JACOBSEN
A Textron Company

Accessory Manual

Spraytek XP™

4299276 – Spraytek XP 175 (Factory Installed)
4335126 – Spraytek XP 175 (Dealer Installed)
4299275 – Spraytek XP 300 (Factory Installed)
4335127 – Spraytek XP 300 (Dealer Installed)

4340129 – CE Kit
4323390 – 15 Foot HD Booms
4320589 – 18 Foot HD Booms
4320590 – 20 Foot HD Booms
4323391 – 15 Foot SharpShooter Booms
4322360 – 18 Foot SharpShooter Booms
4322361 – 20 Foot SharpShooter Booms
4319746 – Raven 203 Sprayer Control System
4320026 – Raven 440 Sprayer Control System
4322364 – Raven 440 + SharpShooter Sprayer Control System
4322546 – Envizio Pro II + SharpShooter Sprayer Control System
4322369 – Foam Marker Accessory
4320593 – Water Meter (Gallon)
4323447 – Water Meter (Liter) ●
4322149 – Clean Rinse Tank Accessory ●
4335026 – Electric Rewind Hose Reel Accessory
4322126 – Manual Rewind Hose Reel Accessory
4319791 – Clean Load Accessory ●
● - included in CE Kit

⚠ WARNING

Warning: If incorrectly used, this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers, and must read the entire manual before attempting to set up, operate, adjust, or service the machine.

1 CONTENTS

Proposition 65 Warning

This product contains or release chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Litho In U.S.A. 11-2015

2.1 IMPORTANT

The Jacobsen Spraytek XP is an accessory for the Truckster XD.

Refer to the Truckster XD Safety, Operation & Maintenance Manual for vehicle controls, maintenance and adjustments.

If you follow all instructions in this manual, you increase the life of your vehicle and keep its maximum performance. Adjustments and maintenance must always be done by an approved technician.

IMPORTANT: Do the maintenance included in this manual to make sure that the vehicle operate correctly.

This SAFETY, OPERATION AND MAINTENANCE MANUAL is part of the vehicle and must stay with the vehicle always. Suppliers of both original and used vehicles need to keep the documentation that comes with the vehicle.

Compliance with the conditions or operation, service and repair specified by the manufacturer, are understood to be part of the correct use.

ALL operators **MUST** read through this manual and understand the Safety Instructions, controls, lubrication and maintenance procedures.

While not needed to operate the Spraytek XP, Jacobsen recommends that the optional cab accessory is installed. When you operate the sprayer, the cab accessory can give additional protection for the operator from the chemicals used.

Make sure that you obey all safety and road traffic regulations.

You must not make any changes to the vehicle that the manufacturer does not approve. This type of change can release the manufacturer from the liability for any damage or injury.

Only if the vehicle manufacturer is no longer in business and there is no successor to the business can you make changes to the vehicle, provided that:

- An engineer in the industrial truck industry, who knows the safety requirements, must design, test and install the changes to the vehicle.
- You must keep a permanent record of the design, tests and installation of the changes.
- You must approve and make applicable changes to the vehicle capacity plate, decals, tags and manuals.
- You must apply a permanent and visible label to the vehicle. The label must provide a description of the changes, when the changes were made and the name and address of the company that designed, tested and made the changes.

When you discard worn parts, know the environmental result and use the systems available in the country where the vehicle is used. When the vehicle is at its end of life, there are guidelines in this manual for the removal of the vehicle from use.

Use only Jacobsen approved parts.

2006/42/EC
The instructions recorded here are the original instructions confirmed by Jacobsen, A Textron Company.

2 INTRODUCTION

2.2 PRODUCT IDENTIFICATION

Vehicle Serial number plate

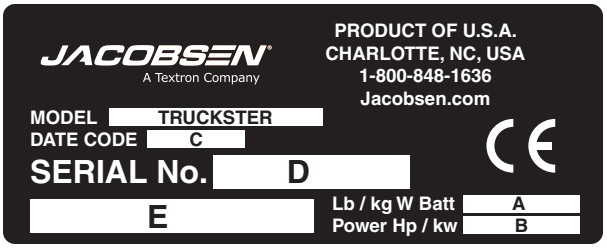
A Gross weight (Kg)

B Engine Power (Kw)

C Date code

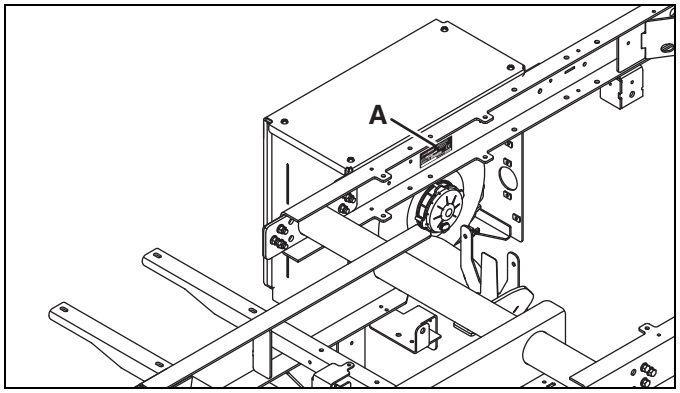
D Product number and Serial number

E Product Bar Code



Location of Vehicle Serial number plate

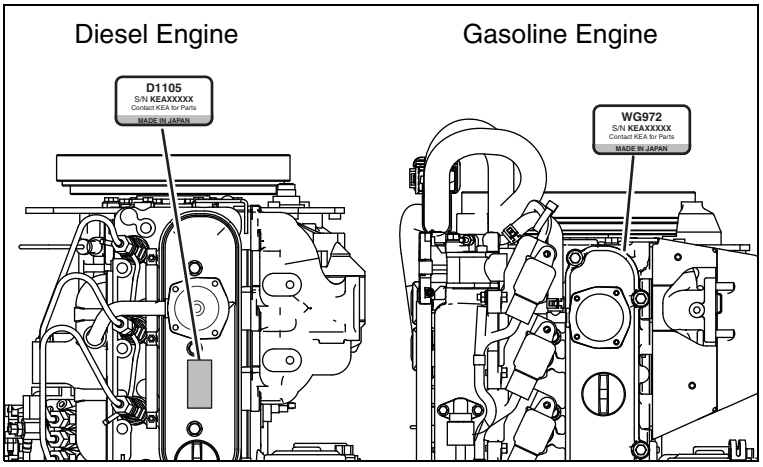
The serial number plate **(A)** is found on the inside of the right side rear frame rail above the radiator.



Engine Serial Number

The engine serial number is found on the engine valve cover. Label shows the engine group and serial number.

The engine serial number is also found on the engine block.



2.3 SERIAL NUMBERS

Record the vehicle and engine numbers shown below:

Vehicle Number:_____

Engine Number:_____

2.4 GUIDELINES FOR THE DISPOSAL OF SCRAP PRODUCTS

2.4.1 DURING SERVICE LIFE

The used oil, oil filters and engine coolant are hazardous materials. Follow the recommended procedures for their safe removal.

If a fluid leaks, contain the spill to make sure that the leak does not flow into the ground or drainage system. Follow the local laws to make sure that leaks are controlled safely.

The maintenance procedures in this manual make sure that the damage that the vehicle can cause in the local environment is controlled safely.

Take these actions after the vehicle complete its full service life.

2.4.2 END OF SERVICE LIFE

Use these guidelines with applicable Health, Safety and Environmental laws. Always use the approved local waste disposal and agencies for recycled materials.

- Park the vehicle in a location to use all of the necessary lifting equipment.
- Use the correct tools and Personal Protective Equipment (PPE) and take instruction from the technical manuals applicable to the vehicle.
- Remove and keep correctly
  1. Batteries
  2. Fuel
  3. Engine coolant
  4. Oils
- Disassemble the structure of the vehicle and refer to the technical manuals. Give attention to parts that have mechanical pressure or tension applied to the part in the vehicle, including springs.
- Separate items that continue to have service life and returned to storage.
- Separate items that are worn into the material groups and removed according to the agencies for the recycled materials that are available. Common types are as shown:
  - Steel
  - Non ferrous metals
    - Aluminum
    - Brass
    - Copper
  - Plastic Materials
    - Identified
    - Can be recycled
    - Can not be recycled
    - Not Identified
  - Rubber
  - Electrical and Electronic Components
- Add items that can not be easily separated into different materials to the “General discarded materials” area.
- Do not burn the discarded materials

Change the vehicle records to show that the vehicle is not in service and is discarded. Supply this serial number to Jacobsen Warranty Department to close their records.

3 SAFETY

3.1 HOW TO OPERATE SAFELY

WARNING

EQUIPMENT OPERATED INCORRECTLY OR WITHOUT TRAINING CAN BE DANGEROUS.

Know the location and correct operation of controls. Operators without experience must receive instruction from another person that knows the correct operation of the equipment before you operate the vehicle.

Only use parts, accessories and attachments approved by Jacobsen.

3.1.1 SAFE OPERATION

a Read the Operator's Manual and other training material. If the operator or technician can not read this manual, the owner is responsible to describe this material to the operators and technicians. Manuals in additional languages may be available on the Jacobsen.com or RansomesJacobsen.com websites.

a Read all of the instructions for this vehicle carefully. Know the controls and the correct operation of the equipment.

b Children or persons who do not understand these instructions must not use the vehicle. The local regulations can limit the age of the operator.

c Never use a vehicle near persons, including children or animals.

d Remember that the operator or owner is responsible for accidents or hazards that occur to other persons or their property.

e Never allow persons to operate or service the vehicle or its attachments without correct instructions.

f Do not operate equipment while tired, sick or after you use alcohol or drugs.

3.1.2 CHEMICAL HANDLING, USE AND STORAGE

a The sprayer use chemicals to spray on the turf and clean the sprayer after use. The MSDS (Material Safety Data Sheet) must be received from the chemical supplier for each chemical. All sprayer employees must know how to read a MSDS.

b Keep the MSDS near the area that the chemical is stored and used.

c The information on the MSDS are the chemical properties, recommended safety equipment, first aid and hazards for its use.

d Employees who use the chemicals must know the first aid treatment for accidental inhalation, swallowing, absorption or injection and reactions with other chemicals.

e Be careful when you open the sprayer tank cover. Possible dangerous chemical fumes can be inside the tank.

f The chemicals can be flammable or cause flammable vapors. When you use with the chemicals, do not smoke. Do not store chemicals near an open flame or spark which can cause the ignition of chemicals or chemical vapors.

g You must never use dangerous chemicals by yourself. Always have a second person near in case of emergency.

3.1.3 RECOMMENDED SAFETY EQUIPMENT

a Special safety equipment is used prevent accidental poisoning. When you use the chemicals, always wear the safety equipment. Contact your chemical supplier for correct material handling and compatible chemicals.

b The recommended safety equipment is given below, however more safety equipment may be required. Always refer to the chemical MSDS, for additional safety equipment that may be required.

- **Mask / Respirator** - Prevents the operator to breathe dangerous fumes. Use an approved canister type with correct filter cartridges for the chemical used.
- **Spray Suit** - Prevents the contact of the chemicals for your arms, legs and body. The spray suit must not have damage or holes.
- **PVC / Nylon Gloves** - Protect your hands and sleeve openings.
- **Goggles** - To cover your eyes / glasses.
- **Face Shield** - To prevent accidental facial contact with chemicals.

3.1.4 WORK AREA SAFETY RECOMMENDATIONS

Read this section carefully and completely to know the proper safety procedures used when you operate the sprayer.

The operator must know the function of all vehicle controls and the characteristics of the vehicle.

The safety of the operator and other persons depends on the procedures for operation and maintenance of this vehicle.

1. Jacobsen recommends that all spray technicians get a Certified Pesticide Applicators License or equivalent. The sprayer operators must follow all appropriate local, state and federal regulations for sprayer equipment, chemical use and storage.

⚠ WARNING

DO NOT operate this equipment until you have read the operators manual. Only properly trained persons with the correct safety equipment should be allowed to operate this vehicle.

Use caution when you operate on slopes, make turns and stop the vehicle. Avoid full throttle starts. The large liquid load will act different during vehicle movement, than an equal size dry load. The Spraytek XP is heavy equipment that can cause serious injury or death to the operators and persons if used improperly or overturned.

Never allow minors to operate the vehicle at any time.

2. Jacobsen recommends a run-off recovery or containment system for the mix and load area. if one is not available, make sure the run-off does not cause contamination of water supplies, public sewers, or natural wet land areas. Check your local regulations for requirements in your area.
3. Do not allow non-sprayer personnel to enter the mix and load area. The mix and load operation must be done with the correct safety equipment in position. Refer to the chemical manufacturers MSDS for necessary safety equipment, mixing and handling procedures.
4. If you use a public water system, use an anti-backflow-protection device on the hoses and water supply outlets.
5. Never place the hose into tank. This could contaminate the hose.
6. Keep your hands, feet and other body parts away from components that move. Secure loose clothing and use caution around moving parts.
7. Follow the recommended safety and maintenance schedules for the equipment. Do not operate the equipment without the safety devices in position or if the equipment does not work correctly.

8. Keep correct records related to the chemicals used, batch size, time, date, areas sprayed, weather condition and not normal occurrences.
9. If an accident, injury or unprotected exposure, tell your supervisor immediately. If necessary, operator or supervisor must contact the poison control board, EPA, and / or local-fire department to help with the situation.

3.1.5 PREPARATION

a When you operate the vehicle, wear correct clothing, slip resistant work shoes or boots, work gloves, hard hat, safety glasses and hearing protection. Long hair, loose clothing or jewelry can be caught in moving parts.

b Do not operate the equipment with the Interlock System disconnected or the system does not operate correctly. Do not disconnect or prevent the operation of any switch.

c Never operate equipment that is not in correct order or without decals, guards, shields, deflectors or other protective devices fastened.

d Inspect the vehicle before you operate the vehicle. Check the tire pressure, engine oil level, the radiator coolant level and the air cleaner indicator. Fuel is flammable. Use caution when you add the fuel to the vehicle.

e Operate the vehicle in daylight or in good artificial light. Use caution when you operate the vehicle during bad weather. Never operate the vehicle with lightning in the area.

f Inspect the area to select the accessories and attachments that are needed to correctly and safely do the job. Only use parts, accessories and attachments approved by Jacobsen.

g Be careful of holes in the terrain and other hazards that are not visible.

h Inspect the area where the equipment is operated. Remove all objects you can find before you operate. Be careful of obstructions above the ground (low tree limbs, electrical wires) and also underground obstacles (sprinklers, pipes, tree roots). Enter a new area carefully. Look for possible hazards.

3.1.6 OPERATION

a Never operate the engine without enough ventilation or in an enclosed area. The carbon monoxide in the exhaust fumes can increase to dangerous levels.

b Never carry more than one passenger. Keep other persons or animals away from the vehicle.

c Engage the parking brake, press the clutch pedal and put the transmission to neutral before you start the engine. Only start the engine with the operator in the seat. Never start the engine with persons near the vehicle.

d Keep your legs, arms and body inside the operator compartment while the vehicle is in operation. Keep your hands and feet away from moving parts.

e Do not use on the slopes greater than the safe slope limit for the equipment.

f To guard against over turning or loss of control:

– Operate the vehicle up and down on the face of slopes (vertically), but not across the face (horizontally).

– Do not start or stop suddenly on slopes.

– Decrease the speed when you operate on slopes or when you must turn. Use caution when you change direction. Turf condition can change the vehicle stability.

– Use caution when you operate the vehicle near drop-offs, ditches or embankments.

– Be careful of holes in the terrain and other hazards that are not visible.

g When you drive in the reverse direction, look behind you and down to make sure the path is clear. Do not operate the sprayer when you drive in the reverse direction.

h Use caution when you go near corners, trees or other objects that can prevent a clear view.

i Equipment must meet the current regulations to be driven on the public roads.

j Before you move across or operate on the paths or roads travel at decreased speed. Look for traffic.

k Do not release the load in the direction of persons or allow persons near the vehicle while in operation.

l Do not operate the vehicle with damaged guards or without safety devices in position.

m Do not change the engine governor setting or over-speed the engine. Never change or tamper with adjusters that are closed with a seal for the engine speed control.

n Before you leave the operator compartment, for any reason:

– Disengage all the drives and lower attachments to the ground.

– Engage the parking brake.

– Press the clutch pedal and put the transmission in 1st Gear

– Stop the engine and remove the key.

o When you hit an object or vehicle starts to cause the vibration that is not normal, inspect the vehicle for damage and make repairs. Be aware of overhead power lines, tree branches of other objects with the booms lifted.

p Decrease the throttle setting before you stop the engine.

q Do not use this equipment for uses that the vehicle was not made for.

3.1.7 ROPS

a The ROPS is a safety device. Always use the seat belt when you operate the vehicle. Make sure the seat belt can be released quickly in an emergency.

b Check for clearance before you drive below objects. Do not contact tree branches, electrical wires or other objects with the ROPS.

c Inspect the ROPS for damage. Keep the ROPS hardware fastened.

d Do not weld, drill, change or bend the ROPS. Replace a damaged ROPS. Do not try to correct a damaged ROPS.

e Do not remove the ROPS from the vehicle.

f Jacobsen must approve any changes to the ROPS.

3.1.8 SAFE HANDLING OF FUELS

a The fuel and the fuel vapors are flammable. Use caution when you add the fuel to the vehicle. The fuel vapors can cause an explosion.

b Never use the containers that are not approved to keep or transfer fuel.

c Never keep the vehicle or fuel containers near an open flame or any device that can cause the ignition of fuel or fuel vapors.

d Never fill the fuel containers inside a vehicle or on a truck or trailer with a plastic liner. Always put the fuel container on the ground away from your vehicle before you fill the container.

e Refuel the vehicle before you start the engine. When the engine is in operation or while the engine is hot, never remove the fuel cap or add fuel to the vehicle.

f Refuel outdoors only and do not smoke when you add fuel. Extinguish all types of ignition.

g The fuel nozzle must touch the rim of the fuel tank when you add fuel to the vehicle. Do not use a device to lock the fuel nozzle in the open position.

h Do not over fill the fuel tank. Leave at least 1 inch (2.5 cm) below the filler neck.

i Always tighten the fuel tank cap and container cap after you add fuel.

j If the fuel spills on your clothing, change your clothing immediately.

3.1.9 MAINTENANCE AND STORAGE

a Before you clean, adjust or repair this equipment, engage the parking brake, press the clutch and put the transmission in 1st gear, stop the engine and remove the key.

b Make sure the vehicle is parked on a solid and level surface.

c Never work on a vehicle that is lifted only by the jack. Always use the jack stands.

d Never allow persons to service the vehicle or its attachments without correct instructions.

e When the vehicle is parked, put into storage or left without an operator, lower the bed unless a positive mechanical lock is used.

f Do not keep fuel near flames or drain the fuel inside a building.

g Disconnect the battery before you service the vehicle. Always disconnect the negative battery cable before the positive battery cable. Always connect the positive battery cable before the negative battery cable.

h Charge the battery in an area with good airflow. The battery can release hydrogen gas that is explosive. To prevent an explosion, keep any device that can cause sparks or flames away from the battery.

i Disconnect the battery charger from the power supply before you connect or disconnect the battery charger to the battery. Wear protective clothing and use insulated tools when you service the battery.

j Keep your hands and feet away from parts that move. Do not adjust the vehicle with the engine in operation, unless the adjustment needs the engine in operation.

k Carefully release the pressure from components with stored energy.

l To prevent injury from the hot, high pressure oil, never use your hands to check for oil leaks. Use the paper or cardboard to find leaks.

m The hydraulic fluid pressure can have enough force to enter your skin. If hydraulic fluid has entered your skin, a doctor must remove the hydraulic fluid surgically within a few hours or gangrene can occur.

n When you service the hydraulic system, make sure the hydraulic fittings, tubes and hoses are tightened to the correct torque. Make sure the hydraulic system is in good condition before you start the engine.

o Keep the vehicle and the engine clean.

p Allow the engine to become cool before storage and always remove the ignition key.

q Keep all nuts, bolts and screws tight to make sure the equipment is in safe condition.

r Replace worn or damaged parts for safety. Replace damaged or worn decals. Only use parts, accessories and attachments approved by Jacobsen.

s To decrease the fire hazard, remove materials that burn from the engine, muffler, battery tray and fuel tank area.

t Disconnect the battery, instrument cluster and controller connectors before you weld on this vehicle.

3.1.10 WHEN YOU PUT THE VEHICLE ON A TRAILER

a Be careful when you load or unload the vehicle on a trailer. Trailer must be wider than the vehicle and can carry the weight of the vehicle.

b Use a full-width ramp to load or unload the vehicle on a trailer.

c Use straps, chains, cables or ropes to fasten the vehicle to the trailer. Both front and rear straps must be sent down and toward sides of trailer.

d Make sure that all latches are correctly fastened.

3.1.11 IMPORTANT SAFETY NOTES

This safety alert symbol gives a warning of possible hazards.

DANGER - Indicates a dangerous condition that WILL cause death or injury unless it is prevented.

WARNING - Indicates a dangerous condition that CAN cause death or injury unless it is prevented.

CAUTION - Indicates a dangerous condition that can cause injury and property damage unless it is prevented. The label can indicate work procedures that are not safe.

NOTICE - Indicates a condition that can cause damage to the property unless it is prevented. The label can indicate work procedures that are not safe.

Some illustrations in this manual show the shields, guards or plates, removed. Do not operate this equipment without these devices correctly fastened in position.

WARNING

The Interlock System on this vehicle prevents the engine to start unless the clutch pedal is fully pressed. The high-low switch must be in the OFF position for the engine to start

NEVER operate the vehicle unless the Interlock System operates correctly.

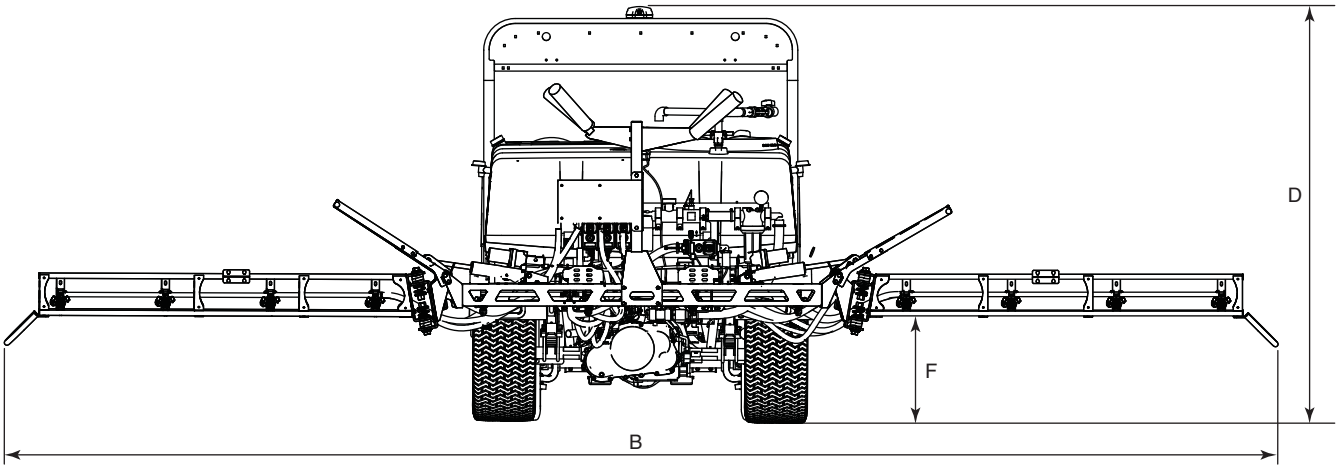
WARNING

1. Before you leave the operator position, for any reason:
   a. Return the accelerator pedal to Neutral.
   b. Press the clutch pedal and use the brake pedal to stop the vehicle.
   c. Disengage all drives.
   d. Engage the parking brake.
   e. Put the transmission in 1st gear
   f. Stop the engine and remove the ignition key.
2. Keep your hands, feet and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the vehicle.
3. Keep persons and animals away from the area of operation.
4. Never carry more than one passengers.

If additional information or service is needed, contact your Authorized Jacobsen Dealer. Your Dealer knows the current methods to service this equipment.

4.1 DIMENSIONS AND WEIGHTS

	Truckster XD
A - Width (Booms Raised)	87 inch (221 cm)
B - Width with 15 foot (457 cm) boom lowered	183 Inch (465 cm)
B - Width with 18 foot (548 cm) boom lowered	223 inch (566 cm)
B - Width with 20 foot (610 cm) boom lowered	243 inch (617 cm)
C - Length	160 inch (406 cm)
D - Height with booms lowered	84 inch (213 cm)
E - Height with 15 foot (457 cm) boom lifted	85 inch (216 cm)
E - Height with 18 foot (548 cm) or 20 foot (610 cm) boom lifted	100 inch (254 cm)
F - Nozzle Height	20 inch (50.8 cm)
Weight of 2WD Diesel Truckster XD with empty 175 Gallon Spraytek XP	2656 lb. (1205 kg)
Weight of 2WD Gasoline Truckster XD with empty 175 Gallon Spraytek XP	2614 lb. (1186 kg)
Weight of 4WD Diesel Truckster XD with empty 175 Gallon Spraytek XP	2844 lb. (1290 kg)
Weight of 4WD Gasoline Truckster XD with empty 175 Gallon Spraytek XP	2802 lb. (1271 kg)
Weight of 2WD Diesel Truckster XD with empty 300 Gallon Spraytek XP	2686 lb. (1218 kg)
Weight of 2WD Gasoline Truckster XD with empty 300 Gallon Spraytek XP	2644 lb. (1199 kg)
Weight of 4WD Diesel Truckster XD with empty 300 Gallon Spraytek XP	2874 lb. (1304 kg)
Weight of 4WD Gasoline Truckster XD with empty 300 Gallon Spraytek XP	2832 lb. (1285 kg)
Payload weight of 175 gallon (662 liter) tank (158.5 Gallon (600 liter) Water)	1322 lb. (600 kg)
Payload weight of 300 gallon (1136 liter) tank (264 Gallon (1000 liter) Water)	2203 lb. (999 kg)
Payload weight of clean rinse tank (25 Gallon (94.6 liter water)	208 lb (94.6 kg)
Weight of 15 Foot (457 cm) booms	270 lb. (122 kg)
Weight of 18 foot (548 cm) booms	275 lb. (125 kg)
Weight of 20 foot (610 cm) booms	290 lb. (132 kg)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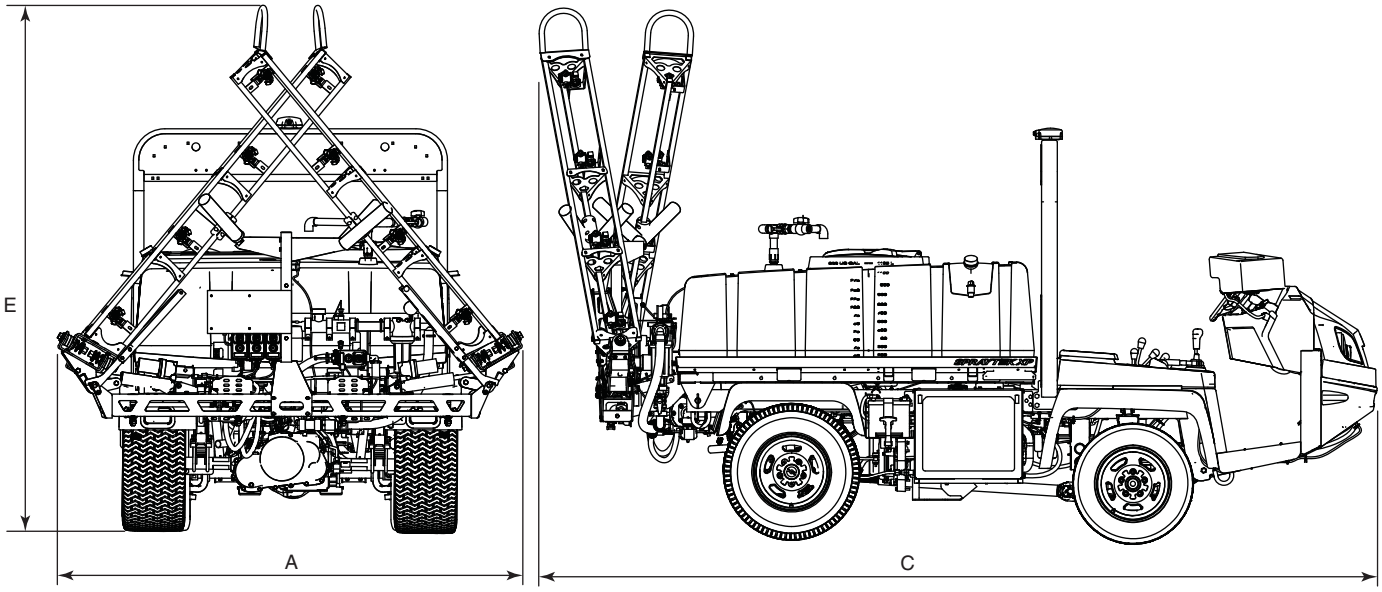
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4.2 SPRAYER SPECIFICATION

Tank Size: 300 Gallon (1136 liter) or 175 Gallon (662 liter)

Nominal Tank Volume: 264 Gallon (1000 liter) or 158.5 Gallon (600 Liter)

Sprayer Pump: Hypro 9303S-HM4C Hydraulic driven centrifugal pump.

Hydraulic Flow Rate: 5-7 Gpm (18.9-26.5 lpm)

Maximum Output: 115 Gpm (435 lpm)

Maximum Pressure: 93 psi

Sprayer Conrol: Raven 203 Console, Raven 440 Console, Raven 440 Console + Sharpshooter or Envizio Pro II Controller + Sharpshooter

Boom Options: HD and SharpShooter booms, 15 Foot (457 cm) (9 Nozzle), 18 Foot (548 cm) (11 Nozzle) and 20 Foot (610 cm) (12 Nozzle) widths

HD Boom Strainer: 50 Mesh Screen

SharpShooter Boom Strainer: 80 Mesh Screen

Nozzle Spacing: 20 inch (50.8 cm)

4 SPECIFICATIONS

4.3 VIBRATION LEVEL

The vehicle was tested for hand and arm vibration levels. The operator was in the normal position to drive the vehicle, with two hands on the steering mechanism. The engine was in operation, while the vehicle was not moving.

The Machinery Safety Directive 2006/42/EC
Referenced to Hand/Arm: BS EN ISO 20643:2008

Information Supplied for Physical Agents Directive 2002/44/EC

Truckster XD Hand/Arm Acceleration Level	84082 Truckster XD with Spraytek XP
	Maximum Left Hand or Right Hand Accelerations m/s^2
	Mean Value of X, Y, Z Aeq
Diesel Engine Option	TBD ± TBD
Gasoline Engine Option	TBD ± TBD

The vehicle was tested for Whole Body vibration levels. The operator was in the normal position to drive the vehicle, with two hands on the steering mechanism. The cutting device was in rotation with the vehicle driven in a straight line at 6 Km/hr on a level and cut lawn.

The Machinery Safety Directive 2006/42/EC
By compliance to:
Whole Body EN1032:2003

Information Supplied for Physical Agents Directive 2002/44/EC
By reference to:
Whole Body Standards BS EN ISO 2631-1 (1997)

Truckster XD Whole Body Acceleration Level	84082 Truckster XD with Spraytek XP
	Maximum Seat Pad Accelerations m/s^2
	Mean Value of X, Y, Z Aeq
Diesel Engine Option	TBD ± TBD
Gasoline Engine Option	TBD ± TBD

4.4 NOISE

The machine was tested for sound pressure (Operator Ear).
The Machinery Safety Directive 2006/42/EC
and Exposure of Workers to the Risks Arising From Physical Agents (Noise) Directive 2003/10/EC
By Compliance to:
The Sound Pressure Standard EN ISO 3746:2010 was used
Measured Sound Pressure TBD dB(A) ± TBD LWA

The machine was tested for sound power (Noise in the Environment).
The Machinery Safety Directive 2006/42/EC
and Noise Emission In The Environment For Use Outdoors Directive 2000/14/EC
By Compliance to:
Sound Pressure Standard EN ISO 3744:2010 was used
Measured Sound Power TBD dB(A) ± TBD LWA

4.5 SLOPES

DO NOT USE ON SLOPES GREATER THAN 15°.

4.6 ACCESSORIES

4.6.1 SPRAYER CONTROLS

Raven 203 System: 4319746
Raven 440 System: 4320026
Raven 440 + Sharpshooter System: 4322364
Envisio Pro II + Sharpshooter System: 4322546

4.6.2 BOOMS

15 Foot HD (457 cm) Boom: 4323390
15 Foot (457 cm) Sharpshooter Boom: 4323391
18 Foot (548 cm) HD Boom: 4320589
18 Foot (548 cm) Sharpshooter Boom: 4322360
20 Foot (610 cm) HD Boom: 4320590
20 Foot (610 cm) Sharpshooter Boom: 4322361
Walking Boom: 4323448
Boom Shields: 4323449

4.6.3 HOSE REEL

Electric Rewind Hose Reel: 4335026
Manual Rewind Hose Reel: 4322126
Spray Gun: 4323628
50 foot (15.2 meter), 5/8 inch (1.6 cm) I.D. Hose: 4323488
50 foot (15.2 meter), 3/4 inch (1.9 cm) I.D. Hose: 4323987
100 foot (30.5 meter), 5/8 inch (1.6 cm) I.D. Hose: 4323487
100 foot (30.5 meter), 3/4 inch (1.9 cm) I.D. Hose: 4323989
200 foot (70 meter), 5/8 inch (1.6 cm) I.D. Hose: 4323489
200 foot (70 meter), 3/4 inch (1.9 cm) I.D. Hose: 4323990

4.6.4 OTHER ACCESSORIES

Foam Marker: 4335709
Water Meter (Gallon): 4320593
Water Meter (Liter): 4323447
Clean Load Tank: 4319791
Clean Rinse Tank: 4322149
Tank Rinse, Hose Hookup: 4320588

4.7 SUPPORT LITERATURE

Contact your Jacobsen Dealer for a complete listing of literature available for your vehicle.

Spraytek XP Accessory Manual: 4335129

Truckster XD Safety, Operation, & Maintenance Manual: 4330108

Truckster XD Vehicle Parts Manual: 4330107

Diesel Engine Parts Manual: 4304579

Gasoline Engine Parts Manual: 4330165

Service & Repair Manual: TBD

4.8 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY ▪ ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ ▪ PROHLÁŠENÍ O SHODĚ ▪ OVERENSSTEMMELSESERKLÆRING ▪ CONFORMITEITSVERKLARING ▪ VASTAVUSDEKLARATSIOON ▪ VAATIMUSTENMUKAISUUSVAKUUTUS ▪ DECLARATION DE CONFORMITE ▪ KONFORMITÄTSERKLÄRUNG ▪ ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ▪ MEGFELELŐSÉGI NYILATKOZAT ▪ DICHIARAZIONE DI CONFORMITÀ ▪ ATBILSTĪBAS DEKLARĀCIJA ▪ ATITIKTIES DEKLARACIJA ▪ DIKJARAZZJONI TAL-KONFORMITÀ ▪ DEKLARACJA ZGODNOŚCI ▪ DECLARAÇÃO DE CONFORMIDADE ▪ DECLARAŢIE DE CONFORMITATE ▪ VYHLÁSENIE O ZHODE ▪ IZJAVA O SKLADNOSTI ▪ DECLARACIÓN DE CONFORMIDAD ▪ DEKLARATION OM ÖVERENSSTÄMMELSE ▪ SAMRÆMISYFIRLÝSING ▪ KONFORMITETSERKLÆRING ▪ 符合性声明 ▪ SAMRÆMISYFIRLÝSING ▪ 適合宣言 ▪ 적합성 선언서 ▪ UYGUNLUK BEYANI ▪ ДЕКЛАРАЦІЯ ПРО ВІДПОВІДНІСТЬ

Business name and full address of the manufacturer ▪ Търговско име и пълен адрес на производителя ▪ Obchodní jméno a plná adresa výrobce ▪ Producentens firmanavn og fulde adresse ▪ Bedrijfsnaam en volledig adres van de fabrikant ▪ Tootja ärinimi ja täielik aadress ▪ Valmistajan toiminimi ja täydellinen osoite ▪ Nom commercial et adresse complète du fabricant ▪ Firmenname und vollständige Adresse des Herstellers ▪ Επωνυμία και ταχυδρομική διεύθυνση κατασκευαστή ▪ A gyártó üzleti neve és teljes címe ▪ Ragione sociale e indirizzo completo del fabbricante ▪ Uzņēmuma nosaukums un pilna ražotāja adrese ▪ Verslo pavadinimas ir pilnas gamintojo adresas ▪ Isem kummerċjali u indirizz sħiħ tal-fabbrikant ▪ Nazwa firmy i pełny adres producenta ▪ Nome da empresa e endereço completo do fabricante ▪ Denumirea comercială şi adresa completă a producătorului ▪ Obchodný názov a úplná adresa výrobcu ▪ Naziv podjetja in polni naslov proizvajalca ▪ Nombre de la empresa y dirección completa del fabricante ▪ Tillverkarens företagsnamn och kompletta adress ▪ Fyrirtækisheiti og fullt heimilisfang framleiðanda ▪ Firmanavn og full adresse for produsenten ▪ 制造商的商业名称和完整地址 ▪ Nafn fyrirtækis og fullt heimilisfang framleiðanda ▪ 商号およびメーカーの正式住所 ▪ 제조자의 상호명 및 주소 ▪ İmalatçının ticari ünvanı ve açık adresi ▪ Фірмове найменування і повна адреса виробника	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA
Product Code ▪ Код на продукта ▪ Kód výrobku ▪ Produktkode ▪ Productcode ▪ Toote kood ▪ Tuotekoodi ▪ Code produit ▪ Produktcode ▪ Κωδικός προϊόντος ▪ Termékkód ▪ Codice prodotto ▪ Produkta kods ▪ Produkto kodas ▪ Kodiċi tal-Prodott ▪ Kod produktu ▪ Código do Produto ▪ Cod produs ▪ Kód výrobku ▪ Oznaka proizvoda ▪ Código de producto ▪ Produktkod ▪ Vörunúmer ▪ Produktkode ▪ 产品代码 ▪ Framleiðslunúmer ▪ 製品コード ▪ 제품 코드 ▪ Ürün Kodu ▪ Код виробу	84082
Machine Name ▪ Наименование на машината ▪ Název stroje ▪ Maskinnavn ▪ Machinenaam ▪ Masina nimi ▪ Laitteen nimi ▪ Nom de la machine ▪ Maschinenbezeichnung ▪ Ονομασία μηχανήματος ▪ Gépnév ▪ Denominazione della macchina ▪ Iekārtas nosaukums ▪ Mašinos pavadinimas ▪ Isem tal-Magna ▪ Nazwa urządzenia ▪ Nome da Máquina ▪ Numele echipamentului ▪ Názov stroja ▪ Naziv stroja ▪ Nombre de la máquina ▪ Maskinens namn ▪ Heiti tækis ▪ Maskinnavn ▪ 机器名称 ▪ Nafn vélar ▪ 機械名 ▪ 기기 명칭 ▪ Makine Adı ▪ Назва машини	Truckster XD
Designation ▪ Предназначение ▪ Označení ▪ Betegnelse ▪ Benaming ▪ Nimetus ▪ Tyyppimerkintä ▪ Pažymėjimas ▪ Bezeichnung ▪ Χαρακτηρισμός ▪ Megnevezés ▪ Funzione ▪ Apzīmējums ▪ Lithuanian ▪ Denominazzjoni ▪ Oznaczenie ▪ Designação ▪ Specificaţie ▪ Označenie ▪ Namen stroja ▪ Descripción ▪ Beteckning ▪ Merking ▪ Konstruksjon ▪名称 ▪ Útnefning ▪ 用途 ▪ 지정 ▪ Tanımı ▪ Позначення	Dumper, Article 12, Item 18
Serial Number ▪ Сериен номер ▪ Sériové číslo ▪ Serienummer ▪ Serienummer ▪ Seerianumber ▪ Valmistusnumero ▪ Numéro de série ▪ Seriennummer ▪ Σειριακός αριθμός ▪ Sorozatszám ▪ Numero di serie ▪ Sērijas numurs ▪ Serijos numeris ▪ Numru Serjali ▪ Numer seryjny ▪ Número de Série ▪ Număr de serie ▪ Sériové číslo ▪ Serijska številka ▪ Número de serie ▪ Serienummer ▪ Raðnúmer ▪ Serienummer ▪序列号 ▪ Raðnúmer ▪ シリアル番号 ▪ 일련 번호 ▪ Seri Numarası ▪ Серійний номер	8408201651-8408203000
Engine ▪ Двигател ▪ Motor ▪ Motor ▪ Motor ▪ Mootor ▪ Moottori ▪ Moteur ▪ Motor ▪ Μηχανή ▪ Modulnév ▪ Motore ▪ Dzinējs ▪ Variklis ▪ Saħħa Netta Installata ▪ Silnik ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Vél ▪ Motor ▪ 发动机 ▪ Aflvél ▪ エンジン ▪ 엔진 ▪ Motor ▪ Двигун	Kubota D1105-E4B Diesel Kubota WG972 EFI
Net Installed Power ▪ Нетна инсталирана мощност ▪ Čistý instalovaný výkon ▪ Installeret nettoeffekt ▪ Netto geïnstalleerd vermogen ▪ Installeeritud netovõimsus ▪ Asennettu nettoteho ▪ Puissance nominale nette ▪ Installierte Nettoleistung ▪ Καθαρή εγκατεστημένη ισχύς ▪ Nettó beépített teljesítmény ▪ Potenza netta installata ▪ Paredzētā tīkla jauda ▪ Grynoji galia ▪ Wisa' tal-Qtugħ ▪ Moc zainstalowana netto ▪ Potência instalada ▪ Puterea instalată netă ▪ Čistý inštalovaný výkon ▪ Neto vgrajena moč ▪ Potencia instalada neta ▪ Nettoeffekt ▪ Nettóafl vélar ▪ Netto installert kraft ▪ 装机净功率 ▪ Netuppsetningarorka ▪ 搭載する正味出力 ▪ 정미 출력 ▪ Net Kurulu Güç ▪ Корисна встановлена потужність	18.5 kW @ 3000 RPM 24.2 kW @ 3600 RPM
Cutting Width ▪ Широчина на рязане ▪ Šířka řezu ▪ Skærebredde ▪ Maaibreedte ▪ Lõikelaius ▪ Leikkuuleveys ▪ Largeur de coupe ▪ Schnittbreite ▪ Μήκος μισινέζας ▪ Vágási szélesség ▪ Larghezza di taglio ▪ Griešanas platums ▪ Pjovimo plotis ▪ Tikkonforma mad-Direttivi ▪ Szerokość cięcia ▪ Largura de Corte ▪ Lăţimea de tăiere ▪ Šírka záberu ▪ Širina reza ▪ Anchura de corte ▪ Klippbredd ▪ Skurðbreidd ▪ Klippebredde ▪ 剪草宽度 ▪ Breidd sláttar ▪ 刈り取り幅 ▪ 절단 폭 ▪ Kesme Genişliği ▪ Ширина різання	Not Applicable
Conforms to Directives ▪ В съответствие с директивите ▪ Splňuje podmínky směrnic ▪ Er i overensstemmelse med direktiver ▪ Voldoet aan de richtlijnen ▪ Vastab direktiividele ▪ Direktiivien mukainen ▪ Conforme aux directives ▪ Entspricht Richtlinien ▪ Ακολουθήστε πιστά τις Οδηγίες ▪ Megfelel az irányelveknek ▪ Conforme alle Direttive ▪ Atbilst direktīvām ▪ Atitinka direktyvų reikalavimus ▪ Valutazzjoni tal-Konformità ▪ Dyrektywy związane ▪ Cumpre as Directivas ▪ Respectă Directivele ▪ Je v súlade so smernicami ▪ Skladnost z direktivami ▪ Cumple con las Directivas ▪ Uppfyller direktiv ▪ Samræmist tilskipunum ▪ I samsvar med direktiv ▪ 符合指令 ▪ Í samræmi við reglugerðir ▪ 適合指令 ▪ 규정 준수 ▪ Şu Yönergelere Uymaktadır ▪ Відповідає директиві	2004/108/EC 2006/42/EC 2000/14/EC, 2005/88/EC 2006/66/EC
Conformity Assessment ▪ Оценка за съответствие ▪ Hodnocení plnění podmínek ▪ Overensstemmelsesvurdering ▪ Conformiteitsbeoordeling ▪ Vastavushindamine ▪ Vaatimustenmukaisuuden arviointi ▪ Evaluation de conformité ▪ Konformitätsbeurteilung ▪ Διαπίστωση Συμμόρφωσης ▪ Megfelelőség-értékelés ▪ Valutazione della conformità ▪ Atbilstības novērtējums ▪ Atitikties įvertinimas ▪ Livell tal-Qawwa tal-Ħoss Imkejjel ▪ Ocena zgodności ▪ Avaliação de Conformidade ▪ Evaluarea conformităţii ▪ Vyhodnotenie zhodnosti ▪ Ocena skladnosti ▪ Evaluación de conformidad ▪ Bedömning av överensstämmelse ▪ Samræmismat ▪ Konformitetsvurdering ▪ 符合性评估 ▪ Samræmismat ▪ 適合性評価 ▪ 적합성 평가 ▪ Uygunluk Değerlendirmesi ▪ Оцінка відповідності	2006/42/EC Annex VIII
Measured Sound Power Level ▪ Измерено ниво на звукова мощност ▪ Naměřený akustický výkon ▪ Målte lydstyrkeniveau ▪ Gemeten geluidsniveau ▪ Mõõdetud helivõimsuse tase ▪ Mitattu äänitehotaso ▪ Niveau de puissance sonore mesuré ▪ Gemessener Schalldruckpegel ▪ Σταθμισμένο επίπεδο ηχητικής ισχύος ▪ Mért hangteljesítményszint ▪ Livello di potenza sonora misurato ▪ Izmērītais skaņas jaudas līmenis ▪ Išmatuotas garso stiprumo lygis ▪ Livell tal-Qawwa tal-Ħoss Iggarantit ▪ Moc akustyczna mierzona ▪ Nível sonoro medido ▪ Nivelul măsurat al puterii acustice ▪ Nameraná hladina akustického výkonu ▪ Izmerjena raven zvočne moči ▪ Nivel de potencia sonora medido ▪ Uppmätt ljudeffektsnivå ▪ Mælt hljóðaflsstig ▪ Målt lydeffektnivå ▪ 测得声功率级 ▪ Mældur hljóðstyrkur ▪ 音出力レベル測定値 ▪ 측정된 음향 파워 레벨 ▪ Ölçülen Ses Gücü Düzeyi ▪ Виміряний рівень звукової потужності	TBD dB(A) ± TBD LWA
Guaranteed Sound Power Level ▪ Гарантирано ниво на звукова мощност ▪ Garantovaný akustický výkon ▪ Garanteret lydstyrkeniveau ▪ Gegarandeerd geluidsniveau ▪ Garanteeritud helivõimsuse tase ▪ Taattu äänitehotaso ▪ Niveau de puissance sonore garanti ▪ Garantierter Schalldruckpegel ▪ Εγγυημένο επίπεδο ηχητικής ισχύος ▪ Szavatolt hangteljesítményszint ▪ Livello di potenza sonora garantito ▪ Garantētais skaņas jaudas līmenis ▪ Garantuotas garso stiprumo lygis ▪ Livell tal-Qawwa tal-Ħoss Iggarantit ▪ Moc akustyczna gwarantowana ▪ Nível sonoro farantido ▪ Nivelul garantat al puterii acustice ▪ Garantovaná hladina akustického výkonu ▪ Zajamčena raven zvočne moči ▪ Nivel de potencia sonora garantizado ▪ Garanterad ljudeffektsnivå ▪ Hljóðaflsstig sem ábyrgð er tekin á ▪ Garanter lydeffektnivå ▪ 保证声功率级 ▪ Tryggður hljóðstyrkur ▪ 音出力保証レベル ▪ 보장된 음향 파워 레벨 ▪ Garantili Ses Gücü Düzeyi ▪ Гарантований рівень звукової потужності	TBD dB(A) LWA

