



4410 POULTRY HOUSE WASHER SPRAYER



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OPERATOR'S MANUAL/PARTS BOOK

THIS MANUAL IS TO ACCOMPANY THE MACHINE

WARRANTY POLICY

KELLEY MANUFACTURING COMPANY (KMC) warrants that all goods sold to the original purchaser of any KMC product shall be free of any defects in material and workmanship if used under normal operating conditions. The warranty period begins on the date of purchase by the retail customer. For non-commercial users the warranty extends twelve (12) months thereafter. For commercial users the warranty period extends six (6) months thereafter. KMC's sole responsibility is to repair and/or replace the defective part or parts at no cost to the purchaser. This remedy is the **SOLE AND EXCLUSIVE REMEDY** of purchaser.

The purchaser must fill out and return the warranty registration form found in the front of the operator's manual. Failure to return the warranty registration form within 30 days shall result in the goods being sold "AS IS", and all warranties shall be excluded.

This warranty shall not apply to those items that are by nature worn in normal service, including but not limited to belts, springs, teeth, chains, etc. Items such as tires, tubes, and gearboxes and all other items warranted by the original manufacturer warranty are warranted only to the extent of the original manufacturer warranty, and KMC is not warranting any of said items. All warranty claims must be made through a KMC licensed dealer, and a warranty form request must be submitted to KMC within 30 days of failure or the warranty provision shall be unenforceable against KMC.

No agent or person has authority to change or add to this warranty as written.

THE ABOVE IS THE ONLY WARRANTY MADE BY KMC AND IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. KMC MAKES NO WARRANTY OR MERCHANTABILITY AS TO ANY GOODS MANUFACTURED BY KMC AND FURTHER KMC DOES NOT WARRANT ANY SUCH GOODS AS SUITABLE FOR ANY PARTICULAR PURPOSE TO THE RETAIL CUSTOMER. THE SUITABILITY OF GOODS FOR ANY PURPOSE PARTICULAR TO THE CUSTOMER IS FOR THE CUSTOMER, IN HIS SOLE JUDGEMENT, TO DETERMINE. KMC FURTHER MAKES NO WARRANTIES WITH RESPECT TO ITS MANUFACTURED GOODS THAT WOULD NORMALLY BE DISCLOSED BY AN EXAMINATION. THIS IS THE FULL AND FINAL EXPRESSION OF WARRANTY LIABILITY OF KMC. NO OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, SHALL BE ENFORCEABLE AGAINST KMC.

Kelley Manufacturing Co.

80 Vernon Drive / Zip 31794

P.O. Drawer 1467 / Zip 31793

Tifton GA.

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OPERATOR'S MANUAL/PARTS BOOK

INTRODUCTION

The **KMC Poultry House Washer Sprayer(PHWS)** is a tractor pull type unit designed primarily for the purpose of pressure washing/disinfecting the interior of poultry houses along with all equipment associated with the production of poultry. Hose reel and hand gun combinations are available that allow the operator to clean confined areas of the poultry house for total disease control.

TO THE PURCHASER

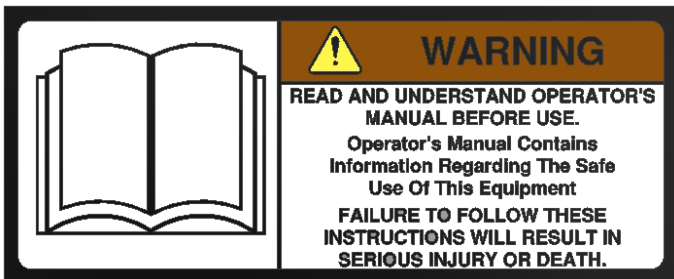
This KMC Poultry House Washer Sprayer has been carefully designed and manufactured to give years of dependable service. In order to operate it efficiently and maintain it properly, please read the instructions within this manual thoroughly.

While reading the manual through, you will notice that it is divided into sections which clearly explain the assembly and operations of each component of this machine. A Table of Contents is also provided for quick reference to these sections.

Some components of this machine may be labeled left or right. The notations are determined from the rear of the machine, facing the direction the machine will be traveling.

After reading this Operator's Manual/Parts Book, please keep it for reference each season.

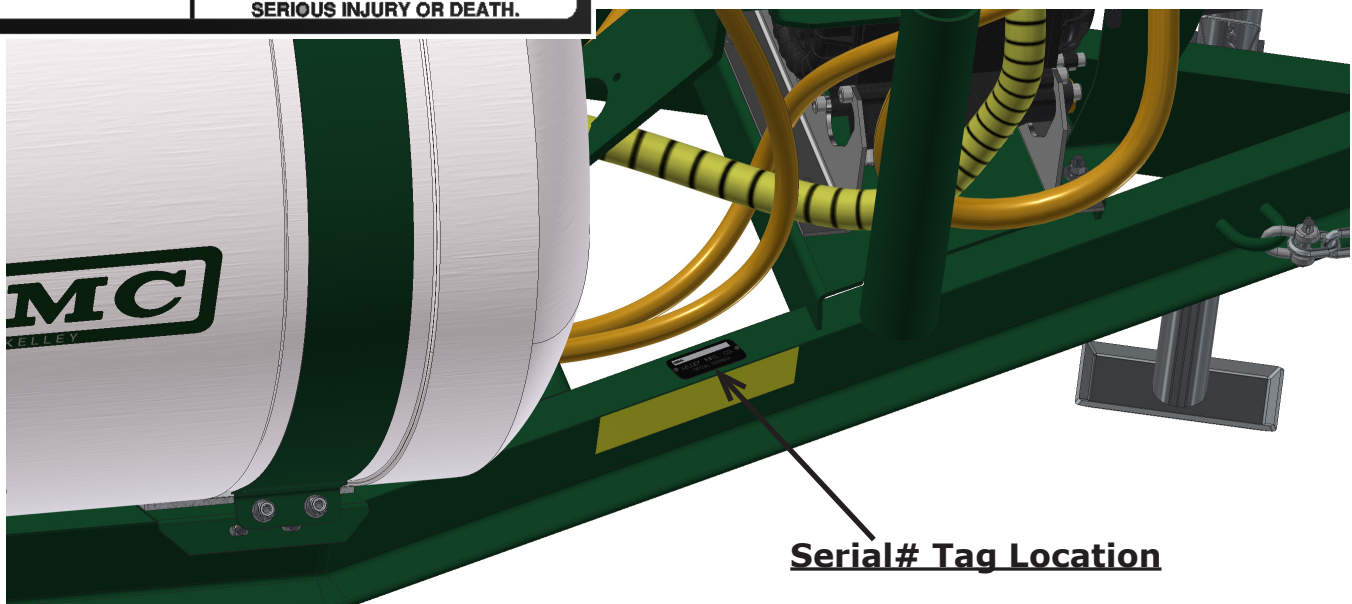
To ensure procurement of the proper repair parts, please record your machine's Serial Number and Purchase Date as shown below:



Model No. _____

Serial No. _____

Purchase Date _____



RETAIL CUSTOMERS RESPONSIBILITY UNDER THE KMC WARRANTY

The retail customer's responsibilities are:

1. To read the Operator's Manual and operate the **KMC Poultry House Washer Sprayer** in accordance with instructions in the manual.
2. To inspect the **KMC Poultry House Washer Sprayer** daily, lubricate as specified and repair or replace parts as needed, especially when continued use would cause damage or excess wear to other parts.
3. To maintain and keep in place all safety shields and devices.
4. When Warranty Service is necessary, it is the customer's responsibility to deliver the machine to the KMC dealer from which it was purchased. Warranty repairs should be submitted to the dealer within **thirty (30)** days of failure.
5. Dealer travel to the machine or hauling the machine to his shop for the purpose of performing warranty service is not allowed under KMC warranty. It is a cost to be paid by the retail customer. Any arrangement whereby the dealer agrees to absorb all or part of this cost is strictly between the dealer and the retail customer.

SAFETY PROCEDURES

Safety and performance are the primary objectives of the designers of KMC equipment. Safety features have been incorporated into this machine where possible and warnings given in other areas. For your safety, **PLEASE** read and observe the following safety procedures.

1. Do not permit anyone to ride on the machine
2. Keep all persons a safe distance away from the front, sides, and seed discharge areas of the machine while it is in operation.
3. Drive safely during transport; excessive speed while turning on rough ground or over hills could cause the tractor to tip over.
4. Make sure the **KMC Poultry House Washer Sprayer** is attached to the tractor securely before operating or transporting.
5. Use flashing warning lights on highways, except where prohibited by law.
6. Stop tractor engine before leaving the operator's position to adjust, lubricate, clean, or unclog machine. Do not perform any service, maintenance, adjustment or refilling of the **KMC Poultry House Washer Sprayer** until the tractor has been turned off and the parking brake has been fully activated.
7. Keep all shields in place.
8. Keep hands feet and clothing away from any moving parts. Do not position any physical body part where as high pressure fluid from spray nozzles can come in contact with that body part. **Nozzle Fluids are under high pressure and can cause serious injury to contacted body parts!!!!**
9. Make sure everyone is clear of machine before starting tractor or operating machine.
10. Maximum towing speed is 20 mph loaded/ 25 mph unloaded.
11. Observe all safety decals located on machine.

SAFETY INFORMATION

COMMON SYMBOLS:

This safety alert symbol is used throughout this manual to identify safety messages. When you see this symbol, read the message which follows as it will advise you of possible injury.

REMEMBER



THINK SAFETY!



DANGER

(RED)

This symbol indicates an imminently hazardous situation that, if not avoided will result in death or serious injury.



WARNING

(Orange)

This symbol indicates a potentially hazardous situation that, if not avoided, could result in death or sererious injury. It may also be used to alert against unsafe practices.



CAUTION

(Yellow)

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

!IMPORTANT!

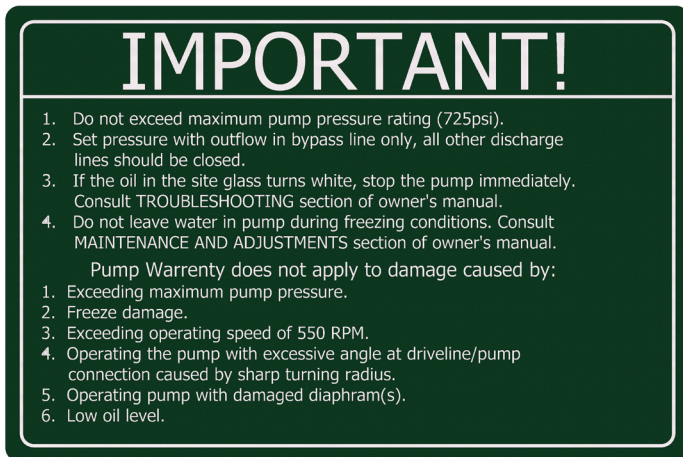
**(Green
or
Black)**

This symbol is used for instruction on operating, adjusting, or servicing a machine.

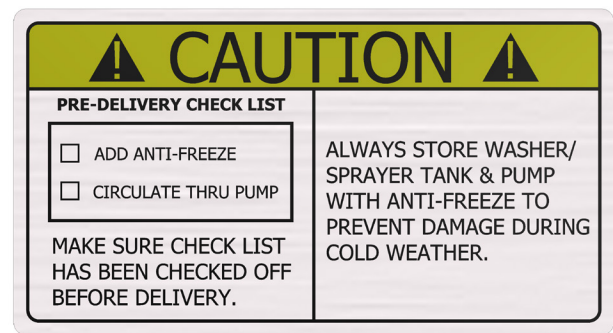
BEING SAFETY CONSCIOUS IS GOOD BUSINESS!

SAFETY DECALS:

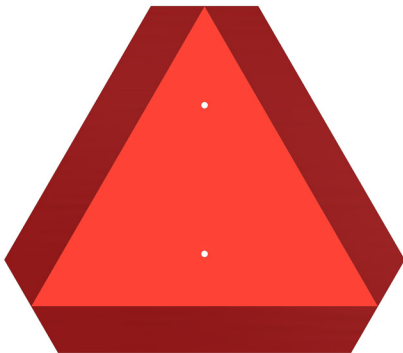
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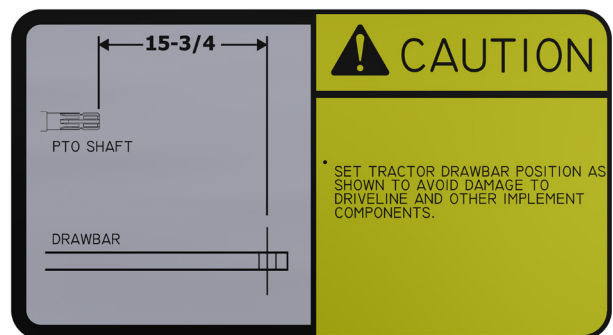
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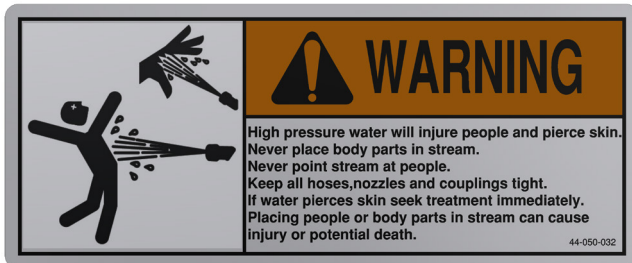
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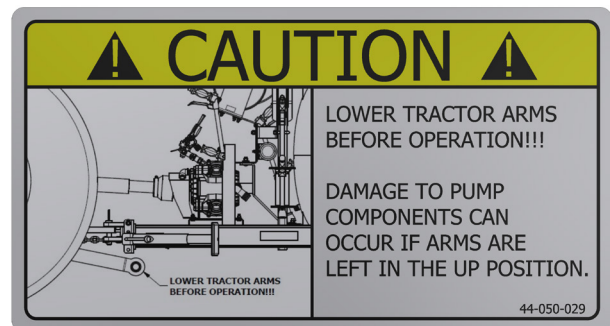
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PART NUMBER: 44-050-032



PART NUMBER: 44-050-029



HIGH VOLTAGE SAFETY ACT

Georgia Law requires that anyone operating equipment within 10 feet of an overhead high voltage line of more than 750 volts, must contact the **Utilities Protection Center (UPC)** by telephone at least **72 hours** before commencing the work.

For more information call **(811)**, or toll free **(1-800-282-7411)**, or visit on the web <https://www.georgia811.com/index.php/overhead-protection-act/>.

Please contact your local power company about laws before operating near high voltage lines.

!IMPORTANT!

Before set-up and assemble can be completed, ensure that all hardware is in place and fully tightened. Refer to the **Bolt Torque Chart** below for proper torque values.

BOLT TORQUE CHART

SAE GRADE 5



DIAMETER & THREADS PER INCH	TENSILE STRENGTH MIN. PSI	PROOF LOAD LB	CLAMP LOAD LB	TORQUE DRY FT LB	LUBRICATED FT LB
1/4-20	120,000	2,700	2,020	8	6.3
1/4-28	120,000	3,100	2,320	10	7.2
5/16-18	120,000	4,450	3,340	17	13
5/16-24	120,000	4,900	3,700	19	14
3/8-16	120,000	6,600	4,950	30	23
3/8-24	120,000	7,450	5,600	35	25
7/16-14	120,000	9,050	6,780	50	35
7/16-20	120,000	10,100	7,570	55	40
1/2-13	120,000	12,100	9,050	75	55
1/2-20	120,000	13,600	10,200	85	65
9/16-12	120,000	15,500	11,600	110	80
9/16-18	120,000	17,300	12,950	120	90
5/8-11	120,000	19,200	14,400	150	110
5/8-18	120,000	21,800	16,350	170	130
3/4-10	120,000	28,400	21,300	260	200
3/4-16	120,000	31,700	23,780	300	220
7/8-9	120,000	39,300	29,450	430	320
7/8-14	120,000	43,300	32,450	470	350
1-8	120,000	51,500	38,600	640	480
1-14	120,000	57,700	43,300	720	540

SAE GRADE 8

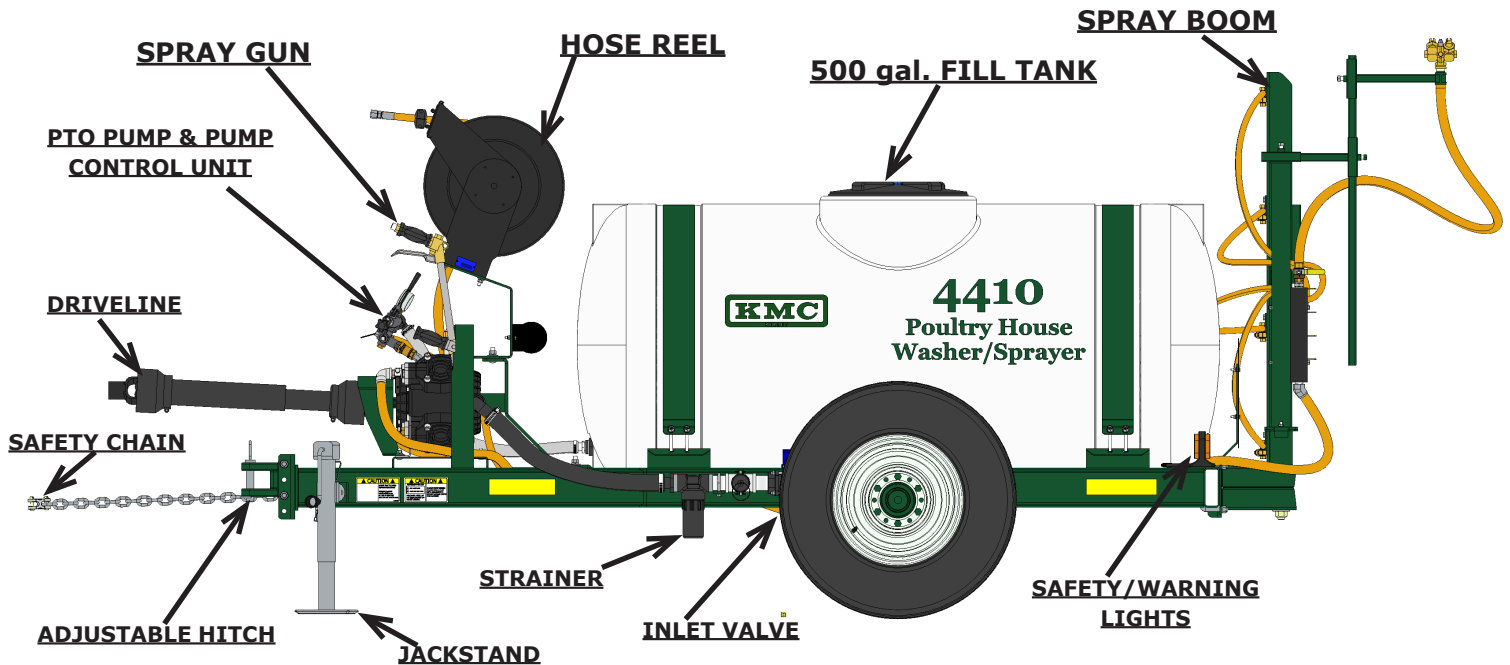


DIAMETER & THREADS PER INCH	TENSILE STRENGTH MIN. PSI	PROOF LOAD LB	CLAMP LOAD LB	TORQUE DRY FT LB	LUBRICATED FT LB
1/4-20	150,000	3,800	2,850	12	9
1/4-28	150,000	4,350	3,250	14	10
5/16-18	150,000	6,300	4,700	24	18
5/16-24	150,000	6,950	5,200	27	20
3/8-16	150,000	9,300	6,980	45	35
3/8-24	150,000	10,500	7,900	50	35
7/16-14	150,000	12,800	9,550	70	50
7/16-20	150,000	14,200	10,650	80	60
1/2-13	150,000	17,000	12,750	110	80
1/2-20	150,000	19,200	14,400	120	90
9/16-12	150,000	21,800	16,350	150	110
9/16-18	150,000	24,400	18,250	170	130
5/8-11	150,000	27,100	20,350	210	160
5/8-18	150,000	30,700	23,000	240	180
3/4-10	150,000	40,100	30,100	380	280
3/4-16	150,000	44,800	33,500	420	310
7/8-9	150,000	55,400	41,600	600	450
7/8-14	150,000	61,100	45,800	670	500
1-8	150,000	72,700	54,500	910	680
1-14	150,000	81,500	61,100	1,020	760

OPERATOR'S MANUAL

KMC POULTRY HOUSE WASHER SPRAYER BASIC FEATURES

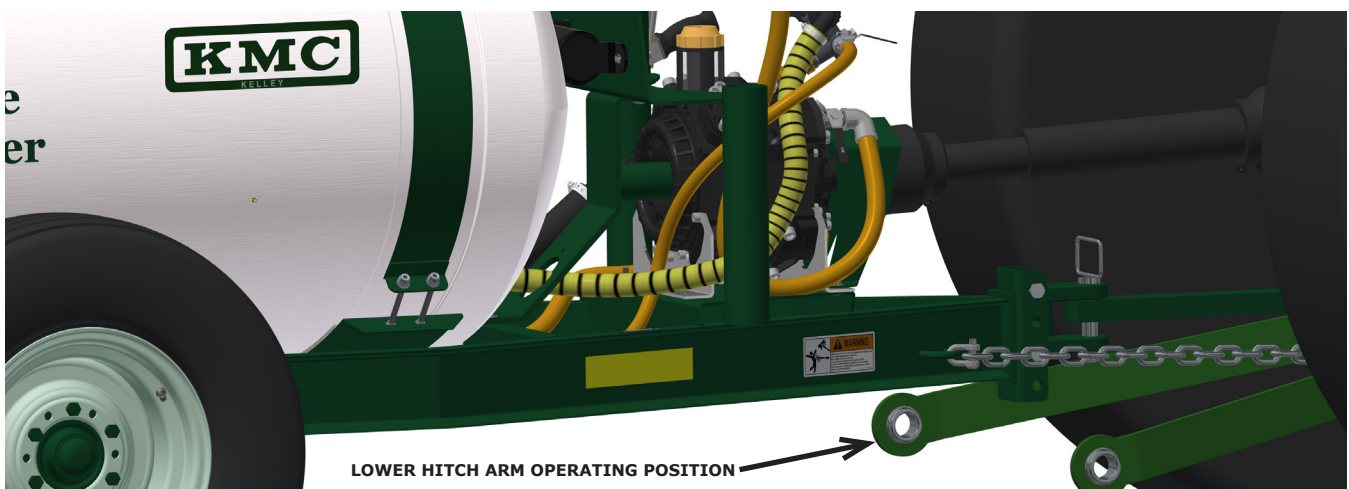
This manual discusses the various features and components of the **KMC Poultry House Washer Sprayer**. References to various components for adjustment, settings, performance, and lubrication are made. The following diagram will help in identifying some of these components.



