

NEW LEADER[®]

MODEL L4000G4

UNIT SERIAL NUMBER _____

MANUAL NUMBER: 307074-D

EFFECTIVE 11/2011



Highway Equipment Company

Building the best since 1939.

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Insert Current New Leader
Warranty

PREFACE

PLEASE ! ALWAYS THINK SAFETY FIRST !!

The purpose of this manual is to familiarize the person (or persons) using this unit with the information necessary to properly install, operate, and maintain this system. The safety instructions indicated by the safety alert symbol in the following pages supersede the general safety rules and must be followed. These instructions cannot replace the following: the fundamental knowledge that must be possessed by the installer or operator, the knowledge of a qualified person, or the clear thinking necessary to install and operate this equipment. Since the life of any machine depends largely upon the care it is given, we suggest that this manual be read thoroughly and referred to frequently. If for any reason you do not understand the instructions, please call your authorized dealer or our Product Sales and Support Department at (319) 363-8281 or 1-888-363-8006.

It has been our experience that by following these installation instructions, and by observing the operation of the spreader, you will have sufficient understanding of the machine enabling you to troubleshoot and correct all normal problems that you may encounter. Again, we urge you to call your authorized dealer or our Product Sales and Support Department if you find the unit is not operating properly, or if you are having trouble with repairs, installation, or removal of this unit.

We urge you to protect your investment by using genuine HECO parts and our authorized dealers for all work other than routine care and adjustments.

Highway Equipment Company reserves the right to make alterations or modifications to this equipment at any time. The manufacturer shall not be obligated to make such changes to machines already in the field.

This Safety Section should be read thoroughly and referred to frequently.

ACCIDENTS HURT !!!

ACCIDENTS COST !!!

ACCIDENTS CAN BE AVOIDED !!!



TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THAT OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

In this manual and on the safety signs placed on the unit, the words "DANGER," "WARNING," "CAUTION," and "NOTICE" are used to indicate the following:



DANGER

Indicates an imminently hazardous situation that, if not avoided, WILL result in death or serious injury. This signal word is to be limited to the most extreme situations and typically for machine components that, for functional purposes, cannot be guarded.



WARNING

Indicates a potentially hazardous situation that, if not avoided, COULD result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION

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

NOTICE!

Is used for informational purposes in areas which may involve damage or deterioration to equipment but generally would not involve the potential for personal injury.

NOTE:

Provides additional information to simplify a procedure or clarify a process.

The need for safety cannot be stressed strongly enough in this manual. At Highway Equipment Company, we urge you to make safety your top priority when operating any equipment. We firmly advise that anyone allowed to operate this machine be thoroughly trained and tested, to prove they understand the fundamentals of safe operation.

The following guidelines are intended to cover general usage and to assist you in avoiding accidents. There will be times when you will run into situations that are not covered in this section. At those times the best standard to use is common sense. If, at any time, you have a question concerning these guidelines, please call your authorized dealer or our factory at (319) 363-8281 or 1-888-363-8006.

MAINTENANCE INSTRUCTIONS

1. Keep safety decals and signs clean and legible at all times.
2. Replace safety decals and signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety decals or signs are available from your dealer's Parts Department or our Cedar Rapids factory.

INSTALLATION INSTRUCTIONS

1. Clean Surface
Wash the installation surface with a synthetic, free-rinsing detergent. Avoid washing the surface with a soap containing creams or lotion. Allow to dry.
2. Position Safety Decal
Decide on the exact position before application. Application marks may be made on the top or side edge of the substrate with a lead pencil, marking pen, or small pieces of masking tape. NOTE: Do not use chalk line, china marker, or grease pencil. Safety decals will not adhere to these.
3. Remove the Liner
A small bend at the corner or edge will cause the liner to separate from the decal. Pull the liner away in a continuous motion at a 180-degree angle. If the liner is scored, bend at score and remove.
4. Apply Safety Decal
 - a. Tack decal in place with thumb pressure in upper corners.
 - b. Using firm initial squeegee pressure, begin at the center of the decal and work outward in all directions with overlapping strokes. NOTE: Keep squeegee blade even—nicked edges will leave application bubbles.
 - c. Pull up tack points before squeegeeing over them to avoid wrinkles.
5. Remove Pre-mask
If safety decal has a pre-mask cover remove it at this time by pulling it away from the decal at a 180 degree angle. NOTE: It is important that the pre-mask covering is removed before the decal is exposed to sunlight to avoid the pre-mask from permanently adhering to the decal.
6. Remove Air Pockets
Inspect the decal in the flat areas for bubbles. To eliminate the bubbles, puncture the decal at one end of the bubble with a pin (never a razor blade) and press out entrapped air with thumb moving toward the puncture.
7. Re-Squeegee All Edges.

SAFETY DECALS

 **DANGER**

MOVING PART HAZARD
To prevent death or serious injury:

- Stay out of box while conveyor is moving.
- Disconnect and lockout power source before adjusting or servicing.
- Do not ride on spreader.

364-C

 **DANGER**

FLYING MATERIAL & ROTATING SPINNER HAZARD
To prevent death or serious injury:

- Wear eye protection.
- Stop machine before servicing or adjusting.
- Keep bystanders at least 60 feet away.

388-C

 **WARNING**

HIGH PRESSURE FLUID HAZARD
To prevent death or serious injury:

- Relieve pressure on system before repairing, adjusting, or disconnecting.
- Keep all lines, fittings and couplers tight and free of leaks.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Do not use hydraulic lines for hand holds or steps.
- Components may be hot.

39158-C

  **WARNING**

To prevent death or serious injury:

- Do not ride on ladder or fenders.

305274-A

 **WARNING**

MOVING PART HAZARD
To prevent death or serious injury:

- Close and secure guards before starting.
- Do not stand or climb on machine.
- Disconnect and lockout power source before adjusting or servicing.
- Keep hands, feet and hair away from moving parts.

55631-C

 **WARNING**



FALLING HAZARD
To prevent death, serious injury or machine damage:

- Do not stand or climb on guard.

55630-D

  **WARNING**

To prevent death or serious injury:

- Do not place objects on fenders.
- Keep off fenders. They are not intended to carry loads.

39200-D

SAFETY

CAUTION

HAZARDOUS MATERIALS
To avoid injury or machine damage:

- Materials to be spread can be dangerous.
- Improper selection, application, use or handling may be a hazard to persons, animals, crops or other property.
- Follow instructions and precautions given by the material manufacturer.

321-C

CAUTION



TO AVOID INJURY OR MACHINE DAMAGE:

- Do not operate or work on this machine without reading and understanding the operators manual.
- Keep hands, feet, hair and clothing away from moving parts.
- Do not allow riders on machine.
- Avoid unsafe operation or maintenance.
- Disengage power takeoff and shut off engine before removing guards, servicing or unclogging machine.
- Keep unauthorized people away from machine.
- Keep all guards in place when machine is in use.
- If manual is missing, contact dealer for replacement.

150034-C

NOTICE

	No Cooler	With Cooler
Ideal Operating Temp.	140 - 190°F	115 - 168°F
Recommended Lubricant	SAE 15W-40	Multi-Purpose Ag Hydraulic Oil
Lubricant Specifications:		
Viscosity Index	>130	>130
Viscosity at 40°C, cst	<115	<68
Viscosity at 100°C, cst	>14	>9

304264-B

NOTICE

- Use SAE 15W-40 for hydraulic fluid.
- Extreme operating temperatures may require a different viscosity oil range.
- Consult dealer for recommendation.

8665-D

NOTICE

- Conveyor chain life will be noticeably extended by periodic lubrication.
- Use a 75% diesel fuel and 25% number 10 oil mixture on the links and rollers.
- Failure to keep the chain links loose and free running can result in severe damage to the conveyor chain, drag shaft, gear case, body structure, and is cause for voiding the warranty.

21476-D

NOTICE

Spinner assembly and material flow divider have NOT been adjusted at the factory. Before assembling unit, read and follow assembly instructions in the operation and maintenance manual for this unit.

Before spreading material, spread pattern tests must be conducted to properly adjust the spread pattern. Refer to the "How to Check Your Spread Pattern" manual for adjustment instructions. A spread pattern test kit is available from your New Leader dealer.

Wind, humidity, rain and other adverse weather conditions can affect spread pattern, resulting in uneven crop growth and loss of yield.

THE MANUFACTURER OF THIS SPREADER WILL NOT BE LIABLE FOR MISAPPLIED MATERIAL DUE TO AN IMPROPERLY ADJUSTED SPREADER OR ADVERSE WEATHER CONDITIONS.

It is recommended that spread pattern tests be conducted prior to each spreading season, after any spreader maintenance, and periodically during the spreading season. Spread pattern tests must be conducted whenever a new product is to be applied.

71526-F

NOTICE

Keep valve open while pump is running.



8654-D

1. Before attempting to operate this unit, read and be sure you understand the operation and maintenance manual. Locate all controls and determine the use of each. Know what you are doing!



2. When leaving the unit unattended for any reason, be sure to:
 - a. Take power take-off out of gear.
 - b. Shut off conveyor and spinner drives.
 - c. Shut off vehicle engine and unit engine (if so equipped).
 - d. Place transmission of the vehicle in "neutral" or "park".
 - e. Set parking brake firmly.
 - f. Lock ignition and take keys with you.
 - g. Lock vehicle cab.
 - h. If on steep grade, block wheels.

These actions are recommended to avoid unauthorized use, runaway, vandalism, theft and unexpected operation during start-up.

3. Do not read, eat, talk on a mobile phone or take your attention away while operating the unit. Operating is a full-time job.

4. Stay out of the spreader. If it's necessary to enter the spreader, return to the shop, empty body, turn off all power, set vehicle brakes, lock engine starting switch and remove keys before entering.



Tag all controls to prohibit operation. Tags should be placed, and later removed, only by person working in the body.

5. Guards and covers are provided to help avoid injury. Stop all machinery before removing them. Replace guards and covers before starting spreader operation.

6. Stay clear of any moving members, such as shafts, couplings and universal joints. Make adjustments in small steps, shutting down all motions for each adjustment.



7. Before starting unit, be sure everyone is clear and out of the way.

8. Do not climb on unit. Use the inspection ladder or a portable ladder to view the unit. Be careful in getting on and off the ladder, especially in wet, icy, snowy or muddy conditions. Clean mud, snow or ice from steps and footwear.



9. Do not allow anyone to ride on any part of unit for any reason.



10. Keep away from spinners while they are turning:
 - a. Serious injury can occur if spinners touch you.

- b. Rocks, scrap metal or other material can be thrown off the spinner violently. Stay out of discharge area.
- c. Make sure discharge area is clear before spreading.



- 11. Inspect spinner fins, spinner frame mounting and spinner fin nuts and screws every day. Look for missing fasteners, looseness, wear and cracks. Replace immediately if required. Use only new SAE grade 5 or grade 8 screws and new self-locking nuts.
- 12. Inspect all bolts, screws, fasteners, keys, chain drives, body mountings and other attachments periodically. Replace any missing or damaged parts with proper specification items. Tighten all bolts, nuts and screws to specified torques according to the torque chart in this manual.



- 13. Shut off engine before filling fuel and oil tanks. Do not allow overflow. Wipe up all spills. Do not smoke. Stay away from open flame. **FIRE HAZARD!**



- 14. Starting fluids and sprays are extremely flammable. Don't smoke. Stay away from flame or heat!



- 15. All vehicles should be equipped with a serviceable fire extinguisher of 5 BC rating or larger.



- 16. Hydraulic system and oil can get hot enough to cause burns. Before working on the system, wait until oil has cooled.

- 17. Wear eye protection while working around or on unit.
- 18. Read, understand and follow instructions and precautions given by the manufacturer or supplier of materials to be spread. Improper selection, application, use or handling may be hazardous to people, animals, plants, crops or other property.



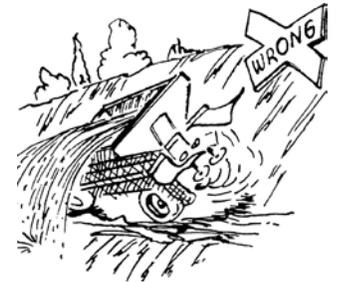
CAUTION If spreader is used to transport chemicals, check with your chemical supplier regarding DOT (Department of Transportation) requirements.

