FLOWCORE SPRAYER OWNER'S MANUAL

FLOWCORE SPRAYERS



VALLEY TOOL MANUFACTURING COMPANY

PO Box 220 | 2507 Tully Road | Hughson, CA 95326 | 800-426-5615
www.valleytoolmfg.com

FLOWCORE SPRAYERS

Table of Contents

Introduction

Thank You	1
Warranty	2

Safety

Operational Safety	3
Maintenance Safety	4

Pre-Delivery

Pre-Delivery	5

Pre-Calibration Checklist

Pre-Calibration Checklist	6

Operation

Attaching / Turning Hitch	7
Turning Hitch Settings/Attaching PTO to Tractor	8
Spray Nozzles / Spray Control / Gearbox Speed Selection	9
Controls	10
Set Up	11-12

Adjustments and Maintenance

Maintenance Schedule	13
Lubrication Points	14
Axle Height Adjustment	15
Transportation/Winterizing and Storage	16
Spray Calibration	17
Nozzle Selection and Set up	18
Replacing the Belt	19

Frequently Asked Questions

Frequently Asked Questions	19

Parts Book

22-42

Thank You

Dear Customer,

We appreciate your purchase of a Flowcore Sprayer. The purpose of this manual is to familiarize you with the operation, adjustment, and maintenance of your new attachment. It was meticulously designed and constructed in accordance with the highest industry standards to provide you with years of dependable service. Before endeavoring to operate the machine, you must read this manual thoroughly and comprehend its operation. Flowcore reserves the right to make modifications to design and specifications, as well as additions and enhancements to its product, without incurring any obligation to retrofit previously manufactured items. If you ever require additional information, please contact your authorized dealer or customer service.



FLOWCORE SPRAYERS

PO Box 220 | 2507 Tully Road | Hughson, CA 95326
1-800-426-5615
www.valleytoolmfg.com

Flowcore designed this sprayer with operator safety as one of its primary considerations. This attachment was designed with shielding, simple adjustments, and other safety features whenever practicable. Ensure that you and your employees read and comprehend this manual. Only responsible individuals who have been trained to operate in a secure manner and who have read and comprehend this manual should operate any machinery.

Before accepting the equipment, verify the pre-delivery checklist thoroughly with the sales representative. See pg.5

Ensure that you have a comprehensive understanding of the operation, adjustment, and safety principles outlines in this manual.

Flowcore is soley owned by Valley Tool and Manufacturing.

Visit: www.valleytoolmfg.com

Product Registration

Warranty

Valley Tool & Mfg. warrants each product to be free of manufacturing defects for a period of twelve months (ninety days for rental units) from the date of delivery to the original user/owner, subject to the limitations stated in this policy.

This warranty does not apply to defects caused in whole or in part by unreasonable use while the product is in the user's possession, including but not limited to: failure to properly set up product; failure to provide reasonable and necessary maintenance; normal wear; routine tune-ups or adjustments; improper handling or accidents; operation at speed or load conditions contrary to published specifications; improper or insufficient lubrication; improper storage. This warranty also does not guarantee that the efficacy of every product will meet the purchaser's expectations.

Valley Tool & Mfg. shall not be liable for consequential damages of any kind, including, but not limited to, consequential labor costs or transportation charges associated with the replacement or repair of defective parts; lost time or expenses incurred as a result of said defects. Valley Tool & Mfg.'s total liability is limited to the purchase price of the product.

Valley Tool & Mfg. provides no warranty for trade accessories or any component or accessory of the product that was not manufactured by Valley Tool & Mfg., Including any purchased components. These are subject to the respective manufacturer's warranties. If the product or any part of the product is modified or repaired in any manner not expressly authorized by Valley Tool & Mfg., or if closed components are disassembled prior to return, the warranty will be void. Closed components include gearboxes, hydraulic pumps, motors, cylinders, and actuators, among others.

Our obligation under the warranty is expressly limited, at our option, to the replacement or repair at Valley Tool & Mfg., of Hughson, California, or at a service facility specified by us, of the defective part or parts as determined by inspection.

We are not liable for unauthorized replacements or repairs. Warranty pre-approval is required. Authorized supplies will be sent to the dealer at no cost via UPS Ground. The duration of any implied or statutory warranties, such as warranties of merchantability or fitness for a particular purpose, is expressly limited to the duration of this written warranty. No one is authorized to make any other express or implied warranties on our behalf. This warranty cannot be extended, expanded, or altered unless authorized in writing by Valley Tool & Mfg. No warranty will be processed without a timely, signed "Product Registration"

The attachment owner is responsible for the travel time of mechanics and conveyance of the product to the authorized service dealer for warranty work.

The most reasonable and dealer-friendly return policy on the market is provided by Valley Tool & Mfg. The return policies for each of our brands are listed below. We accept returns within 30 days of the date of original shipment. Prior to return shipment, all returns must be approved by Valley Tool & Mfg, and a return authorization number must be issued. Returns must be in "like-new" condition and accompanied by all original factory packaging, including instruction manuals. If an item is received that is not in "like-new" condition or in its original packaging, additional fees will apply. After our staff has completed a thorough inspection of a return, refunds will be issued less shipping fees and any other potential damage fees. Please allow up to 30 business days for the processing of your account refund credit.

Please direct all return-related questions to sales@valleytoolmfg.com.

Safety

Safety messages are provided in this manual to describe possible risk during operation, maintenance and transportation. These messages are intended to convey known hazards but cannot be construed to describe all possible risks.

Signal words in Safety Messages:

⚠ DANGER

Danger: Indicates immediate risk of serious injury or death.

⚠ WARNING

Warning: Indicates possibility of serious injury or death.

⚠ CAUTION

Caution: Indicates possibility of minor injury.

NOTICE

Notice: Indicates possibility of property damage, possible machine failure but no immediate risk to personal injury.

Operational Safety

The owner is responsible for providing proper operator training in the appropriate language. Operator and bystanders must wear OSHA-approved eye, ear, and head protection, along with any PPE required by local regulations. Do not wear loose clothing; it may catch on moving parts. Never operate equipment under the influence of drugs or alcohol. Only use this machine and connected equipment when it is in good working condition and properly maintained. Ensure all guards and safety devices are installed and functional before operation. Never leave running equipment unattended. Keep children and bystanders at 100 feet away unless they are the operator. Do not operate in conditions that limit visibility (fog, dust, rain, wind). Stop operation if conditions worsen. Avoid sharp turns, which can damage driveline components. Be aware of liquid sloshing inside tanks; shifting weight can cause instability or rollover. Attach the power unit on a level surface, and avoid operating on slopes to prevent rollovers. Equipment may be wider than the tractor so take caution to avoid hitting objects. Stay clear of high-speed air outlets. Follow all safety decals. Perform maintenance only when the machine is off, non-energized, and on level ground with adequate space. Keep away from rotating components such as fan, belts, drums, connectors, and driveline parts to avoid entanglement. Secure long hair to prevent entanglement in moving parts.

⚠ DANGER

Failure to heed any of these warnings may result in personal injury or death.

⚠ DANGER

Risk of death or injury if moving parts are touched, or are brought into contact with any person. Keep away from all moving parts. Keep guards in place while operating.
Operate only with clear visibility, never in dusty, foggy conditions or at night. Risk of collision or contact with personnel. Crushing, piercing or cutting hazard.

⚠ WARNING

Avoid operation that would allow hydraulic lines to be pinched or severed. In the event of a hydraulic leak, hydraulic fluid may have sufficient force to penetrate skin. Do not use any body part to check for leaks. High pressure oil can cause severe injury or death.
Disengage hydraulics, shut off engine and allow all movement to stop before leaving the operator's position to adjust, lubricate, clean or unclog the machine. Do not try to uncouple hydraulic hoses unless the pressure has adequately dissipated.
Risk of serious injury or death due to thrown debris or broken knives. Do not operate closer than 300 ft to people, unprotected roadways or public areas without properly securing or warning protecting against accidental ingress.

Maintenance Safety

Before operating any equipment, inspect all fasteners, connectors, and mount points to ensure nothing is loose. Before adjusting, lubricating, or cleaning the machine, disengage the PTO and shut off all equipment. Use approved jack stands when working under the machine. Wear proper personal protective equipment during maintenance. When working with the plumbing system, be aware that chemicals may be present and could leak onto the skin.

⚠ CAUTION

Rotating parts, Hydraulic hoses, motors and valves generate heat when operating. Do not touch when hot. Allow to cool before maintaining.
Risk of crushing, pinching or cutting due to motion of machine while maintaining. Ensure all energy is dissipated from hydraulic lines before maintaining. Secure power unit and attachment against motion with wheel chocks, or appropriately sized stands as required.
Remove key from power unit and read manual before maintaining. Risk of accidental motion if key is engaged on power unit. Knives wear parts and damaged components can have sharp edges that cause cuts or lacerations. Wear protective gear and handle these parts with care.

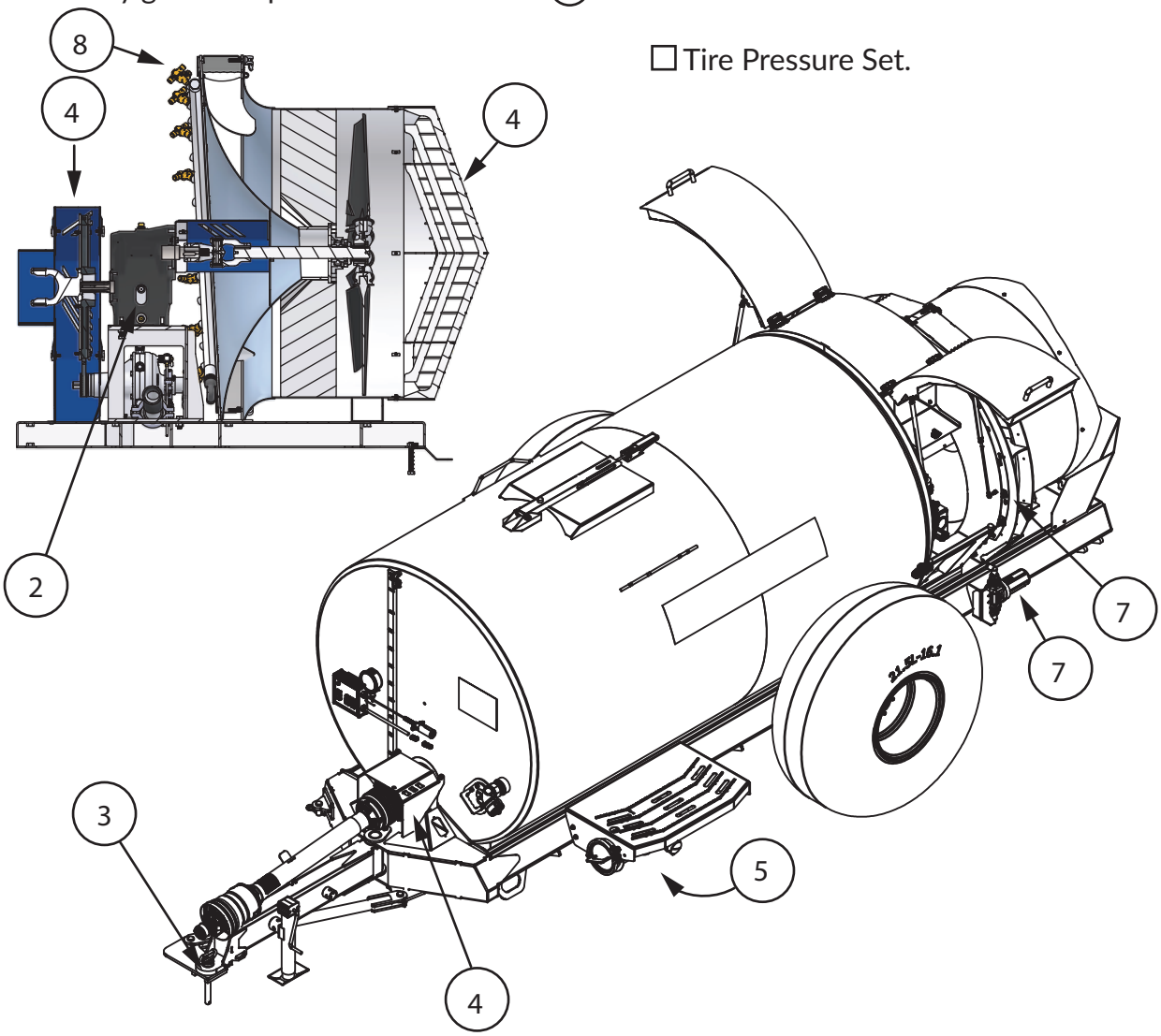
Chemical Safety

Follow all EPA guidelines when mixing chemicals in the sprayer: Do not smoke, eat or wear contacts while handling chemicals. Wash hands before and after handling chemicals or contaminated surfaces. Wear required PPE such as goggles, respirator, gloves, spray suit, and boots. Know the signs and symptoms of chemical poisoning and review the MSDS for all chemicals being used. Mix chemicals only as instructed by the manufacturer and ensure proper dilution ratios when filling the tank. Understand the chemicals being used; mishandling can be dangerous. Clean tank in the field and dispose of rinse water according to regulations. Damage from improper cleaning is not covered by warranty. Record all chemicals used in the tank as required by local regulations. Rinse gloves, then wash hands thoroughly before eating, drinking, smoking, or using the restroom. Never touch or rub eyes when handling spray materials. Treat any clothing exposed to chemicals as contaminated. Keep the number for poison control readily available.

Pre-Delivery Checklist

Prior to acceptance of your equipment, review and confirm that every item outlined in the delivery checklist is completed.

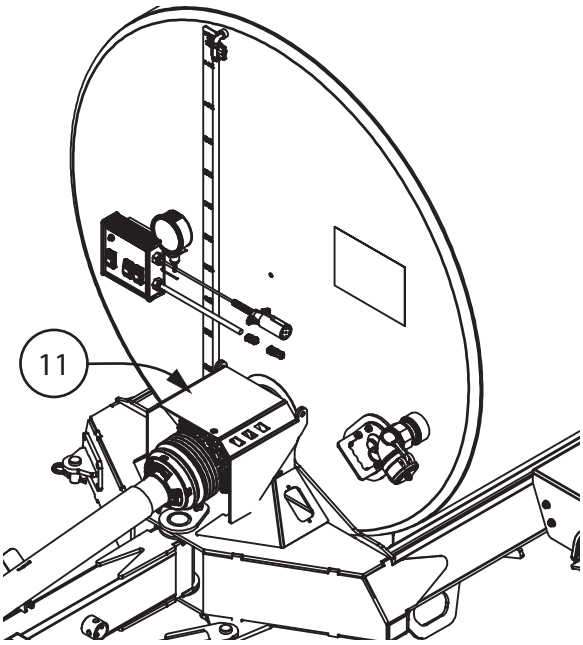
- ☐ Check to make sure sprayer is completely lubricated.
- ☐ Buyer is shown all lubrication points.
- ☐ Oil in gearbox checked for proper level. (2)
- ☐ All bolts checked for tightness. (3)
- ☐ All hitch pins and retainer bolts in place. (3)
- ☐ All safety guards in place. (4)
- ☐ Procedures for attaching sprayer to tractor demonstrated to end user.
- ☐ Starting procedures explained to end user.
- ☐ All safety precautions thoroughly read and understood.
- ☐ Calibration explained to end user.
- ☐ Electric/hydraulic valve control explained to end user.
- ☐ Tire Pressure Set.