MACHINE SETUP

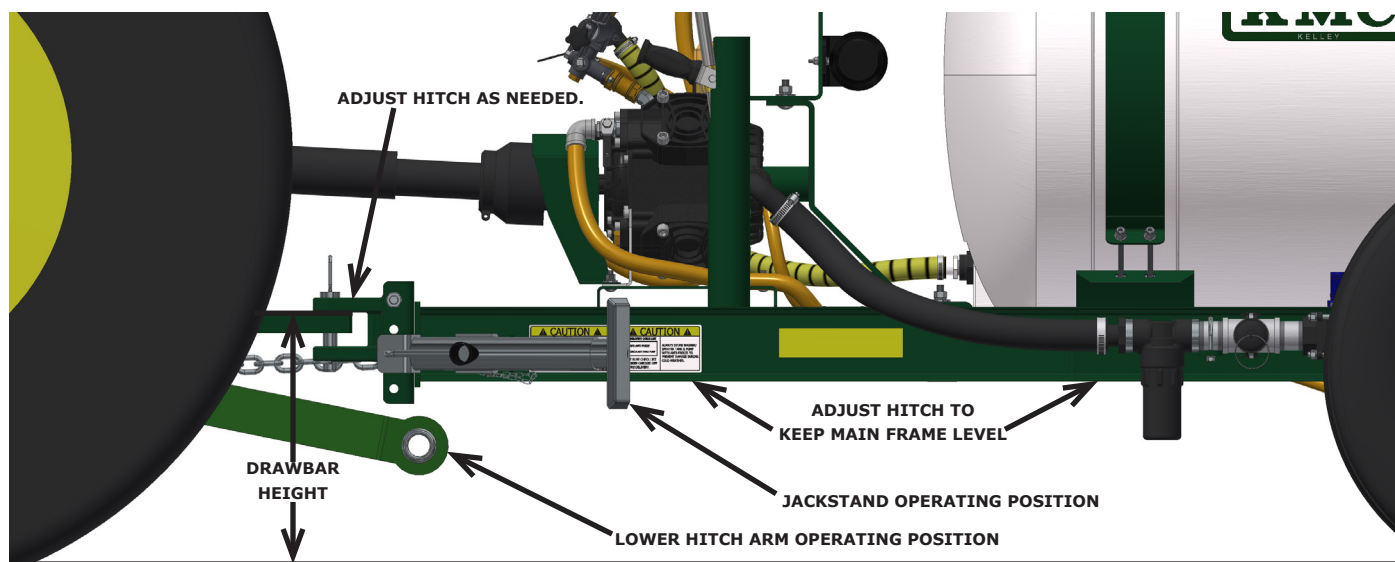
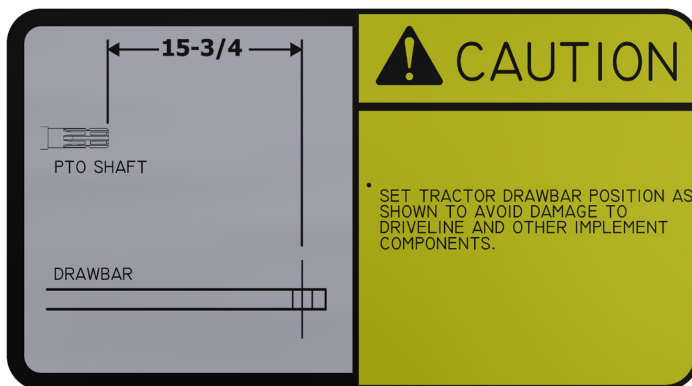
Attaching to Tractor

The **KMC Poultry House Washer Sprayer** is designed to be pulled by the drawbar of a tractor and powered by a tractor's 1-3/8"-540 RPM PTO shaft. The tractor PTO speed must not exceed **550 RPM** to ensure the long life of the Poultry House Washer Sprayer's PTO pump (approx. 2000 RPM tractor engine speed....See Tractor Owner's Manual for actual tractor engine speed needed for 540 RPM PTO speed).



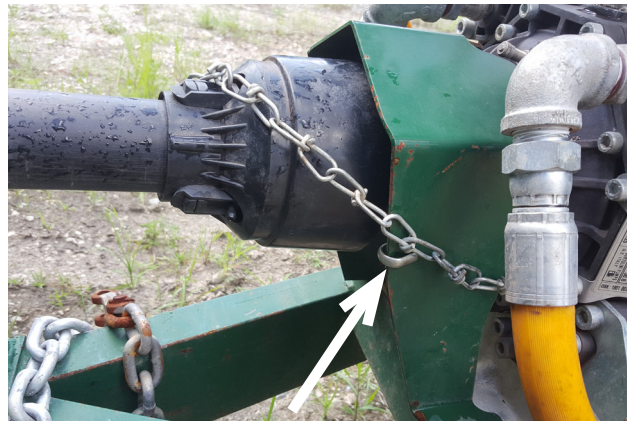
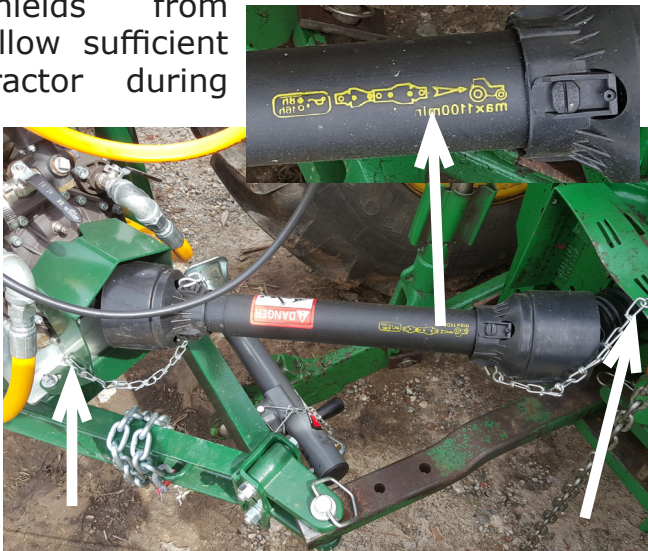
Before attaching the tractor to the Poultry House Washer Sprayer, the distance from the end of the PTO shaft to the pull point on the tractor's drawbar should be set to 15-3/4". This is the distance needed to ensure a smooth telescoping of the driveline from the tractor to the sprayer's PTO pump..... Setting the drawbar at this distance will improve the life of driveline and PTO pump parts, allowing equal angled input of torque thru tractor turns, while powering the Poultry House Washer Sprayer PTO pump.

Once the tractor has been set up, the process of attaching the **KMC Poultry House Washer Sprayer** can begin. With the tractor and the Poultry House Washer Sprayer sitting on level ground, note the position of the front and rear of the sprayer's main frame. Ideally, the rear of the sprayer frame should be level with or higher than the front. This minimizes possible damage to the rear spray boom and components, caused by crossing bumps or dips during transport. If the rear of the frame is lower than the front, rotate the jackstand handle to lower the front end of the sprayer's main frame until the main frame is level. Now, measure the height of the tractor drawbar from the ground. Re-position the sprayer's adjustable hitch to match the tractor drawbar height as close as possible leaving the rear of the sprayer frame slightly higher or level with the front of the sprayer frame when the sprayer is lowered, by the jackstand, onto the tractor drawbar. Once the adjustable hitch is lowered onto the tractor drawbar, insert the provided hitch pin and install the hair cotter pin to capture the adjustable hitch onto the tractor drawbar. The jackstand can now be drawn up and rotated 90° for re-pinning into operating position.



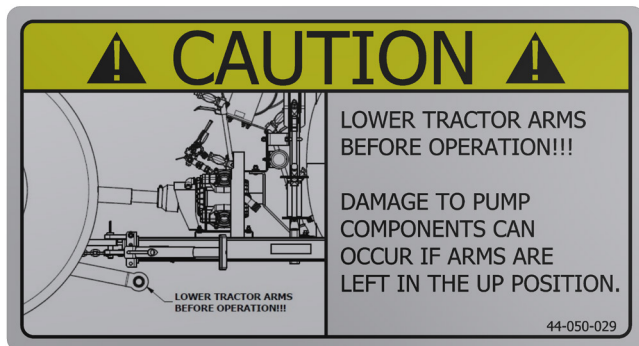
DANGER! WHEN RE-POSITIONING THE TRACTOR WHILE ATTACHING TO THE POULTRY HOUSE WASHER SPRAYER, BE SURE TO POWER DOWN THE TRACTOR AND ENGAGE THE PARKING BRAKE BEFORE EXITING THE TRACTOR. FAILURE TO DO THIS WILL RESULT IN SERIOUS INJURY OR DEATH.

Once the **KMC Poultry House Washer Sprayer** has been attached to the tractor drawbar, the driveline that connects between the tractor PTO shaft and the sprayer's PTO pump can be attached. The driveline shield is marked with the direction to turn toward the tractor. Make note of the end that attaches to the tractor (See pics below). Now, attach the driveline to the sprayer's PTO pump drive shaft by sliding driveline end onto the shaft and pulling back the locking collar until collar has slid completely onto the shaft. Release the collar and continue to push the driveline onto the PTO drive shaft until the collar locks. Follow the same procedure and attach the other driveline end to the tractor PTO shaft. Once attached, make sure the PTO driveline shielding has good clearance and is able to pivot and rotate freely, as needed, with safety shields in place. Attach the driveline shield safety chains to sprayer frame and tractor members (See pics below), to keep the driveline shields from rotating when the tractor PTO is engaged. Allow sufficient slack in the safety chains while turning with the tractor during transport.



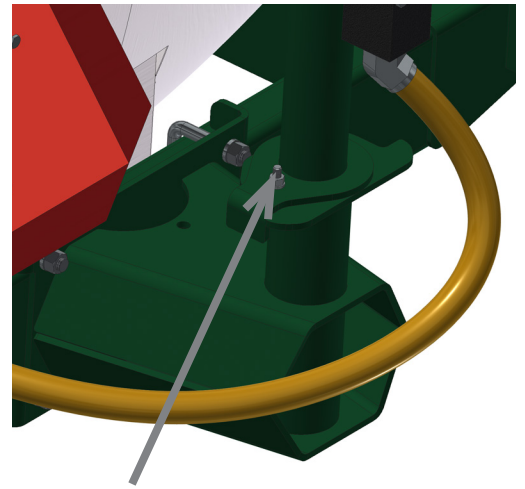
The tractor is now fully attached to the **KMC Poultry House Washer Sprayer**. Before driving the tractor with the sprayer attached, move the tractor lower hitch arms to the lowest position, allowing the arms to move underneath the sprayer main frame during turns made by the tractor. Moving the tractor lower hitch arms to this position will keep damage from occurring to the Poultry House Washer Sprayer.

The Poultry House Washer Sprayer should now be pulled around with the tractor to verify that there will be no interferences while making turns during operation.

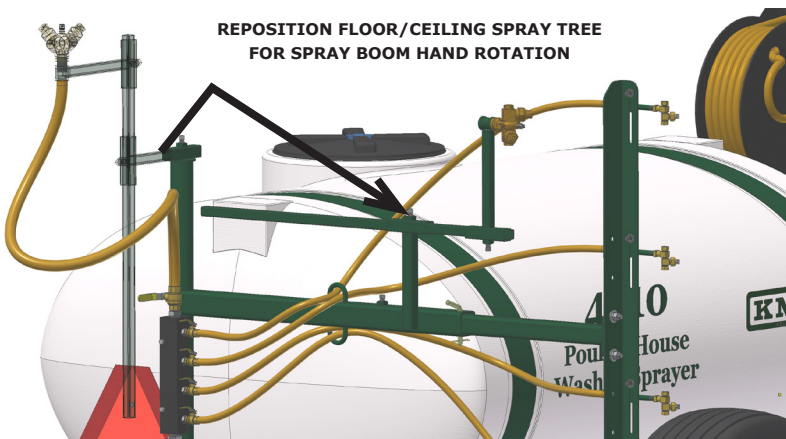


Breakaway Spray Boom

The Spray Boom on the **KMC Poultry House Washer Sprayer** is designed to be left hand or right hand side reversible (rt. side is standard) and shearbolt protected from the damage of obstacle collisions inside the poultry house. To reverse the hand of the Spray Boom, reposition the Floor/Ceiling Spray Nozzle tree to the position shown. This will allow clearance for a full 180° rotation. Now, remove the Spray Boom Shearbolt. Then, swing the spray arm to the opposite side, being careful that all hoses remain un snagged during the movement. Re-insert the shearbolt and tighten the nut to complete the move. Once the bolt assy has been retightened, the Floor/Ceiling Spray tree can be returned to the original position.



SPRAY BOOM SHEARBOLT



**REPOSITION FLOOR/CEILING SPRAY TREE
FOR SPRAY BOOM HAND ROTATION**

The shearbolt functions to protect against damage by shearing and allowing the spray arm to break away if the spray arm makes contact with an immovable object. Replace the shearbolt and nut if this occurs. The shear bolt is a 5/16 x 1-1/4 Grd.5 capscrew and should be tightened to the correct torque to keep tight during operation.

****Pictures are shown with optional equipment.**



LEFT HAND SPRAY BOOM

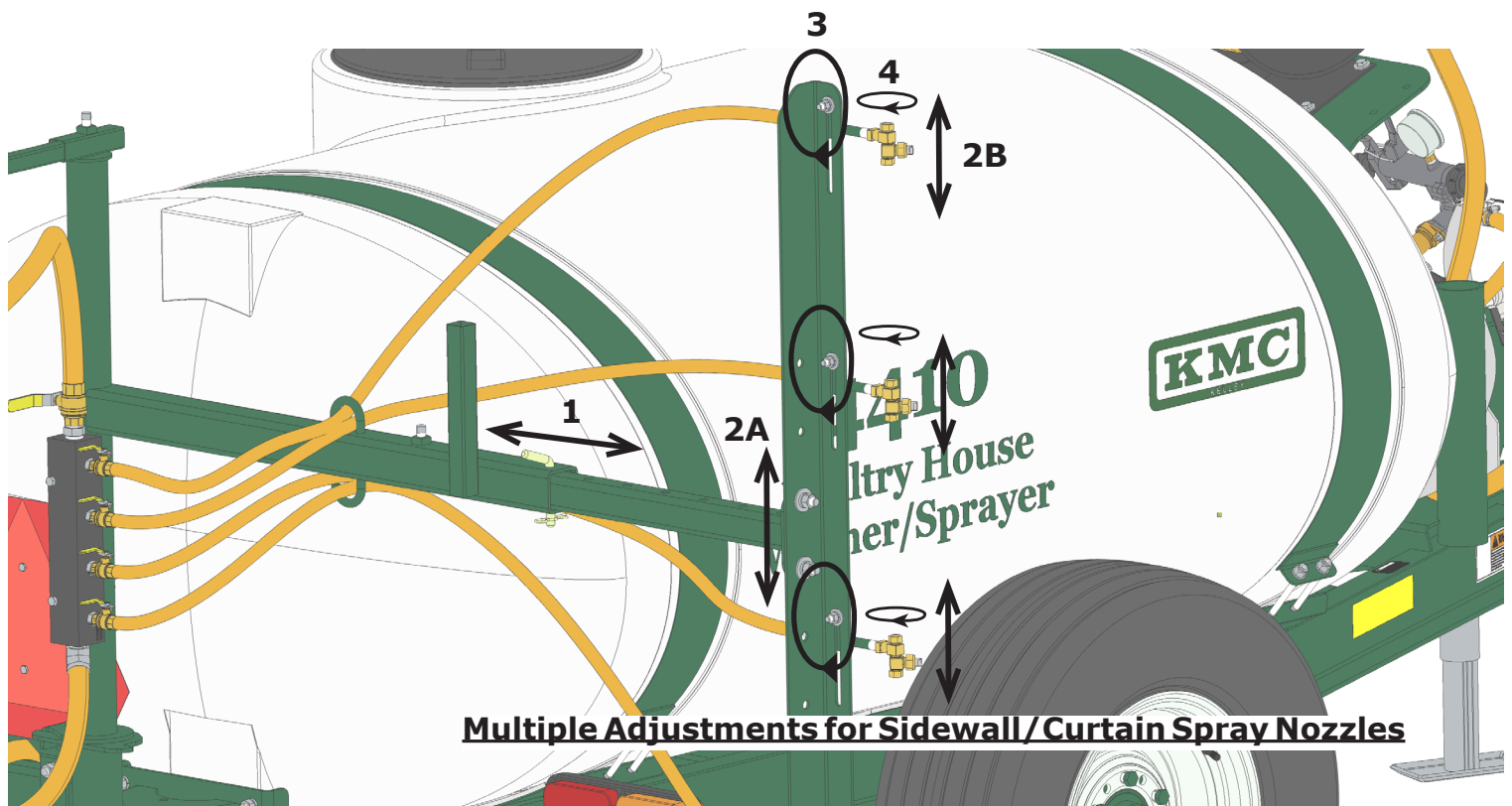


RIGHT HAND SPRAY BOOM

REMEMBER



THINK SAFETY!



Multiple Adjustments for Sidewall/Curtain Spray Nozzles

Sidewall/Curtain Spray Nozzle

The four sidewall nozzles of the **KMC Poultry House Washer Sprayer** can be adjusted vertically and horizontally as well as rotated vertically and axially, to obtain a number of adjustment positions. To adjust, place the sprayer at the desired distance from the wall to be washed. Make adjustments of the nozzle components to cover the desired distance from, height of, and engagement angle of, the nozzles to the wall. **Make sure nozzle spray tips are positioned to provide a vertical, flat, spray pattern and that the nozzle spray patterns overlap providing complete wall coverage.** *(It may be necessary to temporarily operate the pump during the nozzle adjustment process to observe spray patterns and make adjustments.)* **((See Section on Pump Operation))**

To make adjustments: 1) Horizontal Positioning (moving nozzles closer to or further away from the wall) is made by loosening the boom arm setscrew and pulling the adjustment pin, then sliding the boom extension in or out to the desired location. Once the new position is located, re-insert the adjustment pin and re-tighten the boom arm setscrew.

2A) Vertical Positioning (Spray Arm) All (4) nozzles can be re-positioned vertically together by loosening and removing the two bolts in the boom extension and spray arm post. Move the spray arm post up or down to the desired location. Once the new position is located, re-insert the bolts and re-tighten to the appropriate torque for operation.

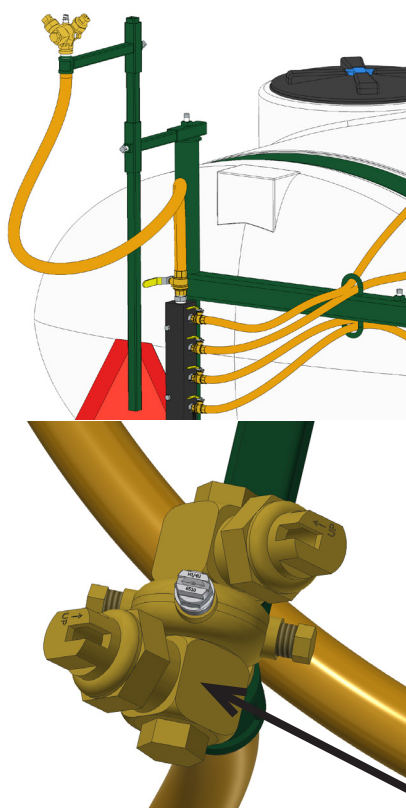
2B) Vertical Positioning (Spray Nozzle) Each Sidewall/Curtain nozzle can be independently moved up or down, allowing for the appropriate distance between nozzles to achieve adequate overlap of the nozzle streams. To re-position the nozzles, loosen the adjustment bolt and slide in the spray arm post slot to the desired location. Once the new position is located, re-tighten the bolt to the appropriate torque for operation.

3) Vertical Rotation (Spray Nozzle) Each Sidewall/Curtain nozzle can be independently rotated vertically up or down, allowing for the nozzles to be rotated for specific situations where the nozzles need to be something other than parallel with each other. To re-position the nozzle angle, slightly loosen the adjustment bolt and take a rubber mallet and tap the nozzle around to the desired angle. Once the new position is located, fully re-tighten the bolt to the appropriate torque for operation.

4) Axial Rotation (Spray Nozzle) Each Sidewall/Curtain nozzle can be independently rotated axially, allowing for the nozzles to be rotated front to rear, to change the engagement angle of the nozzles to the wall. To re-position the nozzle angle, loosen the nozzle brass body bolt and turn the nozzle to the desired angle. Once the new position is located, re-tighten the brass body bolt before for operation. ***(Take special precaution not to damage brass bolt while tightening.)***

Adjustment Rail w/Ceiling Wash Position

Floor/Ceiling Spray Nozzle



The double swivel spray nozzle of the **KMC Poultry House Washer Sprayer** can be used for spraying floors, washing ceilings and fog spraying houses. For spraying floors the nozzle should be turned downward, and for fog spraying the nozzle should be turned upward. The width covered by the nozzle is adjusted by changing the angle of the tips and/or lowering or raising the nozzle ((Note: position of large opening in nozzle cap for floor/fog setup(See pic)). Air movement can greatly decrease spray coverage. It may be desirable to close doors on the house or to spray half of the house per pass. To wash ceilings, the nozzle should be turned upward with the double swivel nozzle large openings pointed upward(See pic). The nozzle can be flipped up or down by loosening the setscrew on the adjustment rail and inverting on the rail arm. Then, the nozzle can be brought closer to the ceiling/floor by extending the rail arm.

Floor/Fog Spray Nozzle Setup

Ceiling Wash Spray Nozzle Setup



Poultry House Fog Sprayer Position



Poultry House Floor Sprayer Position

OPERATING INSTRUCTIONS

Operating the Pump

Do not operate the **KMC Poultry House Washer Sprayer** pump above **550 RPM**. When the pump is operating, intermittently check the pump oil level in the sight glass.



!IMPORTANT! IF THE OIL SUDDENLY TURNS WHITE, STOP THE PUMP IMMEDIATELY. THIS INDICATES THAT THE DIAPHRAM HAS RUPTURED. IF THE OIL LEVEL RISES TO THE TOP OF THE SIGHT GLASS DUE TO HIGH OPERATING TEMPERATURES, STOP THE PUMP TO PREVENT DAMAGE FROM INTERNAL OVER PRESSURE.