- 19. Cover all loads that can spill or blow away. Do not spread dusty materials where dust may create



pollution or a traffic visibility problem.

- 20. Turn slowly and be careful when traveling on rough surfaces and side slopes, especially with a loaded spreader. Load may shift causing unit to tip.



- 21. Read and understand the precautionary decals on the spreader. Replace any that become defaced, damaged, lost or painted over. Replacement decals can be ordered from your dealer's parts department or from Highway Equipment Company by calling (319) 363-8281 or 1-888-363-8006.

1. Maintenance includes all lubrication, inspection, adjustments (other than operational control adjustments such as feedgate openings, conveyor speed, etc.) part replacement, repairs and such upkeep tasks as cleaning and painting.



2. When performing any maintenance work, wear proper protective equipment—always wear eye protection—safety shoes can help save your toes—gloves will help protect your hands against cuts, bruises, abrasions and from minor burns—a hard hat is better than a sore head!

3. Use proper tools for the job required. Use of improper tools (such as a screwdriver instead of a pry bar, a pair of pliers instead of a wrench, a wrench instead of a hammer) not only can damage the equipment being worked on, but can lead to serious injuries. **USE THE PROPER TOOLS.**



4. Before attempting any maintenance work (including lubrication), shut off power completely. **DO NOT WORK ON RUNNING MACHINERY!**
5. When guards and covers are removed for any maintenance, be sure that such guards are reinstalled before unit is put back into operation.
6. Check all screws, bolts and nuts for proper torques before placing equipment back in service. Refer to torque chart in this manual.

7. Some parts and assemblies are quite heavy. Before attempting to unfasten any heavy part or assembly, arrange to support it by means of a hoist, by blocking or by use of an adequate arrangement to prevent it from falling, tipping, swinging or moving in any manner which may damage it or injure someone. Always use lifting device that is properly rated to lift the equipment. Do not lift loaded spreader. **NEVER LIFT EQUIPMENT OVER PEOPLE.**



8. If repairs require use of a torch or electric welder, be sure that all flammable and combustible materials are removed. Fuel or oil reservoirs must be emptied, steam cleaned and filled with water before attempting to cut or weld them. **DO NOT** weld or flame cut on any tank containing oil, gasoline or their fumes or other flammable material, or any container whose contents or previous contents are unknown.



9. Keep a fully charged fire extinguisher readily available at all times. It should be a Type ABC or a Type BC unit.
10. Cleaning solvents should be used with care. Petroleum based solvents are flammable and present a fire hazard. Don't use gasoline. All solvents must be used with adequate ventilation, as their vapors should not be inhaled.

11. When batteries are being charged or discharged, they generate hydrogen and oxygen gases. This combination of gases is highly explosive. DO NOT SMOKE around batteries—STAY AWAY FROM FLAME—don't check batteries by shorting terminals as the spark could cause an explosion. Connect and disconnect battery charger leads only when charger is "off". Be very careful with "jumper" cables.



12. Batteries contain strong sulfuric acid—handle with care. If acid gets on you, flush it off with large amounts of water. If it gets in your eyes, flush it out with plenty of water immediately and get medical help.

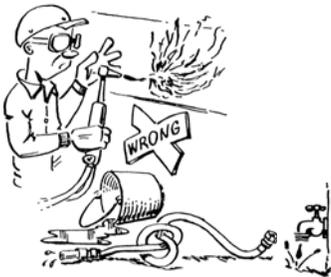
13. Hydraulic fluid under high pressure leaking from a pin hole are dangerous as they can penetrate the skin as though injected with a hypodermic needle. Such liquids have a poisonous effect and can cause serious wounds. Get medical assistance if such a wound occurs. To check for such leaks, use a piece of cardboard or wood instead of your hand. The fine spray from a small hydraulic oil leak can be highly explosive—DO NOT SMOKE—STAY AWAY FROM FLAME OR SPARKS.



1. The selection of the vehicle on which a spreader body is to be mounted has important safety aspects. To avoid overloading:
 - a. Do not mount spreader on a chassis which, when fully loaded with material to be spread, will exceed either the Gross Axle Weight Rating (GAWR) or the Gross Vehicle Weight Rating (GVWR) for the chassis.
 - b. Do install the spreader only on a vehicle with cab-to-axle dimension recommended for the spreader body length shown.



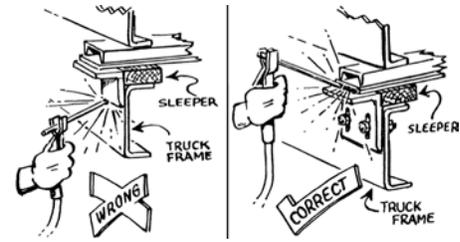
2. Follow mounting instructions in the Installation section of this manual. If mounting conditions require deviation from these instructions refer to factory.
3. When making the installation, be sure that the lighting meets Federal Motor Vehicle Safety Standard (FMVSS) No. 108, ASABE S279 and all applicable local and state regulations.
4. When selecting a PTO to drive hydraulic pump, do not use a higher percent speed drive than indicated in the Installation section of this manual. Too high a percent PTO will drive pump at excessive speed, which can ruin the pump, but more importantly, will overheat the hydraulic oil system and increase the possibility of fire.



5. When truck frame must be shortened, cut off only the portion that extends behind rear shackle in accordance with the truck manufacturer's recommendations. If a torch is used to make

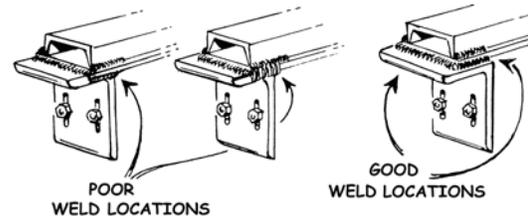
the cut, all necessary precautions should be taken to prevent fire. Cuts should not be made near fuel tanks and hydraulic oil reservoirs, fuel, brake, electric or hydraulic lines and such lines should be protected from flame, sparks or molten metal. Tires should be removed if there is any chance of their being struck by flame, sparks or molten metal. Have a fire extinguisher handy.

6. Do not weld on vehicle frame as such welding can lead to fatigue cracking



and must be avoided. When drilling holes in frame member, drill only through the vertical web portions do not put holes in top or bottom flanges. Refer to truck manufacturer's recommendations.

7. Be sure that welds between mounting bars and sill or between mounting angles and spreader cross sills are sound, full fillet welds. Center mounting angles so that good fillet welds can be made on three sides—and edge bead weld is not a satisfactory weld for this service. Use 309 rod/wire for carbon steel and 409 steel. On 304 stainless steel bodies use SAE grade 5 bolts—welding is recommended if type 308 welding rod is available.



8. Install controls so that they are located of convenient use. Position them so that they do not interfere with any vehicle control and that they do not interfere with driver or passenger or with access to or exit from the vehicle.
9. Check for vehicle visibility, especially toward the rear. Reposition or add mirrors so that adequate rearward visibility is maintained.
10. Add Caution, Warning, Danger and Instruction decals as required. Peel off any label masking which has not been removed.
11. Install all guards as required.
12. Check installation completely to be sure all fasteners are secure and that nothing has been left undone.

The Model L4000G4 is a hopper type spreader intended for spreading free flowing granular agricultural materials, such as chemical fertilizers, agricultural limestone, and gypsum. It is intended for truck chassis or agricultural vehicle mounting.

The unit is powered hydraulically and provides independent variable speed control for the spinner and full automatic ground speed control for the conveyor. The hydraulic pump, which provides the hydraulic power, is a gear type pump and is driven by means of a transmission PTO.

The dual conveyors deliver material to the spinners through an adjustable metering gate at the rear of the hopper body. Orbital type hydraulic motors mounted to 6 to 1 ratio spur gear case on the L4000G4 drive the conveyor. The conveyor options include a pintle type chain joined by cross bars every (#3) link or a belt-over-chain type having parallel strands of pintle type (#4) chain joined by cross bars every other link.

The distributor spinner assembly has two 24-inch (60.96 cm) diameter dished discs. Each disc has four formed and heat treated fins that are adjustable to radial angle. The spinner is fully adjustable by means of a rotating handle.

The optional 304 stainless steel hopper style spreader MULTAPPLIER or MULTIBIN may be insterted in the main bin.

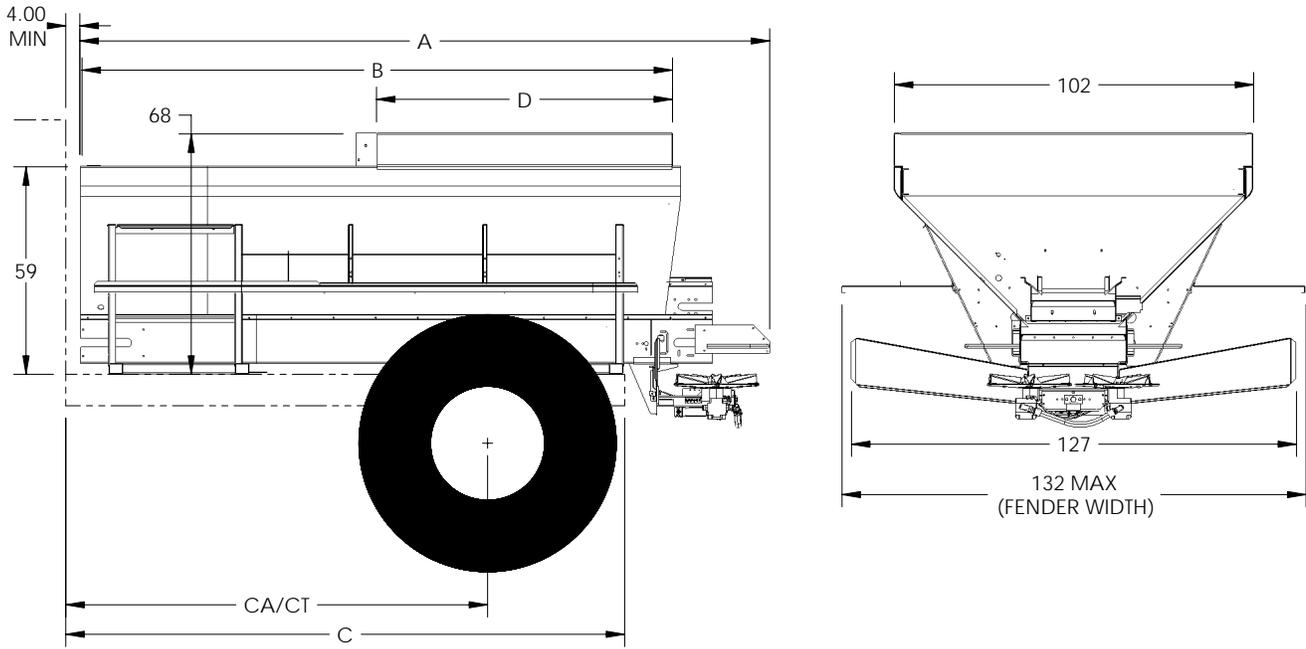
- Inserting the MULTAPPLIER allows for two materials to be spread simultaneously. It features a 24-inch (60.96 cm) belt-over-chain type conveyor having parallel strands of pintle type (#4) chain joined by cross bars every other link. The direct driven conveyor is also controlled independently enabling the distribution of material at variable rates through the adjustable gate at the rear of the hopper body. The hillside divider improves material placement on the spinner for a more effective spread pattern.
- Inserting the MULTIBIN will convert the spreader to a 3 or 4 hopper unit, which can be used independently or together for straight and variable rate applications. The front two hoppers dispense fertilizer products while the single or dual hopper at the rear dispense(s) micronutrients or seeding products. The micronutrient hopper features a removable internal panel to convert between 3 and 4 bin configurations. The rear bin(s) are sloped forward to improve chassis weight distribution. Material is distributed from the front bin by conveyor and from the rear bin(s) by passing through a meter wheel, material dividers and 24-inch (60.96 cm) diameter dished discs. Bin sensors are installed to warn when materials are low in each micronutrient bin.

The MULTIBIN also comes equipped with an upper and lower material divider which improves material placement on the spinner for a more effective spread pattern.

