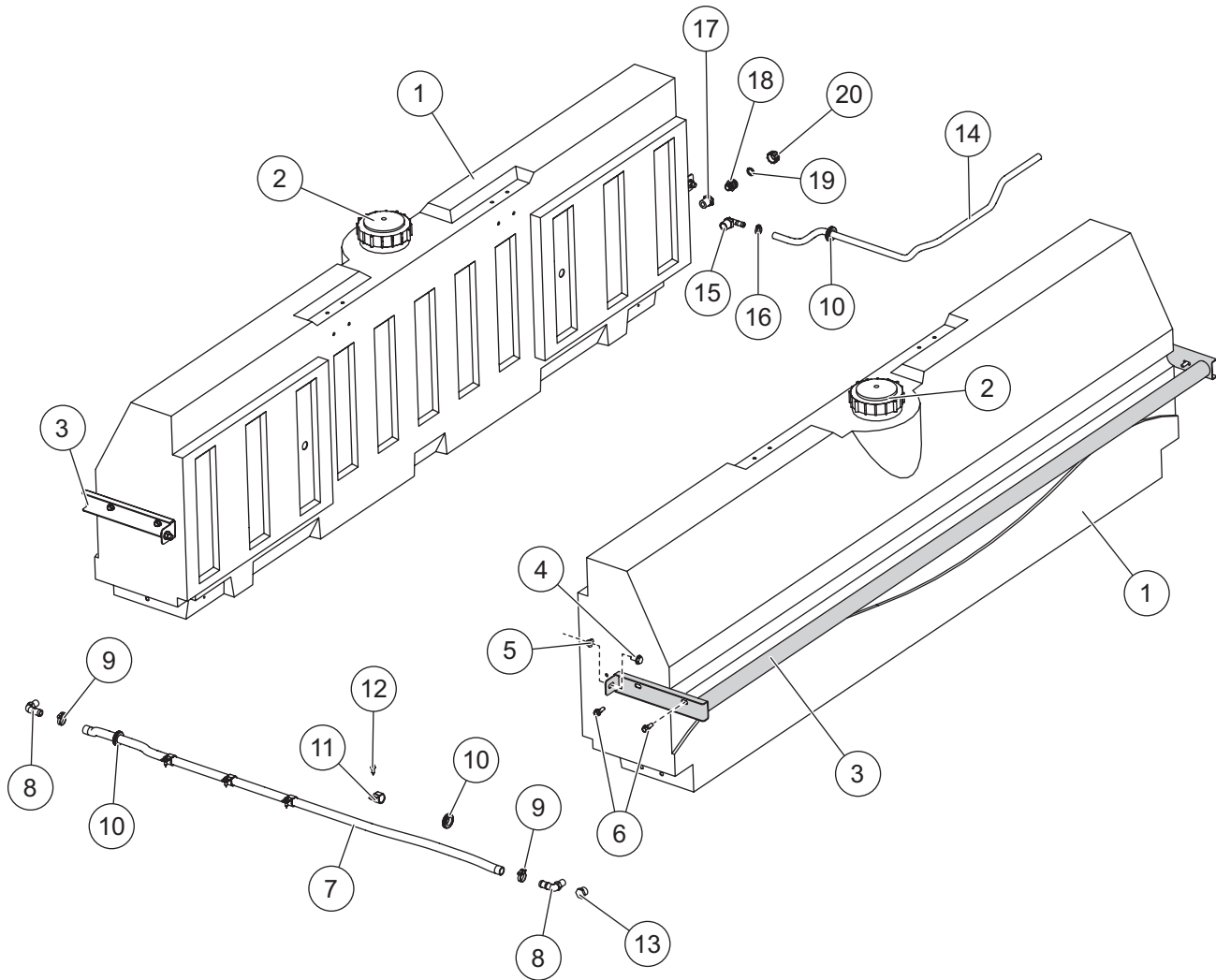
200 GALLON TANK ASSEMBLY



Tank Assembly (83730)							
Item	Part	Qty	Description	Item	Part	Qty	Description
1	F52051	2	Tank, 100 Gallon Yellow	10	D5602	3	Hose Grommet
2	F50487	2	6" Lid w/Vent Gasket	11	D7220	4	1" Clamp, Rubber Coated
3	F50447	2	Tank Mounting Tube – PWX-200	12	D6447	4	5/16 x 1 Self-Drilling Screw
4	D6528	4	1/2-13 x 1 Hex Cap Screw Serrated Flange	13	D6908	2	3/4 Pipe Plug NPT
5	D5535	4	1/2-13 Nut Serrated Flange	14	D6989-42	1	Hose, 1/2 x 42 PVC Clear
6	F50845	8	3/8-16 x 1/2 Hex Cap Screw Serrated Flange	15	D5255	1	Hose Barb, 3/4 Male Thread x 1/2
7	D6990	1	Hose, 3/4 x 80 PVC Clear	16	F50146	1	3/8 Hose Clamp, Double-Tooth Poly
8	D6928	2	Hose Barb, 3/4 Male Thread x 3/4	17	D6925	1	Reducer, 3/4 NPT x 1/2 NPT
9	F50577	2	3/4 Hose Clamp, Double-Tooth Poly	18	D5357	1	Adapter, Garden Hose, 1/2 NPT
				19	T20136	1	Washer, Garden Hose
				20	T20131	1	3/4 Garden Hose Cap, Plastic