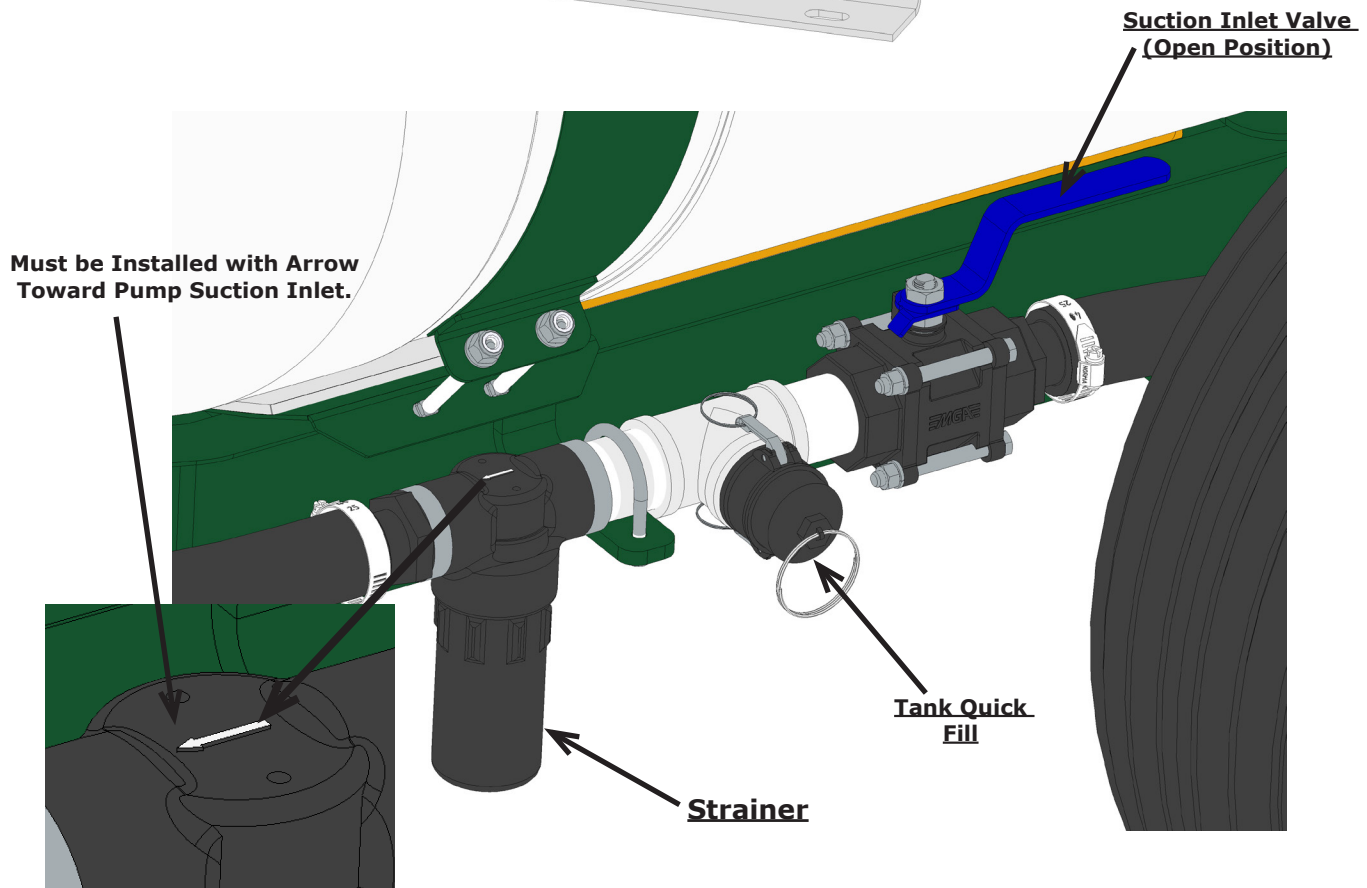
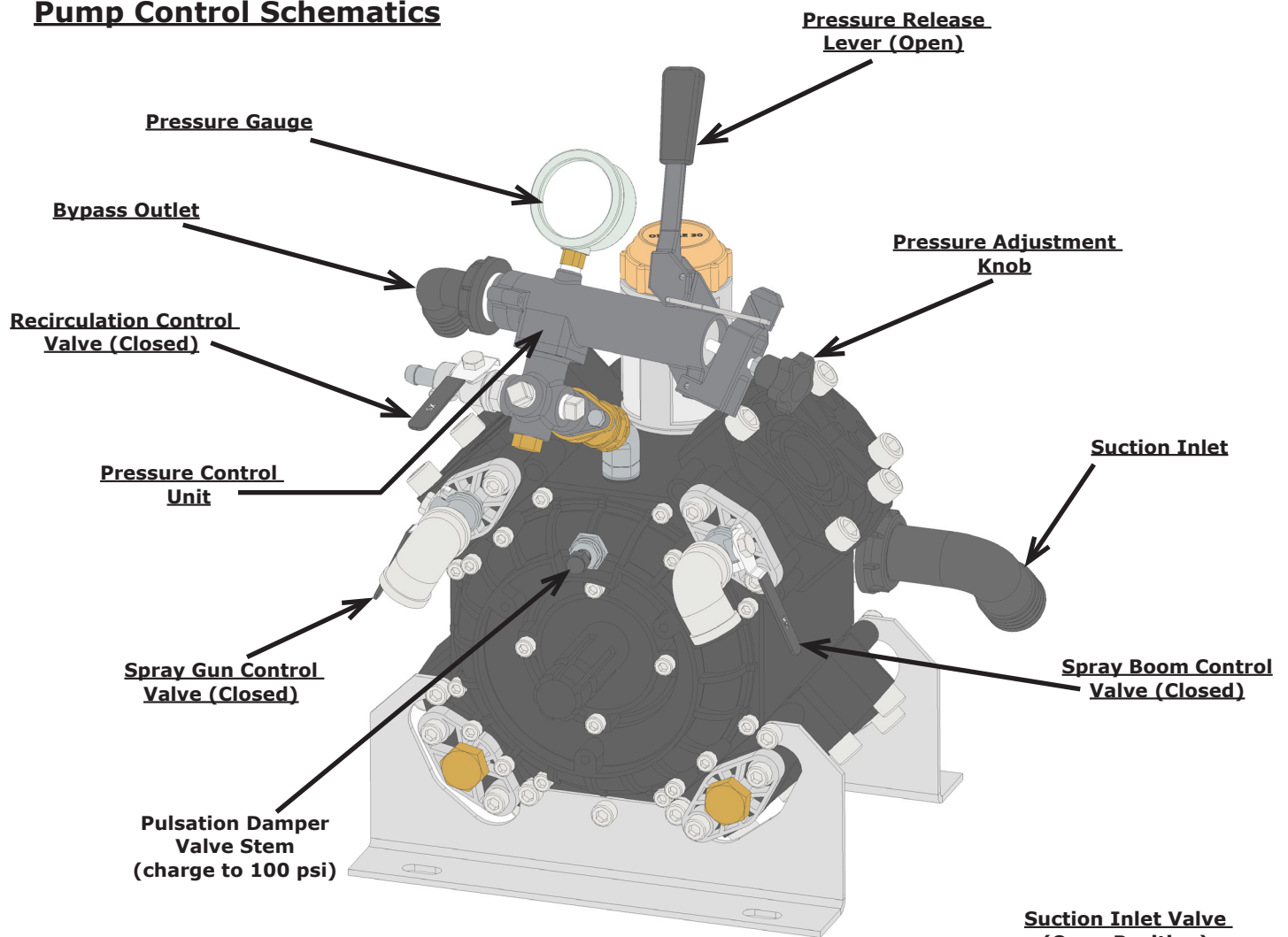
Setting Pump Pressure and Pulsation Damper

PUMP PRESSURE SHOULD BE SET WITH ALL FLUID DISCHARGE IN THE BYPASS LINE ONLY. ALL OTHER FLUID DISCHARGE LINES SHOULD BE CLOSED AT THE BALL VALVE. Doing this prevents exceeding the maximum spray pump pressure rating. For example, if the pressure was set at or near maximum pump pressure with one or more nozzles turned on, when these nozzle (s) are turned off, the pressure could rise above the pump's maximum pressure rating. If the maximum pump pressure is exceeded, liquid will exit from the safety valve, this is normal. ***The recommended spray pump pressure setting for most KMC Poultry House Washer Sprayer operations is 600 psi.***

To keep the sprayer pump operating with uniform discharge liquid flow, the pulsation damper will have to be charged with air. With the spray pump not running, check the pulsation damper pressure at the valve stem with an automotive air pressure gauge. ***Inflate the pulsation damper to 100 psi.*** (Check damper pressure at regular intervals before running the spray pump.)

Before setting the pump pressure, make sure there is liquid in the tank and the suction inlet valve is open. Close all discharge valves and place the pressure release lever in the up (open) position. Engage the tractor PTO and increase the engine speed to attain the PTO working speed, do not exceed a PTO speed of 540 RPM. Slowly move the pressure release lever to the down (closed) position. Set the pressure by observing the control unit pressure gauge while turning the pressure adjustment knob clockwise to increase pressure or counterclockwise to decrease pressure. (The jamnut on the pressure adjustment knob shaft will have to be loosened to make this adjustment.) After the pump pressure is set, tighten the adjustment knob shaft jamnut and move the pressure release lever back to the up (open) position. Disengage the tractor PTO. **NOTE: Never engage the tractor PTO shaft with the pressure release lever in the down (closed) position. This could cause damage to the PTO spray pump.**

Pump Control Schematics



Pump Discharge Controls

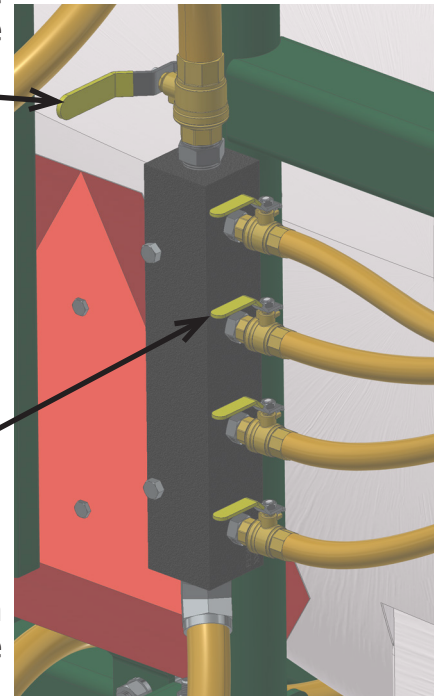
Three ball valves control the discharge of liquid to the rear spray boom, the spray guns, and the recirculating line. The ball valve that controls the discharge to the rear spray boom is located on the left side of the PTO spray pump housing and the ball valve that controls the discharge to the spray guns is located on the right side of the PTO spray pump housing. The valve controlling the recirculation line discharge is located on the pressure control unit housing. Normally, the ball valves, controlling the rear spray boom and the spray guns, should be fully opened when either of these components are in use. The ball valve controlling the recirculation line can be left in the closed position if only water is being used. If a disinfectant or other chemical and water mixture is being used, the recirculation feature can provide agitation for the mixture. Fully opening the recirculation valve will greatly decrease the pump pressure; therefore, only partially open the valve while the **KMC Poultry House Washer Sprayer** is in use. The recirculation valve can be opened fully while initially mixing the spray tank.

Floor/Ceiling Nozzle
Valve (Shown Closed)

Boom Nozzle Controls

On the **KMC Poultry House Washer Sprayer**, each nozzle on the rear spray boom can be controlled independently by opening and closing ball valves located on the distribution manifold at the rear of sprayer. This allows for a combination of customizable settings for specific situations in the poultry house cleaning and disinfecting environment.

Sidewall/Curtain
Nozzle Valves
(Shown Closed)



Washing Sidewalls or Curtains

Place the four ball valves that control the Sidewall/Curtain nozzles in the open position. Make sure the ball valve, at the spray pump, that controls the rear spray boom discharge is open.



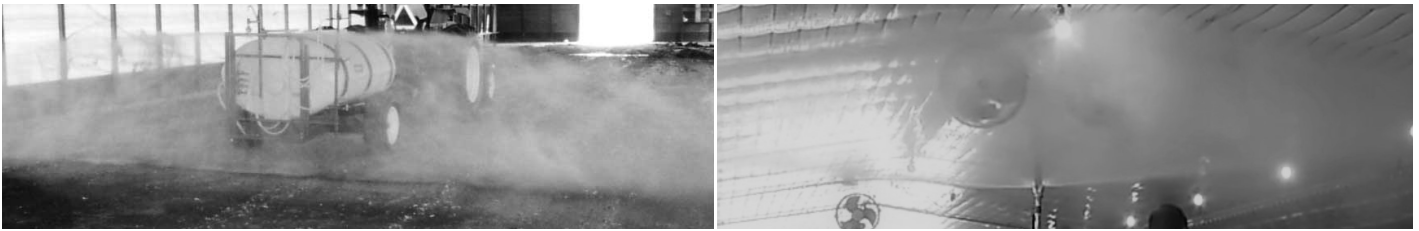
Left Sidewall Setup

Engage the tractor PTO and bring the engine up to PTO working speed (540 RPM), then close the pressure release lever at the spray pump. The four wall nozzles should now be active and operating at the pre-set pump pressure. Before moving, inspect to make sure the break-away feature of the rear spray boom is operational.

It is recommended that two passes be made for each wall. The first pass wets the material and aids in loosening it for removal by the second pass. For maximum cleaning, the sprayer should be operated at a ground speed of 1 to 3 mph. However, this may vary depending on the degree of build-up on the wall or curtains.



Right Sidewall Setup



Spraying/Washing Floor or Ceiling

Before operating the Floor/Ceiling nozzle, make sure the Spray Boom is setup for the desired operation of ceiling washing or floor spraying. See setup below to make adjustments before operation.



Once adjustments have been made, place the ball valve that controls the Floor/Ceiling nozzle in the open position. Make sure the ball valve, at the spray pump, that controls the rear spray boom discharge is open. Engage the tractor PTO and bring the engine up to PTO working speed (540 RPM), then close the pressure release lever at the spray pump. The Floor/Ceiling nozzle should now be active and operating at the pre-set pump pressure.

To wash the entire ceiling and obtain maximum cleaning, 2 to 4 passes through the house may be required. Floors can normally be sprayed in one pass through the house, if the Floor/Ceiling nozzle is setup correctly.

If a disinfectant or other chemical is added to the tank, open the recirculation control valve to agitate the water/chemical mixture. Allow the mixture to agitate for several minutes before spraying. Once spraying begins, it is recommended to only operate the recirculation control valve in the partially open position to keep the pressure at the pre-set position.

Spray Guns and Hose Reels

To use the spray guns on the **KMC Poultry House Washer Sprayer**, engage the tractor PTO and bring the engine up to PTO working speed (540 RPM), then close the pressure release lever at the spray pump. Make sure the ball valve, at the spray pump, that controls the spray gun discharge is open. The spray guns should now be charged and ready for use.

The Heavy K/O Spray Gun can be added to each of the hose reel setups and is primarily used for heavy knockdown in the poultry house while in a standing position from the ground.

The Driver Knockdown/Cool Cell Spray Gun is a lighter duty spray gun for primary use from the tractor seat where it is easier to handle and also to be used in combination with a higher capacity hose reel to be able to service cool cell media with complete access to the cool cell shed corridors.



FORWARD-Fog Blast / REARWARD-Stream Blast

DOWN-Cool Cell / UP-Driver Knockdown



CAUTION! DUE TO THE FORCE OF THE WATER EXITING THE SPRAY GUN, SUBSTANTIAL RECOIL IS PRODUCED. WHEN OPERATING THE SPRAY GUN, FIRMLY GRASP THE GUN WITH BOTH HANDS.





Front Hose Reel (Retractable)



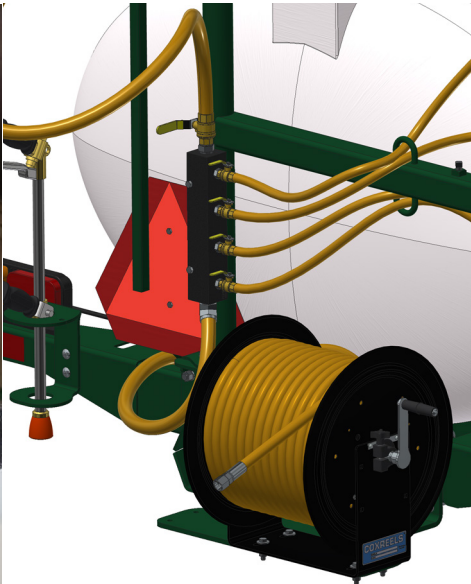
Optional Front High Capacity Hose Reel (Manual) w/ Driver Knockdown-Cool Cell Spray Gun



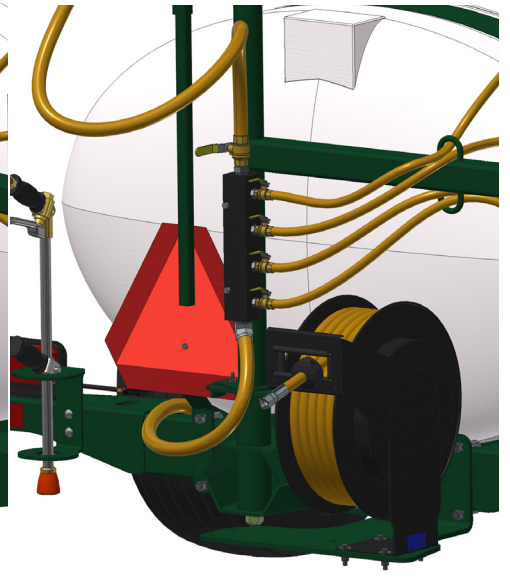
Optional Side High Capacity Hose Reel (Manual Crank)



Optional Side Hose Reel (Retractable)



Optional Rear High Capacity Hose Reel (Manual Crank)



Optional Rear Hose Reel (Retractable)

To insure that the pre-set pressure on the spray system is maintained, it is recommended that only (2) spray guns are operated at the same time. Operating a third spray gun or running any other spray nozzles in conjunction with the spray guns can reduce the system spray pressure.



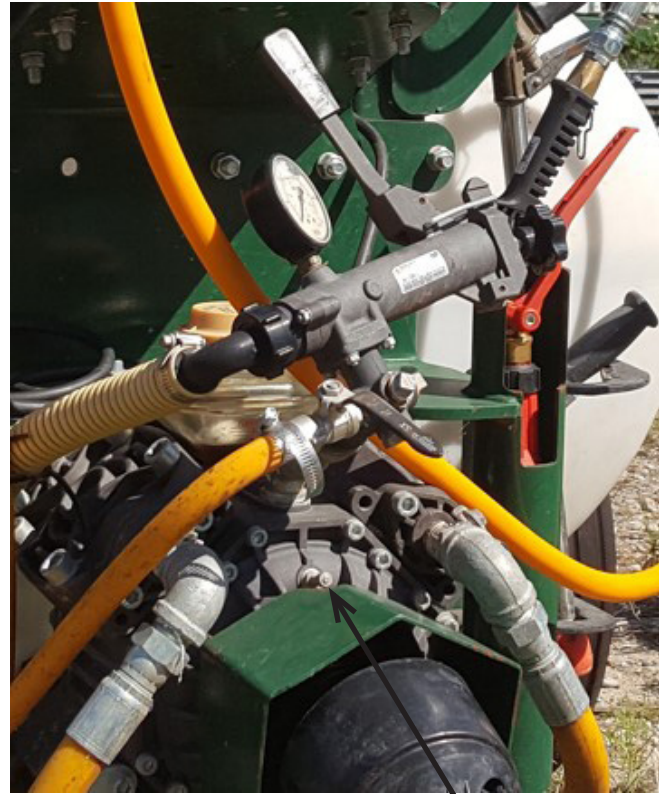
DANGER! BEFORE EXITING THE TRACTOR TO UTILIZE ANY AUXILIARY SPRAY GUN OR TO MAKE SPRAY ADJUSTMENTS TO THE POULTRY HOUSE WASHER SPRAYER, BE SURE TO ENGAGE THE PARKING BRAKE OF THE TRACTOR. FAILURE TO DO THIS WILL RESULT IN SERIOUS INJURY OR DEATH.

MAINTENANCE AND ADJUSTMENT

Pump Maintenance

After a chemical and water mixture has been used with the **KMC Poultry House Washer Sprayer**, the pump should be operated at working pressure with clean water for a few minutes. Afterwards, let the pump pressure drop to zero and operate the pump without liquids for two minutes. Running the pump without liquids can be accomplished by completely emptying the tank or closing the suction inlet valve and removing the strainer. Clean and reinstall the strainer after the spray pump is completely drained of fluid.

If the spray pump is in an area where it will experience freezing conditions, empty the pump completely. If the pump will be stored for long periods of time, some of which will be under freezing conditions, an extra precautionary measure is to flush the pump with a 50/50 anti-freeze and water mixture.



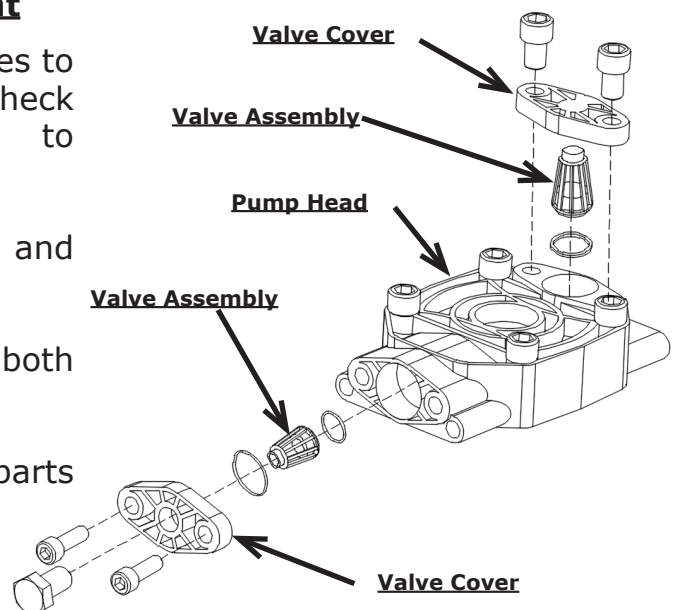
Air Valve Stem

The pump has an internal pulsation dampener which aids in smoothing out the discharge of liquid flow. The pressure in this dampener is set and checked through an air valve stem located at the front of the pump. The pressure should periodically be checked using an automotive air pressure gauge without the spray pump operating. As a general rule, set pulsation dampener to 1/3 the working pressure without exceeding 100 psi. **For example: if the pump will be operated from 300-700 PSI, the pulsation dampener pressure should be set to 100 PSI.**

Valve Assembly and O-Ring Replacement

Occasionally debris can cause the valves to not seat properly or damage o-rings. To check this problem follow these steps, referring to diagram.

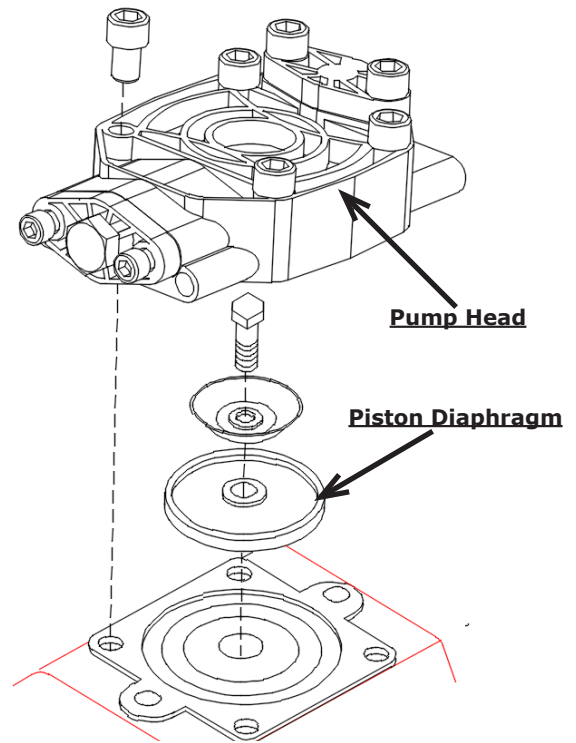
- 1) Remove valve cover, valve assembly and o-rings.
- 2) Check the valve assembly for debris and both the valve assembly and o-rings for wear.
- 3) Replace parts as necessary consulting the parts list for valve or o-ring part numbers.



Diaphragm Replacement

The pump diaphragms should be replaced after every 500 hours of use. When replacing the diaphragms, follow these steps referring to the illustration:

1) Drain the oil from the pump by removing the cap from the oil site glass, removing the pump mount bolts and loosening the necessary hoses. Turn the pump upside down and rotate the crankshaft until oil stops flowing out.



Diaphragm Bolt Sizes & Torques

M6 x 1 = 5 N-m	6mm	44 in-lbs
M8 x 1.25 = 12 N-m	8mm	106 in-lbs
M10 x 1.25 = 25 N-m	10mm	221 in-lbs

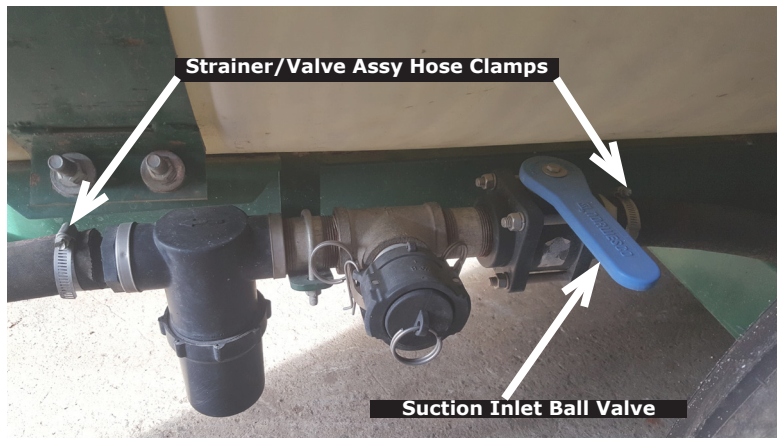
Repeat steps 2 thru 8 for each diaphragm being replaced.

- 2)** Remove the pump head.
- 3)** Rotate the crankshaft to bring the diaphragm clamping bolt out as far as possible.
- 4)** Using a hex wrench, remove the diaphragm clamping bolt; diaphragm cap, and diaphragm.
- 5)** Before installing the diaphragm, rotate the crank shaft until the piston is at the bottom of its stroke.
- 6)** Install the new diaphragm onto the piston tightening the clamping bolt to a torque of 18.5 ft lbs.
- 7)** Insert the edge of the diaphragm into the grooves in the piston sleeve.
- 8)** Replace the head.
- 9)** Using a SAE 30W non-detergent oil, refill the pump through the site glass to the proper level. Rotate the crankshaft while filling to distribute the oil.
- 10)** Before putting the cap back on the oil site glass, run the pump with no pressure until all air bubbles are vented. (raising the control unit pressure release lever)
- 11)** After replacing the cap on the oil site glass, check the oil level with the pump operating with pressure.