There is an optional micronutrient stainless steel cover which opens and closes with a stainless steel air cylinder.

Screens installed on micronutrient bins break up material as it enters the bins.

This product is intended for commercial use only.



L4000G4				
Body Length B	Overall Length A	Frame Length C	Cab to Axle or Cab to Tandem – CA/CT	Weight Lbs (Kg)
13' (3.96m)	184" (467cm)	147" (373cm)	102 - 108" (259 - 274cm) CT	3680 (1673)
14' (4.27m)	196" (498cm)	159" (404cm)	120" (305cm) CT	3930 (1786)

L4000G4	L4000G4 w/o Insert	With 5' Insert	With 7' Insert	With 7' Insert With Sideboard Option
Body Length B	Struck Capacity Cu Yd (Cu M) Cu Ft			
13' (3.96m)	10.3 (7.84) 277	6.34 (4.85) 171	4.72 (3.61) 127	6.15 (4.70) 165
14' (4.27m)	11.1 (8.50) 300	7.18 (5.49) 194	5.51 (4.21) 149	6.10 (4.66) 193

DIMENSIONS & CAPACITIES

Refer to www.highwayequipment.com for installation instructions. Once on the website, click Customer Support, Other Manuals and Instructions, New Leader Installation Instructions.



WARNING Stand clear of moving machinery.

NOTE: Do not load spreader with material.

1. Check entire unit to make sure all fasteners are in place and properly tightened per *Standard Torques National Coarse (NC) Capscrews* section in this manual.
2. Make sure no other persons are in vicinity of truck or spreader.
3. Make sure no loose parts are in unit or on conveyor or spinner.
4. Open feedgate until it is completely clear of conveyor.
5. Check oil level in reservoir; fill as necessary. Refer to *Lubricant & Hydraulic Oil Specifications* section of this manual for proper oil. Completely open gate valve under reservoir.
6. Set throttle so engine runs at about 1000 RPM. Engage PTO driving pump. Allow pump to run and circulate oil for several minutes. Increase warm-up time in cold weather.
7. Manual spinner control valve: Move to position "3".
PWM spinner control valve: Run at 300 RPM.
Spinner should run at slow speed. Allow to run until it is operating smoothly and all air has been purged.
8. Manual spinner control valve: Move to position "0".
PWM spinner control valve: Run at 0 RPM.
9. Refer to the control's operation manual for the correct setting to operate the conveyor. Run conveyor until it's operating smoothly.
10. Manual spinner control valve: Move to position "5".
PWM spinner control valve: Run at 500 RPM.
Allow both spinner and conveyor to run. Shut down system.



WARNING DO NOT check leaks with hands while system is operating as high pressure oil leaks can be dangerous! DO NOT check for leaks adjacent to moving parts while system is operating as there may be danger of entanglement!

11. Check all connections in hydraulic system to make sure there are no leaks.
12. Check hydraulic oil reservoir and refill to maintain level around mid-point of sight gauge.
Unit is now ready for field testing.

The following procedure is a guide:

1. Field test over any suitable course which allows vehicle to be driven at speeds to be used while spreading.
2. Make sure unit has been properly serviced, that oil reservoir is full and gate valve under reservoir is fully open.
Do not load spreader.
3. Manual spinner control valve: Set to position "5".
PWM spinner control valve: Run at 500 RPM.

**DANGER**

Take proper safety precautions when observing conveyor and spinner speed while vehicle is in motion! These may include use of suitable mirrors clamped to permit observation by a safely seated observer, following the spreader in another vehicle at a safe distance, or other suitable means. Do not stand on fenders, in body or on any part of spreader as there is danger of falling off the vehicle or into moving parts! Use great care in performing this test!

4. Start truck engine. Turn control to "on" position. Engage PTO and allow to run at fast idle long enough to bring hydraulic oil up to operating temperature. Spinners should revolve at moderate speed and the conveyor should not move.
5. Refer to control's operation manual for conveyor operating instructions. Set program to operational mode and begin forward travel. Move conveyor switch to "on" position. Conveyor should start immediately when vehicle moves and should continue to run at speeds which should vary directly with the vehicles road speed; the conveyor should speed up as truck speed increases and slow down as truck speed reduces. Spinner speed should remain constant when engine speed is above minimum operating range.

1. Make sure unit has been properly serviced and is in good operating condition. Field test unit prior to first use, prior to each spreading season's use, and following overhaul or repair work, to verify that all components and systems are functioning properly. See *Field Testing* section.
2. Fill body with material to be spread.
3. Drive to location where spreading is to be done.
4. Adjust spinner control valve for material being applied to give spread width desired. See *G4 Spread Pattern* section.
5. Adjust spinner to give spread pattern desired. See *G4 Spread Pattern* section.
6. Set rear feedgate opening to obtain yield desired. Turn feedgate handle to adjust L4000G4 feedgate opening.
7. Make sure shut-off valve on hydraulic reservoir is fully opened.
8. Turn on power to controller and set program to desired values.
9. Engage pump drive PTO.



CAUTION Drive only at speeds which permit good control of vehicle!

10. Drive at speeds that allow engine to turn at proper RPM.

Higher transmission gears may be used with speeds to 30 MPH. If lower speeds must be used, shift transmission into lower gears so that engine speed can be maintained to allow adequate hydraulic oil delivery from pump.

NOTICE!

CHANGE HYDRAULIC OIL FILTER AFTER FIRST WEEK (OR NOT MORE THAN 50 HOURS) OF OPERATION ON A UNIT.

*Visit www.newleadervip.com for interactive tools to calculate yield, proper feedgate opening, conveyor revolutions per minute, and mph to maximize the performance of your spreader.

PREVENTATIVE MAINTENANCE PAYS!

The handling and spreading of commercial fertilizers is a most severe operation with respect to metal corrosion. Establish a frequent, periodic preventative maintenance program to prevent rapid damage to spreading equipment. Proper cleaning, lubrication and maintenance will give you longer life, more satisfactory service and more economical use of your equipment.

**WARNING**

Shut off all power and allow all moving parts to come to rest before performing any maintenance operation.

HYDRAULIC SYSTEM

Proper oil in the hydraulic system is one of the most important factors for satisfactory operation. Utmost cleanliness in handling the oil cannot be stressed enough. Keep hydraulic oil in original closed containers, clean top of container before opening and pouring, and handle in extremely clean measures and funnels.

Refer to *Lubricant and Hydraulic Oil Specifications* section for selection of the proper hydraulic fluid for use in the hydraulic system.

Service Schedule**WARNING**

DO NOT check leaks with hands while system is operating as high pressure leaks are very dangerous! DO NOT check for leaks adjacent to moving parts while system is operating as there may be danger of entanglement!

Check hydraulic oil daily by means of sight gauge on reservoir. Add oil as necessary to maintain level around mid-point of sight gauge. Periodically inspect hoses and fittings for leaks.

NOTICE!

CHANGE HYDRAULIC OIL FILTER AFTER FIRST WEEK (OR NOT MORE THAN 50 HOURS) OF OPERATION ON A UNIT.

After first filter change, replace filter when indicator reaches Red Zone.

Drain reservoir through drain plug (not through suction outlet), flush, and refill and change filter element annually. Oil and filter should also be changed whenever oil shows any signs of breaking down under continued high-pressure operation. Discoloration of oil is one sign of breakdown.

CONVEYOR GEAR CASE

Drain oil in a new unit after first two weeks (or not more than 100 hours) of operation, and flush gear case thoroughly with light oil. Refer to *Lubricant and Hydraulic Oil Specifications* section for proper grade oil and recommended amounts of lubricant. After initial change, oil should be changed every 2,000 hours of operation or annually, whichever occurs first.

Check gear case oil level monthly.

HYDRAULIC HOSE

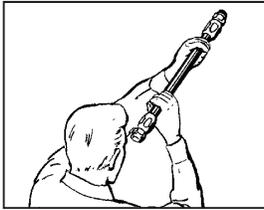
Hose assemblies in operation should be inspected frequently for leakage, kinking, abrasion, corrosion or other signs of wear or damage. Worn or damaged hose assemblies should be replaced immediately.

**WARNING**

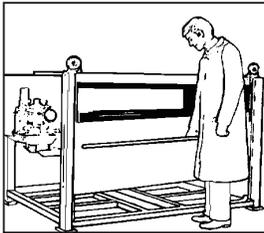
Testing should be conducted in approved test stands with adequate guards to protect the operator.

**Clean**

Clean assembly by blowing out with clean compressed air. Assemblies may be rinsed out with mineral spirits if the tube stock is compatible with oil, otherwise hot water at 150°F (65.55° C) maximum may be used.

**Inspect**

Examine hose assembly internally for cut or bulged tube, obstructions, and cleanliness. For segment style fittings, be sure that the hose butts up against the nipple shoulder; band and retaining ring are properly set and tight, and segments are properly spaced. Check for proper gap between nut and socket or hex and socket. Nuts should swivel freely. Check the layline of the hose to be sure the assembly is not twisted. Cap the ends of the hose with plastic covers to keep clean.

**Test**

The hose assembly should be hydrostatically tested at twice the recommended working pressure of the hose.

Test pressure should be held for not more than one minute and not less than 30 seconds. When test pressure is reached, visually inspect hose assembly for: 1. Any leaks or signs of weakness. 2. Any movement of the hose fitting in relation to the hose. Any of these defects are cause for rejection.

Storage and Handling

Hose should be stored in a dark, dry atmosphere away from electrical equipment, and the temperature should not exceed 90° F (32.22° C).

CONVEYOR CHAIN**WARNING**

Stay out of the spreader. If it's necessary to enter the spreader, return to the shop, empty body, turn off all power, set vehicle brakes, lock engine starting switch and remove keys before entering. Tag all controls to prohibit operation. Tags should be placed, and later removed, only by person working in the body.

Hose down unit and remove any material build-up on sprockets and under chain.

NOTICE!

The conveyor will move away from the bottom panel if material accumulates under the conveyor or on the sprockets. The more material that accumulates, the closer the chain will come to the chain shields. If the conveyor should catch a chain shield, it could permanently damage the conveyor, the chain shields or the unit. Do not remove material while conveyor or spinner is running!

Lubrication

Make sure unit is clean and completely dry. Lubricate conveyor chain at the end of each day of usage using a mixture of 75% diesel fuel and 25% SAE 10 oil. Shut down spinner and run conveyor at 20 RPM for two full revolutions to lubricate chain. After each unit washing, allow to dry, then lubricate.

Before filling the unit with spreading material, activate the controller or power switch to run the pump oiler. Bleed all air from the lines and adjust the two spray nozzles so that the oil mixture sprays vertical onto the sprockets and chain.

Tension

Proper chain tension is also a factor in chain and sprocket life (Figure 2). Measure from rear of unit forward to achieve proper chain tension. Make sure chain is tensioned equally on both sides. This adjustment is made on each side of the unit at the idler bearings.