4 SPECIFICATIONS

Conformity Assessment Procedure (Noise) • Оценка за съответствие на процедурата (Шум) • Postup hodnocení plnění podmínek (hluk) • Procedure for overensstemmelsesvurdering (Støj) • Procedure van de conformiteitsbeoordeling (geluid) • Vastavushindamismenetlus (müra) • Vaatimustenmukaisuuden arviointimenettely (Melu) • Procédure d'évaluation de conformité (bruit) • Konformitätsbeurteilungsverfahren (Geräusch) • Διαδικασία Αξιολόγησης Συμμόρφωσης (Θόρυβος) • Megfelelőség-értékelési eljárás (Zaj) • Procedura di valutazione della conformità (rumore) • Atbilstības novērtējuma procedūra (troksnis) • Atitikties įvertinimo procedūra (garsas) • Proċedura tal-Valutazzjoni tal-Konformità (Ħoss) • Procedura oceny zgodności (poziom hałasu) • Processo de avaliação de conformidade (nível sonoro) Procedura de evaluare a conformității (zgomot) • Postup vyhodnocovania zhodnosti (hluk) • Postopek za ugotavljanje skladnosti (hrup) • Procedimiento de evaluación de conformidad (ruido) • Procedur för bedömning av överensstämmelse (buller) • Samræmismatsaðferð (hávaði) • Prosedyre for konformitetsvurdering (støy) • 符合性评估程序 (噪声) • Aðgerð fyrir samræmismat (Hávaði) • 適合性評価の手順 (騒音) • 적합성 평가 절차 (소음) • Uygunluk Değerlendirme Prosedürü (Gürültü) • Регламент оцінки відповідності (шум)	2000/14/EC Annex VI, Part 1
UK Notified Body for 2000/14/EC • Нотифициран орган в Обединеното кралство за 2000/14/ЕО • Úřad certifikovaný podle směrnice č. 2000/14/EC • Det britiske bemyndigede organ for 2001/14/EF • Engels adviesorgaan voor 2000/14/EG • Ühendkuningriigi teavitatud asutus direktiivi 2000/14/EÜ mõistes • Direktiivin 2000/14/EY mukainen ilmoitettu tarkastuslaitos Isossa-Britanniassa • Organisme notifié concernant la directive 2000/14/CE • Britische benannte Stelle für 2000/14/EG • Κοινοποιημένος Οργανισμός Ηνωμένου Βασιλείου για 2000/14/ΕΚ • 2000/14/EK – egyesült királyságbeli bejelentett szervezet • Organismo Notificato in GB per 2000/14/CE • 2000/14/EK AK reġistrētā organizācija • JK notifikuotosios įstaigos 2000/14/EC • Korp Notifikat tar-Renju Unit għal 2000/14/KE • Dopuszczona jednostka badawcza w Wielkiej Brytanii wg 2000/14/WE • Entidade notificada no Reino Unido para 2000/14/CE • Organism notificat în Marea Britanie pentru 2000/14/CE • Notifikovaný orgán Spojeného kráľovstva pre smernicu 2000/14/ES • Britanski priglašeni organ za 2000/14/ES • Cuerpo notificado en el Reino Unido para 2000/14/CE • Anmält organ för 2000/14/EG i Storbritannien • Tilkynntur aðili í Bretlandi fyrir 2000/14/EC • Britisk teknisk for 2000/14/EF • 英国 2000/14/EC 认证机构 • Bretland Upplýsingar fyrir 2000/14/EB • UK (英国) 公認機関、2000/14/EC • 2000/14/EC 에 대한 영국 인증 기관 • 2000/14/EC için BK Onaylı Kuruluş • Британський уповноважений орган для 2000/14/EC	Number: 1088 Sound Research Laboratories Limited Holbrook House, Little Waldingfield Sudbury, Suffolk CO10 0TH
Operator Ear Noise Level • Оператор на нивото на доловим от ухото шум • Hladina hluku v oblasti uší operátora • Støjniveau i førers ørehøjde • Geluidsniveau oor bestuurder • Müratase operaatori kõrvas • Melutaso käyttäjän korvan kohdalla • Niveau de bruit à hauteur des oreilles de l'opérateur • Schallpegel am Bedienerohr • Επίπεδο θορύβου σε λειτουργία • A kezelő fülénél mért zajszint • Livello di potenza sonora all'orecchio dell'operatore • Trokšņa līmenis pie operatora auss • Dirbančiojo su mašina patiriamo triukšmo lygis • Livell tal-Ħoss fil-Widna tal-Operatur • Dopuszczalny poziom hałasu dla operatora • Nível sonoro nos ouvidos do operador • Nivelul zgomotului la urechea operatorului • Hladina hluku pôsobiaca na sluch operátora • Raven hrupa pri ušesu upravljavca • Nivel sonoro en el oído del operador • Ljudnivå vid förarens öra • Hávaðastig fyrir stjórnanda • Støynivå ved operatørens øre • 操作员耳旁噪声级 • Hljóðstyrkur fyrir stjórnanda • オペレータが感じる騒音レベル • 사용자 청각 소음 레벨 • Operatör Kulak Gürültü Düzeyi • Рівень шуму, що впливає на оператора	TBD dB(a) ± TBD Leq (2006/42/EC)
Harmonised standards used • Използвани хармонизирани стандарти • Použité harmonizované normy • Brugte harmoniserede standarder • Gebruikte geharmoniseerde standaards • Kasutatud ühtlustatud standardid • Käytetyt yhdenmukaistetut standardit • Normes harmonisées utilisées • Angewandte harmonisierte Normen • Εναρμονισμένα πρότυπα που χρησιμοποιήθηκαν • Harmonizált szabványok • Standard armonizzati applicati • Izmantotie saskaņotie standarti • Panaudoti suderinti standartai • Standards armonizzati użati • Normy spójne powiązane • Normas harmonizadas usadas • Standardele armonizate utilizate • Použité harmonizované normy • Uporabljeni usklajeni standardi • Estándares armonizados utilizados • Harmoniserade standarder som används • 所采用的协调标准 • Samstilltir staðlar notaðir • 整合規格 • 적용되는 조화 표준 • Kullanılan uyumlu standartlar • Використані гармонізовані стандарти	BS EN ISO 20643 BS EN ISO 3691-6
Technical standards and specifications used • Използвани технически стандарти и спецификации • Použité technické normy a specifikace • Brugte tekniske standarder og specifikationer • Gebruikte technische standaards en specificaties • Kasutatud tehnilised standardid ja spetsifikatsioonid • Käytetyt tekniset standardit ja eritelmät • Spécifications et normes techniques utilisées • Angewandte technische Normen und Spezifikationen • Τεχνικά πρότυπα και προδιαγραφές που χρησιμοποιήθηκαν • Műszaki szabványok és specifikációk • Standard tecnici e specifiche applicati • Izmantotie tehniskie standarti un specifikācijas • Panaudoti techniniai standartai ir techninė informacija • Standards u speċifikazzjonijiet tekniċi użati • Normy i specyfikacje techniczne powiązane • Normas técnicas e especificações usadas • Standardele tehnice şi specificaţiile utilizate • Použité technické normy a špecifikácie • Uporabljeni tehnični standardi in specifikacije • Estándares y especificaciones técnicas utilizadas • Tekniska standarder och specifikationer som används • Samræmdir staðlar sem notaðir eru • Benyttede • harmoniserte standarder • 所采用的技术标准和规范 • Tæknistaðlar og -kröfur notaðar • 技術規格および仕様書 • 적용되는 기술 표준 및 규격 • Kullanılan teknik standartlar ve şartnameler • Використані технічні стандарти і умови	B56.8 ISO 2631-1 ISO 21299
The place and date of the declaration • Място и дата на декларацията • Místo a datum prohlášení • Sted og dato for erklæringen • Plaats en datum van de verklaring • Deklaratsiooni väljastamise koht ja kuupäev • Vakuutuksen paikka ja päivämäärä • Lieu et date de la déclaration • Ort und Datum der Erklärung • Τόπος και ημερομηνία δήλωσης • A nyilatkozat kelte (hely és idő) • Luogo e data della dichiarazione • Deklarācijas vieta un datums • Deklaracijos vieta ir data • Il-post u d-data tad-dikjarazzjoni • Miejsce i data wystawienia deklaracji • Local e data da declaração • Locul şi data declaraţiei • Miesto a dátum vyhlásenia • Kraj in datum izjave • Lugar y fecha de la declaración • Plats och datum för deklarationen • Tæknistaðlar og tæknilýsingar sem notaðar eru • Benyttede tekniske standarder og spesifikasjoner • Staður og dagsetning yfirlýsingar • Sted og dato for erklæringen • 声明的地点与日期 • Staður og dagsetning yfirlýsingarinnar • 宣言場所および日付 • 선언 장소 및 일자 • Beyan yeri ve tarihi • Місце і дата укладення декларації	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA TBD, 2015

Signature of the person empowered to draw up the declaration on behalf of the manufacturer, holds the technical documentation and is authorised to compile the technical file, and who is established in the Community. Подпис на човека, упълномощен да състави декларацията от името на производителя, който поддържащ техническата документация и е оторизиран да изготви техническия файл и е регистриран в общността. Podpis osoby oprávněné sestavit prohlášení jménem výrobce, držet technickou dokumentaci a osoby oprávněné sestavit technické soubory a založené v rámci Evropského společenství. Underskrift af personen, der har fuldmagt til at udarbejde erklæringen på vegne af producenten, der er indehaver af dokumentationen og er bemyndiget til at udarbejde den tekniske journal, og som er baseret i nærområdet. 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Certificate Number • Номер на сертификат • Číslo osvědčení • Certifikatnummer • Certificaatnummer • Sertifikaadi number • Hyväksyntänumero • Numéro de certificat • Bescheinigungsnummer • Αριθμός Πιστοποιητικού • Hitelesítési szám • Numero del certificato • Sertifikāta numurs • Sertifikato numeris • Numru taċ-Ċertifikat • Numer certyfikatu • Número do Certificado • Număr certificat • Číslo osvedčenia • Številka certifikata • Número de certificado • Certifikatsnummer • Número skírteinis • Sertifikatnummer • 证书编号 • Skírteinisnúmer • 認証番号 • 인증 번호 • Sertifika Numarası • Номер сертифіката	4335129 Rev A

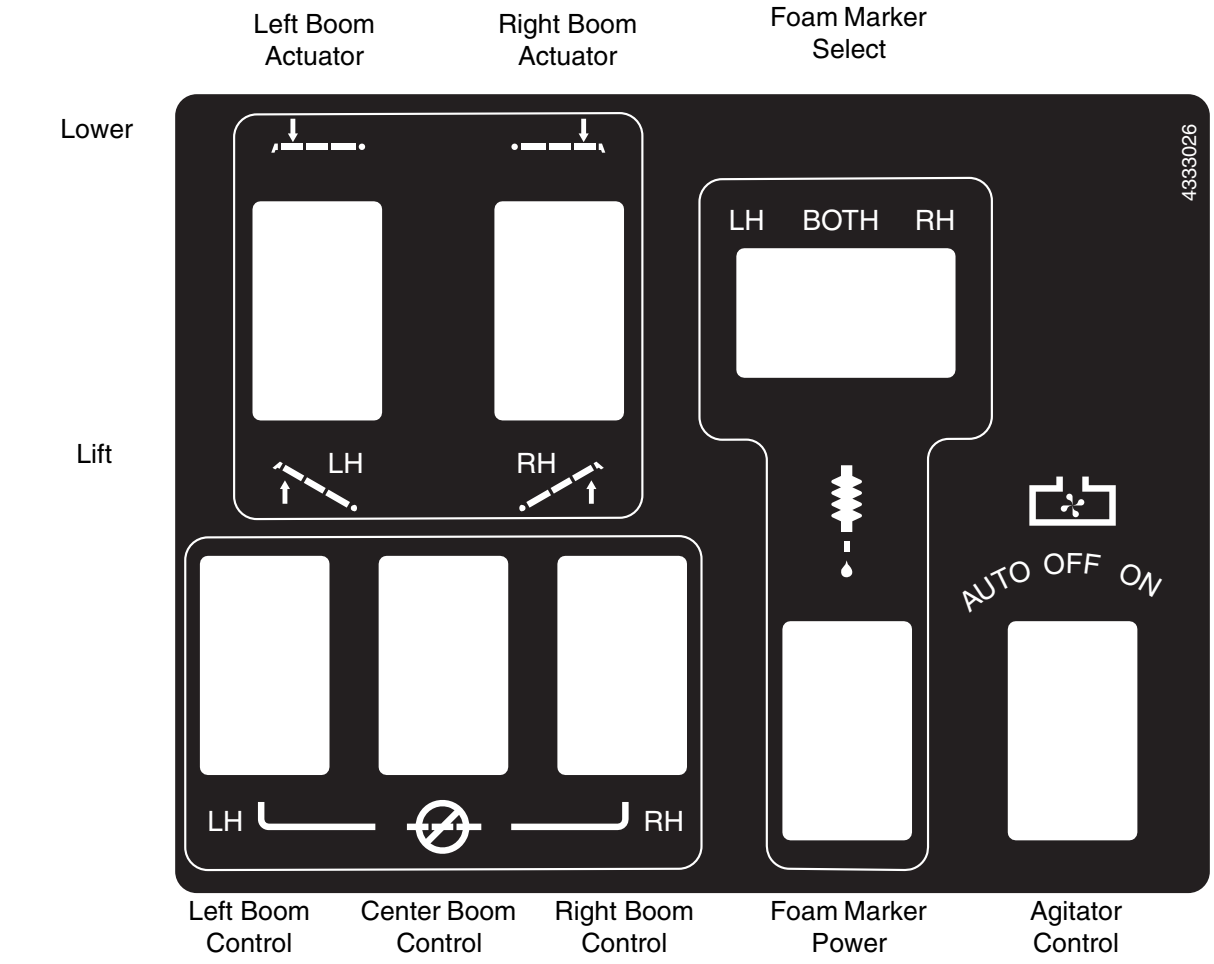
GB United Kingdom · BE Belgium · BG Bulgaria · CH Switzerland · CN China · CY Cyprus · CZ Czech Republic · DE Germany · DK Denmark · EE Estonia · ES Spain · FI Finland · FR France · GR Greece · HU Hungary · IS Iceland · IT Italy

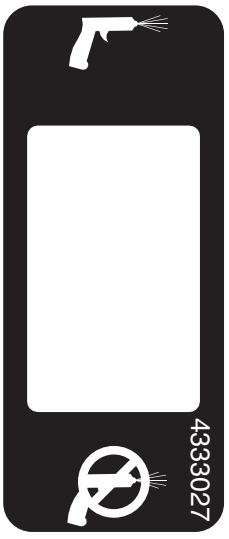
JP Japan · KR Korea · LI Liechenstein · LT Lithuania · LV Latvia · MT Malta · NL Netherlands · NO Norway · PL Poland · PT Portugal · RO Romania · RU Russia · SE Sweden · SI Slovenia · SK Slovakia · TR Turkey · UA Ukrain

5 DECALS

5.1 INSTRUCTION DECALS

Console Decals

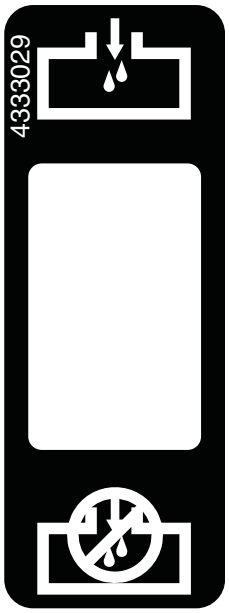




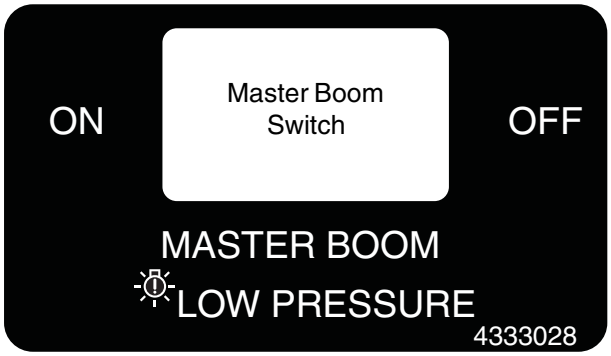
ON

OFF

Hose Reel Control

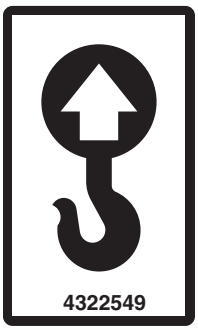


Clean Rinse Control

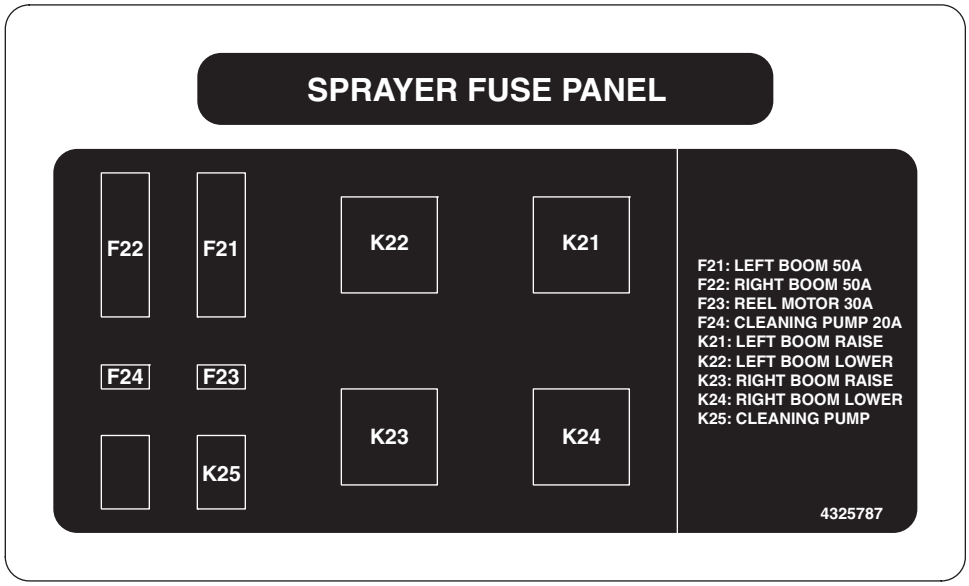


Low Pressure Alert

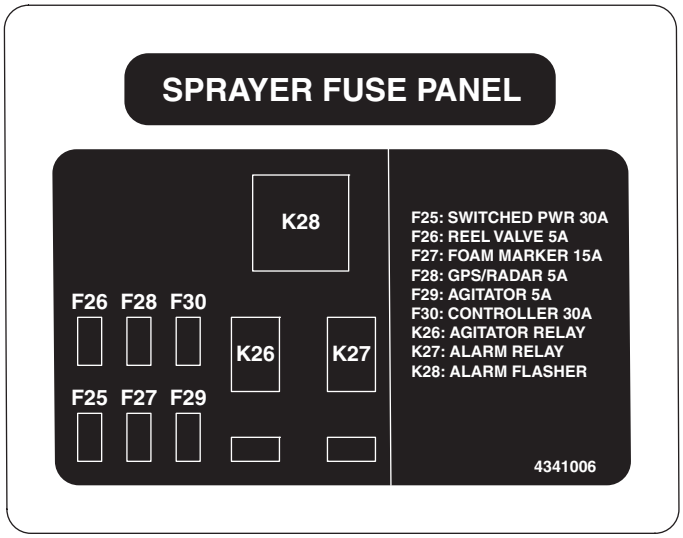
Master Boom Switch



Lift Point

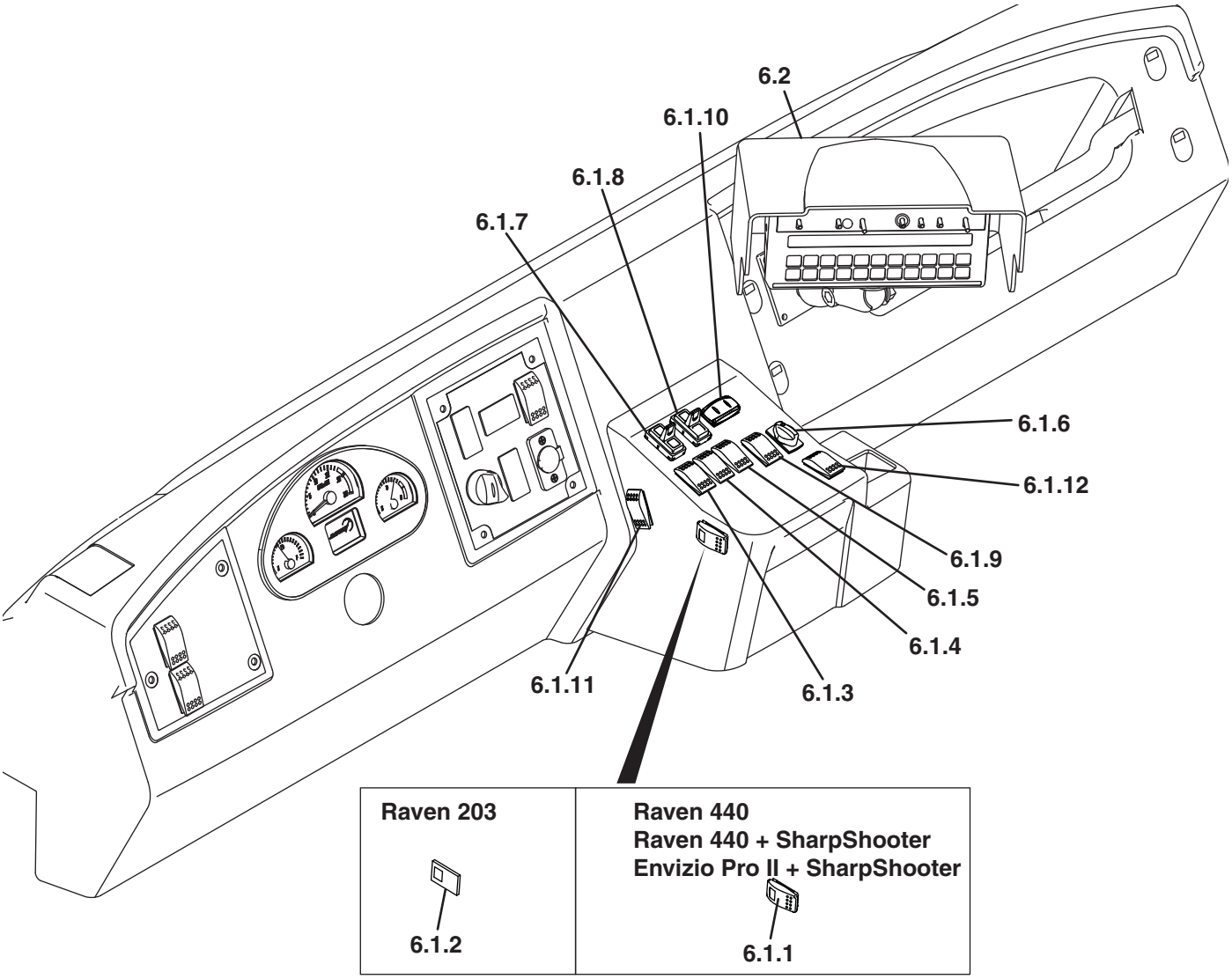


Relay Box
Fuses and Relays



Console Harness
Fuses and Relays

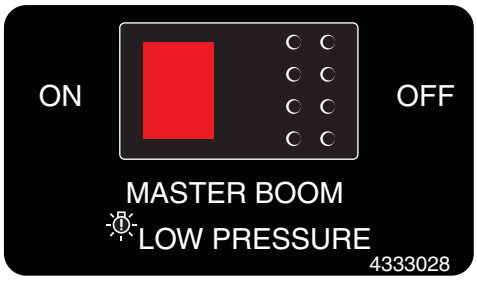
6.1 SPRAYER CONSOLE



Refer to the Truckster XD Safety, Operation & Maintenance Manual for the Truckster XD controls.

6.1.1 MASTER BOOM SWITCH

The master boom switch controls the operation of the sprayer booms. Press the front of the switch to allow the activation of the left, right and center boom switches. The switch is not used with the Raven 203 sprayer controller

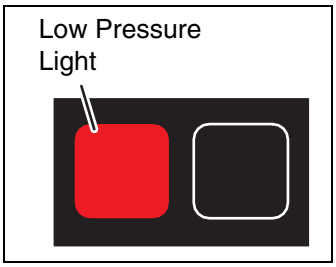


The red warning light on the switch indicates that the sprayer pump is active and the pressure is less than 8 psi (0.55 BAR). Stop the engine and find the problem before you continue to operate the sprayer.

Both the master boom switch on the console and the master power switch on the sprayer controller must be in the ON position for the booms to operate.

6.1.2 LOW PRESSURE LIGHT

The red warning light on the switch indicates that the sprayer pump is active and the pressure is less than 8 psi (0.55 BAR). Stop the engine and find the problem before you continue to operate the sprayer. The low pressure light is only used with the Raven 203 sprayer controller.

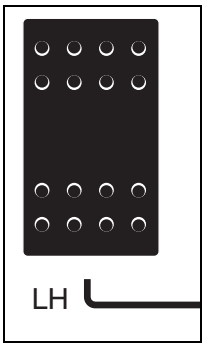


6.1.3 LEFT BOOM CONTROL SWITCH

The left boom control switch controls the operation of the left boom. The controller master power switch and the controller boom 1 switch must be in the ON position for the left boom switch to operate. The switch is only used with the Raven 203 sprayer controller.

Press the front part of the left boom control switch to energize the left boom nozzles. Do not energize the left boom nozzles with the boom lifted.

Press the rear part of the left boom switch to stop the operation of the boom nozzles.

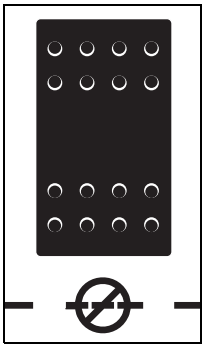


6.1.4 CENTER BOOM CONTROL SWITCH

The center boom control switch controls the operation of the center boom. The controller master power switch and the controller boom 2 switch must be in the ON position for the center boom switch to operate. The switch is only used with the Raven 203 sprayer controller.

Press the front part of the center boom control switch to energize the center boom nozzles.

Press the rear part of the center boom switch to stop the operation of the boom nozzles.

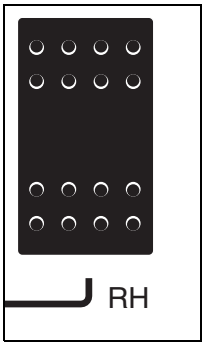


6.1.5 RIGHT BOOM CONTROL SWITCH

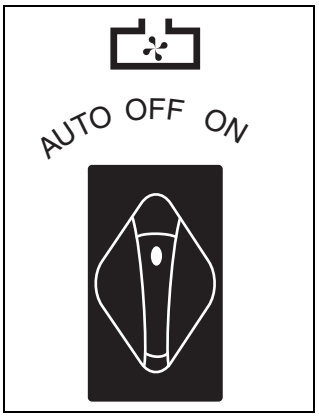
The right boom control switch controls the operation of the right boom. The controller master power switch and the controller boom 3 switch must be in the ON position for the right boom switch to operate. The switch is only used with the Raven 203 sprayer controller.

Press the front part of the right boom control switch to energize the right boom nozzles. Do not energize the right boom nozzles with the boom lifted.

Press the rear part of the right boom switch to stop the operation of the boom nozzles.



6.1.6 AGITATOR CONTROL SWITCH



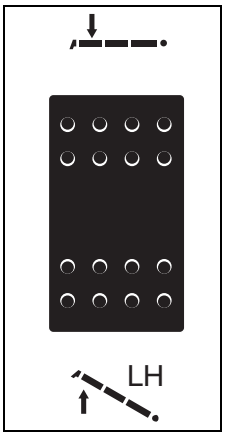
The agitator control switch controls the operation of the tank agitator valve. The switch has three positions, AUTO, OFF and ON. When the agitator valve is closed, the water in the tank will not agitate. When the agitator valve is open, the water in the tank will agitate to mix the chemicals added to the tank.

Place the switch in the AUTO position to control the agitator valve with the float switch. When the tank is empty, or the tank water level is low, the agitator valve will close. When water is added to the tank and the float switch contacts close, the agitator valve will open.

Place the switch in the OFF position to close the agitator valve.

Place the switch in the ON position to open the agitator valve.

6.1.7 LEFT ACTUATOR CONTROL SWITCH

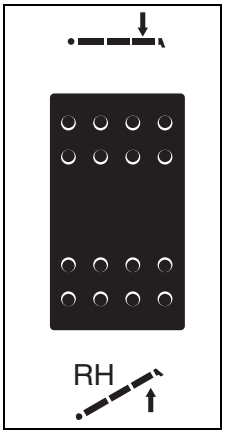


The left actuator control switch is used to lift or lower the left boom.

Press and hold the front part of the switch to lower the left boom. When the boom is completely lowered, release the switch.

Press and hold the rear part of the switch to lift the left boom. When the boom is completely lifted, release the switch.

6.1.8 RIGHT ACTUATOR CONTROL SWITCH



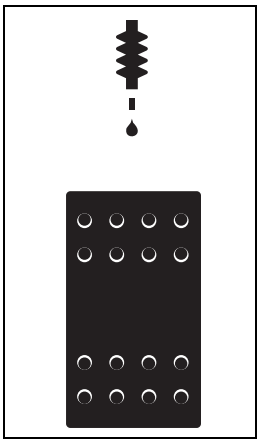
The right actuator control switch is used to lift or lower the right boom.

Press and hold the front part of the switch to lower the right boom. When the boom is completely lowered, release the switch.

Press and hold the rear part of the switch to lift the right boom. When the boom is completely lifted, release the switch.

6.1.9 FOAM MARKER POWER SWITCH

The foam marker power switch is part of the optional foam marker accessory. The foam marker power switch controls the operation of the foam marker compressor and supplies power to the foam marker select switch.



Press the front part of the switch to turn on the foam marker compressor.

Press the rear part of the switch to turn off the foam marker compressor.

6.1.10 FOAM MARKER SELECT SWITCH

The foam marker power switch is part of the optional foam marker accessory. The foam marker select switch has three positions, LH, BOTH and RH. The foam marker power switch must be in the ON position for the switch to function.

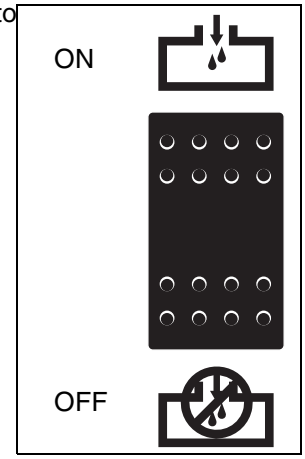
Press the left side of the switch to activate only the left side foam marker.

Press the right side of the switch to activate only the right side foam marker.

Return the switch to the center position to activate both the left and right side foam markers.

6.1.11 CLEAN RINSE SWITCH

The clean rinse switch is part of the optional clean rinse tank accessory. The switch is used to control the clean rinse pump.



Press the front part of the switch to turn on the clean rinse pump.

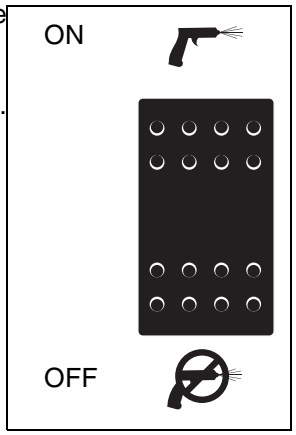
Press the rear part of the switch to turn off the clean rinse pump.

6.1.12 HOSE REEL CONTROL SWITCH

The hose reel control switch is part of the electric or manual rewind hose reel option. The switch controls the operation of the hose reel valve.

Press the front part of the switch to the to send the flow of fluid from the pump to the hose reel.

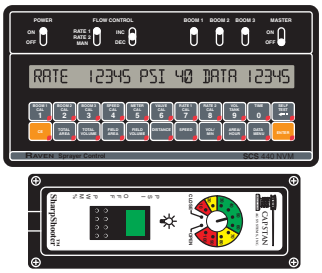
Press the rear part of the switch to the OFF position to stop the flow of fluid to the hose reel.



6.2 SPRAYER CONTROL ACCESSORIES

Raven 203 Console

Raven 440 Console



Raven 440 Console + SharpShooter

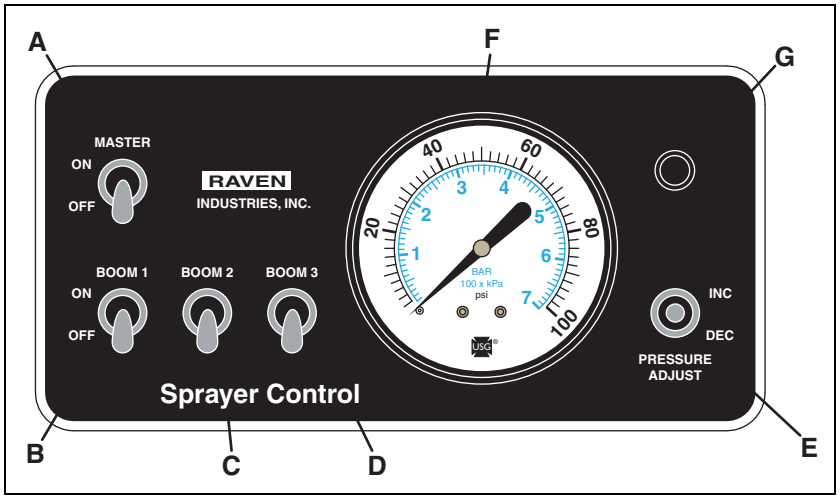
Raven Envizio Pro II + SharpShooter

There are four options for the sprayer control accessories. Each accessory has a manual for the complete operation of the accessory.

6.2.1 RAVEN 203 CONSOLE ACCESSORY

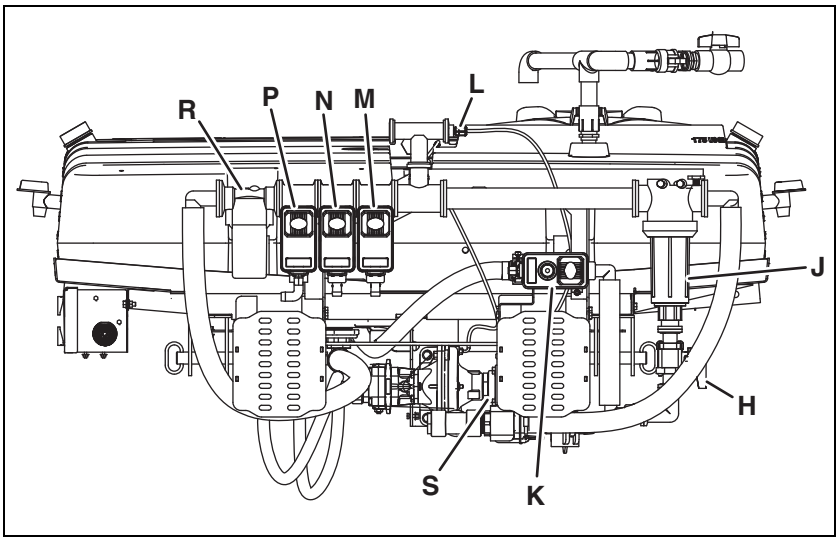
The Raven 203 console accessory is used with the 15 foot, 18 foot or 20 foot HD booms.

- A Master power switch
- B Left boom switch
- C Center boom switch
- D Right boom switch
- E Pressure adjust switch
- F Pressure gauge
- G 15 Amp fuse



Raven 203 Boom Controls.

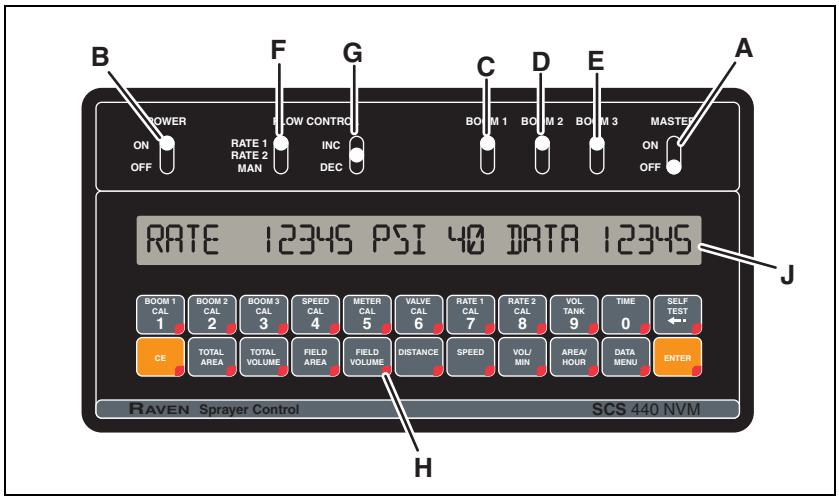
H Agitator shut-off valve
J Strainer
K Agitator control valve
L Console gauge tap
M Right boom control valve
N Center boom control valve
P Left boom control valve
R Flow control valve
S Drain Valve



6.2.2 RAVEN 440 CONSOLE ACCESSORY

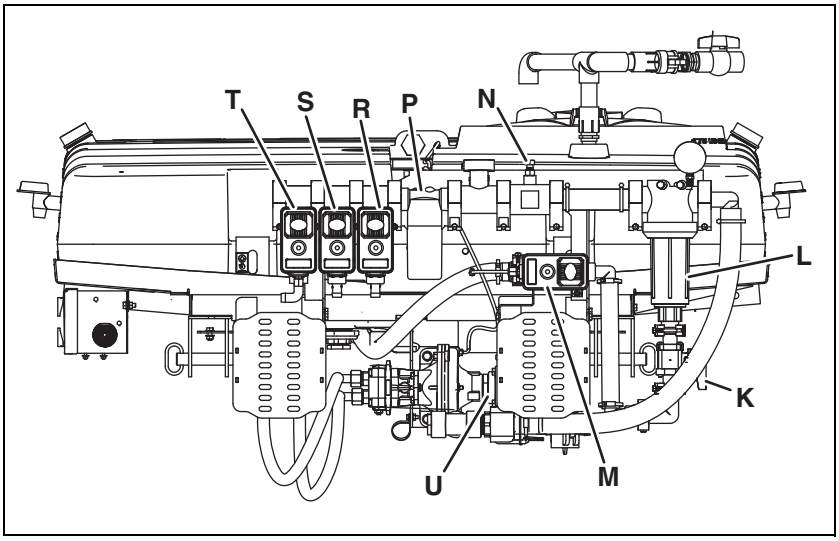
The Raven 440 console accessory is used with the 15 foot, 18 foot or 20 foot HD booms.

A Master power switch
B Master boom switch
C Left boom switch
D Center boom switch
E Right boom switch
F Rate select switch
G Pressure adjust switch
H Data input keypad
J LCD display



Raven 440 Boom Controls.

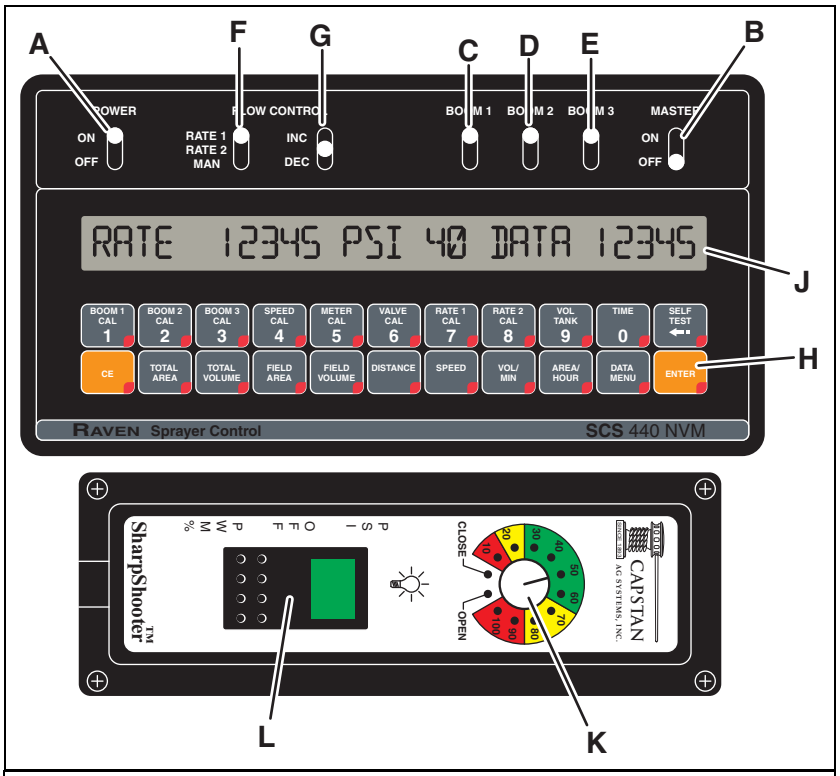
K Agitator shut-off valve
L Strainer
M Agitator control valve
N Flow meter
P Flow control valve
R Right boom control valve
S Center boom control valve
T Left boom control valve
U Drain Valve



6.2.3 RAVEN 440 CONSOLE + SHARPSHOOTER ACCESSORY

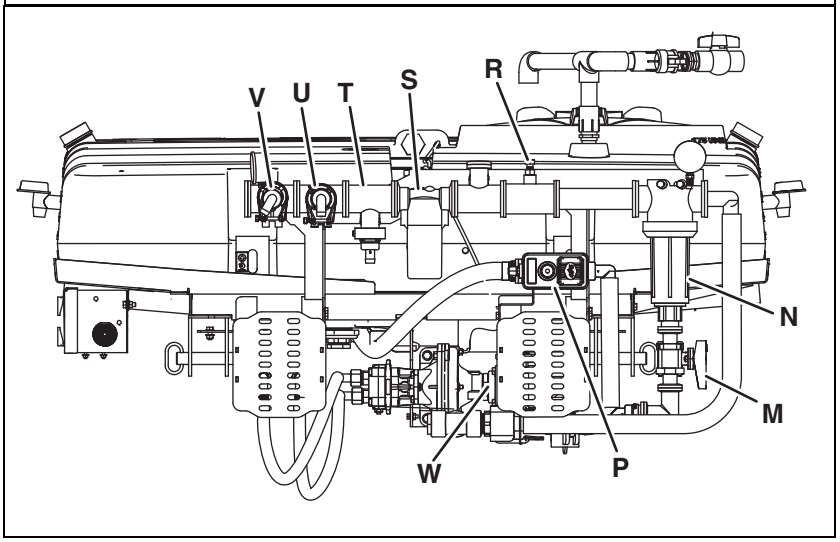
The Raven 440 console + SharpShooter accessory is used with the 15 foot, 18 foot or 20 foot SharpShooter booms.

A Master power switch
B Master boom switch
C Left boom switch
D Center boom switch
E Right boom switch
F Rate select switch
G Pressure adjust switch
H Data input keypad
J LCD display
K Rotary pulse select switch
L SharpShooter mode select switch



Raven 440 + SharpShooter Boom Controls.

M Agitator shut-off valve
N Strainer
P Agitator control valve
R Flow meter
S Flow control valve
T Right boom output tee
U Center boom output tee
V Left boom output tee
W Drain Valve



6.2.4 RAVEN ENVIZIO PRO II CONTROLLER + SHARPSHOOTER ACCESSORY

The Envizio Pro II controller + SharpShooter accessory is used with the 15 foot, 18 foot or 20 foot SharpShooter booms.

A Envizio Pro II power switch

B Touch screen

C USB port

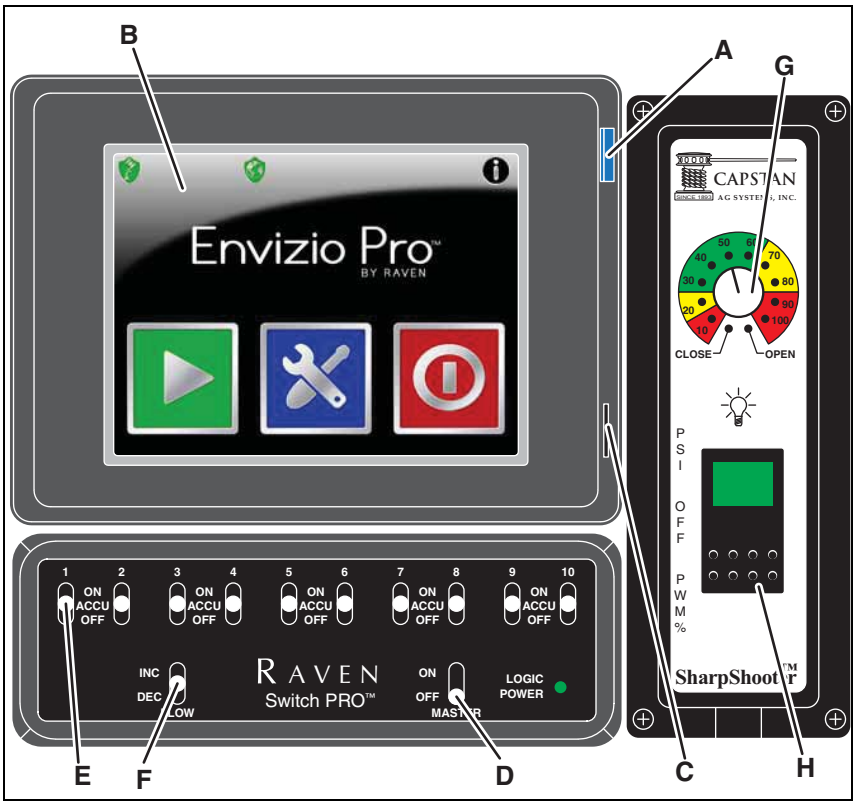
D Switch Pro master switch (Must be kept in the OFF position)

E Nozzle section switches

F Pressure adjust switch

G Rotary pulse select switch

H SharpShooter mode select switch



Envizio Pro II Controller + SharpShooter Boom Controls.

J Agitator shut-off valve

K Strainer

L Agitator control valve

M Flow meter

N Flow control valve

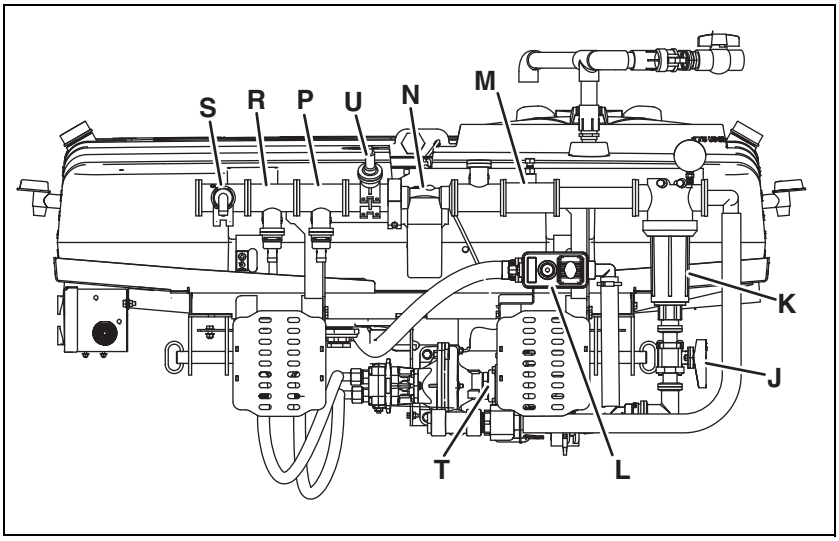
P Right boom output tee

R Center boom output tee

S Left boom output tee

T Drain Valve

U Envizio Pressure Sensor



7 SETUP

7.1 GENERAL

A qualified technician must always do the assembly, adjustment and sprayer tests. The technician must know the correct operation of this equipment.

Completely read each instruction and make sure you understand the instructions before continue with the assembly. Look for possible hazards and obey all safety precautions.

The RIGHT and LEFT, FRONT and BEHIND the machine are given from the operator's seat.

The high/low hydraulics option and the all function harness option/accessory must be installed on the Truckster XD before the Spraytek XP is installed.

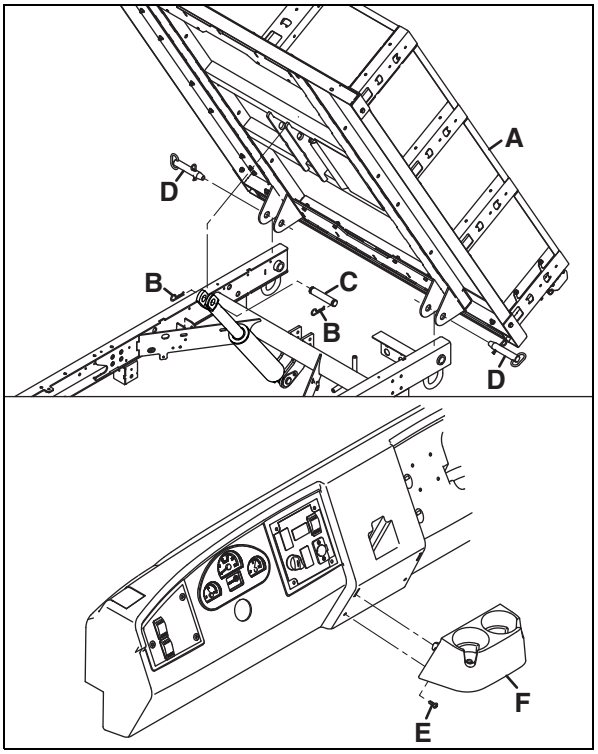
One sprayer control accessory and one boom accessory are needed to install the Spraytek XP. Order the accessories not included with this product separately. See the individual accessory instructions for installation and parts.

⚠ CAUTION

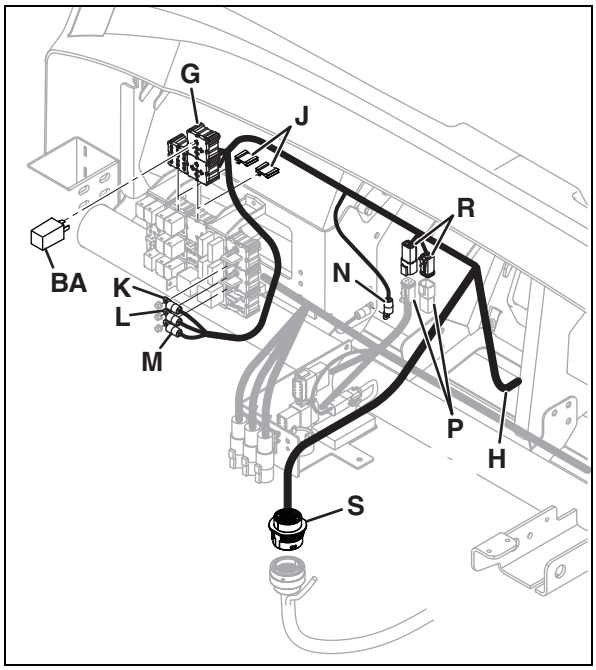
Do not drive the vehicle unless you know this type of equipment and know how to operate all controls correctly.

7.2 PREPARATION

1. Park the vehicle in an area with an overhead crane capable of lifting the bed and Spraytek XP system. Fully extend the bed cylinder, stop the engine and remove the key. Install the cylinder support to prevent accidental lowering of the bed.
2. Secure the bed or other accessory **(A)** installed on the rear of theTruckster XD to the overhead crane. Remove excess slack, but do not put stress on the accessory.
3. Remove the hair pins **(B)** and the cylinder to accessory pin **(C)**. Lower the cylinder by hand to the truck. Do not let the cylinder drop.
4. Remove the two disconnect pins **(D)**.
5. Lift the accessory off the Truckster XD. Move the accessory to an area away from the assembly area.
6. Disconnect the negative and positive battery cables. Always disconnect the negative battery cable first.
7. Remove the front clip to access the fuse/relay panel behind the dashboard.
8. Remove the two screws **(E)** and the cup holder **(F)**.
9. Remove the loose parts box from the shipping pallet.



7.3 CONSOLE HARNESS



1. Locate the console harness, Part No. 4317650, in the loose parts box.
2. The fuse and relay block **(G)** on the console harness will be assembled above the Truckster XD fuse/relay block. Two red attachment clips **(J)** are in a bag attached to the harness.
3. Position the fuse and relay block **(G)** above the K7 and K8 relays and the turn signal flasher relay block. Insert the red attachment clips **(J)** from the back of the harness blocks to join the console harness to the Truckster XD relay blocks.
4. Connect the ring terminal labeled RB1 (Red/Black wire) **(K)** to the RB1 post on the Truckster XD fuse/relay panel.
5. Connect the ring terminal labeled RAC3 (Red/White wire) **(L)** to the RAC3 post on the Truckster XD fuse/relay panel.
6. Connect the ring terminal labeled RAC2 (Red wire) **(M)** to the RAC2 post on the Truckster XD fuse/relay panel.
7. Connect the ground ring terminal (Black wire) **(N)** to the Truckster XD ground point.
8. Locate and disconnect the four pin high/low connector **(P)** on the Truckster XD harness. Connect the two four pin connectors **(R)** on the console harness to the Truckster XD high/low connectors.

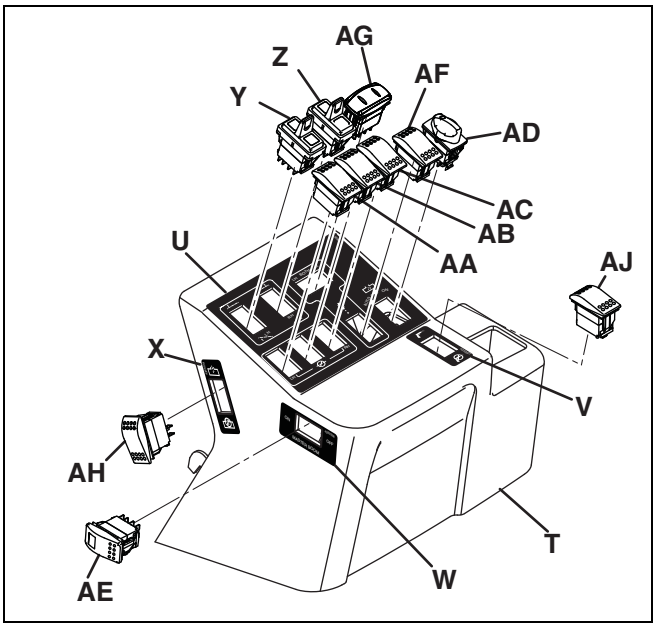
NOTE: *Make certain the connector on the High-Low harness is connected to the sprayer harness.* ***Do Not*** *connect the sprayer harness to the unused four pin connector with one black wire on the Truckster XD main harness.*

9. Route the 31 pin connector **(S)** toward the front of the vehicle. Locate the 31 pin connector from the all-function harness option/accessory. Connect the console harness to the all-function harness.
10. Route the remainder of the harness **(H)** toward the opening below the center of the dashboard where the cup holder was located.
11. Secure the harness to the vehicle using the two edge clips and two fir-tree clips on the console harness.
12. Locate the flasher relay **(BA)** in the loose parts box. Insert the relay into the relay block.