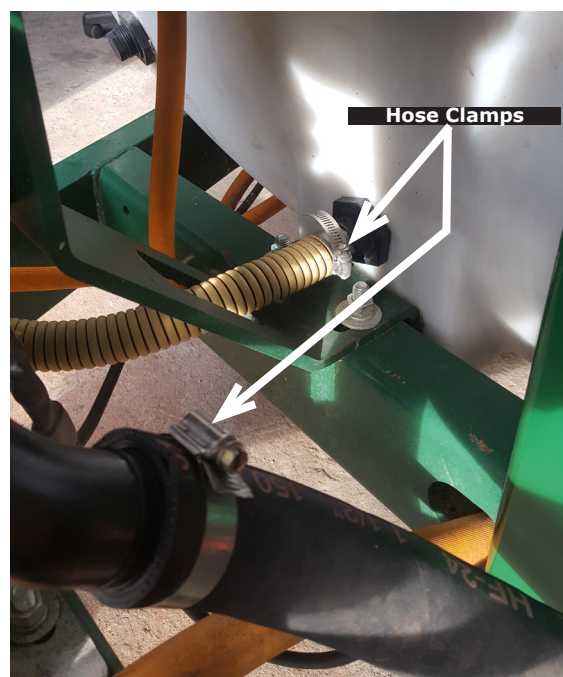
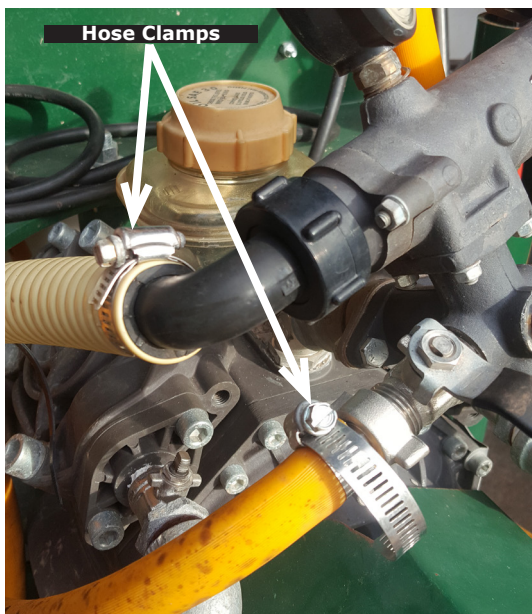
Other Maintenance and Adjustment Items

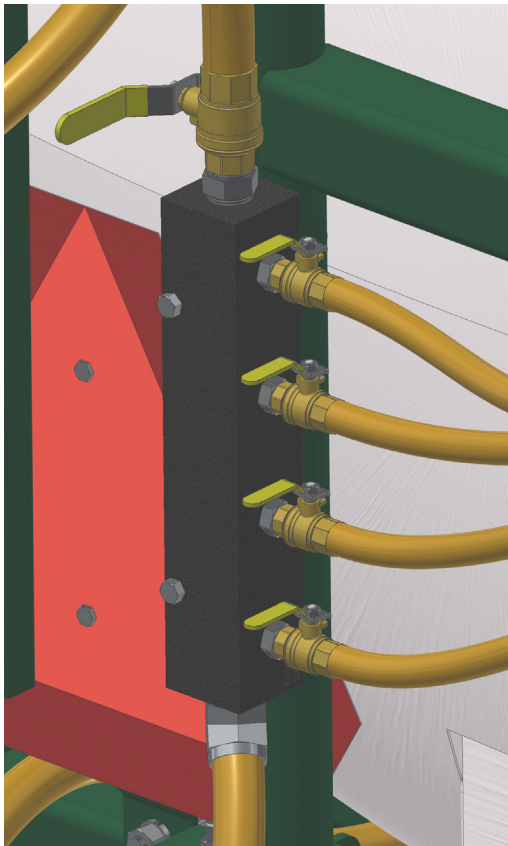
The environment that the **KMC Poultry House Washer Sprayer** is used in can be highly corrosive to steel components. Therefore, to protect painted surfaces, the washer sprayer should be washed off and cleaned after each use. Periodically clean and rinse out the inlet strainer and the nozzle tips.

The tank hold-down straps should be checked periodically for tightness. Temperature changes, vibration, and settling of the tank may cause them to loosen. Check the straps with the tank being at least 75% full of fluid. Tighten the straps by tightening the nuts on the bolts that attach the straps to the tank saddle.

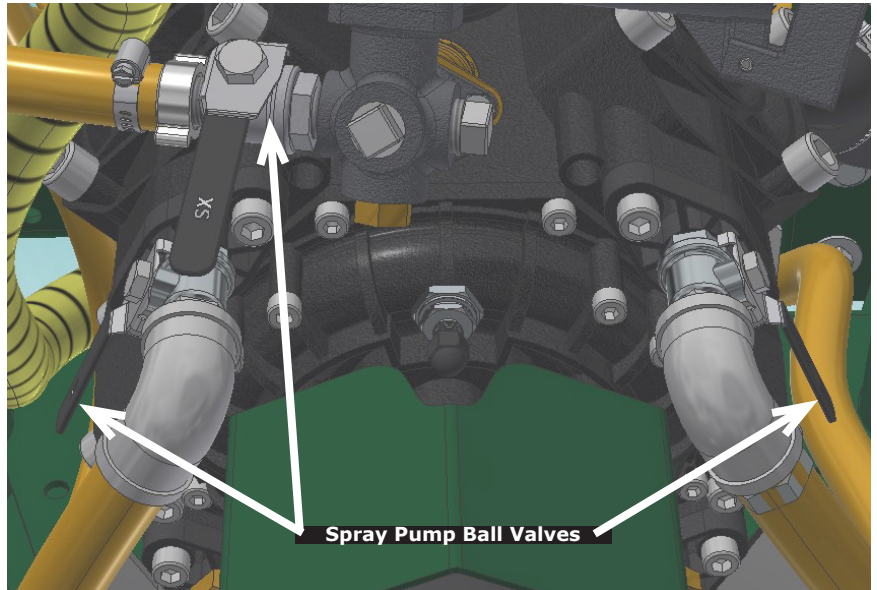


Periodically, check all hose clamps and hose fittings for tightness. All ball valves should be checked for handle tightness to ensure the control handle stays attached to the valve. Replace all worn, cracked, or leaking hoses.





Spray Boom Ball Valve Block



Spray Pump Ball Valves



Periodically, adjustments may have to be made to the onboard hose reels of the **KMC Poultry House Washer Sprayer**. Before making any adjustments, review the hose reel manufacturers operational manual to be made aware of any and all safety hazards that may accompany adjustments to the hose reels. **(Be particularly aware of the hazards associated with the retractable hose reels.)**

Also, watch for critters that lurk in unforeseen places. **OUCH!!!**



Retractable Hose Reel

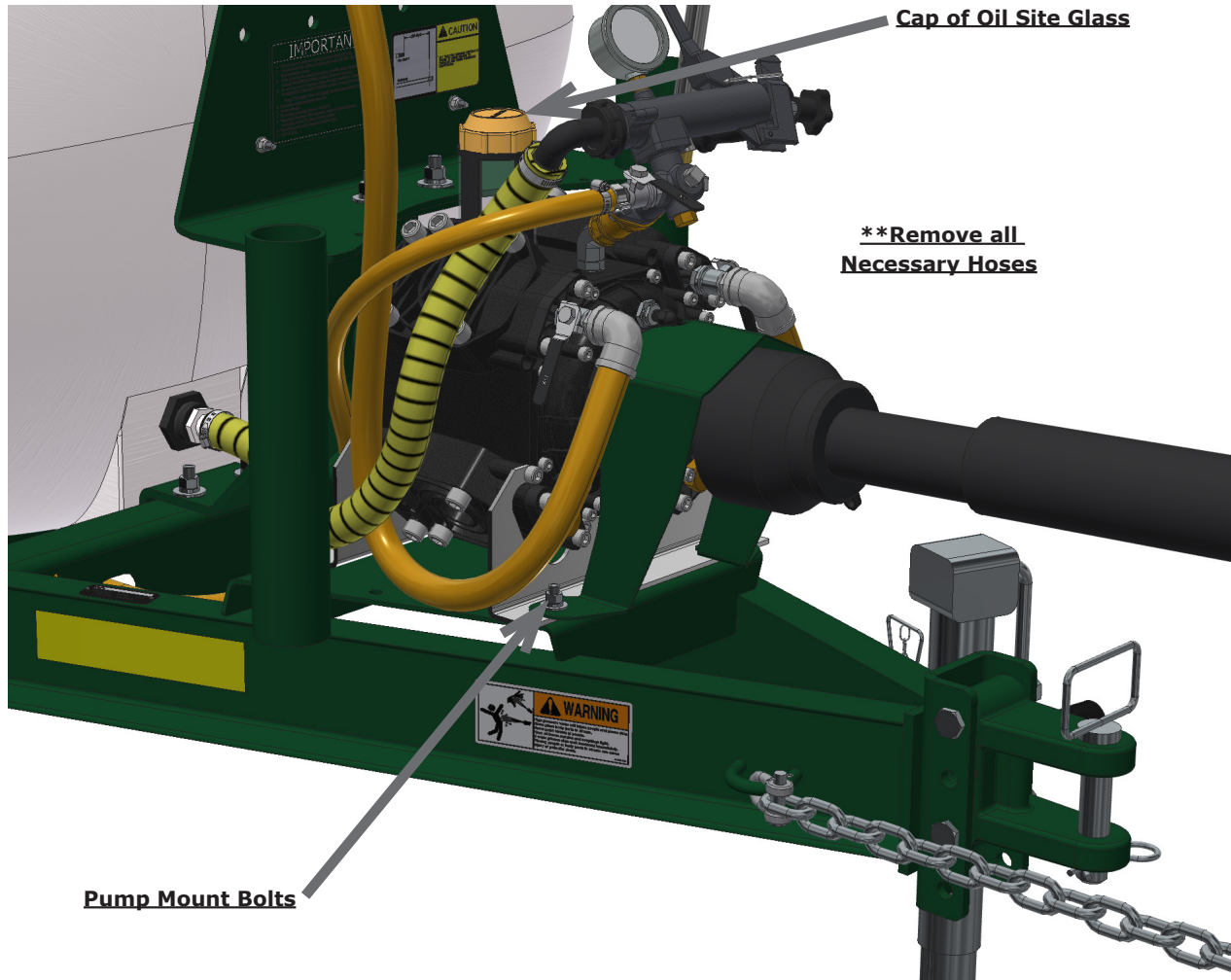


WARNING! DO NOT ATTEMPT TO DISMANTLE A RETRACTABLE HOSE REEL. A HIGH TENSION SPRING ASSEMBLY IS CONTAINED WITHIN THE REEL. IMPROPER REMOVAL OF THE SPRING COULD RESULT IN PERSONAL INJURY AND/OR REEL DAMAGE.

LUBRICATION

It is very important to maintain the proper oil level in the pump crankcase. The oil level is checked via the site glass located on the top of the pump. The pump requires a SAE 30W non-detergent oil.

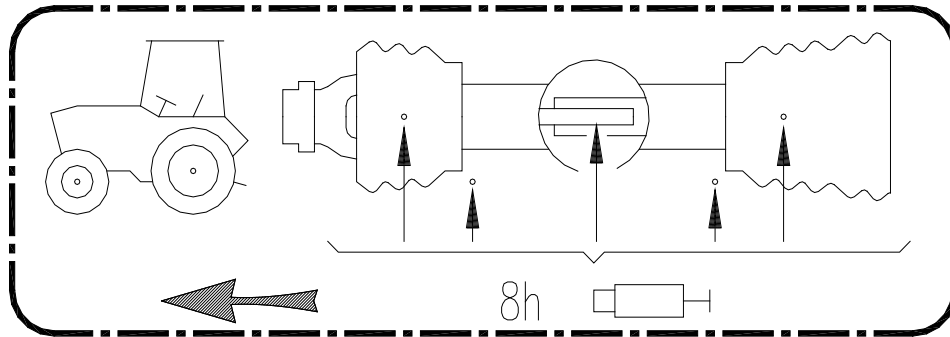
The pump crankcase oil should be changed after every 500 hours of use or when the pump diaphragms are replaced. The oil is changed as follows:



- 1) Drain the oil from the pump by removing the cap from the oil site glass, removing the pump mount bolts and removing the necessary hoses. Turn the pump upside down and rotate the crankshaft until oil stops flowing out.
- 2) It is recommended that the inside of the pump crankcase be washed out with diesel oil. Now, reattach the pump mount bolts and all hoses to secure the pump back to the main frame.
- 3) Using a SAE 30W non-detergent oil, refill the pump through the site glass to the proper level. Rotate the crankshaft while filling to distribute the oil.
- 4) Before putting the cap back on the oil site glass, run the pump with ("0") zero pressure (raising the control unit pressure release lever), until all air bubbles are vented.
- 5) After replacing the cap on the oil site glass, check the oil level with the pump operating with pressure.

IMPORTANT: Too much oil causes pressure buildup into the crankcase and this can result in leakage or diaphragm failures.

The PTO driveline should be greased as follows: Grease the universal joints and shield fitting after every 8 hours of use. Grease the locking collars and driveline tubes after every 20 hours of use.



TRANSPORTATION

Before towing the **KMC Poultry House Washer Sprayer** for extended distances, make the following preparations: Remove the PTO driveline, detaching it from the spray pump and securing it away from the towed machine. Secure all spray guns in their bracket holsters. Secure the break-away spray boom, making sure that the shear bolt is tightened and fully functional. Keep an eye on the spray boom, when crossing rough areas such as railroad crossings, making sure that the bolt does not shear with the possibility of causing damage to property or the machine itself. Maximum towing speed for the sprayer is 25 MPH.

Before beginning transportation onto the highway, make sure to connect the 7-way lighting plug from the spray trailer to the pulling tractor. (The 7-way pigtail can be removed and a 4-way flat can be used for a pulling automotive vehicle.) Once power has been established to the spray trailer lights, make sure all lights function properly for highway operation. Turning on flashers in the tractor should activate the flashers on the spray trailer, turning on a turn signal from the tractor should activate the turn signal on the correct side of the spray trailer and tail light operation on the tractor should activate the tail lights on the rear of the spray trailer. *(For extra security, be sure to attach the safety chain from the spray trailer to the transporting vehicle before entering the highway.)*

(WARNING: For your safety and the safety of others, never enter onto the highway without a functioning lighting system on the **KMC Poultry House Washer Sprayer!!!**)



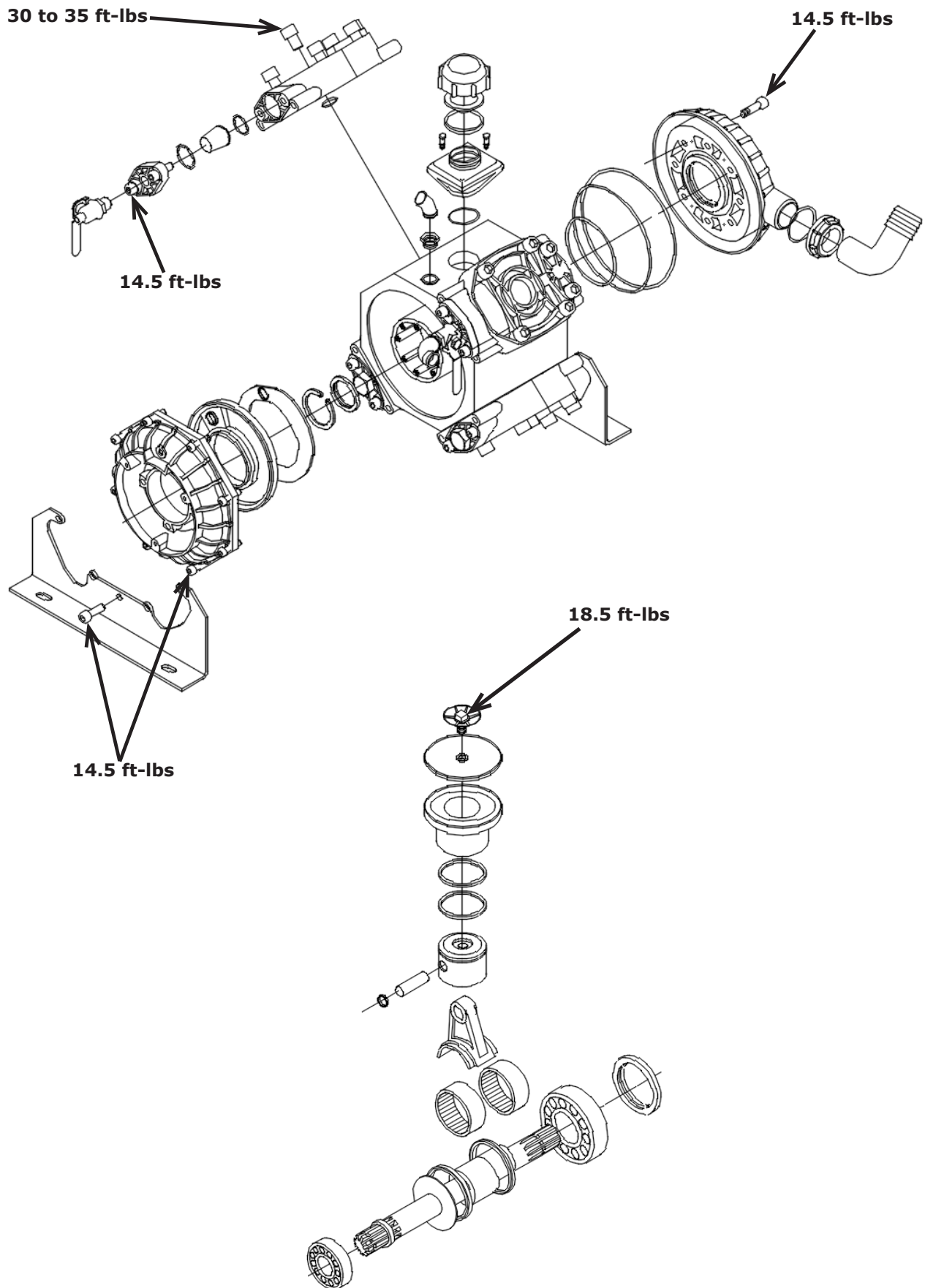
TROUBLESHOOTING

TROUBLES	CAUSES	CURES
The pump doesn't reach the required pressure	<ul style="list-style-type: none"> + Valves have worn seats + Suction hose with air pockets or irregular elbows + Worn nozzles + Clogged strainer 	<ul style="list-style-type: none"> + Check valves + Check hose + Check nozzles + Clean strainer
The pressure gauge fluctuates	<ul style="list-style-type: none"> + Pump is sucking air, or air hasn't been evacuated completely. + Valves blocked 	<ul style="list-style-type: none"> + Start pump with the gun open, to evacuate the air and commutate. + Clean or change valves
The liquid flow is irregular	<ul style="list-style-type: none"> + The air in the pulsation damper is incorrectly set. 	<ul style="list-style-type: none"> + Check pressure in pulsation damper. Should be 8-10% of operating pressure.
Output drops and the pump is noisy	<ul style="list-style-type: none"> + Oil level is too low 	<ul style="list-style-type: none"> + Top up with oil to correct level (halfway of the site glass), when pump is operating.
Oil comes out of the discharge pipe	<ul style="list-style-type: none"> + One or more diaphragms are broken. Stop pump immediately 	<ul style="list-style-type: none"> + Drain the pump of oil. Dismantle heads and change diaphragms. Fill with oil to correct level.
Oil is changing color or into white	<ul style="list-style-type: none"> + Diaphragm failure (s). Stop pump immediately 	<ul style="list-style-type: none"> + Drain the pump of oil. Dismantle heads and change diaphragms. Fill with oil to correct level.

REMEMBER



THINK SAFETY!



SPECIFICATIONS

Weight: 1100 lbs (Standard Machine) add 100 lbs per extra Hose Reel Kit (Max 2 extra)

Width: 80"min/100"max at Spray Boom

Height: 66"min/90"max at Ceiling Spray Nozzle

Length: 12.5 ft with Spray Boom

Tire Size: 11L x 15 (10 ply)---30 mph max. @ 44 psi cold inflation pressure

Pump: PTO driven diaphragm produces a maximum pressure of 725 psi and a maximum flow rate of 39.5 gpm @ a maximum 540 rpm PTO speed.

Tractor Size: Minimum 30 hp with 540 rpm PTO.

Hitch: Adjustable Clevis Type

Axle: Solid with replaceable hub assemblies

Rear Boom: Break-away shear feature allows boom to swing open if immovable object is contacted.

Liquid Flow Control: All spray nozzles are controlled by 90° turn ball valves.

Storage Tank: 500 gal elliptical poly with side offset 16" manway

Spray Guns: 21" wand---850 psi max and 30 gpm max with adjustable spray pattern
(optional) 7" wand---700 psi max and 19 gpm max with adjustable spray pattern

Spray Reels: 50ft - 1/2" Hose (Retractable)
(optional) 125ft - 1/2" Hose (Manual Crank)

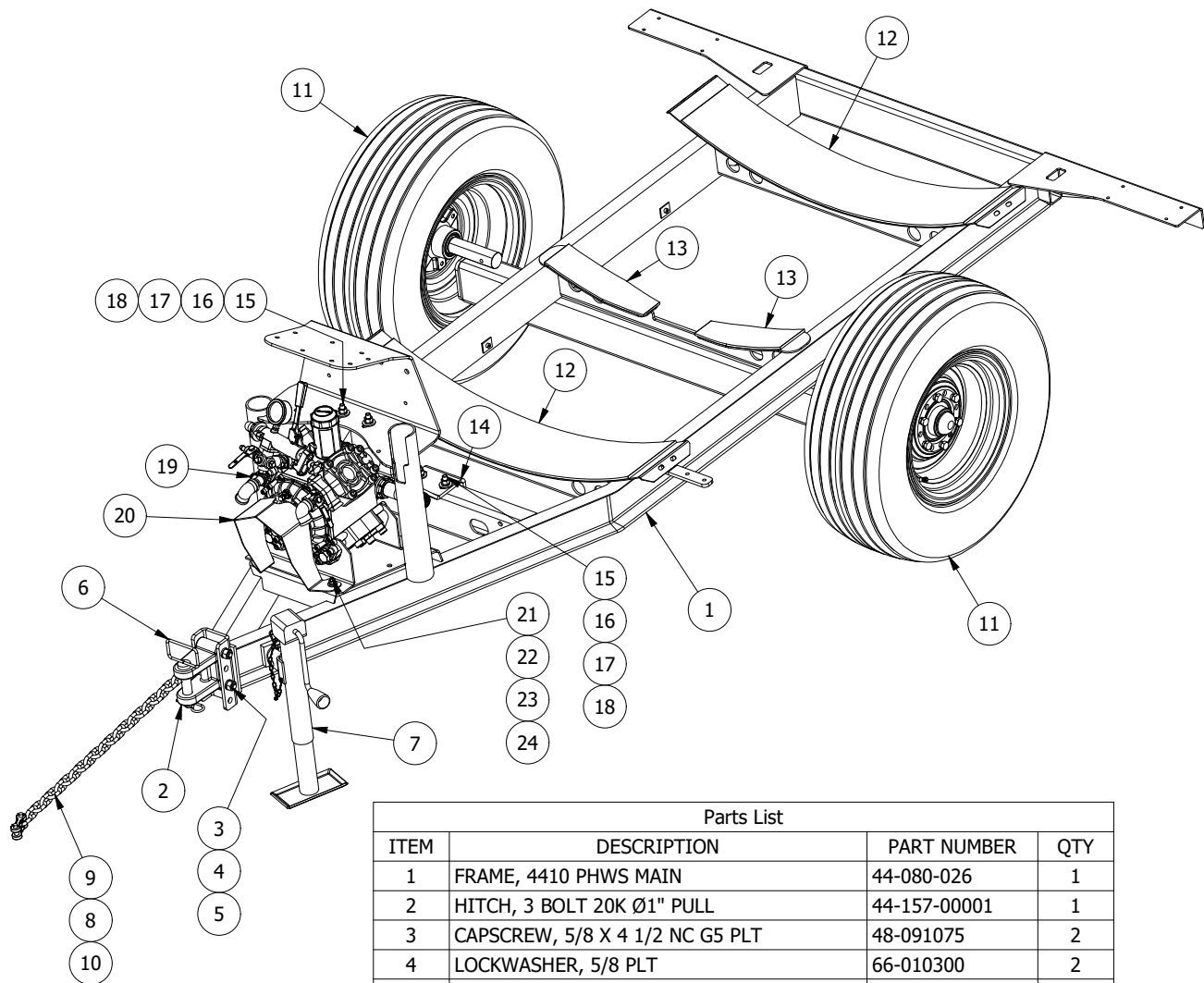
STORAGE

The KMC Poultry House Washer Sprayer should be washed down thoroughly after use. After completely washing, treating with a disinfectant is recommended to kill any remaining bacteria. Treat the metal components of the machine with a soluble oil to protect from rust and corrosion. One product which meets these requirements is called "Film Fluid" manufactured by Eureka Chemical Co., San Francisco, CA. It is sold in some tractor dealerships and at some farm supply dealers.