PARTS LIST

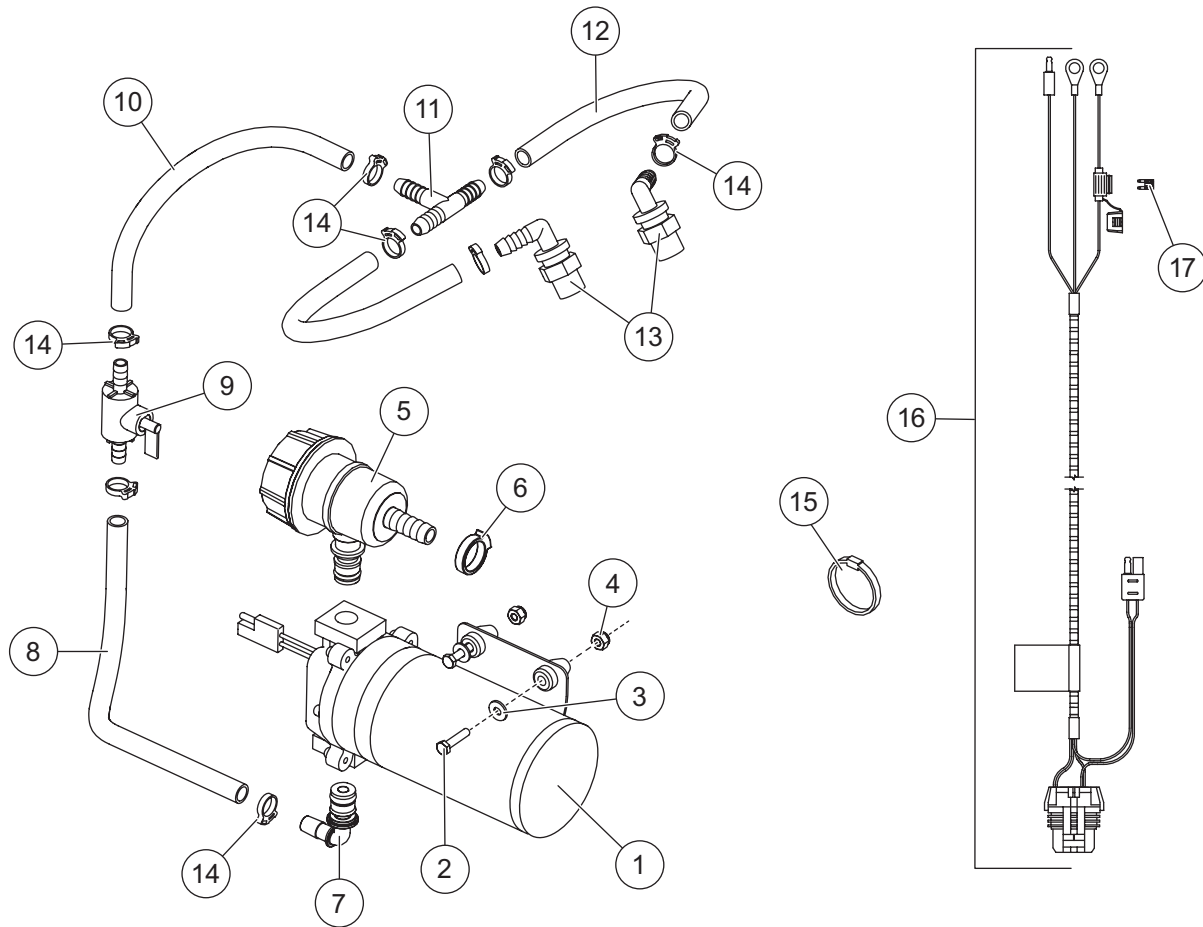
250 GALLON TANK ASSEMBLY



Tank Assembly (83735)							
Item	Part	Qty	Description	Item	Part	Qty	Description
1	F50261	2	Saddle Tank, 125 Gallon Yellow	10	D5602	3	Hose Grommet
2	F50487	2	6" Lid w/Vent Gasket	11	D7220	4	1" Clamp, Rubber Coated
3	F50406	2	Tank Mounting Tube – PWX-250	12	D6447	4	5/16 x 1 Self-Drilling Screw
4	D6528	4	1/2-13 x 1 Hex Cap Screw Serrated Flange	13	D6908	2	3/4 Pipe Plug NPT
5	D5535	4	1/2-13 Nut Serrated Flange	14	D6989-45	1	Hose, 1 x 45 PVC Clear
6	F50845	8	3/8-16 x 1/2 Hex Cap Screw Serrated Flange	15	T20313	1	Hose Barb, 3/4 Male Thread x 1/2 90°
7	D6990	1	Hose, 3/4 x 80 PVC Clear	16	F50146	1	3/8 Hose Clamp, Double-Tooth Poly
8	D6905	2	Hose Barb, 3/4 Male Thread x 3/4 90°	17	D6925	1	Reducer, 3/4 NPT x 1/2 NPT
9	F50577	2	3/4 Hose Clamp, Double-Tooth Poly	18	D5357	1	Adapter, Garden Hose, 1/2 NPT
				19	T20136	1	Washer, Garden Hose