7.4 CONSOLE ASSEMBLY

If any of these accessories are going to be installed, get the panel switches from the kits. Switch assembly is easier before the console is installed.

- Foam Marker (2 Switches) **(AF-AG)**
- Clean Rinse **(AH)**
- Electric or Manual Hose Reel **(AJ)**



Locate the console **(T)**, four console decals **(U~X)**, two paddle switches **(Y and Z)**, rotary switch **(AD)**, rocker switch with light **(AE)** and the eight panel plugs from the loose parts box.

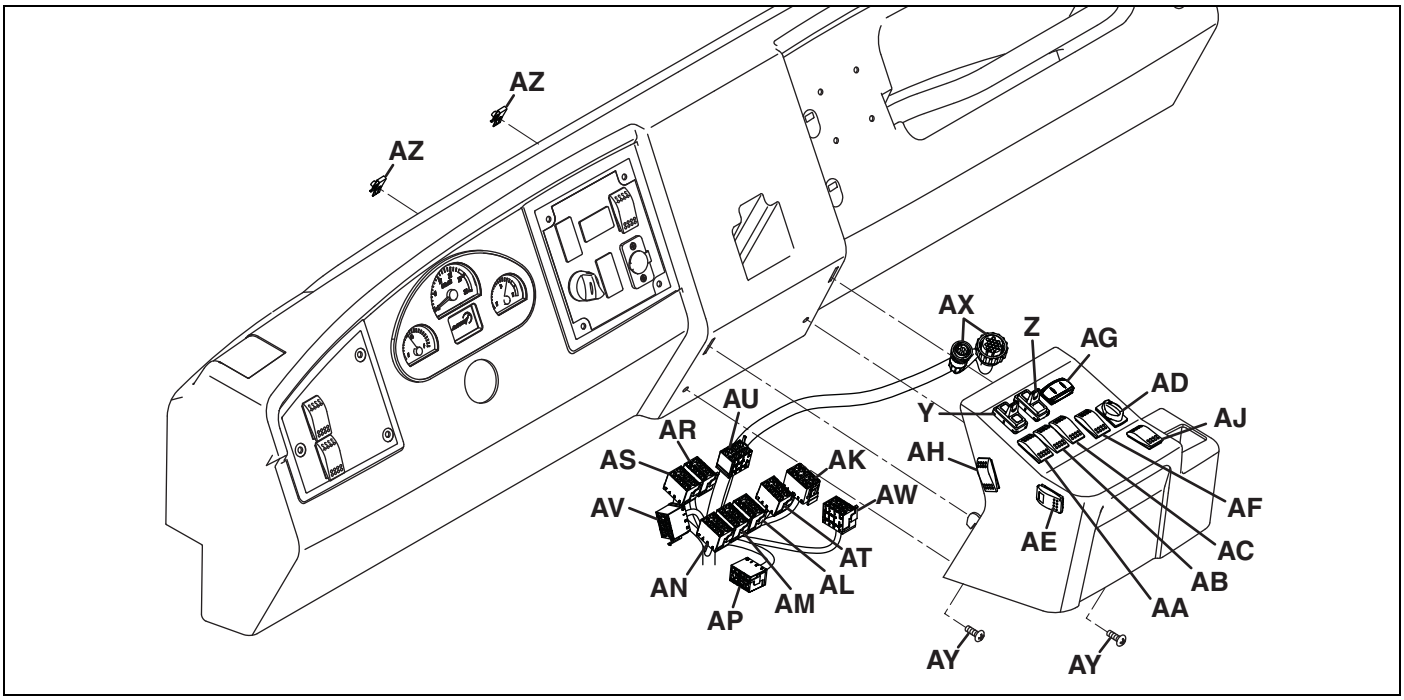
Raven 203 Sprayer Controller - Locate the three rocker switches **(AA~AC)** and low pressure light from the Raven 203 controller accessory box.

Raven 440 or Envizio Pro II Controller - Locate the rocker switch with light **(AE)** from the controller accessory box.

1. Apply the upper console decal **(U)**, Part No. 4333026, to the console **(T)**. Make sure all of the switch openings in the decal align with the switch openings in the console.
2. Apply the lower console decal **(V)**, Part No, 4333027, to the console **(T)**.
3. **Raven 440 or Envizio Pro II Controller** -Apply the master boom decal **(W)**, Part No. 4333028, to the console **(T)**.
4. Apply the clean rinse decal **(X)**, Part No, 4333029, to the console **(T)**.
5. Insert the two paddle switches **(Y and Z)** into the boom lift openings of the console **(T)**. Terminals 1 and 4 of the switches should be toward the front of the console.
6. **Raven 203 Sprayer Controller** - Insert the three rocker switches **(AA~AC)** into the boom control openings of the console **(T)**. Terminals 2 and 3 of the switches should be toward the right side of the console.

NOTE: *If the Raven 440 or the Envizio Pro II sprayer controller is used, the three rocker switches **(AA~AC)** are not used. Insert three panel plugs in the switch openings.*

7. Insert the rotary switch **(AD)** into the agitator opening of the console **(T)**.
8. **Raven 203 Sprayer Controller** - Insert the low pressure light in the master boom opening of the console. The red light should be toward the front of the console.
9. **Raven 440 or Envizio Pro II Controller** -Insert the rocker switch with light **(AE)** in the master boom opening of the console **(T)**. Red light should be toward the front of the console.
10. If the foam marker accessory will be installed, place the two terminal rocker switch **(AF)** in the bottom foam marker opening of the console **(T)**. Terminals 2 and 3 of the switch should be toward the right side of the console.
11. If the foam marker accessory will be installed, place the six terminal rocker switch **(AG)** in the upper foam marker opening of the console **(T)**. Terminals 1 and 4 of the switches should be toward the right side of the console.
12. If the foam marker accessory will not be installed, place two panel plugs in the foam marker openings of the console.
13. If the clean rinse accessory will be installed, insert the rocker switch **(AH)** into the opening of the console **(T)**. Terminals 2 and 3 of the switch should be toward the front of the console.
14. If the clean rinse accessory will not be installed, place a panel plug in the clean rinse opening of the console **(T)**.
15. If the hose reel accessory will be installed, insert the rocker switch **(AJ)** into the opening of the console **(T)**. Terminals 2 and 3 of the switch should be toward the right side of the console.
16. If the hose reel accessory will not be installed, place a panel plug in the hose reel opening of the console **(T)**.



17. Connect the ten terminal connector **(AK)** of the console harness to the rotary switch **(AD)**.
18. Connect the green 8 terminal connector **(AL)** with two Black/Orange wires of the console harness to the left boom control switch **(AA)**.
19. Connect the red 8 terminal connector **(AM)** with two Red/Green wires of the console harness to the center boom control switch **(AB)**.
20. Connect the white 8 terminal connector **(AN)** with two Brown wires of the console harness to the right boom control switch **(AC)**.
21. Connect the red 8 terminal connector **(AP)** with Orange, Blue, Tan/Pink and Black wires of the console harness to the master boom switch **(AE)**.
22. Connect the green 8 terminal connector **(AR)** with Orange, Brown/Orange and Brown/Yellow wires of the console harness to the right boom lift switch **(Z)**.
23. Connect the white 8 terminal connector **(AS)** with Orange, Green/Blue and Green/Yellow wires of the console harness to the left boom lift switch **(Y)**.
24. Connect these connectors if the accessories will be installed.

a Connect the black 8 terminal connector **(AT)** with Orange/White and Orange/Red wires of the console harness to the two terminal foam marker switch **(AF)**.

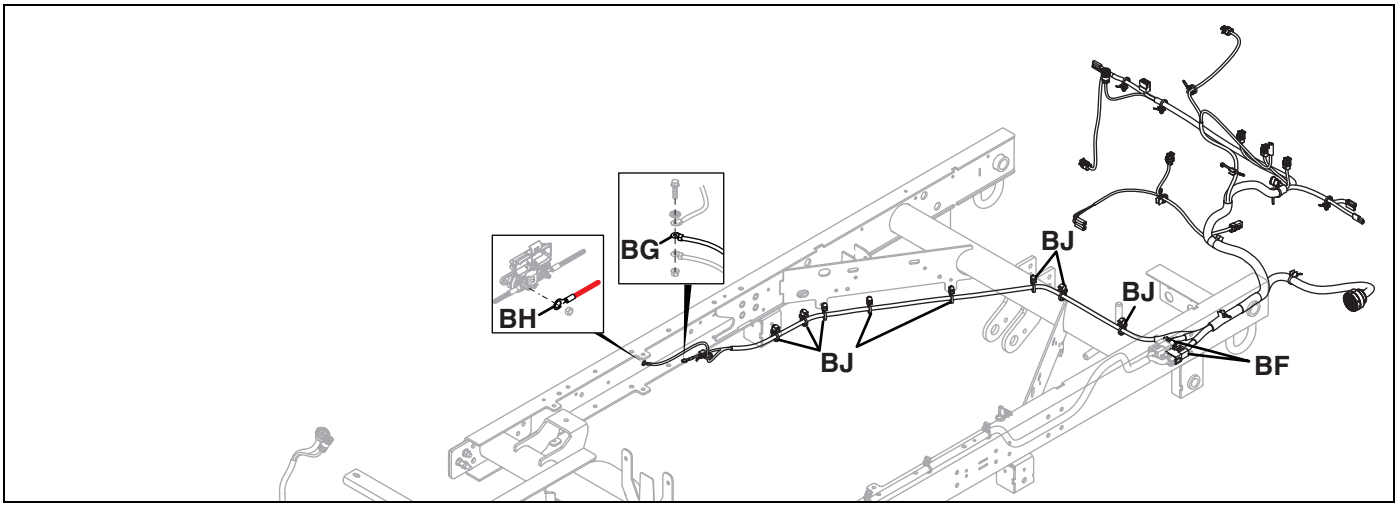
b Connect the orange 8 terminal connector **(AU)** with Orange/Red, White/Green and White/Blue wires to the six terminal foam marker switch **(AG)**.

c Connect the black 8 terminal connector **(AV)** with Orange and Yellow/Black wires to the clean rinse switch **(AH)**.

d Connect the orange 8 terminal connector **(AW)** with Orange/White and Orange/Blue wires to the hose reel switch **(AJ)**.

25. Route the two sprayer control connectors **(AX)** toward the right side of the vehicle. Refer to the sprayer control instructions for console/controller connections.
26. Assemble the console to the dashboard. Secure with two 1/4-20 x 5/8” truss head screws **(AY)**. Two additional u-type nuts **(AZ)** are included if needed.

7.5 TANK HARNESS

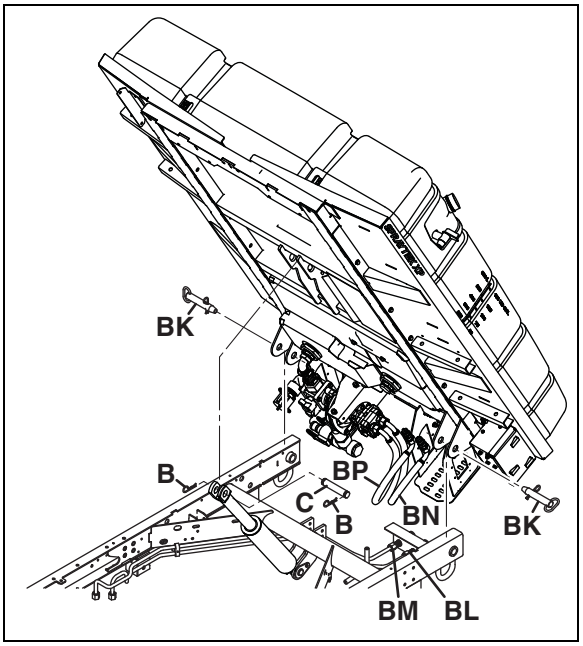


1. Locate the tank harness, Part No. 4321427, in the loose parts box.
2. Connect the two 12 pin connectors **(BF)** on the tank harness to the all function harness.
3. Route the harness branch with two ring terminals to the right frame rail as shown.
4. Connect the ground ring terminal with Black wire **(BG)** to the negative battery cable frame connection.
5. Open the plastic cover for the Truckster XD 175 amp fuse on the right frame rail. Connect the ring terminal with the Red wire **(BH)** to the vehicle side of the 175 amp fuse. Close the plastic cover.
6. Secure the harness to the lower remote hydraulics tube using tube clips **(BJ)** on body harness.
7. The remaining tank harness connections will be made after the tank is installed. Place the harness under the vehicle.

7.6 SPRAYER TANK ASSEMBLY

1. Remove all shipping bands securing the tank assembly to the pallet.

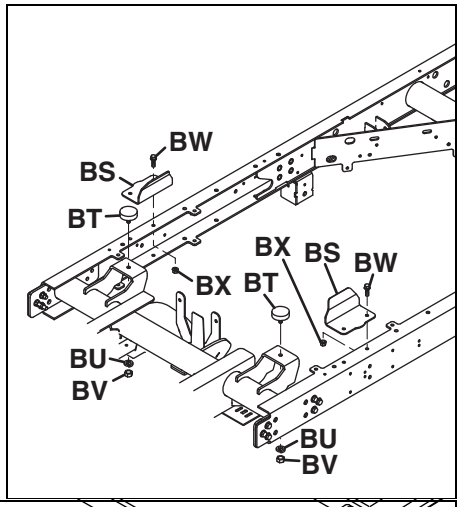
NOTE: *The 175 gallon (662 liter) tank is shown. Assembly of the 300 gallon (1136 liter) tank is the same.*



2. Locate the two disconnect pins **(BK)** from the loose parts box.
3. Securely connect the overhead crane to the sprayer tank. Lift the tank assembly off the pallet. Four lift points are provided at the front and rear sides of the tank.
4. Position the tank over the Truckster XD. Lower the tank until the disconnect pins **(BK)** can be inserted.
5. Lift the cylinder. Adjust the height of the sprayer tank with overhead crane until the cylinder to accessory pin **(C)** can be inserted in both the sprayer frame and cylinder. Secure the cylinder to accessory pin with two hair pins **(B)**.
6. Identify the pressure and return hoses connected to the sprayer pump. The pressure hose is connected to the port labeled **PRESS**. The return hose is connected to the port labeled **TANK**.
7. Remove the red plug from the remote hydraulics pressure connector **(BL)**. Connect the pressure hose **(BN)** to the pressure connector.
8. Remove the yellow plug from the remote hydraulics return connector **(BM)**. Connect the return hose **(BP)** to the return connector.

NOTE: *If a bed or another accessory was installed before the Spraytek, the bumper stops and keepers may already be installed on the vehicle.*

9. Locate two keepers **(BS)**, two bumpers **(BT)**, two 3/8 lock washers **(BU)**, two 3/8-16 hex nuts **(BV)**, four 5/16-18 x 3/4" hex flange screws **(BW)** and four 5/16 hex flange nuts **(BX)** from the loose parts box.
10. Assemble the bumpers **(BT)** to the vehicle frame. Secure with 3/8 lock washers **(BU)** and hex nuts **(BV)**.
11. Assemble the keepers **(BS)** to the vehicle frame. Secure with 5/16-18 x 3/4" hex flange screws **(BW)** and hex flange nuts **(BX)**.
12. Connect the positive and negative battery cables. Always connect the positive battery cable first.
13. Remove the cylinder support, start the engine and completely lower the Sprayek.
14. Stop the engine and remove the key. Disconnect the negative battery cable.



7.7 TANK HARNESS CONNECTIONS

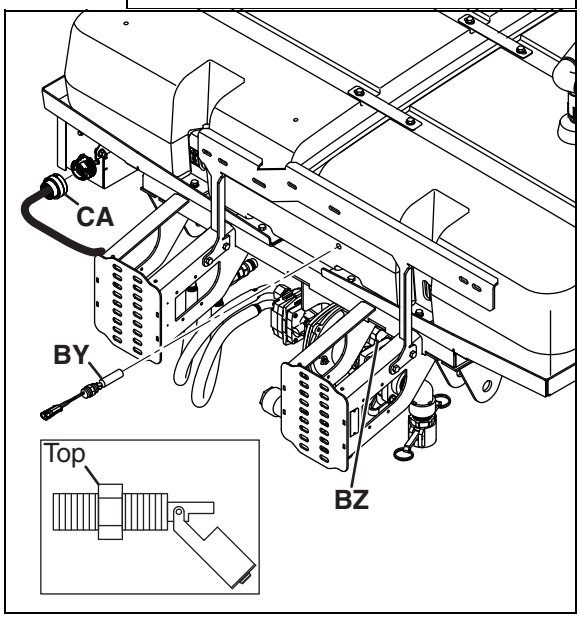
Locate the float switch **(BY)** in the loose parts box.

Position the float switch **(BY)** as shown. Mark the top of the float switch.

Apply thread sealing tape to the float switch threads. Install the float switch **(BY)** into the tank. The top mark on the switch must be at the top when the switch is installed. Locate the connector with Orange and Green/White wires on the tank harness and connect it to the float switch.

Locate the two single wire connectors with Orange and Tan/Red wires on the tank harness. Connect the wires to the pressure switch **(BZ)** on the pump.

Route the 16 pin connector **(CA)** to the relay box on the left rear corner of the sprayer. Connect the 16 pin connector to the relay box connector.



7.8 BOOM AND ACCESSORY INSTALLATION

Install the booms following the instructions in the boom kits.

Install all other accessories following the instructions in the kits.

8 OPERATION

8.1 DAILY INSPECTION

⚠ CAUTION

The inspection must be done each day when the engine is turned off and all fluids are cold. Engage the parking brake, stop the engine and remove the ignition key.

Do a visual inspection of the vehicle. Look for indications of wear or loose hardware. Look for any components that are not included on the vehicle or damaged components. Check for fuel and oil leaks to make sure the connections are tight. Make sure that all hoses and tubes are in good condition.

Check the fuel supply, radiator coolant level, crankcase oil level and air cleaner indicator. When the engine is cold, all fluids must be at the full level mark.

Check the radiator and oil cooler fins for dirt or grass. Clean with compressed air as required before you operate the vehicle.

Check all tires for the correct pressure.

Test the interlock system.

8.2 INTERLOCK SYSTEM

The Interlock System prevents the engine to start unless the clutch pedal is completely pressed and the high-low switch must be in the OFF position for the engine to start.

⚠ WARNING

Do not operate the equipment with the Interlock System disconnected or the system does not operate correctly. Do not disconnect or prevent the operation of any switch.

Do each of these tests to make sure the Interlock System operates correctly. If any of the tests fail, stop the test and have the system inspected and repaired as shown below:

- The engine does not start during test 1.
- The engine does start during test 2 or test 3.

Refer to the chart below for each test and follow the check (✔) marks across the chart. Turn off the engine between each test.

TEST 1: The test shows the normal engine start procedure. The operator is in the seat, parking brake is engaged, the high-low switch must be in the OFF position and the clutch pedal is completely pressed. The engine will start.

TEST 2: The engine must not start if the clutch pedal is not pressed.

TEST 3: The engine must not start if the high-low switch is in the LOW position or the HIGH position.

Test	Operator Seated		Clutch Pedal completely pressed		High-Low switch in the OFF position		Engine Starts	
	Yes	No	Yes	No	Yes	No	Yes	No
1	✔		✔		✔		✔	
2	✔			✔	✔			✔
3	✔		✔			✔		✔

8.3 OPERATING PROCEDURE

⚠ WARNING

This vehicle has a Roll Over Protection Structure (ROPS). Always wear the seat belt.

If the vehicle is over turning, hold the steering wheel. Do not try to move off the vehicle or leave the seat.

⚠ CAUTION

To prevent injury, always wear safety glasses, leather work shoes or boots, a hard hat and ear protection.

1. Always start the engine with the operator in the seat, never while next to the vehicle. Never start the engine with persons near the vehicle.
2. Never operate the engine without enough ventilation or in an enclosed area. The carbon monoxide in the exhaust fumes can increase to dangerous levels.
3. Keep your hands and feet away from moving parts and the accessories. When possible, do not adjust the vehicle with the engine started.
4. Do not operate the vehicle with loose or damaged components. All components must be correctly fastened to the vehicle. Operate when the grass is dry to get the best results.
5. First operate accessories in a test area so that you completely understand the operation of the vehicle and controls.
6. Inspect the area to find the safest procedure for the vehicle. Check the type of terrain and the conditions of the surface. Each condition needs the correct adjustments and precautions.
7. Do not allow persons near the vehicle while in operation. The owner and operator are responsible for injuries caused to persons near the vehicle and any damage to their property.

⚠ CAUTION

Remove all objects you can find before you operate the vehicle. Carefully enter a new area and always operate at speeds that allow you to control the vehicle safely.

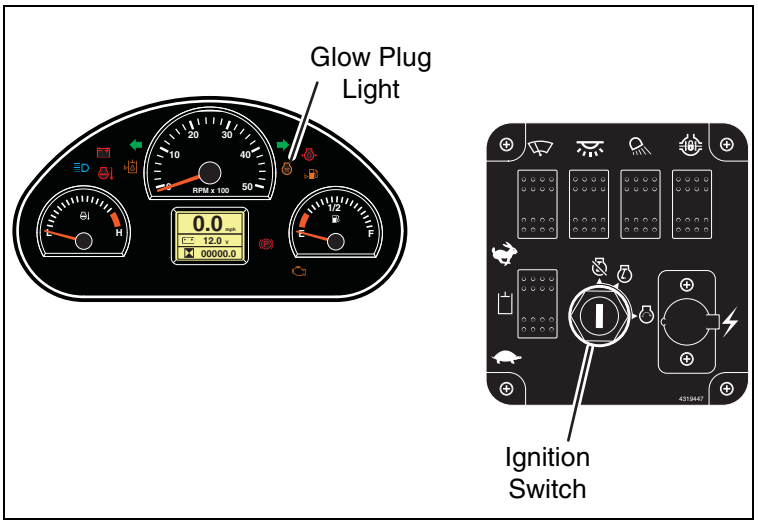
8. Be careful when you operate near to gravel areas (roads, parking areas, cart paths). Stones released from the equipment can cause injuries to persons and cause damage to the equipment.
9. Before you move across or operate on paths or roads, travel at decreased speed. Look for traffic.
10. When you hit an object or vehicle starts to cause vibration that is not normal, inspect the vehicle for damage and make repairs.

⚠ WARNING

Before you clean, adjust or repair this equipment, engage the parking brake, stop the engine and remove the ignition key.

11. Travel at decreased speed and be careful when you operate on the slopes or near sharp edges.
12. When you drive in the reverse direction, look behind you and down to make sure the path is clear. Use caution when you go near corners, trees or other objects that can prevent a clear view.
13. Never use your hands to clean the accessories. Parts of the accessory can have sharp edges and can cause injuries.
14. Use caution when the vehicle pulls a load. Only use approved hitch points and pull the loads you can safely control. Do not make sharp turns. Use caution when you drive in the reverse direction. When recommended in the accessory manual, use the wheel weights or counterweights.

8.4 STARTING THE ENGINE



Start the engine with the operator in the seat, the clutch pedal pressed and the parking brake engaged. Remove your foot from the accelerator pedal. Always wear the seat belt.

Turn the ignition switch to the RUN position. The warning lights on the instrument panel will illuminate for a few seconds. Make sure that the warning lights are illuminated.

Diesel Engine Option: When the glow plug light turns off, immediately turn the ignition switch to the START position. Release the key when the engine starts. Allow 30 seconds between start tries to allow the starter motor to become cool.

Gasoline Engine Option: Turn the ignition switch to the START position. Release the key when the engine starts. Allow 30 seconds between start tries to allow the starter motor to become cool.

NOTICE

Do not hold the ignition switch in the START position for more than 10 seconds.

When the engine starts, all of the warning lights will turn off. Allow the engine to become warm before you operate the vehicle.

8.5 TO STOP THE ENGINE

To stop and park the vehicle in normal conditions:

1. Drive the vehicle to a flat and level area to park the vehicle.
2. Remove your foot from the accelerator pedal, press the clutch pedal and use the brake pedal to stop the vehicle.
3. Engage the parking brake. Put the transmission in first gear.
4. Turn the ignition switch to the OFF position, release the clutch pedal and remove the key before you leave the operator seat.

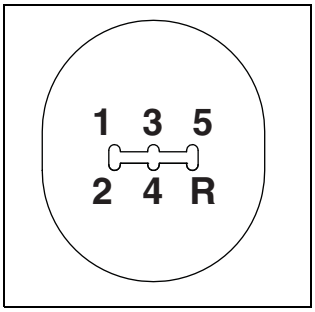
If an emergency occurs and you must park the vehicle in the area of operation, follow the guidelines set by the grounds manager. If the vehicle is parked on a slope, chock or block the wheels.

8.6 TO DRIVE THE VEHICLE

Read and follow all safety instructions contained in this manual when you drive the vehicle. When you operate in the reverse direction, look behind you to make sure you have a clear path.

IMPORTANT: Equipment must meet the current regulations to be driven on the public roads.

To drive the vehicle:



1. If the high/low hydraulic system is installed, put the high/low hydraulic system switch in the OFF position to stop the flow of fluid to the hydraulic accessory connectors.
2. Completely lower the vehicle bed before you drive the vehicle.
3. Press the brake pedal and disengage the parking brake.
4. Fully depress the clutch pedal.
5. The gear selector knob has the gear pattern marked in the top surface. Select 1st or Reverse gear, slowly release the clutch pedal while you press the accelerator pedal. When you drive in the forward direction, always start in 1st gear and shift into the higher gears as the vehicle speed increases.

NOTICE

The vehicle will start to move before the clutch pedal is completely released. When the vehicle starts to move, press the accelerator pedal more and release the clutch pedal. To prevent damage to the clutch, do not drive the vehicle with the clutch pedal not completely released.

Do not drive more the 5 to 6 mph (8 to 10 kph) or drive long distances in the reverse direction.

6. When the vehicle has enough speed, release the accelerator pedal while you press the clutch pedal. Change the transmission to the next higher gear and release the clutch pedal while you press the accelerator pedal. When the clutch pedal is pressed, do not press the accelerator pedal.
7. Continue to change the gears until the vehicle moves at the correct speed. **See Section 8.7** for the correct gear and engine speed to get the necessary vehicle speed.
8. When the you decrease the vehicle speed, you can change the transmission to a lower gear. Release the accelerator pedal while you press the clutch pedal and change the transmission to the next-lower gear. If the gear selector does not easily change to a lower gear, continue to decrease the vehicle speed before you change gears. **DO NOT** force the gear selector into a lower gear. When the vehicle speed is too high and you change to a lower gear, damage to the transmission can occur.

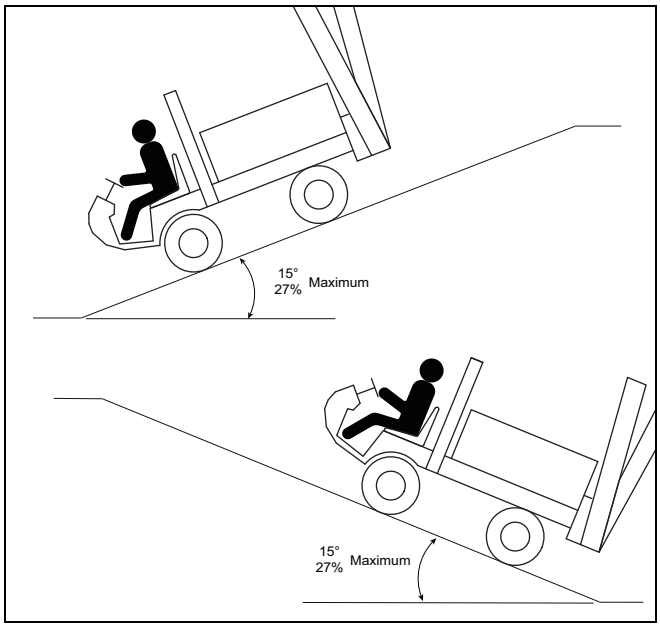
8.7 GEAR/ENGINE SPEED

Use the chart below to select the correct gear and engine speed to get the correct vehicle speed. The values shown are approximate and can change because of changes to the tire pressure or vehicle loads.

Engine Speed	Vehicle Speed in mph (kph)									
	Low-Speed Rear Axle Range					High-Speed Rear Axle Range				
	1st Gear	2nd Gear	3rd Gear	4th Gear	5th Gear	1st Gear	2nd Gear	3rd Gear	4th Gear	5th Gear
1500	0.65 (1.0)	1.22 (2.0)	1.67 (2.7)	2.38 (3.8)	2.99 (4.8)	2.09 (3.36)	3.91 (6.30)	5.35 (8.62)	7.62 (12.26)	9.58 (15.42)
1600	0.70 (1.1)	1.30 (2.1)	1.78 (2.9)	2.54 (4.1)	3.19 (5.1)	2.23 (3.58)	4.17 (6.72)	5.71 (9.19)	8.13 (13.08)	10.22 (16.45)
1700	0.74 (1.2)	1.39 (2.2)	1.90 (3.1)	2.70 (4.3)	3.39 (5.5)	2.36 (3.81)	4.44 (7.14)	6.07 (9.77)	8.64 (13.90)	10.86 (17.48)
1800	0.78 (1.3)	1.47 (2.4)	2.01 (3.2)	2.86 (4.6)	3.59 (5.8)	2.50 (4.03)	4.70 (7.56)	6.43 (10.34)	9.14 (14.72)	11.50 (18.51)
1900	0.83 (1.3)	1.55 (2.5)	2.12 (3.4)	3.01 (4.9)	3.79 (6.1)	2.64 (4.25)	4.96 (7.98)	6.78 (10.92)	9.65 (15.53)	12.14 (19.54)
2000	0.87 (1.4)	1.63 (2.6)	2.23 (3.6)	3.17 (5.1)	3.99 (6.4)	2.78 (4.48)	5.22 (8.40)	7.14 (11.49)	10.16 (16.35)	12.78 (20.57)
2100	0.91 (1.5)	1.71 (2.8)	2.34 (3.8)	3.33 (5.4)	4.19 (6.7)	2.92 (4.70)	5.48 (8.82)	7.50 (12.06)	10.67 (17.17)	13.42 (21.59)
2200	0.96 (1.5)	1.79 (2.9)	2.45 (3.9)	3.49 (5.6)	4.39 (7.1)	3.06 (4.92)	5.74 (9.24)	7.85 (12.64)	11.18 (17.99)	14.06 (22.62)
2300	1.00 (1.6)	1.87 (3.0)	2.56 (4.1)	3.65 (5.9)	4.59 (7.4)	3.20 (5.15)	6.00 (9.66)	8.21 (13.21)	11.68 (18.80)	14.70 (23.65)
2400	1.04 (1.7)	1.96 (3.1)	2.68 (4.3)	3.81 (6.1)	4.79 (7.7)	3.34 (5.37)	6.26 (10.08)	8.57 (13.79)	12.19 (19.62)	15.34 (24.68)
2500	1.09 (1.7)	2.04 (3.3)	2.79 (4.5)	3.97 (6.4)	4.99 (8.0)	3.48 (5.60)	6.52 (10.50)	8.92 (14.36)	12.70 (20.44)	15.97 (25.71)
2600	1.13 (1.8)	2.12 (3.4)	2.90 (4.7)	4.12 (6.6)	5.19 (8.4)	3.62 (5.82)	6.78 (10.92)	9.28 (14.94)	13.21 (21.26)	16.61 (26.74)
2700	1.17 (1.9)	2.20 (3.5)	3.01 (4.8)	4.28 (6.9)	5.39 (8.7)	3.76 (6.04)	7.04 (11.34)	9.64 (15.51)	13.72 (22.07)	17.25 (27.76)
2800	1.22 (2.0)	2.28 (3.7)	3.12 (5.0)	4.44 (7.1)	5.59 (9.0)	3.89 (6.27)	7.31 (11.76)	10.00 (16.09)	14.22 (22.89)	17.89 (28.79)
2900	1.26 (2.0)	2.36 (3.8)	3.23 (5.2)	4.60 (7.4)	5.79 (9.3)	4.03 (6.49)	7.57 (12.18)	10.35 (16.66)	14.73 (23.71)	18.53 (29.82)
3000	1.30 (2.1)	2.44 (3.9)	3.34 (5.4)	4.76 (7.7)	5.99 (9.6)	4.17 (6.72)	7.83 (12.60)	10.71 (17.23)	15.24 (24.53)	19.17 (30.85)
3100	1.35 (2.2)	2.53 (4.1)	3.46 (5.6)	4.92 (7.9)	6.19 (10.0)	4.31 (6.94)	8.09 (13.02)	11.07 (17.81)	15.75 (25.34)	19.81 (31.88)
3200	1.39 (2.2)	2.61 (4.2)	3.57 (5.7)	5.08 (8.2)	6.39 (10.3)	4.45 (7.16)	8.35 (13.44)	11.42 (18.38)	16.26 (26.16)	20.45 (32.91)
3300 (Gas only)	1.43 (2.3)	2.69 (4.3)	3.68 (5.9)	5.24 (8.4)	6.59 (10.6)	4.59 (7.39)	8.61 (13.86)	11.78 (18.96)	16.76 (26.98)	21.09 (33.93)
3400 (Gas only)	1.48 (2.4)	2.77 (4.5)	3.79 (6.1)	5.39 (8.7)	6.79 (10.9)	4.73 (7.61)	8.87 (14.28)	12.14 (19.53)	17.27 (27.79)	21.72 (34.96)
3500 (Gas only)	1.52 (2.4)	2.85 (4.6)	3.90 (6.3)	5.55 (8.9)	6.98 (11.2)	4.87 (7.83)	9.13 (14.70)	12.49 (20.11)	17.78 (28.61)	22.36 (35.99)

8.8 OPERATION ON SLOPES

The vehicle is made to have good traction and to have good balance. Operate the vehicle with caution when you drive on a gradient. If you drive on wet grass, the traction and steering control of the vehicle is decreased.



⚠ WARNING

To make sure that the vehicle does not turn over, the safest method to drive up and down on the face of slopes (vertically). You must not drive across the face horizontally. Travel at a slow speed and do not make turns that are not necessary. If the vehicle is not operated correctly or turns over, the vehicle can cause injury or death.

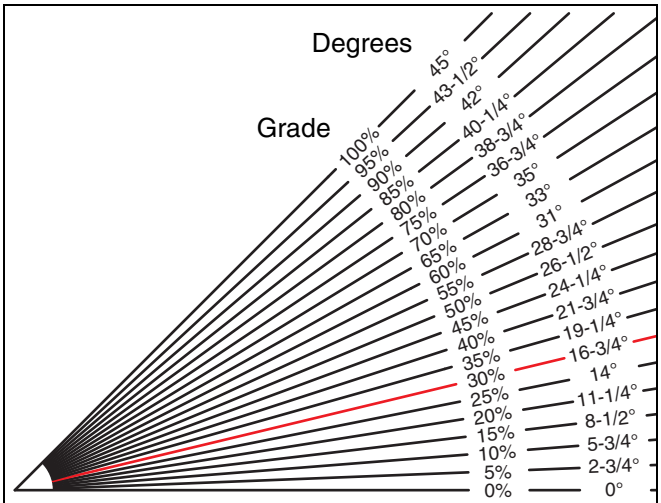
Check for hazards on the road that are not visible to the drivers.

Material that moves inside the vehicle bed can cause an unbalanced load that can tip the vehicle.

⚠ CAUTION

Do not operate the vehicle on the slopes greater than 15° or a 27% slope.

1. If the vehicle moves to the side or the tires damage the turf, drive the vehicle on a slope with a decreased angle.
2. If the vehicle continues to move to the side and damage the turf, the slope is at an angle that is not safe. Do not continue to drive toward the top of the slope. Carefully drive toward the bottom of the slope.
3. When you drive toward the bottom of a slope with a high angle, lower the accessories to the ground. This procedure makes sure the vehicle does not turn upside down.
4. Correct tire pressure is necessary for maximum traction. **See Section 9.4**

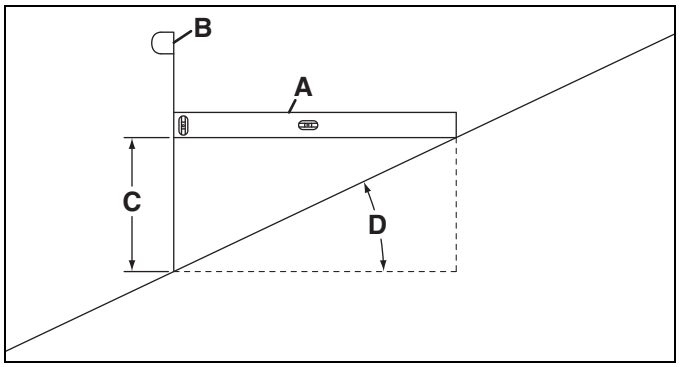


General slope of roadway embankment - 45°
Steepest Grass Area - 31°
Slope of the average roof - 19-1/4°
2nd Class highway maximum grade 4-1/2°
Toll road or freeway - 1-3/4°

How to calculate a slope:

Tools Required:
Level **(A)**, either 1 yard, or 1 meter long.
Tape measure **(B)**.

Use the level **(A)** and position it horizontally to measure the distance **(C)** with tape measure **(B)**. Use the chart to calculate the slope angle or the percentage grade of the slope **(D)**.



Height (C)		Result (D)	
Inches with 1 Yard Level (A)	**Millimeters with 1 Meter Level (A)**	**Slope in Degrees**	**Slope Grade %**
3		4.8	8.3
	100	5.7	10.0
	150	8.5	15
6		9.5	16.7
	200	11.3	20.0
7.5		11.8	20.8
	225	12.7	22.5
9	250	14	25.0
	275	15.4	27.5
10		15.5	27.8
	300	16.7	30.0
11		17.0	30.6
	325	18.0	32.5
12		18.4	33.3
	350	19.3	35.0
13		19.9	36.1
	375	20.6	37.5
14		21.3	38.9
	400	21.8	40.0
15		22.6	41.7
	425	23.0	42.5
16		24	44.4
	475	25.4	47.5
18	500	26.6	50.0
20		29.1	55.6
	600	31.0	60.0
25		34.8	69.4
	800	38.7	80.0
30		39.8	83.3
	900	42.0	90
36	1000	45.0	100

8.9 HYDRAULIC ACCESSORY OPERATION

The high/low hydraulic system is required to operate hydraulic accessories. The connectors in the left rear corner of the vehicle is for the operation of hydraulic accessories.

To operate the hand held sprayer accessories:

1. Park the vehicle, engage the parking brake, stop the engine and remove the key.
2. The Spraytek XP requires a flow rate of 5-7 Gallons/Minute (18.93-26.50 Liter/Minute). Refer to the chart below for the needed engine speed for the LOW switch position.
3. Start the engine and use the accelerator pedal or hand throttle to operate the engine at the needed speed. When you use the hand held sprayer accessories, do not drive the vehicle.
4. Put the high/low switch in the LOW position for the needed flow rate.

To operate the vehicle mounted hydraulic accessories:

1. Park the vehicle, engage the parking brake, stop the engine and remove the key.
2. The Spraytek XP requires a flow rate of 5-7 Gallons/Minute (18.93-26.50 Liter/Minute). Refer to the chart below for the needed engine speed for the LOW switch position.
3. Start the engine and drive the vehicle to the area of operation.
4. Put the high/low switch in the LOW position. When you operate the sprayer, drive the vehicle in the low-speed rear axle range and keep other persons away from the vehicle.

Engine Speed	Flow Rate Gallon/Minute (Liter/Minute)		Engine Speed	Flow Rate Gallon/Minute (Liter/Minute)	
	LOW Position	HIGH Position		LOW Position	HIGH Position
1000	2.97 (11.43)	2.97 (11.43)	2300	5.00 (18.93)	6.82 (25.82)
1100	3.26 (12.35)	3.26 (12.35)	2400	5.00 (18.93)	7.12 (26.94)
1200	3.56 (13.47)	3.56 (13.47)	2500	5.00 (18.93)	7.41 (28.06)
1300	3.85 (14.59)	3.85 (14.59)	2600	5.00 (18.93)	7.71 (29.19)
1400	4.15 (15.72)	4.15 (15.72)	2700	5.00 (18.93)	8.01 (30.31)
1500	4.49 (16.84)	4.49 (16.84)	2800	5.00 (18.93)	8.30 (31.43)
1600	4.75 (17.96)	4.75 (17.96)	2900	5.00 (18.93)	8.60 (32.56)
1700	5.00 (18.93)	5.04 (19.08)	3000	5.00 (18.93)	8.90 (33.68)
1800	5.00 (18.93)	5.34 (20.21)	3100	5.00 (18.93)	9.19 (34.80)
1900	5.00 (18.93)	5.63 (21.33)	3200	5.00 (18.93)	9.49 (35.92)
2000	5.00 (18.93)	5.93 (22.45)	3300	5.00 (18.93)	9.79 (37.04)
2100	5.00 (18.93)	6.23 (23.57)	3400	5.00 (18.93)	10.08 (38.17)
2200	5.00 (18.93)	6.52 (24.70)	3500	5.00 (18.93)	10.38 (39.29)

8.10 SPRAYTEK XP SYSTEM DYNAMICS

The Spraytek XP is a hydraulic driven accessory for the Truckster XD vehicle.

NOTICE

Do not operate the sprayer pump without liquid in the system. The mechanical seal in the pump is cooled by the liquid that flows through the pump. Permanent damage to the pump will occur.

A **Sprayer Tank** - The tank holds the water and chemical mixture. The tank has a 175 or 300 gallon (662 or 1136 liter) capacity. (Not Shown)

B **Drain Ball Valve** - The drain ball valve allows the tank to be drained without the pump. When the pump is in operation, the drain ball valve must be in the closed position.

C **Sprayer Pump** - The sprayer pump is a centrifugal type pump. When the High/Low hydraulic system is in the HIGH or LOW position, the pump will operate. Jacobsen recommends the High/low hydraulic system switch in the LOW position for normal operation of the sprayer.

D **Agitation Ball Valve** - The agitation ball valve controls the amount of liquid that flows to the nozzles in the sprayer tank. When the pump operates, Jacobsen recommends that the valve stays in the completely open position.

E **Agitation Nozzles** - There are four agitation nozzles found inside the tank. The nozzles agitate the liquid to mix chemicals and keep the chemicals in suspension.

F **Strainer** - The strainer filters out particulate materials and debris from the supply tank to prevent blocked nozzles. The HD booms use a 50 mesh screen and the Sharpshooter booms use a 80 mesh screen.

NOTE: *The HD SharpShooter system can require different mesh sizes.*

G **Flow Meter** - The flow meter measures the fluid that flows through the flow meter and sends a signal to the sprayer controller. The Raven 203 Control System does not use a flow meter.

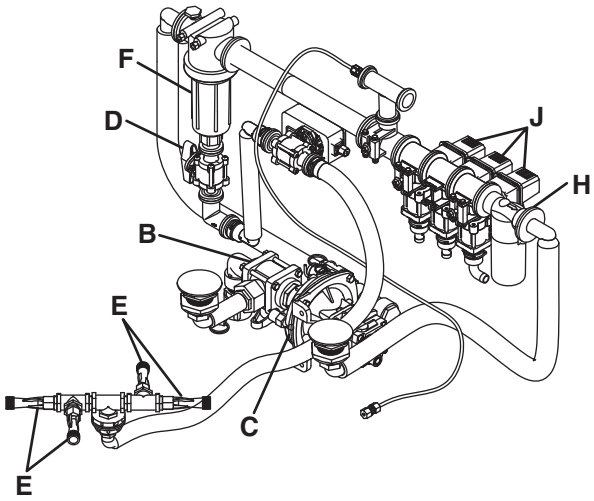
H **Flow Control Valve** - The flow control valve controls the amount of fluid sent to the booms. The flow meter on the Raven 203 Control system controls system pressure by regulating the bypass flow.

J **Boom Control Valve** - The boom control valves open and close to allow operation of the booms. The boom control valves are not used with the SharpShooter booms.

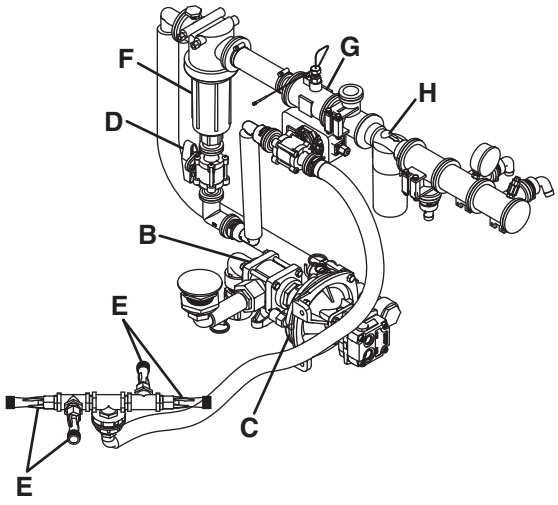
K **Boom Nozzles** - The boom nozzles evenly sprays the liquid in the tank onto the turf. The Spraytek XP uses two types of boom nozzles. The nozzle spray tips provided with the boom are meant for demonstration purposes and may not be suitable for your spraying needs. Order replacement tips from Tee-Jet.com for HD booms or Wilger.com for Sharpshooter booms.
HD boom nozzles is a three position nozzle with Tee-Jet spray tips. The tip sizes shipped with the booms are XR11006-VS (Gray).
SharpShooter boom nozzles have two Combo-Jet spray tips. The tip sizes shipped with the booms are SR110-10 (Light Blue - Small Drops) and MR110-10 (Light Blue - Medium Drops).

L **Hose Reel Accessory** - The hose reel is an optional accessory for the Spraytek XP. The hose reel allows for hand held sprayer accessories. (Not Shown)

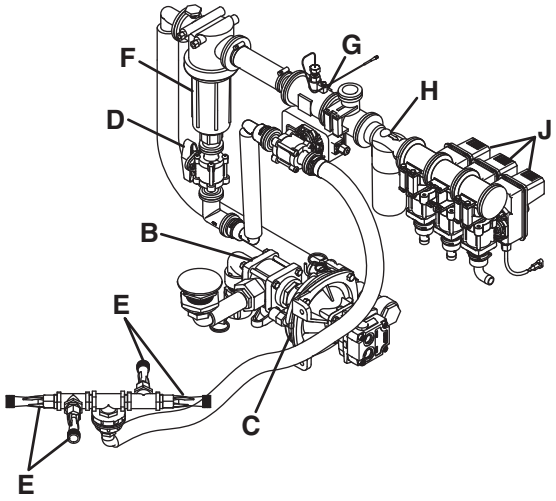
Raven 203 Sprayer Components



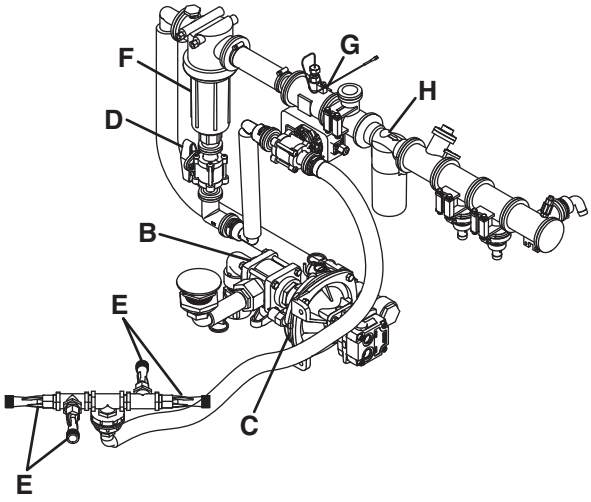
Raven 440 + SharpShooter Sprayer Components



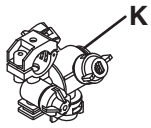
Raven 440 Sprayer Components



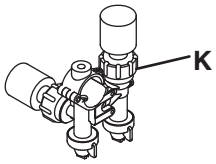
Envizio Pro II + SharpShooter Sprayer Components



HD Boom Nozzle



SharpShooter Boom Nozzle



8.11 SPRAYER SYSTEM CHECK

Before you operate the Spraytek XP, check these components to make sure of the correct operation of the sprayer.

1. Sprayer Tank and Tank Frame.
   - Inspect the frame for broken welds and cracks. Make sure the mounting hardware is tightened.
   - Inspect the sprayer tank for cracks or leaks.
   - Inspect the lid and gasket for damage or leaks. Clean any dirt or other objects from the lid threads and gasket.
   - Remove the lid and the strainer basket. Visually inspect the interior of the tank for remaining material. Check the suction fitting in sump area for dirt or other objects. Blocked suction can cause damage to the pump.
   - Check the ceramic orifices in the agitator nozzles for cracks or blockage. Incorrectly functioning orifices can cause decreased agitation and can cause the chemicals to not mix correctly.
2. Sprayer Pump.
   - Inspect the suction and pressure hose for cracks or any damage that can cause a leak.
   - Check the pump for seal leaks.
   - Check the plastic vent tube from top of the pump for kinks or dried powder products.
   - Inspect and clean the strainer screen.
   - Check to be sure suction ball valve is open and free from damage.
3. Spray Boom.
   - Inspect the support frame and the mounting hardware for loose, damaged or missing components. If necessary, repair or replace the booms before you operate the Spraytek XP.
   - Make sure the boom is level and adjusted to the proper height (See the boom accessory instructions for the boom adjustments).
   - Grease the boom hinges and remove any debris which may have accumulated on and around the pivot plate area.
   - Between spray loads, check and clean all the boom nozzle assemblies. Inspect check valve diaphragms for damage. Check and clean tips with a soft nylon brush (DO NOT use metal or hard brushes, tip damage will occur). Clean strainer screens and tip gaskets. Replace worn or damaged items as needed. Proper tip maintenance will result in optimum performance and pattern development.
4. Boom Control Systems.

   Raven 203 Sprayer Controller:
   - Check the electrical connections. Make sure the harness clips are attached to the frame.
   - Check the control box mount and console hardware for tightness. Clean dirty console with a damp cloth (mild soap), **DO NOT** use solvents to clean the console.
   - Check the toggle switches for damage or loose connections. Replace as necessary.
   - Check the back side of console and make sure the power & control cables are locked into the pin connectors.
   - Check the 10 Amp fuse.
   - Check plastic pressure gauge tube for sharp bends, breaks or blockage, repair as needed. To clear a blocked tube (packed with dry powder):

a Put some clean water in the spray tank, 2 to 5 gallons (7.6 to 18.9 L) is sufficient. Turn the boom switches OFF, the high/low switch to LOW and set the engine speed to 3000 rpm.

b Disconnect the tube from the back of the console. Point the end of tube away from the you and allow debris to clear from tube.

c If unsuccessful, remove other end of the tube from the boom valve inlet. Use a rubber tipped air nozzle to force high pressure air through the tube. If still unsuccessful, replace the tube with a new piece, and start flushing the new tube after each spray application.