If the spray pump will experience freezing conditions, empty the spray pump of all water completely. An extra precautionary measure is to flush the pump with a 50/50 anti-freeze and water mixture.

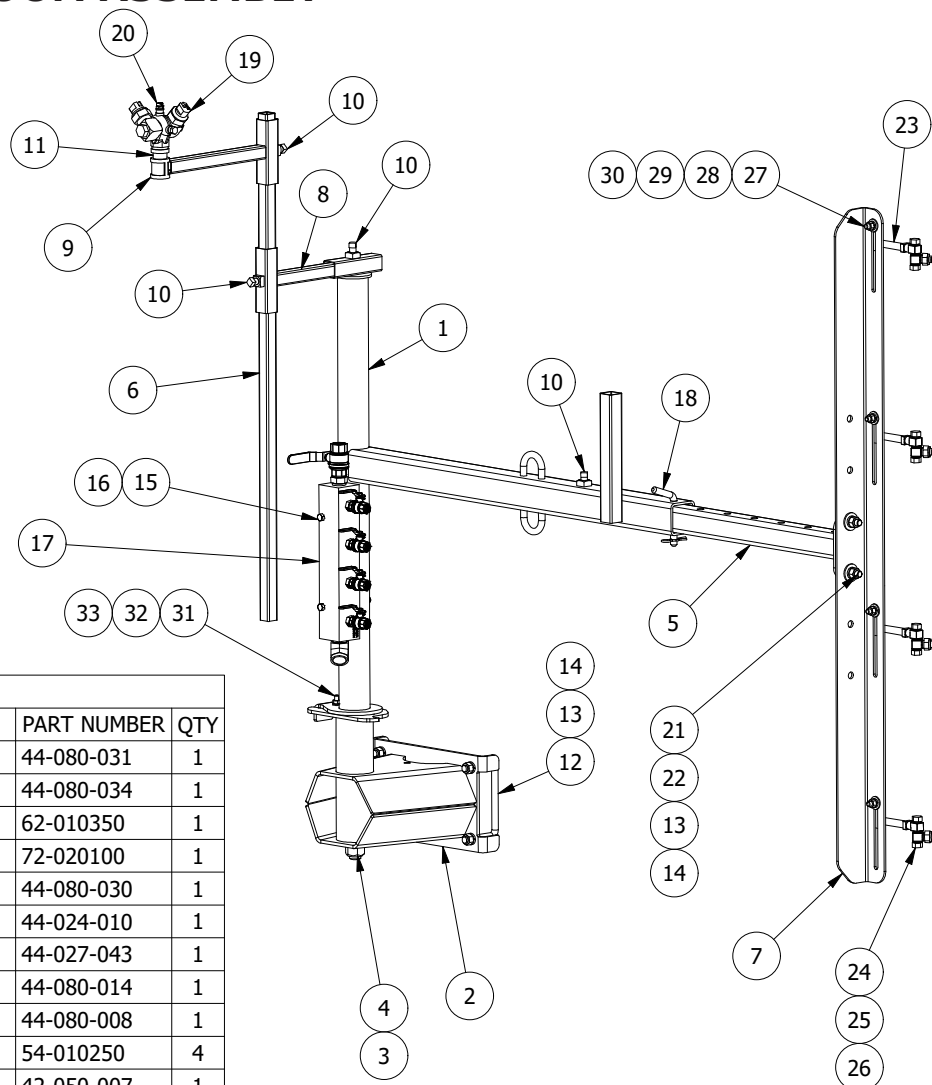
PARTS BOOK

STANDARD MAIN FRAME ASSEMBLY



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	FRAME, 4410 PHWS MAIN	44-080-026	1
2	HITCH, 3 BOLT 20K Ø1" PULL	44-157-00001	1
3	CAPSCREW, 5/8 X 4 1/2 NC G5 PLT	48-091075	2
4	LOCKWASHER, 5/8 PLT	66-010300	2
5	HEXNUT, 5/8 PLT	68-010300	2
6	HITCH PIN, 1 X 6 1/4 PLT	44-050-023	1
7	JACK, 2000# SIDEWIND	44-050-024	1
8	DOUBLE CLEVIS LINK	33-050-139	1
9	CHAIN, 27 LINK SAFETY	33-050-140	1
10	CHAIN SHACKLE, 3/8"	33-050-181	1
11	ASSY, TIRE & WHEEL	44-081-002	2
12	CUSHION, PHWS OUTSIDE TANK FOAM	44-050-026	2
13	CUSHION, PHWS INSIDE TANK FOAM	44-050-027	2
14	STOPPER, PHWS TANK LOCK	44-080-028	1
15	CARRIAGE BOLT, 1/2 X 1 3/4 NC G5 PLT	52-050150	4
16	FLATWASHER, 1/2 STD PLT	62-010200	4
17	LOCKWASHER, 1/2" REGULAR PLT	66-010250	4
18	HEXNUT, 1/2 PLT	68-010250	4
19	PUMP ASSY, 4410 PHWS	44-081-014	1
20	SHIELD,FRONT PHWS PUMP	44-027-015	1
21	CARRIAGE BOLT, 3/8 X 1 1/4 NC G5 PLT	52-050040	4
22	FLATWASHER, 3/8" STANDARD PLT	62-010100	4
23	LOCKWASHER, 3/8 PLT	66-010150	4
24	HEXNUT, 3/8 PLT	68-010150	4

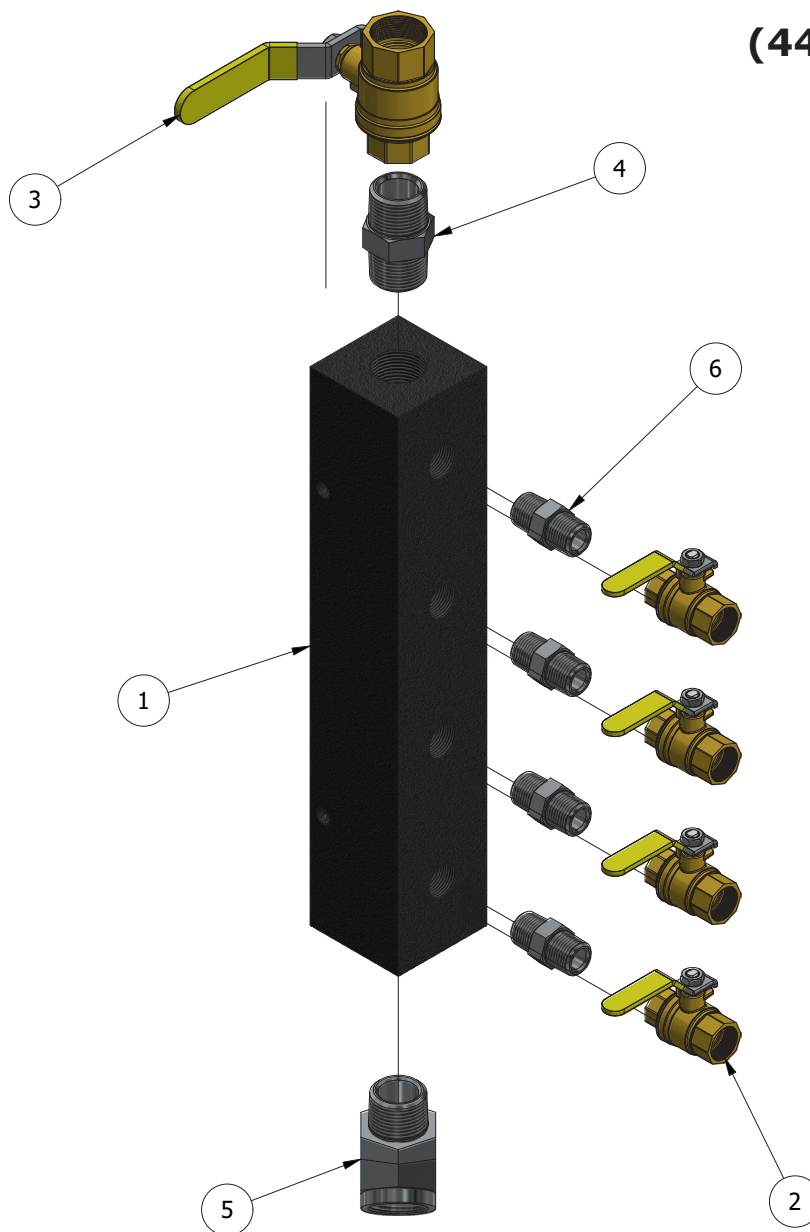
STANDARD SPRAY BOOM ASSEMBLY



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	STAND-OFF, PHWS SPRAY BOOM	44-080-031	1
2	MOUNT BRKT, SPRAYBOOM SHEAR	44-080-034	1
3	FLATWASHER, 7/8 STD PLT	62-010350	1
4	LOCKNUT, 7/8 NC STOVER GD C PLT	72-020100	1
5	ARM, PHWS ADJ BOOM	44-080-030	1
6	ARM, EXTENSION	44-024-010	1
7	MOUNT, PHWS BOOM NOZZLE ADJ	44-027-043	1
8	EXTENSION, BOOMLESS NOZZLE	44-080-014	1
9	SUPPORT, BOOMLESS NOZZLE	44-080-008	1
10	SETSCREW, 1/2 X 1 SQ HD CUPPT G5	54-010250	4
11	NIPPLE, 3/4 NPT X 1 1/2 - GALV	42-050-007	1
12	U-BOLT, WHEEL POST	03-050-001	2
13	LOCKWASHER, 1/2" REGULAR PLT	66-010250	6
14	HEXNUT, 1/2 PLT	68-010250	6
15	CAPSCREW, 5/16X5 NC HX HD GD 5 PLT	48-090075	2
16	LOCKNUT, 5/16 NC NYLON	72-010060	2
17	MANIFOLD ASSY, 4410 PHWS	44-081-016	1
18	PIN, 1/2" BENT HITCH	04-050-134	1
19	NOZZLE, 3/4" DOUBLE SWIVEL	44-060-004	1
20	TIP, S.S. SPRAY	44-060-083	1
21	CAPSCREW, 1/2 X 1 1/2 NC G5 PLT	48-090595	2
22	FLATWASHER, 1/2 STD PLT	62-010200	2
23	ARM, NOZZLE	44-080-003	4
24	BODY, SWIVEL NOZZLE	20-060-006	4
25	CAP, NOZZLE	20-060-005	4
26	TIP, 1/4" SPRAY	44-060-013	4
27	CAPSCREW, 3/8 X 1 1/4 NC G5 PLT	48-090150	4
28	FLATWASHER, 3/8" STANDARD PLT	62-010100	4
29	LOCKWASHER, 3/8 PLT	66-010150	4
30	HEXNUT, 3/8 PLT	68-010150	4
31	CAPSCREW, 5/16 X 1 1/4 NC G5 PLT	48-090037	1
32	LOCKWASHER, 5/16 PLT	66-010100	1
33	HEXNUT, 5/16 PLT	68-010100	1

SPRAY BOOM MANIFOLD ASSEMBLY

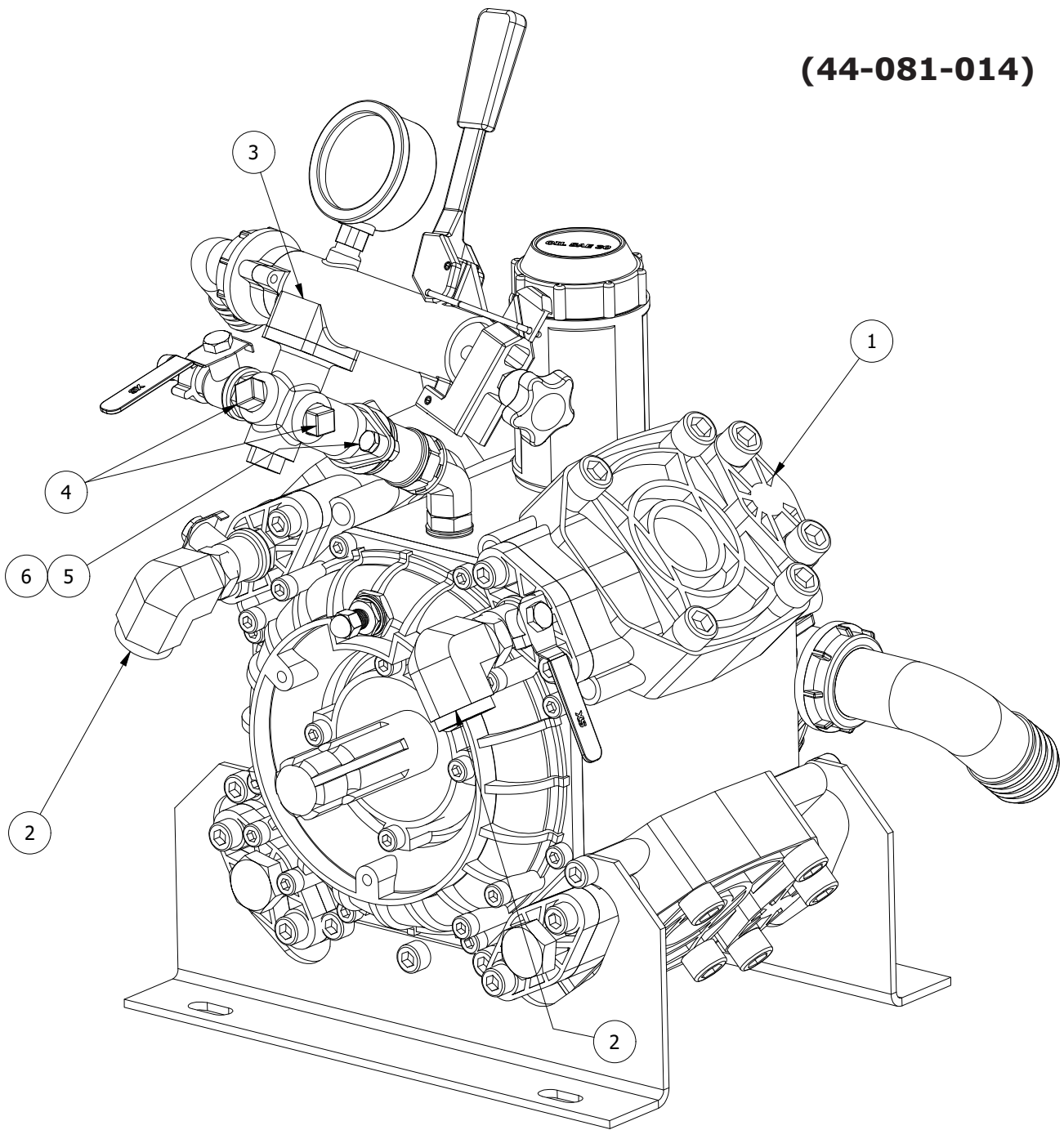
(44-081-016)



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	MANIFOLD, ALUMINUM	44-161-00000	1
2	VALVE, 3/8" BRASS BALL	44-060-011	4
3	VALVE, 3/4" BRASS BALL	44-060-331	1
4	ADAPTER, 12MP-12MP	33-059-076	1
5	ADAPTER, 12MP-12FP-45 ELBOW	44-059-029	1
6	ADAPTER, 6MP-6MP	44-159-00002	4

JOHN BLUE SPRAY PUMP ASSEMBLY

(44-081-014)

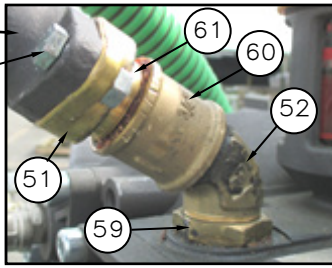


Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	PUMP, DIAPHRAGM '19 DP-407.2	44-060-327	1
2	ADAPTER, 12FP-8FPX-90	44-059-052	2
3	UNIT, PUMP CONTROL	44-060-015	1
4	PLUG, 3/8" GALV.	44-059-006	2
5	CAPSCREW, 1/4 X 3/4 NC G5 PLT	48-090010	2
6	HEXNUT, 1/4 PLT	68-010050	2

DP-407.2 HIGH PRESSURE DIAPHRAGM PUMP--JOHN BLUE

Flow Control
(44-060-015)

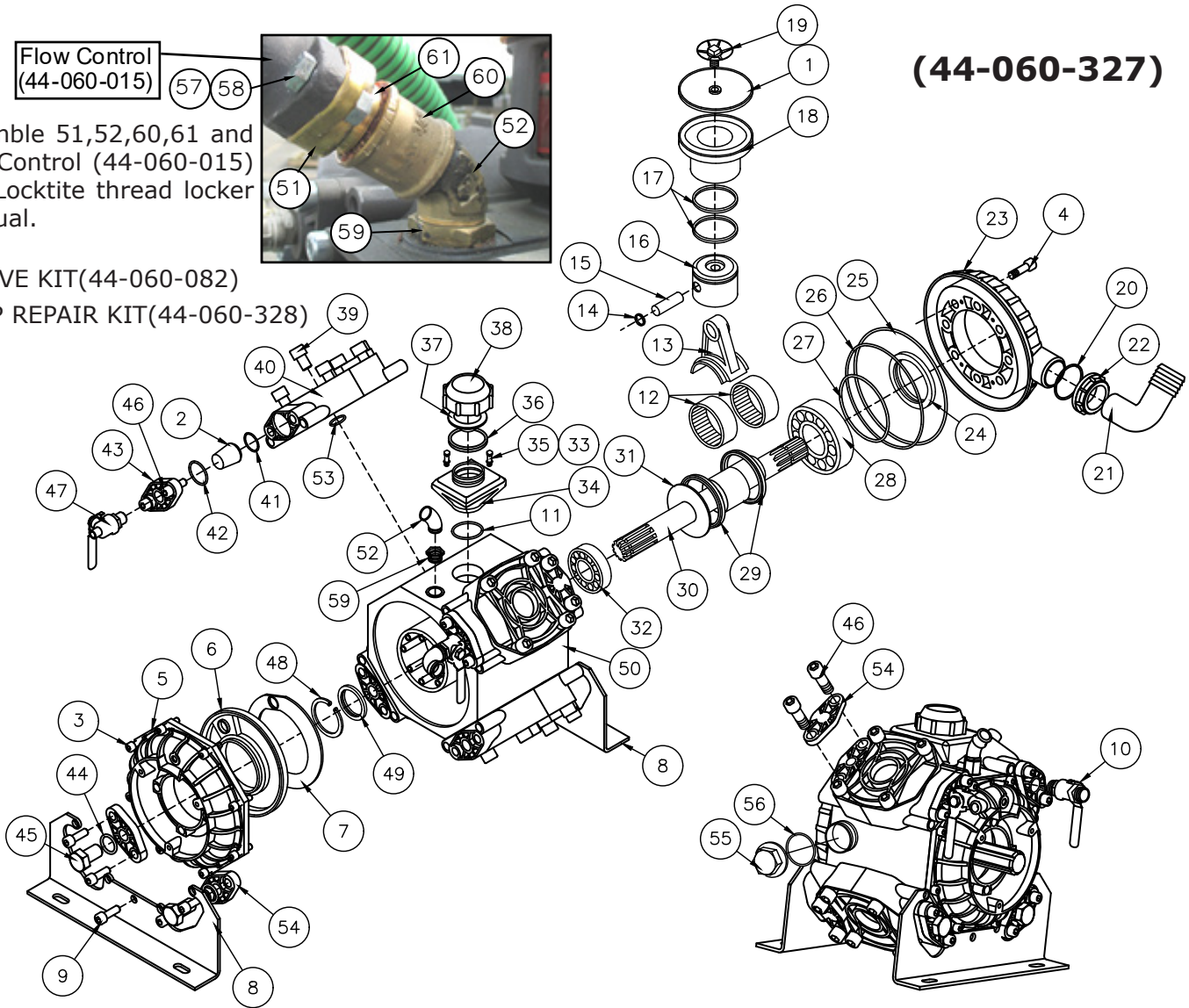
Assemble 51,52,60,61 and
Flow Control (44-060-015)
with Locktite thread locker
or equal.