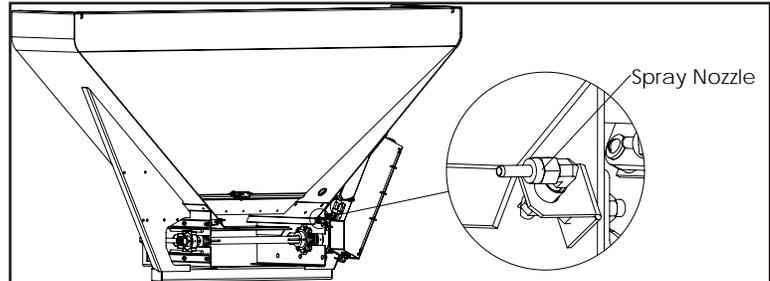


Figure 1 - Spray Nozzle

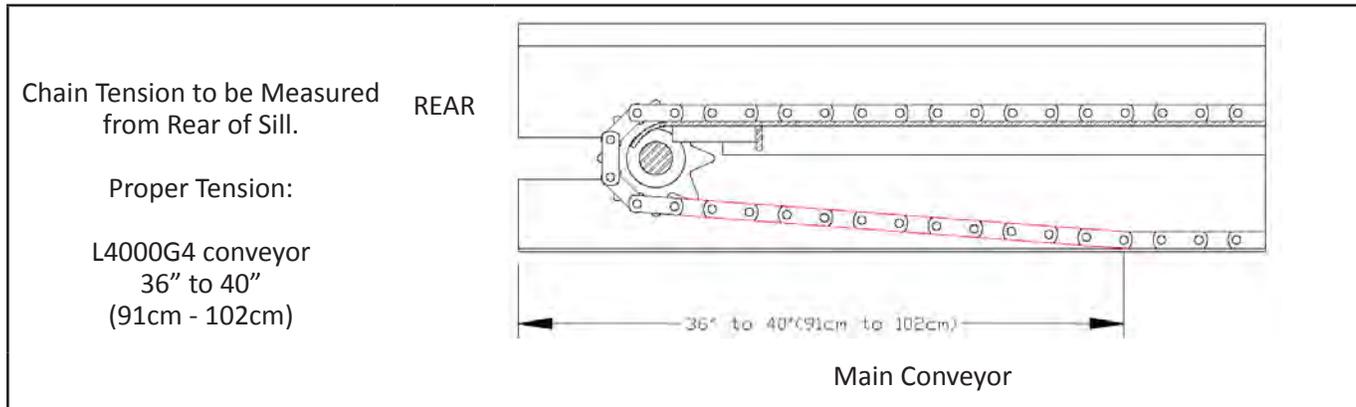


Figure 2 - Chain Tension

Conveyor chains that are too tight will tend to stretch, causing excess sprocket wear and eventually breakage. Excess slack presents the possibility of chain catching on sub-frame parts. Bent or distorted chain bars will cause damage as well. Straighten or replace bent or distorted chain bars immediately. It also causes fertilizer leakage with chain conveyors.

BIN SENSOR



WARNING

Stay out of the spreader. Do not climb on spreader. Use a portable ladder to inspect, clean and maintain the bin sensor from outside the spreader. Failure to do so could result in injury from falling.

NOTICE!

Wipe sensor clean periodically to prevent accumulation of product. Avoid wet material as it may stick to sensor. If material sticks to sensor it won't warn user when bin is low.

Clean sensor with long handled brush or hose from outside of spreader. Do not aim high pressure sprayer directly at sensor—it could damage the components.

CONVEYOR BELT MAINTENANCE

Standard belt for the #4 chain is moderate oil resistant that is impervious to moisture, weathering, or normal action which can be used with chemical impregnated fertilizer or oil based additives.

- Inspect belt fastener occasionally for wear or “raveling” of belt grip area.
- Make sure belt connecting pin is positioned correctly as shown in Figure 3.

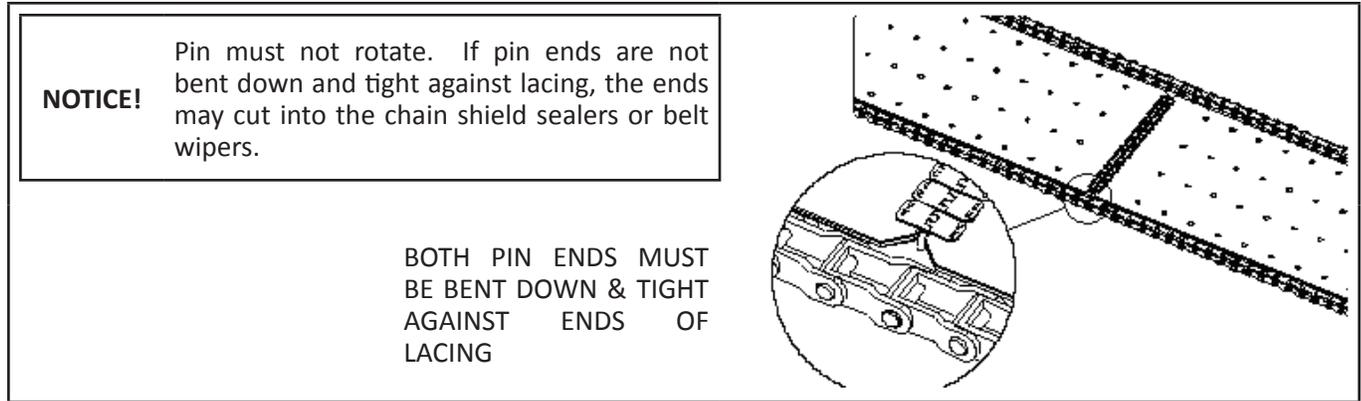


Figure 3 - Conveyor Belt Pin Installation

LUBRICATION OF BEARINGS

Grease in a bearing acts to prevent excessive wear of parts, protects ball races, and balls from corrosion and aids in preventing excessive heat within the bearing. It is very important the grease maintain its proper consistency during operation. It must not be fluid and it must not channel.

Make sure all fittings are thoroughly cleaned before grease is injected. Points to be lubricated by means of a grease gun have standard grease fittings.

Lubricate bearings by pumping grease slowly until it forms a slight bead around the seals. This bead indicates adequate lubrication and also provides additional protection against the entrance of dirt.

FASTENERS

Tighten all screws fasteners to recommended torque's after first week of operation and annually thereafter. If loose fasteners are found at anytime, tighten to recommended torque. Replace any lost or damaged fasteners or other parts immediately. Check body mounting hardware every week.

CLEAN UP**NOTICE!**

High pressure wash can inject water and/or fertilizer into control components, causing damage. Use caution when cleaning these areas.

Thoroughly wash unit every two to three days during the operating season to maintain minimal maintenance operation. Hose unit down under pressure to free all sticky and frozen material.

It is important the unit be thoroughly cleaned at the end of each operating season. All lubrication and maintenance instructions should be closely followed. Repaint worn spots to prevent formation of rust.

NOTICE!

The lubricant distributor and/or supplier is to be held responsible for results obtained from their products. Procure lubricants from distributors and/or suppliers of unquestionable integrity, supplying known and tested products. Do not jeopardize your equipment with inferior lubricants. No specific brands of oil are recommended. Use only products qualified under the following oil viscosity specifications and classification recommended by reputable oil companies.

HYDRAULIC SYSTEM

Use premium quality lubricants with 100-200 SUS or 20-43 cSt viscosity at operating temperatures. The hydraulic fluid's specifications in the table below are for normal operating conditions. Extreme environments or dirty conditions may require the use of different oils. Consult your New Leader dealer or the Product Support Department at Highway Equipment Company for systems operating outside normal conditions.

Ideal Oil Operating Temperature	115-158°F (46.11-70° C)
Recommended Premium Lubricant	Multi-Purpose Agriculture Hydraulic & Transmission Oil
Lubricant Specifications	
Viscosity Index	Greater than 130
Viscosity at 40°C, cst	Less than 68
Viscosity at 100°C, cst	Greater than 9
Acceptable Fluid Sample	John Deere Hy-Gard® J20C

GEAR CASE LUBRICANT

Lubricate these assemblies with non-corrosive type SAE 90 E.P. (extreme pressure) gear oil conforming to MIL-L2105 B multi-purpose gear lubricating oil requirements (API Service GL 4) with ambient temperatures from 40 to 100° F (4.44 to 37.77° C). Ambient temperatures below 40° F (4.44° C) require an SAE 80 E.P. lubricant; above 100° F (37.77° C) use an SAE 140 E.P. grade oil. Refill gear case with one and a half (1-1/2) pints (.70 liters) of recommended lubricant.

GREASE GUN LUBRICANT

Use a waterproof ball and roller bearing lithium base lubricant with a minimum melting point of 300°F (148.8° C). This lubricant should have a viscosity which assures easy handling in the pressure gun at prevailing atmospheric temperatures. The grease should conform to NLGI No. 2 consistency.

CHAIN OILER MIXTURE

Use a mixture of 75% No. 1 or No. 2 diesel fuel or kerosene mixed with 25% SAE 10 engine oil.

**WARNING**

Shut off all power and allow all moving parts to come to rest before performing any maintenance operation.

The spreader should be regularly lubricated with the lubricants recommended in this manual in accordance with the following chart:

<u>LOCATION</u>	<u>PLACES</u>	<u>METHOD</u>	<u>FREQUENCY</u>
Transmission PTO			
Slip Yoke	1	Grease Gun	Weekly
Universal Joint	2	Grease Gun	Monthly
Hydraulic System			
Reservoir	1		Check Daily. Change Annually
Filter	1	Check daily; Change when indicated (Red)	
Conveyor			
Dragshaft Bearings	2	Grease Gun	Weekly
Idler Shaft Bearings	2	Grease Gun	Weekly
Take-Up Screws	2	Hand Grease	Weekly
Chain	2 Strands	Spray Oil	Daily
Chain Oiler	1	Oil Mixture	Daily, After Use
Gear Case	1	Gear Oil	Check Monthly; Change Annually
Jack Assembly			
Gears	1	Grease Gun	Annually
Tube	1	Grease Gun	Weekly
Spinner			
Grease Zerks - Shaft	2	Grease Gun	Weekly
Grease Zerks - Jack	2	Grease Gun	Weekly

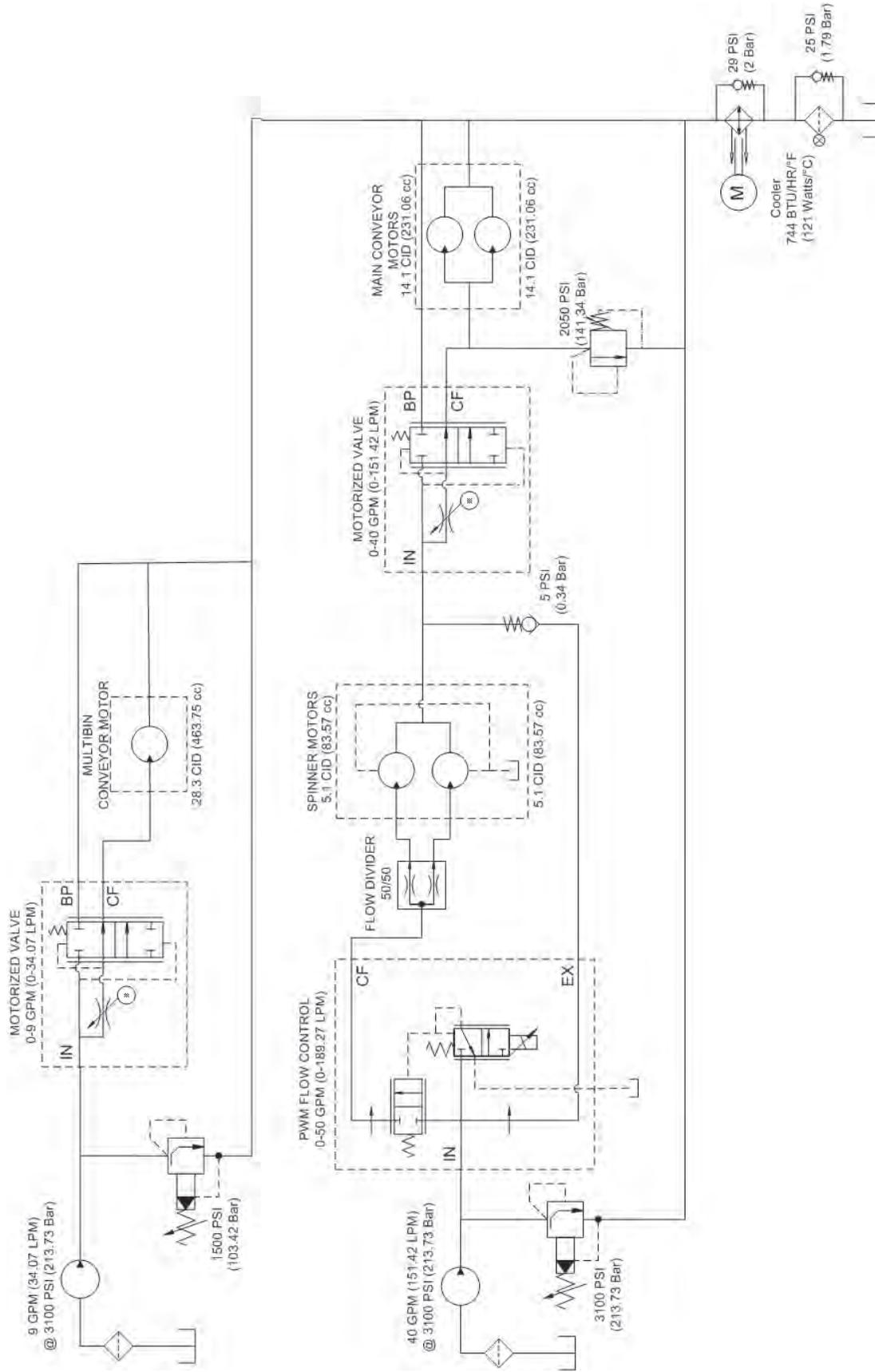
NOTE: Unusual conditions, such as excessive dust, temperature extremes or excessive moisture may require more frequent lubrication of specific parts.