   - Move to the boom area at the rear of the sprayer. Check the electrical connections for the boom control valves.
   - Check the pipe and valve connections for leaks. if a leak is detected, tighten the nuts on the 4 guide rod bolts (there are o-rings in each joint area, Do Not tighten too tight. If the leak persists, separate the valve bodies and replace the o-rings with new ones.
5. Move to the control console, Listen carefully as you perform the next series of checks.
   - Push up on the pressure-adjust toggle switch, the motor on the flow control valve should run. Reverse toggle switch position, verify motor works in both directions.

- Push the master power toggle to the ON position, check the switches one-at-a-time for boom 1, then boom 2, then boom 3, checking switches in both directions. Verify each boom control valve works in both directions.

Raven 440 Sprayer Control System.

- Refer to the manual supplied with the Raven 440 controller for set up and test procedures.
- Wipe any debris from the console using a damp rag and mild soap.
- Verify your pre-set calibration numbers, do they match your records sheet in the Raven Manual? Modify any numbers that do not match.
- Verify tip size in the boom is correct based on your desired spray speed, tip spacing, and target output.
- Make sure all harness connections are secure.
- Place control box power switch to the " manual" position. Push the master power toggle to the " ON" position and the master boom switch to the ON position, check the switches one-at-a-time for boom 1, then boom 2, then boom 3, checking switches in both directions. Verify each boom control valve works in both directions.

Raven 440 + SharpShooter Sprayer Control System.

- Refer to the manual supplied with the Raven 440 controller for set up and test procedures. A separate manual is supplied with the SharpShooter control system.
- Wipe any debris from the console using a damp rag and mild soap.
- Verify your pre-set calibration numbers, do they match your records sheet in the Raven Manual? Modify any numbers that do not match.
- Verify tip size in the boom is correct based on your desired spray speed, tip spacing, and target output.
- Make sure all harness connections are secure.
- Place control box power switch to the MANUAL position. Push the master power toggle to the " ON" position and the master boom switch to the ON position, check the switches one-at-a-time for boom 1, then boom 2, then boom 3, checking switches in both directions. Verify each boom nozzle operates correctly.

Envizio Pro II Sprayer Control System.

- Refer to the manuals supplied with the Envizio Pro II controller, Sharp Shooter and Switch Pro for set up and test procedures.
- Wipe any debris from the console using a damp rag and mild soap.
- Verify your pre-set calibration numbers, do they match your records sheet in the Raven Manual? Modify any numbers that do not match.
- Verify tip size in the boom is correct based on your desired spray speed, tip spacing, and target output.
- Make sure all harness connections are secure.
- Place control box power switch to the " manual" position. Push the master power toggle to the ON position and the master boom switch to the ON position, check the switches one-at-a-time for sections 1-10, checking switches in both directions. Verify that each boom nozzle operates correctly.

NOTE: *The 15 foot (457 cm) booms only use section switches 1-9 on the SwitchPro control console. Section switch 10 does not function on the 15 foot booms.*

NOTE: *When you have 18 foot booms, the section switch 6 on the SwitchPro control console operates both the center and right nozzles on the center boom.*

NOTE: *When you have 20 foot booms, section switch 5 on the Switch Pro control console operates the left two nozzles on the center boom, and section switch 6 operates the right two nozzles on the center boom.*

6. Optional accessories that may be installed.

Proceed with the check list for each accessory that has been installed on the Spraytek. Refer to the accessory manuals for adjustment and set-up procedures.

Hose Reel.

- Check the supply hose, from the pressure side of the pump to the swivel inlet on reel drum, for damage or leaks.
- Lubricate the reel bearings.
- Check the reel to tank hardware for tightness.
- If the electric rewind option is used, check the harness connections. Check the reel valve fuse in the console harness (**F26** - 5 amp) and the motor fuse in the relay box (**F23** - 30 Amp).

Foam Marker.

- Inspect the solution tank for leaks and cracks.
- Check the cap assembly for cracks and leaks.
- Check the fuse in the console harness (**F27** - 15 amp).
- Be sure to use only approved Foam Concentrate with the foam marker accessory.
- Activate the power switch. Move the select switch to the left then to the right positions and center position. The compressor will start and if there is fluid in the container, liquid should flow to the corresponding foam generator.
- Check the hose fasteners on the compressor and the boom tubes for proper tightness.
- Check the foam generator position. It should be at the end of the boom wing and clear the spray pattern distribution area.

8.12 SPRAYER TANK ADDITIVES

Dye Markers

Avoid heavy, thick dye markers and only add dyes into a full tank, Do not add to an empty tank.

Due to the pigment granules and/or by-products, the use of dyes can lead to mechanical seal problems. Because of the high speed of the impeller seal and the heat that is generated, the pigments can scale up the ceramic seal surface. This will cause the seals to leak (pump appears broken). Frequent rinsing between smaller tank loads can reduce the leakage at the seals. Also, using less dye than recommended, but enough to still see a color change, can result in better performance.

Spray Liquid Viscosity

The addition of certain WP (Wettable Powders), WDG (Water Dispersers Granular) or EC (Emulsified Concentrate) chemicals may cause the viscosity (thickness) of the water to increase. This can sometimes affect the calibration of the spray nozzle out-put at the pre-calibration water numbers. Consult the chemical supplier for the recommended modifications to your system.

8.13 CALIBRATION

It is advisable to familiarize yourself with the operation of the sprayer and sprayer accessories. Practicing with plain water before the addition of expensive and potentially destructive chemical formulas (when mis-applied), can be smart and cost effective.

To spray and spray accurately, you must have a set standards to spray by.

The easiest method of calibration is to use as many fixed constants that can be controlled, and then modify the tip size & output pressure to lock in your desired application rate.

When you use the following formulas, the application rate can be maintained by fixing the constants for each category.

To properly calibrate the sprayer, the following information is required.

Desired Application Rate - GPA (Gallons Per Acre) or G/1000 ft^2 (Gallons per 1000 square feet).

Nozzle Spacing - Distance in inches (centimeters) between spray tips.

Desired Ground Speed - A fixed, ground speed is recommended to maintain accurate calibration.

Tip Style - Type of pattern for particle distribution of applicable chemical to be applied, i.e. (FL, XR, TT).

Tip Size - Determines volume per minute, per nozzle and desired droplet (micron) size of spray carrier particles.

The following Formulas and conversion factors will help you obtain the necessary information.

Abbreviations:

- km - kilometer
- m - meter
- G - Gallon
- l - Liter
- GPA - Gallons per Acre
- GPM - Gallons per Minute
- MPH - Miles per hour
- PSI - Pounds per square inch
- W - Nozzle spacing in inches

Conversion Factors:

- One Acre = 43,560 ft^2 = 43.56 1000 ft^2 = 0.405 hectares
- One Hectare = 2.471 Acres
- One GPA = 2.9 Fluid Ounces/1000 ft^2 = 9.35 l/hectares
- One G/1000 ft^2 = 43.56 GPA
- One Gallon = 4 Quarts = 8 Pints = 128 fluid ounces
- One Gallon = 3.79 l = 0.83 Imperial Gallons
- One Mile = 5,280 ft = 1.61 km = 1610 m
- One PSI = 0.069 bar = 6.896 kilopascal

Fomulas:

- GPM (per nozzle) = (GPA x MPH x W) / 5,940
- GPM (per nozzle) = (G/1000 ft^2 x MPH x W) / 136
- GPA = (5,490 x GPM (per nozzle)) / (mph x W)
- G/1000 ft^2 = (136 x GPM (per nozzle)) / (mph x W)

8.14 GROUND SPEED

The Spraytek offers five forward speeds, plus a high-low rear axle range. This gives you the option of ten (10) possible speeds. All spraying operations should be performed with the differential set in the low speed.

Operate the engine at 2500 to 3000 RPM. Refer to the ground speed chart to determine the transmission gear and engine speed necessary to spray at 2 to 5 MPH (3.2 to 8.0 kph).

8.1 NOZZLE TIP SIZE

The tip size selected for use in your sprayer will depend on the desired GPM rate per nozzle, ground speed, nozzle spacing, and spray pressure. The following charts will help in determining tip size, etc. when using the formulas mentioned on the previous page.

The information in the first chart was taken from the TeeJet Catalog 51A and is used for HD booms. For a complete listing of tip options and charts, download the complete catalog from Tee-Jet.com.

The information in the second chart was taken from the Wilger Combo-Jet tip catalog and is used for SharpShooter booms. For a complete listing of tip options and charts, download the complete catalog from Wilger.com.

An example of using the chart and formula:

Fixed Constants:
G/1000 ft^2 =1
MPH = 2.9
W = 20 inch Nozzle Spacing

GPM (per nozzle) = (G/1000 ft^2 x MPH x W) / 136

GPM (per nozzle) = (1 x 2.9 x 20) / 136 = 29 / 136

GPM (per nozzle) = 0.426

If we take the answer (0.426) and look at the chart on the next page, we see a brown XR tip at 30 psi (206 kPa) or a gray XR tip at a 20 psi (138 kPa) will apply the proper amount based on Rate/Speed & Spacing constants used in the formula.

Tee Jet Tips (HD Booms)

Tip Color	Tip No. (Strainer Screen)	Liquid Pressure in PSI	Capacity 1 Nozzle in GPM	Capacity 1 Nozzle in oz/min	20" Nozzle Spacing							
					Gallons Per Acres				Gallons Per 1000 Square Feet			
	110° Series				2 mph	3 mph	4 mph	5 mph	2 mph	3 mph	4 mph	5 mph
Orange	XR11001 (100 Mesh)	15	0.061	7.8	8.9	5.9	4.5	3.6	0.21	0.14	0.10	0.08
		20	0.071	9.1	10.4	6.9	5.3	4.2	0.24	0.16	0.12	0.10
		30	0.087	11	13.4	8.9	6.5	5.2	0.30	0.20	0.15	0.12
		40	0.10	13	14.9	9.9	7.4	5.9	0.34	0.23	0.17	0.14
		50	0.11	14	16.4	10.8	8.2	6.5	0.37	0.25	0.19	0.15
		60	0.12	15	17.8	11.9	8.9	7.1	0.41	0.27	0.20	0.16
Green	XR110015 (100 Mesh)	15	0.92	12	13.4	8.9	6.8	5.5	0.31	0.21	0.16	0.13
		20	0.11	14	16.3	10.9	8.2	6.5	0.37	0.25	0.19	0.15
		30	0.13	17	19.3	12.9	9.7	7.7	0.44	0.29	0.22	0.18
		40	0.15	19	22.0	14.9	11.1	8.9	0.51	0.34	0.26	0.20
		50	0.17	22	25.2	16.8	12.6	10.1	0.58	0.39	0.29	0.23
		60	0.18	23	27.0	17.8	13.4	10.7	0.61	0.41	0.31	0.24
Yellow	XR11002 (50 Mesh)	15	0.12	15	17.8	11.9	8.9	7.1	0.41	0.27	0.20	0.16
		20	0.14	18	21	13.9	10.4	8.3	0.48	0.32	0.24	0.19
		30	0.17	22	25	16.8	12.6	10.1	0.58	0.39	0.29	0.23
		40	0.20	26	30	19.8	14.9	11.9	0.68	0.45	0.34	0.27
		50	0.22	28	33	22	16.3	13.1	0.75	0.50	0.37	0.30
		60	0.24	31	36	24	17.8	14.3	0.82	0.54	0.41	0.33

Tee Jet Tips (HD Booms)

Tip Color	Tip No. (Strainer Screen)	Liquid Pressure in PSI	Capacity 1 Nozzle in GPM	Capacity 1 Nozzle in oz/min	20" Nozzle Spacing							
					Gallons Per Acres				Gallons Per 1000 Square Feet			
	110° Series				2 mph	3 mph	4 mph	5 mph	2 mph	3 mph	4 mph	5 mph
Purple	XR110025 (50 Mesh)	15	0.15	19	22	14.8	11.1	8.9	0.51	0.34	0.26	0.20
		20	0.18	23	27	17.9	13.4	10.7	0.61	0.41	0.31	0.24
		30	0.22	28	33	22	16.3	13.1	0.75	0.50	0.37	0.30
		40	0.25	32	38	25	18.6	14.9	0.85	0.57	0.43	0.34
		50	0.28	36	42	28	21	16.6	0.95	0.63	0.48	0.38
		60	0.31	40	46	31	23	18.4	1.1	0.70	0.53	0.42
Blue	XR11003 (50 Mesh)	15	0.18	23	27	17.8	13.4	10.7	0.61	0.41	0.31	0.24
		20	0.21	27	31	21	15.6	12.5	0.61	0.48	0.36	0.29
		30	0.26	33	39	26	19.3	15.4	0.88	0.59	0.44	0.35
		40	0.30	38	45	30	22	17.8	1.0	0.68	0.51	0.41
		50	0.34	44	50	34	25	20	1.2	0.77	0.58	0.46
		60	0.37	47	55	37	27	22	1.3	0.84	0.63	0.50
Red	XR11004 (50 Mesh)	15	0.24	31	36	24	17.8	14.3	0.82	0.54	0.41	0.33
		20	0.28	36	42	28	21	16.6	1.0	0.63	0.48	0.38
		30	0.35	45	52	35	26	21	1.2	0.79	0.60	0.48
		40	0.40	51	59	40	30	24	1.4	0.91	0.68	0.54
		50	0.45	58	66	44	33	27	1.5	1.0	0.77	0.61
		60	0.49	63	73	49	36	29	1.7	1.1	0.83	0.67
Brown	XR11005 (50 Mesh)	15	0.31	40	46	30	23	18.4	1.1	0.70	0.53	0.42
		20	0.35	45	52	34	26	21	1.2	0.79	0.60	0.48
		30	**0.43**	55	64	42	32	26	1.5	0.97	0.73	0.58
		40	0.50	64	74	50	37	30	1.7	1.1	0.85	0068
		50	0.56	72	84	56	42	33	1.9	1.3	0.95	0.76
		60	0.61	78	90	60	45	36	2.1	1.4	1.0	0.83
Grey	XR11006 (50 Mesh)	15	0.37	47	54	36	27	22	1.3	0.84	0.63	0.50
		20	**0.42**	54	62	42	31	25	1.4	1.0	0.71	0.57
		30	0.52	67	78	52	39	31	1.8	1.2	0.88	0.71
		40	0.60	77	90	60	45	36	2.0	1.4	1.0	0.82
		50	0.67	86	100	66	50	40	2.3	1.5	1.1	0.91
		60	0.73	93	108	72	54	43	2.5	1.7	1.2	0.99
White	XR11008 (50 Mesh)	15	0.49	63	72	48	36	29	1.7	1.1	0.83	0.67
		20	0.57	73	48	56	42	34	1.9	1.3	0.97	0.78
		30	0.69	88	102	68	51	41	2.3	1.6	1.2	0.94
		40	0.80	102	118	80	59	48	2.7	1.8	1.4	1.1
		50	0.89	114	132	88	66	53	3.0	2.0	1.5	1.2
		60	0.98	125	146	99	73	58	3.3	2.2	1.7	1.3
Light Grey	XR11010	15	0.61	78	90	60	45	36	2.1	1.4	1.0	0.83
		20	0.71	91	106	71	53	42	2.4	1.6	1.2	0.97
		30	0.87	111	130	87	65	52	3.0	6.0	1.5	1.2
		40	1.00	128	148	99	74	59	3.4	2.3	1.7	1.4
		50	1.12	143	166	111	83	67	3.8	2.5	1.9	1.5
		60	1.22	156	182	121	91	72	4.1	2.8	2.1	1.7
Light Grey	XR11015	15	0.92	118	136	91	68	55	3.1	2.1	1.6	1.3
		20	1.06	136	158	105	79	63	3.6	2.4	1.8	1.4
		30	1.30	166	194	129	97	77	4.4	2.9	2.2	1.8
		40	1.50	192	222	148	111	89	5.1	3.4	2.6	2.0
		50	1.68	215	250	167	125	100	5.7	3.8	2.9	2.3
		60	1.84	236	274	183	137	109	6.3	4.2	3.1	2.5

Combo-Jet Tips (Sharpshooter Booms)

Tip Color	Tip No. (Strainer Screen)	Liquid Pressure in PSI	Capacity 1 Nozzle in GPM	Capacity 1 Nozzle in oz/min	20" Nozzle Spacing							
					Gallons Per Acres				Gallons Per 1000 Square Feet			
	110° Series				2 mph	3 mph	4 mph	5 mph	2 mph	3 mph	4 mph	5 mph
Orange	ER110-01 SR110-01 MR110-01 DR110-01 (100 Mesh)	20 30 40 50 60 70	0.07 0.09 0.10 0.11 0.12 0.13	8.96 11.52 12.80 14.08 15.36 16.64	10.5 12.8 14.8 16.5 18.3 19.8	7.0 8.5 9.8 11.0 12.2 13.2	5.3 6.4 7.4 8.3 9.4 9.9	4.2 5.1 5.9 6.6 7.3 7.9	0.24 0.29 0.34 0.38 0.42 0.45	0.16 0.20 0.23 0.25 0.28 0.30	0.12 0.15 0.17 0.19 0.21 0.23	0.10 0.12 0.14 0.15 0.17 0.18
Green	ER110-015 SR110-015 MR110-015 DR110-015 (100 Mesh)	20 30 40 50 60 70	0.11 0.13 0.15 0.17 0.18 0.20	14.08 16.64 19.20 21.76 23.04 25.6	15.8 19.3 22.3 25.0 27.3 29.5	10.5 12.8 14.8 16.7 18.2 19.7	7.9 9.6 11.1 12.5 13.6 14.8	6.3 7.7 8.9 10.0 10.9 11.8	0.36 0.44 0.51 0.57 0.63 0.68	0.24 0.29 0.34 0.38 0.42 0.45	0.18 0.22 0.26 0.29 0.31 0.31	0.14 0.18 0.20 0.23 0.25 0.27
Yellow	ER110-02 SR110-02 MR110-02 DR110-02 (50 Mesh)	20 30 40 50 60 70	0.14 0.17 0.20 0.22 0.24 0.26	17.92 21.76 25.60 28.16 30.72 33.28	21.0 25.8 29.9 33.3 36.3 39.3	14.0 17.2 19.8 22.2 24.2 26.2	10.5 12.9 14.9 16.6 18.1 19.6	8.4 10.3 11.9 13.3 14.5 15.7	0.48 0.59 0.68 0.76 0.83 0.90	0.32 0.39 0.46 0.51 0.55 0.60	0.24 0.30 0.34 0.38 0.42 0.45	0.19 0.24 0.27 0.31 0.33 0.36
Purple	ER110-025 SR110-025 MR110-025 DR110-025 (50 Mesh)	20 30 40 50 60 70	0.18 0.22 0.25 0.28 0.31 0.33	23.04 28.16 32.00 35.84 39.68 42.24	26.3 32.3 37.3 41.5 45.5 49.0	17.5 21.5 24.8 27.7 30.3 32.7	13.1 16.1 18.6 20.8 22.8 24.5	10.5 12.9 14.9 16.6 18.2 19.6	0.60 0.74 0.86 0.95 1.04 1.12	0.40 0.49 0.57 0.64 0.70 0.75	0.30 0.37 0.43 0.48 0.52 0.56	0.24 0.30 0.34 0.38 0.42 0.45
Blue	ER110-03 SR110-03 MR110-03 DR110-03 (50 Mesh)	20 30 40 50 60 70	0.21 0.26 0.30 0.34 0.37 0.40	26.88 33.28 38.40 43.52 47.36 51.20	31.5 38.5 44.5 49.8 54.5 59.0	21.0 25.7 29.7 33.2 36.3 39.3	15.8 19.3 22.3 24.9 27.3 29.5	12.6 15.4 17.8 19.9 21.8 23.6	0.72 0.88 1.02 1.14 1.25 1.35	0.48 0.59 0.68 0.76 0.83 0.90	0.36 0.44 0.51 0.57 0.63 0.68	0.29 0.35 0.41 0.46 0.50 0.54
Red	ER110-04 SR110-04 MR110-04 DR110-04 (50 Mesh)	20 30 40 50 60 70	0.28 0.35 0.40 0.45 0.49 0.53	35.84 44.80 51.20 57.60 62.72 67.84	42.0 51.5 59.5 66.5 72.8 78.5	28.0 34.3 39.7 44.3 48.5 52.3	51.0 25.8 29.8 33.3 36.4 39.3	16.8 20.6 23.8 26.6 29.1 31.4	0.96 1.18 1.37 1.53 1.67 1.80	0.64 0.79 0.91 1.02 1.11 1.20	0.48 0.59 0.68 0.76 0.84 0.90	0.39 0.47 0.55 0.61 0.67 0.72
Brown	ER110-05 SR110-05 MR110-05 DR110-05 (50 Mesh)	20 30 40 50 60 70	0.35 0.43 0.50 0.56 0.61 0.66	44.80 55.04 64.00 71.68 78.08 84.48	52.5 64.3 74.3 83.0 91.0 98.3	35.0 42.8 49.5 55.3 60.7 65.5	26.3 32.1 37.1 41.5 45.5 49.1	21.0 25.7 29.7 33.2 36.4 39.3	1.21 1.47 1.70 1.91 2.09 2.26	0.80 0.98 1.14 1.27 1.39 1.50	0.60 0.74 0.85 0.95 1.04 1.13	0.48 0.59 0.68 0.76 0.84 0.90
Grey	ER110-06 SR110-06 MR110-06 DR110-06 (50 Mesh)	20 30 40 50 60 70	0.42 0.52 0.60 0.67 0.73 0.79	53.76 66.56 76.80 85.76 93.44 101.1	63.0 77.3 89.0 99.5 109.0 117.8	42.0 51.5 59.3 66.3 72.7 78.5	31.5 38.6 44.5 49.8 54.5 58.9	25.2 30.9 35.6 39.8 43.6 47.1	1.45 1.77 2.04 2.28 2.50 2.70	0.96 1.18 1.36 1.52 1.67 1.80	0.72 0.89 1.02 1.14 1.25 1.35	0.58 0.71 0.82 0.91 1.00 1.08
White	ER110-08 SR110-08 MR110-08 DR110-08	20 30 40 50 60 70	0.57 0.69 0.80 0.89 0.98 1.06	76.96 88.32 102.4 113.9 125.4 135.7	70.0 85.8 99.0 110.8 121.3 131.0	46.7 57.2 66.0 73.8 80.8 87.3	35.0 42.9 49.5 55.4 60.6 65.5	28.0 34.3 39.6 44.3 48.5 52.4	1.61 1.97 2.27 2.54 2.78 3.01	1.07 1.31 1.52 1.69 1.86 2.00	0.80 0.98 1.14 1.27 1.39 1.50	0.64 0.79 0.91 1.02 1.11 1.20
Light Blue	ER110-10 SR110-10 MR110-10 DR110-10	20 30 40 50 60 70	0.71 0.87 1.00 1.12 1.22 1.32	90.88 111.4 128.0 143.4 156.2 169.0	87.5 107.3 123.8 138.3 151.5 163.8	58.3 71.5 82.5 92.2 101.0 109.2	43.8 53.6 61.9 69.1 75.8 81.9	35.0 42.9 49.5 55.3 60.6 65.5	2.01 2.46 2.84 3.17 3.48 3.76	1.34 1.64 1.89 2.12 2.32 2.51	1.00 1.23 1.42 1.59 1.74 1.88	0.80 0.98 1.14 1.27 1.39 1.50

Combo-Jet Tips (Sharpshooter Booms)

Tip Color	Tip No. (Strainer Screen)	Liquid Pressure in PSI	Capacity 1 Nozzle in GPM	Capacity 1 Nozzle in oz/min	20" Nozzle Spacing							
					Gallons Per Acres				Gallons Per 1000 Square Feet			
	110° Series				2 mph	3 mph	4 mph	5 mph	2 mph	3 mph	4 mph	5 mph
Aqua	ER110-12.5 SR110-12.5 MR110-12.5 DR110-12.5	20 30 40 50 60 70	0.88 1.08 1.25 1.40 1.53 1.65	112.6 138.2 160.0 179.2 195.8 211.2	109.5 134.0 154.8 173.0 189.5 204.8	73.0 89.3 103.2 115.3 126.3 136.5	54.8 67.0 77.4 86.5 94.8 102.4	43.8 53.6 61.9 69.2 75.8 81.9	2.51 3.08 3.55 3.97 4.35 4.70	1.68 2.05 2.37 2.65 2.90 3.13	1.26 1.54 1.78 1.99 2.18 2.35	1.01 1.23 1.42 1.59 1.74 1.88
Green	ER110-15 SR110-15 MR110-15 DR110-15	20 30 40 50 60 70	1.06 1.30 1.50 1.68 1.84 1.98	135.7 166.4 192.0 215.0 235.5 253.4	131.3 160.8 185.8 207.5 227.3 245.5	87.5 107.2 123.8 138.3 151.5 163.7	65.6 80.4 92.9 103.8 113.6 122.8	52.5 64.3 74.3 83.0 90.9 98.2	3.01 3.69 4.26 4.76 5.22 5.64	2.01 2.46 2.84 3.18 3.48 3.76	1.51 1.85 2.13 2.38 2.61 2.82	1.21 1.48 1.71 1.91 2.09 2.25
Peach	ER110-20 SR110-20 MR110-30	20 30 40 50 60 70	1.41 1.73 2.00 2.24 2.45 2.65	180.5 221.4 256.0 286.7 313.6 339.2	175.0 215.3 247.5 276.8 303.0 327.5	116.7 142.8 165.0 184.5 202.0 218.3	87.5 107.1 123.8 138.4 151.5 163.8	70.0 85.7 99.0 110.7 121.2 131.0	4.02 4.92 5.68 6.35 6.96 7.52	2.68 3.28 3.79 4.25 4.64 5.01	2.01 2.46 2.84 3.18 3.48 3.76	1.61 1.97 2.27 2.51 2.78 3.01
Black	ER110-25 SR110-25	20 30 40 50 60 70	1.77 2.17 2.50 2.80 3.06 3.31	226.6 277.8 320.0 358.4 391.7 423.7	218.8 628.0 309.5 346.0 379.0 409.3	145.8 178.7 206.3 230.7 252.7 272.8	109.4 134.0 154.8 173.0 189.5 204.6	87.5 107.2 123.8 138.4 151.6 163.7	5.02 6.15 7.11 7.94 8.70 9.4	3.35 4.10 4.74 5.30 5.80 6.26	2.51 3.08 3.55 3.97 4.35 4.70	2.01 2.46 2.84 3.18 3.48 3.76

8.15 AGITATOR ORIFICE

The Spraytek has 1/8 inch (3.2 mm) orifice installed in the agitator nozzles. The orifice kit included with the Spraytek also has 5/32 inch (4 mm) and 3/16 inch (4.8 mm) orifices. Use the Chart below to determine the correct size orifice to use with the sprayer.

Agitator Nozzle Orifices

Orifice Size	Agitator Input GPM (LPM)	Agitator Pressure PSI (BAR)	Agitator Output GPM (LPM)
1/8 inch (3.2 mm)	1.9 (7.2)	25 (1.7)	6.3 (23.8)
	2.7 (10.2)	50 (3.4)	10.0 (37.9)
	3.8 (14.4)	100 (6.9)	15.0 (56.8)
5/32 inch (4 mm)	2.8 (10.6)	25 (1.7)	1.7 (7.6)
	4.2 (15.9)	50 (3.4)	12.2 (46.2)
	5.5 (20.8)	100 (6.9)	17.5 (66.2)
3/16 inch (4.8 mm)	3.6 (13.6)	25 (1.7)	9.1 (34.4)
	5.6 (21.2)	50 (3.4)	14.3 (54.1)
	7.9 (29.9)	100 (6.9)	18.7 (70.8)

8.16 DETERMINING AMOUNT OF CHEMICALS REQUIRED

To determine the amount of chemicals to add to the spray tank, you need to know:

- The recommended application rate of the chemical. This information is on the chemical label. The rate will be listed as pounds per acre (or pounds of active ingredient) for wettable powders and pints, quarts, or gallons per acre for liquids.
- The capacity of the tank. The Spraytek is equipped with either a 175 gallon (662 liter) or 300 gallon (1136 liter) spray tank.
- The calibrated output of the sprayer.

Example 1, Dry Formulation:

A carbaryl recommendation calls for 2 pounds of active ingredient (a.i.) per acre. You have purchased Sevin (80-percent wettable powder). Your sprayer has a 300 gallon tank and is calibrated to apply 20 gallons per acre. How much Sevin should be added to the spray tank?

1. Determine the number of acres you can spray with each tankful.
   - Tank Capacity / Spray Rate = 300 / 20 = **15 Acres**
2. Determine the pounds of pesticide product needed per acre. Because only 80% of the Sevin in the bag is an active ingredient, you will have to add more than two pounds of the product to each acre's worth of water in the tank.
   Divide the percentage of active ingredient (80%) into the total (100%).
   - 100 / 80 = 1.25

   Multiply the result times the application rate.
   - 2 lb/acre x 1.25 = **2.5 lb. Sevin per acre**
3. Determine the amount of pesticide to add to each tankful. With each tankful you will cover 15 acres (Step 1), and you want 2.5 lbs. of product per acre (Step 2).
   - 15 acres x 2.5 lb. sevin per acre = **37.5 lb.**

To apply the recommended application rate, you will need to add 37.5 lb. of Sevin for each full 300 gallon tankful.

Example 2, Liquid Formulation:

A trichlorfon recommendation calls for 1 pound of active ingredient (a.i.) per acre. You have purchased Dylox 4E (4 pounds per gallon formulation). Your sprayer has a 175 gallon tank and is calibrated at 25 gallons per acre. How much Dylox should you add to the spray tank?

1. Determine the number of acres you can spray with each tankful
- Tank Capacity / Spray Rate = 175 / 25 = **7 Acres**
2. Determine the amount of product needed per acre.
   Divide the percentage of active ingredient (1 lb) into the concentration of the formula (4 lb / Gallon).
   - 1 lb / 4 lb per gallon = **0.25 Gallon per acre**
3. Determine the amount of pesticide to add to each tankful. With each tankful you will cover 7 acres (Step 1), and you want 0.25 Gallons of product per acre (Step 2).
   - 7 acres x 0.25 Gallon Dylox per acre = **1.75 Gallons**

To apply the recommended application rate, you will need to add 5 Gallons of Dylox for each full 175 gallon tankful.

Adjuvants:

The chemical manufacturer may recommend that you add a small amount of an adjuvant (spreader-sticker, surfactant, etc.) in addition to the regular chemical. This recommendation is often given as percent concentration.

If you use an adjuvant at a 1/2% concentration by volume, how much should you add to a 300 gallon tank.

Convert percentage into decimal form

- 1/2% = 0.005

Multiply tank capacity by decimal amount of adjuvant

- 300 Gallons x 0.005 = 1.5 Gallons adjuvant

8.17 ADDING WATER TO TANK.

1. Park Vehicle on level ground, turn off engine, place gear selector into Neutral and apply the park brake.

⚠ CAUTION

Be careful when you open the sprayer tank lid. Dangerous chemical fumes may have accumulated inside the tank.

2. Remove the lid from the top of the spray tank by turning counter-clockwise. Rotate, and lock the filler neck into position).
3. Make sure the drain valve is in the normal operation position.
4. Make sure the agitation ball valve is in the fully open position and the agitator switch is in the AUTO or ON position.
5. Keep the strainer basket in place, attach the feeder hose to the filler neck. Slowly, turn the water source on gradually bringing it up to full stream (avoid splashing). When you add any material to the tank, the strainer basket must be left in place.
6. Determine the amount of spray mix to be used for your application. If the required amount is less than the full tank capacity, only fill to desired level. If the required amount is a full load, only fill tank to 3/4 full. This will leave room for adding the chemicals which will be mixed. The rest of the fill water will be added after the chemicals.
7. Start the engine and set the engine's RPM's to 3,000 RPM.
8. Put the high/low hydraulic switch in the LOW position. Remove the strainer basket and look into the open lid. You should be able to see the water moving around from the force of the agitation jets etc.

NOTE: *If the agitation switch is in the AUTO position and the water in the tank is below the float switch level, the water will not agitate. Turn the agitator switch to the ON position.*

9. If there is no water movement from the jets or from the sump area, stop the engine and check the trouble-shooting guidelines for possible causes.
10. Once the system is operational, a quick test should be performed before adding any product to the tank.

a Completely lower the boom wings.

b Slowly close the agitation ball valve until 40 psi is shown on the pressure gauge.

c Turn on the Master Boom switch and all three boom switches.

d All nozzles should come on and develop a full pattern. Check boom, hoses, and nozzles for leaks and faulty patterns. Repair and/or clean any items which may require attention.

e If all systems are operating properly, you may proceed to the loading and mixing area.

8.18 MIXING CHEMICALS

⚠ WARNING

When you work with chemicals special safety equipment may be required to prevent accidental exposure to poisoning and should be worn at all times.

Contact your chemical supplier for correct material handling. Always refer to the chemical manufacturers MSDS (Material Safety Data Sheet), that is available for all chemicals. **Special attention should be given to required safety equipment, first aid treatment for accidental inhalation, swallowing, absorption or injection, and compatibility with other chemicals.**

Never work with harmful chemicals alone. Always have a second person nearby in case of emergency.

The chemicals may be flammable or produce flammable vapors.

- When you handle or mix the chemicals, do not smoke.
- Never store the chemicals near an open flame or spark which could ignite chemical or chemical vapors.

The mixing of non-compatible materials or formulations not previously tested by chemical professionals should be avoided. Volatile chemical mixtures can cause damage and are expensive to repair and dispose of. Leave the burden of mixture compatibility to the people who manufacture and sell the products to you.

Mis-use of chemicals is not covered by the factory warranty if sprayer damage occurs.

The mix times may vary by chemical, load size, water temperature, and operator experience.

Normal mix time can be 20 to 30 minutes per tank. This allows enough time to provide complete particle distribution throughout the complete mixable liquid in the tank.

Just because the water is murky and clouded in the tank does not mean all the chemical is mixed.

NOTE: *System calibration and product active ingredient formula calibration should have already be completed. If not, refer to the appropriate sections and compute your application data before continuing.*

Slowly add (Spoon feed), the chemicals to be applied to the agitating tank water. The addition of some products, all-at-once, may cause damage to the centrifugal pumps internal mechanical seals. Wettable Powders (WP), Emulsified Concentrate (EC), Water Dispersed Granular (WDG) chemicals etc., are abrasive in nature and should include extra mix time in the tank. Pre-packaged dissolvable bag types are also difficult to mix rapidly. The slow dissolve of the wrapper may lead to clogged suction strainers. Liquid products can mix easier than most dry formulations, but can be difficult to mix in cold water areas. Consult with your chemical supply representative for any precautions or mixing suggestions for any unfamiliar products.

If the full amount of water was not added before the chemical was added, fill the tank to the correct level.

Give it some time! Haste during the critical mixing phase, then spraying too soon, may cause severe damage to the turf because of rate changes from what your original rate was suppose to be.

- The first 1/3 of the tank could apply more than the desired rate when heavy products are not fully suspended in the carrier water.
- The second 1/3 of the tank could apply close to the correct rate.
- The final 1/3 of the tank would be light on active ingredients.

At the completion of the chemical mixing phase (allowing proper time for particle distribution) you are now ready to apply the chemical mixture to your fine turf.

8.19 SPRAYER CLEANING

⚠ WARNING

Sprayer cleaning solutions are chemicals and should be given the same attention as chemicals used during sprayer operation. When you work with chemicals special safety equipment may be required to prevent accidental exposure to poisoning and should be worn at all times.

Contact your chemical supplier for proper material handling. Always refer to the chemical manufacturers MSDS (Material Safety Data Sheet), that is available for all chemicals. **Special attention should be given to required safety equipment, first aid treatment for accidental inhalation, swallowing, absorption or injection, and compatibility with other chemicals.**

Never work with harmful chemicals alone. Always have a second person nearby in case of emergency.

Some chemicals and cleaning solutions may be flammable or produce flammable vapors.

- When you handle or mix the chemicals, do not smoke.
- Never store the chemicals near an open flame or spark which could ignite chemical or chemical vapors.

After you use the sprayer, clean the sprayer thoroughly with a cleaning solution. When you clean the sprayer, always follow these guidelines.

1. Be careful when you open the sprayer tank cover. Dangerous chemical fumes may have accumulated inside the tank.
2. The type of cleaning solution needed is determined by the chemical that was used in the sprayer. Refer to the chemical label for cleaning solution compatibility and specific cleaning instructions.
3. Sprayer cleaning should only be performed in an area with run-off recovery or containment. If one is not available, be certain the run-off does not contaminate water supplies, public sewers, or natural wet land areas. Check your local regulations for requirements in your area.
4. Remove the nozzles from spray booms. Clean the nozzle tips and screens in a strong detergent solution or kerosene using a soft bristled toothbrush.
5. Flush the sprayer system with clean water.
6. Add a mixture of 2 pounds (0.91 kg) of cleaning solution for each 30 to 40 gallons (114 to 152 l) of water. This should be sufficient for removing most pesticides.
7. Operate the pump to allow cleaning solution to circulate through the system and agitate in the tank thoroughly. Operate the booms to allow detergent solution to flow through remainder of the system for several minutes.
8. Flush the system twice with clean water.
9. During the cleaning, examine the hoses, clamps, connections, no-drip valves, nozzle tips, and screens. Replace any components if damaged, leaking or not functioning properly.

Special Cleaning Requirements:

1. Some pesticide combinations (especially if oil is used) may produce a putty like paste inside the tank.

a Flushing out residue of such chemicals after each load will help prevent accumulation.

b If the water alone does not remove the build up, add a solution equal to 1 gallon (3.8 l) or solvent (Stoddard solvent, kerosene or diesel fuel) per 25 gallons (95 l) or water. Allow the paste to dissolve then agitate and flush the system.

2. If phenoxy herbicides, such as 2,4-D, have been used in the system:

a Rinse the tank with clean water.

b Mix **one** of the following chemicals with 25 gallons (95 l) of clean water.

- 1 Quart (0.95 l) household ammonia.
- 1 Pound (0.45 kg) of washing soda (sal soda).
- 2 Pounds (0.91 kg) of trisodium phosphate.

c Rinse inside of tank with the solution. Allow the mixture to agitate in the tank and let a small amount flow through the nozzles.

d Keep the remainder of mixture in the system overnight and pump it out in the morning.

e Rinse and flush the system with clean water.

8.20 TOWING THE VEHICLE

If the vehicle has a problem and can not drive to the service area, tow the vehicle at a slow speed for short distances.

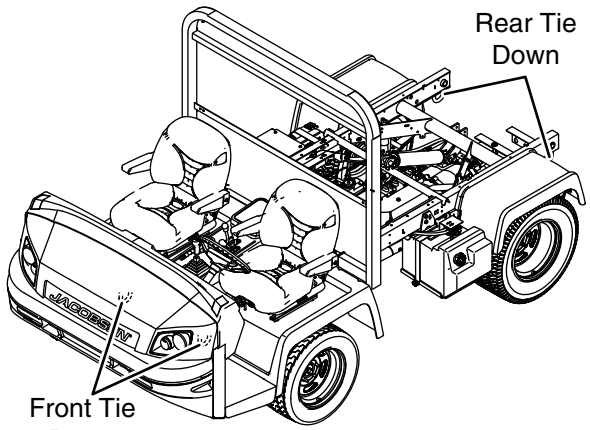
⚠ WARNING

When the vehicle is towed, to prevent injury or vehicle damage these guidelines must be followed.

- **Never** accelerate or stop the vehicle suddenly.
- **Never** change the direction of the vehicle quickly or make sharp turns on a slope.
- **Never** tow the vehicle at more than 5 mph (8 kph). When you tow a vehicle at more than speed can cause a loss of steering control of the vehicle(s).
- When you tow a vehicle, adjust your speed for weather and surface conditions.

To tow the Vehicle:

1. The vehicle has four tie down locations. Connect the tow-line to one of the vehicle tie down locations.
2. Before you tow the vehicle, make sure the booms are lifted. If the booms cannot be lifted, remove the booms from the vehicle
3. An operator is needed to steer the vehicle and operate the vehicle brakes.
4. Press the brake pedal, put the transmission in neutral and disengage the parking brake.
5. Slowly drive the tow vehicle until the tow-line is pulled tight.
6. When the vehicle is towed, try to keep to tow-line tight. Be careful on slopes or when you turn the vehicle.
7. When the vehicle gets to the service area, engage the parking brake and put the transmission in 1st gear.



To put the vehicle on a trailer:

Drain the sprayer tank before the vehicle is put on a trailer. Fully lift the left and right booms and secure in the lifted position. If the left and right booms cannot be lifted, remove them from the sprayer.

Be careful when you load or unload the vehicle on the trailer. Fasten the vehicle to the trailer to prevent the vehicle to move on the trailer.

If the trailer is moved on the highway, inflate the tires to the maximum pressure recorded on the tire before you fasten the vehicle to the trailer. Decrease the tire pressure after the vehicle is removed from the trailer.

9 MAINTENANCE

9.1 GENERAL PRECAUTIONS

WARNING

Before you clean, adjust or repair this equipment, disengage all drives, lower accessories to the ground, engage the parking brake, stop the engine and remove the key.

Make sure the vehicle is parked on a solid and level surface. Never work on a vehicle that is lifted only by the jack. Always use the jack stands.

A qualified technician must always do adjustments and maintenance. If the correct adjustments can not be made, contact your Jacobsen Dealer.

Inspect the equipment according to the maintenance schedule and keep complete records.

a Keep the equipment clean.

b Keep all moving parts correctly adjusted and lubricated.

c Replace worn or damaged parts before you operate the vehicle.

d Keep all fluids at the correct level.

e Keep the shields in position and all hardware tight.

f Keep the tires correctly inflated.

When you make the adjustments or repairs, do not wear jewelry or loose fitting clothing.

Refer to the illustrations in the Parts Manual for the removal and assembly of parts.

When you discard hazardous materials (batteries, lubricants, fuel, anti-freeze), follow your local, state or federal-recommended procedures.

9.2 TO DO SERVICE ON THE VEHICLE

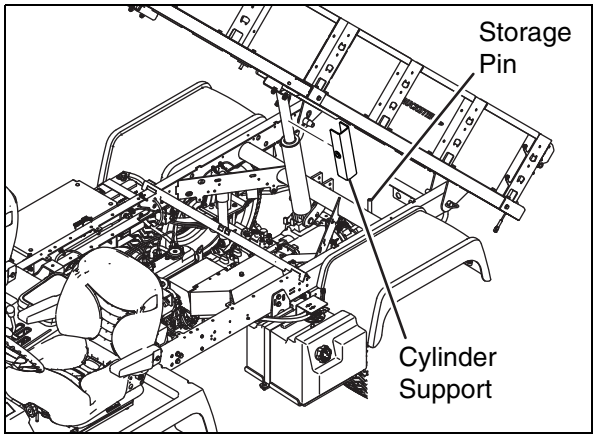
Before you do service on the vehicle, empty any load in the truck bed, sprayer tank or other accessory. The truck bed must be completely lifted and the cylinder support installed before you can service the vehicle.

WARNING

Never do service on the vehicle without the truck bed or accessory lifted and the cylinder support installed on the cylinder rod. When you do service on the vehicle without the cylinder supported, the bed or accessory can accidentally lower and cause injury or death.

To do service on the vehicle:

1. Start the engine.
2. Pull the lift control lever and completely lift the truck bed or accessory.
3. Engage the parking brake, stop the engine and remove the key.
4. When you service the vehicle, you must use the cylinder support to keep the truck bed or accessory lifted. Remove the cylinder support from the storage pin and install the support on the cylinder rod.
5. When the service is completed, remove the cylinder support from the cylinder rod. Put the cylinder support on the storage pin.



9.3 HYDRAULIC HOSES

⚠ WARNING

To prevent injury from the hot, high pressure oil, never use your hands to check for oil leaks. Use the paper or cardboard to find leaks.

The hydraulic fluid pressure can have enough force to enter your skin. If hydraulic fluid has entered your skin, a doctor must remove the hydraulic fluid surgically within a few hours or gangrene can occur.

Always lower the attachments to the ground, disengage all drives, engage parking brake, stop the engine and remove the key before you inspect or disconnect hydraulic lines or hoses.

Check visible hoses and tubes each day. Look for wet hoses or oil marks. Replace worn or damaged hoses and tubes before you operate the vehicle.

The replacement tube or hoses must be sent in the same path as the original hose. Do not move the clamps, brackets and cable-ties to a new location.

Completely inspect all tubes, hoses and connections every 250 hours.

IMPORTANT: If the hydraulic fluid becomes dirty, damage to the hydraulic system can occur. Before you disconnect any hydraulic component, clean the area around the fittings and the ends of the hoses to prevent dirt to enter the system.

Before you disconnect any hydraulic component, tag or mark the location of each hose then clean the area around the fittings.

To prevent dirt to enter the hydraulic system when you disconnect the component, be prepared to assemble plugs or caps to the ends of hoses and open ports. Clean any hydraulic fluid that spills.

Make sure “O” rings are clean and hose fittings are correctly installed before you tighten.

Prevent the hose to twist. The twisted hoses can cause the hose connections to loosen as the hose moves while you operate the vehicle and can cause oil leaks.

The hydraulic hoses that are twisted or have sharp bends can decrease the oil flow and cause damage to the hoses. The decreased oil flow can cause system problems and increase the temperature of the hydraulic fluid.

9.4 TIRES

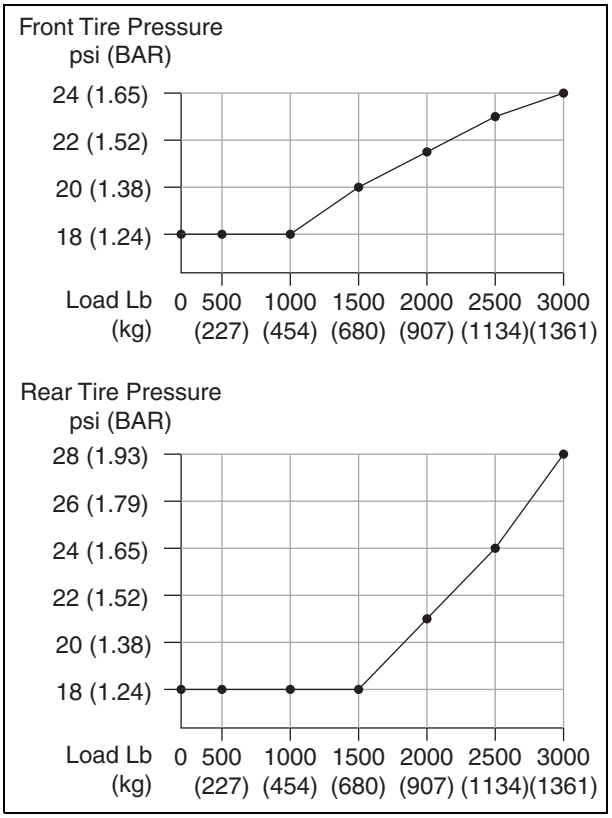
Keep the tires correctly inflated to increase tire life. Inspect the tread wear.

Check the tire pressure each day, while the tires are cool. Use an accurate low-pressure tire gauge.

Refer to the graphs for the front and rear tire pressures.

⚠ CAUTION

DO NOT try to put a tire on a rim unless you have the correct training, tools and experience. Incorrect mounting can cause an explosion which can cause injury.



9.5 ELECTRICAL SYSTEM

⚠ CAUTION

Always turn the ignition switch to the off position and remove the negative (BLACK) battery cable before you inspect or service the electrical system.

General precautions to decrease electrical problems are -

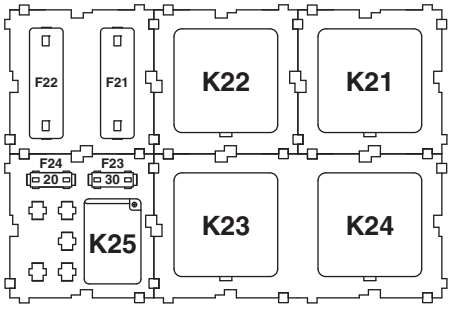
- Make sure that all the connections are clean and correctly fastened.
- Check the interlock system and fuses at normal intervals. If the interlock system does not operate correctly and you can not correct the problem, contact an authorized Jacobsen Dealer.
- Keep the wiring harness away from hot surfaces and moving parts.
- Check the battery and the alternator.
- Do not wash or pressure spray around electrical connections and components.

Two in-line fuses are found in the positive battery cable. The 60 amp fuse gives protection for the alternator. The 175 amp fuse gives protection for the vehicle circuits.

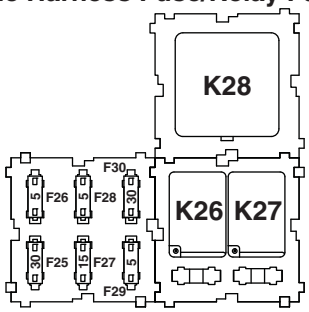
Fuses and relays found behind the dashboard are used to protect the vehicle circuits.

If accessories are installed, additional fuses and relays may be located near the fuse panel.

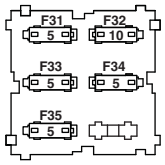
Relay Box Fuse/Relay Panel



Console Harness Fuse/Relay Panel



Envizio Pro II Harness Fuse Panel



F21 - 50 Amp Left Boom Actuator Fuse
F22 - 50 Amp Right Boom Actuator Fuse
F23 - 20 Amp Hose Reel Motor Fuse
F24 - 30 Amp Clean Rinse Fuse
F25 - 30 Amp Switched Power Fuse
F26 - 5 Amp Reel Valve Fuse
F27 - 15 Amp Foam Marker Fuse
F28 - 5 Amp GPS/Radar Fuse
F29 - 5 Amp Agitator Valve Fuse
F30 - 30 Amp Sprayer Controller Fuse
● F31 - 5 Amp CAN Power Fuse
● F32 - 10 Amp Main Power Fuse
● F33 - 5 Amp Aux Power Fuse
● F34 - 5 Amp Speed Select Fuse
● F35 - 5 Amp GPS Select Fuse
K21 - Left Boom Lower Relay
K22 - Left Boom Lift Relay
K23 - Right Boom Lift Relay
K24 - Right Boom Lower Relay
K25 - Clean Rinse Pump Relay
K26 - Agitator Valve Relay
K27 - Alarm Relay
K28 - Alarm Light Flasher

● Part of the Envizio Pro II Controller Accessory.

9.6 SPRAYER STORAGE

General

- Perform the steps in the Truckster XD Safety, Operation & Maintenance Manual for storage.
- Clean the sprayer system.
- Connect a drain hose to the drain connector. Open the drain valve and drain all water from the tank and pump.
- Label and disconnect the boom hoses from the boom manifolds. Drain all water from the booms and the boom manifolds. Leave the hoses disconnected during storage.
- Remove the nozzle spray tips and strainers. Make sure the nozzle tip orifices are not damaged.
- Remove and clean the strainer.
- Label and disconnect both hoses from the agitator valve. Drain all water from the agitator valve, hoses and nozzles. Leave the hoses disconnected during storage.
- Drain the clean water tank and any accessory tanks.
- Tape or cover all hose openings and nozzles.

After Storage

- Perform the steps in the Truckster XD Safety, Operation & Maintenance Manual to remove the vehicle from storage.
- Remove the tape or covers from hose openings and nozzles.
- Connect the agitator valve hoses.
- Connect the boom valve hoses.
- Install the boom nozzle spray tips.
- Close the drain valve.
- Fill the tank with approximately 50 gallons of water.
- Make sure the boom switches are in the OFF position.
- Start the engine and put the high/low hydraulics in the LOW position and the agitator switch in the ON position. Allow the pump to operate for several minutes to remove air from the agitator hoses, valve and nozzles.