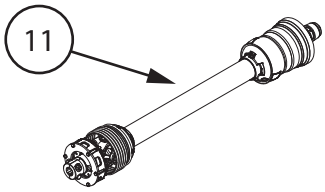


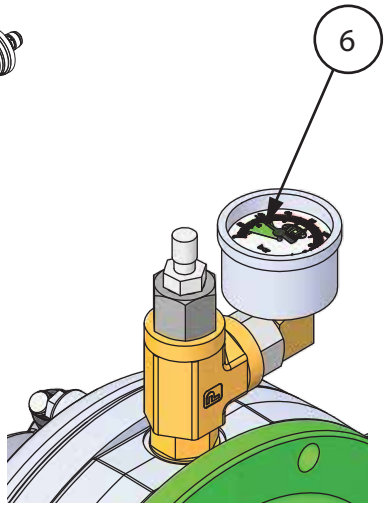
Pre-Calibration Checklist

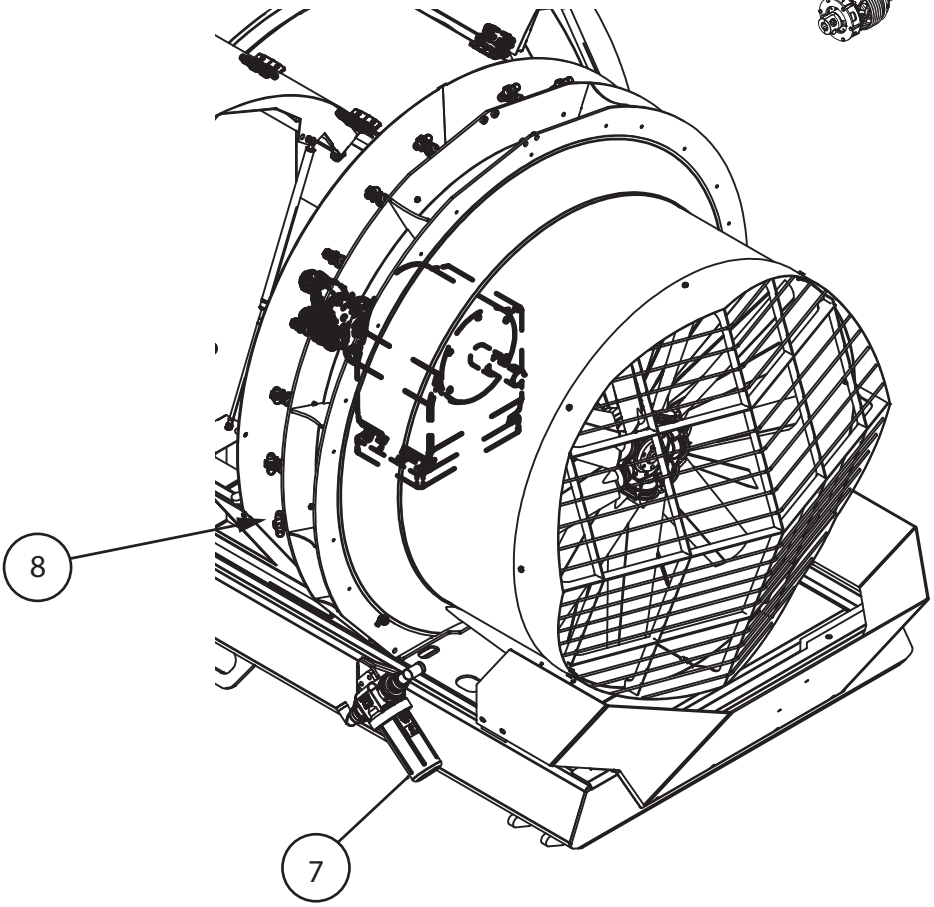
Pump and Lines

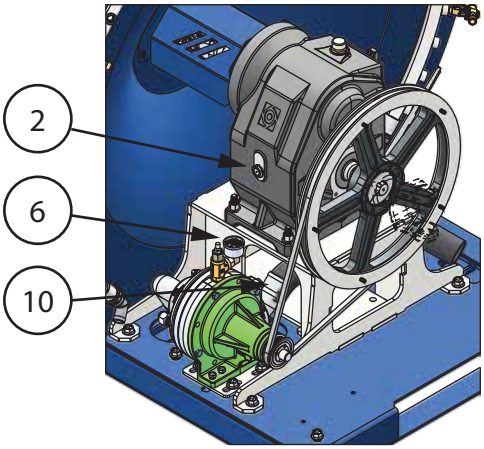
- ☐ All hoses and fitting tight. (5)
- ☐ Pump oasis gauge in green. (6)
- ☐ All strainers from tank opening to nozzle strainers clean and intact. (7)
- ☐ All nozzles clean and unbroken. (8)
- ☐ Regulators and valve(s) move as intended. (9)
- ☐ All belts have properly tensioned. (10)
- ☐ PTO greased and guard in place. (11)











Operation

Attaching Hitch

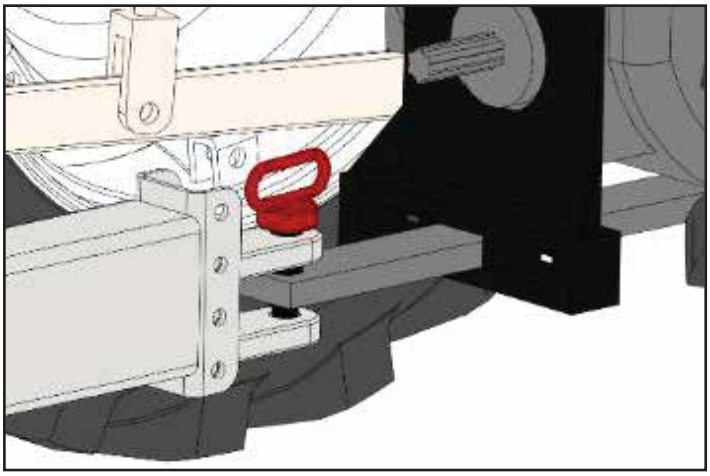
Straight Hitch:
Align the Flowcore hitch with the tractor drawbar. Pin the drawbar to Flowcore hitch. Add linch pin.

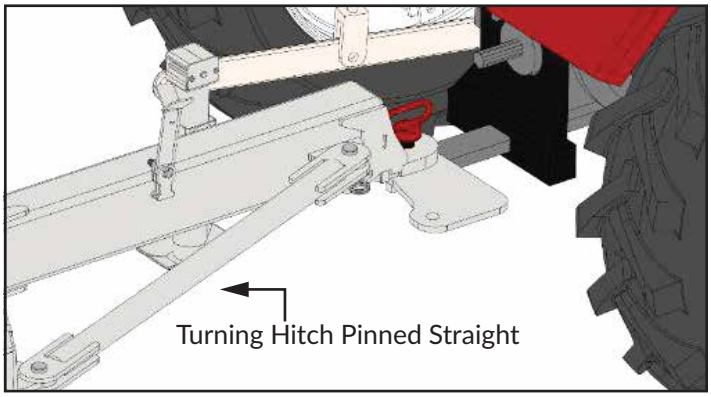
Once hitch is attached raise, stow, and positively pin the jack stand.

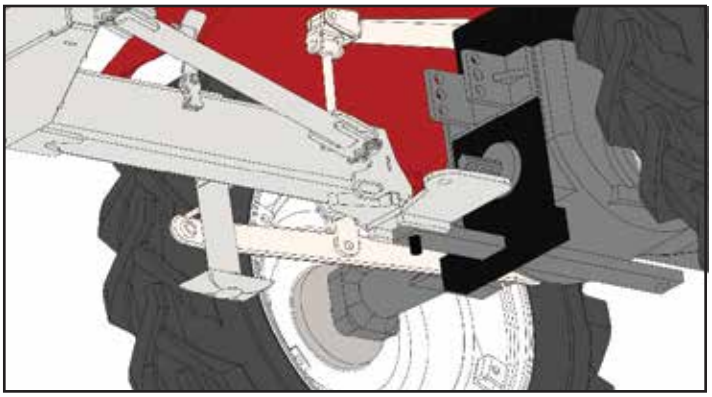
Turning Hitch:
When attaching the hitch, convert tractor category 2 drawbar as shown in the turning hitch underside photo. Pin the drawbar to the Flowcore hitch. Add linch pin.

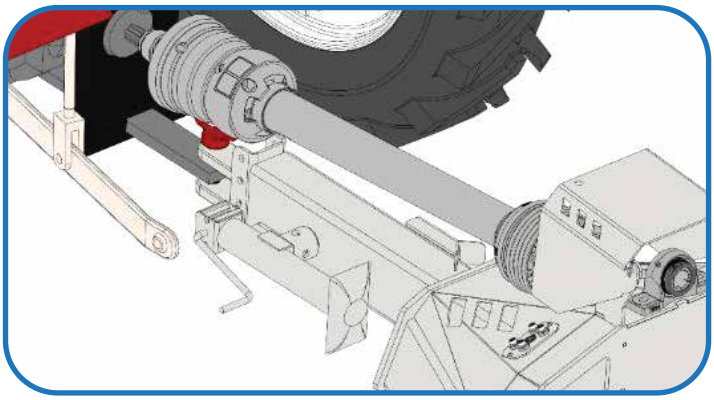
Once hitch is attached raise, stow, and pin the jack stand.

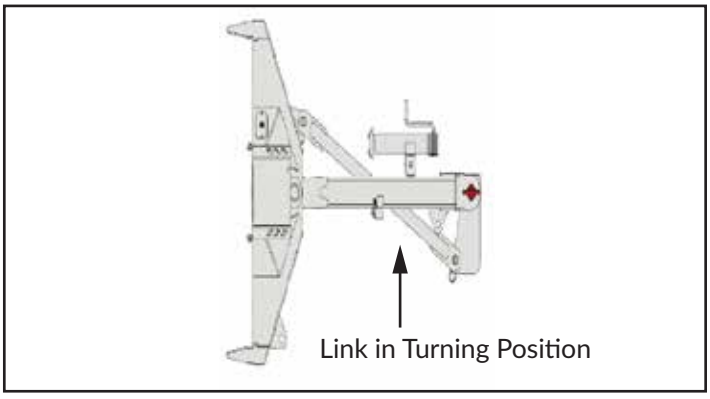
Once tractor is secured to the sprayer hitch, move the link assembly from the straight to turning position.











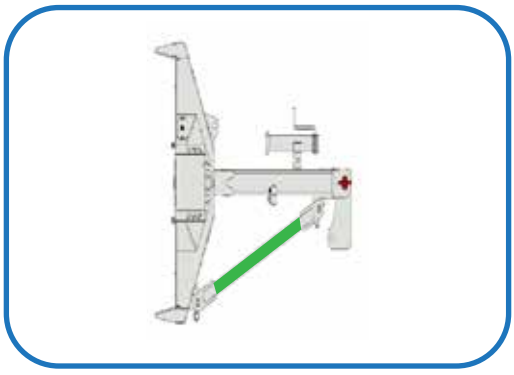
Turning Hitch Settings:
Use **straight hitch** when towing.

Use turning hitch for regular spraying operations.

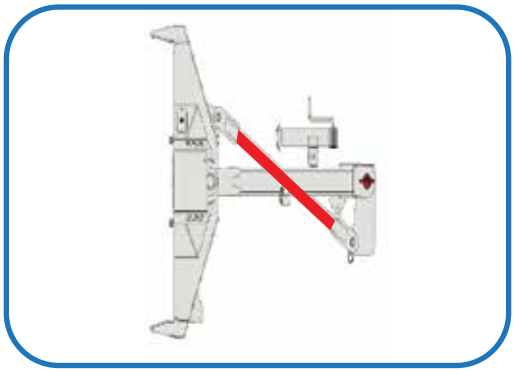
⚠DANGER

Do not transport sprayer at high speed, while in turn hitch setting.

Straight Hitch



Turning Hitch

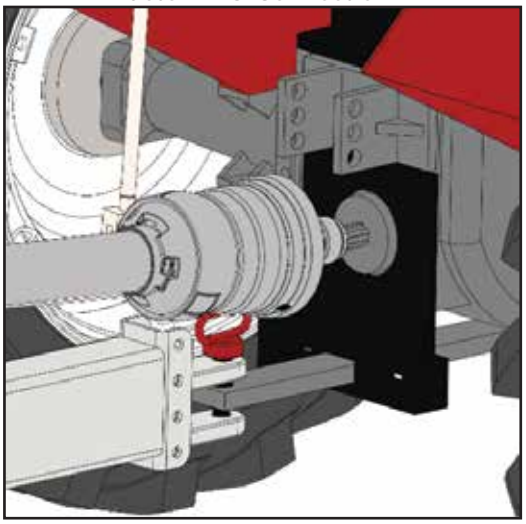


Attaching PTO to Tractor
Align and connect the female PTO Input with the tractor PTO shaft. Pull back on PTO connector to ensure ball is clicked in place.

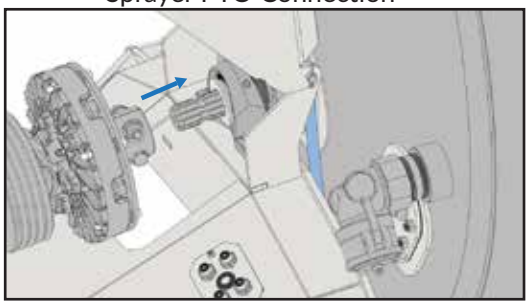
Attaching PTO to Sprayer
When attaching the PTO shaft, confirm that it aligns with the bearing drivetrain shaft.

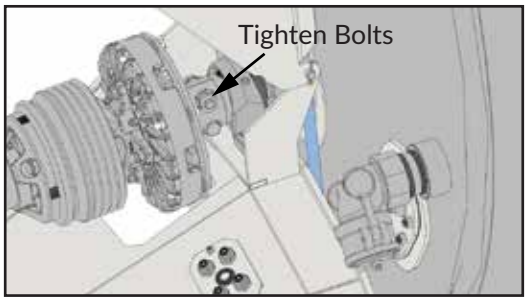
On completion:
- Reinstall all guards.
- Verify that sprayer drive line bolt connection is tight.

Tractor PTO Connection



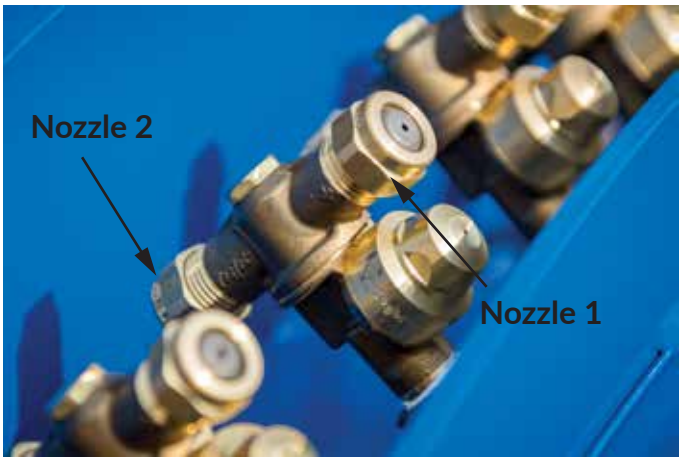
Sprayer PTO Connection





Operation

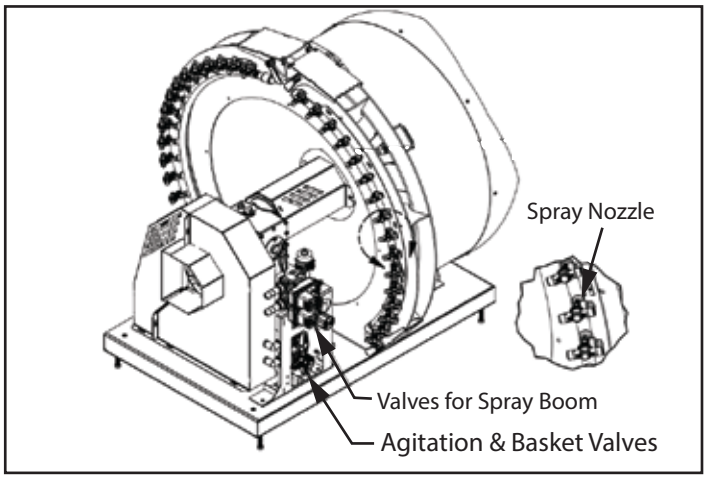
Spray Nozzle is composed of two outlet tips and allows three selections. Enable nozzle 1, enable nozzle 2, close nozzle. This design allows for the operator to have available configurations for easy switching.



Boom Filters are attached in line with each bom to remove small particles to limit clogging the spray tips. Each filter must be cleaned to prevent clogs.

Boom Valves (hydraulic or electrically driven) Turn Booms On/Off. The valves are controlled hydraulically or electrically.

Spray Control (electric): With an electric spray controls system, switches control the left and right nozzle booms.

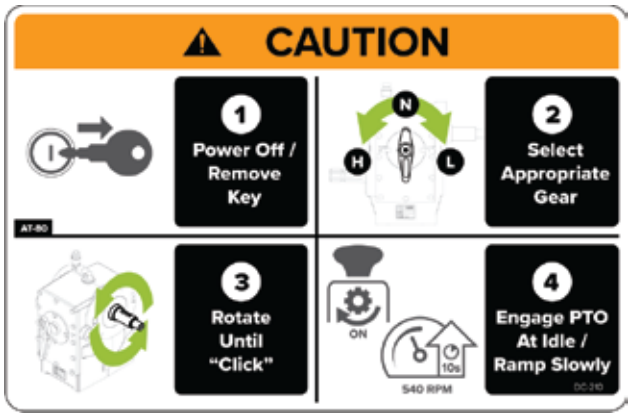


Spray Control (hydraulic): These controls are available on many tractors, operated using hydraulic remotes. Booms are actuated hydraulically, controlled within operator station hydraulic levers.

A Flowcore sprayer has two-speed **gearbox** that is manually selected before starting the machine. High speed provides more air output for taller trees. Low speed consumes less fuel.

Gearbox Speed Selection

Select High / Low Speed:
The two-speed gearbox can be changed by turning the handle from the center neutral position to either the high or low speed setting. Verify that gear is engaged fully before starting the machine. There is an audible click when fully engaged and in gear.



Gearbox High, Low Speed Selection

DANGER

Never attempt to change gear speed while running. Tractor should always be off.

WARNING

The high-speed setting will generate more air and will require more power from the tractor. Ensure sufficient power is available to run.

Controls

Electric:
Connect the Electric Control Box to the tractors 7- pin connection outlet.

Place and secure the electrical control box inside the cabin to prepare for spraying.

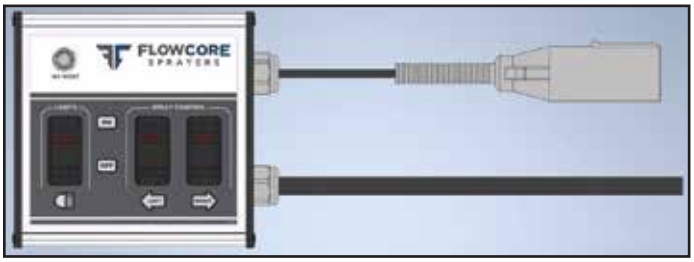
Control Box Overview:
Left: Turns left boom On/Off

Right: Turns right Boom On/Off

Lights: Turns lights On/Off



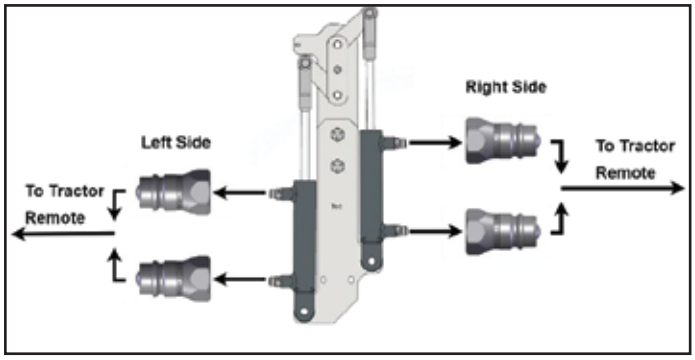
Electric Controls



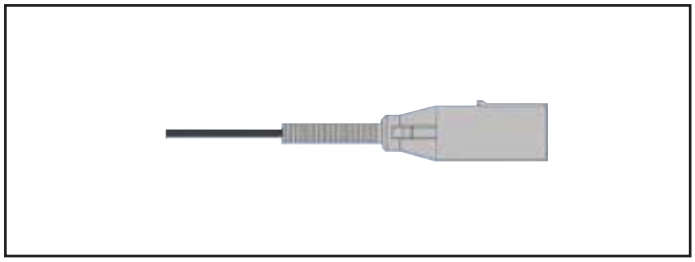
Control Box + 7 Pin Connector

Hydraulic:
Two pairs of hydraulic hose line are provided. Each pair of hoses are indicated by a L and R tag. Plug each pair to the tractor hydraulic remotes.