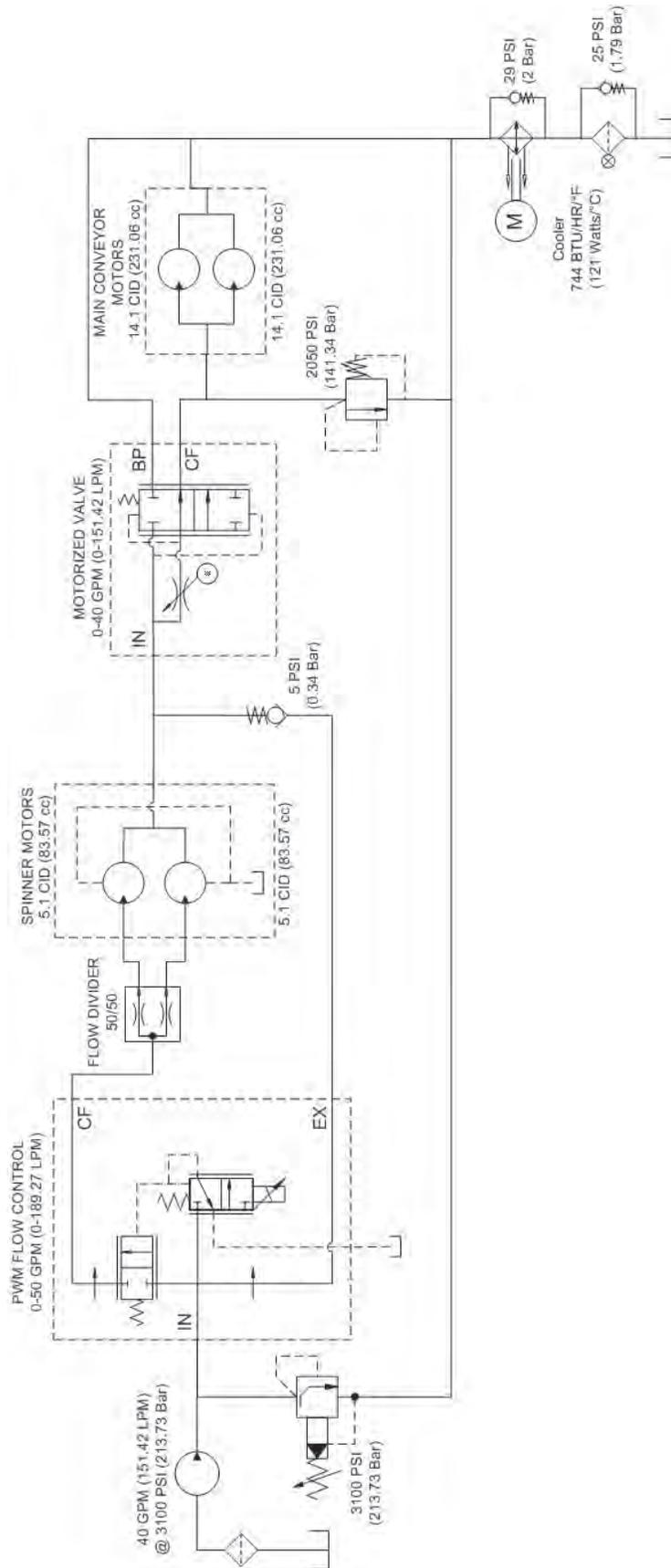
*See *Lubricant and Hydraulic Oil Specifications* for types of lubricants and oil to be used.

- Symptom: Spinner motors do not turn when spinner control valve is in running position. See reasons 1, 2, 3, 4, 5, 7, 8 & 9.
- Symptom: Spinners turn but conveyor does not run in manual mode. See reasons 6, 8, 9, 10 & 22.
- Symptom: Console in operation mode, but the conveyor does not move when the machine moves. See reasons 6, 8, 9, 10 & 22.
- Symptom: Spinner speed does not stay constant. See reasons 4, 5, 11, 12 & 13.
- Symptom: Spinners run with cab control in "Off" position. See reason 14.
- Symptom: Hydraulic oil overheats (200° F (93.33° C) or hotter). See reasons 1, 4, 6, 15, 16, 17 & 18.
- Symptom: Light flashes and buzzer sounds intermittently. Conveyor runs in jerks. See reasons 19 & 22.
- Symptom: Conveyor does not run with cab control "On", PTO engaged and vehicle driving forward. See reasons 20 & 22.
- Symptom: Conveyor runs when control switch in cab is in "Off" position. See reasons 15 & 21.
- Symptom: Conveyor starts to run when PTO is engaged. See reasons 15, 20, 21 & 22.
- Symptom: Controller application or programming. Refer to the control manual's Troubleshooting section.
- Symptom: Undesirable spread pattern. See G4 spread pattern section at the back of this manual.

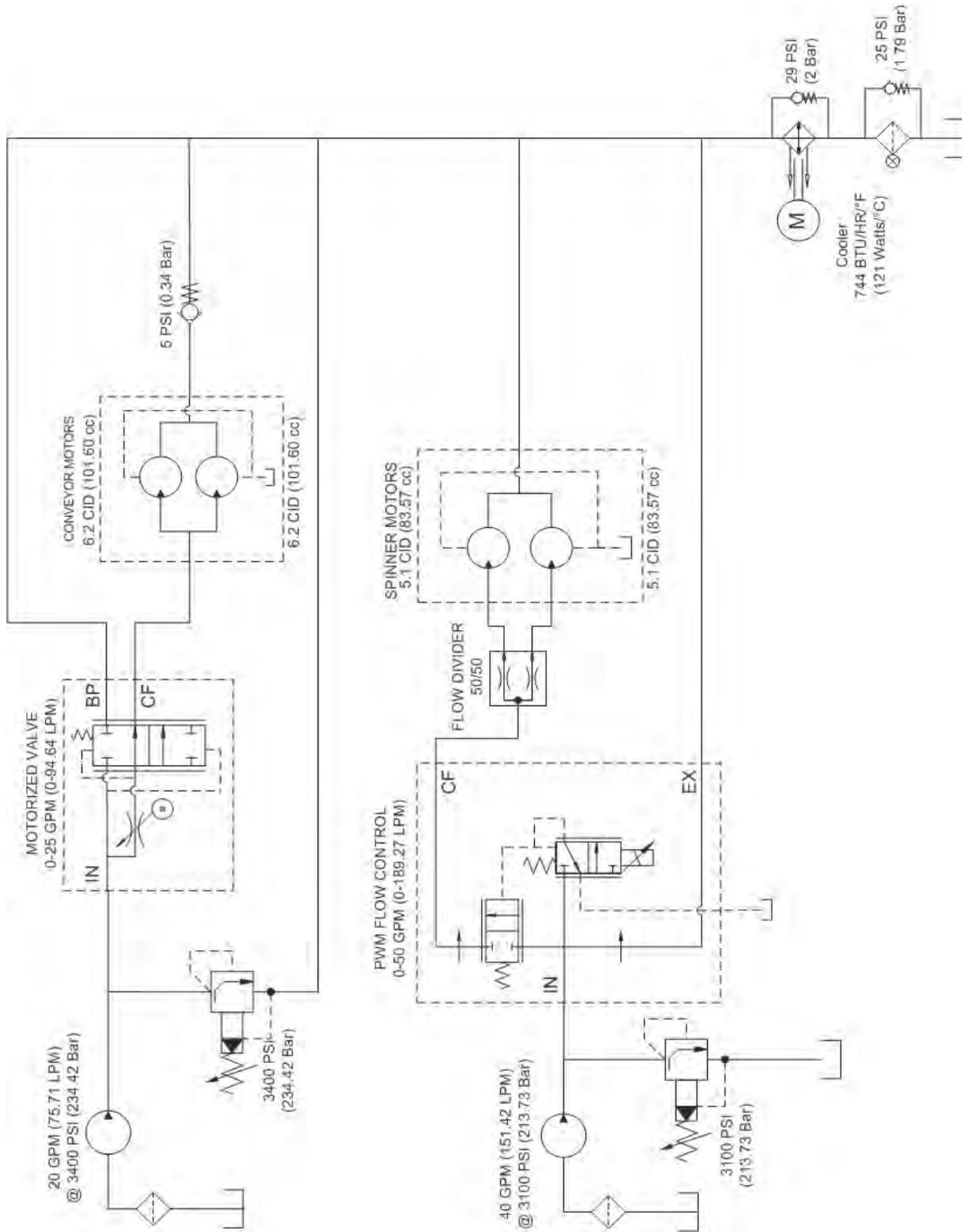
<u>Reason:</u>	<u>Correction:</u>
1. Hydraulic oil level low.	Add hydraulic oil to reservoir to maintain level around mid-point of sight gauge.
2. Shut Off valve on oil reservoir not open.	Open valve fully by turning counter clockwise until it stops.
3. Hydraulic Pump is not rotating.	<ol style="list-style-type: none"> 1. PTO is disengaged. Shift into engagement. 2. Drive line has failed. Repair or replace. 3. Key in pump shaft has failed. Replace key. 4. U-joint pin or key has failed. Replace pin or key.
4. In line relief valve set too low.	<p>In line relief valve pressure should be 3100 PSI (213.7 bar) . If unit is not equipped with a pressure gauge, install one at main relief valve. Disconnect pressure line from main relief valve and reconnect to flow meter and load valve. Open load valve fully and run truck engine at field operating speed with pump engaged. Slowly close load valve until pressure reaches 3100 PSI (213.7 bar). If this pressure cannot be reached, adjust relief valve until gauge reads 3100 PSI (213.7 bar).</p> <p>CAUTION: Do not set pressure above 3100 PSI (213.7 bar).</p>
5. Worn pump.	With flow meter arranged to check relief valve setting above, open load valve fully. Read flow rate with truck engine running at field operating speed. Close load valve until pressure reads 2000 PSI (137.9 bar). Flow rate should not decrease more than ten percent. If flow loss is greater, replace pump.

Reason:	Correction:
6. Conveyor relief valve open to return line.	Using relief valve testing adapter and flow meter, test valve for opening pressure. If not 2000 PSI (137.9 bar), replace relief valve.
7. Jammed or frozen spinner motors.	Free up. If not possible, replace as required.
8. Jammed or frozen conveyor.	Free up conveyor.
9. Jammed or frozen conveyor hydraulic motor.	Replace motor.
10. Conveyor hydraulic motor shaft key sheared.	Replace key.
11. Pump speed is not adequate to provide sufficient flow to maintain spinner speed.	Increase engine speed.
12. Insufficient hydraulic oil flow at normal driving speeds.	Check PTO-Pump matching. If insufficient flow results, install higher percent PTO or use larger pump (Special).
13. Defective spinner control valve.	Replace valve metering spool spring. If no improvement, replace spinner control valve.
14. Cab control is for conveyor only—spinners run anytime vehicle engine is running, PTO is engaged and spinner control valve is in a running position.	None required. This is a normal condition. To stop spinners, set spinner control valve at "O" position, disconnect PTO, or shut off vehicle engine.
15. Excessive oil is being pumped.	<ol style="list-style-type: none"> 1. PTO percentage too high. Change PTO to smaller percentage or use smaller pump. 2. Pump is too large. Do not exceed 40 GPM (151.4 LPM) pumping rate. Change to smaller pump or use smaller percentage PTO. 3. Pressure drop in control valve is sufficient to run lightly loaded conveyor motor. Shut off pump drive by disengaging PTO shaft.
16. Worn motor (spinner or conveyor)	Motor heats up at an excessive rate (check for this heating when system is cold.) Replace motor.
17. Improper or deteriorated hydraulic oil.	Replace hydraulic oil with proper specification oil and replace filter.
18. Pinched or obstructed hose, hydraulic line or fitting.	Clear obstruction or replace part. Straighten kinked hoses.
19. Driving too fast for application rate.	Shift truck transmission to a lower gear. Will not normally occur if within maximum application rates.
20. Defective radar.	Check speed on console. Repair or replace radar as required.
21. Control processor's power is in "Off" position.	Turn on control processor.
22. Involves the controller.	Refer to control manual.