⚠ WARNING

Never operate the engine without enough ventilation or in an enclosed area. The carbon monoxide in the exhaust fumes can increase to dangerous levels.

- Drive the vehicle to an area that the booms can be operated. Operate the booms for several minutes.

10.1 GENERAL

The problem solution chart lists basic problems that can occur during start and operation of the vehicle. For complete information about the hydraulic and electrical systems, contact your Jacobsen Dealer.

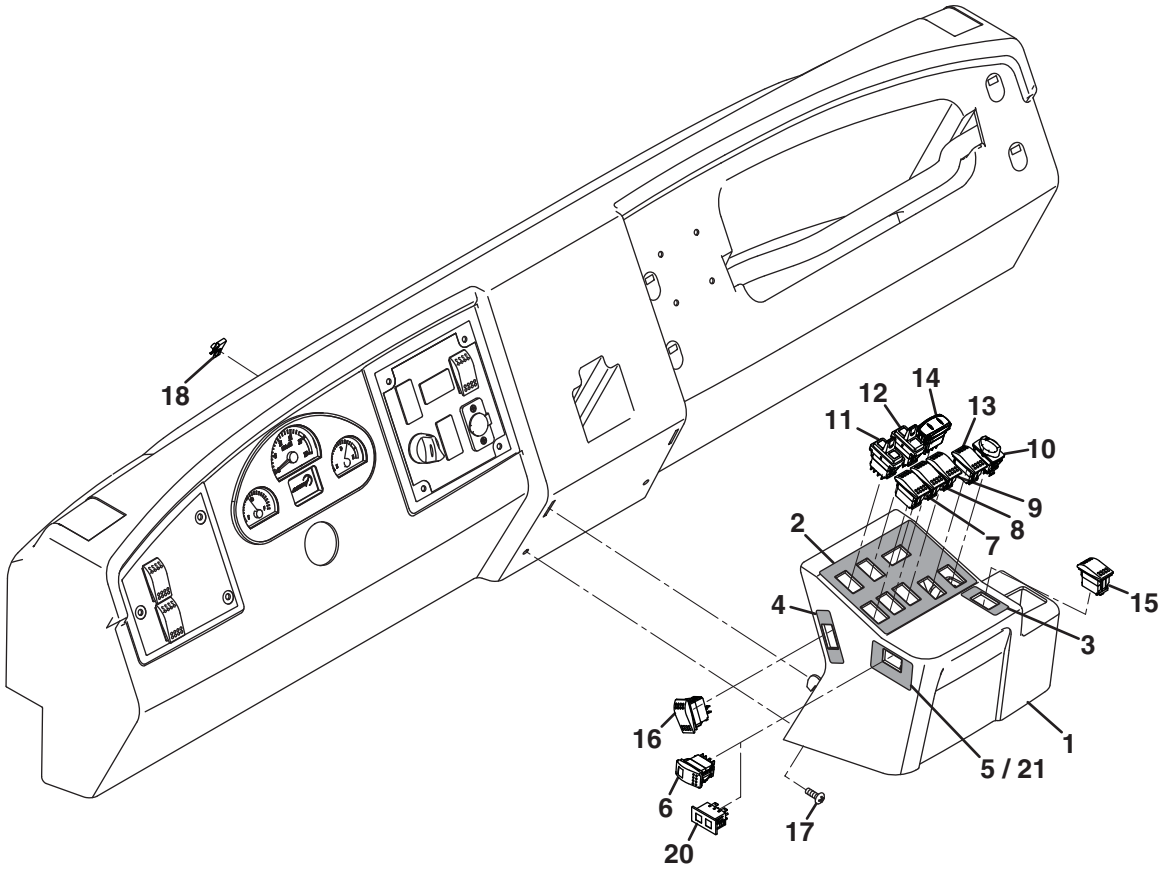
Symptoms	Possible Causes	Action
Loss of pressure. Not enough spray pressure.	1. Settings exceed the pump capacity.	Lower the required pressure setting.
	2. The spray tips too large.	Install correct size spray tips for the needed pressure and application rate.
	3. Strainer clogged.	Stop the engine. Remove, clean and install strainer screen.
	4. Engine speed too low.	Operate engine between 2500 and 3000 rpm.
	5. Sprayer tank empty.	Mix another load of chemical being applied.
	6. Suction leak.	Check hoses and fittings for leakage,
	7. Air trapped in suction line or pump body.	Bleed air out of suction lines. Check the pump bleed hose for blockage.
Increase in spray pressure.	1. Clogged or partially blocked spray tip.	Clean spray tips and screens.
	2. Increase in engine speed.	Operate engine between 2500 and 3000 rpm.

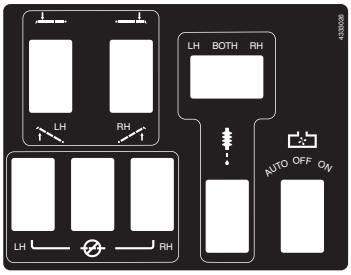
11 NOTES

12.1 PARTS LIST TABLE OF CONTENTS

1.1 Console

Serial No. All





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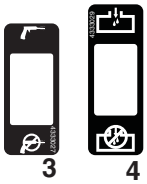

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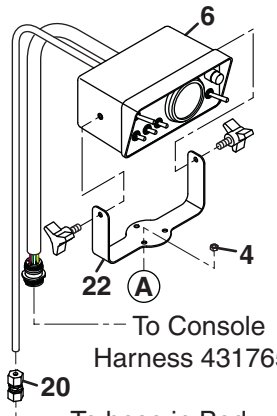
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4320826	1	Console, Sprayer Control	
2	4333026	1	Decal, Upper Sprayer	
3	4333027	1	Decal, Lower Sprayer	
4	4333029	1	Decal, Clean Rinse	
5	4333028	1	Decal, Master Boom	All except 203 sprayer controller
6	4333646	1	Switch, Master Boom	**REFERENCE SW29, See 32.1** All except 203 sprayer controller
7	4130132	1	Switch, Left Boom Control	**REFERENCE SW25, See 32.1** 203 Sprayer Controller Only
8	4130132	1	Switch, Center Boom Control	**REFERENCE SW26, See 32.1** 203 Sprayer Controller Only
9	4130132	1	Switch, Right Boom Control	**REFERENCE SW27, See 32.1** 203 Sprayer Controller Only
10	4326362	1	Switch, Agitator Select	**REFERENCE SW33, See 32.1**
11	4299072	1	Switch, Left Boom Lift/Lower	**REFERENCE SW23, See 32.1**
12	4299072	1	Switch, Right Boom Lift/Lower	**REFERENCE SW24, See 32.1**
13	4130132	1	Switch, Foam Power	**REFERENCE SW30, See 32.1** Included in Foam Marker Kit
14	4316067	1	Switch, Foam Select	**REFERENCE SW31, See 32.1** Included in Foam Marker Kit
15	4130132	1	Switch, Hose Reel Valve	**REFERENCE SW25, See 32.1** Included in Hose Reel Kit
16	4130132	1	Switch, Clean Rinse	**REFERENCE SW25, See 32.1** Included in Clean Rinse Kit
17	404016	2	Screw, 1/4-20 x 5/8” Truss Head	
18	4315646	2	Nut, 1/4-20 U-Type	
19	4225220	AR	Plug, Panel	Used to fill unused switch openings
20	4340689	1	Indicator, Low Pressure	**REFERENCE L11, See 32.1** 203 Sprayer Controller
21	4340846	1	Decal, Low Pressure Light	203 Sprayer Controller

> Change from previous revision

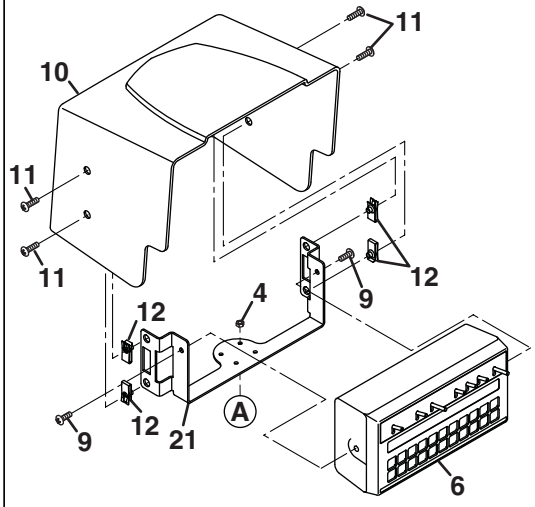
2.1 Sprayer Controller Options

Serial No. All

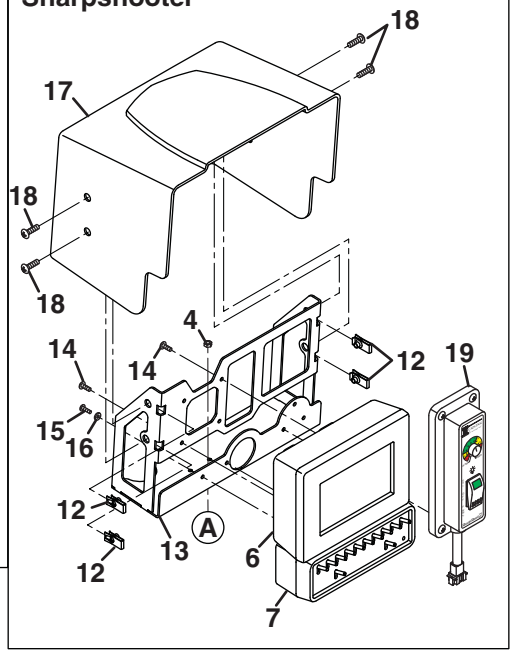
Raven 203 Controller



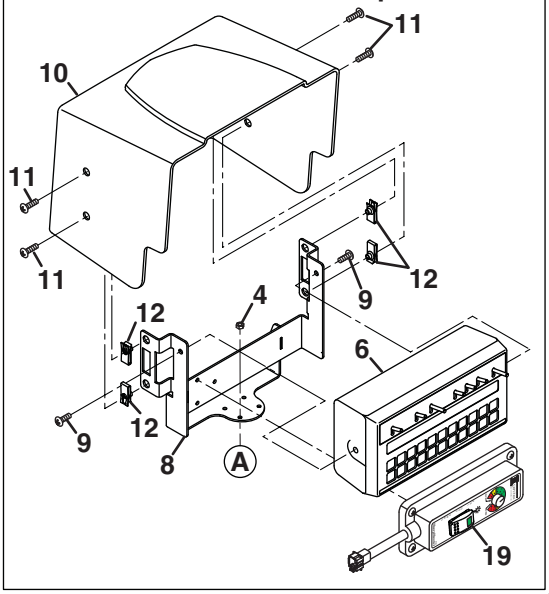
Raven 440 Controller

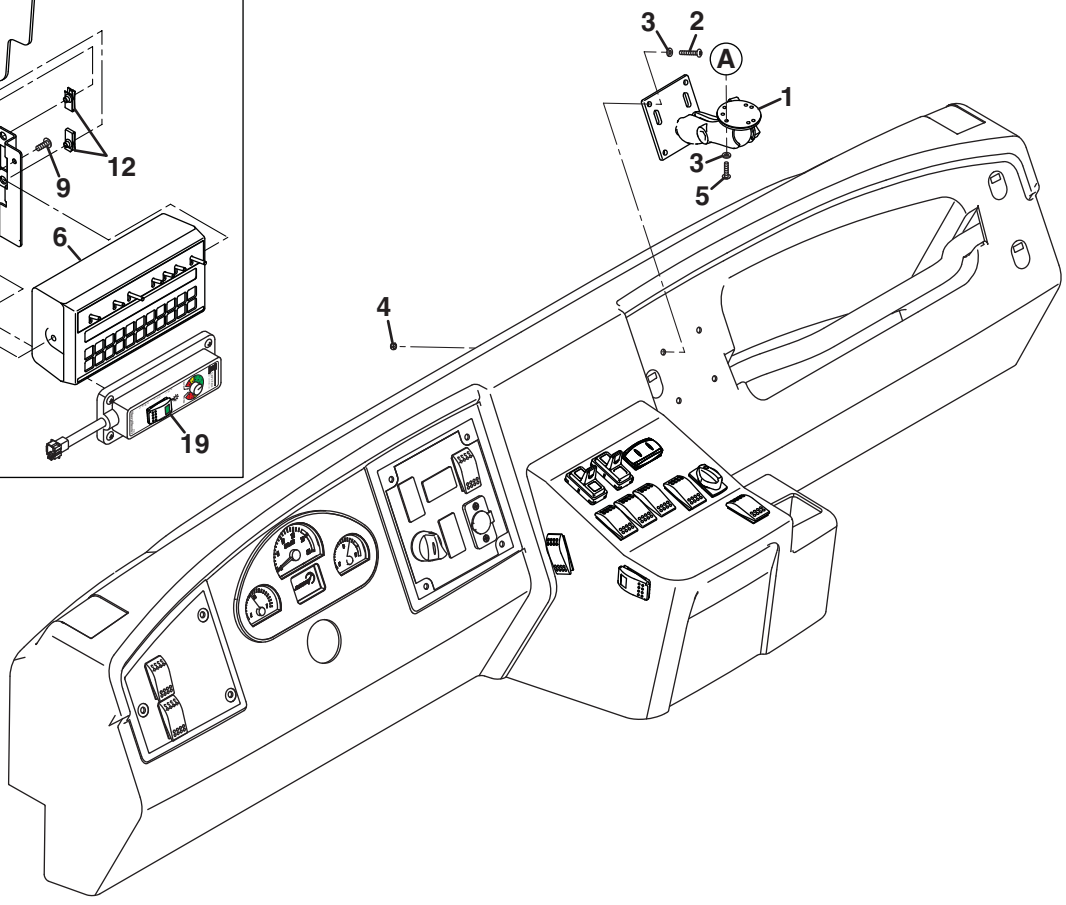


Envizio Pro II Controller + Sharpshooter



Raven 440 Controller + SharpShooter





Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319971	1	Ram Mount	
2	4334127	4	Screw, #10-32 x 1” Round Head	
3	303952	8	Flat Washer, #10	
4	4334131	8	Nut, #10-32 Hex Flange	
5	4334126	4	Screw, #10-32 x 3/4” Round Head	
6	4319833	1	Console, Raven 203 (Includes knobs)	203 Controller Option
		1	• Fuse, 15 Amp	
6	4319832	1	Console, Raven 440	440 Controller Options
		1	• Fuse, 15 Amp	
6	4325035	1	Controller, Envizio Pro with WAAS	Envizio Pro II Controller Option
7	4325036	1	Switch Pro	Envizio Pro II Controller Option
8	4324806	1	Mount, 440 Console	440 + SharpShooter Option
9	404016	2	Screw, 1/4-20 x 5/8” Truss Head	440 Controller Options
10	4324726	1	Visor, 440 Console	440 Controller Options
11	800582	4	Screw, 1/4-20 x 3/4” Truss Head	440 Controller Options
12	4315646	4	Nut, 1/4-20 U-Type	440 and Envizio Pro II Options
13	4324811	1	Mount, Envizio Pro II Controller	Envizio Pro II Controller Option
14	800021	4	Screw, #10-24 x 1/2” Truss Head	Envizio Pro II Controller Option
15	800178	2	Screw, #8-32 x 1/2” Round Head	Envizio Pro II Controller Option
16	453004	2	Flat Washer, #8	Envizio Pro II Controller Option
17	4331049	1	Visor, Envizio Pro II Controller	Envizio Pro II Controller Option
18	404016	4	Screw, 1/4-20 x 5/8” Truss Head	Envizio Pro II Controller Option
19		1	SharpShooter Pulse Generator	440 + Sharpshooter and Envizio Pro II Controller Options
	5003280	1	• Fuse, 10 Amp Pulse Generator	In-Line Fuse
20	4326946	1	Connector, 1/4” Hose	203 Controller Option
21	4324809	1	Mount, 440 Console	440 Controller
22	4319986	1	Mount, 203 Console	

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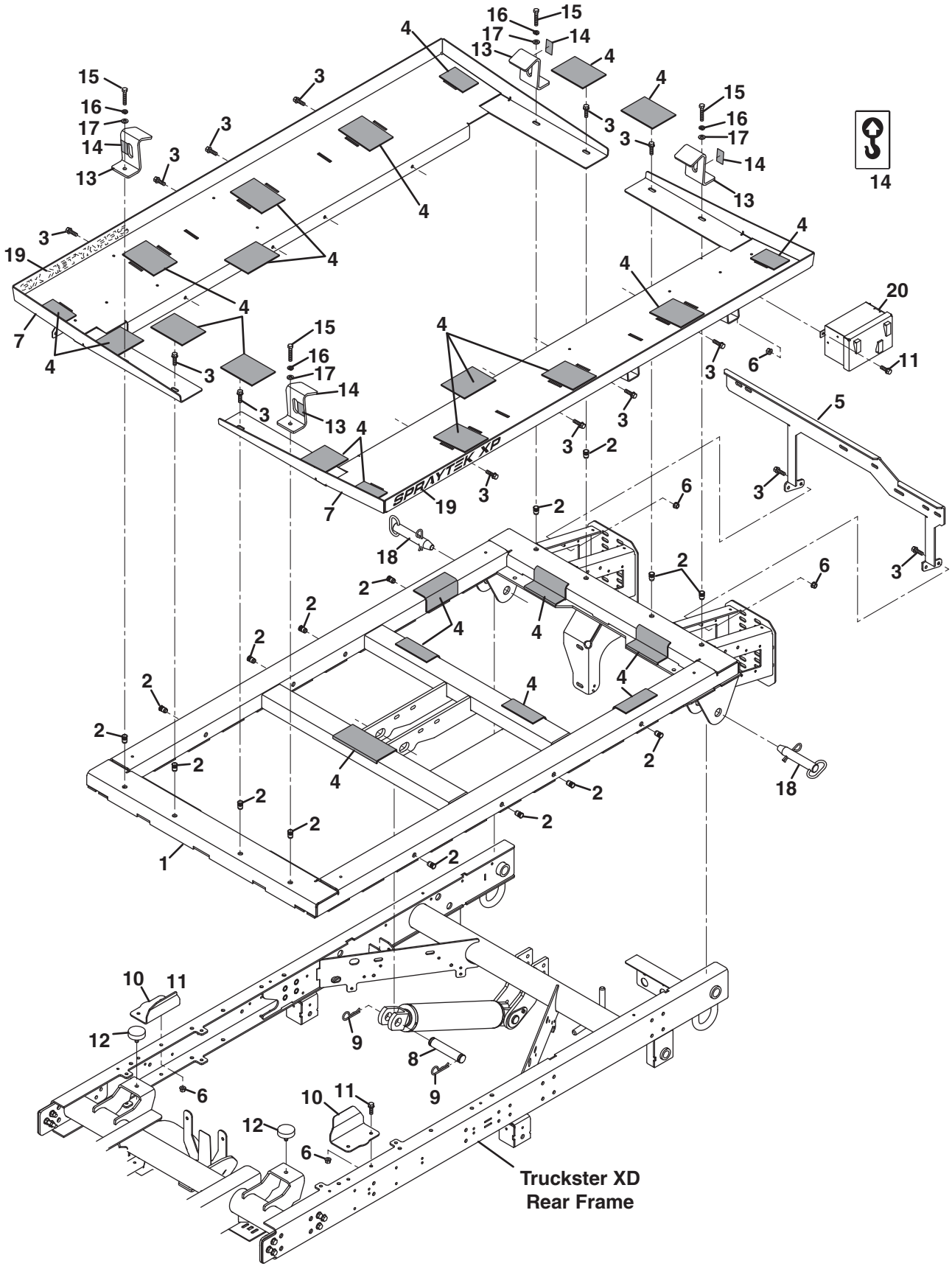
3.1 Frame

Serial No. All



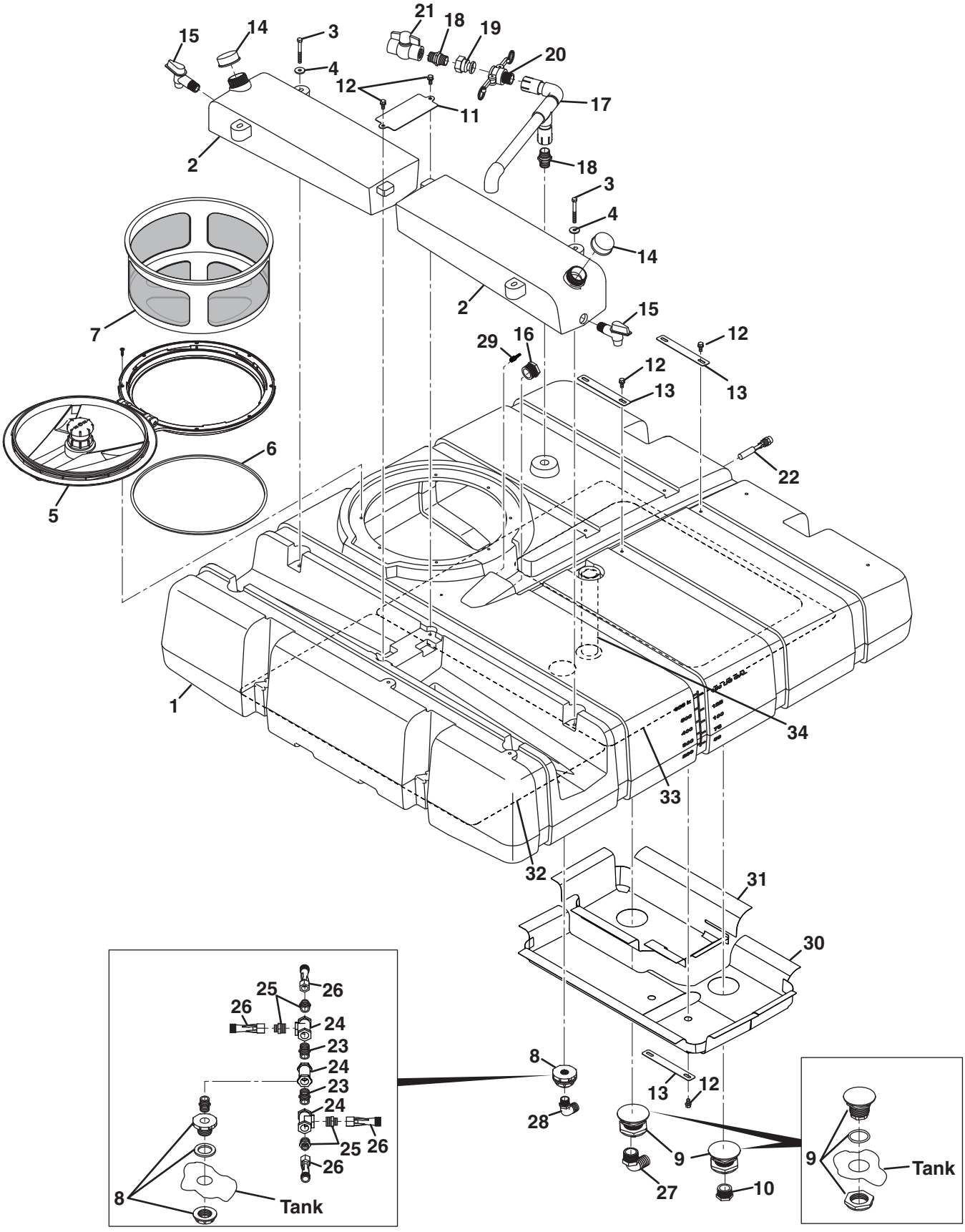
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4322226	1	Frame, Sprayer Support	
2	400150	16	Nut, 5/16-18 Insert	
3	400025	16	Screw, 5/16-18 x 7/8” Hex Flange	
4	4326546	AR	Tape, 3-3/4 Inch x 10 Foot Roll Grip	Cut to size needed
5	4322211	1	Mount, Plumbing	
6	548911	10	Nut, 5/16-18 Hex Flange	
7	4321768	2	Support, Sprayer	
◆ 8	4316767	1	Pin, Cylinder	
◆ 9	809265	2	Hair Pin, 2-11/16 x 3/4 x 5/32”	
10	4308231	2	Keeper, Truck Bed	
11	403751	6	Screw, 5/16-18 x 3/4” Hex Flange	
◆ 12	361723	2	Stop, Rubber	
13	4330230	4	Cleat, Tank	
14	4322549	4	• Decal, Lift Point	
15	400192	4	Screw, 5/16-18 x 1-1/2” Hex Head	
16	446136	4	Lock Washer, 5/16 Heavy	
17	453009	4	Flat Washer, 5/16	
18	882971	2	Pin, Disconnect	
19	4335746	2	Decal, Spraytek XP	
20	REF	1	Relay Box Assembly	**See 22.1**
◆	Included with Truckster XD			

> Change from previous revision

4.1 175 Gallon Tank

Serial No. All

Spraytek XP 175



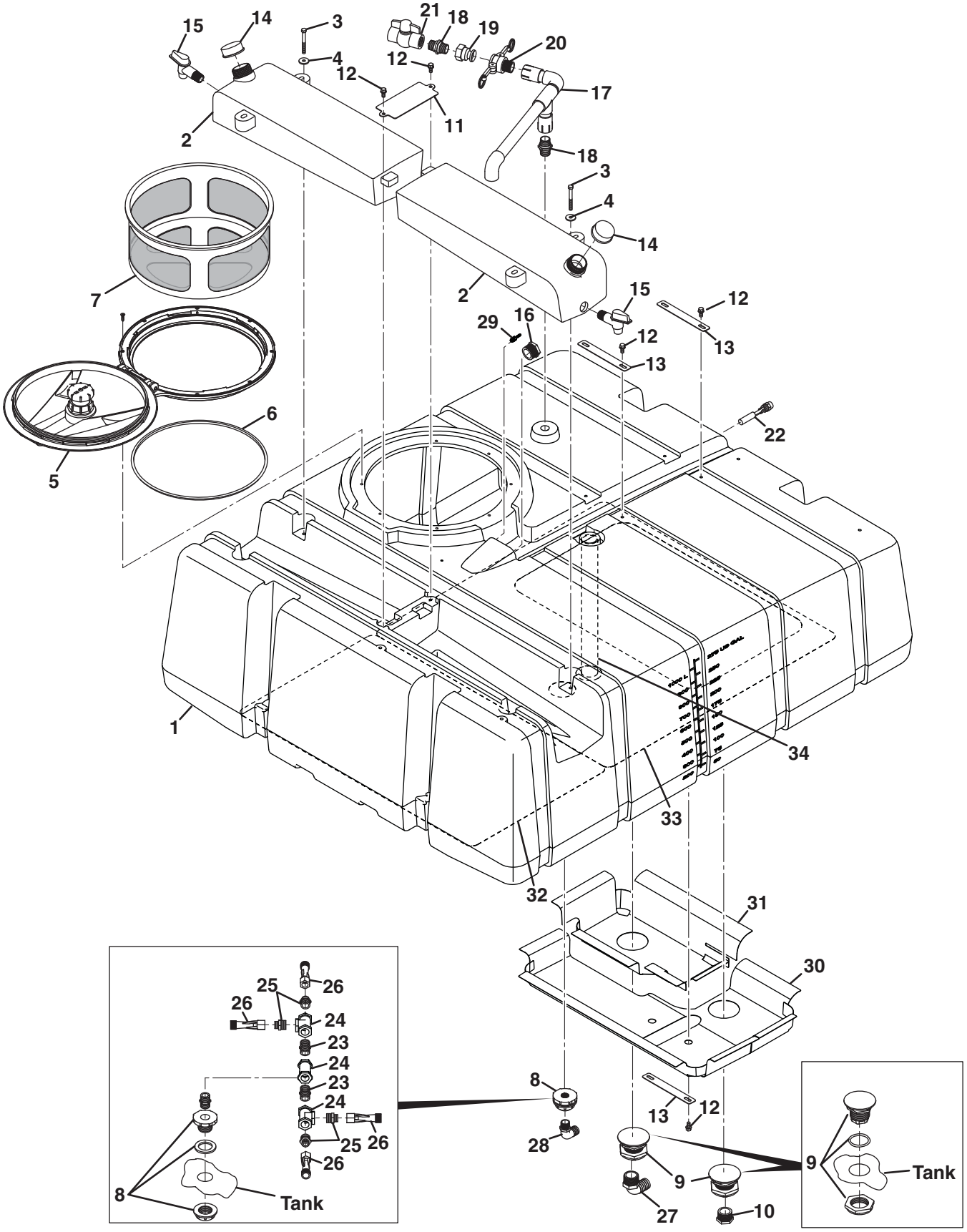
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4322888	1	Tank, 175 Gallon Sprayer	
2	4319646	2	• Tank, 4 Gallon Water	
3	400200	4	• Screw, 5/16-18 x 2-1/2” Hex Head	
4	809152	4	• Flat Washer, 5/16	
5	4325706	1	• Lid, 16” Hinged	
6	4325707	1	• Gasket, Tank Lid	
7	4325708	1	• Basket, Strainer	
8	4319828	1	• Fitting, 1-1/4” NPT x 3/4” NPT	
9	4309747	2	• Fitting, 2” NPT x 1-1/4” NPT	
10	4319766	1	• Plug, 1-1/4” NPT Hex	
11	4322331	1	Bracket, Tank	
12	548901	8	Screw, 5/16-18 x 1/2” Hex Flange	
13	4322332	3	Strap, Hose	
14	4322966	2	Cap, Water Tank	
15	4325788	2	Spigot	
16	4319766	1	Plug, 1/1-4” NPT Hex	
17	4319788	1	Pipe, Air Gap Filler	
18	4319926	2	Nipple, 1” NPT	
19	4319932	1	Coupler, 1” NPT Male Cam	
20	4319933	1	Coupler, 1” NPT Female Cam	
21	4319970	1	Valve, 1” NPT 2-Way Manual Ball	
22	4326846	1	Switch, Agitator Float	**REFERENCE SW22, See 32.1**
23	4319889	3	Nipple, 3/4” NPT	
24	4319831	3	Tee, 3/4” NPT	
25	4319892	4	Nipple, 3/4” NPT x 1/2” NPT	
26	4319827	4	Nozzle, Agitator	
	N/S	1	• Orifice, 1/8” Nozzle Orifice	
27	4309755	1	Elbow, 1-1/4” NPT x 1-1/4” Hose Barb	
28	4319830	1	Elbow, 3/4” NPT x 1” Hose Barb	Use thread sealing tape
29	4320926	1	Fitting, 1/8” NPT x 3/16” Hose Barb	Use thread sealing tape
30	4338187	1	Shield, Adhesive Sump Heat	
31	4338186	1	Shield, Adhesive Sump Heat	
32	4338189	1	Shield, Adhesive Heat	
33	4338188	1	Shield, Adhesive Heat	
34	4337608	1	Pipe, Tank Support	
	4336506	1	Kit, Agitator Nozzle Orifice	
	N/S	4	• 5/32” Nozzle Orifice	
	N/S	4	• 3/16” Nozzle Orifice	

> Change from previous revision

5.1 300 Gallon Tank

Serial No. All

Spraytek XP 300

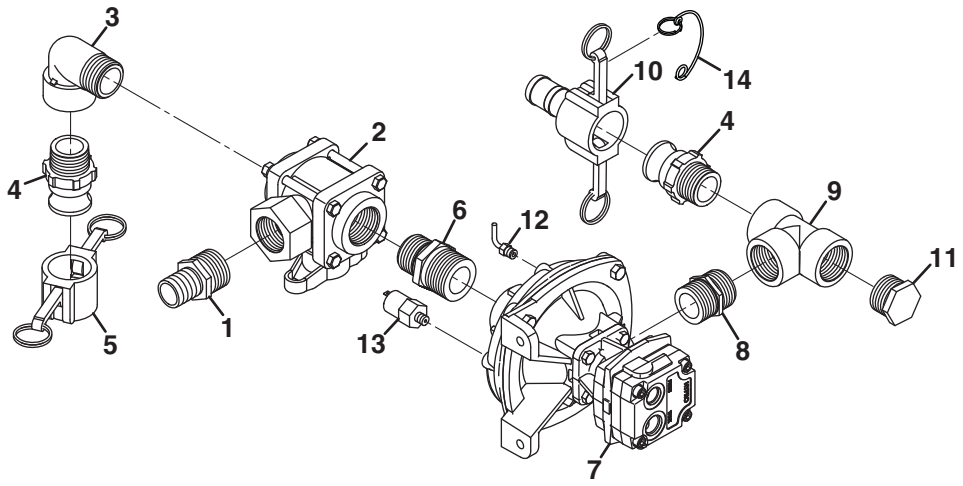


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4322887	1	Tank, 175 Gallon Sprayer	
2	4319646	2	• Tank, 4 Gallon Water	
3	400200	4	• Screw, 5/16-18 x 2-1/2” Hex Head	
4	809152	4	• Flat Washer, 5/16	
5	4325706	1	• Lid, 16” Hinged	
6	4325707	1	• Gasket, Tank Lid	
7	4325708	1	• Basket, Strainer	
8	4319828	1	• Fitting, 1-1/4” NPT x 3/4” NPT	
9	4309747	2	• Fitting, 2” NPT x 1-1/4” NPT	
10	4319766	1	• Plug, 1-1/4” NPT Hex	
11	4322331	1	Bracket, Tank	
12	548901	8	Screw, 5/16-18 x 1/2” Hex Flange	
13	4322332	3	Strap, Hose	
14	4322966	2	Cap, Water Tank	
15	4325788	2	Spigot	
16	4319766	1	Plug, 1/1-4” NPT Hex	
17	4319788	1	Pipe, Air Gap Filler	
18	4319926	2	Nipple, 1” NPT	
19	4319932	1	Coupler, 1” NPT Male Cam	
20	4319933	1	Coupler, 1” NPT Female Cam	
21	4319970	1	Valve, 1” NPT 2-Way Manual Ball	
22	4326836	1	Switch, Agitator Float	**REFERENCE SW22, See 32.1**
23	4319889	3	Nipple, 3/4” NPT	
24	4319831	3	Tee, 3/4” NPT	
25	4319892	4	Nipple, 3/4” NPT x 1/2” NPT	
26	4319827	4	Nozzle, Agitator	
27	4309755	1	Elbow, 1-1/4” NPT x 1-1/4” Hose Barb	Use thread sealing tape
28	4319830	1	Elbow, 3/4” NPT x 1” Hose Barb	Use thread sealing tape
29	4320926	1	Fitting, 1/8” NPT x 3/16” Hose Barb	
30	4338187	1	Shield, Adhesive Sump Heat	
31	4338186	1	Shield, Adhesive Sump Heat	
32	4338189	1	Shield, Adhesive Heat	
33	4338188	1	Shield, Adhesive Heat	
34	4337620	1	Pipe, Tank Support	
	4336506	1	Kit, Agitator Nozzle Orifice	
	N/S	4	• 5/32” Nozzle Orifice	
	N/S	4	• 3/16” Nozzle Orifice	

> Change from previous revision

6.1 Sprayer Pump Assembly

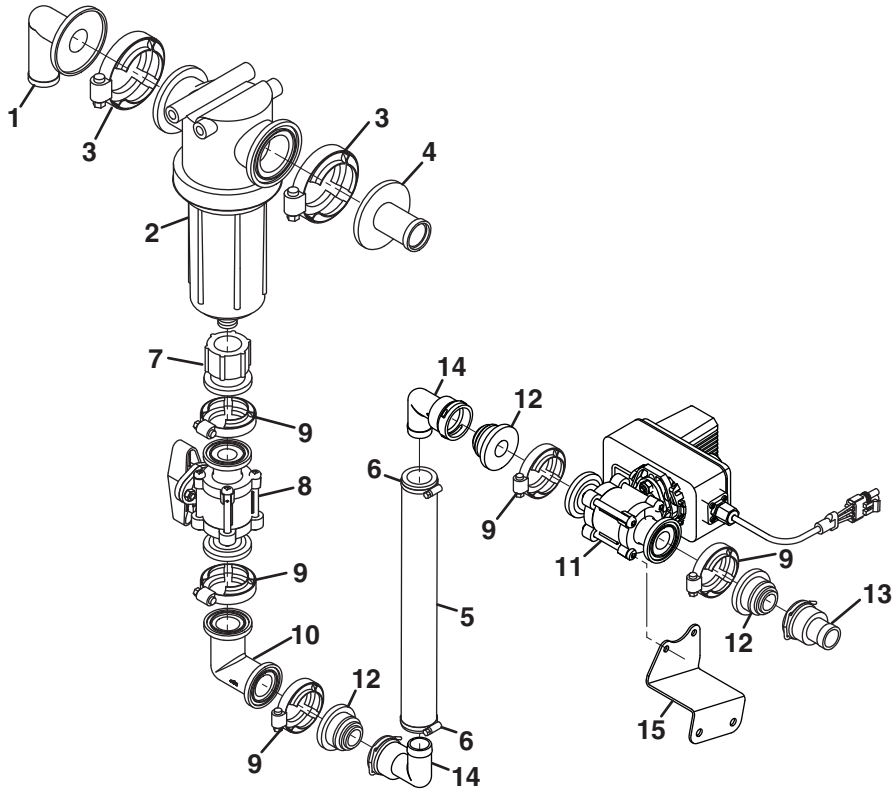
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4309742	1	Fitting, 1-1/4” NPT x 1-1/4” Hose Barb	
2	4309743	1	Valve, 1-1/4” NPT 3-Way Manual Ball	
3	4319950	1	Elbow, 1-1/4” NPT Male-Female	
4	4319893	2	Coupler, 1-1/4” NPT Male Cam	
5	4319929	1	Coupler, 1-1/4” NPT Female Cam Cap	
6	4329266	1	Reducer, 1-1/2 NPT x 1-1/4” NPT	
7	4309741	1	Pump, Sprayer	
	4335666	1	• Seal Kit	
8	4319927	1	Nipple, 1-1/4” NPT	
9	4309749	1	Tee, 1-1/4” NPT	
10	4332166	1	Coupler, 1-1/4” NPT Female Cam 1-1/4”	
11	4319766	1	Plug, 1-1/4” NPT Hex	
12	4319990	1	Elbow, 1/8” NPT x 3/16” Hose Barb	
13	4319989	1	Switch, Pressure	**REFERENCE SW21, See 32.1**
14	4335946	1	Lock, Coupler	

> Change from previous revision

7.1 Strainer Assembly

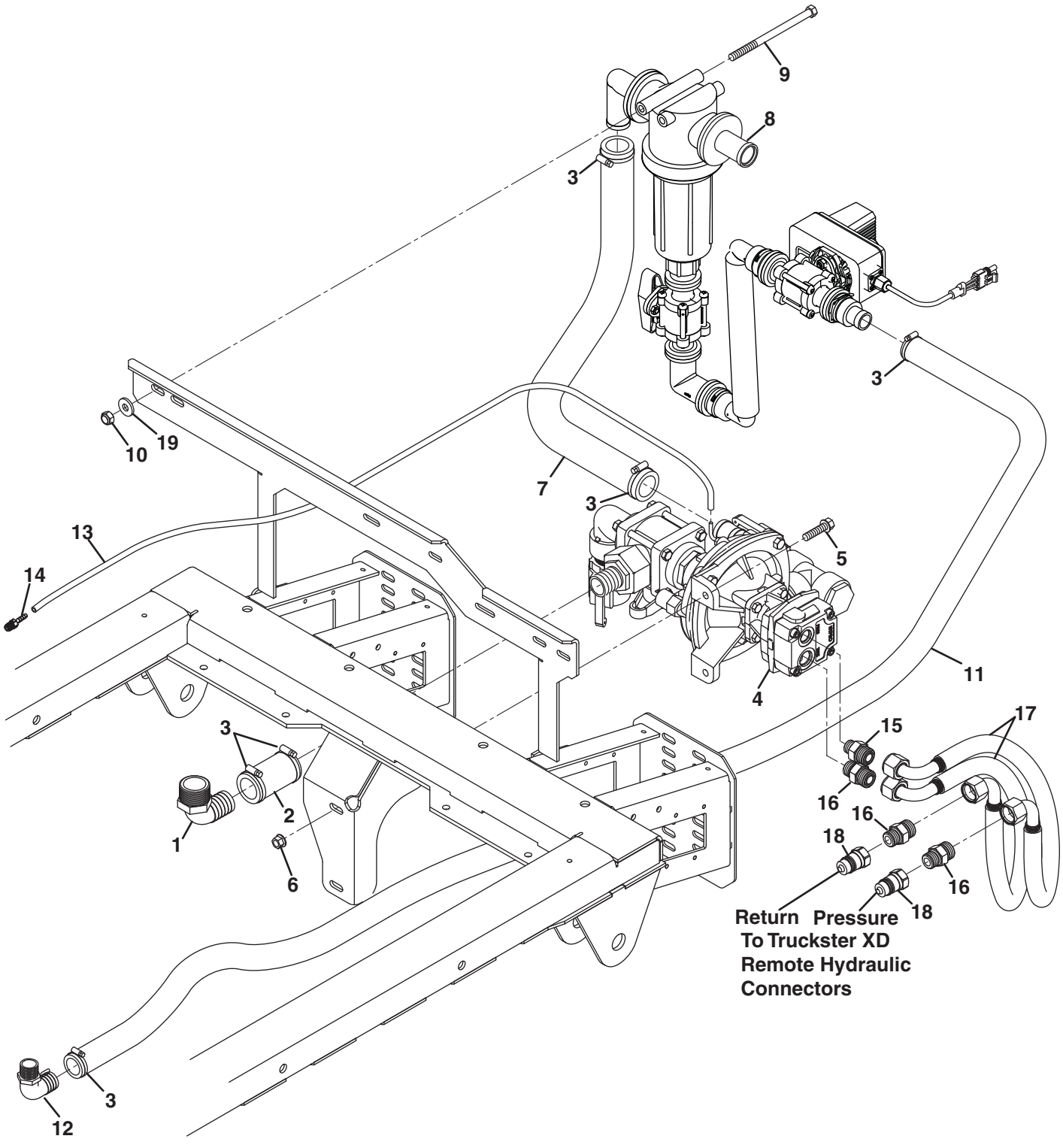


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4309753	1	Elbow, #75 Flange x 1-1/4” Hose Barb	Input from pump
2	4309744	1	Strainer, 50 Mesh Screen	Used with HD Booms
2	4334687	1	Strainer, 80 Mesh Screen	Used with SharpShooter Booms
3	4309736	2	Clamp, #75 Flange	
4	4319809	1	Fitting, #75 Flange x 1-1/4” Hose Barb	Output to boom valves
5	4335457	11”	Hose, 1” I.D.	60 inch length, cut to 11 inches
6	4319953	2	Clamp, 1-1/16” to 2” Hose	
7	4319806	1	Adapter, 1” NPT to #50 Flange	
8	4309740	1	Valve, #50 Flange 2-Way Manual Ball	
9	4319808	5	Clamp, #50 Flange	
10	4320707	1	Elbow, #50 Flange	
11	4321326	1	Valve, #50 Flange 2-Way Electric Ball	
12	4309756	3	Adapter, #50 Flange to Quick Connect	
13	4319815	1	Fitting, Quick Connect x 1” Hose Barb	
14	4320749	2	Fitting, Quick Connect x 1” Hose Barb	
15	4334306	1	Bracket, Valve Mount	Use Electric Ball Valve Hardware

> Change from previous revision

8.1 Sprayer Tank Plumbing

Serial No. All



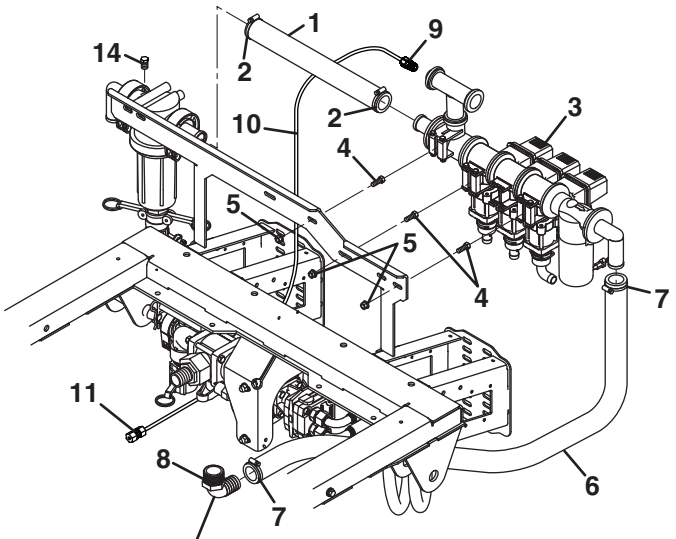
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4309755	1	Elbow, 1-1/4” NPT x 1-1/4” Hose Barb	**See 4.1** or **See 5.1**
2	4335458	4”	Hose, 1-1/4” I.D.	Tank to Pump Suction
3	4319953	6	Clamp, 1-1/16” to 2” Hose	
4	REF	1	Sprayer Pump Assembly	**See 6.1**
5	548907	2	Screw, 3/8-16 x 1-1/4” Hex Flange	
6	548804	2	Nut, 3/8-16 Hex Flange	
7	4335458	26”	Hose, 1-1/4” I.D.	Pump Output to Strainer
8	REF	1	Stainer Assembly	**See 7.1**
9	366134	2	Screw, 3/8-16 x 5” Hex Head	
10	445806	2	Nut, 3/8-16 Nylon Insert	
11	4335457	55”	Hose, 1” I.D.	Ball Valve to Agitator
12	4319830	1	Elbow, 3/4” NPT x 1” Hose Barb	**See 4.1** or **See 5.1**
13	4335454	53”	Hose, 3/16” I.D. Clear	Spraytek XP 175
13	4335454	60”	Hose, 3/16” I.D. Clear	Spraytek XP 300
14	4320926	1	Fitting, 1/8” NPT x 3/16” Hose Barb	See 4.1 or See 5.1
15	339988	1	Fitting, -10 ORFS x -8 ORB	
	339911	1	• O-Ring, -10 ORFS	
	339898	1	• O-Ring, -8 ORB	
16	339989	3	Fitting, -10 ORFS x -10 ORB	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
17	1003557	2	Hose, Remote Connectors to Pump	
18	4307275	2	Fitting, 1/2” Male Quick Connect	
19	303873	2	Flat Washer, 3/8	

> Change from previous revision

9.1 Sprayer Manifold Options

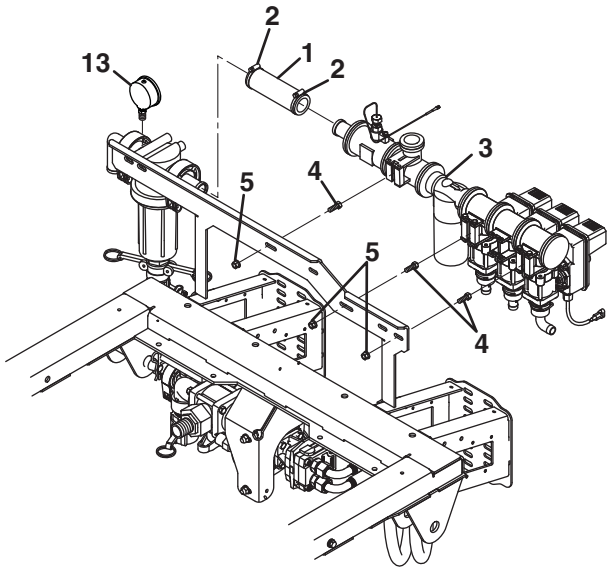
Serial No. All

Raven 203 Manifold

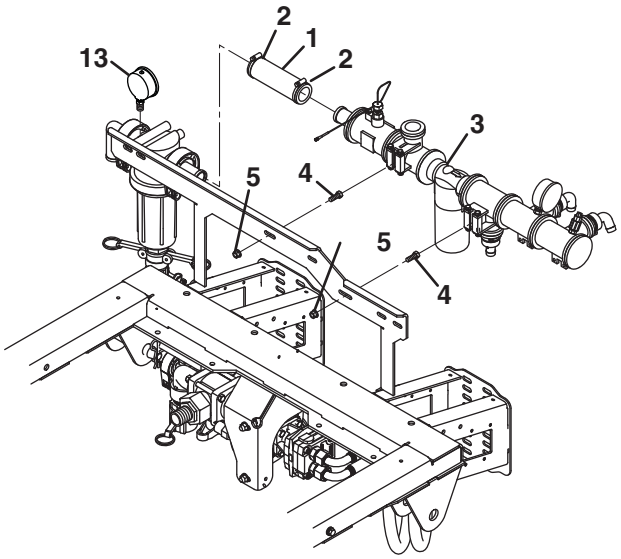


Remove plug from left rear fitting in tank.