(44-060-327)

■ VALVE KIT(44-060-082)

*PUMP REPAIR KIT(44-060-328)

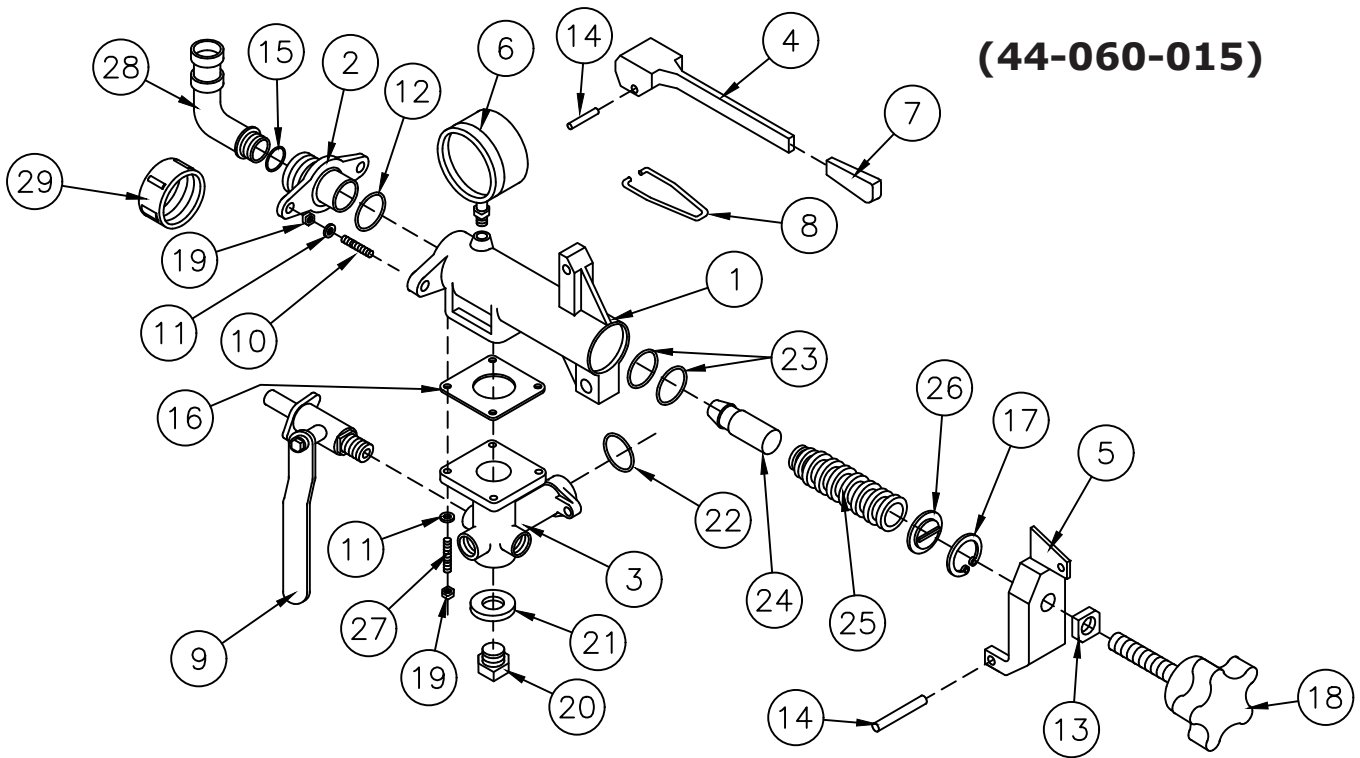


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
*1	44-060-075		BUNA-N PISTION DIAPHRAGM	4
■ 2	44-060-052		VALVE ASSEMBLY	8
3	44-060-031		SCREW, M8 X 30	20
4	44-060-028		SCREW, M8 X 35	8
5	44-060-279		BALLASTER COVER	1
* 6	44-060-280		BALLASTER DIAPHRAGM	1
7	44-060-281		LOWER BALLASTER	1
8	44-060-282		MOUNTING RAIL	2
9	44-060-060		SCREW, M10 X 25	10
10	44-060-092		Spray Valve, "S"	1
*11	44-060-311		GASKET	1
12	44-060-343		NEEDLE ROLLER BEARING	2
13	44-060-337		CONROD	4
14	44-060-070		RING DIA 15	8
15	44-060-071		PISTON PIN DIA 15X24	4
16	44-060-072		PISTON	4
17	44-060-073		PISTON RING	8
18	44-060-074		PISTON SLEEVE	4

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
19	44-060-076		KIT DISK + SCREW INOX	4
*20	44-060-272		O-RING, DIA 3.0 X 30	1
21	44-060-273		90° ELBOW CONN DIA 40	1
22	44-060-274		WING NUT, G 1 1/2	1
23	44-060-285		INLET COVER "VD"	1
*24	44-060-080		OIL SEAL, DIA 40X72X10 "VD"	1
*25	44-060-286		O-RING, DIA 3,35X190,10	1
*26	44-060-035		O-RING, DIA 2,62X126,67	1
*27	44-090-034		O-RING, DIA 3,53X88,5	1
28	44-060-079		BALL BEARING 6308 "VD"	1
29	44-060-338		CONROD HOLDING RING	2
30	44-060-339		CRANKSHAFT "VD"	1
31	44-060-340		SHAFT RING	1
32	44-060-341		ROLLER BEARING 40X80X18	1
33	44-060-317		WASHER	1
34	44-060-316		OIL FILLER ASSY	1
35	44-060-318		BOLT, M6 X 25	2
36	44-060-319		DIAPHRAGM SPACER	1
*37	44-060-023		OIL FILLER DIAPHRAGM	1
38	44-060-022		OIL FILLER COVER	1
39	44-060-288		SCREW, M14X70	16
40	44-060-289		PUMP HEAD	4
■*41	44-060-029		O-RING, DIA 3,53X32,93	8
■*42	44-060-057		O-RING, DIA 3,53X41,28	8
43	44-060-290		VALVE COVER, G 3/8"	4
*44	44-060-291		GASKET	2
45	44-060-044		CAP, G 3/8"	2
46	44-060-292		SCREW, M10X30	16
47	44-060-047		SPRAY VALVE, "D"	1
48	44-060-293		RING, DIA 52	1
*49	44-060-342		OIL SEAL, DIA 40X52X7	1
50	44-060-320		CRANKCASE	1
51	44-060-295		FLANGE FOR VALVE COUPLING G 3/4"	1
52	44-060-304		60° ELBOW PIPE CONN. G 3/4	1
*53	44-060-050		O-RING, DIA 2,62X 22,22	8
54	44-060-297		VALVE COVER	4
55	44-060-322		CAP G. 1/4	1
56	44-060-321		WASHER	1
57	44-060-300		NUT, M6	2
58	44-060-301		SCREW, M6X20	2
59	44-060-303		BRASS NUT, G 3/4	1
60	44-060-302		SLEEVE, G 3/4	1
61	44-060-326		EXTENSION G, 3/4	1

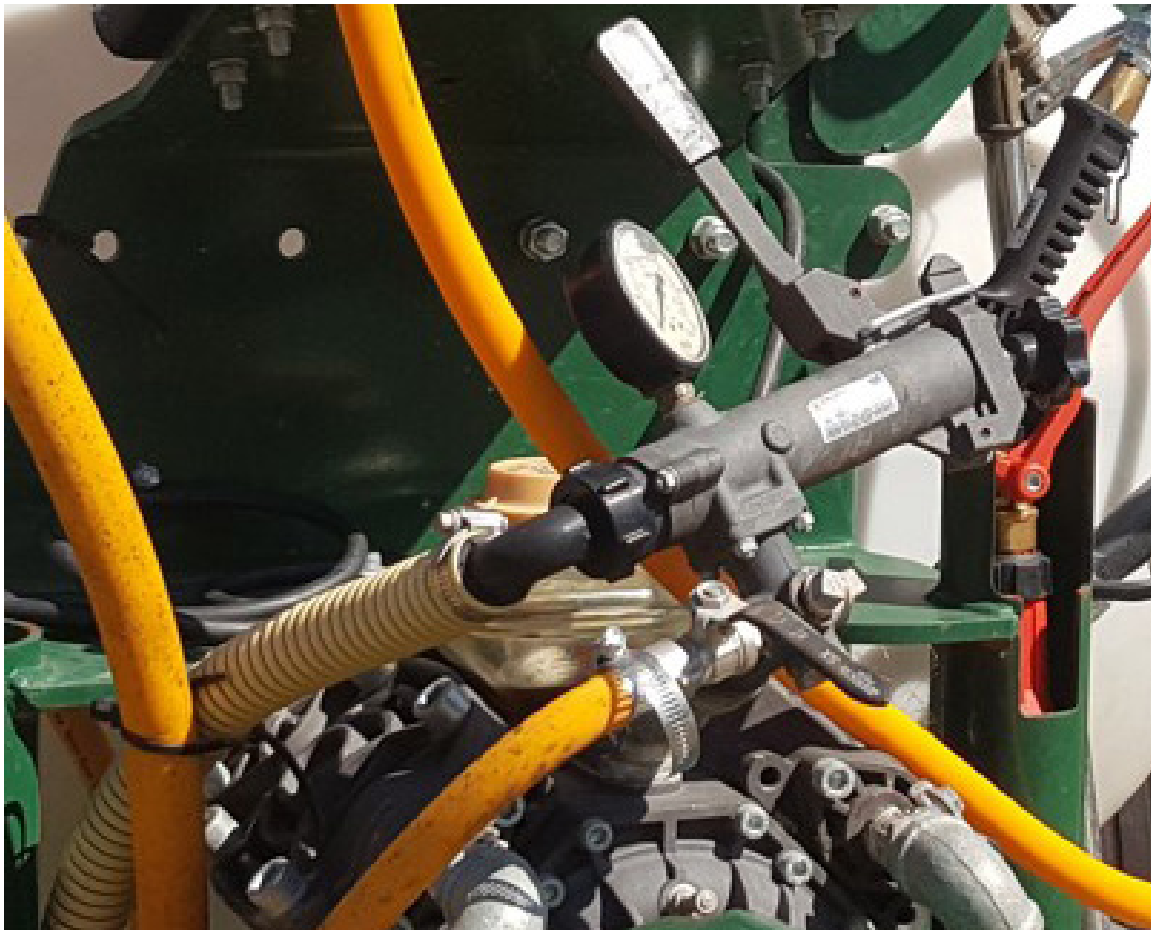
SC-1480-3 SPRAY CONTROL VALVE--JOHN BLUE

(44-060-015)

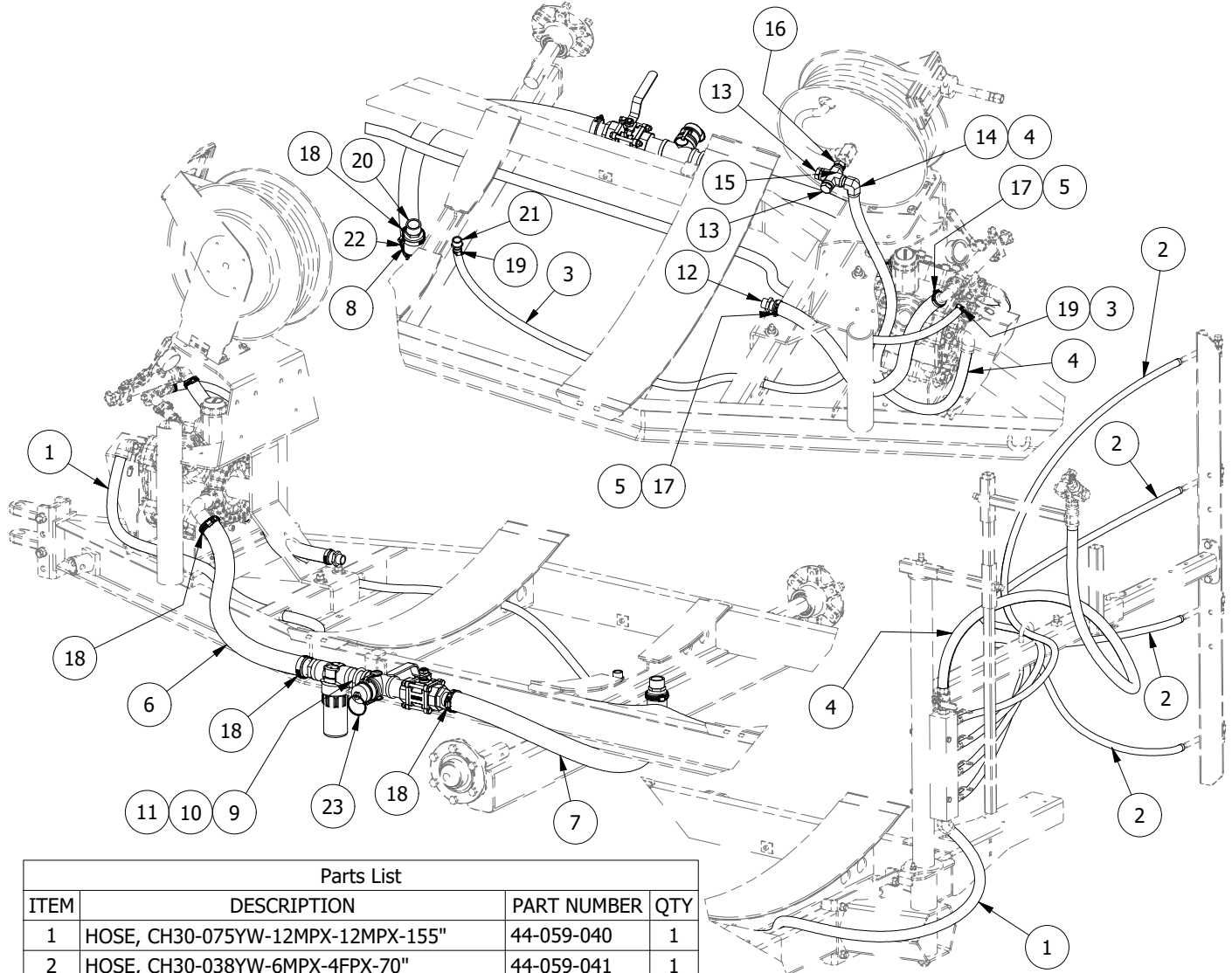


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	44-060-085		VALVE BODY	1
2	44-060-086		SEAT, DISCHARGE CONNECTION	1
3	44-060-087		VALVE, CONNECTION	1
4	44-060-088		PRESSURE ADJUSTING VALVE LEVER	1
5	44-060-116		VALVE ARM	1
6	44-060-089		PRESSURE GAUGE, GLYCERINE FIL	1
7	44-060-090		KNOB	1
8	44-060-091		TIE BOLT	1
9	44-060-092		SPRAY VALVE	1
10	44-060-093		STUD, M5 X 18	2
11	44-060-094		WASHER, D.5	6
12	44-060-095		O-RING 2 X 25	1
13	44-060-096		NUT, M8	1
14	44-060-097		SPRING PIN	2
15	44-060-098		O-RING, DIA 62MM X 22, 22MM	1
16	44-060-099		GASKET	1
17	44-060-100		SNAP RING	1

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
18	44-060-101		KNOB	1
19	44-060-102		NUT M5	6
20	44-060-103		PLUG	1
21	44-060-104		GASKET 16, 5 X 23 X 1	1
22	44-060-061		O-RING DIA 3 X 22	1
23	44-060-106		GASKET 123-17, 86 X 2, 62	2
24	44-060-107		SHUTTER DN23	1
25	44-060-108		SPRING	1
26	44-060-109		WASHER	1
27	44-060-110		STUD M5 X 14	4
28	44-060-111		90° ELBOW TAIL	1
29	44-060-112		WING NUT, M34	1



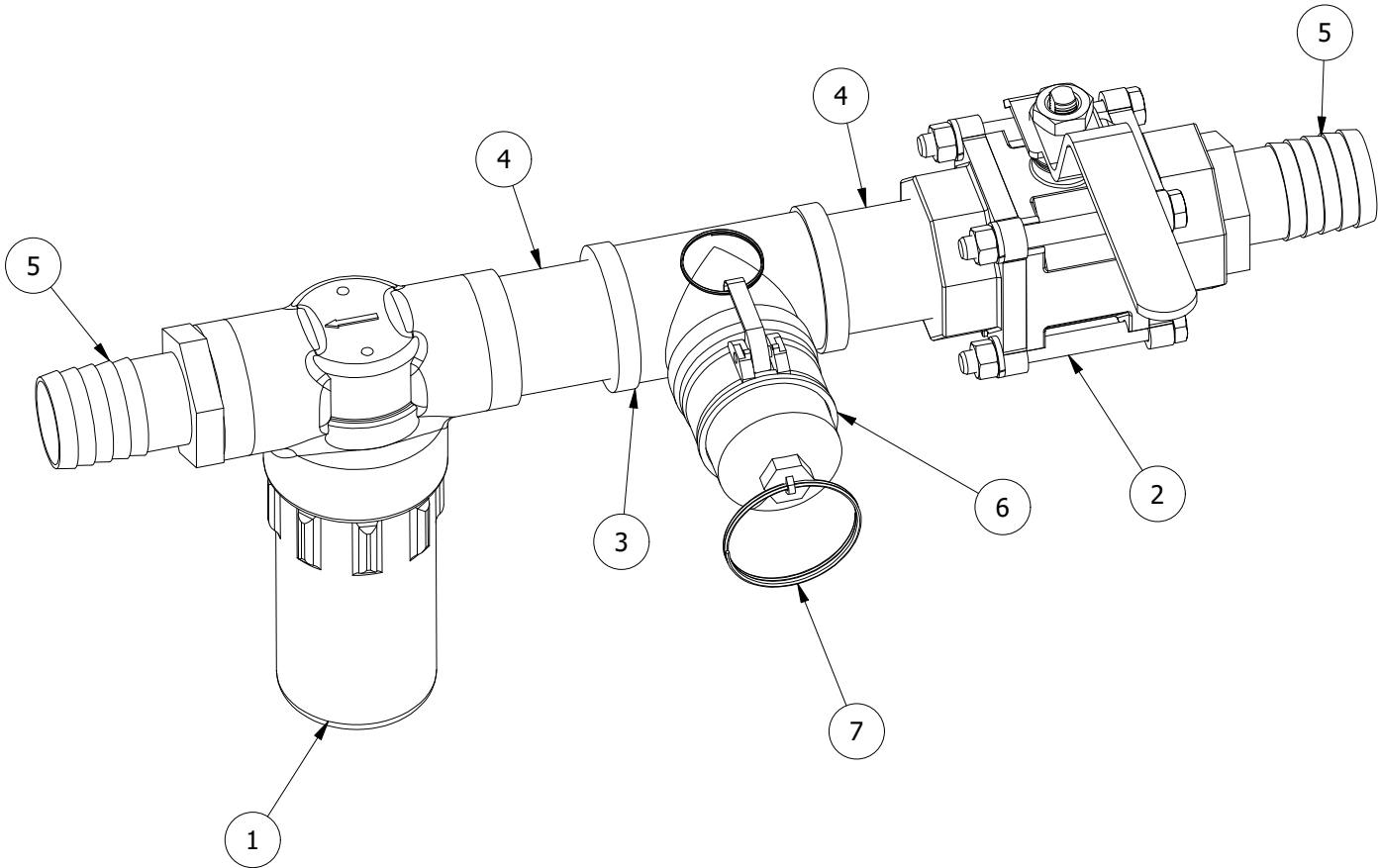
STANDARD MACHINE PLUMBING



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	HOSE, CH30-075YW-12MPX-12MPX-155"	44-059-040	1
2	HOSE, CH30-038YW-6MPX-4FPX-70"	44-059-041	1
3	HOSE, CH30-050YW-OPEN-OPEN-80"	44-059-044	1
4	HOSE, CH30-075YW-12MPX-12MPX-60"	44-059-037	2
5	HOSE, 1" X 36" EPDM POLY HELIX SUCTION	44-059-043	1
6	HOSE, 1-1/2" ID X 41"	44-059-018	1
7	HOSE, 1-1/2" ID X 30" SUCTION	44-059-047	1
8	HOSE, 1-1/2" ID X 3" SUCTION	44-059-048	1
9	U-BOLT, 5/16 X 2 X 3	44-050-003	1
10	LOCKWASHER, 5/16 PLT	66-010100	2
11	HEXNUT, 5/16 PLT	68-010100	2
12	NIPPLE, 3/4" NPT X 1" NYLON	44-060-330	1
13	ADAPTER, 12MP PLUG	44-059-034	2
14	ADAPTER, 12MP-12FP-90	42-059-115	1
15	ADAPTER, 12FP-12FP-12FP-12FP CROSS	44-059-051	1
16	ADAPTER, 12MP-8MP	44-159-00006	1
17	CLAMP, 1/2" X 1-1/16"-2" HOSE	09-050-006	2
18	CLAMP, 1/2" X 1-9/16"-2-1/2" HOSE	44-060-009	6
19	CLAMP, 1/2" X 7/16"-1" HOSE	20-050-003	2
20	NIPPLE, 1-1/4" NPT X 1-1/2" NYLON	44-060-333	1
21	NIPPLE, 3/4 NPT X 1/2" BARB NYLON	44-060-344	1
22	ELBOW, 1-1/2" HOSE BARB POLY	44-060-334	1
23	STRAINER/VALVE ASSY, 4410 PHWS	44-081-015	1

STRAINER/VALVE ASSEMBLY

(44-081-015)



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	STRAINER, 1-1/2" LINE	44-060-002	1
2	VALVE, 1-1/2" BALL	44-060-003	1
3	TEE, 1 1/2 GALV	44-050-013	1
4	NIPPLE, 1 1/2"X 3" GALV	44-050-014	2
5	NIPPLE, 1 1/2" NYLON HOSE	44-060-005	2
6	FEMALE COUPLER/MALE THD	44-060-270	1
7	PLUG, 1 1/2"	44-060-269	1

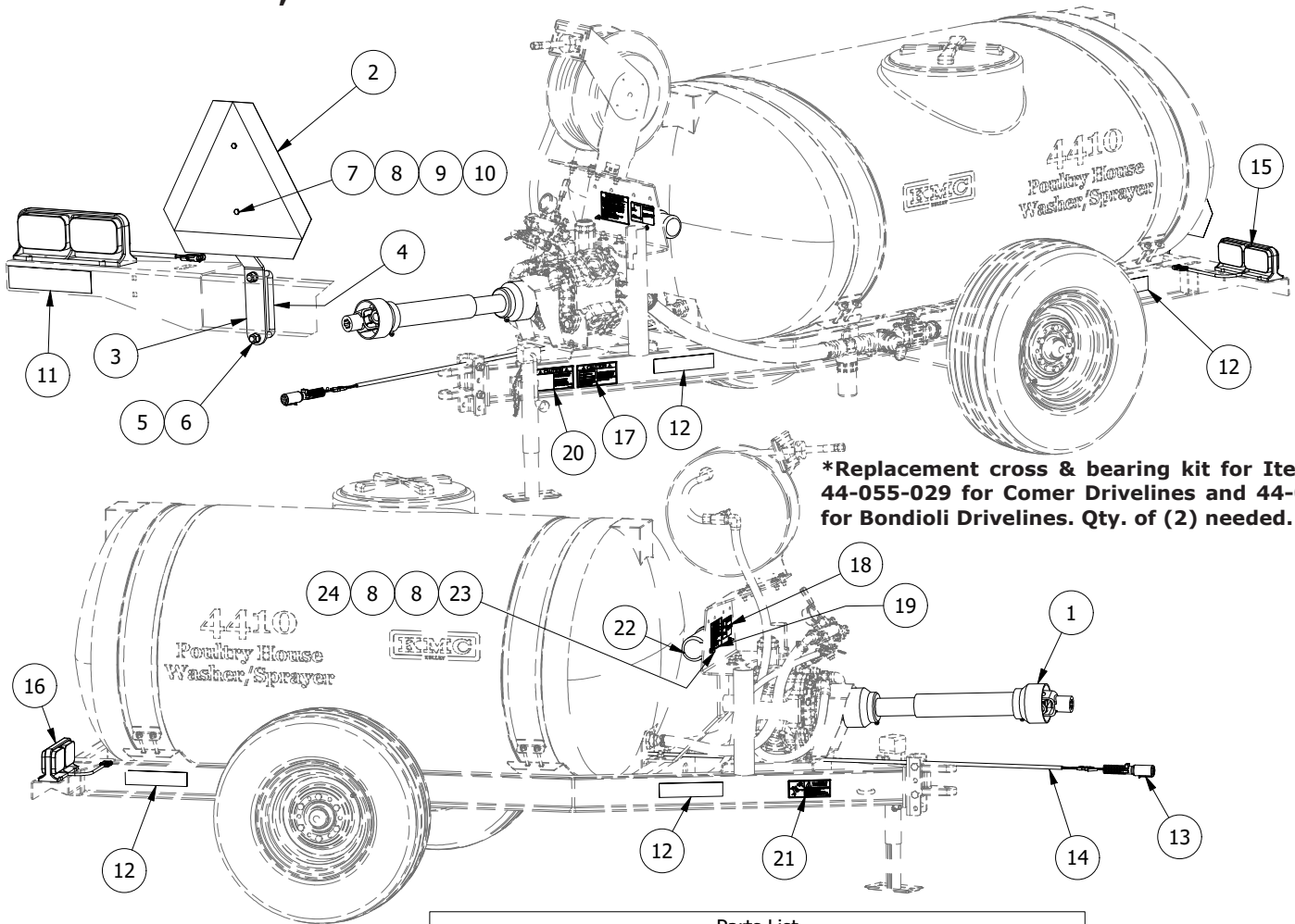
500 GALLON OFFSET TANK ASSEMBLY



** These items are included with tank #44-060-329.

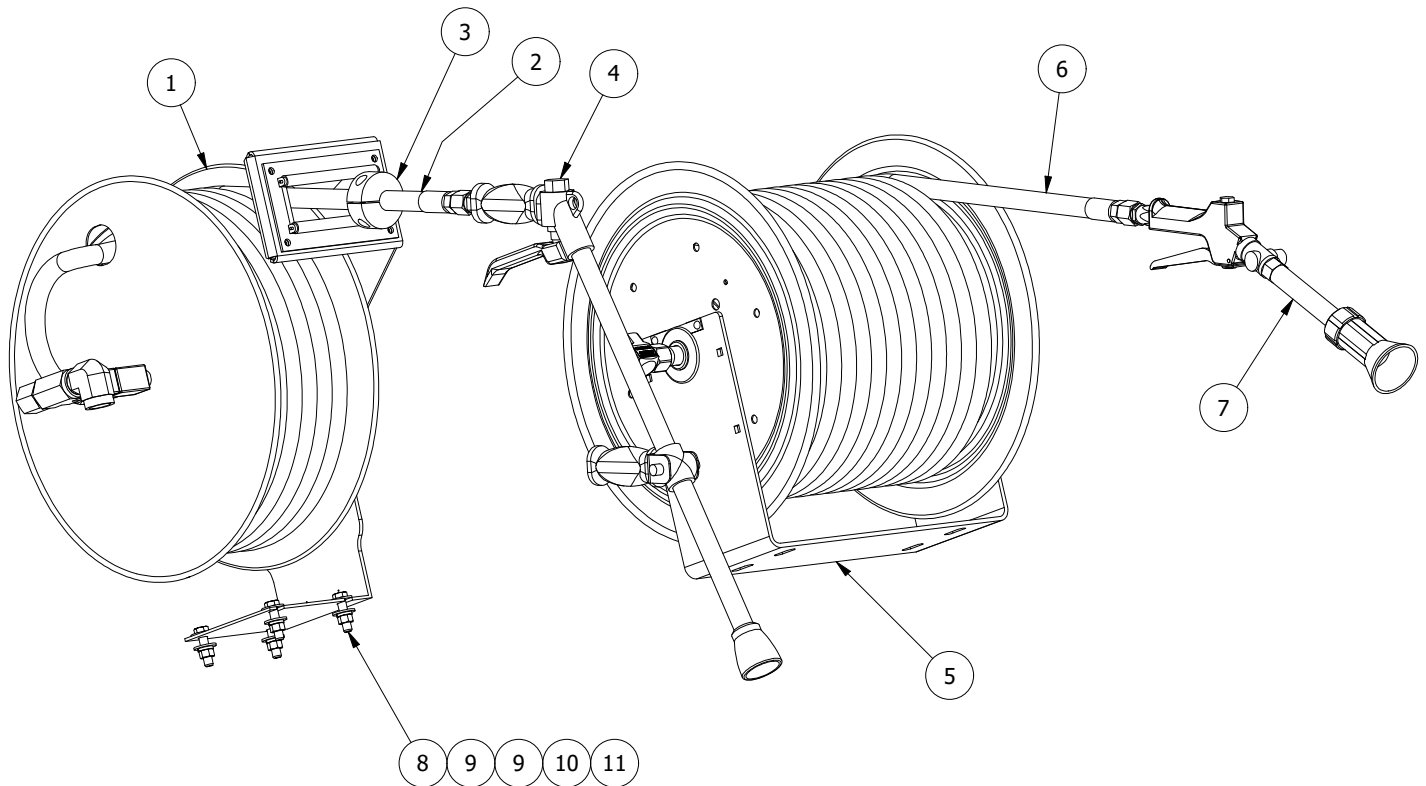
Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	TANK, 500 GAL POLY OFFSET FILL	44-060-329	1
2	STRAP, TANK HOLD DOWN	44-080-016	2
3	SCREW, 3/8X4 NC CARR GD 5 PLT	52-050104	8
4	FLATWASHER, 5/16" STD PLT	62-010050	8
5	LOCKNUT, 3/8 NYLON INSERT HVY PLT	72-010051	8
6	DECAL, 4410 PHWS	44-050-025	2
7	DECAL, 4 X 14 KMC	16-050-035	2
** 8	FITTING, 3/4" DT	20-060-034	2
** 9	FITTING, 1-1/4" ANTI-VORTEX	20-060-035	1
** 10	KIT, 16" LID/VENT & FILLWELL	44-060-307	1
** 11	LANYARD, 18"	44-060-308	1