				20	T20131	1	3/4 Garden Hose Cap, Plastic

PARTS LIST

PUMP ASSEMBLY AND ELECTRICAL COMPONENTS



Pump Assembly & Electrical Components						
Item	Part	Qty	Description	Item	Part	Qty Description
1	D5265	1	Pump 2.0 GPM	10	D6988-12	1 Hose, 3/8 x 12 PVC Clear
2	D5294	4	#10-32 x 1-1/4 Hex Cap Screw SS	11	F50148	1 Hose Barb Tee, 3/8
3	D5292	4	#10 Flat Washer SS	12	D6988-8	1 Hose, 3/8 x 8 PVC Clear
4	D5948	4	#10-32 Locknut SS	13	D6951	2 Nozzle Body, 11/16-16 UNM x 3/8 Hose Barb 90°
5	D5267	1	Line Strainer, Quick Attach	14	F50145	8 3/8 Hose Clamp, Double-Tooth Poly
6	F50146	1	1/2 Hose Clamp, Double-Tooth Poly	15	F50202	1 6" Cable Tie 30 lb
7	D5269	1	Hose Barb, 5/8 Quick Attach x 3/8 90°	16	72082	1 Relay Harness
8	D6988-9	1	Hose, 3/8 x 9 PVC Clear	17		1 15A Fuse ATC/ATO Style, Blue
9	F50672	1	Valve, 3/8 Hose Barb x 3/8 Hose Barb			

SS = Stainless Steel



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