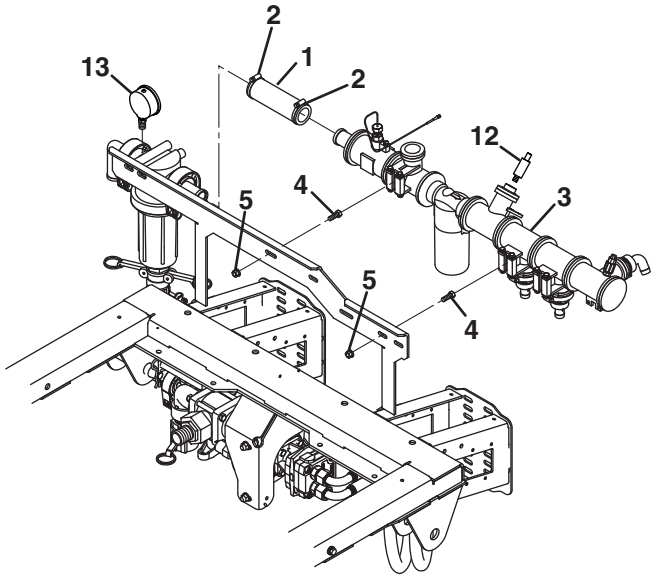
Raven 440 Manifold



Raven 440 + Sharpshooter Manifold



Envizio Pro II Manifold

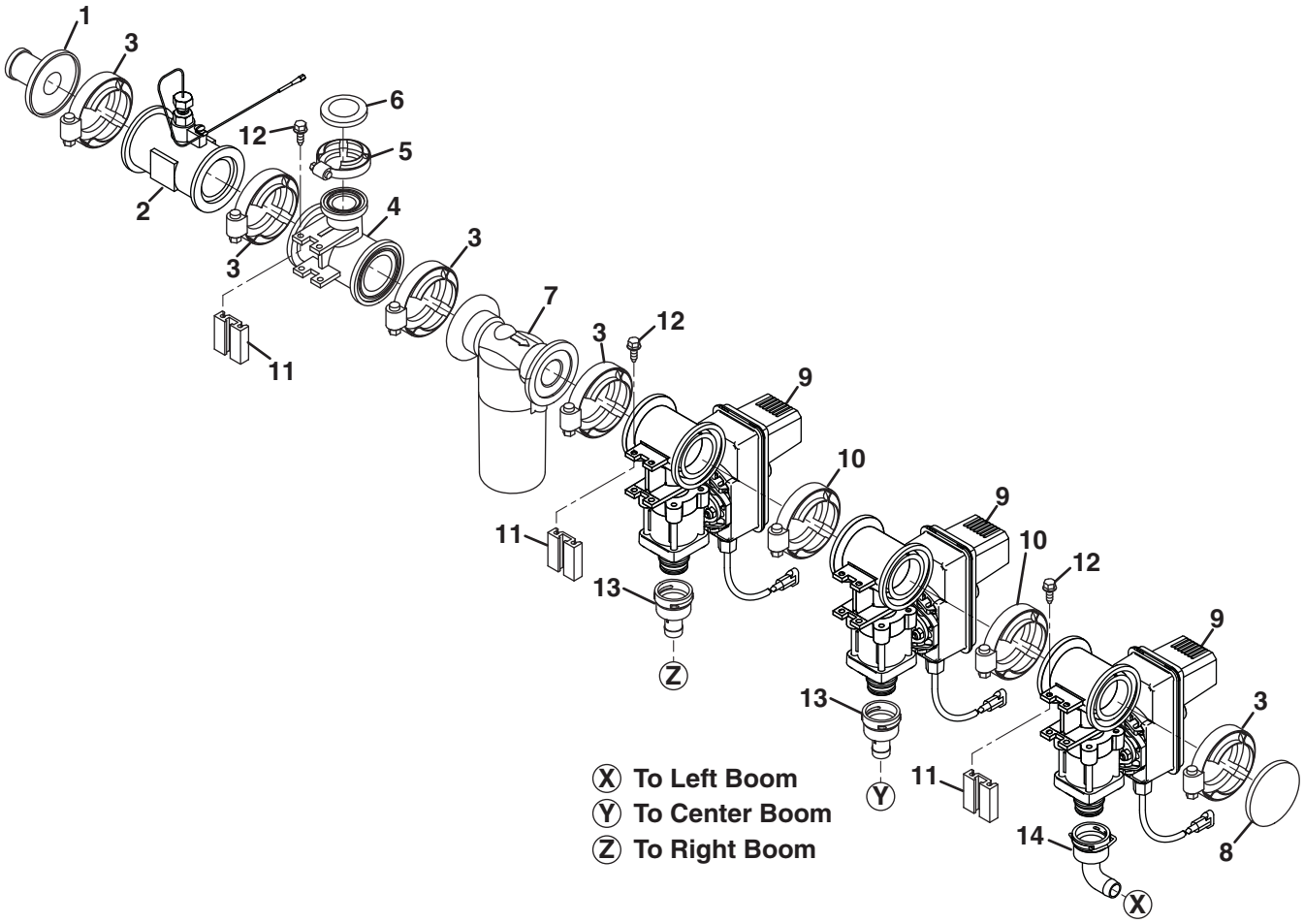


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4335458	6”	Hose, 1-1/4” I.D.	All except Raven 203 Manifold
1	4335458	16”	Hose, 1-1/4” I.D.	Raven 203 Manifold
2	4319953	2	Clamp, 1-1/16” to 2” Hose	
3	REF	1	Manifold, Raven 440	See 10.1
3	REF	1	Manifold, Raven 203	See 11.1
3	REF	1	Manifold, 440 + Sharpshooter	See 12.1
3	REF	1	Manifold, Envizio Pro II	See 13.1
4	400184	AR	Screw, 5/16-18 x 3/4” Hex Head	
5	445781	AR	Nut, 5/16-18 Whizlock Flange	
6	4335458	40”	Hose, 1-1/4” I.D.	Raven 203 Manifold Only
7	4319953	2	Clamp, 1-1/16” to 2” Hose	Raven 203 Manifold Only
8	4309755	1	Elbow, 1-1/4” NPT x 1-1/4” Hose Barb	Raven 203 Manifold Only
9	4340046	1	Fitting, 1/4” NPT x 1/4” Hose	Raven 203 Manifold Only
10		60”	Tubing, 1/4” O.D.	Raven 203 Manifold Only
11	4326946	1	Compression Fitting, 1/4” Hose	Raven 203 Manifold Only
12	4323047	1	Sensor, Envizio Pressure	Envizio Pro II Manifold Only
13	4340426	1	Gauge, 160 psi	All Except Raven 203 Manifold
14	4319814	1	Plug, 1/4” NPT Hex	Raven 203 Manifold

> Change from previous revision

10.1 440 Manifold

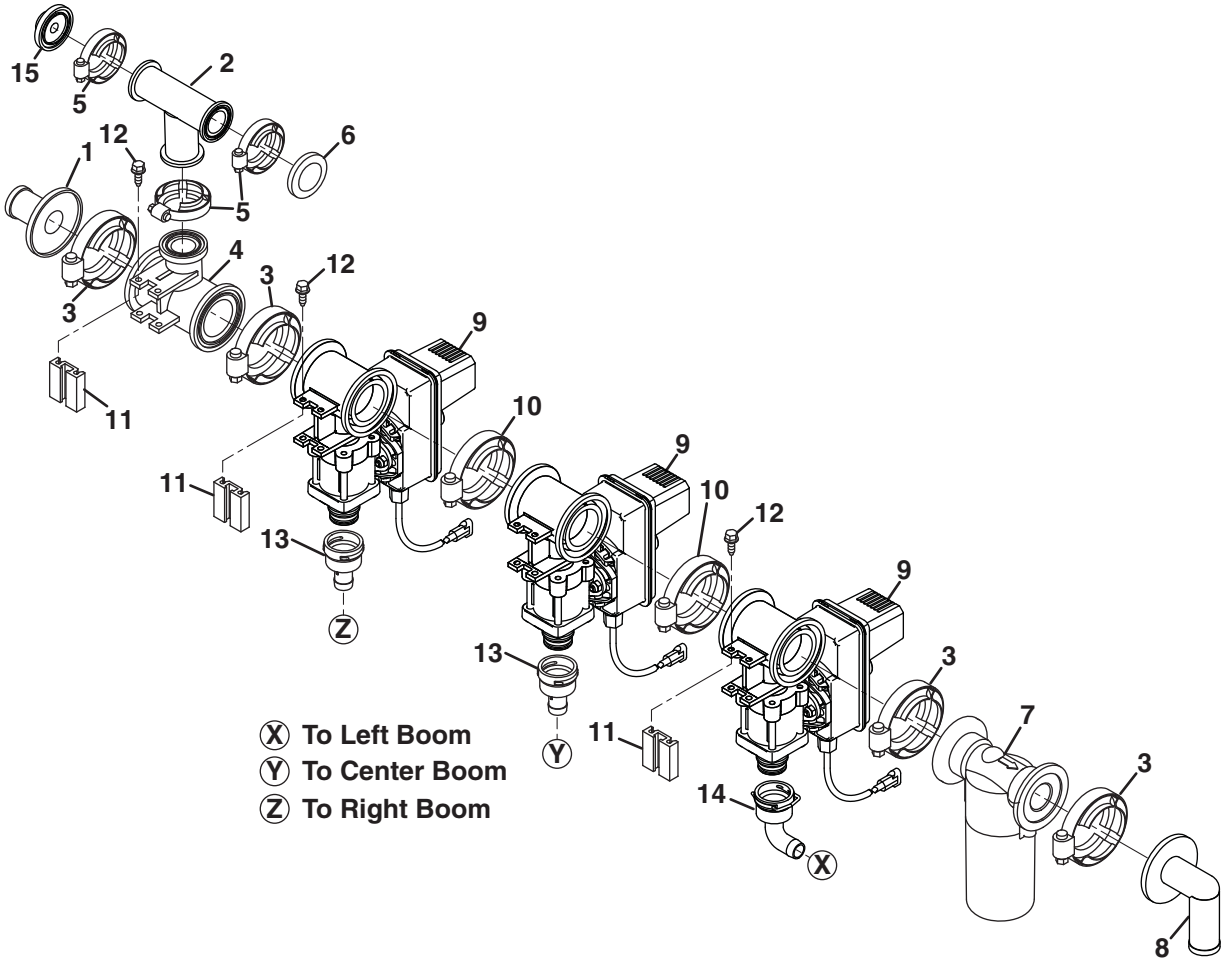
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319809	1	Adapter, #75 Flange to 1-1/4” Hose Barb	
2	4309745	1	Flow Meter	
3	4309736	4	Clamp, #75 Flange	
4	4309751	1	Tee, #75 Flange x #50 Flange Branch	
5	4319808	1	Clamp, #50 Flange	
6	4319813	1	Cap, #50 Flange	
7	4309746	1	Valve, #75 Electric 1” Butterfly	
8	4309754	1	Cap, #75 Flange	
	4309735	1	Manifold, #75 Flange Electric	
9	N/S	3	• Valve, Electric Ball	
10	4309736	2	• Clamp, #75 Flange	
11	4322307	3	• Rail, Mounting	Rail and screws removed from center valve and assembled to Item 4.
12	4322987	12	• Screw, Stainless Steel	
13	4320747	2	Fitting, Quick Connect x 3/4” Hose Barb	
14	4319790	1	Elbow, Quick Connect x 3/4” Hose Barb	

> Change from previous revision

11.1 203 Manifold

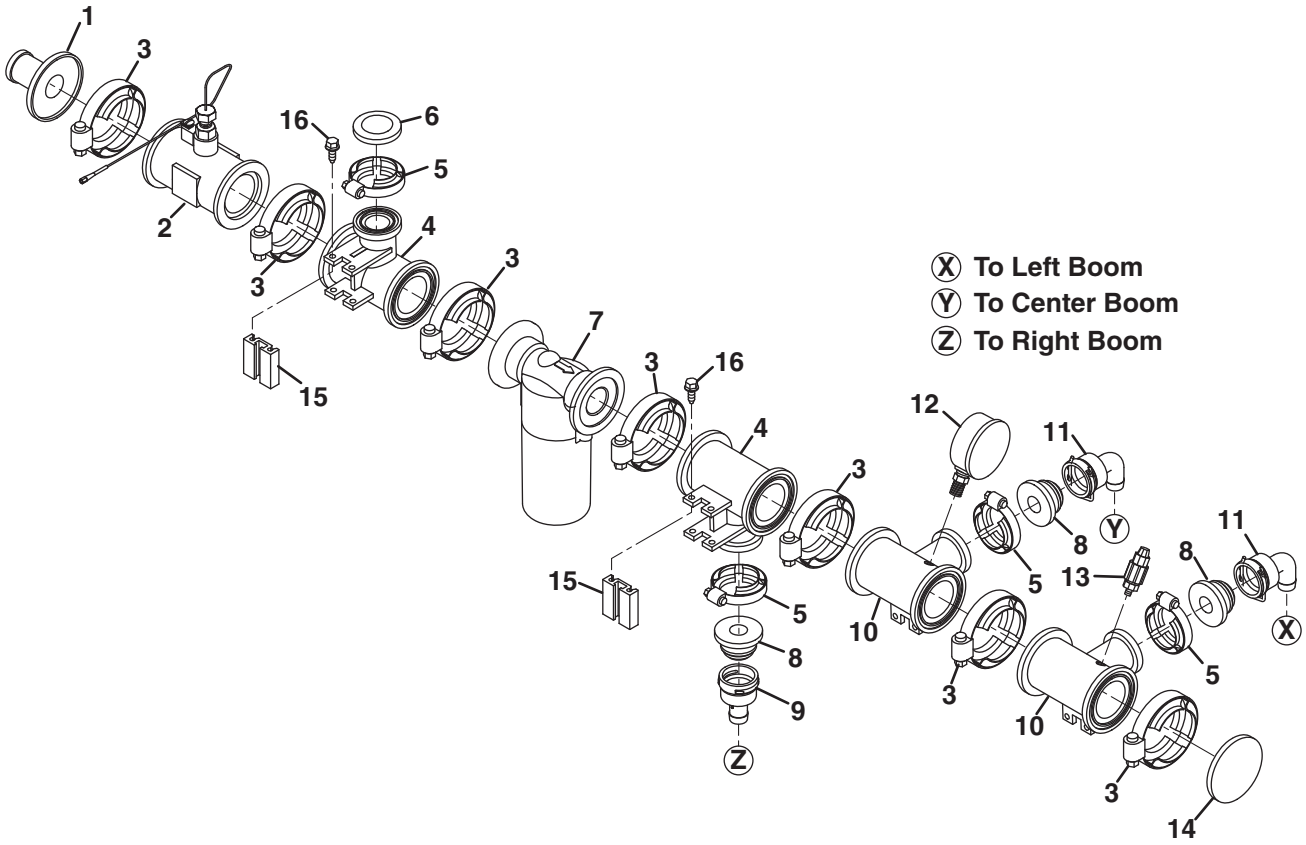


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319809	1	Adapter, #75 Flange to 1-1/4” Hose Barb	
2	4319811	1	Tee, #50 Flange	
3	4309736	4	Clamp, #75 Flange	
4	4309751	1	Tee, #75 Flange x #50 Flange Branch	
5	4319808	3	Clamp, #50 Flange	
6	4319813	1	Cap, #50 Flange	
7	4309746	1	Valve, #75 Electric 1” Butterfly	
8	4309753	1	Elbow, #75 Flange x 1-1/4” Hose Barb	
	4309735	1	Manifold, #75 Flange Electric	
9	N/S	3	• Valve, Electric Ball	
10	4309736	2	• Clamp, #75 Flange	
11	4322307	3	• Rail, Mounting	Rail and screws removed from center valve and assembled to Item 4.
12	4322987	12	• Screw, Stainless Steel	
13	4320747	2	Fitting, Quick Connect x 3/4” Hose Barb	
14	4319790	1	Elbow, Quick Connect x 3/4” Hose Barb	
	4319812	1	Gauge Port, #50 Flange	

> Change from previous revision

12.1 440 + Sharpshooter Manifold

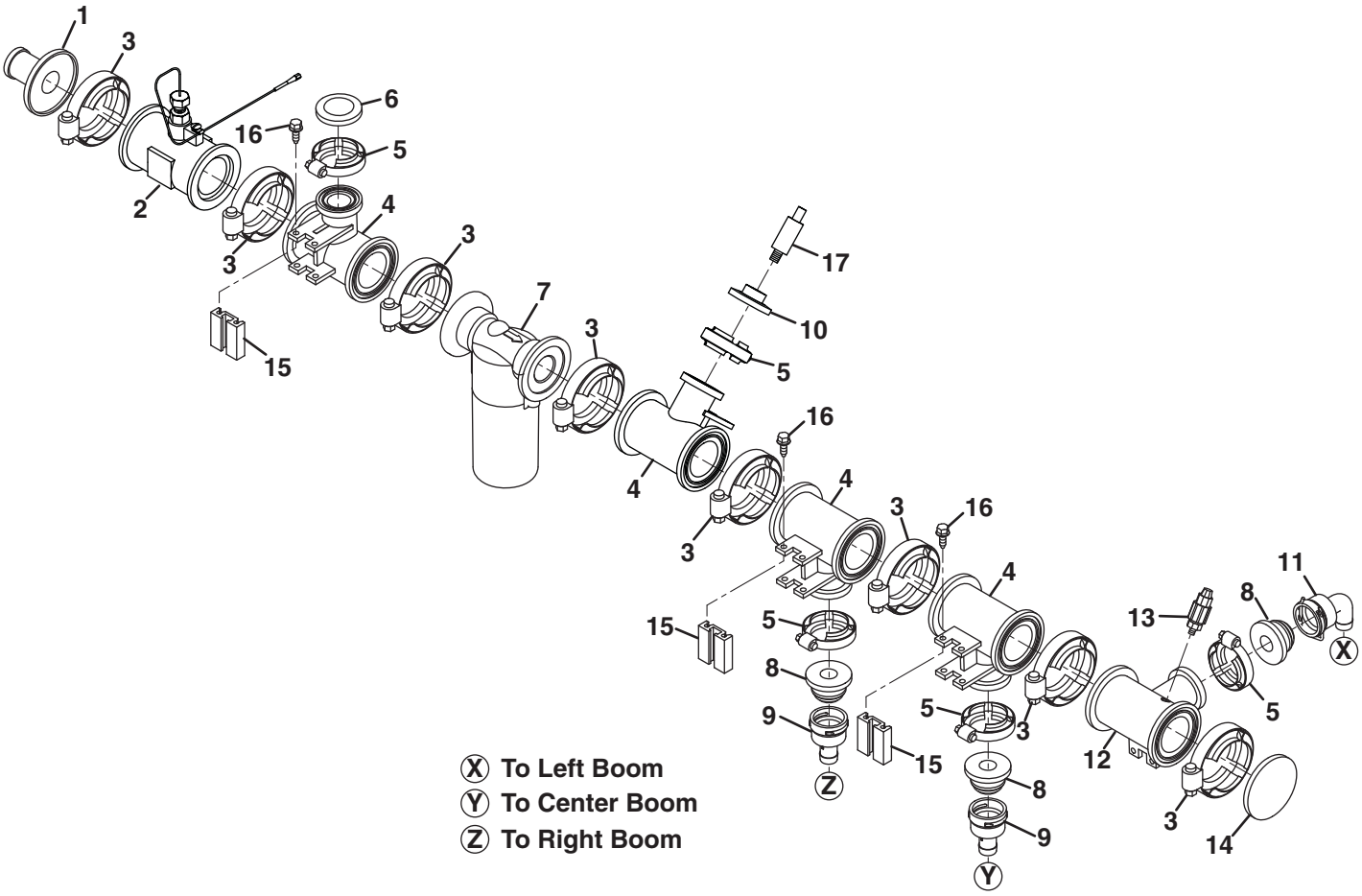
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319809	1	Adapter, #75 Flange to 1-1/4” Hose Barb	
2	4309745	1	Flow Meter	
3	4309736	7	Clamp, #75 Flange	
4	4309751	2	Tee, #75 Flange x #50 Flange Branch	
5	4319808	4	Clamp, #50 Flange	
6	4319813	1	Cap, #50 Flange	
7	4309746	1	Valve, #75 Electric 1” Butterfly	
8	4309756	3	Adapter, #50 Flange to Quick Connect	
9	4320747	1	Fitting, Quick Connect x 3/4” Hose Barb	
10	4322311	2	Tee, #75 Flange x #50 Flange Branch	With gauge port
11	4319790	2	Elbow, Quick Connect x 3/4” Hose Barb	
12	4319896	1	Gauge, 2-1/2” Liquid Filled Pressure	
13	4322990	1	Sensor, SharpShooter Pressure	
14	4309754	1	Cap, #75 Flange	
15	4322307	2	Rail, Mounting	
16	4322987	8	Screw, Stainless Steel	

> Change from previous revision

13.1 Envizio Pro II Manifold

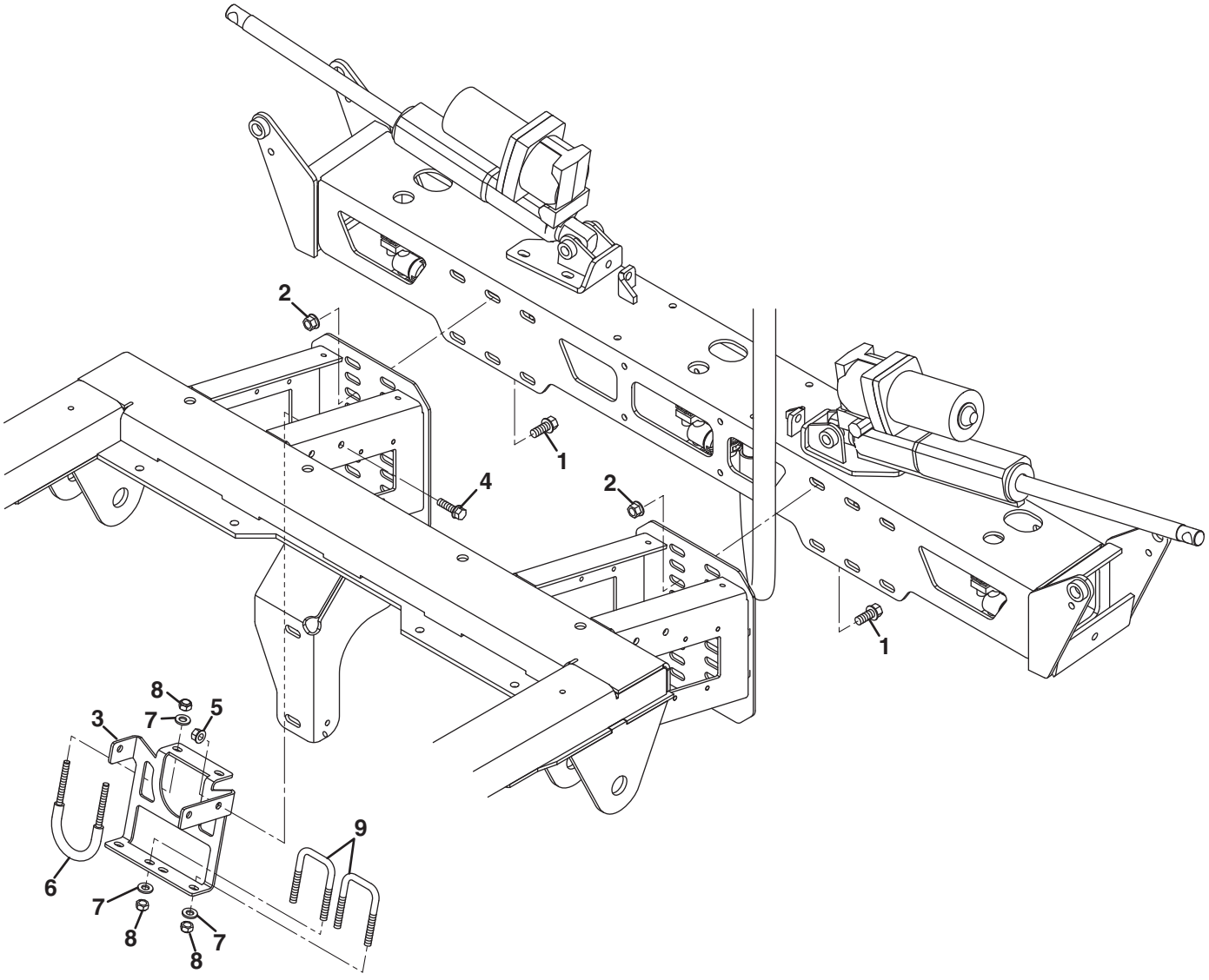


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319809	1	Adapter, #75 Flange to 1-1/4” Hose Barb	
2	4309745	1	Flow Meter	
3	4309736	8	Clamp, #75 Flange	
4	4309751	4	Tee, #75 Flange x #50 Flange Branch	
5	4319808	5	Clamp, #50 Flange	
6	4319813	1	Cap, #50 Flange	
7	4309746	1	Valve, #75 Electric 1” Butterfly	
8	4309756	3	Adapter, #50 Flange to Quick Connect	
9	4320747	2	Fitting, Quick Connect x 3/4” Hose Barb	
10	4319812	1	Adapter, #50 Flange to Gauge Port	
11	4319790	1	Elbow, Quick Connect x 3/4” Hose Barb	
12	4322311	1	Tee, #75 Flange x #50 Flange Branch	With gauge port
13	4322990	1	Sensor, Sharp Shooter Pressure	
14	4309754	1	Cap, #75 Flange	
15	4322307	3	Rail, Mounting	
16	4322987	12	Screw, Stainless Steel	
17	4323047	1	Sensor, Envizio Pressure	

> Change from previous revision

14.1 Boom Mount

Serial No. All



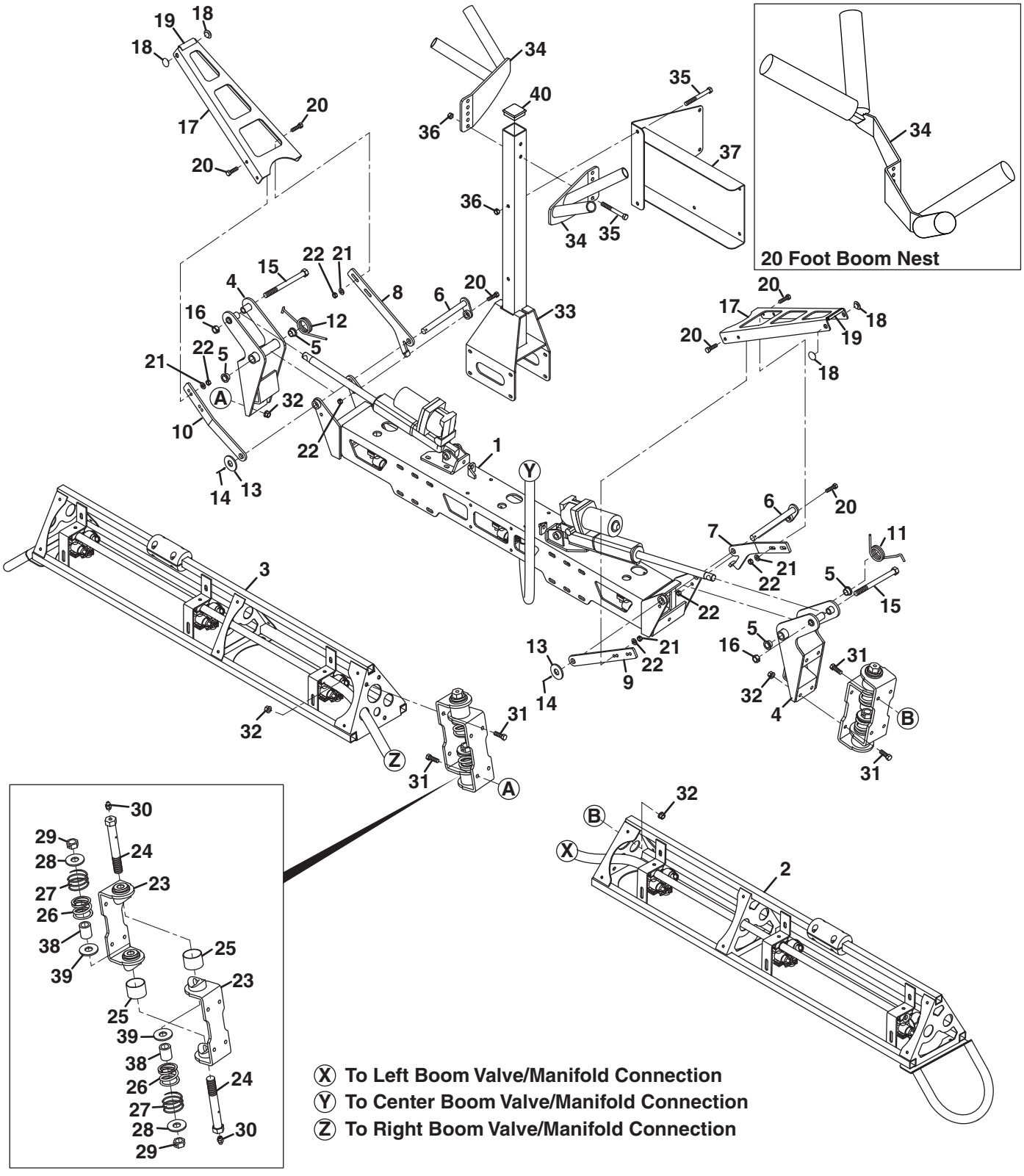
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	800385	8	Screw, 3/8-16 x 3/4” Hex Flange	
2	548804	8	Nut, 3/8-16 Whizlock Flange	
3	4324367	1	Mount, Power Hub	Sharpshooter Booms Only
4	400025	2	Screw, 5/16-18 x 7/8” Hex Flange	Sharpshooter Booms Only
5	548911	2	Nut, 5/16-18 Hex Flange	Sharpshooter Booms Only
6	4325033	1	Clamp, 2-1/2” Muffler	Sharpshooter Booms Only
7	453009	6	Flat Washer, 5/16	Sharpshooter Booms Only
8	445802	4	Nut, 5/16-18 Nylon Insert	Sharpshooter Booms Only
9	4333806	2	U-Bolt, Square 5/16	Sharpshooter Booms Only

> Change from previous revision

15.1 Boom Assembly

Serial No. All

15 Foot Boom Shown. 18 Foot and 20 Foot Booms Similar



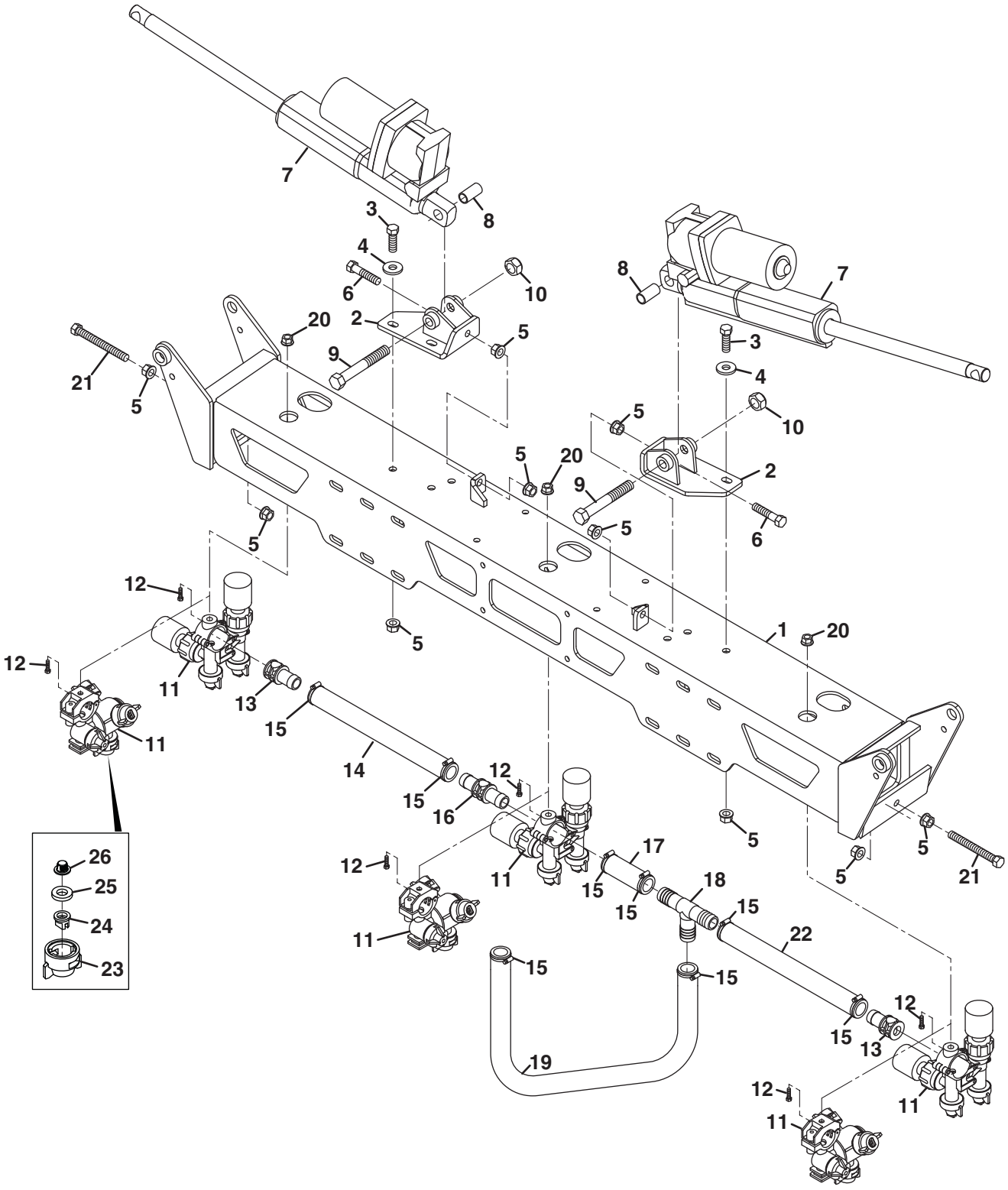
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Three Nozzle Center Boom	15 and 18 Foot Booms, See 16.1
1	REF	1	Four Nozzle Center Boom	20 Foot Boom, See 17.1
2	REF	1	Three Nozzle Left Boom	15 Foot Boom, See 18.1
2	REF	1	Four Nozzle Left Boom	18 and 20 Foot Booms, See 19.1
3	REF	1	Three Nozzle Right Boom	15 Foot Boom, See 20.1
3	REF	1	Four Nozzle Right Boom	18 and 20 Foot Booms, See 21.1
4	4332288	2	Arm, Pivot Hinge	
5	4332306	4	Bushing	
6	4332251	2	Pin, Hinge with Spacer	
7	4332249	1	Limit Hinge, Left Side	
8	4332246	1	Limit Hinge, Right Side	
9	4332248	1	Lock Hinge, Left Side	
10	4332211	1	Lock Hinge, Right Side	
11	4332253	1	Spring, Left Side Torsion	
12	4332252	1	Spring, Right Side Torsion	
13		2	Machine Bushing	HMB-58-14
14	460050	2	Cotter Pin, 1/8 x 1”	
15	400430	2	Screw, 1/2-13 x 5” Hex Head	
16	800602	2	Nut, 1/2-13 Nylon Insert	
17	4332210	2	Boom Lock	
18	4332292	4	Insert, Rubber	
19	4332307	2	Trim, 2-3/4”	
20	400188	10	Screw, 5/16-18 x 1” Hex Head	
21	364441	8	Spacer, 5/16”	
22	445802	10	Nut, 5/16-18 Nylon Insert	
23	4332190	2	Boom Hinge	
24	4332196	4	Screw, 3/4-10 x 5-1/2” Tapped	
25	4333507	4	Hose, Rubber Duct	2”
26	4332195	4	Spring, Outer Compression	
27	4332247	4	Spring, Inner Compression	
28	367031	4	Washer, Isolator	
29		4	Locknut, 3/4-10 Hex Center	HNCL-34-10
30	471214	4	Grease Fitting, 1/4-28 Straight	
31	400262	16	Screw, 3/8-16 x 1” Hex Head	
32	548804	8	Nut, 3/8-16 Whizlock Flange	
33	4332208	1	Post, Boom Nest	
34	4332255	2	Boom Nest, 2 Piece	15 and 18 Foot Booms
34	4332207	1	Boom Nest, 1 Piece	20 Foot Boom
35	400276	4	Screw, 3/8-16 x 3” Hex Head	
36	445806	2	Nut, 3/8-16 Nylon Insert	
37	4332194	1	Mount, Clean Load/Foam Marker	
38	4332250	4	Sleeve, Spring	
39	4332254	4	Shim, Spring	
40		1	Cap, Rubber	16-557

> Change from previous revision

16.1 Three Nozzle Center Boom

15 Foot and 18 Foot Booms

Serial No. 4323390 - All
Serial No. 4323391 - All
Serial No. 4320589 - All
Serial No. 4322360 - All



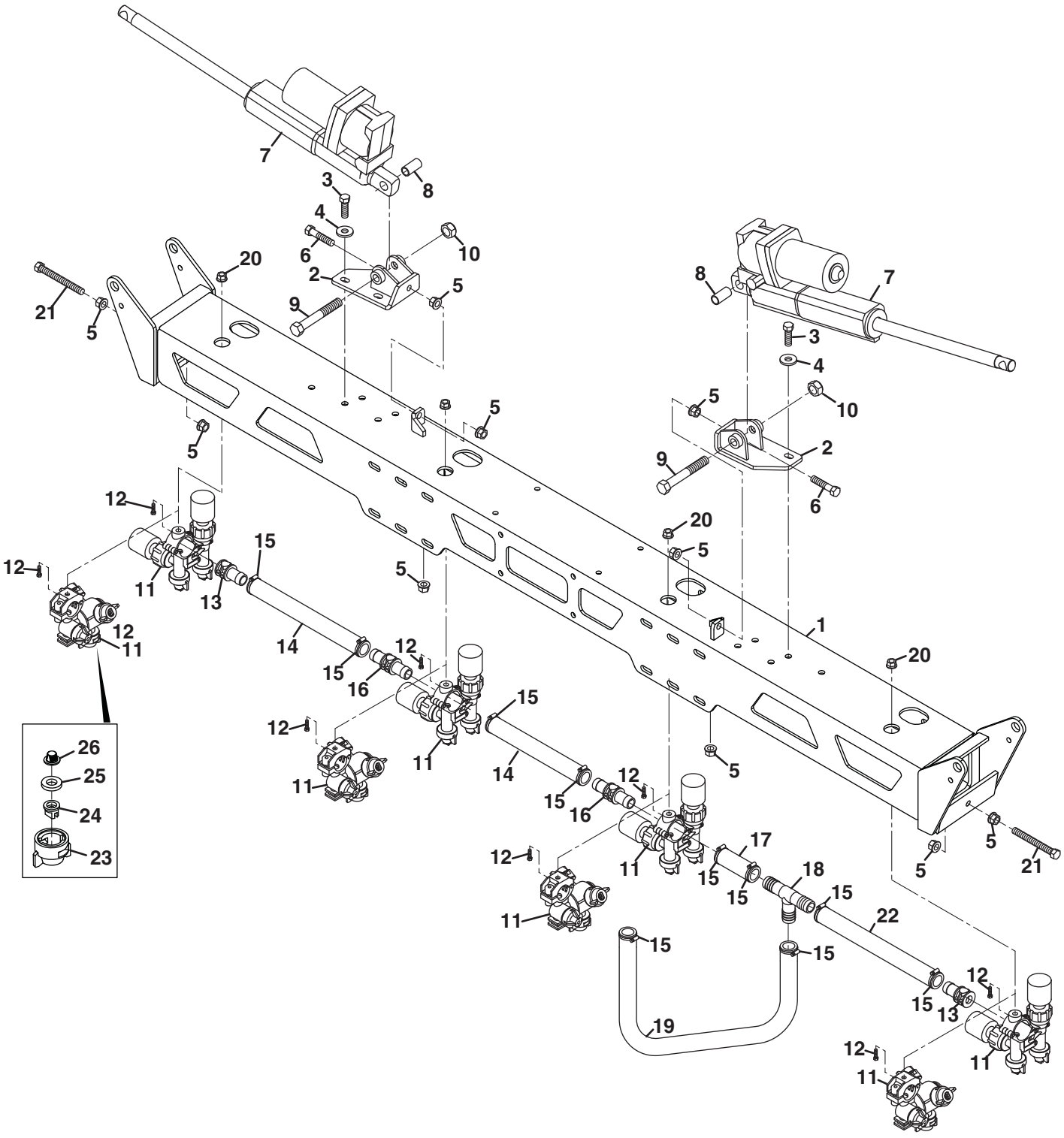
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4332191	1	Boom, 3 Nozzle Center	
2	4332287	2	Mount, Actuator	
3	400262	6	Screw, 3/8-16 x 1” Hex Head	
4	303873	6	Flat Washer, 3/8	
5	548804	14	Nut, 3/8-16 Whizlock Flange	
6	400266	2	Screw, 3/8-16 x 1-1/2” Hex Head	
7	4332289	2	Actuator, 10 Inch	
8	4332267	1	• Bushing	
9	400430	2	Screw, 1/2-13 x 5-1/2” Hex Head	
10	800602	2	Nut, 1/2-13 Nylon Insert	
11	REF	3	Nozzle, Combo Jet	Sharpshooter Booms
11	REF	3	Nozzle, Triple	HD Booms
12	400188	3	Screw, 5/16-18 x 1” Hex Head	
13	4332286	2	Single Barb Connector	
14	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 19”
15	4332266	8	Clamp, Hose	
16	4332270	1	Double Barb Connector	
17	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 2-1/2”
18	4332236	1	Tee, 3/4” Hose Barb	
19	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to xx”
20	548911	3	Nut, 5/16-18 Hex Flange	
21	400276	2	Screw, 3/8-16 x 3” Hex Head	
22	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 15-1/2”
23	4334171	3	Cap, Nozzle Tip	HD Booms
24	4334166	3	Tip, XR-11006VP	HD Booms
25	4321553	3	Gasket, Nozzle	HD Booms
26	4334167	3	Strainer, 50 Mesh Poly	HD Booms

> Change from previous revision

17.1 Four Nozzle Center Section

20 Foot Boom

Serial No. 4320590 - All
Serial No. 4322361 - All



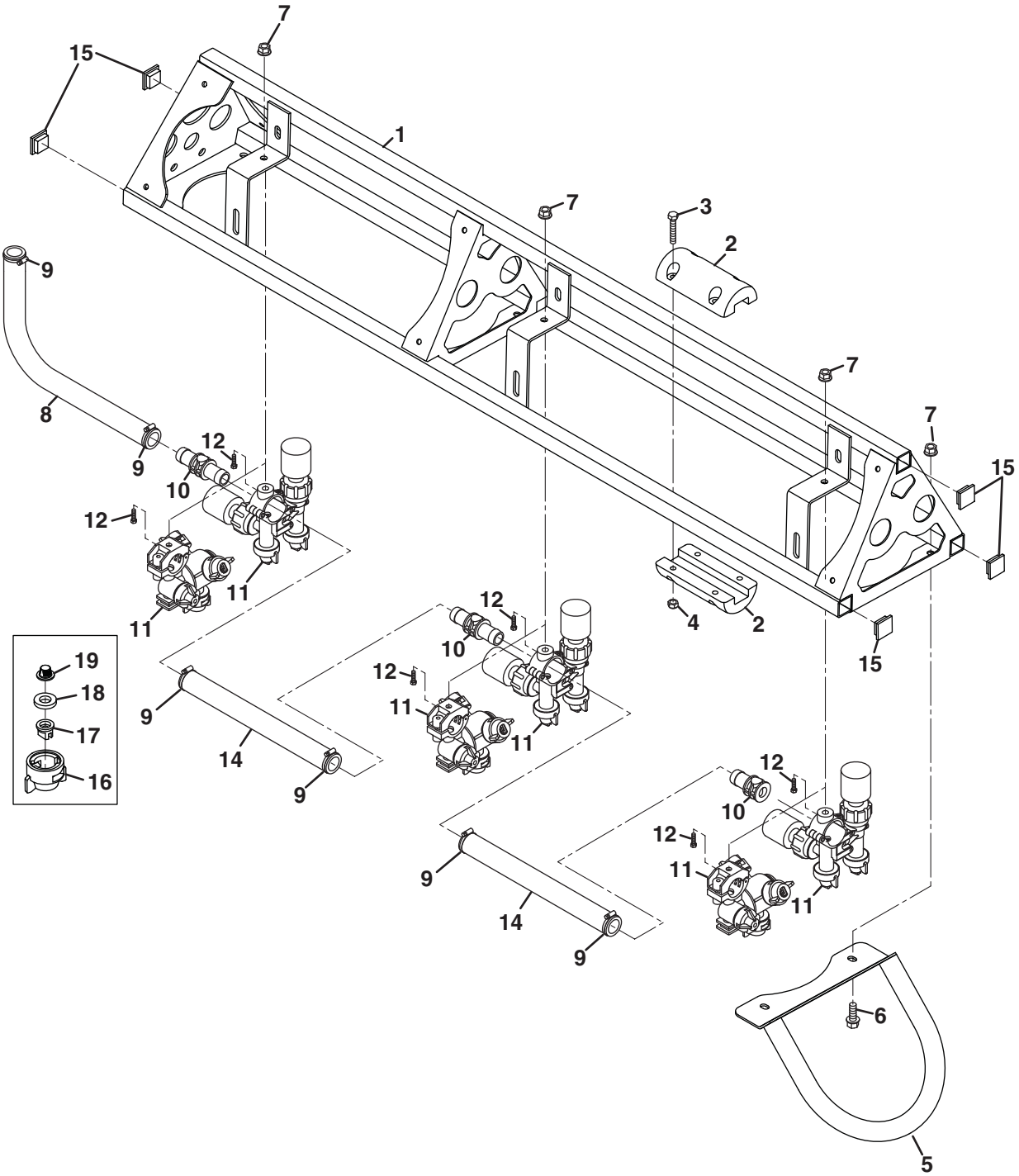
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4332209	1	Boom, 4 Nozzle Center	
2	4332287	2	Mount, Actuator	
3	400262	6	Screw, 3/8-16 x 1” Hex Head	
4	303873	6	Flat Washer, 3/8	
5	548804	14	Nut, 3/8-16 Whizlock Flange	
6	400266	2	Screw, 3/8-16 x 1-1/2” Hex Head	
7	4332289	2	Actuator, 10 Inch	
8	4332267	1	• Bushing	
9	400430	2	Screw, 1/2-13 x 5-1/2” Hex Head	
10	800602	2	Nut, 1/2-13 Nylon Insert	
11	REF	4	Nozzle, Combo Jet	Sharpshooter Booms
11	REF	4	Nozzle, Triple	HD Booms
12	400188	4	Screw, 5/16-18 x 1” Hex Head	
13	4332286	2	Single Barb Connector	
14	4333506	2	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 19”
15	4332266	10	Clamp, Hose	
16	4332270	2	Double Barb Connector	
17	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 2-1/2”
18	4332236	1	Tee, 3/4” Hose Barb	
19	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 11”
20	548911	4	Nut, 5/16-18 Hex Flange	
21	400276	2	Screw, 3/8-16 x 3” Hex Head	
22	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 15-1/2”
23	4334171	4	Cap, Nozzle Tip	HD Booms
24	4334166	4	Tip, XR-11006VP	HD Booms
25	4321553	4	Gasket, Nozzle	HD Booms
26	4334167	4	Strainer, 50 Mesh Poly	HD Booms

> Change from previous revision

18.1 Three Nozzle Left Boom

15 Foot Booms

Serial No. 4323390 - All
Serial No. 4323391 - All



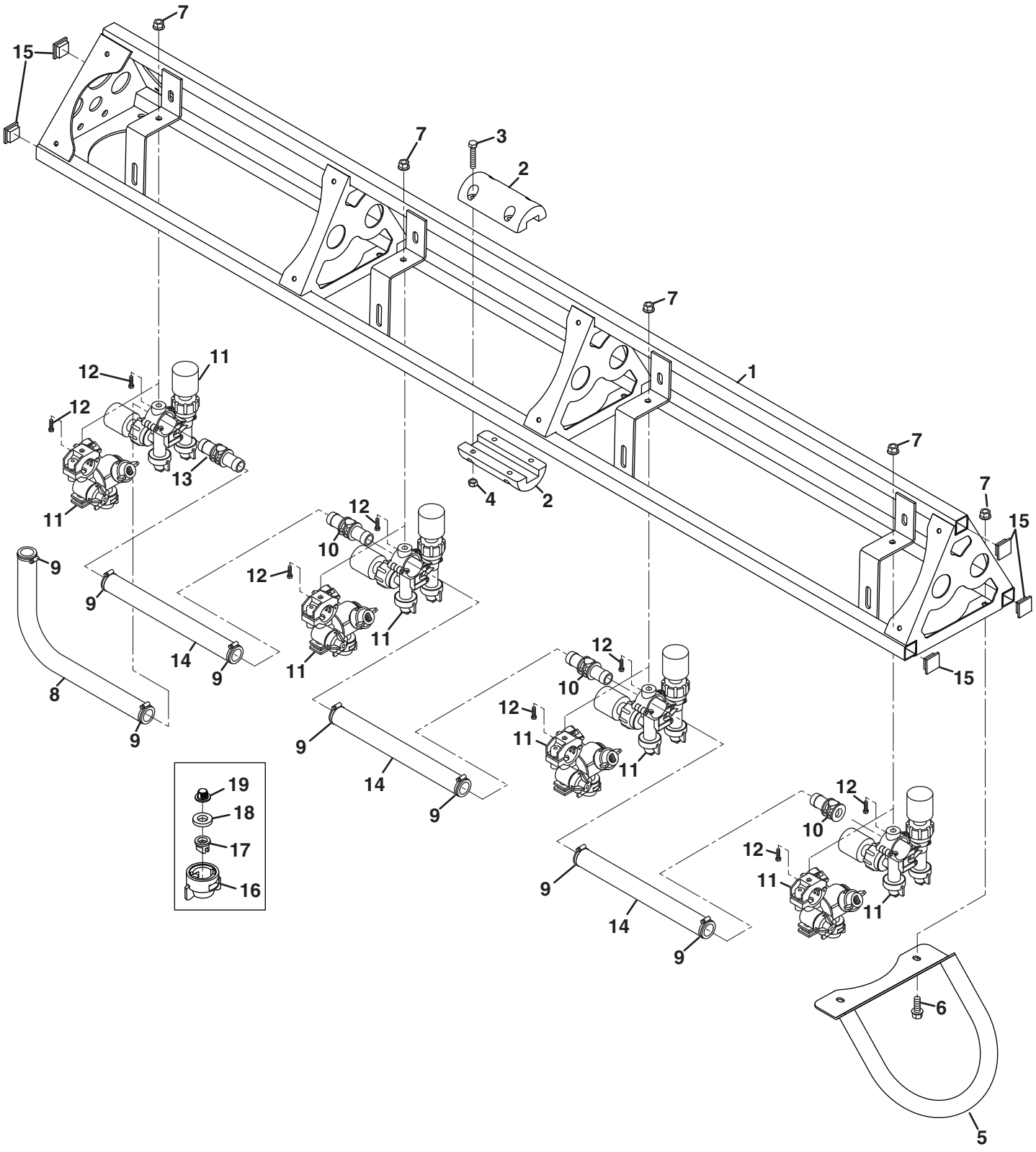
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4332188	1	Boom, 3 Nozzle Left	
2	4332206	1	Guide Block Set	
3	400114	4	Screw, 1/4-20 x 1-1/4” Hex Head	
4	445770	4	Nut, 1/4-20 Nylon Insert	
5	4332197	1	Boom End Guard	
6	403751	2	Screw, 5/16-18 x 3/4” Hex Flange	
7	548911	5	Nut, 5/16-18 Hex Flange	
8	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to xx”
9	4332266	6	Clamp, Hose	
10	4332270	2	Double Barb Connector	
11	REF	3	Nozzle, Combo Jet	Sharpshooter Booms
11	REF	3	Nozzle, Triple	HD Booms
12	400188	3	Screw, 5/16-18 x 1” Hex Head	
13	4332286	1	Single Barb Connector	
14	4333506	2	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 19”
15	4332290	5	Plug, 1” Square	
16	4334171	3	Cap, Nozzle Tip	HD Booms
17	4334166	3	Tip, XR-11006VP	HD Booms
18	4321553	3	Gasket, Nozzle	HD Booms
19	4334167	3	Strainer, 50 Mesh Poly	HD Booms

> Change from previous revision

19.1 Four Nozzle Left Boom

18 Foot and 20 Foot Booms

Serial No. 4320589 - All
Serial No. 4322360 - All
Serial No. 4320590 - All
Serial No. 4322361 - All