Connect the 7-pin trailer connector to the trailer connector to power lights.



Hydraulic Controls



7 Pin Connector

NOTICE

To enable sprayer controls, turn the Tractor head light switch to the on position. The light switch acts as the main power switch to the control box.

Lights on hydraulic machines actuate with trailer light selection.

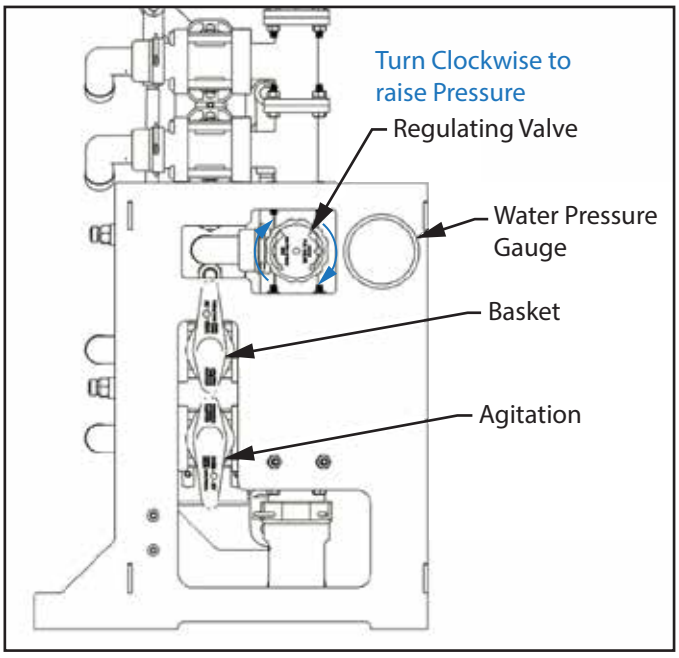
Operation

Set Up

Valve Setup:
Fill the tank with water. Open the basket, agitation, and Main valve handle completely open. Prime the pump.

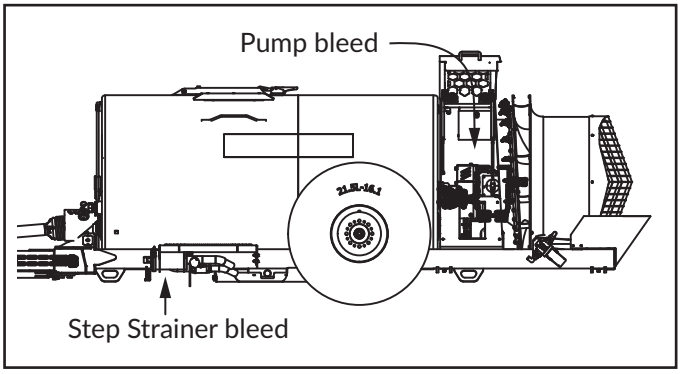
Verify that there is water flow through the basket and agitation line in the tank by running the PTO at a slow rpm.

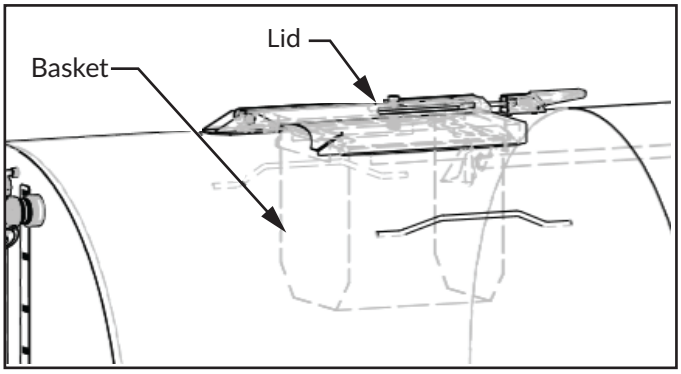
Check the pressure gauge and verify that pressure is not zero.



Valve Diagram

Priming:
- Fill tank with water.
- Bleed air from step strainer.
- Bleed air from pump.
- Ensure PTO at idle, run pump to clear air from line.
- PTO to 540. Confirm around 100 PSI on gauge.





Tank Lid

Set Up (Continued)

Run the sprayer at 540 RPM. Verify desired pressure. If not, adjust the pressure using regulating valve. Turn clockwise to raise pressure.

If the sprayer runs dry due to lack of water, pump will need to be primed.

Load Material:
With Sprayer/PTO off. Load material into basket. Run PTO at low idle, turn basket valve on to mix material into tank. Close lid.

⚠CAUTION

Do not load material with the sprayer running.

Agitate Material:
Open Agitate Valve and run the PTO at low RPM to begin agitating the material that was loaded. Provide enough time to fully mix basket material with the tank. Once fully mixed, close basket valve and leave agitate valve open to avoid settling of material while spraying.

Adjustments and Maintenance

Maintenance Schedule

System	Description and Time	Product Type
Gearbox	Check Daily; Replace Oil yearly	SAE 80W-90, API GL-5 Limited Slip Gear Oil
Pulley Belts Pulleys	Check Daily; Replace as needed. Check Daily; Correct Tension, Cuts or Fraying in Belt	See Pg.13
Bearings	Grease after 50 hours of operation.	NLGI 2 460 W
Plumbing	Flush out before storing	
Wheel Bearings	Grease every 50 hours Re-pack bearings every 2 years or 2000 hours.	NLGI 2 460 W
PTO - Drivetrain	DailyBefore Running • Friction Clutch shows no signs of damage. • Grease every 50 hours	NLGI 2 460 W
Storage / Frost Protection	Drain Plumbing Before Winter or Freezing Temperatures. • Drain Pump • Left and Right Boom Filter • Main Filter Canister	
Pump	Check Daily • Leaks in fittings and hoses • Low Pressure in Pump Seal Gauge	
Tank	Daily Before Running • Leaks at all hose points • Clean tank with water when changing chemical or completing a job.	
Fans	Daily Before Running • Cracks or broken blades • Excessive debris	
Nozzle	Daily Before Running • Check for loss of pressure • Free of debris	

LUBRICATION	GREASE	HRS
Bearings	NLGI 2 460 W	50
Wheel Bearings	NLGI 2 460 W	50
PTO Drive Train	NLGI 2 460 W	50

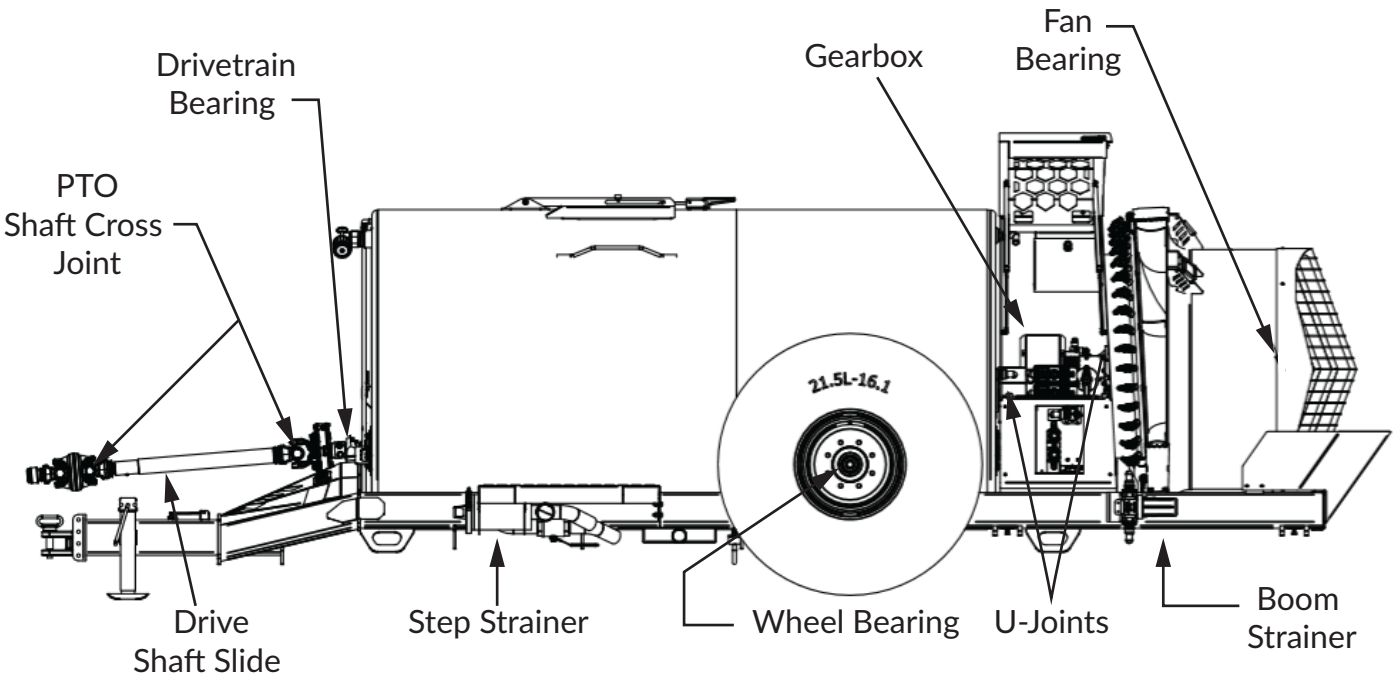
⚠ DANGER

Never run the pump without belt guard. Always secure base of the pump to frame before operating. Always guard any moving components before running.

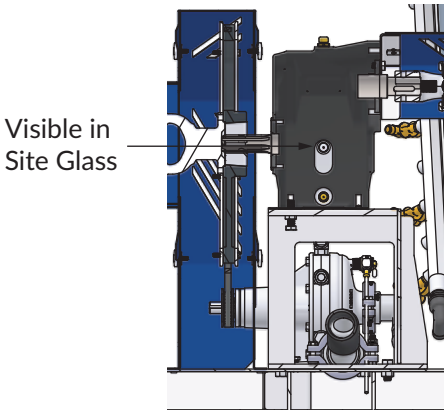
⚠ WARNING

Do not adjust or over tighten fasteners during operation. Always stop the machine completely when adjusting.

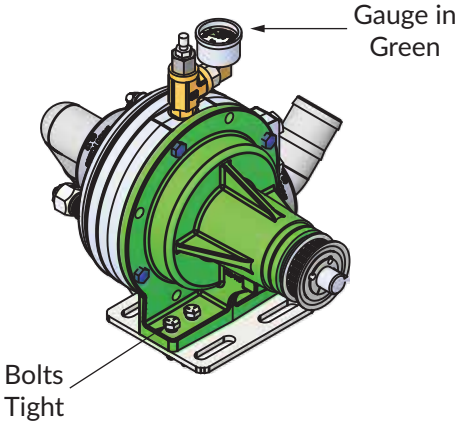
Lubrication Locations



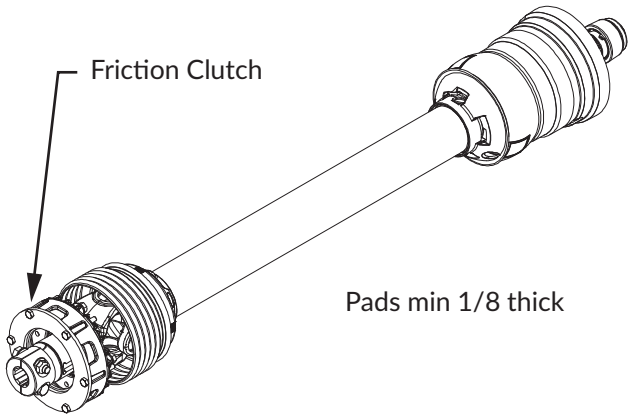
GearBox Oil



Pump



PTO



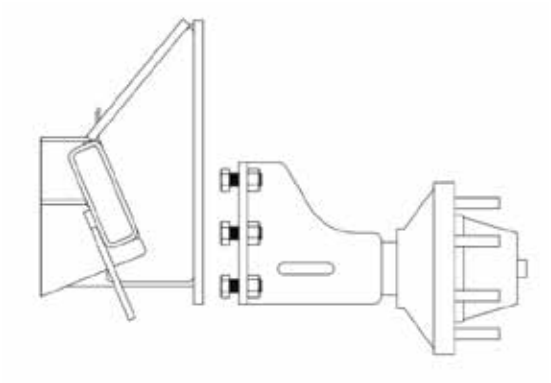
Adjsutments and Maintenance

Axle Height Adjustment

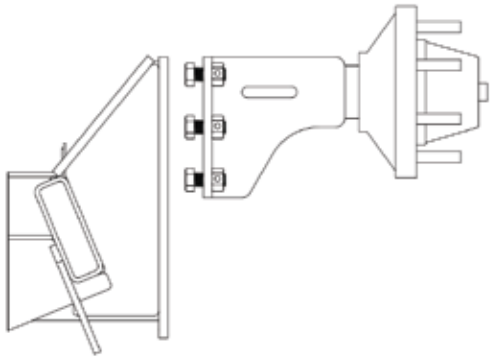
The Flowcore sprayer can be raised or lowered to allow different ride heights.

⚠DANGER

Before attempting to modify the spindle ride height, secure the sprayer frame with wood blocks to safely make any adjustments. By selecting on of the following options, lower the frame by the selected amount. If there is high brush or other obstructions, they may hit the frame. Ensure that the spindle mount bolts are properly torqued. Always secure spindle assembly with all available mounting holes.



Maximum Ride Height



Minimum Ride Height

Torque bolts to 320 ft-lbs.
Ø3/4-10 UNC GR8 Only.

Transportation

When transporting the Flowcore sprayer on the road:

- When loading onto a trailer, utilize the 4 tie-down locations to safely secure the sprayer in place using load-rated tie down straps or chains.
- When towing, add 100+ gallons of water to prevent sway.
- Use trailer hitch safety chains.

⚠ WARNING

Only the Operator can determine the maximum safe operating speed of the sprayer during transport. Use proper tire pressure for the given road conditions.



Tie Down

Winterizing and Storage

Proper winterization protects the Flowcore sprayer's pump, valves, and plumbing from freezing, corrosion, and damage during extended storage.

1. Drain the System

Completely empty the chemical tank and drain remaining liquid from the spray system. Dispose of chemical residues according to applicable regulations.

2. Flush and Clean

Thoroughly flush the tank, pump, hoses, and nozzles with clean water. Use an approved tank cleaner according to the manufacturer's instructions, then rinse completely to remove all cleaning agents.

3. Protect the Water Pump

Flush the pump to remove chemical residue. Fill with compatible propylene glycol based antifreeze to protect against freezing and corrosion.

4. Pump Barrier Fluid

Drain and reinstall pump barrier fluid from the reservoir into a clean bucket. If the fluid is clear; reinstall plug refill with barrier fluid and recharge air pressure to 30 PSI. If fluid is cloudy, discolored, or contains water; this is an indication of possible seal leak. Recommend installing a seal kit to ensure reliable operation for the next season.

5. Winterizing Valves and Plumbing

Circulate a propylene glycol antifreeze solution through the spray system to protect valves, hoses and fittings from freezing.

See page 41 for exploded water pump view.

Adjustments and Maintenance

Spray Calibration

Step 1: Fundamental Calculations
Calculate the GPM per nozzle to determine the required nozzle.

Assumptions:
All nozzles are the same size.

$$\frac{2 \times \boxed{A} \times \boxed{S} \times \boxed{RS}}{990 \times \boxed{N}} = \boxed{M}$$

Step 2: Identify Spray Parameters

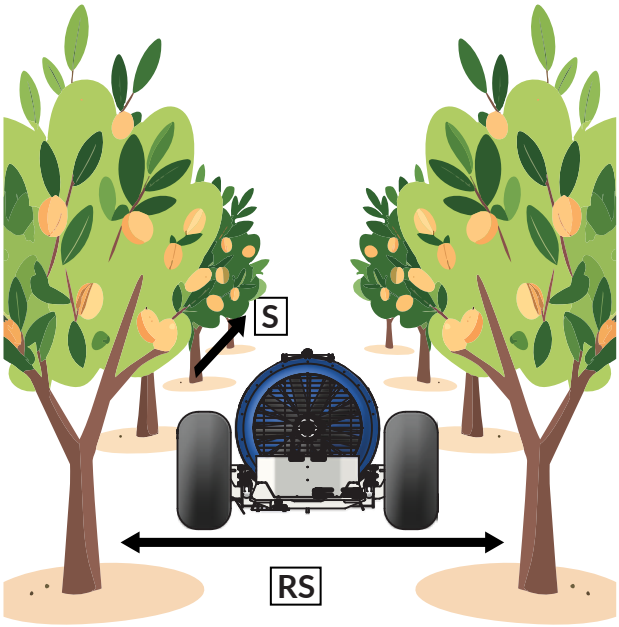
A = Target Sprayer Output (Gallons Per Acre)

S = Sprayer Speed (Miles Per Hour)

RS = Crop Row Width (Feet)

N = Number of active nozzles to be used.

M = Feed Rate (Gallons per Minute)
Diagram:



Step 3: Calculate nozzle size

Example Calculation:

Tractor Driving Speed: **S** = 4 Miles Per Hour

Crop Row Spacing: **RS** = 22 Feet

Coverage: **A** = 150 Gallons Per Acre

Active Nozzles: **N** = 36

Given				Find
A gal/acre	**S** mph	**RS** feet	**N** qty	**GPM** per nozzle
150	**4**	**22**	**36**	**?**

$$\frac{2 \times \boxed{150} \times \boxed{4} \times \boxed{22}}{990 \times \boxed{36}} = \boxed{0.74}$$

GPM per Active Nozzle M = 0.74 GPM

Total Feed Rate = M x N = 0.74 x 36 = 26.6 GPM

Step 4: Choose Nozzle

Several combinations of nozzle size and pressure can be used to achieve the same M GPM per nozzle. Nozzle selection is a trade-off between coverage, penetration of canopy and drift. High pressure on smaller nozzle size is for good coverage but is prone to drift. Lower Pressure on larger nozzle size has better canopy penetration and low drift, but may have more variable coverage. Consult a professional pest control advisor. The Flowcore can produce up to 150 psi. For most applications 60-100 psi is recommended.