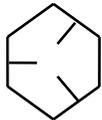
OPER. & MAINT.

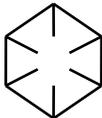


OPER. & MAINT.

CAP SCREW GRADE IDENTIFICATION - MARKINGS ON HEAD

SAE GRADE 2  NO MARKINGS

SAE GRADE 5  THREE MARKS - 120 DEGREES APART

SAE GRADE 8  SIX MARKS - 60 DEGREES APART

USE GRADE 2 TORQUES FOR STAINLESS STEEL FASTENERS AND CARRIAGE BOLTS.

CAP SCREW SIZE	TORQUE - FOOT-POUNDS					
	GRADE 2		GRADE 5		GRADE 8	
	DRY	LUBE	DRY	LUBE	DRY	LUBE
1/4"	5	4	8	6	12	9
5/16"	11	8	17	13	25	18
3/8"	20	15	30	23	45	35
7/16"	30	24	50	35	70	55
1/2"	50	35	75	55	110	80
9/16"	65	50	110	80	150	110
5/8"	90	70	150	110	220	170
3/4"	100	120	260	200	380	280
7/8"	140	110	400	300	600	460
1"	220	160	580	440	900	650

OPER. & MAINT.

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Order from the **AUTHORIZED DEALER** in your area.

1. Always give the pertinent model and serial number.
2. Give part name, part number and the quantity required.
3. Give the correct address to where the parts are to be shipped, and the carrier if there is a preference.

Unless claims for shortages or errors are made immediately upon receipt of goods they will not be considered. Any part returns should be directed through the dealer from which they were purchased.

When broken goods are received, a full description of the damage should be made by the carrier agent on the freight bill. If this description is insisted upon, full damage can always be collected from the transportation company.

No responsibility is assumed for delay or damage to merchandise while in transit. Our responsibility ceases upon delivery of shipment to the transportation company from whom a receipt is received showing that shipment was in good condition when delivered to them, therefore, claims (if any) should be filed with the transportation company and not with Highway Equipment Company.

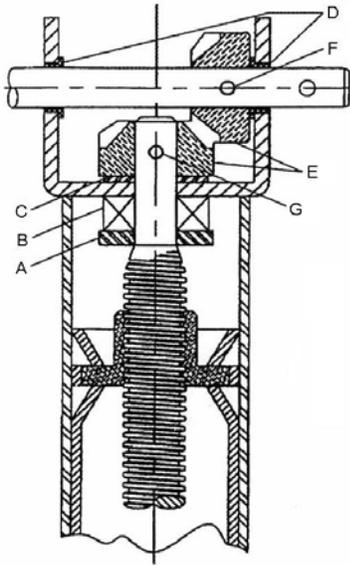
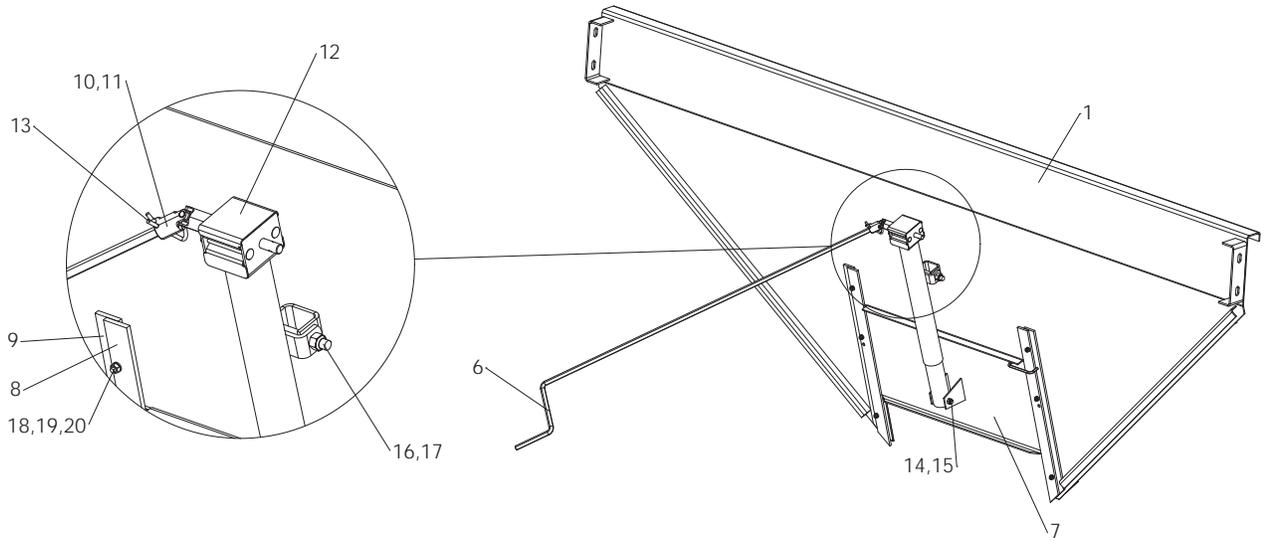
If your claims are not being handled (by the transportation company) to your satisfaction, please call the Parts Manager at Highway Equipment Company (319-363-8281) for assistance.

In the parts list the following symbols and abbreviations stand for:

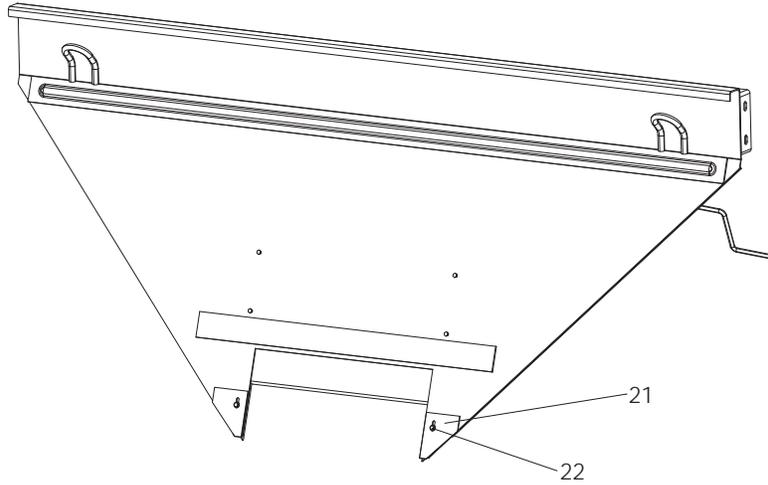
- * - Not Shown
- AR – As Required
- CS – Carbon Steel
- SS – Stainless Steel

The parts listed under the different steel types (CS, 409 SS and 304 SS) are for that type of unit and do not necessarily mean the part is made of that type of steel.

REMOVABLE ENDGATE, FEEDGATE & JACK



JACK

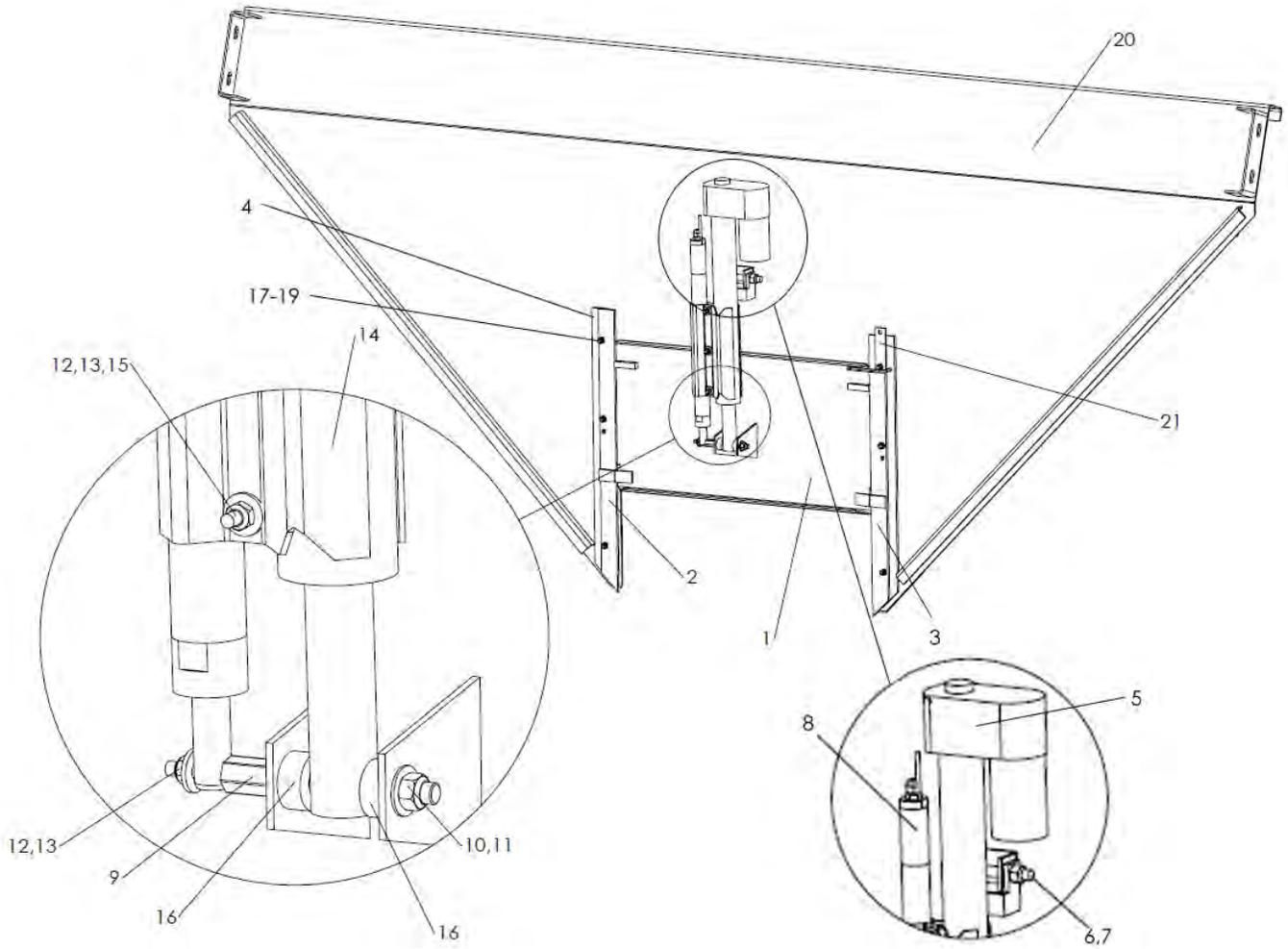


PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>		<u>DESCRIPTION</u>	<u>QTY</u>
	409 SS	304 SS		
	86951	86951	Kit - Hardware, Includes 2-5	1
1	86773	86952	Endgate – Removable Wldmt	1
2	*20128-X1	20128-X1	Cap Screw – 1/2 x 1 1/4 Gr8	4
3	*20695	20695	Washer – Flat 1/2	8
4	*20714	20714	Washer – Lock 1/2	4
5	*20646	20646	Nut – Hex 1/2	4
6	72641	72641	Handle	1
7	98512	303937-AA	Feedgate – Wldmt	1
8	36384	36384	Slide – Feedgate	2
9	36385	36385	Guide – Feedgate	2
10	85002	85002	U-Joint	1
11	20918	20918	Pin – Roll	2
12	40704	40704	Jack	1
A	84210	84210	Washer – Thrust	1
B	84211	84211	Bearing – Thrust	1
C	84212	84212	Washer	1
D	84213	84213	Bushing	2
E	84214	84214	Gear – Miter	2
F	84215	84215	Pin – Groove	1
G	84216	84216	Pin – Roll	1
13	86878	86878	Pin – Hair	1
14	36296	36296	Cap Screw - 3/8 x 2 3/4	1
15	72054	72054	Nut – Lock 3/8	1
16	80798	80798	Cap Screw - 1/2 x 3 3/4	1
17	39016	39016	Nut – Hex 1/2	1
18	40750	40750	Cap Screw – 1/4 x 1-1/4	6
19	36418	36418	Washer – Lock 1/4	6
20	36412	36412	Nut – Hex 1/4	6
21	305078	305078	Sealer – Endgate Bolt-in (inside)	2
22	36423	36423	Washer – Flat 1/4	2