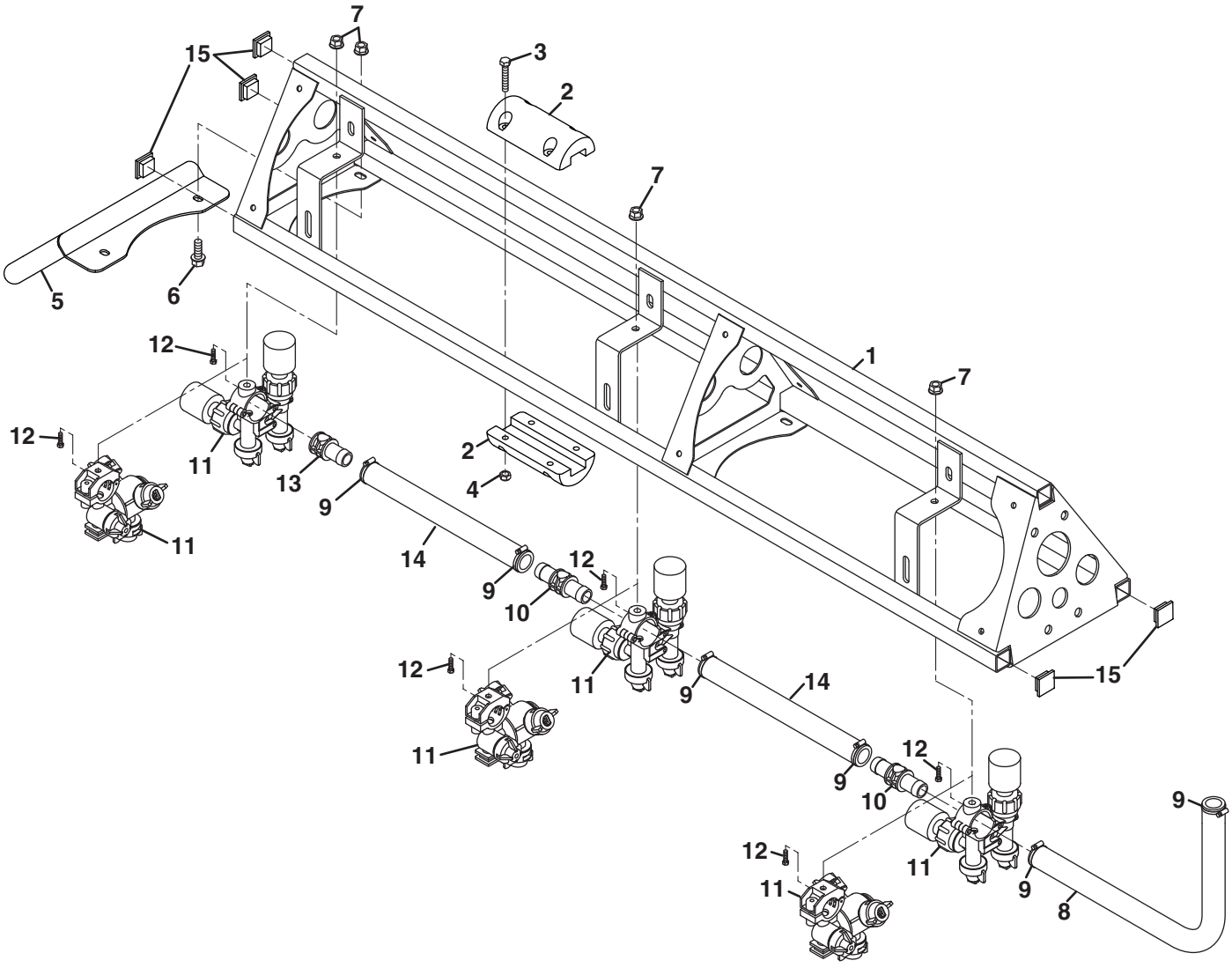
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4332192	1	Boom, 4 Nozzle Left	
2	4332206	1	Guide Block Set	
3	400114	4	Screw, 1/4-20 x 1-1/4” Hex Head	
4	445770	4	Nut, 1/4-20 Nylon Insert	
5	4332197	1	Boom End Guard	
6	403751	2	Screw, 5/16-18 x 3/4” Hex Flange	
7	548911	6	Nut, 5/16-18 Hex Flange	
8	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to xx”
9	4332266	8	Clamp, Hose	
10	4332270	3	Double Barb Connector	
11	REF	4	Nozzle, Combo Jet	Sharpshooter Booms
11	REF	4	Nozzle, Triple	HD Booms
12	400188	4	Screw, 5/16-18 x 1” Hex Head	
13	4332286	1	Single Barb Connector	
14	4333506	3	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 19”
15	4332290	5	Plug, 1” Square	
16	4334171	4	Cap, Nozzle Tip	HD Booms
17	4334166	4	Tip, XR-11006VP	HD Booms
18	4321553	4	Gasket, Nozzle	HD Booms
19	4334167	4	Strainer, 50 Mesh Poly	HD Booms

> Change from previous revision

20.1 Three Nozzle Right Boom

15 Foot Booms

Serial No. 4323390 - All
Serial No. 4323391 - All



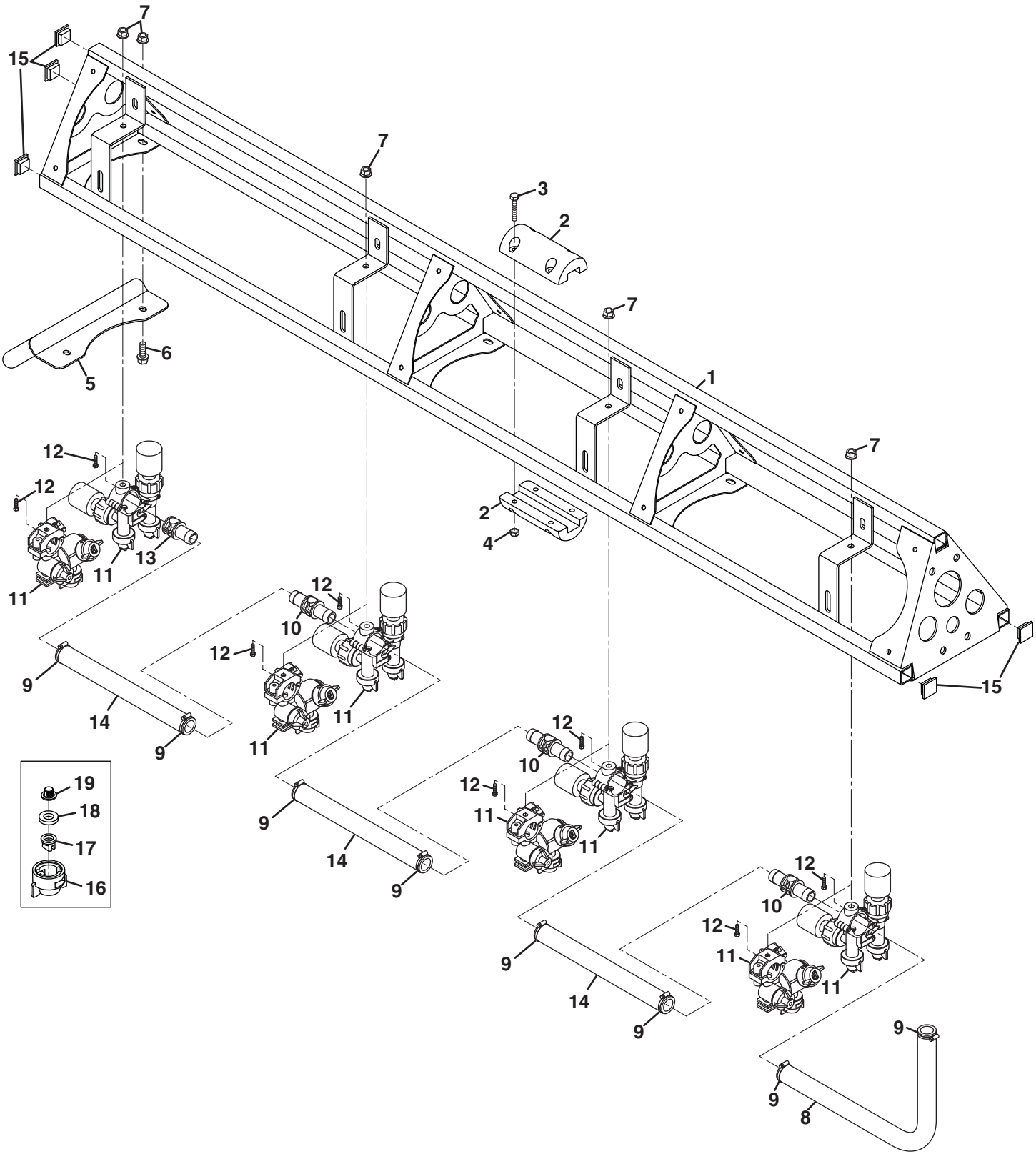
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4332189	1	Boom, 3 Nozzle Right	
2	4332206	1	Guide Block Set	
3	400114	4	Screw, 1/4-20 x 1-1/4” Hex Head	
4	445770	4	Nut, 1/4-20 Nylon Insert	
5	4332197	1	Boom End Guard	
6	403751	2	Screw, 5/16-18 x 3/4” Hex Flange	
7	548911	5	Nut, 5/16-18 Hex Flange	
8	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to xx”
9	4332266	6	Clamp, Hose	
10	4332270	2	Double Barb Connector	
11	REF	3	Nozzle, Combo Jet	Sharpshooter Booms
11	REF	3	Nozzle, Triple	HD Booms
12	400188	3	Screw, 5/16-18 x 1” Hex Head	
13	4332286	1	Single Barb Connector	
14	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 19”
15	4332290	5	Plug, 1” Square	

> Change from previous revision

21.1 Four Nozzle Right Boom

18 Foot and 20 Foot Booms

Serial No. 4320589 - All
Serial No. 4322360 - All
Serial No. 4320590 - All
Serial No. 4322361 - All

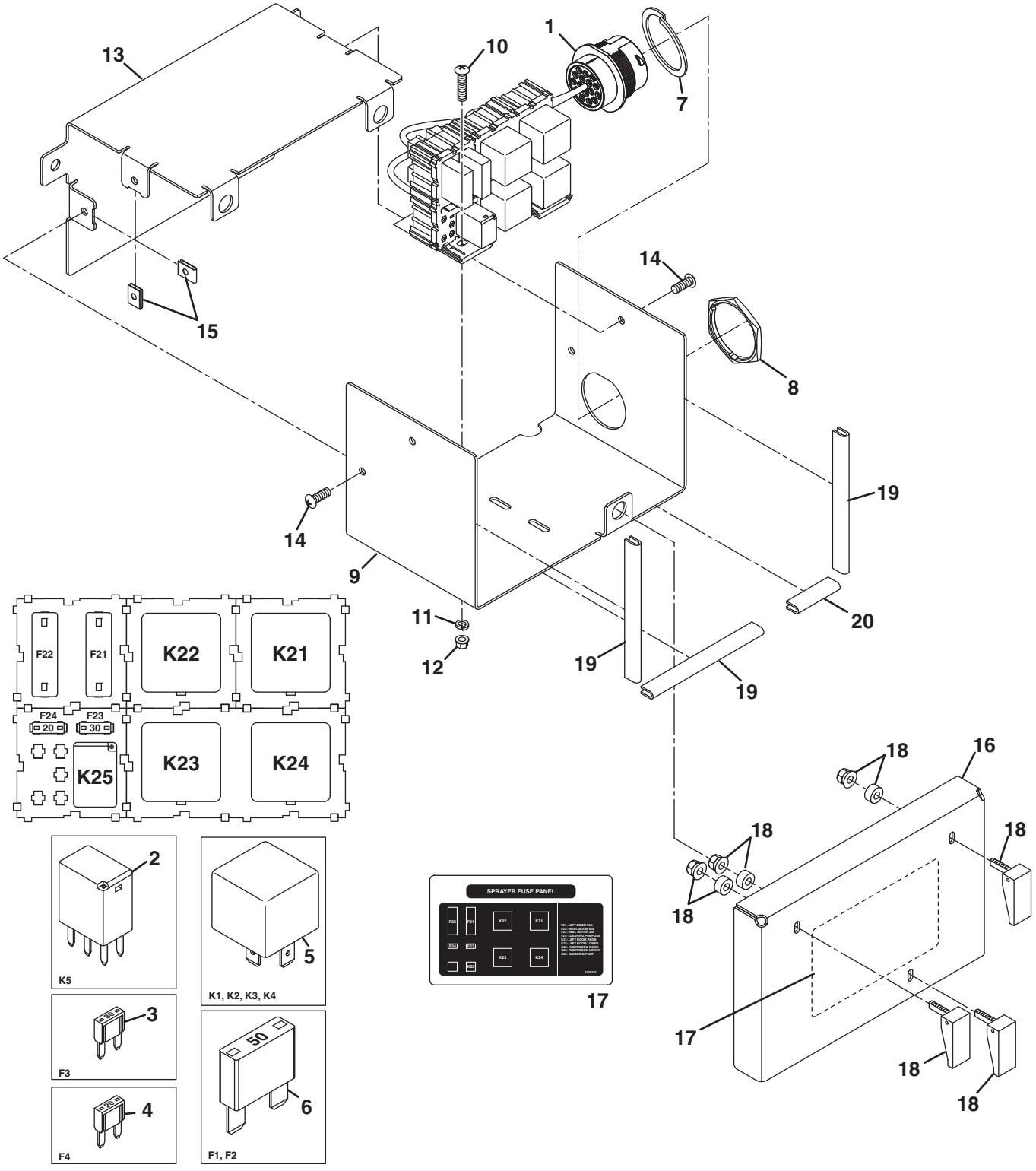


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4332193	1	Boom, 4 Nozzle Right	
2	4332206	1	Guide Block Set	
3	400114	4	Screw, 1/4-20 x 1-1/4” Hex Head	
4	445770	4	Nut, 1/4-20 Nylon Insert	
5	4332197	1	Boom End Guard	
6	403751	2	Screw, 5/16-18 x 3/4” Hex Flange	
7	548911	6	Nut, 5/16-18 Hex Flange	
8	4333506	1	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to xx”
9	4332266	8	Clamp, Hose	
10	4332270	3	Double Barb Connector	
11	REF	4	Nozzle, Combo Jet	Sharpshooter Booms
11	REF	4	Nozzle, Triple	HD Booms
12	400188	4	Screw, 5/16-18 x 1” Hex Head	
13	4332286	1	Single Barb Connector	
14	4333506	3	Hose, 3/4” I.D. PVC	10 Foot Length, Cut to 19”
15	4332290	5	Plug, 1” Square	
16	4334171	4	Cap, Nozzle Tip	HD Booms
17	4334166	4	Tip, XR-11006VP	HD Booms
18	4321553	4	Gasket, Nozzle	HD Booms
19	4334167	4	Strainer, 50 Mesh Poly	HD Booms

> Change from previous revision

22.1 Relay Box

Serial No. All

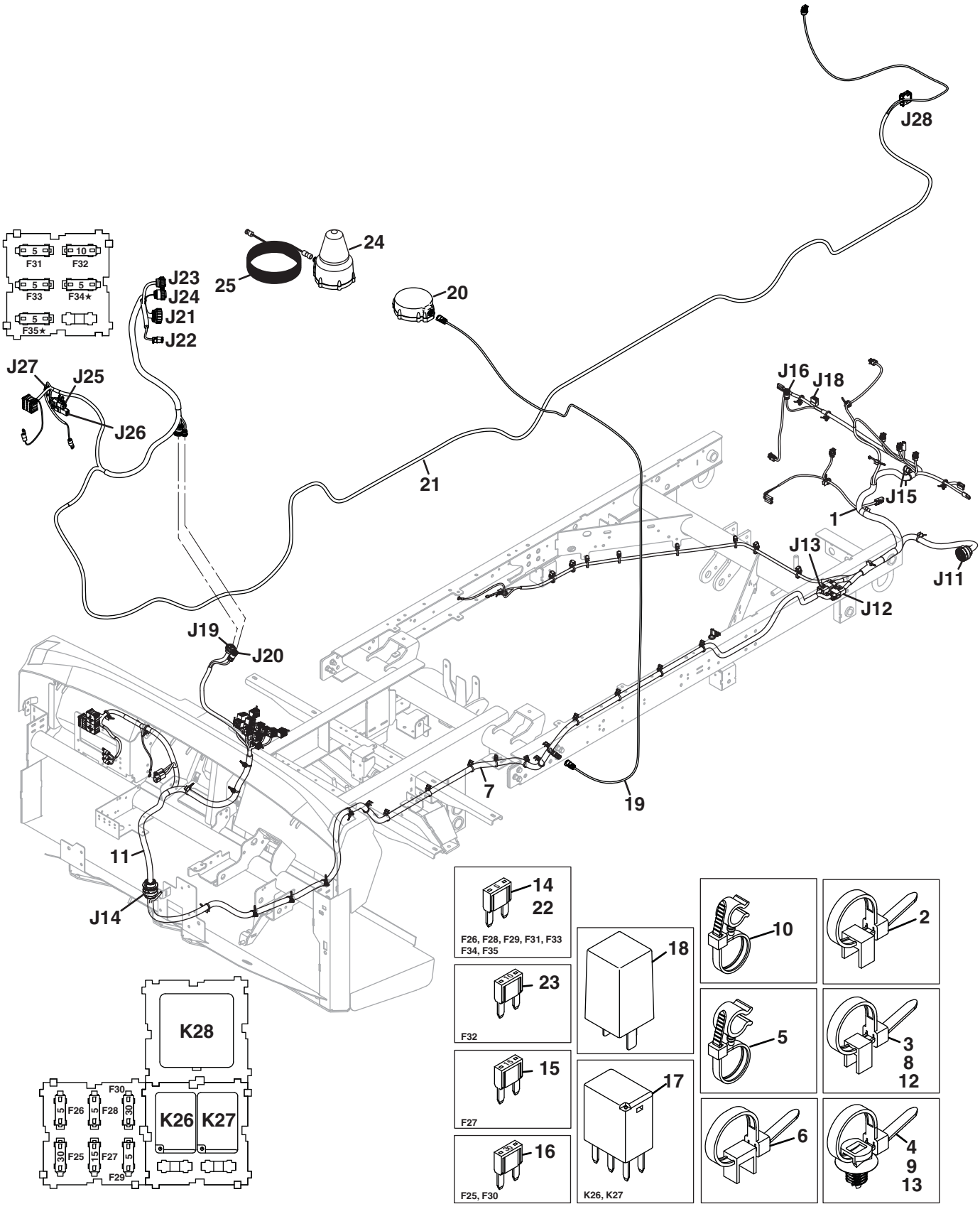


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4321429	1	Harness, Spraytek Power	
2	4329751	1	• Relay, 12V, 35A, 280 Micro	
3	4312216	1	• Fuse, 30 Amp Mini	
4	4312214	1	• Fuse, 20 Amp Mini	
5	4193880	4	• Relay, 12V, 40 Amp SPDT	
6	4220220	2	• Fuse, 50 Amp Maxi	
7	554492	2	• Lockwasher, Size 24	
8	554493	2	• Panel Nut, Size 24	
9	4322669	1	Panel, Relay Box	
10	403914	4	Screw, #10-24 x 3/4” Truss Head	
11	446116	4	Lockwasher, #10	
12	800521	4	Nut, #10-24 Hex Flange	
13	4322706	1	Panel, Relay Box	
14	548900	4	Screw, #10-24 x 1/2” Hex Head	
15	445207	4	Nut, #10-24 Tinnerman	
16	4322668	1	Panel, Relay Box Cover	
17	4325787	1	Decal, Relay Box	
18	3002098	3	Latch, Swell	
19	108195-05	AR	Channel, Flex Trim	38 inch length, cut to 4.8 inches
20	108195-05	AR	Channel, Flex Trim	38 inch length, cut to 1.8 inches

> Change from previous revision

23.1 Sprayer Harness Routing

Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4321427	1	Harness, Sprayer Tank	
2	4316368	3	• Cable Tie, 1/8 to 1/4” Edge Clip	
3	4316369	3	• Cable Tie, 1/32 to 1/8” Edge Clip	
4	4167640	3	• Cable Tie, Fir Tree	
5		8	• Cable Tie, 11-13 mm Tube Clip	
6	4333066	2	• Cable Tie, 1/32 to 1/8” Edge Clip	
7	4321426	1	Harness, Sprayer Body	Part of All Function Harness Option
8	4316369	1	• Cable Tie, 1/32 to 1/8” Edge Clip	
9	4167640	6	• Cable Tie, Fir Tree	
10		11	• Cable Tie, 8-9 mm Tube Clip	
11	4317650	1	Harness, Sprayer Console	
12	4316369	3	• Cable Tie, 1/32 to 1/8” Edge Clip	
13	4167640	2	• Cable Tie, Fir Tree	
14	4312215	3	• Fuse, 5 Amp Mini	**REFERENCE F26, F28, F29, See 32.1**
15	4312246	1	• Fuse, 15 Amp Mini	**REFERENCE F27, See 32.1**
16	4312216	1	• Fuse, 30 Amp Mini	**REFERENCE F25, F30, See 32.1**
17	4329751	2	• Relay, 12V, 35A, 280 Micro	**REFERENCE K26, K27, See 32.1**
18	4332946	1	Relay, 12V, LED, 3 Pin Flasher	**REFERENCE K28, See 32.1**
19	4321430	1	Harness, GPS-Radar Extension	Raven 440 Controller Options. Discard the harness included with Raven 440 controller
◆ 20	4309922	1	GPS, Phoenix 10	**REFERENCE U43, See 32.1** Raven 440 Controller Options
21	4325186	1	Harness, Envizio Pro II	Envizio Pro II Option Only
★ 22	4312215	3	• Fuse, 5 Amp Mini	**REFERENCE F31, F33, F34, F35, See 32.1**
23	4312213	1	• Fuse, 10 Amp Mini	**REFERENCE F32, See 32.1**
◆ 24		1	Kit, MBA-6 Antenna	**REFERENCE U52, See 32.1** Envizio Pro II Controller Option
25		1	• Cable, Antenna	Route along the right ROPS Tube

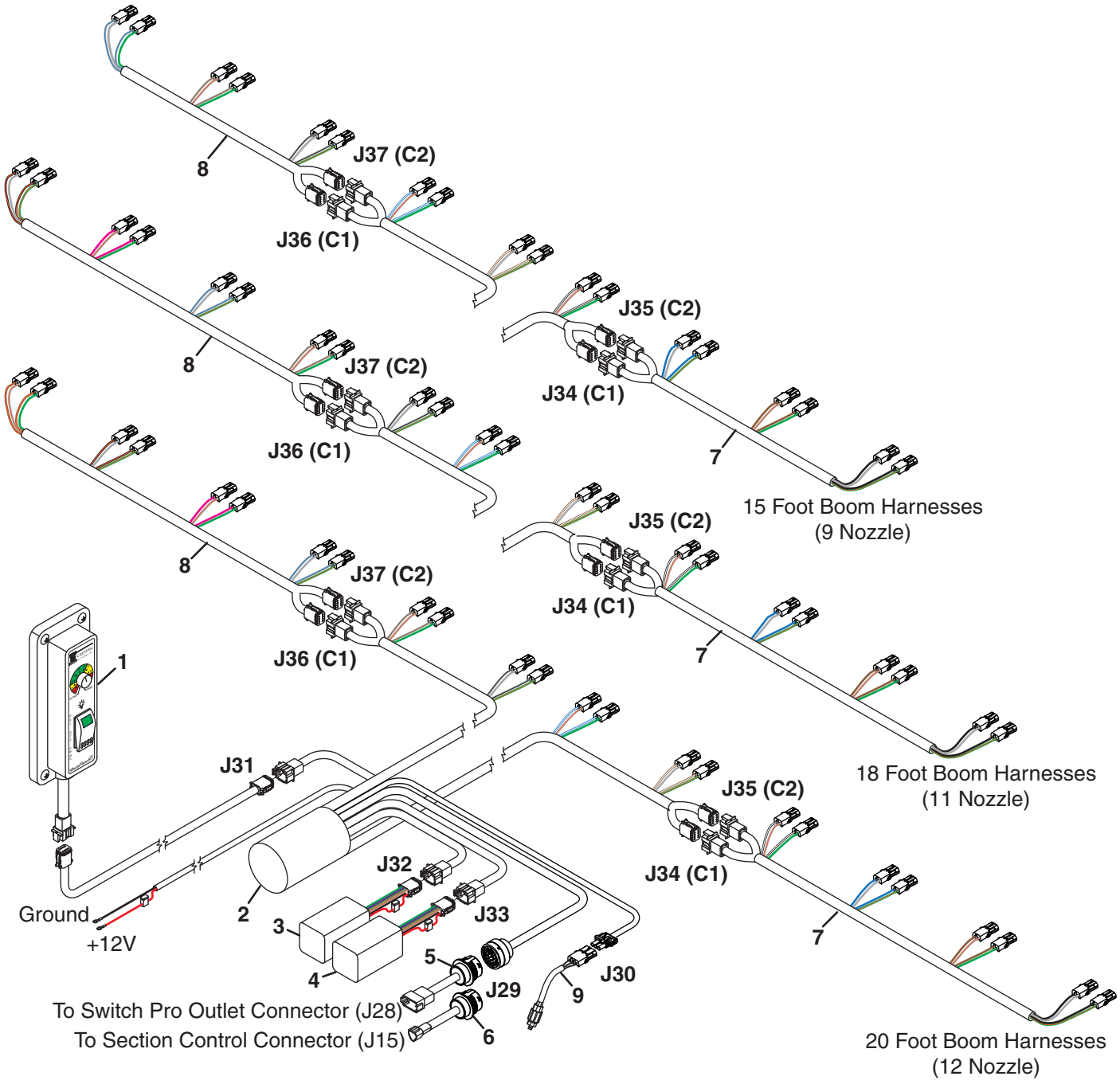
★	Place the 5 amp fuse in the F34 position to use the speed signal or place the fuse in the F35 position to use the GPS speed. Do not place a fuse in both the F34 and F35 positions.
◆	GPS and MBA-6 Antenna mounts on the center of the Truckster XD ROPS top cross tube.

> Change from previous revision

24.1 SharpShooter Harnesses

15 Foot, 18 Foot, 20 Foot SharpShooter Booms

Serial No. 4323391 - All
Serial No. 4322360 - All
Serial No. 4322361 - All



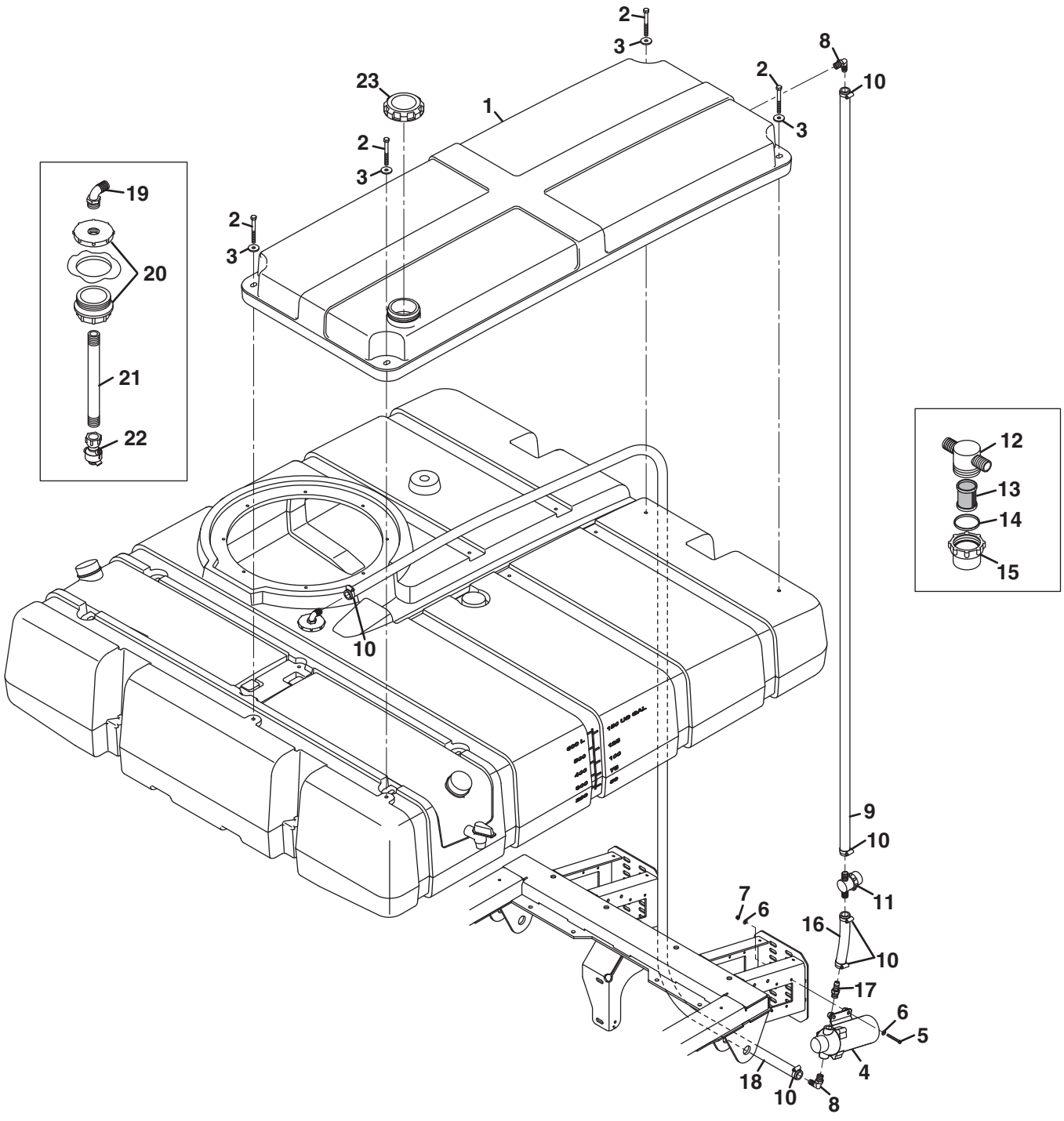
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1		1	SharpShooter Pulse Generator	**REFERENCE U49, See 32.1**
	5003280	1	• Fuse, 10 Amp Pulse Generator	**REFERENCE F36, See 32.1**
2		1	Hub, 9 Nozzle SharpShooter Power	**REFERENCE U48, See 32.1** 15 Foot SharpShooter Booms
2		1	Hub, 11 Nozzle SharpShooter Power	**REFERENCE U48, See 32.1** 18 Foot SharpShooter Booms
2		1	Hub, 12 Nozzle SharpShooter Power	**REFERENCE U48, See 32.1** 20 Foot SharpShooter Booms
	5003280	1	• Fuse, 10 Amp Power Hub	**REFERENCE F39, See 32.1**
3		1	Driver, Boost Valve	**REFERENCE U50, See 32.1**
	5003280	1	• Fuse, 10 Amp Boost Driver	**REFERENCE F37, See 32.1**
4		1	Driver, Pulse Valve	**REFERENCE U51, See 32.1**
	5003280	1	• Fuse, 10 Amp Pulse Driver	**REFERENCE F38, See 32.1**
5	4325187	1	Harness, Envizio Pro II 9 Nozzle	15 Foot SharpShooter Booms
5	4325188	1	Harness, Envizio Pro II 11 Nozzle	18 Foot SharpShooter Booms
5	4325189	1	Harness, Envizio Pro II 12 Nozzle	20 Foot SharpShooter Booms
6	4325190	1	Harness, 440 + Sharpshooter 9 Nozzle	15 Foot SharpShooter Booms
6	4325191	1	Harness, 440 + Sharpshooter 11 Nozzle	18 Foot SharpShooter Booms
6	4325192	1	Harness, 440 + Sharpshooter 12 Nozzle	20 Foot SharpShooter Booms
7		1	Harness, Left 9 Nozzle	15 Foot SharpShooter Booms
7		1	Harness, Left 11 Nozzle	18 Foot SharpShooter Booms
7		1	Harness, Left 12 Nozzle	20 Foot SharpShooter Booms
8		1	Harness, Right 9 Nozzle	15 Foot SharpShooter Booms
8		1	Harness, Right 11 Nozzle	18 Foot SharpShooter Booms
8		1	Harness, Right 12 Nozzle	20 Foot SharpShooter Booms
9	4322990	1	Sensor, SharpShooter Pressure	

> Change from previous revision

25.1 Clean Rinse Accessory

Serial No. All

Accessory Part No. 4322149



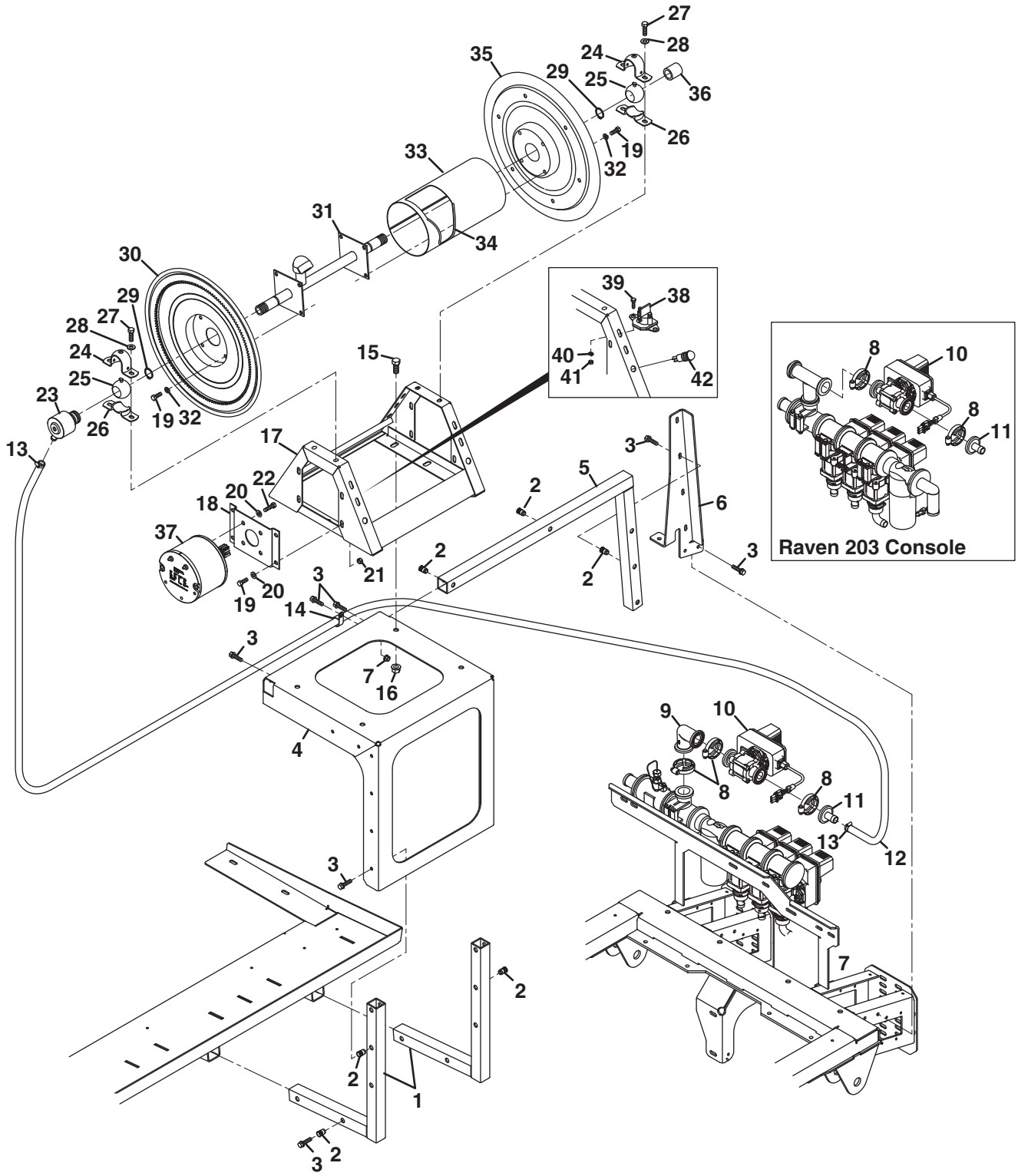
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4322028	1	Tank, Rinse Water	
2	400200	4	Screw, 5/16-18 x 2-1/2” Hex Head	
3	809152	4	Flat Washer, 5/16	
4	4324006	1	Pump, Clean Rinse	
5	351003	4	Screw, #10-24 x 1-1/2” Slotted Hex	
6	308089	8	Flat Washer, #10	
7	548973	4	Nut, #10-24 Hex Stop	
8	4322766	2	Fitting, 3/8 NPT x 1/2” Hose Barb 90°	
9	4335455	AR	Hose, Clean Water Tank to Strainer	10 Foot Length, Cut to xx”
10	4319952	6	Clamp, 11/16 to 1-1/4” Hose	
11	4323649	1	Strainer, 1/2” Hose Barb	
12	4327187	1	• Top, Strainer	
13	4327206	1	• Cage, 50 Micron Strainer	
14	4327207	1	• Gasket	
15	4327188	1	• Bowl, Transparent Nylon	
16	4335455	AR	Hose, Strainer to Pump	10 Foot Length, Cut to xx”
17	4322886	1	Fitting, 3/8 NPT x 1/2” Hose Barb	
18	4335455	AR	Hose, Pump to Sprayer Tank	10 Foot Length, Cut to xx”
19	4322146	1	Fitting, 1/2 NPT x 1/2” Hose Barb 90°	
20	4319991	1	Fitting, 1/2 NPT Bulkhead	
21	4322148	1	Nipple, 1/2 NPT x 8”	
22	4322147	1	Nozzle, 1/2 NPT	
23	4331026	1	Cap, Clean Rinse Tank	
24	4130132	1	Switch, Clean Rinse (Not Shown)	See 1.1 for switch location. **REFERENCE SW25, See 32.1**

> Change from previous revision

26.1 Electric Rewind Hose Reel

Serial No. All

Accessory Part No. 4335026



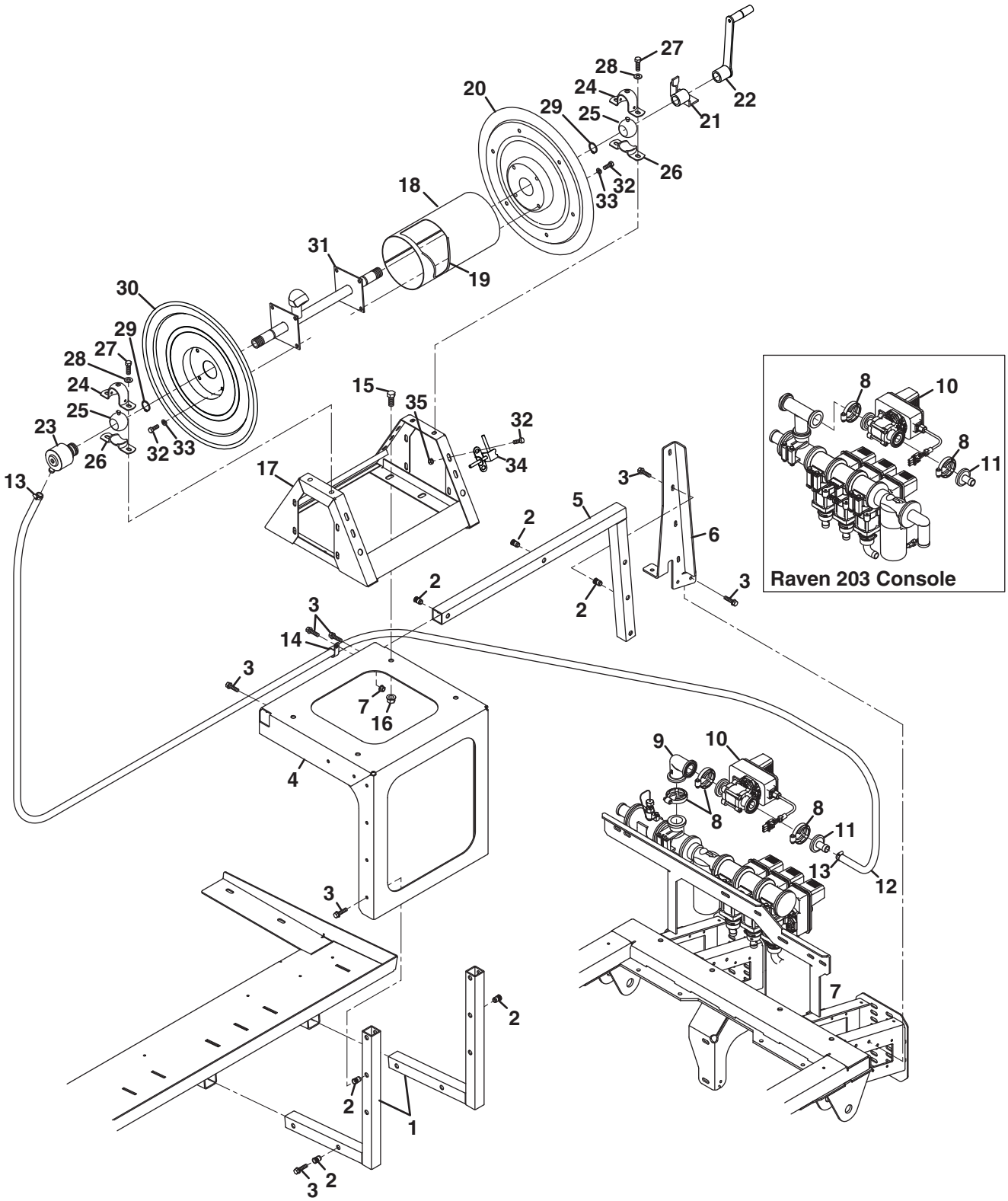
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4329186	2	Support, Hose Reel	
2	400150	12	Nut, 5/16-18 Insert Clinch	
3	800710	15	Screw, 5/16-18 x 1” Hex Flange	
4	4322127	1	Platform, Hose Reel	
5	4331296	1	Support, Rear Hose Reel	
6	4331295	1	Bracket, Rear Hose Reel	
7	548911	3	Nut, 5/16-18 Hex Flange	
8	4319808	3	Clamp, #50 Flange	
9	4320707	1	Elbow, #50 Flange	Not used with Raven 203 Console
10	4321326	1	Valve, #50 Flange 2-Way Electric Ball	**REFERENCE M29, See 32.1**
11	4324106	1	Fitting, #50 Flange x 3/4” Hose Barb	
12	4335456	AR	Hose, Valve to Hose Reel	10 Foot Length, Cut to 57”
13	4319952	2	Clamp, 11/16 to 1-1/4” Hose	
14	831225	1	Clamp, Hose	
15	400404	4	Screw, 1/2-13 x 1” Hex Head	
16	800379	4	Nut, 1/2-13 Hex Flange	
	4320728	1	Hose Reel, Electric Rewind	
17		1	• Frame, Hose Reel	16-906-18
18		1	• Mount, Motor	16-906-28
19	400184	12	• Screw, 5/16-18 x 3/4” Hex Head	
20	364441	8	• Flat Washer, 5/16	
21	445802	4	• Nut, 5/16-18 Nylon Insert	
22	400188	4	• Screw, 5/16-18 x 1” Hex Head	
23		1	• Swivel, Hose Inlet	16-906-23
24		2	• Mount, Top Pillow Block	16-906-07
25		2	• Ball, Bearing	16-906-24
26		2	• Mount, Bottom Pillow Block	16-906-08
27	400262	4	• Screw, 3/8-16 x 1” Hex Head	
28	303873	4	• Flat Washer, 3/8	
29		2	• Retaining Ring	16-906-25
30		1	• Disk, Gear Reel	16-906-19
31		1	• Axle, Hose Reel	16-906-22
32	446134	8	• Lockwasher, 5/16	
33		1	• Drum, Center	16-906-21
34		1	• Trim	16-906-27
35		1	• Disk, Reel	16-906-20
36		1	• Cap, 3/4 NPT	16-906-26
37		1	• Motor, Electric Rewind Hose Reel	**REFERENCE M23, See 32.1**
38		1	• Solenoid, Motor	13-750
39	400108	2	• Screw, 1/4-20 x 3/4”	
40	446128	2	• Lockwasher, 1/4	
41	443102	2	• Nut, 1/4-20 Hex	
42		1	• Switch, Push Button	33-251
43	4130132	1	Switch, Hose Reel Valve (Not Shown)	**See 1.1** for switch mounting

> Change from previous revision

27.1 Manual Rewind Hose Reel

Serial No. All

Accessory Part No. 4322126



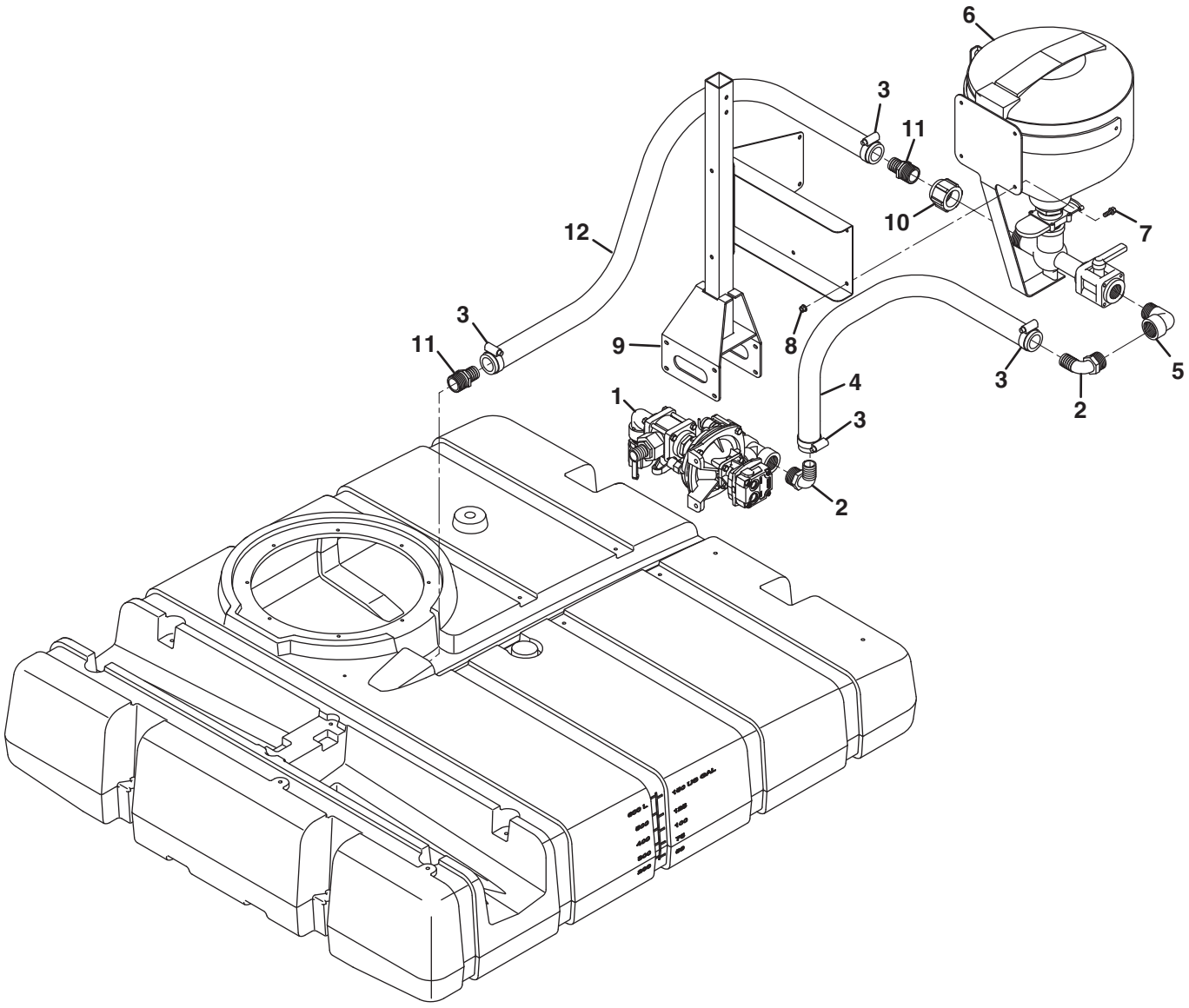
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4329186	2	Support, Hose Reel	
2	400150	12	Nut, 5/16-18 Insert Clinch	
3	800710	15	Screw, 5/16-18 x 1” Hex Flange	
4	4322127	1	Platform, Hose Reel	
5	4331296	1	Support, Rear Hose Reel	
6	4331295	1	Bracket, Rear Hose Reel	
7	548911	3	Nut, 5/16-18 Hex Flange	
8	4319808	3	Clamp, #50 Flange	
9	4320707	1	Elbow, #50 Flange	Not used with Raven 203 Console
10	4321326	1	Valve, #50 Flange 2-Way Electric Ball	**REFERENCE M29, See 32.1**
11	4324106	1	Fitting, #50 Flange x 3/4” Hose Barb	
12	4335456	AR	Hose, Valve to Hose Reel	10 Foot Length, Cut to 57”
13	4319952	2	Clamp, 11/16 to 1-1/4” Hose	
14	831225	1	Clamp, Hose	
15	400404	4	Screw, 1/2-13 x 1” Hex Head	
16	800379	4	Nut, 1/2-13 Hex Flange	
	4320726	1	Hose Reel, Manual Rewind	
17		1	• Frame, Hose Reel	16-906-18
18		1	• Drum, Center	16-906-21
19		1	• Trim	16-906-27
20		1	• Disk, Reel	16-906-20
21		1	• Brake	16-129-10
22		1	• Crank	16-129-09
23		1	• Swivel, Hose Inlet	16-906-23
24		2	• Mount, Top Pillow Block	16-906-07
25		2	• Ball, Bearing	16-906-24
26		2	• Mount, Bottom Pillow Block	16-906-08
27	400262	4	• Screw, 3/8-16 x 1” Hex Head	
28	303873	4	• Flat Washer, 3/8	
29		2	• Retaining Ring	16-906-25
30		1	• Disk, Reel	16-129-11
31		1	• Axle, Hose Reel	16-906-22
32	400184	10	• Screw, 5/16-18 x 3/4” Hex Head	
33	446134	8	• Lockwasher, 5/16	
34		1	• Lock Pin	16-129-08
35	445802	2	• Nut, 5/16-18 Nylon Insert	
36	4130132	1	Switch, Hose Reel Valve (Not Shown)	**See 1.1** for switch mounting