Nozzle Selection and Setup

DISC-CORE TYPE HOLLOW CONE SPRAY

Typical Applications: Fungicide | Insecticide | Fertilizer

Setup Recommendations:

- D7 DISC-DC25 CORE-.73 GPM
- D5 DISC-DC45 CORE-.71 GPM

DISC	CORE	DISC DIA. (INCH)	CAPACITY (GPM)										ANGLE		
			10 PSI	20 PSI	30 PSI	40 PSI	60 PSI	80 PSI	100 PSI	150 PSI	200 PSI	300 PSI	20 PSI	40 PSI	80 PSI
D1	DC25	.031	—	—	.088	.101	.122	.138	.156	.185	.210	.255	—	27°	43°
D1.5	DC25	.036	—	—	.118	.135	.162	.185	.205	.245	.280	.33	—	38°	49°
D2	DC25	.041	—	.12	.14	.16	.19	.22	.25	.29	.34	.41	39°	51°	58°
D3	DC25	.047	.10	.14	.17	.19	.23	.26	.29	.35	.40	.48	52°	61°	67°
D4	DC25	.063	.15	.21	.25	.29	.35	.40	.45	.54	.62	.75	67°	74°	80°
D5	DC25	.078	.18	.25	.30	.35	.42	.48	.54	.65	.75	.90	73°	79°	84°
D6	DC25	.094	.23	.32	.39	.44	.54	.62	.70	.85	.97	1.19	79°	85°	89°
D7	DC25	.109	.26	.37	.45	.52	.63	.73	.81	.98	1.18	1.37	85°	91°	93°
D8	DC25	.125	.31	.43	.53	.61	.75	.89	.97	1.19	1.36	1.68	91°	96°	97°
D10	DC25	.156	.38	.54	.65	.76	.93	1.07	1.21	1.48	1.71	2.1	97°	102°	103°
D12	DC25	.188	.46	.61	.80	.93	1.15	1.32	1.47	1.81	2.09	2.55	103°	109°	112°
D14	DC25	.219	.51	.72	.88	1.03	1.26	1.47	1.65	2.02	2.34	2.89	108°	113°	114°
D1	DC45	.031	—	—	—	.125	.148	.170	.190	.225	.257	.310	—	22°	34°
D1.5	DC45	.036	—	—	.14	.16	.20	.23	.25	.31	.35	.43	—	33°	44°
D2	DC45	.041	—	.14	.18	.20	.25	.28	.32	.38	.44	.53	32°	46°	55°
D3	DC45	.047	—	.17	.20	.23	.28	.33	.36	.44	.51	.62	40°	53°	60°
D4	DC45	.063	.18	.25	.31	.36	.43	.50	.56	.68	.78	.95	62°	69°	72°
D5	DC45	.078	.23	.32	.39	.45	.55	.64	.71	.86	.99	1.22	67°	73°	76°
D6	DC45	.094	.29	.41	.50	.58	.72	.83	.93	1.15	1.33	1.64	73°	79°	81°
D7	DC45	.109	.33	.48	.59	.68	.84	.97	1.11	1.35	1.57	1.94	81°	86°	87°
D8	DC45	.125	.41	.59	.72	.84	1.04	1.21	1.35	1.68	1.94	2.40	86°	90°	90°
D10	DC45	.156	.54	.77	.94	1.10	1.35	1.57	1.77	2.18	2.50	3.10	90°	93°	93°
D12	DC45	.188	.67	.95	1.17	1.36	1.68	1.95	2.20	2.69	3.11	3.80	97°	100°	102°
D14	DC45	.218	.75	1.07	1.32	1.53	1.89	2.19	2.45	3.00	3.49	4.30	101°	104°	105°
D16	DC45	.250	.86	1.25	1.54	1.79	2.20	2.57	2.89	3.54	4.11	5.20	108°	111°	112°
D1	DC46	.031	—	—	—	.145	.178	.205	.23	.28	.32	.39	—	13°	15°
D1.5	DC46	.036	—	—	—	.213	.260	.300	.33	.41	.46	.56	—	15°	17°
D2	DC46	.041	—	—	.24	.27	.33	.37	.42	.50	.57	.68	—	18°	21°
D3	DC46	.047	—	.23	.28	.32	.39	.45	.51	.61	.70	.86	14°	20°	24°
D4	DC46	.063	.28	.39	.48	.56	.68	.78	.88	1.07	1.23	1.52	23°	29°	33°
D5	DC46	.078	.38	.54	.66	.77	.94	1.10	1.25	1.50	1.73	2.13	33°	39°	42°
D6	DC46	.094	.55	.78	.95	1.10	1.35	1.58	1.73	2.16	2.50	3.06	42°	48°	50°
D7	DC46	.109	—	.98	1.22	1.39	1.72	1.97	2.22	2.73	3.15	3.85	48°	53°	56°
D8	DC46	.125	—	—	1.59	1.84	2.25	2.62	2.93	3.60	4.17	5.05	—	60°	62°
D10	DC46	.156	—	—	2.15	2.48	3.05	3.53	3.96	4.83	5.59	6.80	—	66°	68°

*Credit Source: Teejet Technologies Catalog 52 Pg.89

Replacing the Belt

Step 1: Remove belt guard.

Step 2: Loosen water pump mount bolts.

Step 3: Loosen pulley flange. Push the driveline shaft forward to shorten and create a gap for the belt to pass through.

Step 4: Replace the belt.

Step 5: With the new belt seated on the pump and main pulley, tension belt.

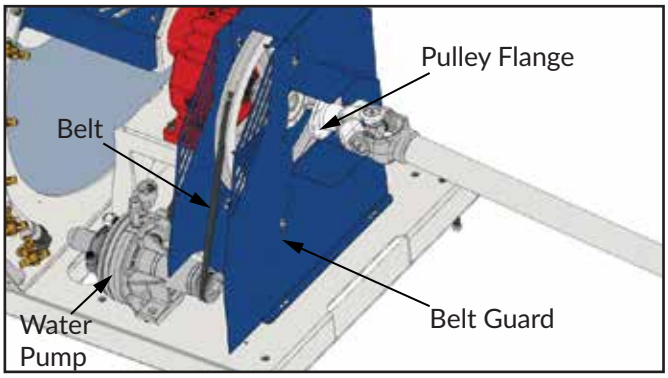
Belt tensioning

To tension belt, pull the pump away from the main pulley. A properly tensioned belt will have a deflection of no more than 1/2in as shown in the diagram. If the belt is too loose, the belt will get damaged. Secure pump mount bolts.

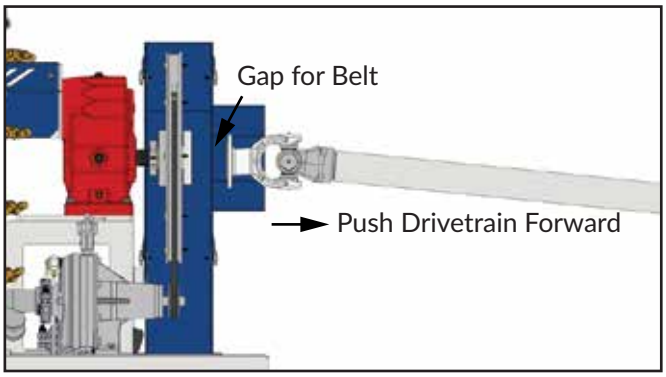
Step 6: Reconnect the u-joint flange to the face of the main pulley. Use a star pattern when installing the bolts. Use the following Torque each bolt.

Bolt Size: 3/8-16 Length 1.5in
Torque Requirements: 37 FT-LBS

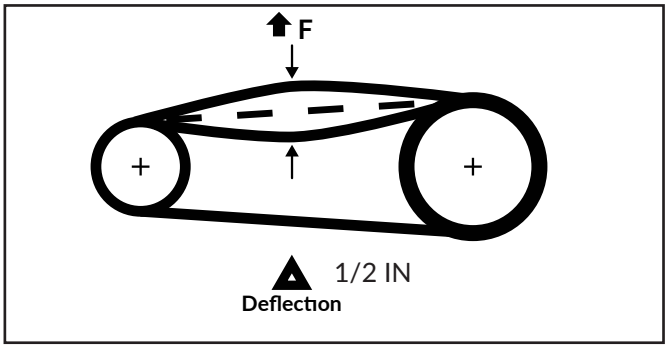
Step 7: Reinstall the belt guard.



CV Joint Flange Removal



Belt Gap after Flange Removal



Belt Deflection Diagram

DANGER

Never attempt to service the machine while running. Use wheel chocks and parking brake.

Frequently Asked Questions

Q. Where is the serial number located?
A. The serial number is located the front hitch area.

Q. Where are replacement parts sold?
A. First contact local dealer. Make sure to have replacement part numbers that are needed and serial number ready when calling. If local dealer is unable to help, contact Valley Tool Parts.

Q. What is causing water leaks when spraying?
A. Stop machine and inspect all water connections for leaks. If tightening a connection does not stop the leak, the system may require servicing. Follow all local regulations for safe disposal. Do not operate the machine until all leaks are fully repaired. Running with leaks poses safety risks and may result in chemical exposure.

Q. What should be done if there is a burning smell of rubber near the the sprayer when it running?
A. Shutoff the spayer and disconnect the PTO shaft before inpescting belts. Adjustt belt tension as needed. Over-tightening or loose belt can cause heat buildup, slippage, and premature belt failure.

Q. When should belts be replaced?
A. Replace belts when experiencing repeated slipping or breaking of belts. Before replacing try adjsuting the level of tension. If that does remedy the problem, replace the belt. Have an extra belt on hand to minimize downtime.

Q. What to if belts are wearing out too fast and burning up?
A. First, check belt tension. Belts should have 1/2" sway in them. Check pulleys for debris, damage, or wear.

Q. Does the gearbox need to be filled with oil before the sprayer is used?
A. No, gearbox is factory filled and tested. Verify proper oil level everytime before running the sprayer. Check for shaft seal leaks.

Q. How much gear oil should be added when repalcing?
A. Fill from the lower middle fitting. Stop when oil begins to come out. Don't overfill.

Q. Is it possible to run the pump without water in the tank?
A. Yes, temporarly. It is best not to run the pump on an empty tank.

Q. What to do if pump pressure goes low?
A. When water level lowers, increase the regulator pressure. Decrease pressure when the tank is full. Check that the basket and agitate valved are closed.

Q. Why are only a few nozzles spraying?
A. Clogging due to debris can contribute to clogs. Flsuh clogged nozzles. Ensure all three filter sections are kept clean. Check all filters for any clumps that have formed. Clear any obstructions in the filter. Replace with spare parts as necessary.

Q. What to do if gauge is bouncing up and down?
A. Tank is low or capturing air. Refill or operate at lower speed.

FLOWCORE
SPRAYERS

PARTS BOOK



VALLEY TOOL
MANUFACTURING COMPANY

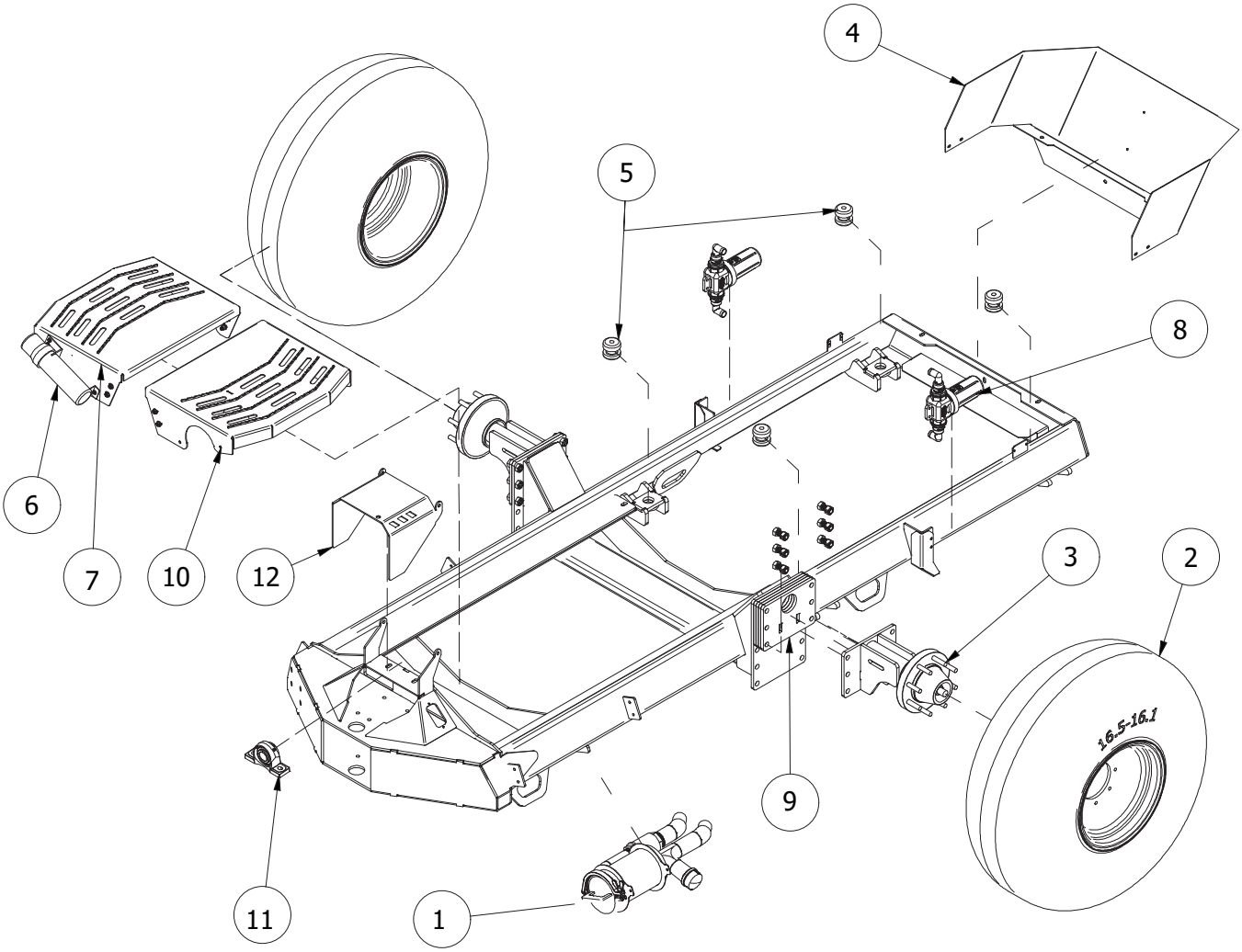
Order Parts Online
shop.valleytoolmfg.com

- *Shop OEM Parts*
- *Fast Shipping*
- *Easy Checkout*

QUESTIONS: Parts@Valleytoolmfg.com

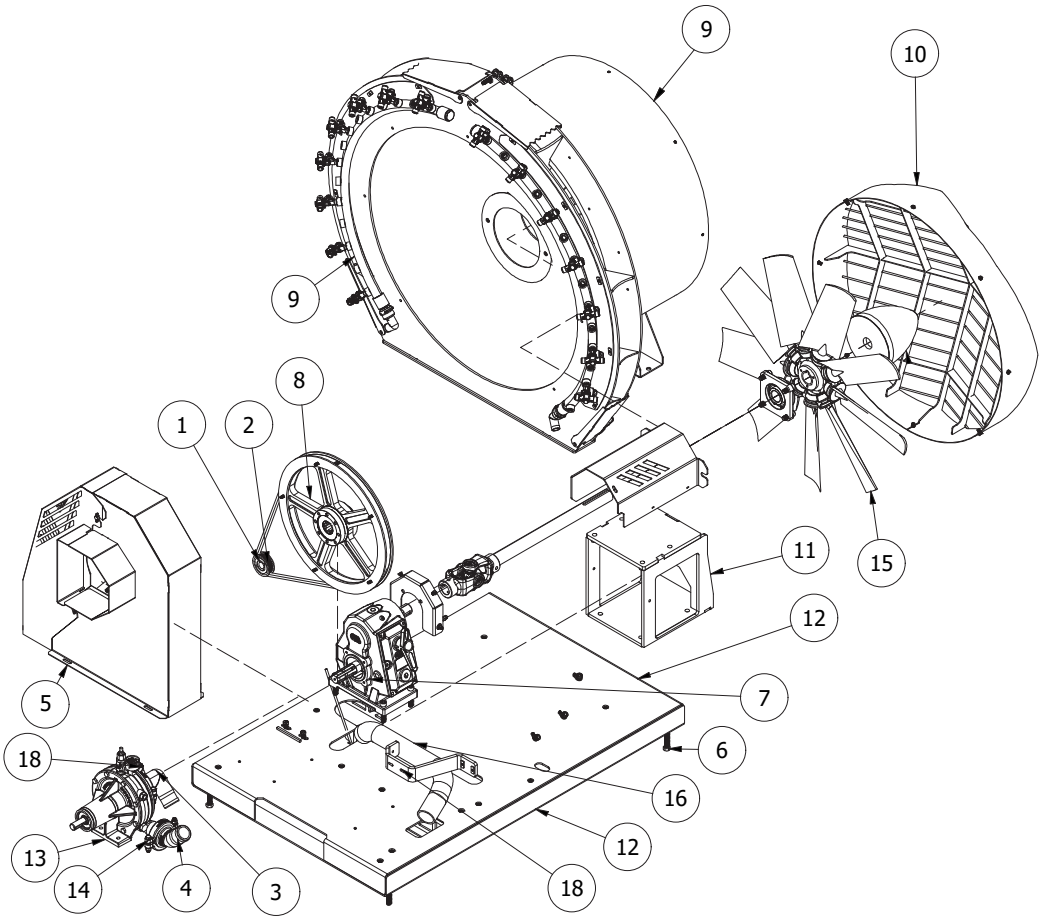
500 GALLON FRAME

ITEM	DESCRIPTION	PART NUMBER	QTY
1	QUICK RELEASE FILTER	W00965	1
2	WHL + TIRE 16.5-16.1 STANDARD	601392	2
3	SPINDLE AND HUB WELDMENT	W01180	2
4	FAN LEAF GUARD	W01259	1
5	VIBRATION MOUNT	22003-13	4
6	DOCUMENT HOLDER	DC-100	1
7	STEP LEFT	W02098	1
8	FILTER ASSEMBLY BOOM OUTLET	W01342	1
9	SPINDLE MOUNT	W01181	1
10	STEP RIGHT	W02300	1
11	1-1/2" BEARING	UEP 208-24	1
12	PTO GUARD FR BRG CVR	W01768	1