* - Not Shown

FEEDGATE WITH ACTUATOR



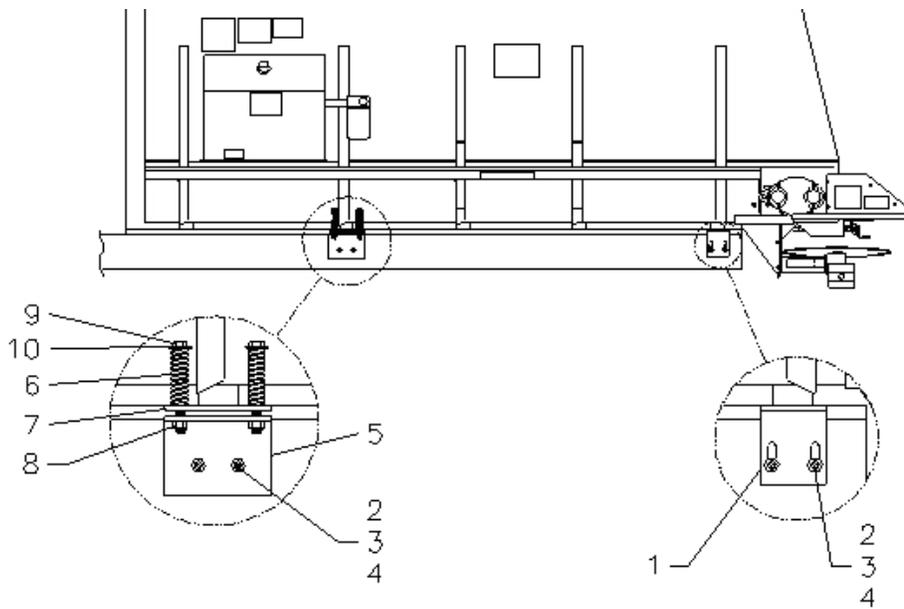
PARTS LIST

FEEDGATE WITH ACTUATOR CONTINUED

<u>ITEM</u>	<u>PART NO.</u>		<u>DESCRIPTION</u>	<u>QTY</u>
	409 SS	304 SS		
1	303937-AA	303937-AA	Feedgate – Wldmt Actuator 30” 304	1
2	302792-AA	302792-AA	Slide – Feedgate Stop LH	1
3	302792-AB	302792-AB	Slide – Feedgate Stop RH	1
4	36385	36385	Bar – Feedgate Guide 304	2
5	302767	302767	Actuator – Electric 14” Stroke	1
6	80798	80798	Cap Screw – 1/2-13 x 3-3/4 SS	1
7	39016	39016	Nut – Lock 1/2 SS	1
8	302791	302791	Sensor – Assy 10”	1
9	302769	302769	Pin – Feedgate Sensor	1
10	36425	36425	Washer – Flat 3/8 SS	1
11	72054	72054	Nut – Lock 3/8 SS	1
12	42034	42034	Nut – Lock 1/4-20 SS	4
13	36423	36423	Washer – Flat 1/4 SS	9
14	303940	303940	Clamp – Long 304	2
15	42448	42448	Cap Screw - 1/4-20 x 1-1/2 SS	3
16	303941	303941	Spacer – Actuator Mount 304	2
17	40750	40750	Cap Screw – 1/4-20NC SS	6
18	36418	36418	Washer – Lock 1/4 SS	6
19	36412	36412	Nut – Hex 1/4-20NC SS	6
20	86773	86952	Endgate – Wldmt Removeable	1
21	304512	304512	Mount – Feedgate Cables 304	1
22	*305078	*305078	Sealer – Endgate Bolt-in 304	2
23	*86951	*86951	Kit - Hardware, Includes: 2-5	1
	20128-X1	20128-X1	Cap Screw – 1/2 x 1 1/4 Gr8	4
	20695	20695	Washer – Flat 1/2	8
	20714	20714	Washer – Lock 1/2	4
	20646	20646	Nut – Hex 1/2	4

* - Not Shown

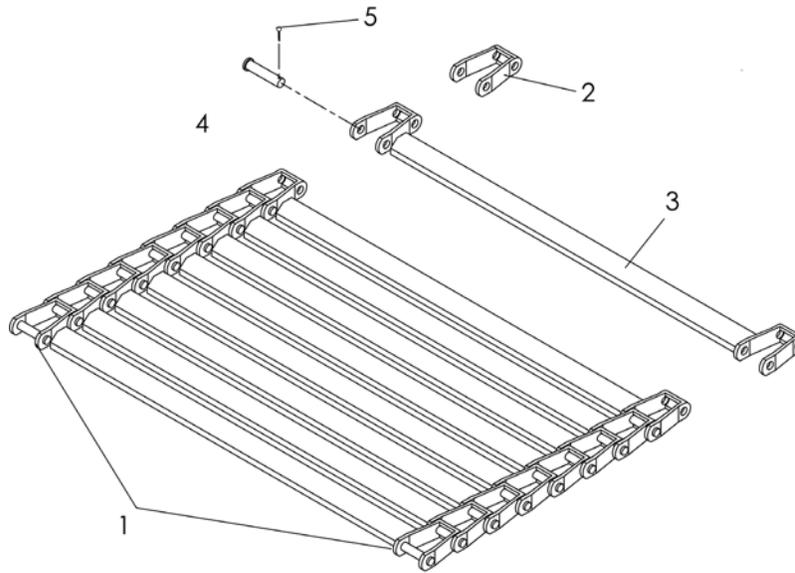
MOUNTING ANGLE



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	31856	Angle - Mounting	4
2	20131	Cap Screw - 1/2 x 2	12
3	20695	Washer – Flat 1/2	12
4	20680	Nut - Lock 1/2	12
5	81847	Angle - Mounting	2
6	81000	Spring	4
7	81848	Mounting - Bar	2
8	41762	Nut – Lock 5/8	4
9	20195	Cap Screw - 5/8 x 6 1/2	4
10	20697	Washer – Flat 5/8	4

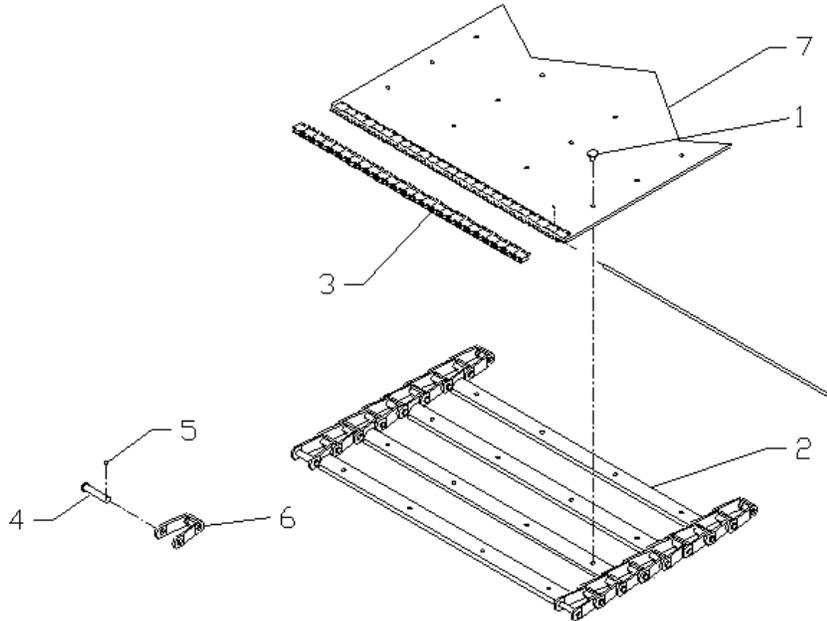
PARTS LIST

#3 PINTLE CHAIN CONVEYOR



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	97091	#3 Pintle Chain – 13’ Unit Assy	1
	97092	#3 Pintle Chain – 14’ Unit Assy	1
2	36699	Link - Pintle Chain	AR
3	88857	Bar - Cross Wldmt	AR
4	36697	Pin - Pintle Chain	AR
5	20817	Pin - Cotter	AR

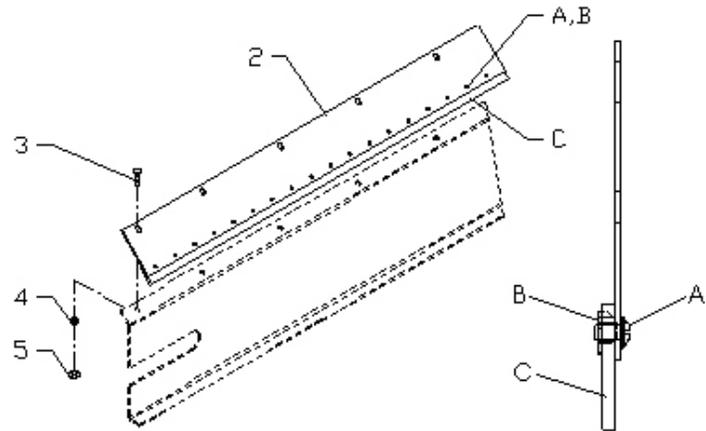
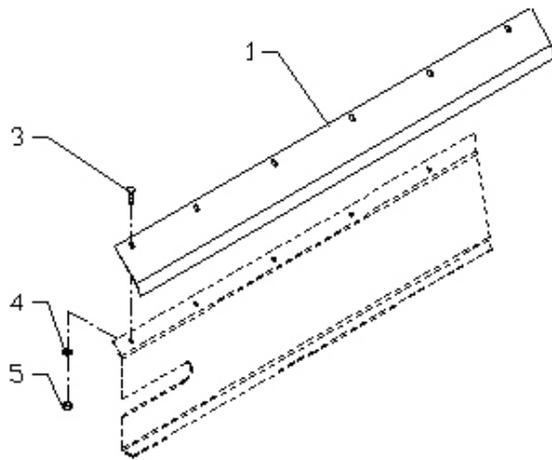
#4 BELT-OVER-PINTLE CHAIN CONVEYOR



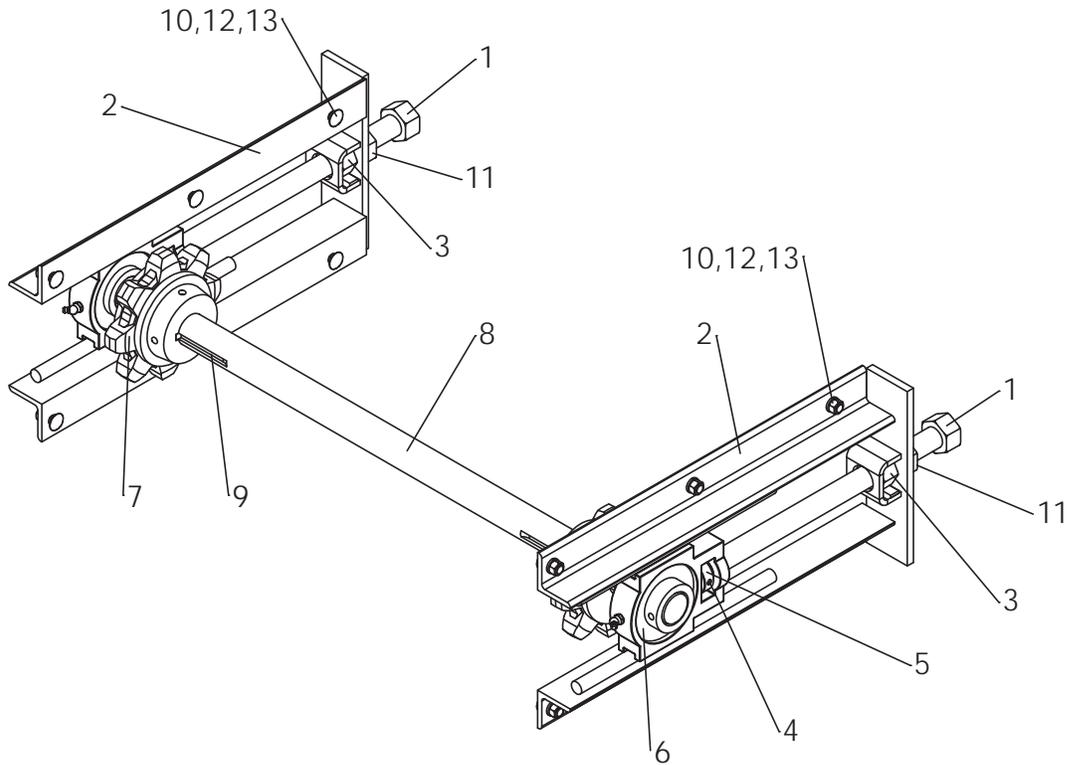
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305614-AG	Belt-Over-Chain - #4 13' MOR	1
	305614-AH	Belt-Over-Chain - #4 14' MOR	1
1	305646	Screw - #4BOC 1/4 x 9/16 torx Flat Head	AR
2	305643	Crossbar – Wldmt	AR
3	73317	Kit – Splicer	1
		Lacing Strips 23"	2
	56405	Pin - Connecting	1
		Staples	AR
4	36697	Pin – Pintle Chain	AR
5	20817	Pin – Cotter	AR
6	36699	Link – Pintle Chain	AR
7	56377-AB	Belt – Conveyor	AR