> Change from previous revision

28.1 Cleanload Accessory

Serial No. All

Accessory Part No. 4319791



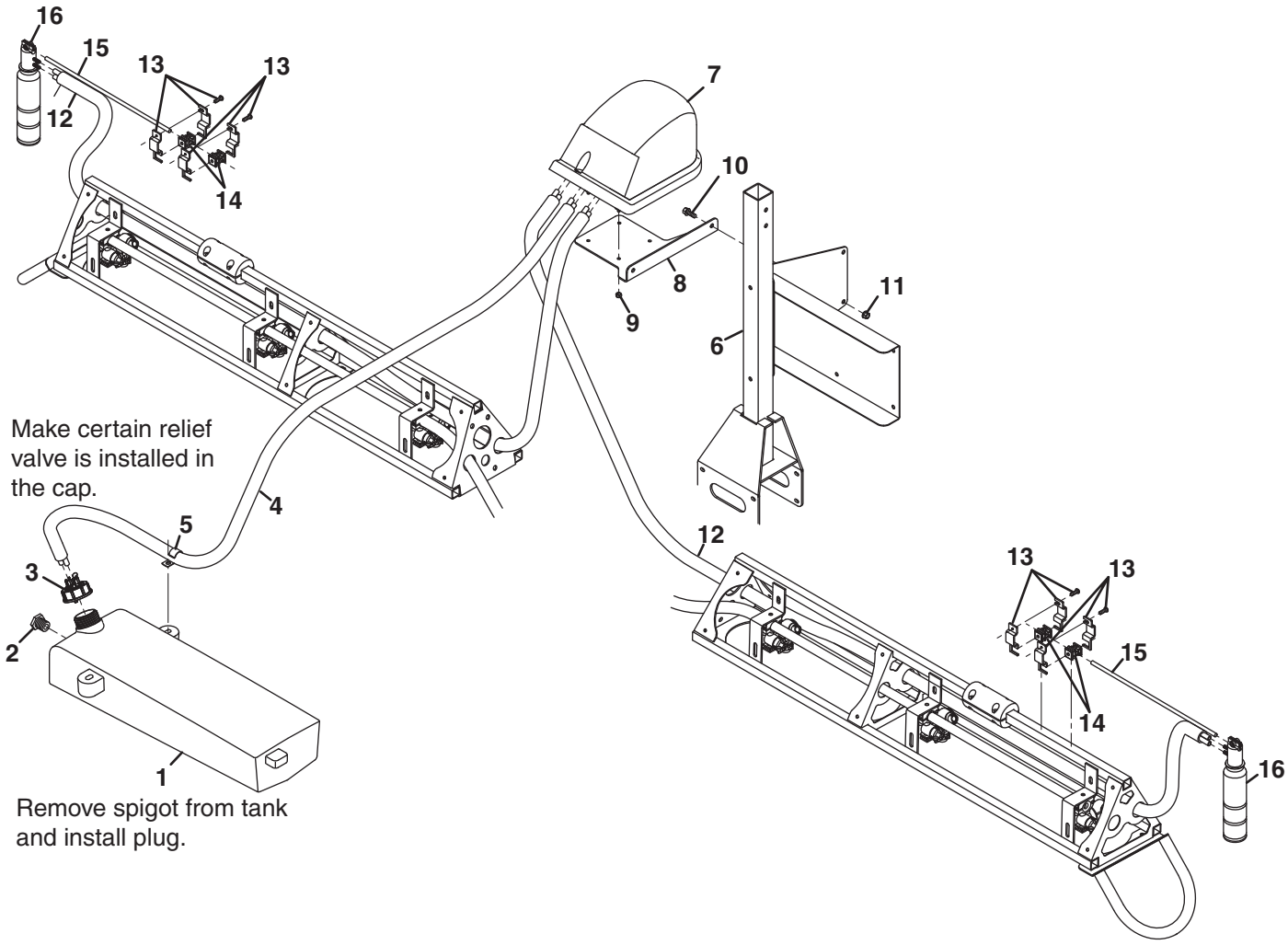
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Sprayer Pump Assembly	**See 6.1**
2	4309755	2	Elbow, 1-1/4” NPT x 1-1/4” Hose Barb	
3	4319953	6	Clamp, 1-1/16” to 2” Hose	
4		AR	Hose, 3/4” Pump to Cleanload	10 Foot Length, cut to xx Inches
5	4319950	1	Elbox, 1-1/4” NPT Street	
6	4324168	1	Cleanload Assembly	
7	403751	4	Screw, 5/16-18 x 3/4” Hex Flange	
8	548911	4	Nut, 5/16-18 Hex Flange	
9	REF	1	Boom Nest Post Assembly	**See 15.1**
10	4319968	1	Adapter, 1-1/2 NPT to 1-1/4 NPT	
11	4309742	2	Fitting, 1-1/4 NPT x 1-1/4” Hose Barb	
12		AR	Hose, 3/4” Cleanload to Tank	10 Foot Length, cut to xx Inches

> Change from previous revision

29.1 Foam Marker

Serial No. All

Accessory Part No. 4322369



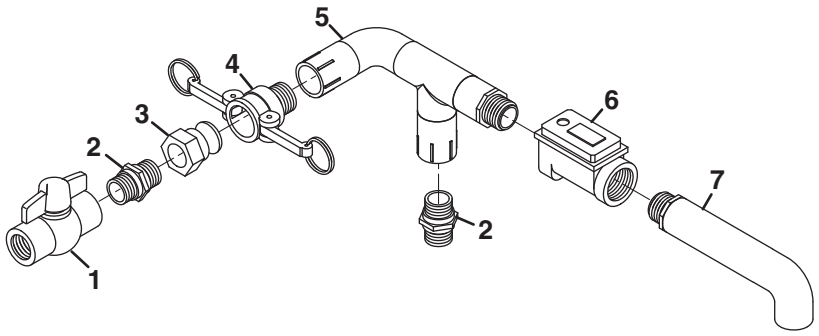
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319646	1	Tank, 4 Gallon	**See 4.1** or **See 5.1**
2	4535789	1	Plug, 3/4” NPT	
3	4322374	1	Cap, Foam Marker	
4	4324110	1	Hose, Foam Tank to Compressor	52 Foot Length, cut to xx inches
5	4340406	1	Clamp, J-Style	
6	REF	1	Boom Nest Post Assembly	
7	4322370	1	Compressor, Foam Marker	
8	4322372	1	Bracket, Compressor	
9	450377	4	Nut, M6-1 Nylon Insert	
10	403751	2	Screw, 5/16-18 x 3/4” Hex Flange	
11	548911	2	Nut, 5/16-18 Hex Flange	
12	4324110	2	Hose, Foam Compressor to Nozzle	52 Foot Length, cut to xx inches
13	4323666	4	Clamp, Boom	
14	4321627	4	Mount, Foam Nozzle	
15	4320587	2	Rod, Foam Marker Mount	
16	4321626	2	Nozzle, Foam Marker	
17	4130132	1	Switch, Foam Power (Not Shown)	**See 1.1** for switch mounting
18	4316067	1	Switch, Foam Select (Not Shown)	**See 1.1** for switch mounting

> Change from previous revision

Serial No. All

30.1 Water Meter Accessories

Accessory Part No. 4320593 and 4324337



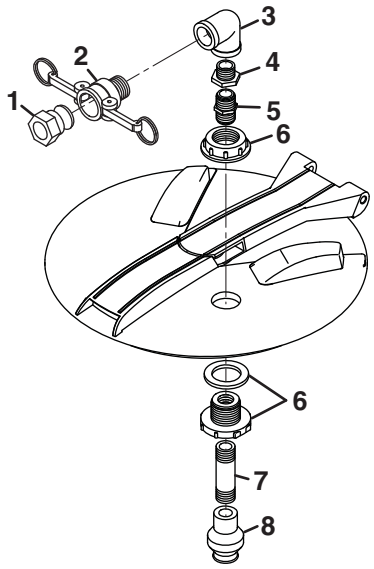
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4319970	1	Valve, 1” NPT 2-Way Manual Ball	
2	4319926	2	Nipple, 1” NPT	
3	4319932	1	Coupler, 1” NPT Male Cam	
4	4319933	1	Coupler, 1” NPT Female Cam	
5	4321728	1	Pipe, Air Gap Filler Inlet	
6	4321726	1	Flow Meter, Digital Water (Gallon)	Accessory 4320593
6	4323446	1	Flow Meter, Digital Water (Liter)	Accessory 4324337
7	4321727	1	Pipe, Air Gap Outlet	

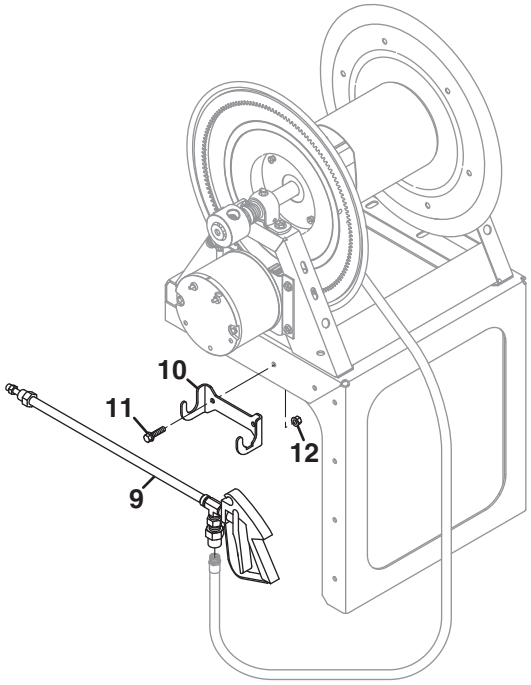
> Change from previous revision

Serial No. All

31.1 Tank Rinse and Spray Gun

Accessory Part No. 4320588 and 4323628





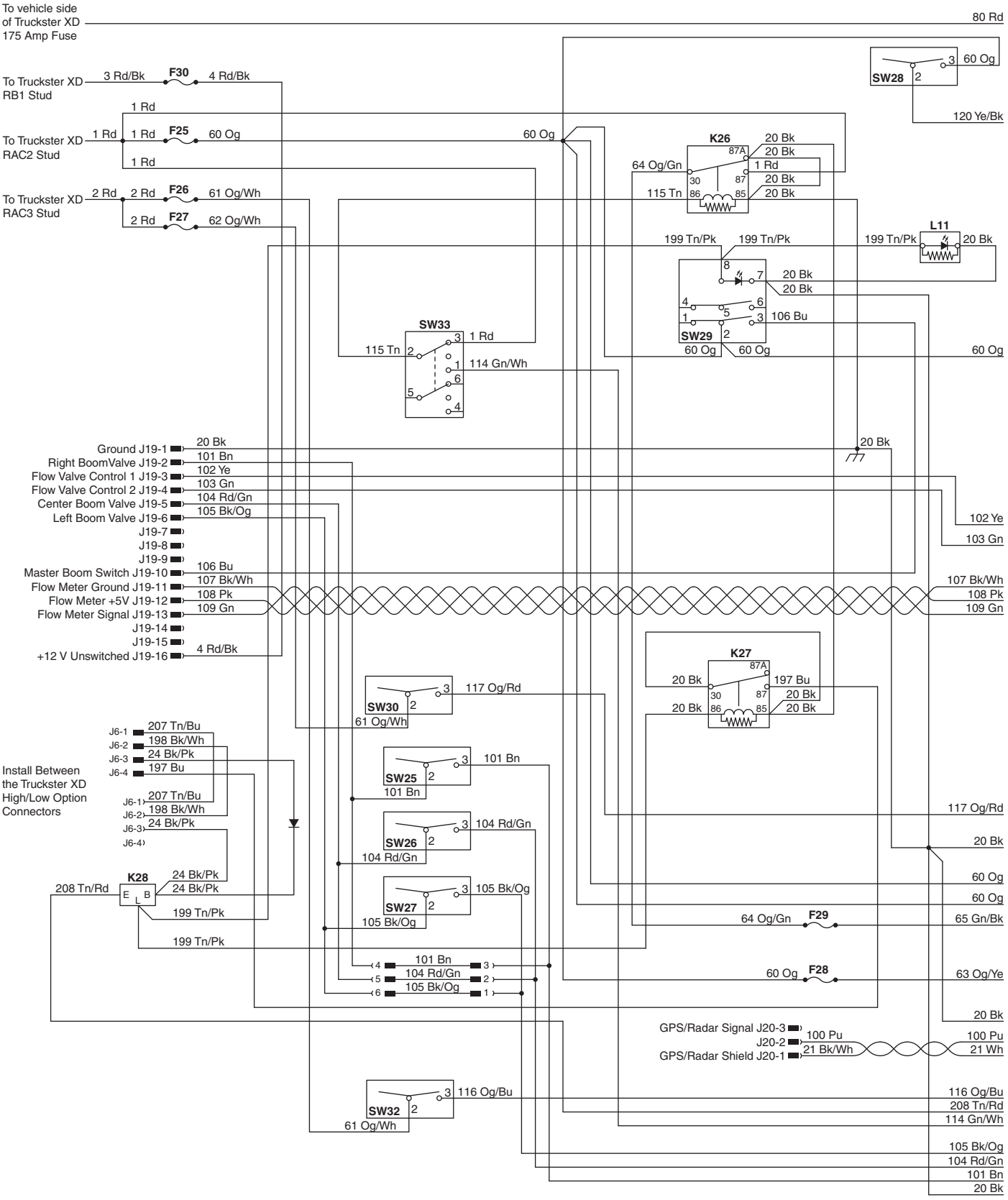
Item	Part No.	Qty.	Description	Serial Numbers/Notes
	4320588	1	Tank Rinse Hose Connection	
1	4319932	1	• Coupler, 1” NPT Male Cam	
2	4319933	1	• Coupler, 1” NPT Female Cam	
3		1	• Elbow, 1” NPT	
4		1	• Adapter, 1” NPT x 3/4” NPT	
5	4319889	1	• Nipple, 3/4” NPT	
6	4319828	1	• Fitting, 3/4” NPT Bulkhead	Includes Gasket
7		1	• Nipple, 3/4” NPT x 4”	
8		1	• Nozzle, Tank Rinse	
	4323628	1	Spray Gun Accessory	
9	4330941	1	• Spray Gun	
10	4323630	1	• Mount, spray gun	
11	800710	2	• Screw, 5/16-18 x 1” Hex Flange	
12	548911	2	• Nut, 5/16-18 Hex Flange	

> Change from previous revision

32.1 Electrical Schematic

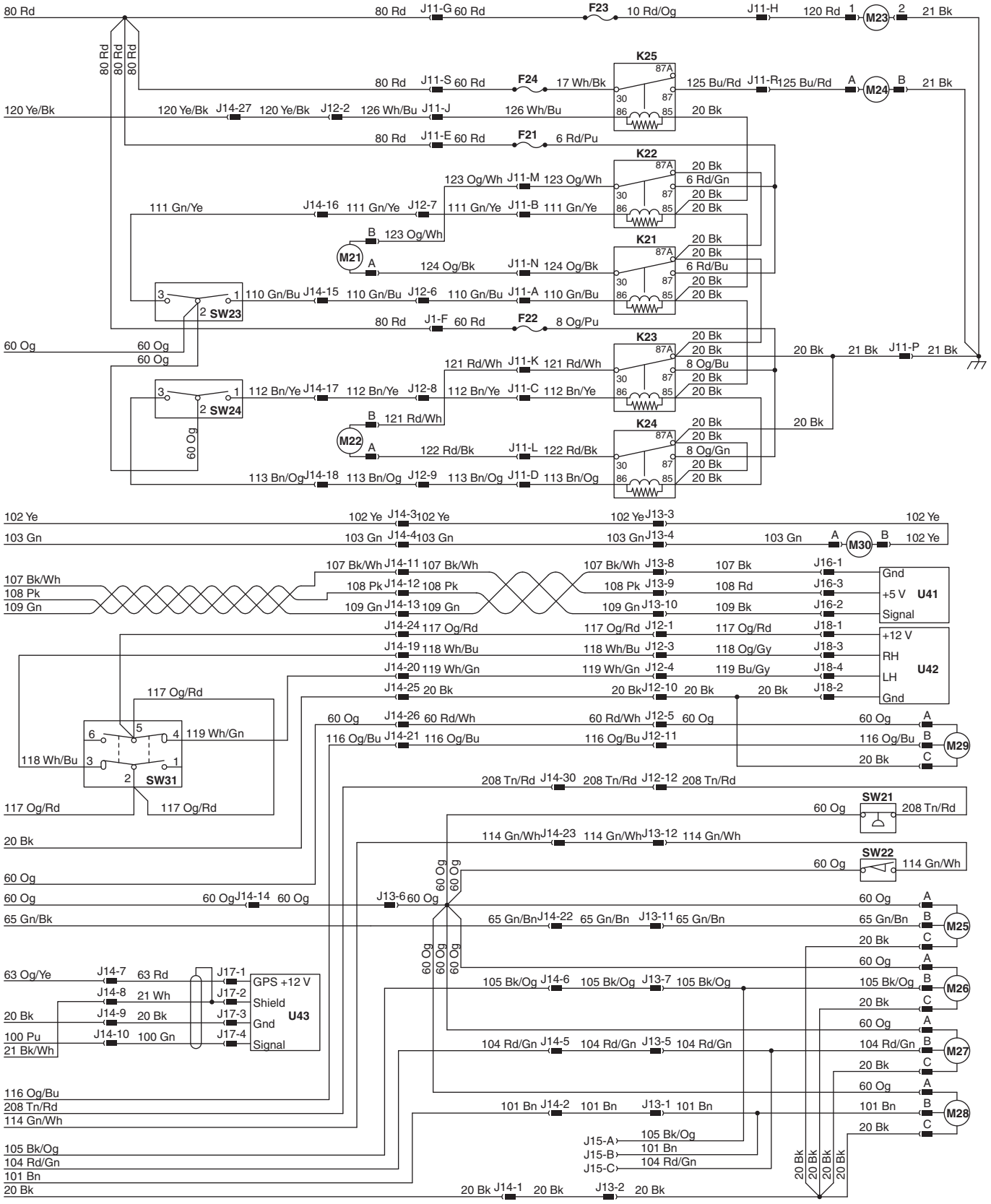
Serial No. All

Sprayer Power Distribution



32.1 Electrical Schematic

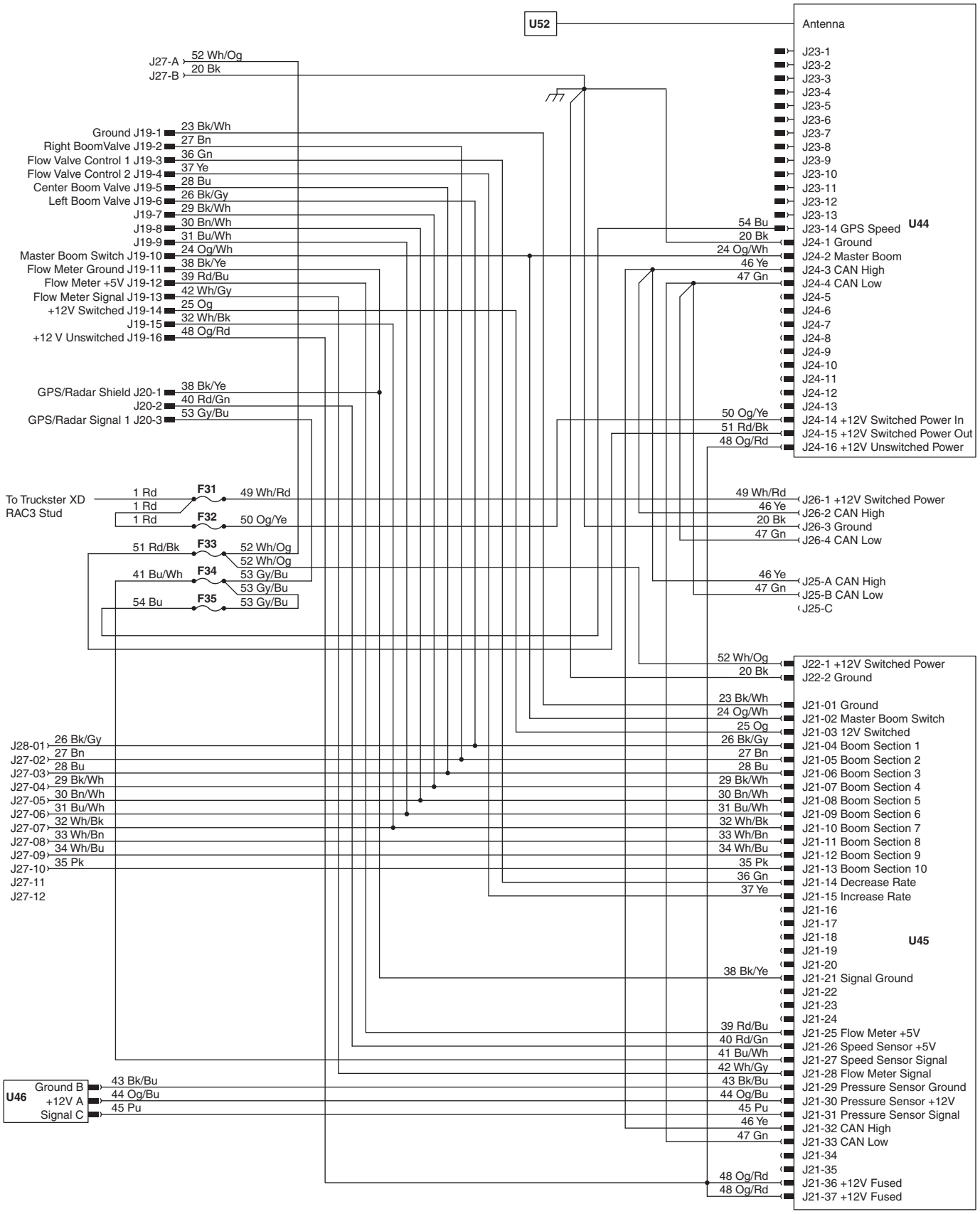
Sprayer Components



32.1 Electrical Schematic

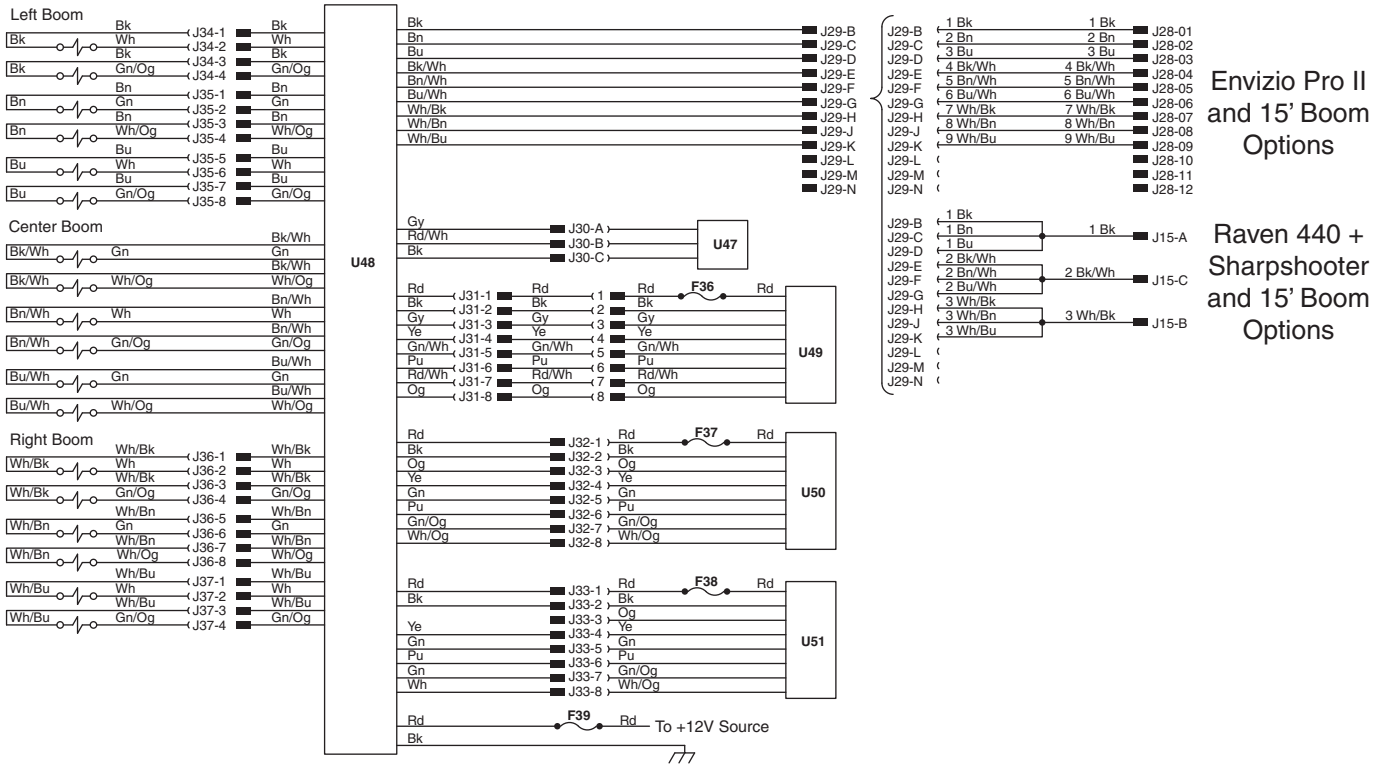
Serial No. All

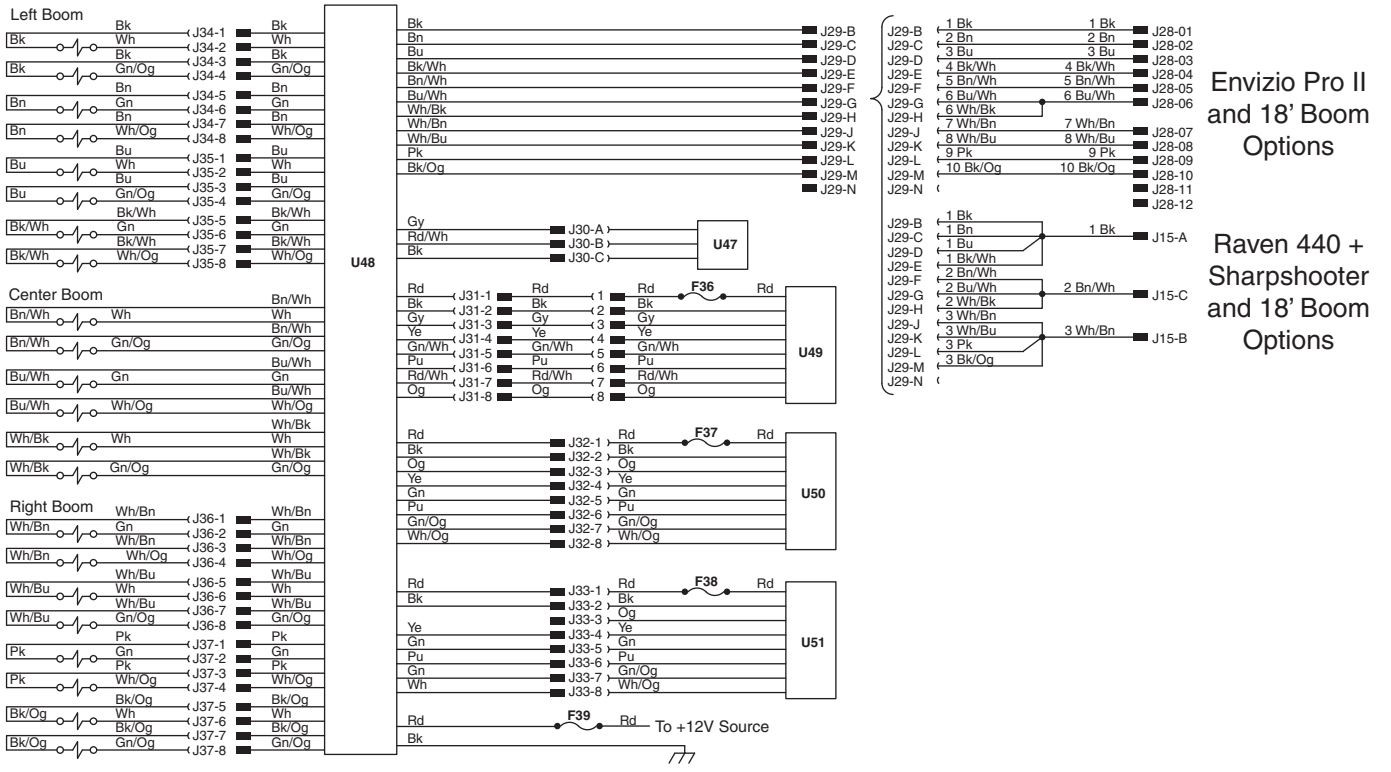
Envizio Pro II Controller Schematic (Harness 4325186)



32.1 Electrical Schematic

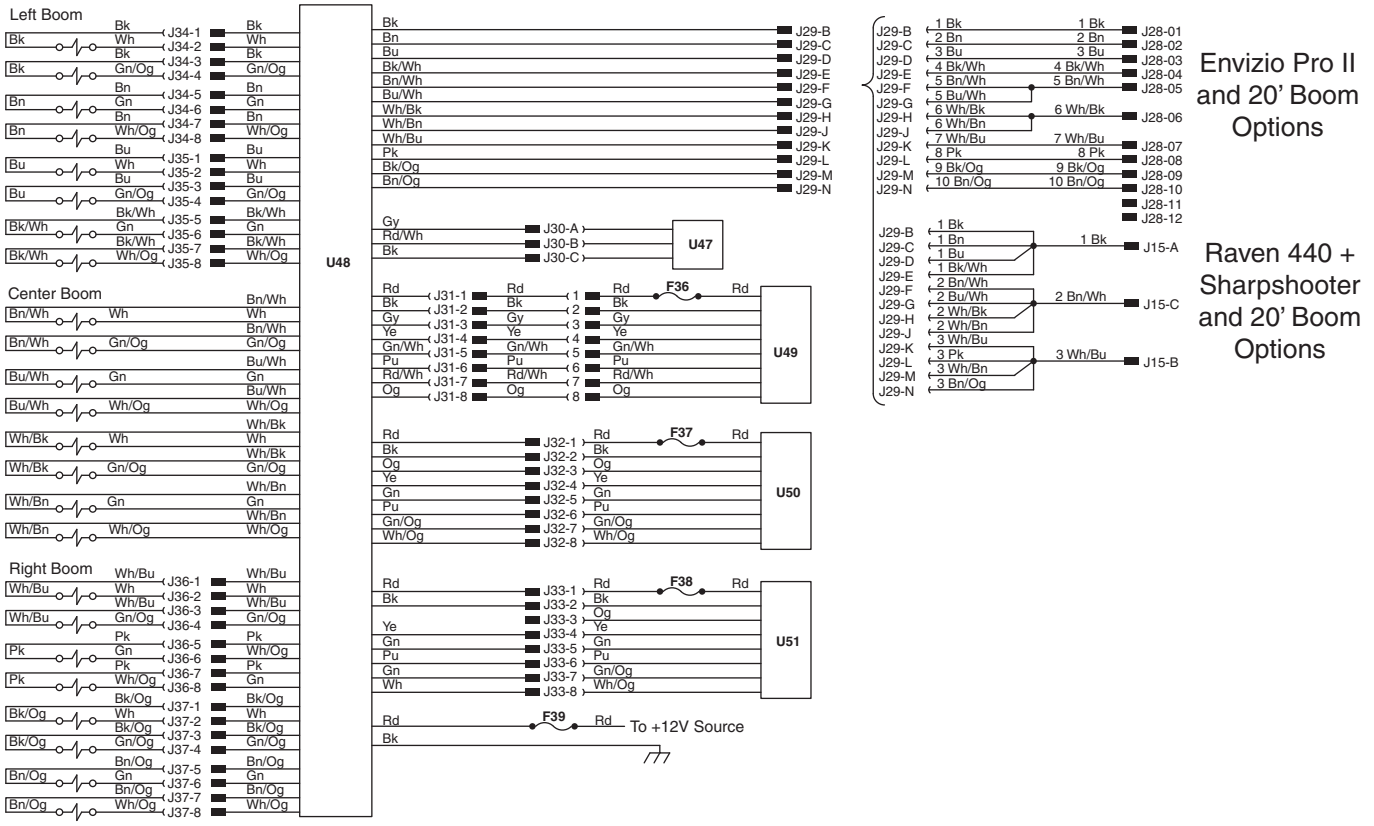
15 Foot and 18 Foot SharpShooter Booms





32.1 Electrical Schematic

20 Foot SharpShooter Boom

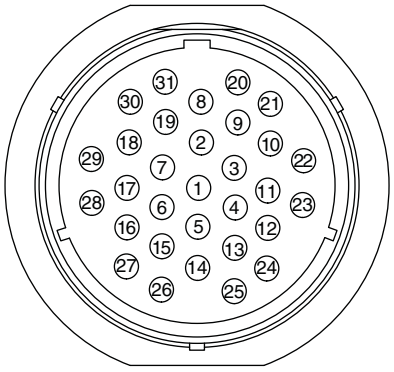


Item	Reference Illustration	Part Number	Description	Serial Numbers/Notes
F21	**See 22.1**	4220220	50 Amp Left Boom Actuator Fuse	
F22	**See 22.1**	4220220	50 Amp Right Boom Actuator Fuse	
F23	**See 22.1**	4312216	30 Amp Hose Reel Motor Fuse	
F24	**See 22.1**	4312214	20 Amp Clean Rinse Pump	
F25	**See 23.1**	4312216	30 Amp Switched Power Fuse	
F26	**See 23.1**	4312215	5 Amp Reel Valve Fuse	
F27	**See 23.1**	4312246	15 Amp Foam Marker Fuse	
F28	**See 23.1**	4312215	5 Amp GPS/Radar Fuse	
F29	**See 23.1**	4312215	5 Amp Agitator Valve Fuse	
F30	**See 23.1**	4312216	30 Amp Sprayer Controller Fuse	
F31		4312215	5 Amp CAN Power	Envizio Pro II Sprayer Controller
F32		4312213	10 Amp Main Power	Envizio Pro II Sprayer Controller
F33		4312215	5 Amp Aux Power	Envizio Pro II Sprayer Controller
F34★		4312215	5 Amp Speed Select	Envizio Pro II Sprayer Controller
F35★		4312215	5 Amp GPS Select	Envizio Pro II Sprayer Controller
F36		5003280	10 Amp Pulse Generator	Part of Sharpshooter Booms
F37		5003280	10 Amp Boost Driver	Part of Sharpshooter Booms
F38		5003280	10 Amp Pulse Driver	Part of Sharpshooter Booms
F39		5003280	10 Amp Power Hub	Part of Sharpshooter Booms
J11	**See 23.1**	N/S	Relay Box to Tank Harness Connector	
J12	**See 23.1**	N/S	Tank to Body Harness Connector 1	
J13	**See 23.1**	N/S	Tank to Body Harness Connector 2	
J14	**See 23.1**	N/S	Body to Console Connector	
J15	**See 23.1**	N/S	Section Control Connector	Part of Sharpshooter Booms
J16	**See 23.1**	N/S	Flow Meter Connector	
J17	**See 23.1**	N/S	GPS/Radar Connector	
J18	**See 23.1**	N/S	Foam Compressor Connector	
J19	**See 23.1**	N/S	Sprayer Controller Connector 1	Raven 203, 440 or Envizio Pro II
J20	**See 23.1**	N/S	Sprayer Controller Connector 2	GPS/Radar
J21	**See 23.1**	N/S	Switch Pro 37 Pin Connector	Envizio Pro II Sprayer Controller
J22	**See 23.1**	N/S	Switch Pro 2 Pin Logic Power	Envizio Pro II Sprayer Controller
J23	**See 23.1**	N/S	Envizio Pro II 14 Pin Connector	Envizio Pro II Sprayer Controller
J24	**See 23.1**	N/S	Envizio Pro II 16 Pin Connector	Envizio Pro II Sprayer Controller
J25	**See 23.1**	N/S	CAN Connector	Envizio Pro II Sprayer Controller
J26	**See 23.1**	N/S	Powered CAN Connector	Envizio Pro II Sprayer Controller
J27	**See 23.1**	N/S	3 Amp Accessory Power Connector	Envizio Pro II Sprayer Controller
J28	**See 23.1**	N/S	Switch Pro Output Connector	Envizio Pro II Sprayer Controller
J29	**See 24.1**	N/S	SharpShooter 23 Pin Connector	Part of Sharpshooter Booms
J30	**See 24.1**	N/S	SharpShooter Pressure Sensor	Part of Sharpshooter Booms
J31	**See 24.1**	N/S	SharpShooter Pulse Generator	Part of Sharpshooter Booms
J32	**See 24.1**	N/S	SharpShooter Boost Driver	Part of Sharpshooter Booms
J33	**See 24.1**	N/S	SharpShooter Pulse Driver	Part of Sharpshooter Booms
J34	**See 24.1**	N/S	SharpShooter Left Boom C1	Part of Sharpshooter Booms
J35	**See 24.1**	N/S	SharpShooter Left Boom C2	Part of Sharpshooter Booms
J36	**See 24.1**	N/S	SharpShooter Right Boom C1	Part of Sharpshooter Booms
J37	**See 24.1**	N/S	SharpShooter Right Boom C2	Part of Sharpshooter Booms

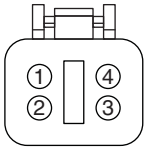
Item	Reference Illustration	Part Number	Description	Serial Numbers/Notes
K21	See 22.1	4193880	Left Boom Lower Relay	
K22	See 22.1	4193880	Left Boom Lift Relay	
K23	See 22.1	4193880	Right Boom Lift Relay	
K24	See 22.1	4193880	Right Boom Lower Relay	
K25	See 22.1	4329751	Clean Rinse Pump Relay	
K26	See 23.1	4329751	Agitator Valve Relay	
K27	See 23.1	4329751	Alarm Relay	
K28	See 23.1	4332946	Alarm Light Flasher	
L11		4340689	Low Pressure Light	Raven 203 Console Only
M21		4332289	Left Boom Actuator	
M22		4332289	Right Boom Actuator	
M23	See 26.1		Electric Rewind Hose Reel Motor	Part of Electric Rewind Hose Reel
M24	See 25.1	4324006	Clean Rinse Pump	Part of Clean Rinse Option
M25			Agitator Valve Motor	Included in 4321326
M26			Left Boom Valve Motor	Included in 4309735
M27			Center Boom Valve Motor	Included in 4309735
M28			Right Boom Valve Motor	Included in 4309735
M29	See 26.1		Hose Reel Valve Motor	Included in 4321326
M30		4309746	Flow Control Valve Motor	
SW21	See 6.1		Low Pressure Switch	
SW22	See 4.1, 5.1	4326846	Agitator Float Switch	
SW23	See 1.1	4299072	Left Boom Lift/Lower Switch	
SW24	See 1.1	4299072	Right Boom Lift/Lower Switch	
SW25	See 1.1	4130132	Left Boom Switch	
SW26	See 1.1	4130132	Center Boom Switch	
SW27	See 1.1	4130132	Right Boom Switch	
SW28	See 1.1	4130132	Clean Rinse Switch	Part of Clean Rinse Option
SW29	See 1.1	4333646	Master Boom Switch	
SW30	See 1.1	4130132	Foam Power Switch	Part of Foam Marker Option
SW31	See 1.1	4316067	Foam Select Switch	Part of Foam Marker Option
SW32	See 1.1	4130132	Hose Reel Valve Switch	Part of Hose Reel Option
SW33	See 1.1	4326362	Agitator Select Switch	
U41		4309745	Flow Meter	
U42		4322370	Foam Marker Compressor	
U43		4321430	GPS, Phoenix 10	Raven 440 Controller Options
U44		4325035	Envizio Pro II w/ WAAS Controller	Envizio Pro II Sprayer Controller
U45		4325036	Switch Pro Kit	Envizio Pro II Sprayer Controller
U46		4323047	Sensor, Envizio Pressure	Envizio Pro II Sprayer Controller
U47		4322990	Sensor, Sharpshooter Pressure	Part of Sharpshooter Booms
U48			Sharpshooter Power Hub	Part of Sharpshooter Booms
U49			Sharpshooter Pulse Generator	Part of Sharpshooter Booms
U50			Sharpshooter Boost Driver	Part of Sharpshooter Booms
U51			Sharpshooter Pulse Driver	Part of Sharpshooter Booms
U52			MBA-6 Helix Antenna	Envizio Pro II Sprayer Controller
★	Place the 5 amp fuse in the F34 position to use the speed signal or place the fuse in the F35 position to use the GPS speed. Do not place a fuse in both the F34 and F35 positions.			

33.1 Connector Terminal Identification

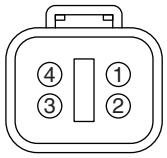
Console Harness 4317650



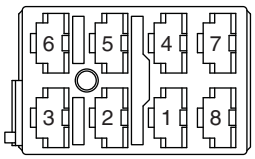
J14
To Tank Harness



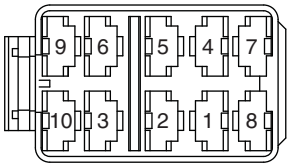
To Truckster XD
High/Low Connector



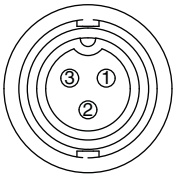
To Truckster XD
High/Low Connector



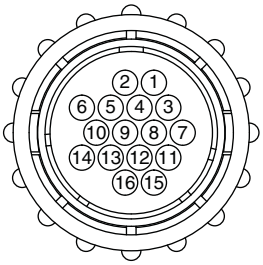
Foam Power Switch (Black) **(SW30)**
Hose Reel ValveSwitch (Black) **(SW32)**
Left Lift/Lower Switch (White) **(SW23)**
Left Boom Switch (White) **(SW25)**
Center Boom Switch (Red) **(SW26)**
Master Boom Switch (Red) **(SW29)**
Right Lift/Lower Switch (Green) **(SW24)**
Right Boom Switch (Green) **(SW14)**
Clean Rinse Switch (Orange) **(SW28)**
Foam Select Switch (Orange) **(SW31)**



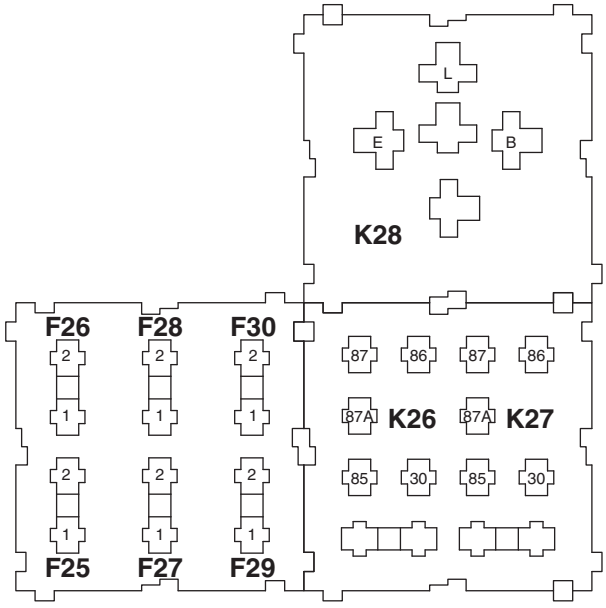
Agitator Select Switch **(SW33)**



Sprayer Controller 2 **(J20)**



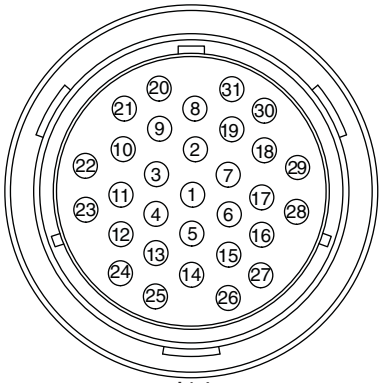
Sprayer Controller 1 **(J19)**



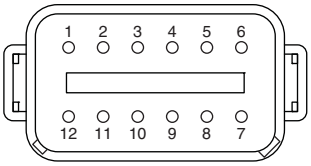
Terminal Identification is from open (Not Wire) end of connector

33.1 Connector Terminal Identification

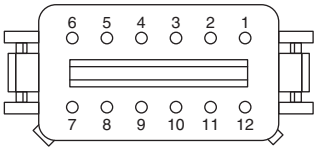
All Function Harness 4321426



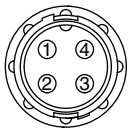
J14
To Console Harness



Tank Harness **(J13)**

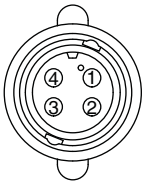


Tank Harness **(J12)**



GPS/Radar **(U33)**

GPS/Radar Extension Harness 4321430

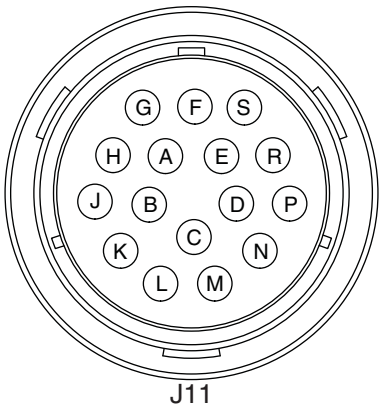


GPS/Radar **(U33)**

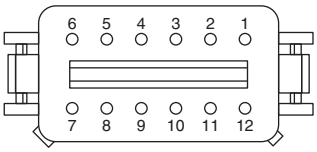
Terminal Identification is from open (Not Wire) end of connector

33.1 Connector Terminal Identification

Tank Harness 4321427

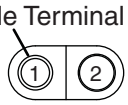


J11
To Relay Box Harness



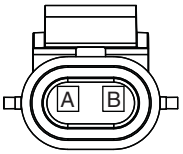
Body Harness **(J13)**

Body Harness **(J12)**

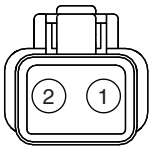


Clean Rinse Pump **(M24)**
Flow Control Valve Motor **(M29)**

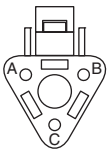
Agitator Valve **(M25)**
Boom Valve 1 **(M26)**
Boom Valve 3 **(M27)**
Boom Valve 2 **(M28)**
Hose Reel Valve **(M29)**



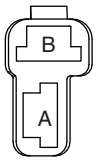
Agitator Float Switch **(SW22)**



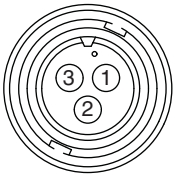
Hose Reel Motor **(M23)**



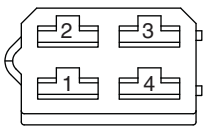
Section Control Signal **(J15)**



Left Boom Actuator **(M21)**
Right Boom Actuator **(M22)**



Flow Meter **(U31)**



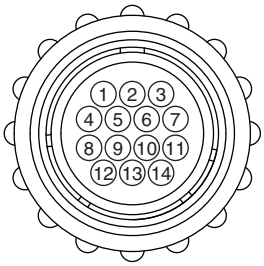
Foam Marker Compressor **(U32)**

Terminal Identification is from open (Not Wire) end of connector

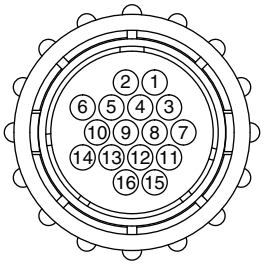
33.1 Connector Terminal Identification

Serial No. All

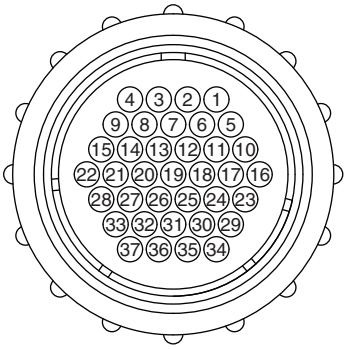
Envizio Pro II Harness 4325186



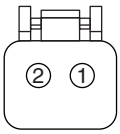
Envizio Pro II Aux **(U44)**



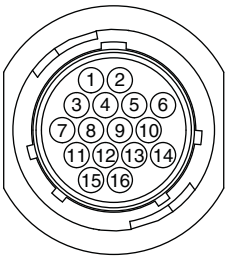
Envizio Pro II Main **(U44)**



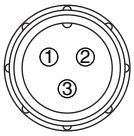
Switch Pro **(U45)**



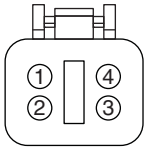
Switch Pro Logic Power **(U45)**
Accessory Power Connector J27



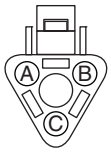
J19
To Console Harness



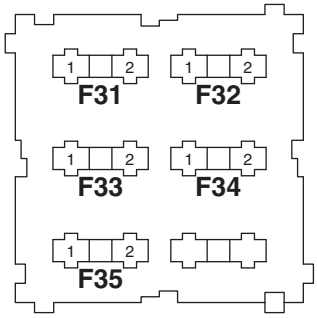
J20
To Console Harness



J26 Powered CAN



J25 CAN



J28
To Boom Nozzle Harness

Pressure Sensor **(U46)**

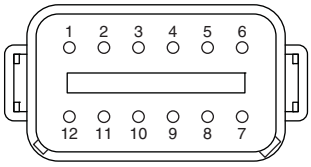
Terminal Identification is from open (Not Wire) end of connector

Serial No.

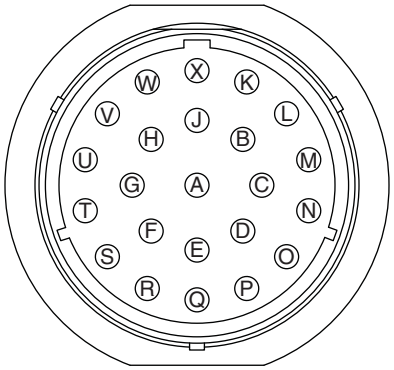
33.1 Connector Terminal Identification

SharpShooter Harnesses

Envizio Pro II 9 Nozzle Harness 4325187
Envizio Pro II 11 Nozzle Harness 4325188
Envizio Pro II 12 Nozzle Harness 4325189

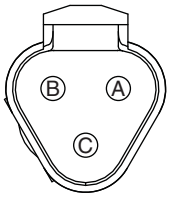


J28
Envizio Pro II Harness

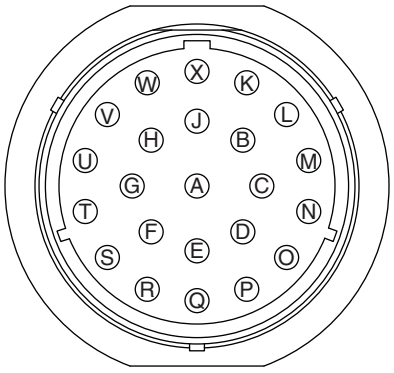


J29
To SharpShooter Harness

Raven 440 + SharpShooter 9 Nozzle Harness 4325190
Raven 440 + SharpShooter 11 Nozzle Harness 4325191
Raven 440 + SharpShooter 12 Nozzle Harness 4325192

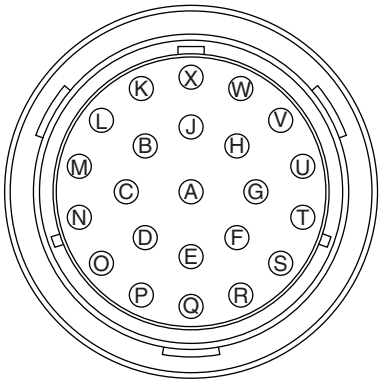


J15
Tank Harness

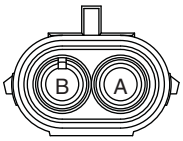


J29
To SharpShooter Harness

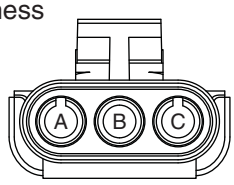
9 Nozzle SharpShooter Harnesses
11 Nozzle SharpShooter Harnesses
12 Nozzle SharpShooter Harnesses



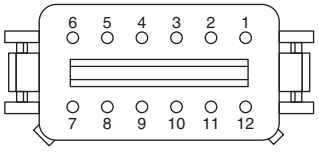
J29
To Nozzle Harness



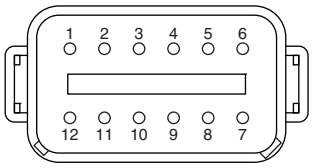
Nozzle Coils



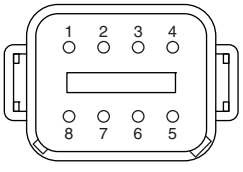
Pressure Sensor **(U47)**



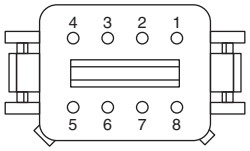
Power Hub Output 1 **(J34)**
Power Hub Output 1 **(J35)**
Left Boom-1 **(J36)**
Left Boom-2 **(J37)**
Power Hub Output 2 **(J38)**
Power Hub Output 2 **(J39)**
Right Boom-1 **(J40)**
Right Boom-2 **(J41)**



Power Hub Output 1 **(J34)**
Power Hub Output 1 **(J35)**
Left Boom-1 **(J36)**
Left Boom-2 **(J37)**
Power Hub Output 2 **(J38)**
Power Hub Output 2 **(J39)**
Right Boom-1 **(J40)**
Right Boom-2 **(J41)**



Pulse Generator **(J31)**
Boost Driver **(J32)**
Pulse Driver **(J33)**



Pulse Generator **(J31)**
Boost Driver **(J32)**
Pulse Driver **(J33)**

Terminal Identification is from open (Not Wire) end of connector

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A worldwide dealer network and factory trained technicians backed by Genuine Jacobsen Parts provide reliable, high-quality product support.

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