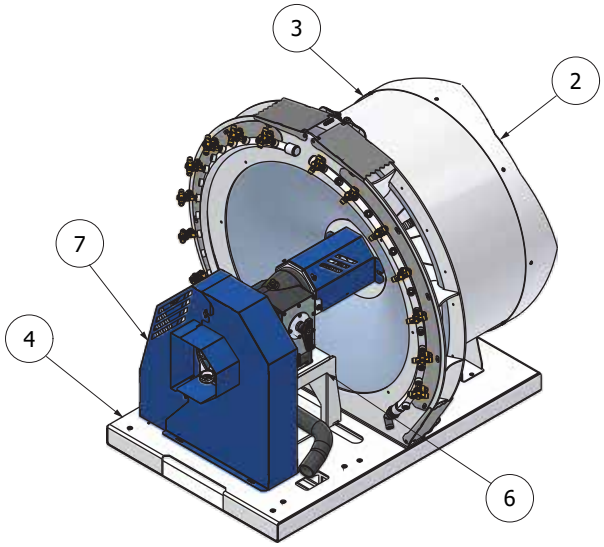
FAN ASSEMBLY 32”

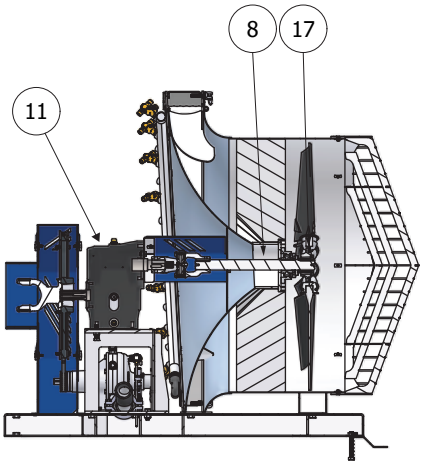
ITEM	DESCRIPTION	PART NUMBER	QTY
1	PUMP BUSHING	GATES_1108_7_8	1
2	PUMP SHEAVE	GATES_8MX_25S_12	1
3	2” FP FLANGE X 2” HB 90 DEGREE	M220BRB90	1
4	2” MANIFOLD HOSE BARB X X 45 DEGREE	M200BRB45	1
5	GUARD ASY 2 ETR PMP TO GBX	W02180	1
6	HHCS 1/2-12 X 6.5	92865A737	4
7	GB GEARBOX AT55	AT55-3,3,60-4,00WX0D35	1
8	SPRKT ASY 2 WTR+FAN DRV	W02211	1
9	TRPT ASY 32 FAN	W00801	1
10	FAN GUARD 32IN WLDMNT1	W00809	1
11	WLDNMT SML PDSTL 50HP GRBX	W01094	1
12	BASE FAN MOUNT ASY	W00885	1
13	PUMP FMCWS-650F A-B-D 220X200 FLG	48934	1
14	V-CLAMP FC220B	FC220B	4
15	FAN 36/9-9/45/PAGST/5ZR/P-1 1.500/AS	32-9-9-45-PAGST-5ZR-P-1_1.500-AS	1
16	HOSE 2IN ID T2-2 CAP RUBBER	2INT202	1
17	PUMP BLEED KIT	W02285	1
18	GUARD & MANIFOLD SUPPORT	W02232	1

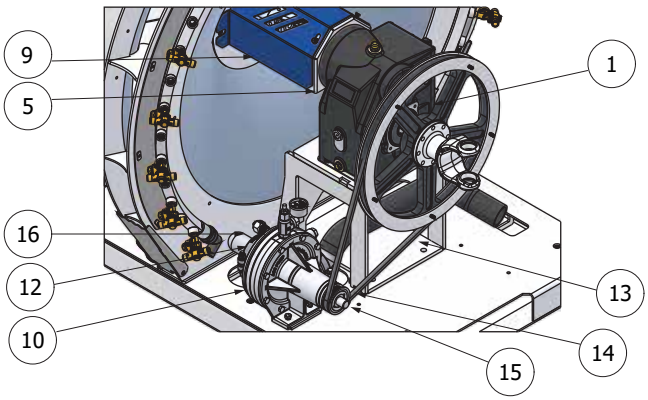


FAN ASSEMBLY 36”

ITEM	DESCRIPTION	PART NUMBER	QTY
1	PULLEY W/ FLINGS ASY 8MX-180S-12	07792	1
2	FAN GUARD 36 ASY	W00791	1
3	TRPT ASY 36 FAN	W00824	1
4	BASE MOUNT FAN ASY	W00885	1
5	MOUNT FAN GRD BRKT ASY	W01088	1
6	WLDMNT SML PDSTL 50 HP GEARBOX	W01094	1
7	GUARD ASY 2 WTR PMP TO FEARBOX	W02180	1
8	SHAFT OUTPUT MSC75 36 FAN	09737	1
9	GUARD GEARBOX OUTPUT MSC75 RETROFIT	09739	1
10	PUMP ACE FMCWS-650F A-B-D 220X200 FLG	48934	1
11	GEARBOX MSC 75HP 1:4 1:3	MSC75	1
12	V-CLAMP FC220B	FC220B	2
13	GATES 8MGT-1792-12	GATES_8GTV-1792-12	1
14	PUMP SHEAVE	GATES_8MX_25S_12	1
15	PUMP BUSHING	GATES_1108_7_8	1
16	2” FP FLANGE X 2” HB 90 DEGREE	M220BRB90	1
17	TAPER LOCK BUSHING 1.5	TS-1084	1

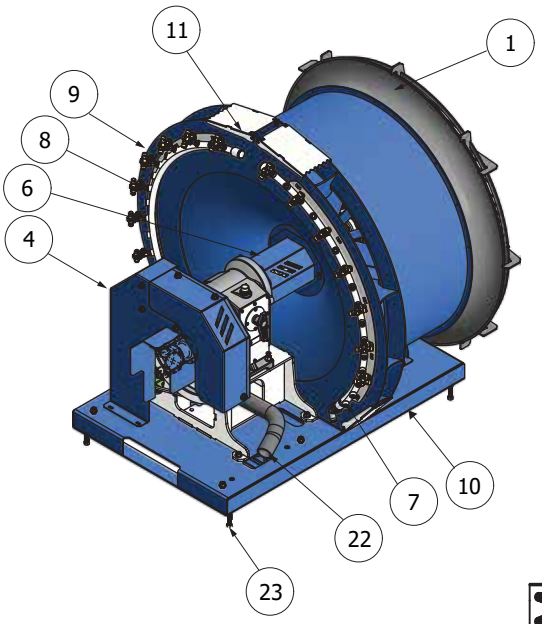


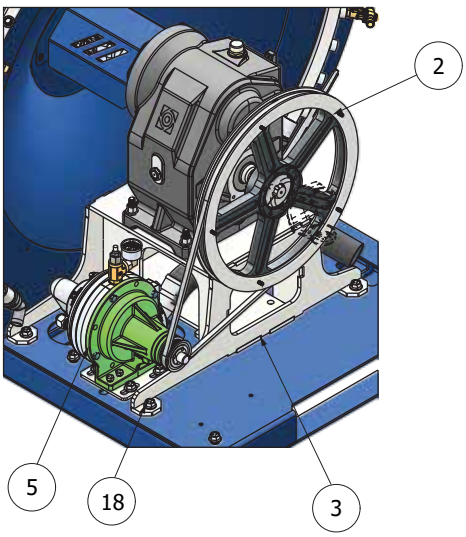


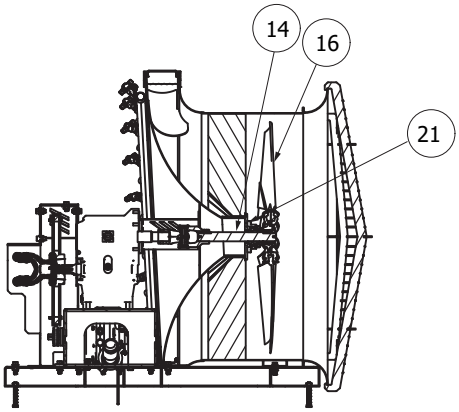


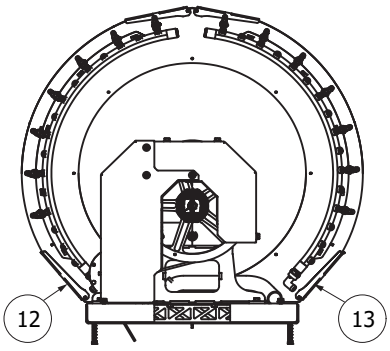
FAN ASSEMBLY 40”

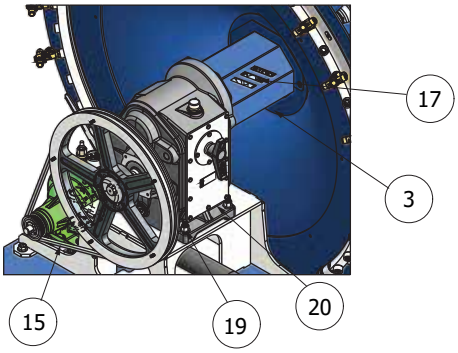
ITEM	DESCRIPTION	PART NUMBER	QTY
1	ASY GUARD 40FAN BELLMOUTH	06769	1
2	PULLEY W/ FLNGS ASY 8MX-180S-12	07792	1
3	WLDMT PDSTL MDM130 129HP GRBX ANTIVIB WINGS	07922	1
4	ASY PULLEY GUARD MDM130	08384	1
5	ASY WATER PUMP W/ SLIDE FTGS HDWE	10913	1
6	ASY OUTPUT GUARD MDM130	10929	1
7	BOOM ASY RH LARGE 1	W00402	1
8	MIRROR OF W00402 ASY	W00402R	1
9	ASY FAN SHROUD 40IN	W00411	1
10	BASE FAN MOUNT ASY	W00885	1
11	TOP DIVERTER DUCT 32/36 FAN	W02151	2
12	BASE DIVERTER DUCT 4	W02153	1
13	BASE DIVERTER DUCT 4	W02153R	2
14	SHAFT OUTPUT MDM130 40 FAN	07927	1
15	GATES 8MGT-1760-12	8MGT-1760-12	1
16	Fan Multiwing 40/9-9/45/PAGST/5ZR/P-1 1.500/AS	40-9-9-45-PAGST-5Z R-P-1_1.500-AS	1
17	ASY U-JOINT 1.5 RD KWY X2	09566	1
18	FHCS 1/2-13 X 1.50 GR5 CL ZN	90129A128	15
19	HHCS 1/2-13 X 3 GR5	92865A724	4
20	GEARBOX 1:3, 1:4 SPRAYER MDM130 128 HP	MDM130	1
21	BEARING SS 4BOLT 1.5	VTM UESFM208 24	1
22	HOSE 2IN ID T202 CAP RUBBER	2INT202	1
23	HHCS 1/2-13 X 6.5	92865A737	4







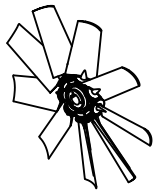




FANS

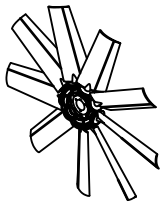
32 IN FAN

PTO HP	FAN HP	PITCH	PART NUMBER
31.2	26.5	45	32-9-9-45-PAG-5Z
48.24	41	37.5	32-9-9-37.5-PAG-5Z



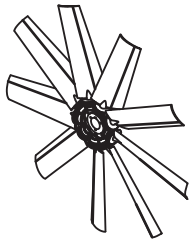
36 IN FAN

PTO HP	FAN HP	PITCH	PART NUMBER
69.3	58.9	45	36-9-9-45-PAG-5Z
40.5	34.4	37.5	36-9-9-37.5-PAG-5Z



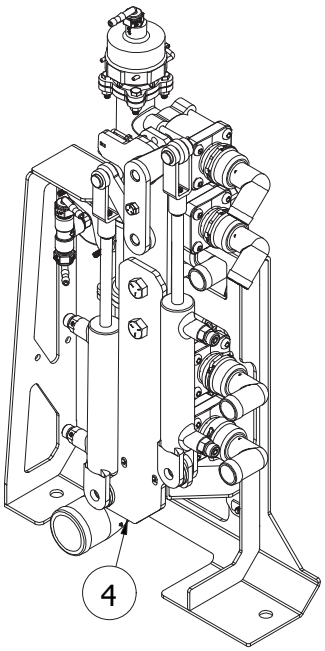
40 IN FAN

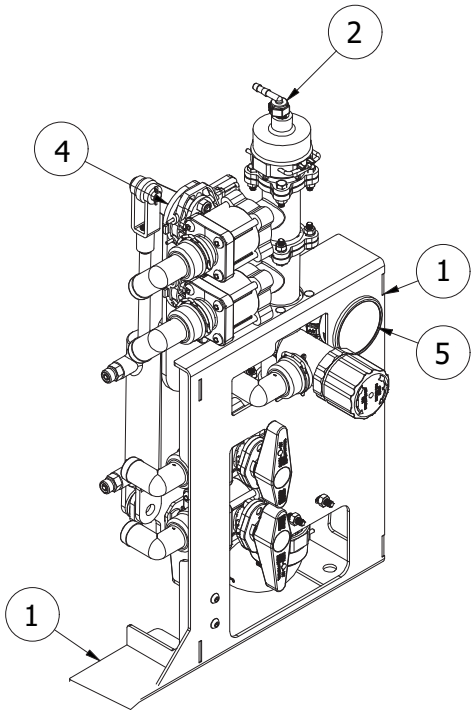
PTO HP	FAN HP	PITCH	PART NUMBER
88.5	75.3	45	40-9-9-45-PAG-5Z
50.8	43.2	37.5	40-9-9-37.5-PAG-5Z

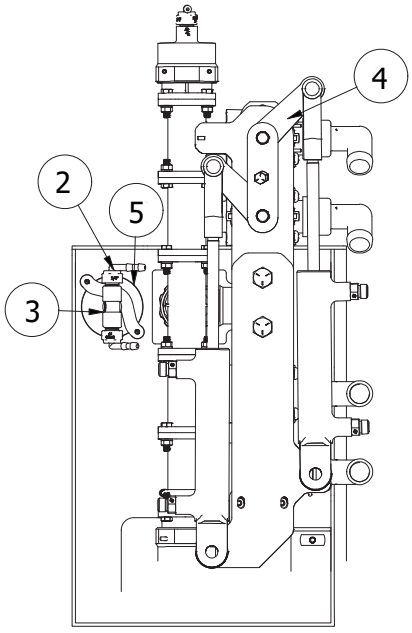


MANIFOLD CONTROL HYDRAULIC

ITEM	DESCRIPTION	PART NUMBER	QTY
1	MANIFOLD MOUNT ASY	W00866	1
2	1/4NPT X 1/4” HB025-90	HB025-90	3
3	1/4” TEE PN TEE025	TEE025	1
4	ASY, HYD VALVE ACTUATOR ON/OFF	W01844	1
5	GAUGE 200PSI 1/4IN NPT	3845K15	1