LIGHTING, MARKINGS & OPERATION



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
*1	DRIVELINE, 4410 1 3/8-6 540 RPM	44-055-028	1
2	EMBLEM, SMV	03-050-068	1
3	MOUNT, PHWS SMV	44-027-030	1
4	U-BOLT, WHEEL POST	03-050-001	1
5	LOCKWASHER, 1/2" REGULAR PLT	66-010250	2
6	HEXNUT, 1/2 PLT	68-010250	2
7	CAPSCREW, 1/4 X 1 NC G5 PLT	48-090015	2
8	FLATWASHER, 1/4 STD PLT	62-010010	6
9	LOCKWASHER, 1/4 PLT	66-010050	2
10	HEXNUT, 1/4 PLT	68-010050	2
11	STRIP, RED REFLECTOR	33-050-266	2
12	STRIP, YELLOW REFLECTOR	33-050-265	4
13	ADAPTER, 7-WAY PLUG	48-062-001	1
14	HARNESS, WASHER/SPRAYER	44-062-001	1
15	LIGHT, DOUBLE LT	48-062-004	1
16	LIGHT, DOUBLE RT	48-062-005	1
17	DECAL, ANTI-FREEZE CAUTION	44-050-020	1
18	DECAL, PHWS DRAWBAR CAUTION	44-050-028	1
19	DECAL, WASHER PUMP	44-050-008	1
20	DECAL, TRACTOR LIFT ARM CAUTION	44-050-029	1
21	DECAL, HIGH PRESSURE FLUID WARNING	44-050-032	1
22	CANISTER, MANUAL	49-050-012	1
23	CAPSCREW, 1/4 X 1 1/4 G5 PLT	48-090020	2
24	LOCKNUT, 1/4 NC NYLON	72-010055	2

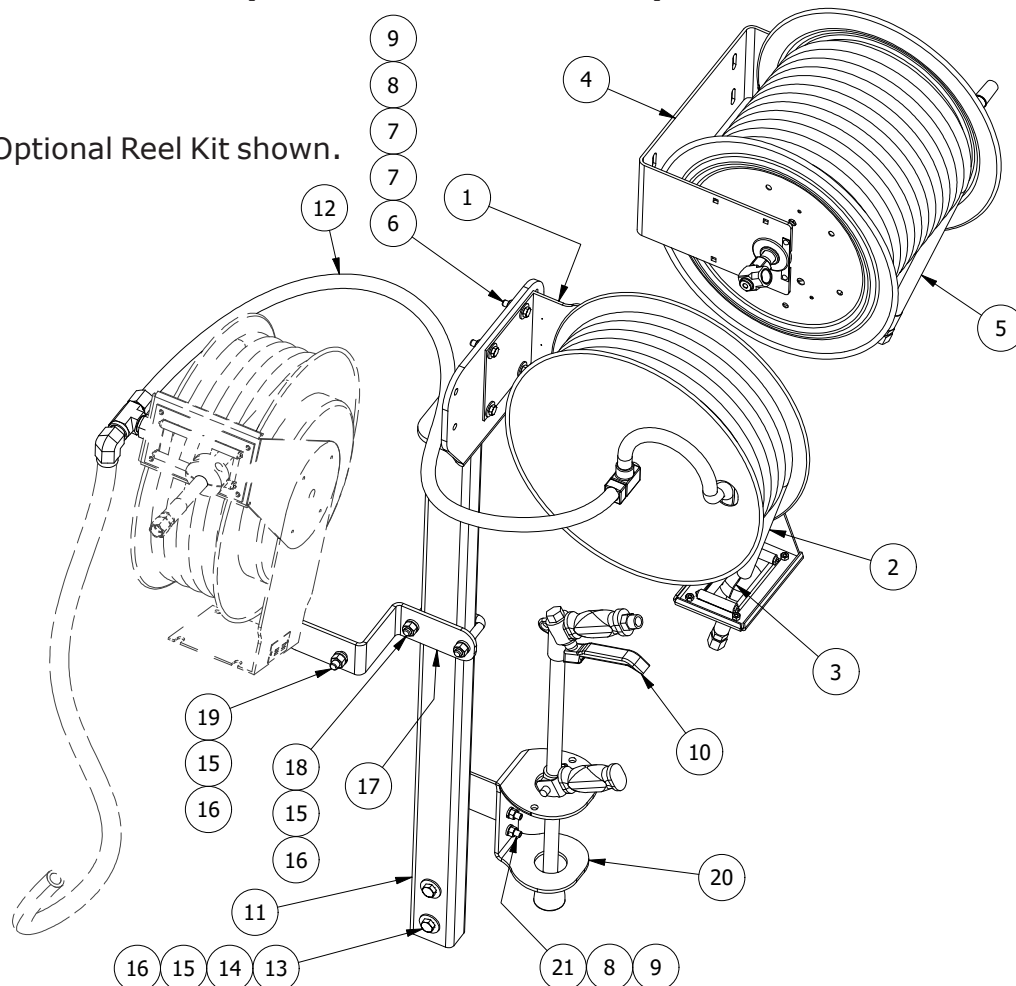
FRONT REEL ASSEMBLY (STANDARD/OPTIONAL)



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	HOSE REEL, 1/2" 50FT RETRACT	44-059-035	1
2	HOSE, CH30-050YW-8MPX-8FPX-600"	44-059-045	1
3	BUMPER, 1/2" RETRACTABLE HOSE	44-059-042	1
4	GUN, SPRAY	44-060-001	1
5	HOSE REEL, 1/2" 125FT MANUAL	44-059-049	1
6	HOSE, CH30-050YW-8MPX-8FPX-1500"	44-059-050	1
7	GUN,TURBO 400 ADJ SPRAY	44-060-345	1
8	CAPSCREW, 3/8 X 1 1/2 GD 5	48-090170	4
9	FLATWASHER, 3/8" STANDARD PLT	62-010100	8
10	LOCKWASHER, 3/8 PLT	66-010150	4
11	HEXNUT, 3/8 PLT	68-010150	4

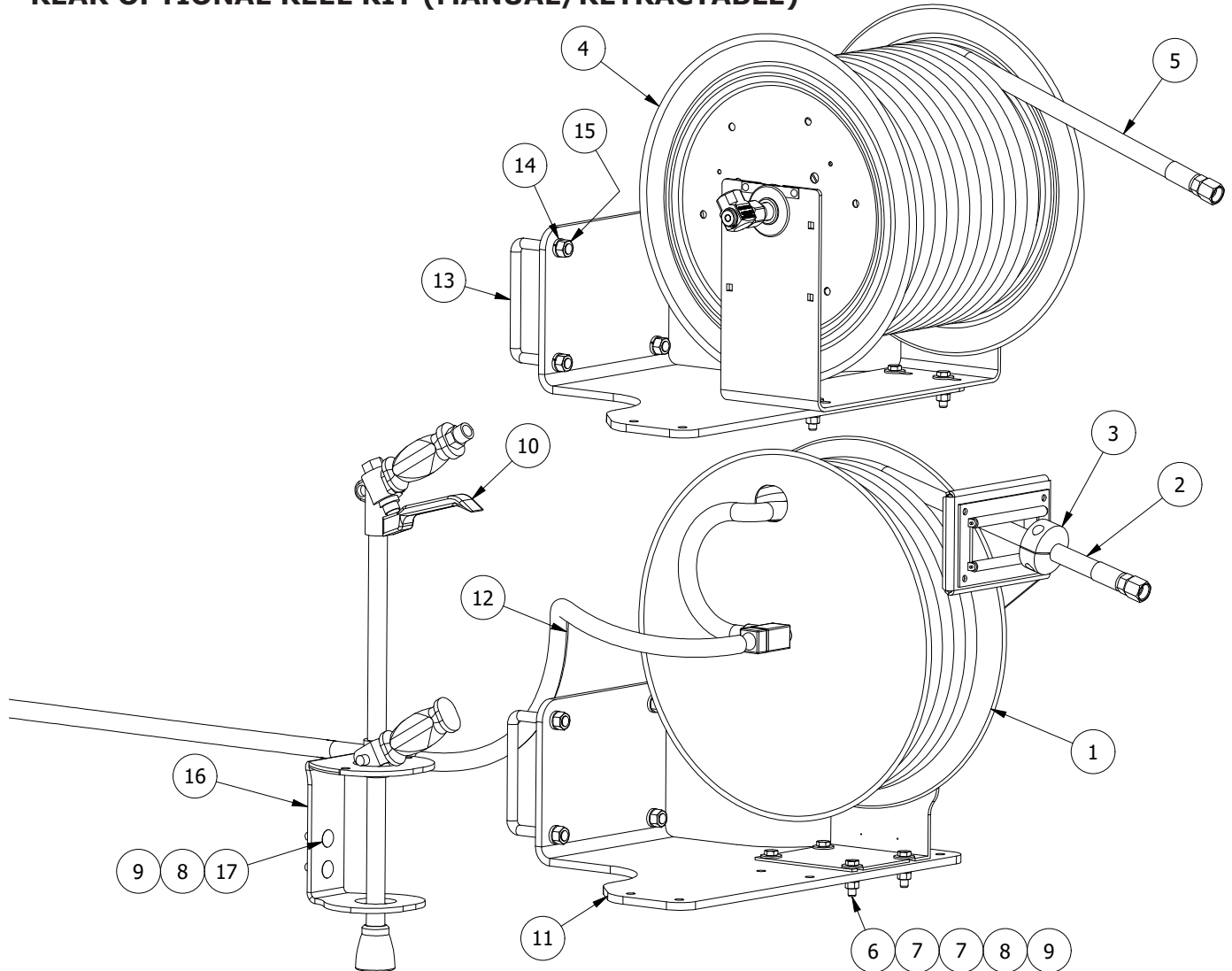
SIDE OPTIONAL REEL KIT (MANUAL/RETRACTABLE)

* Left Side Optional Reel Kit shown.



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	HOSE REEL, 1/2" 50FT RETRACT	44-059-035	1
2	HOSE, CH30-050YW-8MPX-8FPX-600"	44-059-045	1
3	BUMPER, 1/2" RETRACTABLE HOSE	44-059-042	1
4	HOSE REEL, 1/2" 125FT MANUAL	44-059-049	1
5	HOSE, CH30-050YW-8MPX-8FPX-1500"	44-059-050	1
6	CAPSCREW, 3/8 X 1 1/2 GD 5	48-090170	4
7	FLATWASHER, 3/8" STANDARD PLT	62-010100	8
8	LOCKWASHER, 3/8 PLT	66-010150	6
9	HEXNUT, 3/8 PLT	68-010150	6
10	GUN, SPRAY	44-060-001	1
11	STANDOFF, PHWS EXTRA HOSE REEL	44-180-00001	1
12	HOSE, CH30-050YW-8MPX-12MPX-55"	44-059-039	1
13	CAPSCREW, 1/2 X 3 1/4 NC G5 PLT	48-090700	2
14	FLATWASHER, 1/2 STD PLT	62-010200	2
15	LOCKWASHER, 1/2" REGULAR PLT	66-010250	6
16	HEXNUT, 1/2 PLT	68-010250	6
17	BRACE, EXTRA HOSE REEL MOUNT	44-027-034	1
18	U-BOLT, 1/2 3-1/16 X 3-9/16 PLT	21-050-002	1
19	CAPSCREW, 1/2 X 1 1/2 NC G5 PLT	48-090595	2
20	HANGER, SPRAY NOZZLE	44-027-017	1
21	CARRIAGE BOLT, 3/8 X 1 1/4 NC G5 PLT	52-050040	2

REAR OPTIONAL REEL KIT (MANUAL/RETRACTABLE)



Parts List			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	HOSE REEL, 1/2" 50FT RETRACT	44-059-035	1
2	HOSE, CH30-050YW-8MPX-8FPX-600"	44-059-045	1
3	BUMPER, 1/2" RETRACTABLE HOSE	44-059-042	1
4	HOSE REEL, 1/2" 125FT MANUAL	44-059-049	1
5	HOSE, CH30-050YW-8MPX-8FPX-1500"	44-059-050	1
6	CAPSCREW, 3/8 X 1 1/2 GD 5	48-090170	8
7	FLATWASHER, 3/8" STANDARD PLT	62-010100	16
8	LOCKWASHER, 3/8 PLT	66-010150	10
9	HEXNUT, 3/8 PLT	68-010150	10
10	GUN, SPRAY	44-060-001	1
11	PLATE, REAR HOSE REEL MNT	44-027-035	2
12	HOSE, CH30-050YW-8MPX-12MPX-160"	44-059-038	1
13	U-BOLT, WHEEL POST	03-050-001	2
14	LOCKWASHER, 1/2" REGULAR PLT	66-010250	4
15	HEXNUT, 1/2 PLT	68-010250	4
16	HANGER, SPRAY NOZZLE	44-027-017	1
17	CARRIAGE BOLT, 3/8 X 1 1/4 NC G5 PLT	52-050040	2

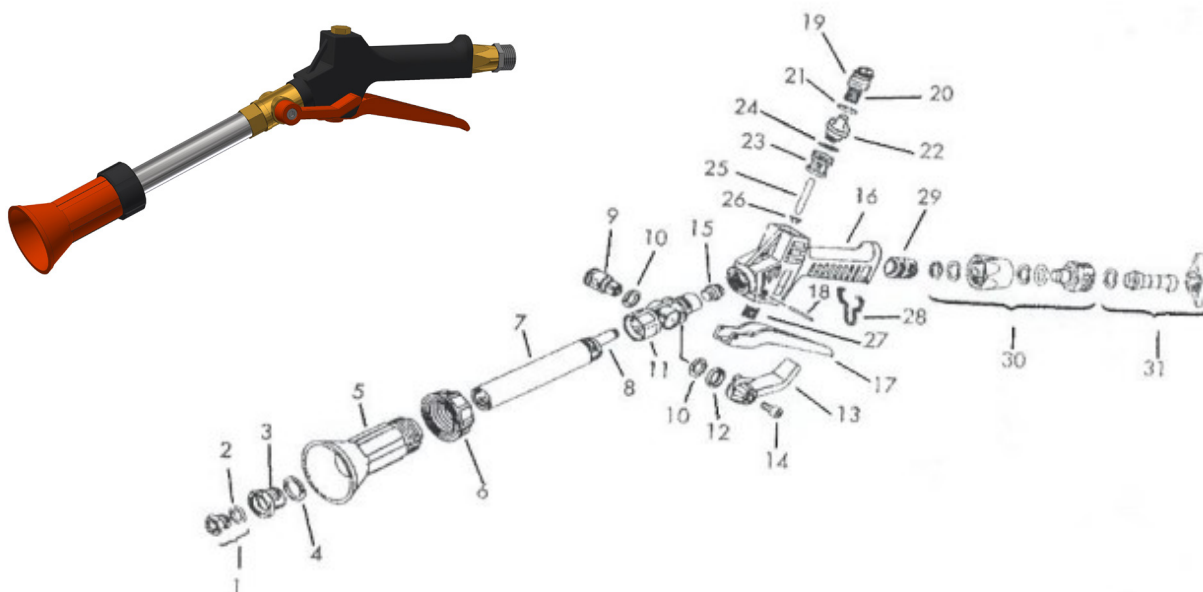
3381-0013 (7")TURBO 400 ADJUSTABLE SPRAYGUN--HYPRO

(44-060-345)

Hypro® Pistol-Grip Spray Gun

Model Number: 3381-0013

Parts Breakdown:



Item #1 comes standard as a 3.0mm nozzle, (Hypro # 3385-3000).

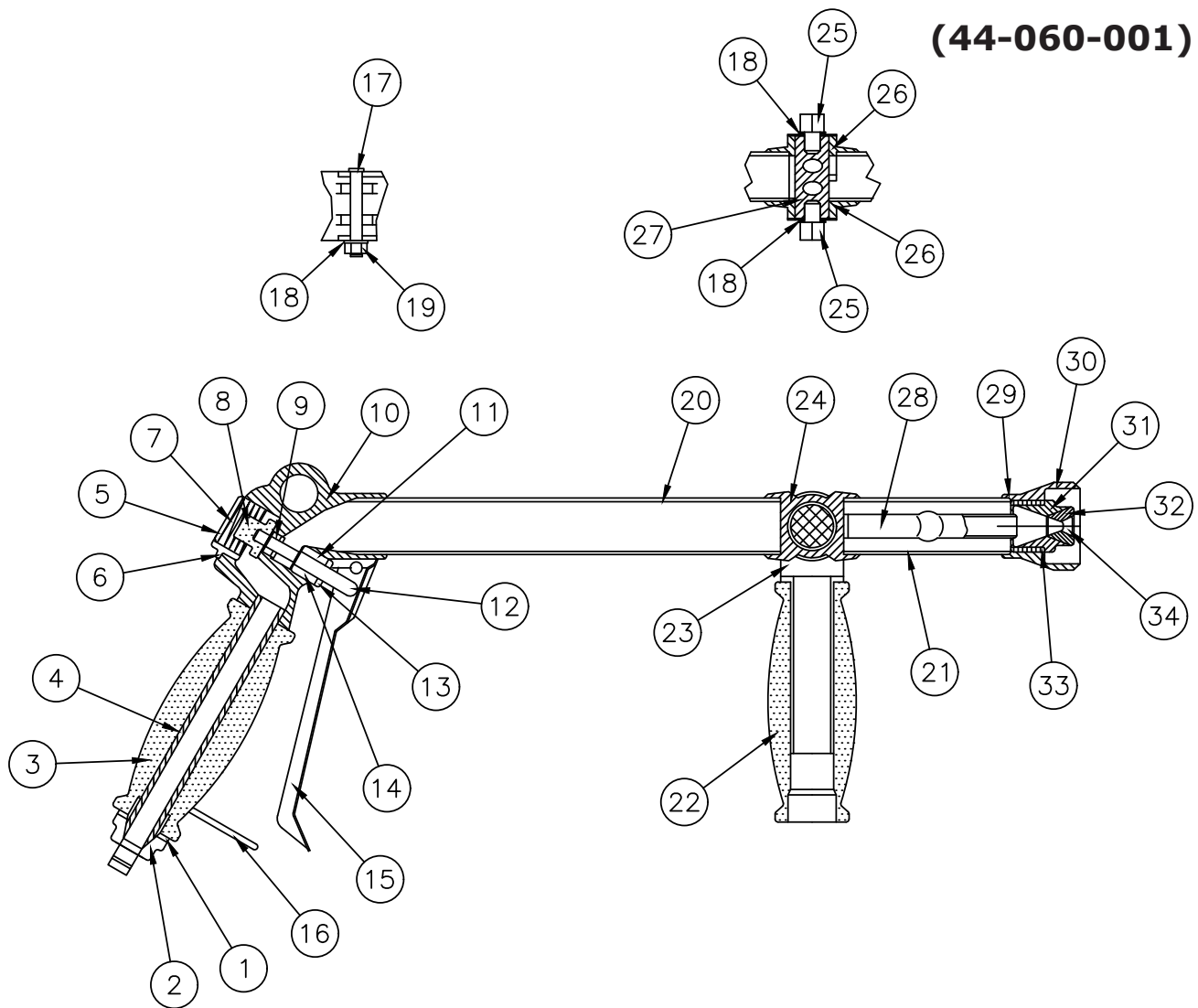
Ref. No	Qty. Req'd	Part Number	Description	Ref. No	Qty. Req'd	Part Number	Description
1	1	3385	Nozzles: 3385-2300, -3000, -3500, -4000, -4500, -5000, -5500, -6000, -7000	16	1	9920-29208-131	Gun body
2	1	9920-7602-1	O-ring	17*	1	9920-29902-8	Plastic Trigger
3	1	9920-261701-10	Nozzle holder	18	1	9920-291607-3	Pin
4*	1	9920-68602-10	O-ring	19	1	9920-291702-26	Plug
5*	1	9920-261707-2	Nozzle protector	20**	1	9920-291003-24	Spring
6	1	9920-26605-50	Locking ferrule	21**	1	9920-23602-37	O-ring
7	1	9920-261703-69	Barrel	22**	1	9920-231310-8	Seat
8	1	9920-261703-55	Stream straightener	23**	1	9920-231603-36	Valve retainer
9*	1	9920-261304-33	Valve	24**	1	9920-23602-36	O-ring
10*	2	9920-71602-6	O-ring	25	1	9920-231304-29	Pin
11	1	9920-26305-3	Valve body	26**	1	9920-23601-35	Gasket
12	1	9920-261506-14	Spacer	27	1	9920-231003-16	Spring
13*	1	9920-26902-6	Adjusting lever	28	1	9920-29507-10	Clip
14	1	9920-261902-20	Screw	29	1	9920-291101-1	Nipple
15	1	9920-26801-5	Ferrule insert	30	1	9920-261502-45	Swivel connection
				31	1	9920-162604-17	Hose barb, wingnut, gasket

*Gun Repair Kit # 3430-0461 includes: Ref # 4, 5, 9, 10, 13, 17, 20, 21, 22, 23, 24, 26

** Trigger Valve Repair Kit # 3430-0460 includes: Ref # 20, 21, 22, 23, 24, 26

3381-0011 (21")HIGH PRESSURE ADJUSTABLE SPRAYGUN--HYPRO

(44-060-001)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	44-060-117		WASHER	1
2	44-060-118		INLET PORT	1
3	44-060-119		HAND GRIP	1
4	44-060-120		TUBE	1
5	44-060-121		PLUG	1
* 6	44-060-122		O-RING	1
7	44-060-123		SPRING	1
* 8	44-060-124		POPPET	1
* 9	44-060-125		SEAT	1
10	44-060-126		BODY	1