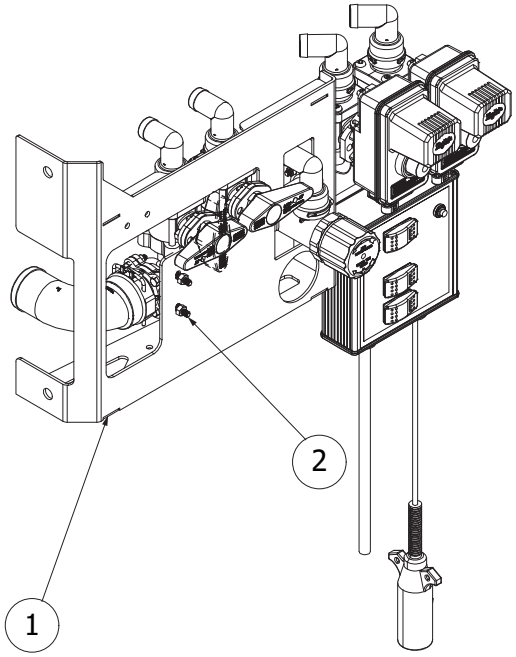


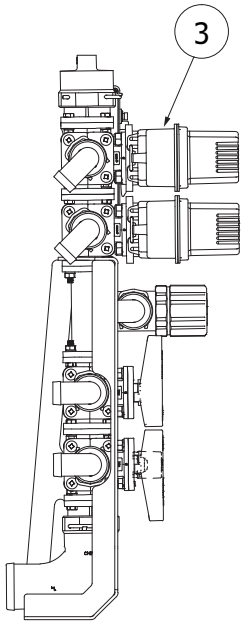


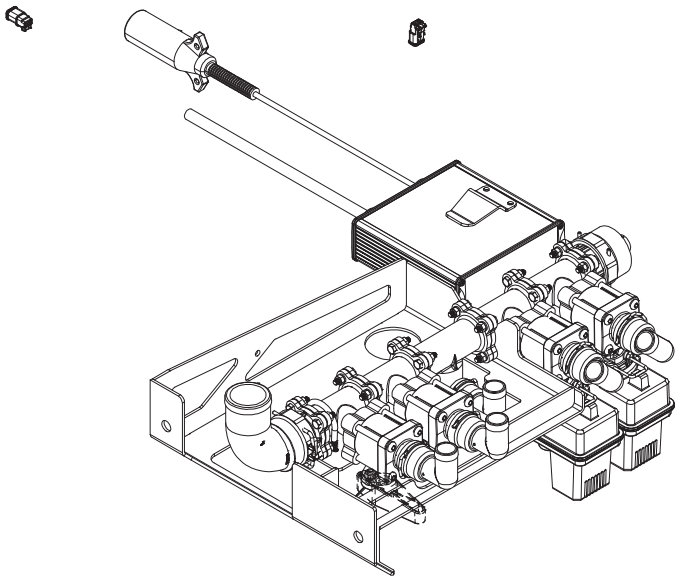


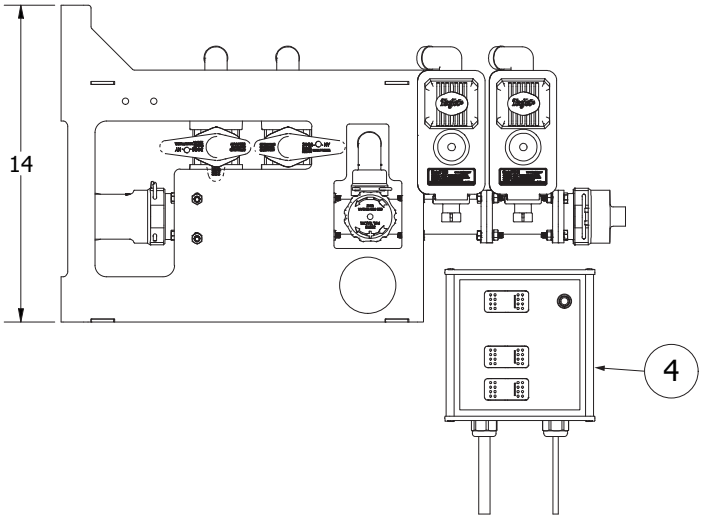
MANIFOLD CONTROL ELECTRIC

ITEM	DESCRIPTION	PART NUMBER	QTY
1	**MANIFOLD MOUNT ASY**	W00866	1
2	U-BOLT 1/4”-20 THREAD SIZE, 1-1/2” ID	3043T617	1
3	VALVE ASY TEEJET ELECTRIC CONTROL	98504-20	1
4	HARNESS ELECTRICAL CONTROL FC	HRANESSBASE	1



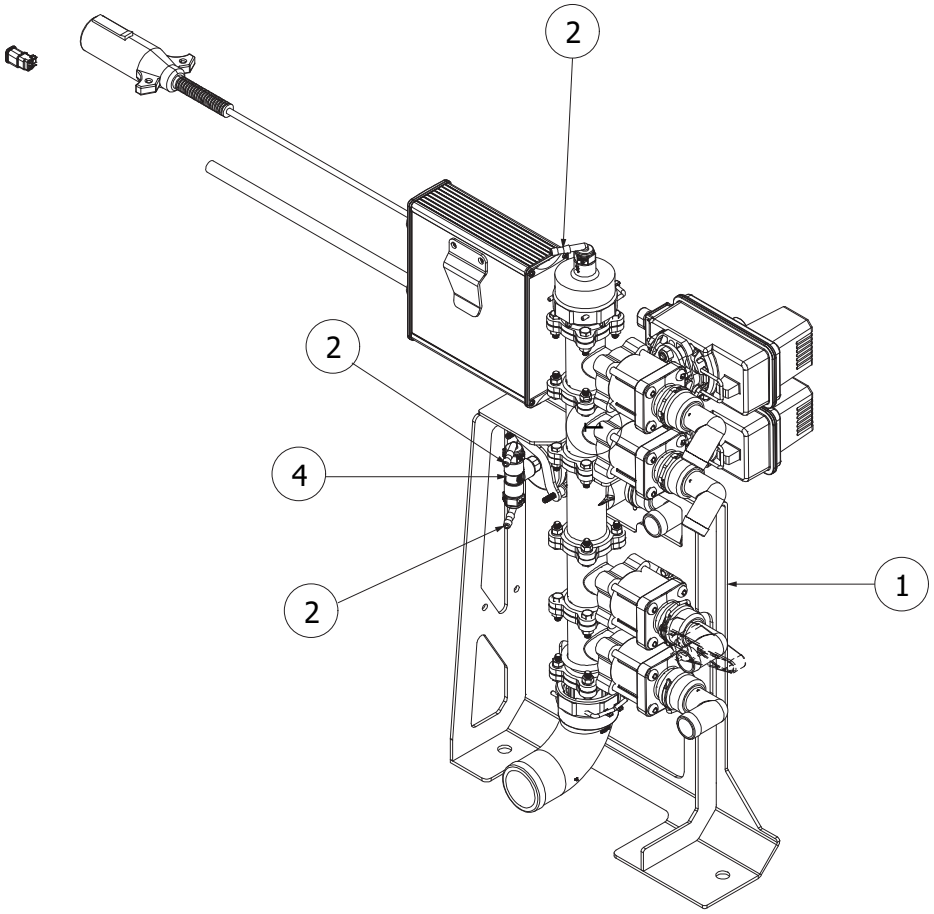






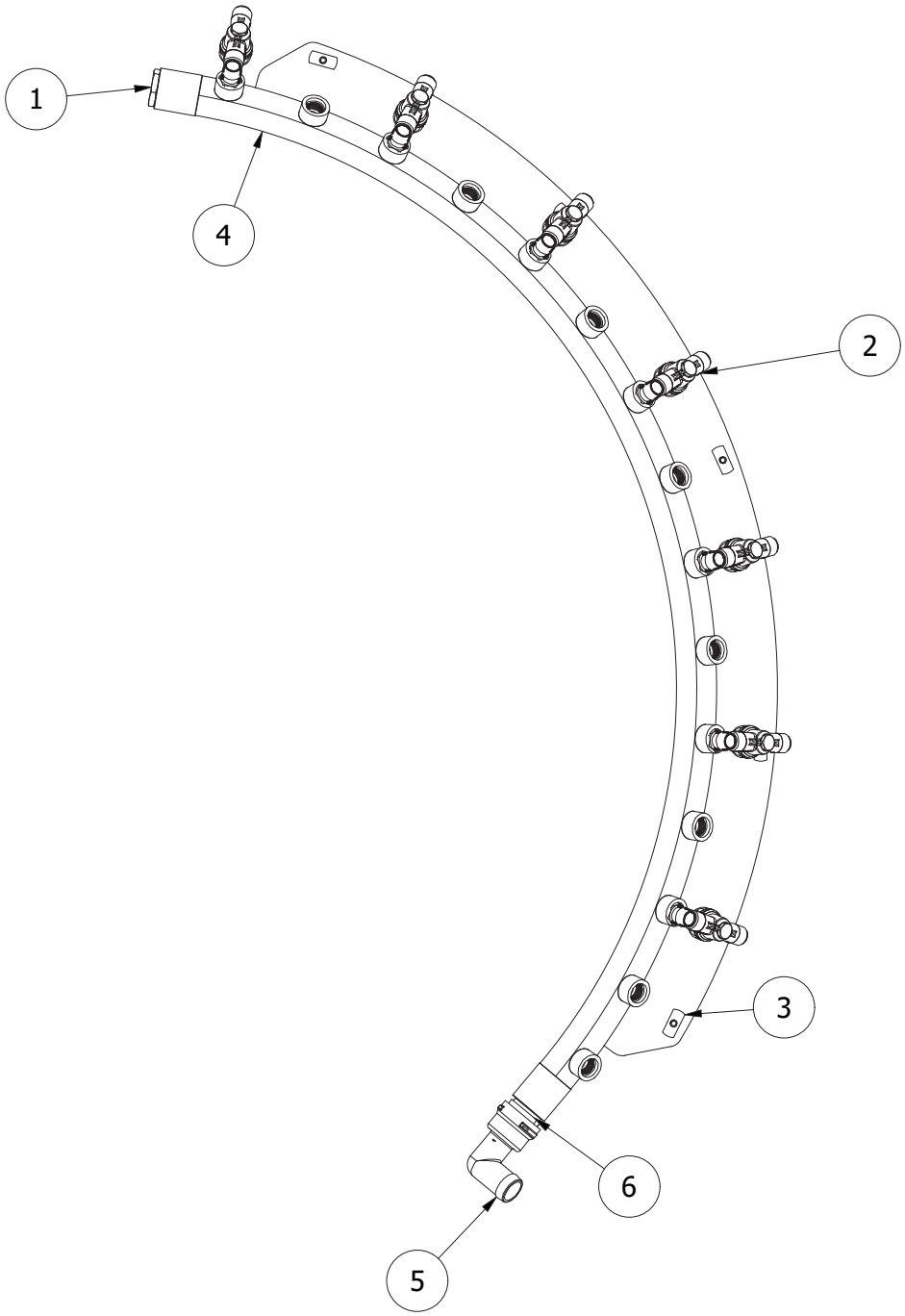
MANIFOLD CONTROL ELECTRIC FINAL PLUMBING

ITEM	DESCRIPTION	PART NUMBER	QTY
1	MANFIFOL CONTROL TEEJET BASE ASY	W01110	1
2	1/4NPT X 1/4” HB	HB025-90	3
3	GAUGE 200PSI 1/4IN NPT	3845K515	1
4	1/4” TEE BANJO TEE025	TEE025	1



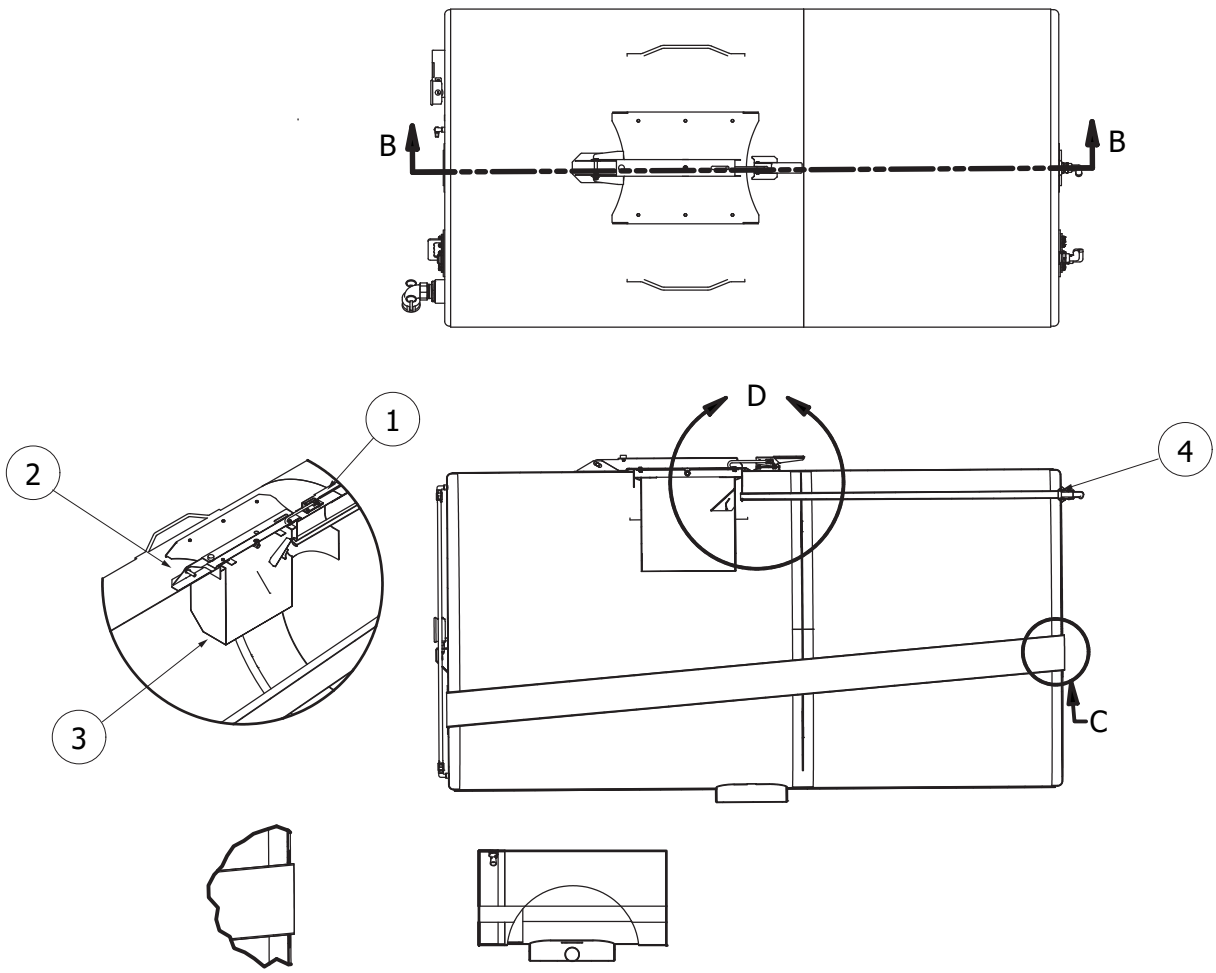
SPRAY BOOM ASSEMBLY

ITEM	DESCRIPTION	PART NUMBER	QTY
1	PLUG 304SS 3/4 NPT	4452K145	1
2	DOUBLE OUTLER ROLLOVER (3/8" INLET)	CM98450-3_8M	7
3	HHCS 1/4-20 X 9/16	92865A173	5
4	BOOM WLDMNT SM	WOO831	1
5	1INQD X 1IN BARB 90	CMCP45529-90-1	1
6	3/4NPT X 1QD	CMCP45527-NYB	1



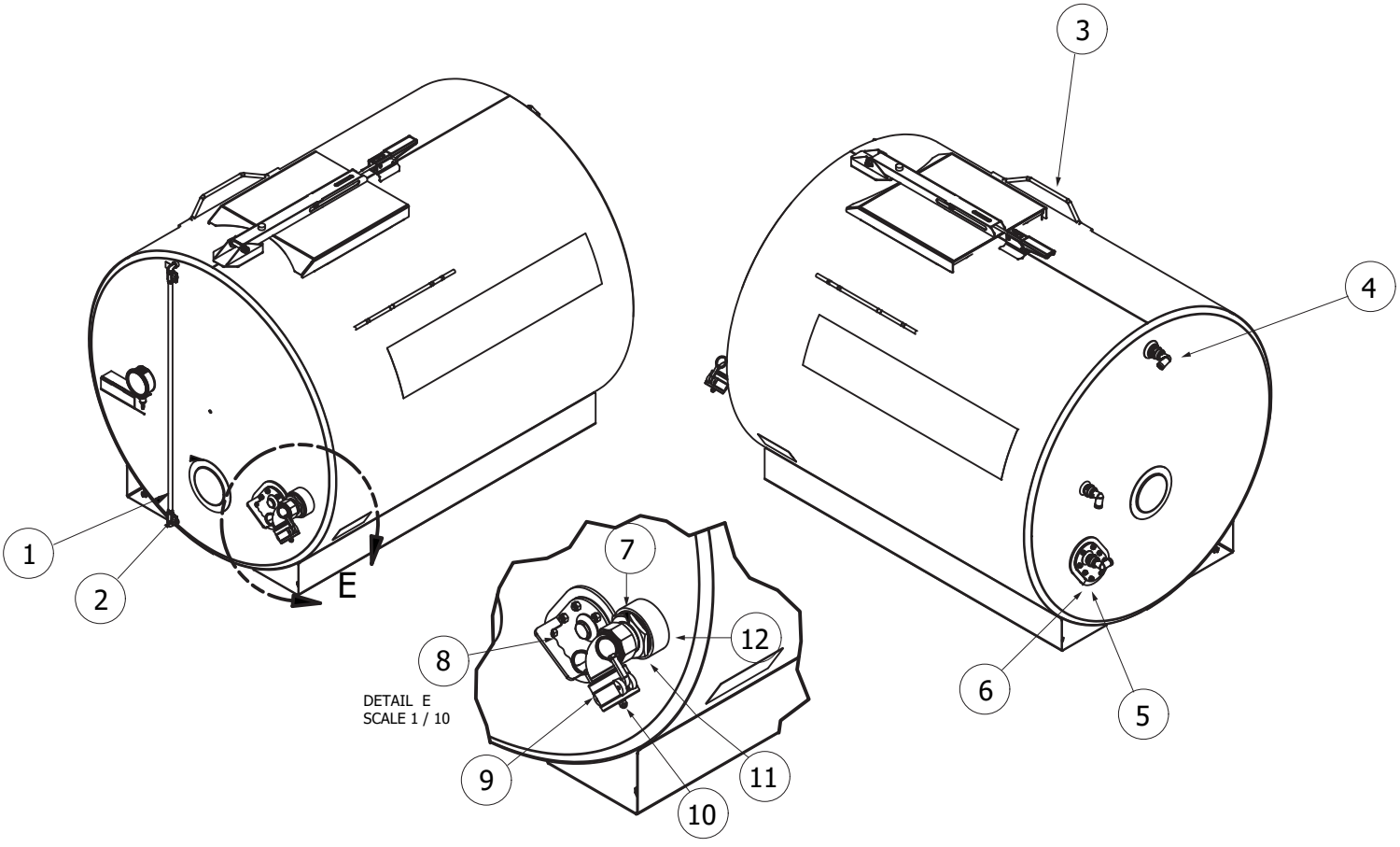
TANK PARTS 1000

ITEM	DESCRIPTION	PART NUMBER	QTY
1	SOUTHCO-A1-11-902-20 LATCHG	SOTHCO-A1-11-902-20	1
2	TANK LID HINGE ASY	09353	1
3	BASKET SQR ASY	W01126	1
4	304SS ADPTR 1-1/4 ML x 1 FML	4464K151	1



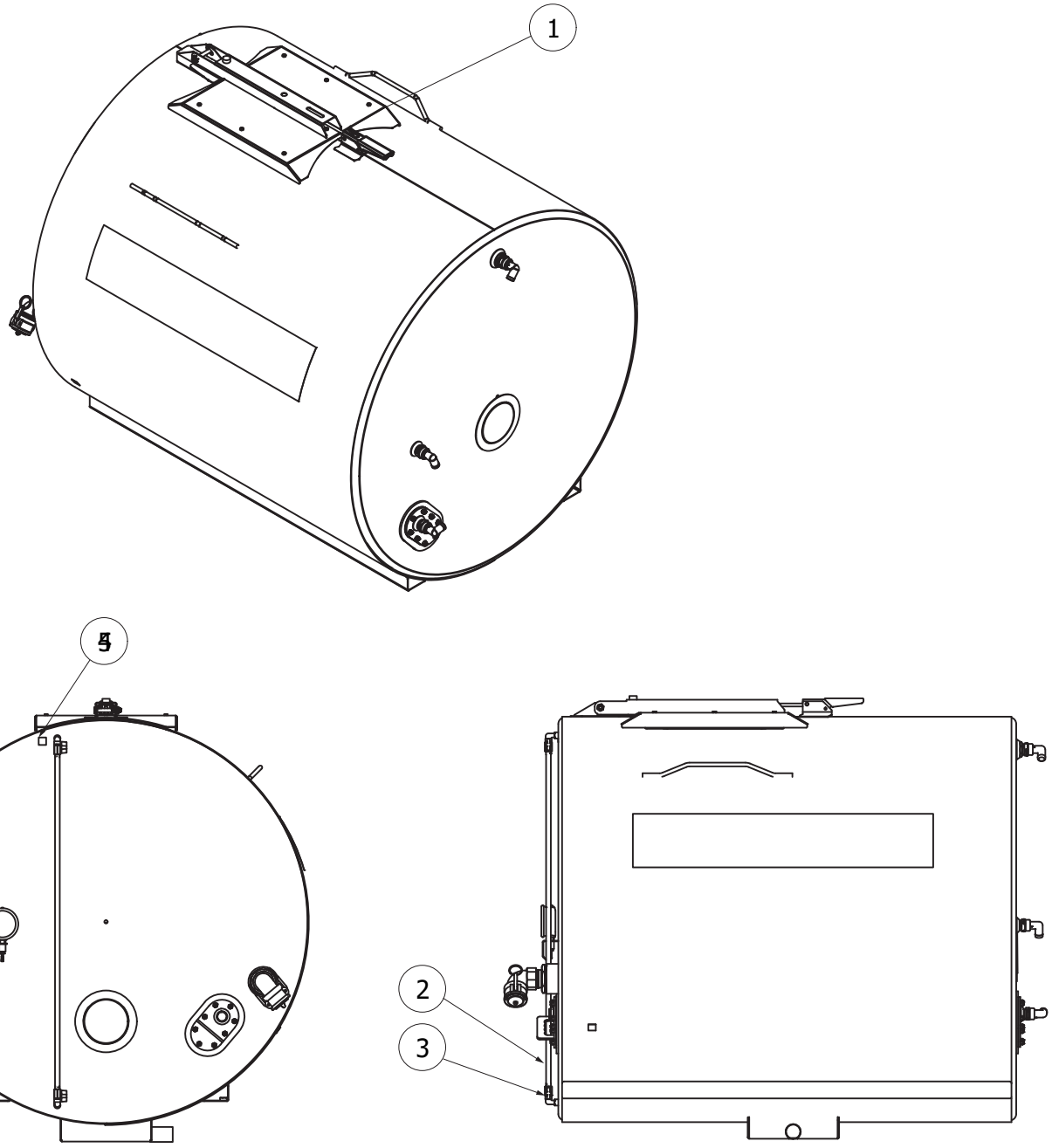
TANK PARTS 500

ITEM	DESCRIPTION	PART NUMBER	QTY
1	TUBING CLEAR SITE GAUGE	5195T75-600	1
2	FTG 90 1/4 NPT FEMXML 304SS	4464K360	1
3	TANK LID ASY	09353	1
4	TEEJET 1INQD X 1IN BARB 90	CMCP45529-90-1	2
5	BOLT PLATE AGT TANK PORT ASY	W00711	2
6	AGITATOR PRS PORT ASY	W00674	1
7	NIPPLE 2IN X 2.5 NPT CLOSE IS44NKL	4830K284	1
8	AGITATOR BOOM ASY 500	W00761	1
9	QD 2IN 90 W/ CHK VLV 2IN NPT	02-250	1
10	PLUG QUICK FILL 2IN	02-249	1
11	BUSHING 3 MNPT X 2 FNPT 304SS IS4CTBMK	IS4CTBMK	1
12	BUNG 3IN NPT 304SS DS4TSWM	4464K481	1



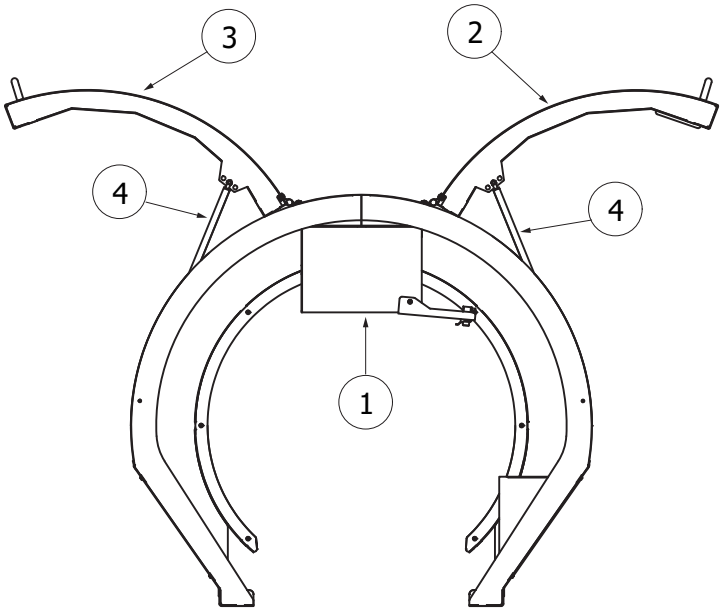
TANK PARTS 600

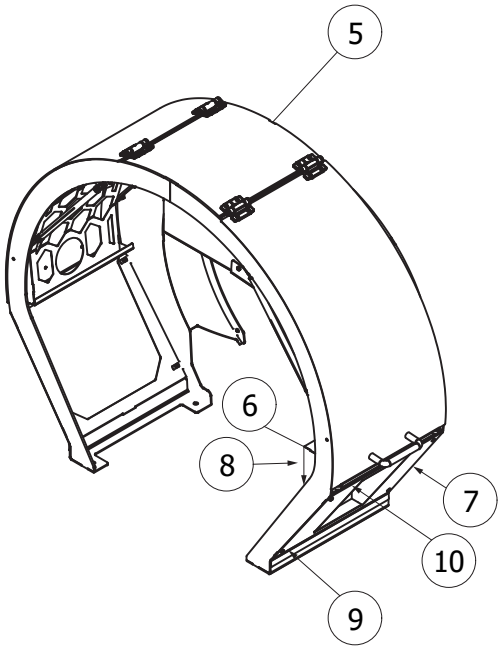
ITEM	DESCRIPTION	PART NUMBER	QTY
1	TANK LID (1000, 600, 500)	09353	1
2	TUBING 3/8 ID CLR POLY	5195T75	1
3	BALL VALVE, TEE HANDLE, 1/4" NPT	4464K151	1
4	TANK LEVEL 600	DC-184	1

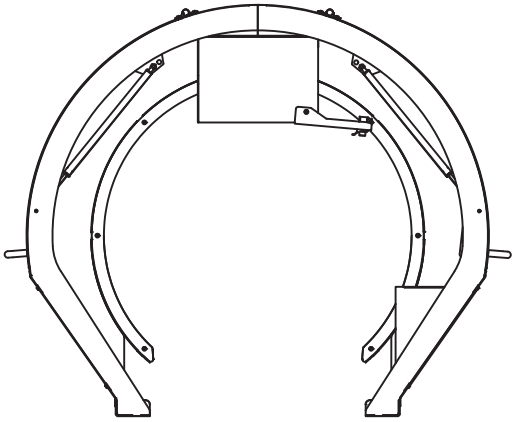


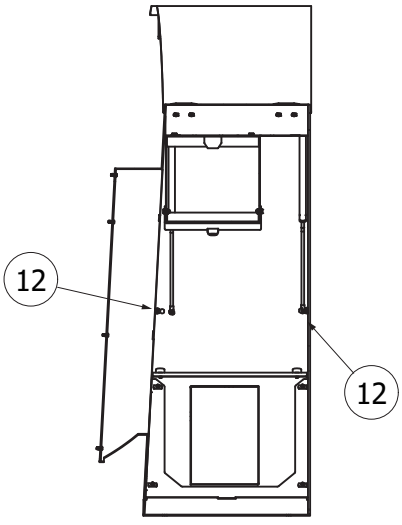
DOOR HOUSING

ITEM	DESCRIPTION	PART NUMBER	QTY
1	STORAGE BOX ASY	W00594	1
2	DOOR 54 LH ASY	W01965	1
3	DOOR 54 RH ASY	W01993	1
4	GAS SPRING ALLEGIS AC-1075 ROD	AC-1075	1
5	DOOR HOUSING FRAME WELDMENT 54IN	W01996	1
6	SKIN TOP ACS PNL SHR54	W01455	1
7	ACS PLT MFD SIDE SHR54	W01453	1
8	SKIN BTM ACS PNL SHR54	W01456	1
9	BHCS 1/4”-20 X 9/16”	91255A524	23
10	BUMPER, RUBBER WITH STEEL STUD, 1/4”-20	93115K111	4
11	ACS PLT WTR PMP SIDE	W01454	1
12	BALL STUD 12.95MM X 5/16-18 ALLEGIS	AC 301	4



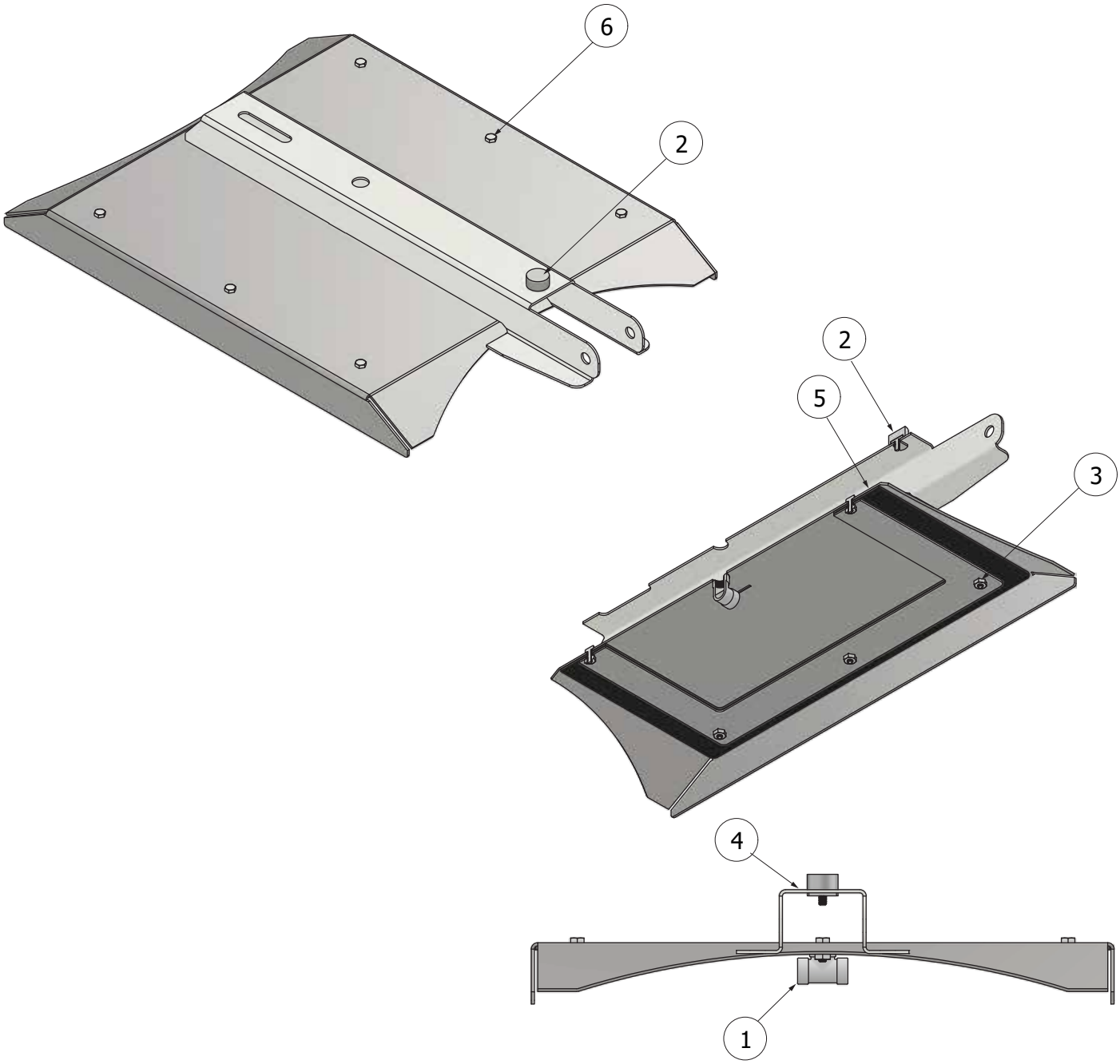






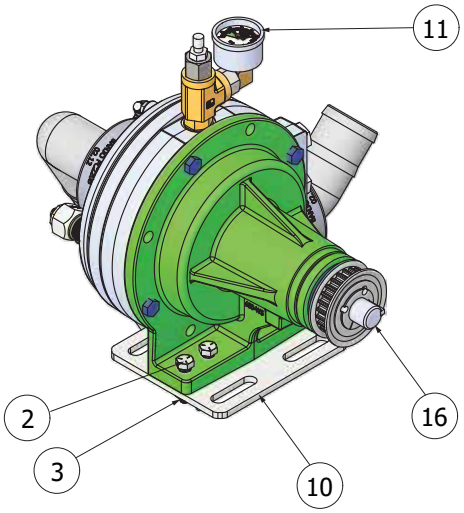
TANK LID

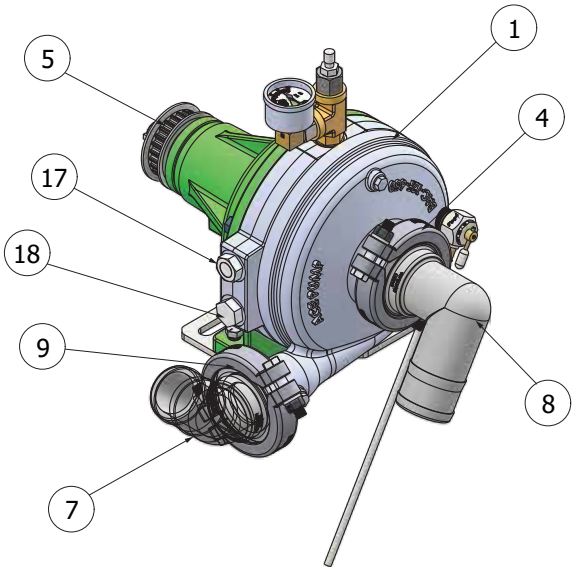
ITEM	DESCRIPTION	PART NUMBER	QTY
1	TEE 304SS 1/5 NPT FEM	4464K48	1
2	BUMBPER, RUBBER WITH STEEL STUD 1/4”-20	93115K111	1
3	SS WELD NUT 1/4-20	95508A100	8
4	WELD NUT 1/4”-20 TAB	98001A130	1
5	RUBBER LID SEAL	09356	1
6	HHCS 1/4-20 X 5/8 18-8 SS	92240A539	8

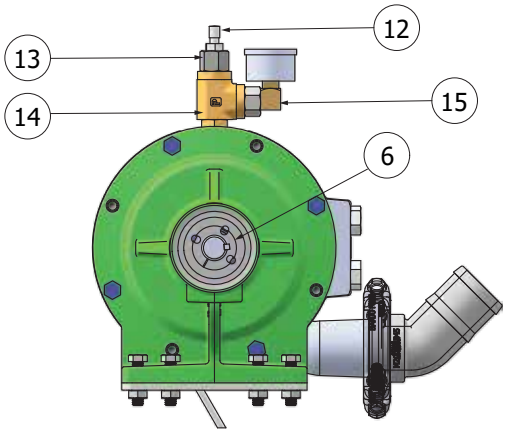


WATER PUMP WITH SLIDE FITTINGS

ITEM	DESCRIPTION	PART NUMBER	QTY
1	PUMP WATER FMCWS-650 ACE	48934C	1
2	HHCS 3/8-16 X 1.5 GR5	92865A628	4
3	WELD NUT 3/8"-16	93560A160	4
4	V-CLAMP	FC220B	2
5	8MX-25S-12	GATES_8MX_25S_12	1
6	GATES 1108. 7/8 7858-0114	GATES_1108_7_8	1
7	2" MANIFOLD HOSE BARB X 45 DEGREE	M200BRB45	1
8	2" FP FLANGE X 2" HB 90 DEGREE	M220BRB90	1
9	SEAL V-CLAMP M200	150G	1
10	SEAL V-CLAMP M220	200G	1
11	PRESSURE GAUGE	50150	1
12	AIR VALVE	41316	1
13	BUSHING	41107	1
14	SAW MALE TEE	44045	1
15	1/4" STREET ELBOW	44046	1
16	KEY	BAC-50	1
17	SAE 8 SIGHT GLASS	55851	1
18	SAE 8 DRAIN PLUG	41108	1