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
*11	44-060-127		O-RING	1
12	44-060-128		PLUNGER	1
*13	44-060-129		O-RING	1
14	44-060-130		GUIDE	1
15	44-060-131		TRIGGER	1
16	44-060-132		LOCKING CLIP	1
17	44-060-133		PIN	1
18	44-060-134		WASHER	3
19	44-060-135		NUT	1
20	44-060-136		REAR BARREL MODEL-0011	1
21	44-060-137		FRONT BARREL MODEL-0011	1
22	44-060-138		FRONT GRIP BRACKET	1
23	44-060-139		BRACKET	1
24	44-060-140		REGULAR BODY MODEL-0011	1
25	44-060-141		BOLT	2
*26	44-060-142		O-RING	2
27	44-060-143		REGULATOR	1
28	44-060-144		INNER BARREL MODEL-1100	1
29	44-060-145		OUTLET PORT MODEL-1100	1
30	44-060-146		SHROUD MODEL-0011	1
31	44-060-147		NOZZLE RETAINER MODEL-0011	1
*32	44-060-148		O-RING	1
*33	44-060-149		O-RING	1
^34	44-060-150		NOZZLE	1

* These Items make-up the **Spray Gun Repair Kit** (44-060-152)

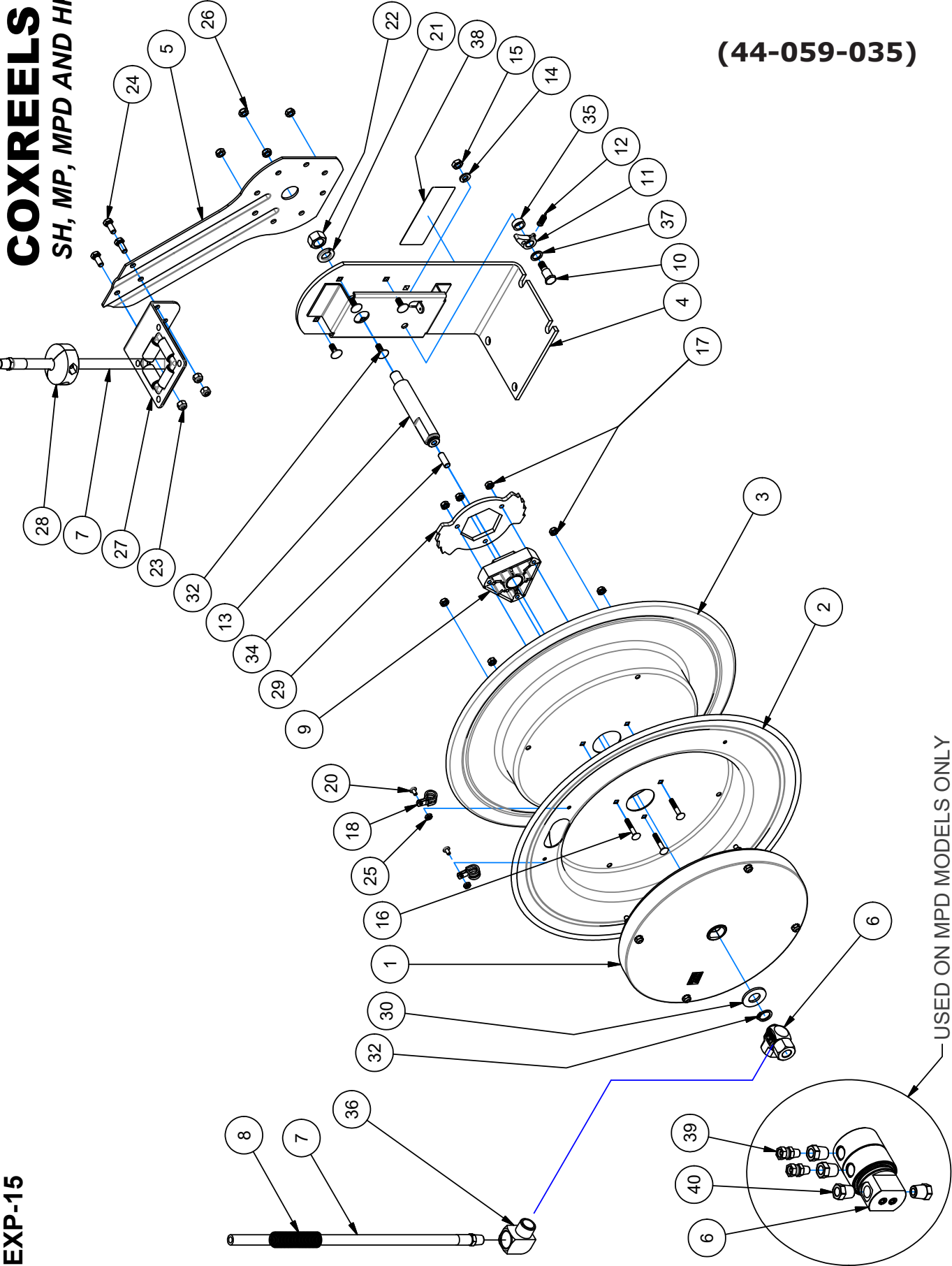
^ The Spray Nozzle, (**#34**), comes standard as 4.0mm in size. For max knockdown power, it should be replaced with a 4.5mm nozzle. (Hypro #3385-4500)

MPL-N-450 RETRACTABLE HOSE REEL--COX REELS

(44-059-035)

COXREELS
SH, MP, MPD AND HP

EXP-15



COMMON PARTS TO ALL SERIES SH, MP AND HP REELS

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
9	1776-3	ASSY., HUB BEARING	1
10	1620	BOLT, SHOULDER, 1/2"x1 1/2"	1
12	274-1-SS	SPRING, DOG	1
14	437	WASHER, LOCK, 3/8"	1
15	184	NUT, JAM, 3/8-16	1
16	1953	CARRIAGE BOLT, 1/4-20 x 1.5"	3
17	125	NUT, KEPS, 1/4-20	7
20	245	BOLT, 10-32 x 3/8	2
21	438	WASHER, LOCK, 5/8"	1
22	3584	NUT, HEX, 5/8-11	1
23	111	NUT, LOCK, 5/16--18	3
24	312	BOLT, 5/16-18	3
25	130	NUT, KEPS, 10-32	2

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
26	111-1	NUT, LOCK 5/16-18, LOW PROF	4
29	1924	LOCKING RING	1
30	1755-1	WASHER, SPACER	1
31	1753	RETAINING RING (5160-75)	1
32	10220-75	BOLT, CARRIAGE, 5/16-18x3/4"	4
34	10235-SS	SETSCREW, 3/8-16x1"-SS	1
35	6440-SS	WASHER, SPACER	1
37	6441-1	WASHER, SPACER	1
38	10925-5	LABEL	1

ITEM NUMBER

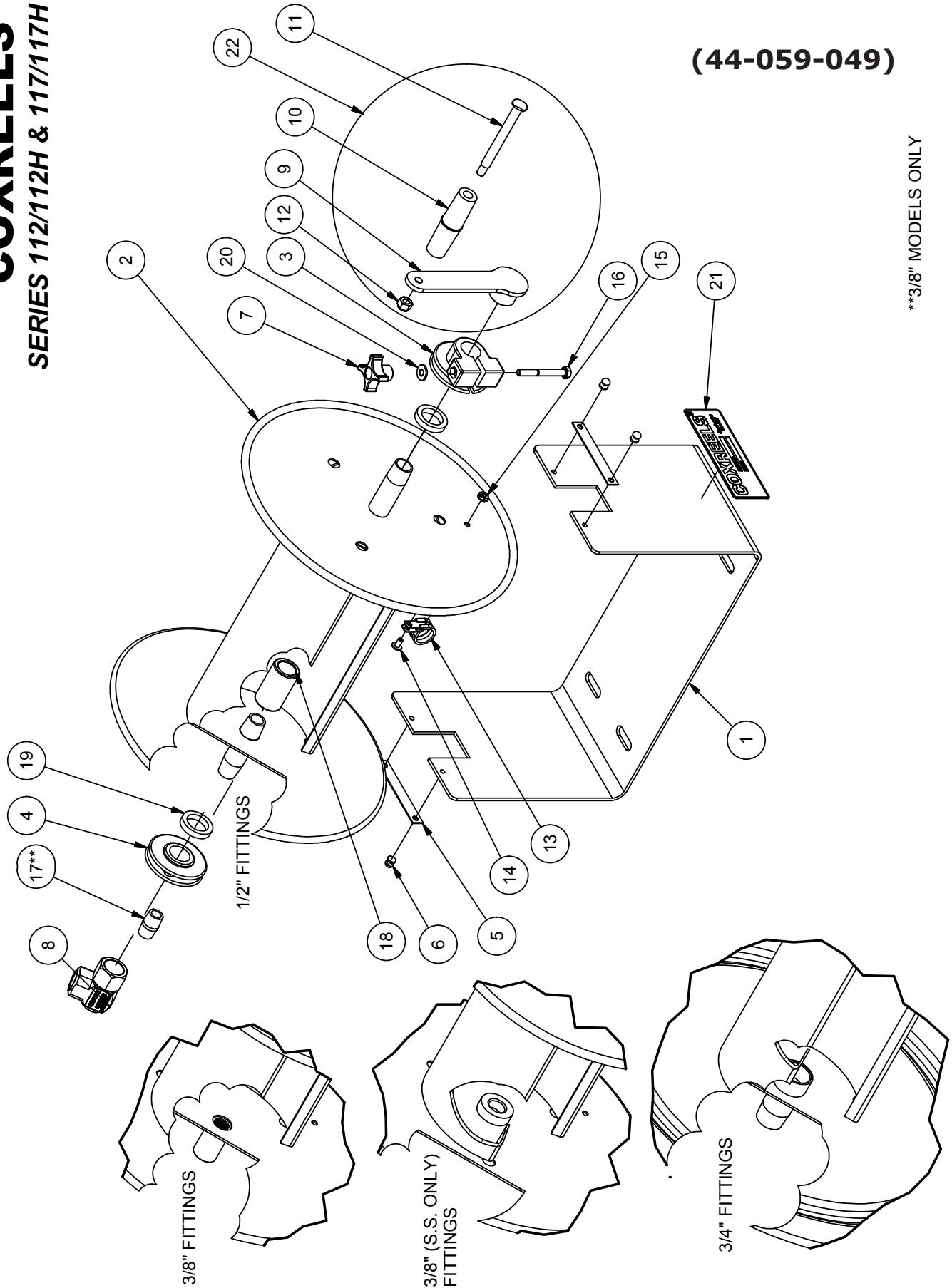
MODEL NO.	1	2	3	4	5	6	* 7	* 7	* 7	* 8	11	13	18	27	* 28	36	39	40
	SPRING	DRUM	DRUM	BASE	ARM GD	SWIVEL	HOSE (STD)	HOSE (OG)	HOSE (-RH)	HOSE GRD	CAM LK	AXLE	CLAMP (2)	ROLLER BRKT	BALL STOP	ELBOW	ADAPTER	BUSHING
SH-N-160	690-3	1703	1702	1743-2	1732	1969	5150-60	5121-60	3670-60	237-1	640-1-SS	1793	2169	1728-1	131	-	-	-
SH-N-350	690-2	1703	1702	1743-2	1732	1935	5153-50	5101-50	5045-50	237-1	640-1-SS	1793	381	1728-1	131-3	-	-	-
SH-N-360	646	1703	1702	1743-2	1732	1935	5153-60	5101-60	5045-60	237-1	640-1-SS	1793	381	1728-1	131-3	-	-	-
SH-N-375	698-1	1705	1704	1744-2	1733	1935	5153-75	5101-75	5045-75	237-1	640-1-SS	1793	381	1829-2	131-3	-	-	-
SH-N-3100	698-2	1705	1704	1744-2	1733	1935	5153-100	5101-100	5045-100	237-1	640-1-SS	1793	381	1829-2	131-3	-	-	-
SH-N-435	690-1	1703	1702	1743-2	1732	439	5154-35	5131-35	5066-35	398-1	640-1-SS	1793	383	1728-1	131-4	-	-	-
SH-N-440	691-2	1703	1702	1743-2	1732	439	5154-40	5131-40	5066-40	398-1	640-1-SS	1793	383	1728-1	131-4	-	-	-
SH-N-450	691-3	1703	1702	1743-2	1732	439	5154-50	5131-50	5066-50	398-1	640-1-SS	1793	383	1728-1	131-4	-	-	-
SH-N-475	692-2	1705	1704	1744-2	1733	439	5154-75	5131-75	5066-75	398-1	640-1-SS	1794	383	1829-2	131-4	-	-	-
SH-N-4100	656	1705	1704	1744-2	1733	439	5154-100	5131-100	5066-100	398-1	640-1-SS	1794	383	1829-2	131-4	-	-	-
SH-N-525	691-1	1703	1702	1743-2	1732	426	5155-25	5163-25	5091-25	398-1	640-1-SS	1793	384	1728-1	430	385	-	-
SHF-N-525	691-1	1703-1	1702	1743-2	1732	426	5097-25	-	-	398-1	640-1-BR	1793	384	1728-1	430	385	-	-
SH-N-535	691-1	1703	1702	1743-2	1732	426	5155-35	5163-35	5091-35	398-1	640-1-SS	1793	384	1728-1	430	385	-	-
SH-N-550	692-1	1705	1704	1744-2	1733	426	5155-50	5163-50	5091-50	398-1	640-1-SS	1794	384	1829-2	430	385	-	-

MODEL NO.	1	2	3	4	5	6	* 7	* 8	8A	11	13	18	27	* 28	36	39	40
	SPRING	DRUM	DRUM	BASE	ARM GD	SWIVEL	HOSE (STD)	HOSE GRD	HOSE GRD	CAM LK	AXLE	CLAMP (2)	ROLLER BRKT	BALL STOP	ELBOW	ADAPTER (2)	BUSHING
MPDL-N-150	670	1703	1702	1743-2	1732	7516	-	-	7460-8	640-1-SS	1794	383	1829-2	-	-	816	7540-1 (4)
MPD-N-330	670	1703-1	1702	1743-2	1732	7516	5225-30	-	7460-8	640-1-SS	1794	384	1829-2	635	-	815	7540 (2)
MPD-N-430	670	1703-1	1702	1743-2	1732	7516	5257-30	-	7460-8	640-1-SS	1794	397	1829-2	635	-	814	-
MP-N-340	646	1703	1702	1743-2	1732	1935	5224-40	237-1	237-1	640-1-SS	1793	381	1728-1	131-3	-	-	-
MP-N-350	646	1703	1702	1743-2	1732	1935	5224-50	237-1	237-1	640-1-SS	1793	381	1728-1	131-3	-	-	-
MP-N-435	691-2	1703	1702	1743-2	1732	439	5256-35	398-1	-	640-1-SS	1793	383	1728-1	131-4	-	-	-
MP-N-440	691-2	1703	1702	1743-2	1732	439	5256-40	398-1	-	640-1-SS	1793	383	1728-1	131-4	-	-	-
MP-N-450	696-1	1703	1702	1743-2	1732	439	5256-50	398-1	-	640-1-SS	1794	383	1728-1	131-4	-	-	-
MP-N-525	691-2	1703	1702	1743-2	1732	426	5290-25	398-1	398-1	640-1-SS	1793	384	1728-1	430	385	-	-
MP-N-535	699-1	1703	1702	1743-2	1732	426	5290-35	398-1	398-1	640-1-SS	1793	384	1728-1	430	385	-	-

MODEL NO.	1	2	3	4	5	6	* 7	* 8	11	13	18	27	* 28	36	39	40
	SPRING	DRUM	DRUM	BASE	ARM GD	SWIVEL	HOSE (STD)	HOSE GRD	CAM LK	AXLE	CLAMP (2)	ROLLER BRKT	BALL STOP	ELBOW	ADAPTER	BUSHING
HP-N-140	646	1703	1702	1743-2	1732	499	5304-40	237-1	640-1-SS	1793	115	1728-1	131	-	-	-
HP-N-150	646	1703	1702	1743-2	1732	499	5304-50	237-1	640-1-SS	1793	115	1728-1	131	-	-	-
HP-N-160	699-2	1703	1702	1743-2	1732	499	5304-60	237-1	640-1-SS	1793	115	1728-1	131	-	-	-
HP-N-335	691-3	1703	1702	1743-2	1732	521	5336-35	237-1	640-1-SS	1793	613	1728-1	131-3	-	-	-
HP-N-340	699-1	1703	1702	1743-2	1732	521	5336-40	237-1	640-1-SS	1793	613	1728-1	131-3	-	-	-
HP-N-350	696-1	1703	1702	1743-2	1732	521	5336-50	237-1	640-1-SS	1794	613	1728-1	131-3	-	-	-

* ON "LESS HOSE" MODELS (SHL-/MPL-/HPL-) EXCLUDE ITEMS #7, #8, AND #28.

NOTE: MODELS SUPPLIED WITH "STANDARD" HOSE UNLESS SUFFIXED WITH "-OG" OR "-RH". USE HOSE NUMBERS AS NOTED ABOVE.



COMMON PARTS TO ALL "U" FRAME CHALLENGER REELS

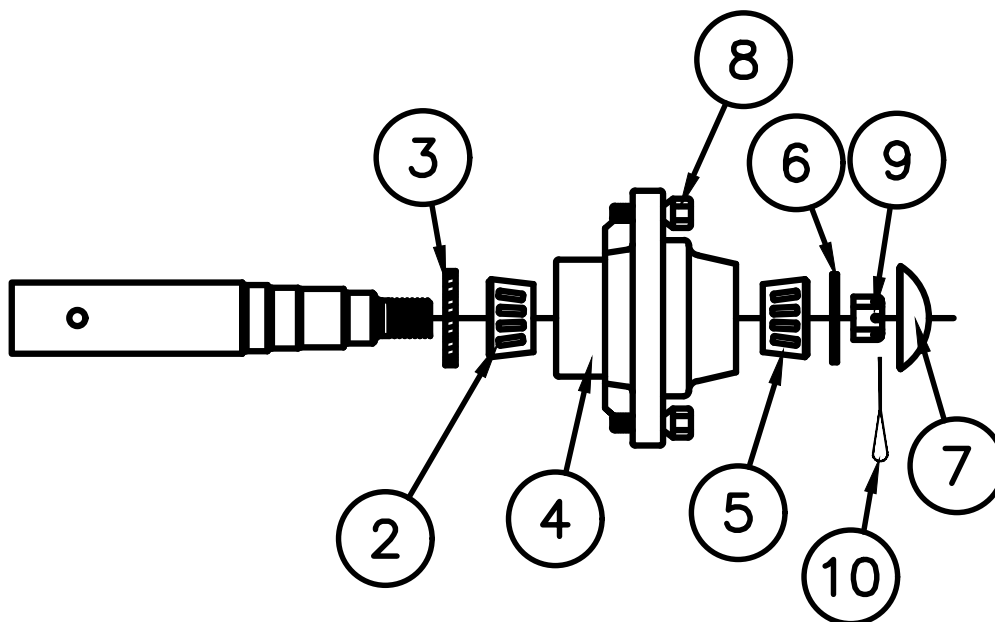
ASSY. ITEM NO.	DETAIL ITEM NO.	PART NO.	DESCRIPTION	112P-3-8	112-3-50	112-3-100	112-3-150	112-4-75	117-3-250	117-3-400	117-3-550	117-4-225	117-4-350	117-5-100	112H-3-100	112H-3-150	117H-4-225
1	1	6304-1-4.5	FRAME, "U", CHALLENGER	1											1		
		6304-1-8	FRAME, "U", CHALLENGER	1	1										1		
		6304-1-12.5	FRAME, "U", CHALLENGER			1		1								1	
		6304-2-8	FRAME, "U", CHALLENGER						1								
		6304-2-12.5	FRAME, "U", CHALLENGER							1		1		1			1
		6304-2-18	FRAME, "U", CHALLENGER								1		1				
	2	7118-1-4.5	DRUM ASSY, 3/8" NPT, 5.5" X 4.5"W	1													
		7118-1-8	DRUM ASSY, 3/8" NPT, 5.5" X 8"W		1										1		
		7118-1-8-SPEC	DRUM ASSY, 3/8" NPT, 5.5" X 8"W (SS PLUMBING)	1													
		7118-1-12.5	DRUM ASSY, 3/8" NPT, 5.5" X 12.5"W			1										1	
		7118-2-8	DRUM ASSY, 3/8" NPT, 5.5" X 8"W						1								
		7118-2-12.5	DRUM ASSY, 3/8" NPT, 5.5" X 12.5"W							1							
3	4	7118-2-18	DRUM ASSY, 3/8" NPT, 5.5" X 18"W								1						
		7108-1-12.5	DRUM ASSY, 1/2" NPT, 5.5" X 12.5"W				1										
		7108-2-12.5	DRUM ASSY, 1/2" NPT, 5.5" X 12.5"W														1
		7108-2-18	DRUM ASSY, 1/2" NPT, 5.5" X 18"W										1				
		7108-5-12.5	DRUM ASSY, 3/4" NPT, 5.5" X 12.5"W											1			
		6329-1-1	BEARING, EPDM, .877" ID, CRANK SIDE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	5	6328-1-1	BEARING, EPDM, .877 ID, PLUMBING SIDE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		6328-1-2	BEARING, EPDM, 1.058 ID, PLUMBING SIDE											1			
		15711-1	PLATE, KEEPER, BEARING	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		7105	RIVET, POP, ALUMINUM	4	4	4	4	4	4	4	4	4	4	4	4	4	4
8	7	15719	KNOB, BLACK, PHENOLIC	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		1935	SWIVEL, 3/8" NPT, CARBOXYLATED		1	1	1		1	1	1				1	1	
		433-FG-SS	SWIVEL, 3/8" NPT, NITRILE, FOOD GRADE, SS	1													
		439	SWIVEL, 1/2" NPT, CARBOXYLATED					1				1	1				1
	8	426	SWIVEL, 3/4" NPT, CARBOXYLATED											1			
		7272-1	CRANK ARM ASSEMBLY	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	9	7107	CRANK ARM	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		6333	HANDLE, CRANK	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		1621	BOLT, SHOULDER, 5/16-18	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		111-1	NUT, LOCK, 5/16-18 (LOW PROFILE)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	13	381	HOSE CLAMP, #10	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		383	HOSE CLAMP, #12					1				1	1				1
		384	HOSE CLAMP, #18											1			
		245	SCREW, TRUSS HD, 10-32 X 3/8"	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	14	130	NUT, KEPS, 10-32	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		7146	BOLT, HEX, 1/2-20 X 2-1/4", GR 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		7115	NIPPLE, 3/8-18 X CLOSE, SCH 80	1	1	1	1		1	1	1		1	1	1	1	1
		7116	AXLE, PLUMBING, 1/2-14 COUPLING					1*				1*					1*
	15	7145	SPACER	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		688	WASHER, FLAT, 1/4" SAE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		10925-5	NAMEPLATE, PRODUCT, STD DECAL	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		5153-100	HOSE, LP, 3/8" X 100', PVC												1***		
25	25	5153-150	HOSE, LP, 3/8" X 150', PVC													1***	
		5154-225	HOSE, LP, 1/2" X 225', PVC														1***

*SHOWN FOR REFERENCE. INCLUDED WITH DRUM ASSEMBLY.

***INSTALL HOSE ON MODELS WITH "H" DESIGNATION ONLY. (112H-3-100, 112H-3-150, & 117H-4-225)

Q888 HUB & SPINDLE

(02-058-040)



ITEM	PART NO.	SERIAL NO OR YR	DESCRIPTION	QTY
1	02-058-041		10-1/2" SPINDLE	1
2	02-056-011		SEAL	1
3	02-051-041		CONE, INNER BEARING	1
4	02-058-033		HUB, Q888	1
5	02-051-006		CONE, OUTER BEARING	1
6	02-050-019		WASHER, 15/16 ID X .160 THICK	1
7	02-058-005		CAP, HUB	1
8	02-058-004		WHEEL BOLT, 1/2 X 1 1/4 NF 20	6
9	68-030050		SLOTTED NUT, 7/8 NF	1
10	76-010050		COTTER PIN, 5/32 X 1 1/4	1

NOTES

[illegible]



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31794**

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