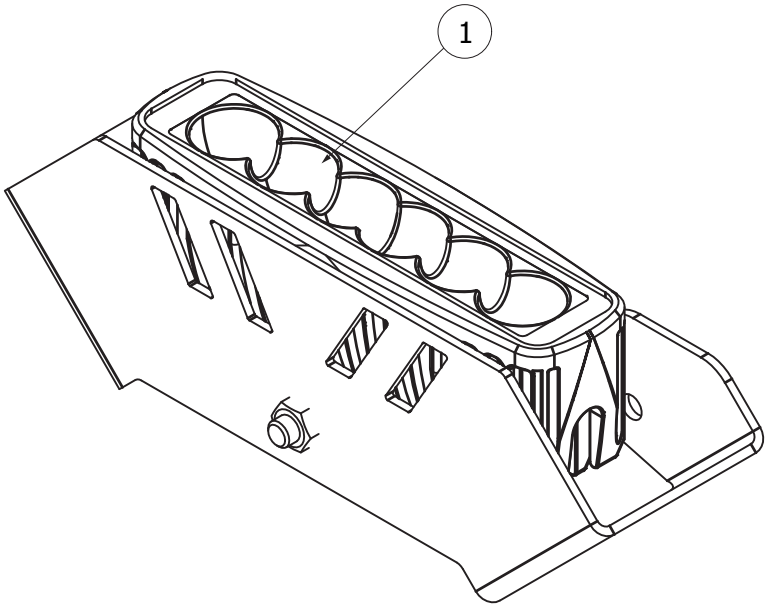






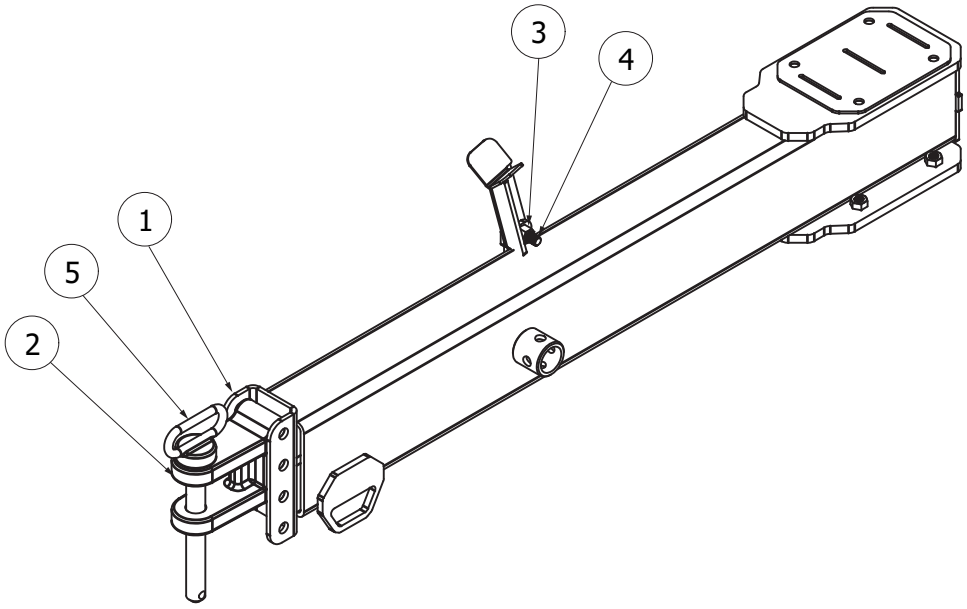
LIGHT BRACKET 3

ITEM	DESCRIPTION	PART NUMBER	QTY
1	MINI LIGHT BAR 6 LED	357203001	1



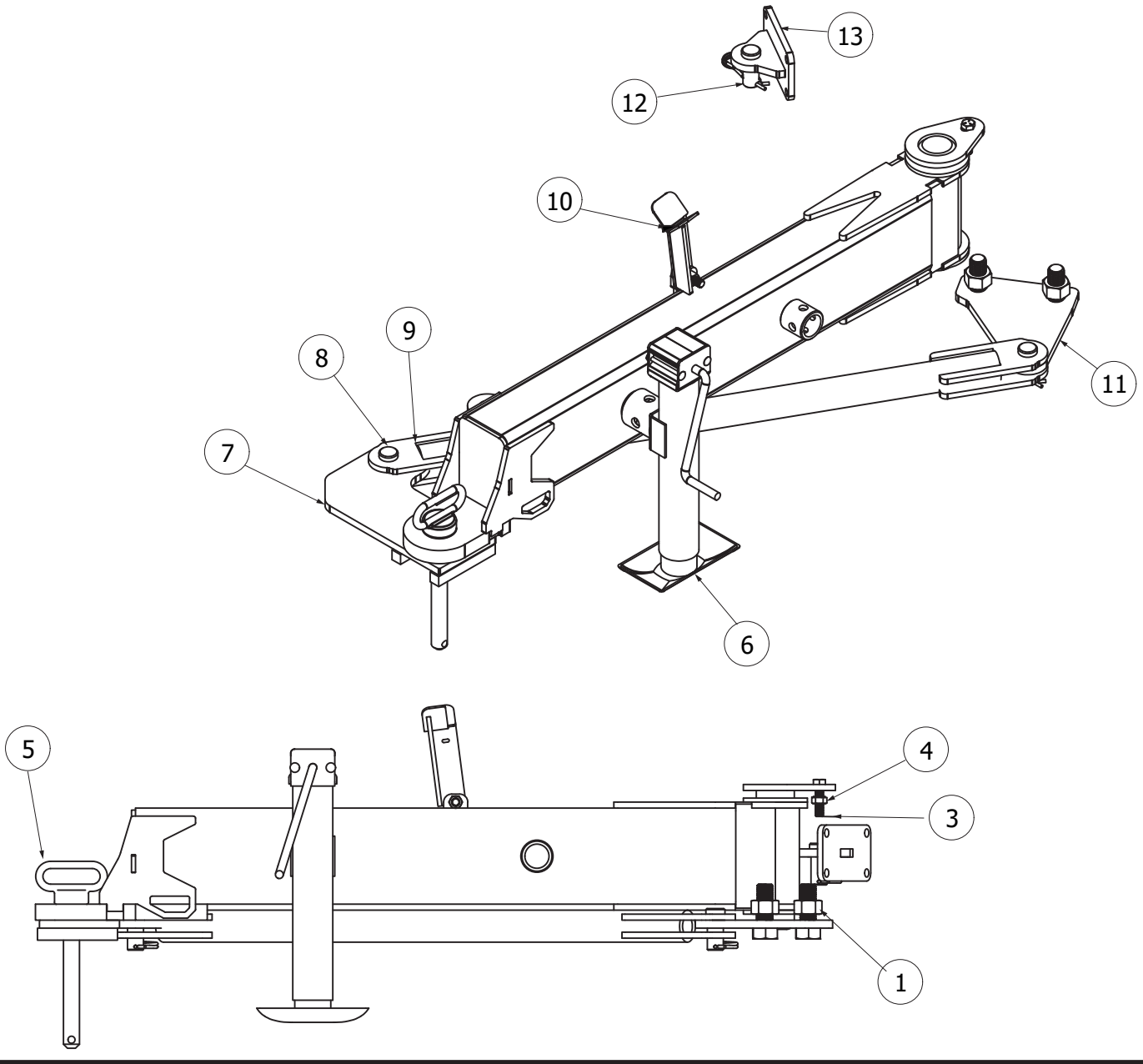
TONGUE STRAIGHT HITCH

ITEM	DESCRIPTION	PART NUMBER	QTY
1	C CHANNEL HITCH MOUNT	06-266	1
2	1" ADJSUTABLE CLEVIS HITCH	06-267	1
3	LOCKNUT, 1/2-13	90673A104	1
4	HHCS 1/2-13 X 2 GR5	92865A720	1
5	HITCH PIN 1X7 1/2 IN	H100	1



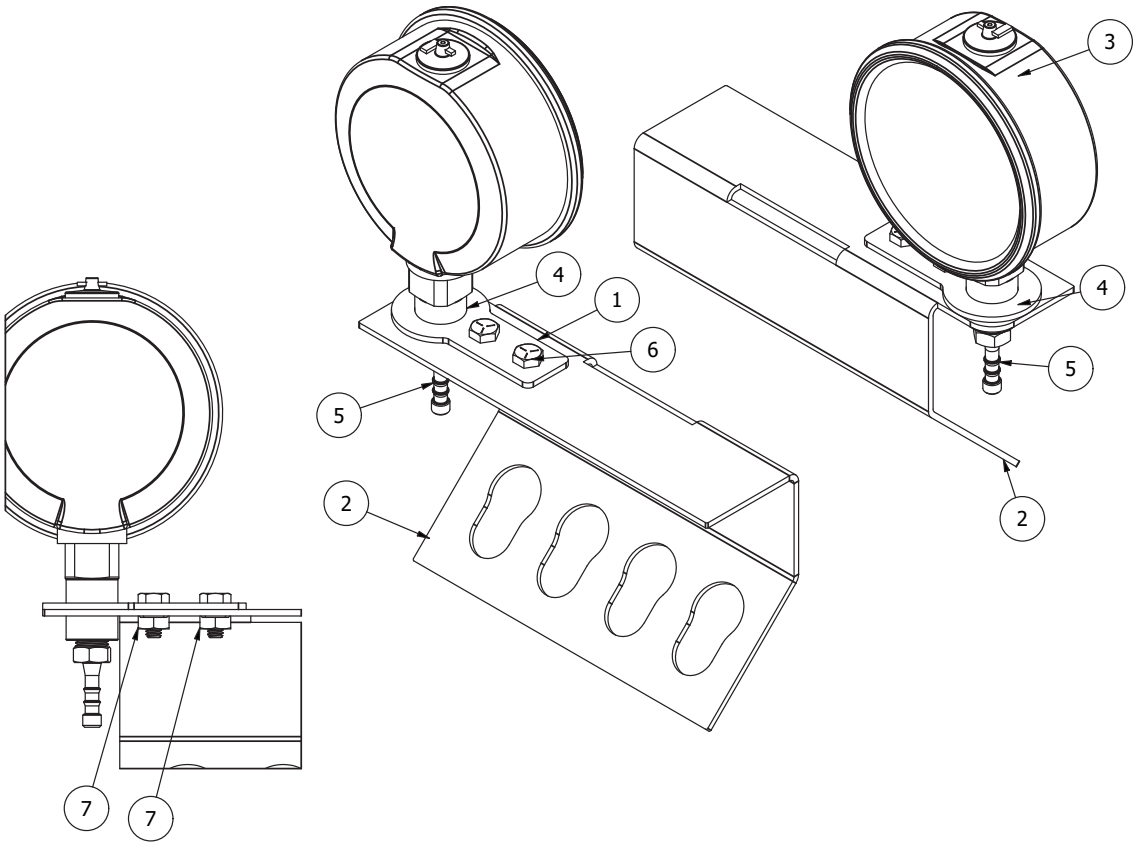
TURNING HITCH KIT FOR FRAME

ITEM	DESCRIPTION	PART NUMBER	QTY
1	KNUT 1IN-8 GR8	90636A089	2
2	HHCS GR8 1”-8 X 2-3/4”	92620A956	2
3	HHCS 1/2-13 X 2 GR5	92865A720	1
4	WELD NUT 1/2-13	93560A180	1
5	HITCH PIN 1X7 1/2 IN	H100	1
6	BULLDOG JACK 5000 LB	JCKSWS178DTSF	8
7	PIVOT ARM 2 FR ASY TRN HITCH ASYM	06240	1
8	PIN AND RETNR ASY TRN HITCH	W01766	3
9	PIVOT LINK ROD ASY TRN HITCH	W01218	1
10	TONGUE ASY STR HITCH	W01200	1
11	PIVOT PLATE 2 MTD LFT TRN HITCH ASYM	06242	1
12	PIN AND RETNR ASY TRN HITCH	W01766	3
13	LOCKOUT LINK ASY WLDMT TRN HITCH	W02317	1

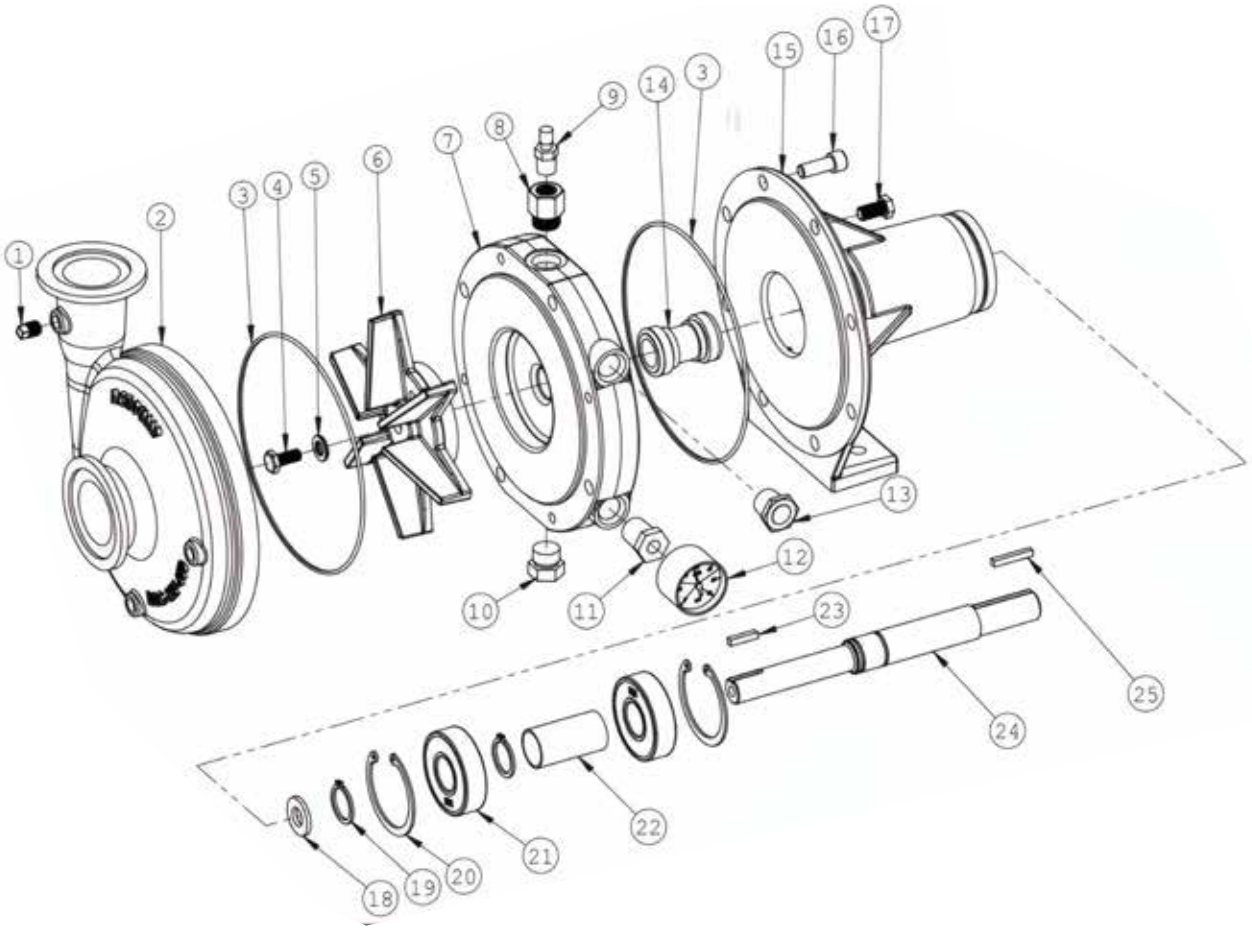


PRESSURE GAUGE ASSEMBLY

ITEM	DESCRIPTION	PART NUMBER	QTY
1	PLT MTG GAUGE FC TANK	10932	1
2	CONTROL BRACKET 2	W02060	1
3	Oil Filled Pressure Gauge	4053K541	1
4	1/4 SS COUPLER	4464K352	1
5	1/4 Barb Fitting	5361K320	1
6	HHCS 1/4-20 X 9/16	92865A173	2
7	SS Weld Nut 1/4-20	95508A100	2



WATER PUMP EXPLODED VIEW



DECALS

DC-190 (2)

FLOWCORE SPRAYERS

DC-192 (2)

FLOWCORE SPRAYERS

DC-196 (2)

DC-194 (1)

DC-182 (1)

DC-184 (1)

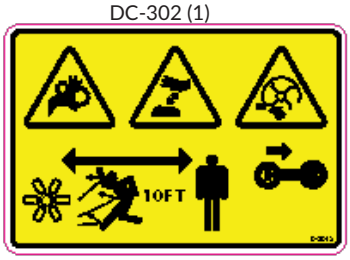
DC-186 (1)

DC-187 (1)

DC-188 (1)

STORAGE COMPARTMENT

DC-302 (1)



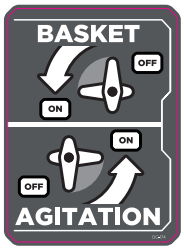
DC-162 (2)



DC-160 (2)



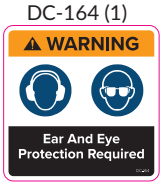
DC-174 (1)



DC-170 (1)



DC-164 (1)



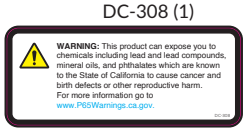
DC-166 (1)



DC-168 (1)



DC-308 (1)



DC-254 (1)



DC-176 (2)

500 GALLONS

DC-178 (2)

600 GALLONS

DC-180 (2)

1000 GALLONS

DC-179 (2)

1200 GALLONS

FLOWCORE SPRAYERS

REV: 261116



FLOWCORE SPRAYER OWNER'S MANUAL

VALLEY TOOL MANUFACTURING COMPANY

PO Box 220 | 2507 Tully Road | Hughson, CA 95326 | 800-426-5615
www.valleytoolmfg.com