PARTS LIST

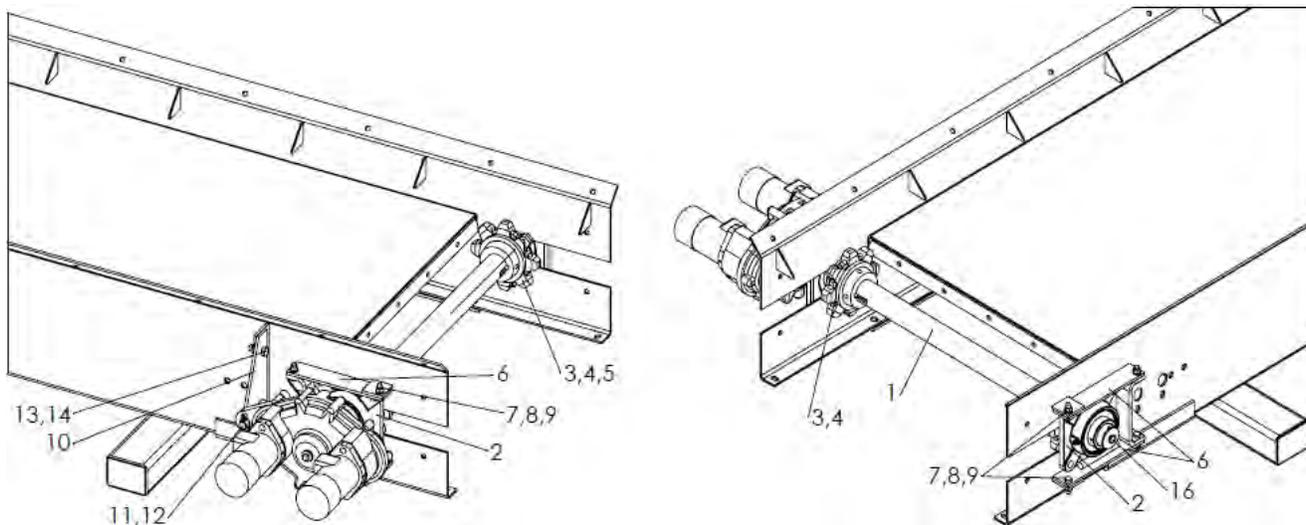
CHAIN SHIELDS



<u>ITEM</u>		<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	409 SS	304 SS		
1			Chain Shield – #3 Chain	
	97732-AB	97749-AB	13' Unit	2
	97732-AC	97749-AC	14' Unit	2
2			Chain Shield – #4 Chain	
	97836	97854	13' Unit	2
	97837	97855	14' Unit	2
A	56258	56258	Screw – Truss Head 1/4 x 1/2	AR
B	88931	88931	Nut – Tee 1/4 x 1/4	AR
C	305975	305975	Sealer - Belt, #4 BOC Shield (Specify Unit Length)	AR
3	71829	71829	Bolt – Carriage 3/8 x 1	AR
4	36420	36420	Washer – Lock 3/8	AR
5	36414	36414	Nut – Hex 3/8	AR



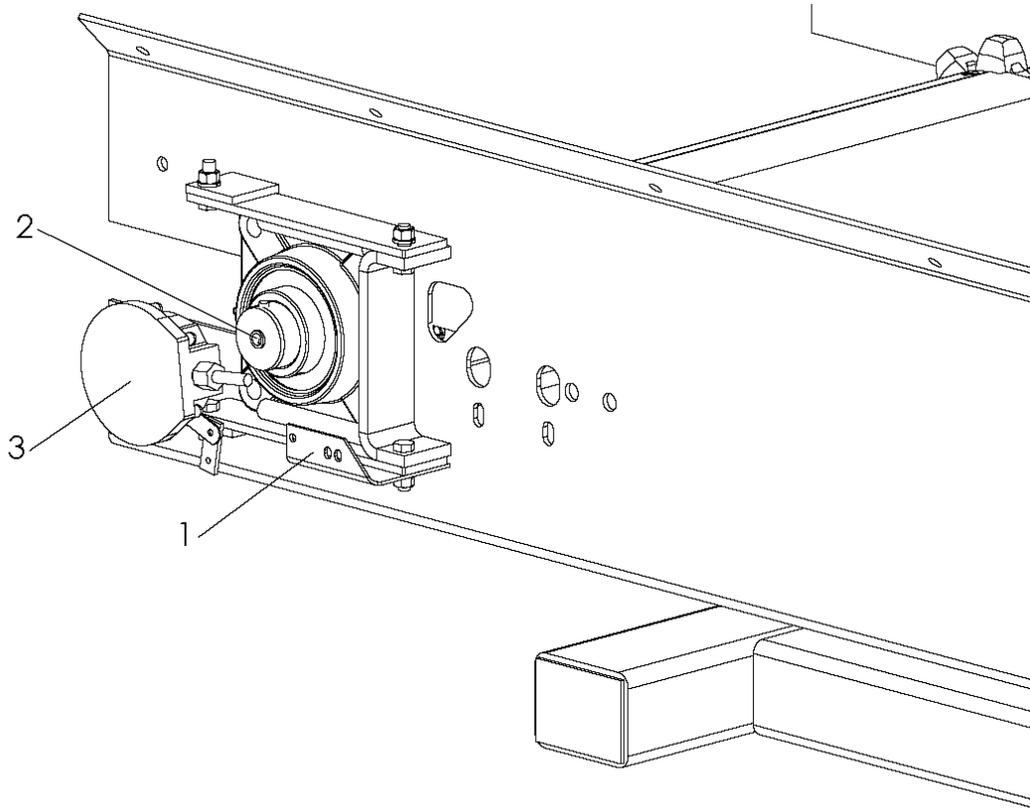
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	36508	Screw – Wldmt Adjust	2
2	7895	Take-up Wldmt	2
	79321	Take-up Wldmt SS	2
3	39110	Nut Wldmt	2
4	20925	Pin – Roll 1/4 x 1 1/2	2
5	30725	Collar – Set 1”	2
6	22511	Bearing – Take-up	2
7	97051	Sprocket – Idler	2
8	82799	Shaft – Idler	1
9	2135	Key – Square 5/16 x 2 1/2	2
10	36414	Nut – Hex 3/8	12
11	36509	Nut – Hex 1-8NC SS	2
12	36408	Bolt – Carriage 3/8 x 1	12
13	36420	Washer – Lock 3/8	12



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	86999	Shaft – Drive	1
2	6465	Bearing	2
3	88276	Sprocket	2
4	20743	Screw – Set 5/16 x 3/8	1
5	6131	Key – Square 3/8 x 1 1/2	2
6	82885	Guide – Bearing	4
7	36399	Cap Screw - 3/8 x 1 1/4	8
8	36420	Washer – Lock 3/8	8
9	36414	Nut – Hex 3/8	8
10	82552	Bracket – Torque Arm LH	1
11	20833	Pin – Cotter 1/4 x 1 1/2	1
12	2716	Washer – Flat 3/4	2
13	20128	Cap Screw - 1/2 x 1 1/4	2
14	20680	Nut – Lock 1/2	2
15	*37010	Key – Square 1/2 x 1 1/2	2
16	56264	Cap/Plug - Plastic	1
		Gear Case Assy – See <i>Gear Case</i> parts list	

* - Not Shown

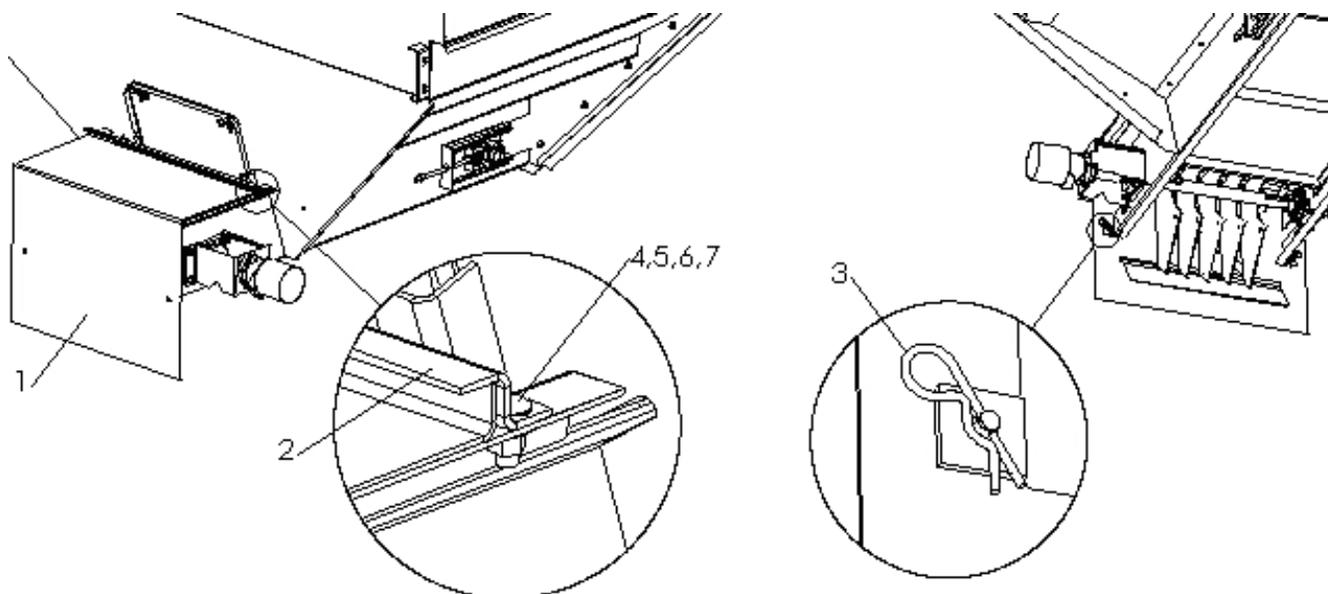
ENCODER



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	304946	Bracket – Rear Shaft 180	1
	88247	Bracket – Rear Shaft 380	
2	56263	Sleeve – Rate Sensor	1
3	303994	Encoder – 180 with Hardware	1
	304056	Encoder – 360 with Hardware	1

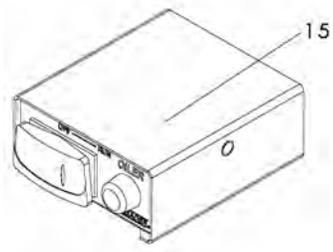
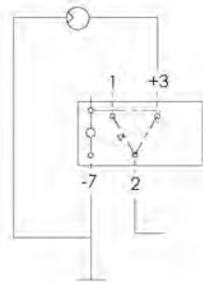
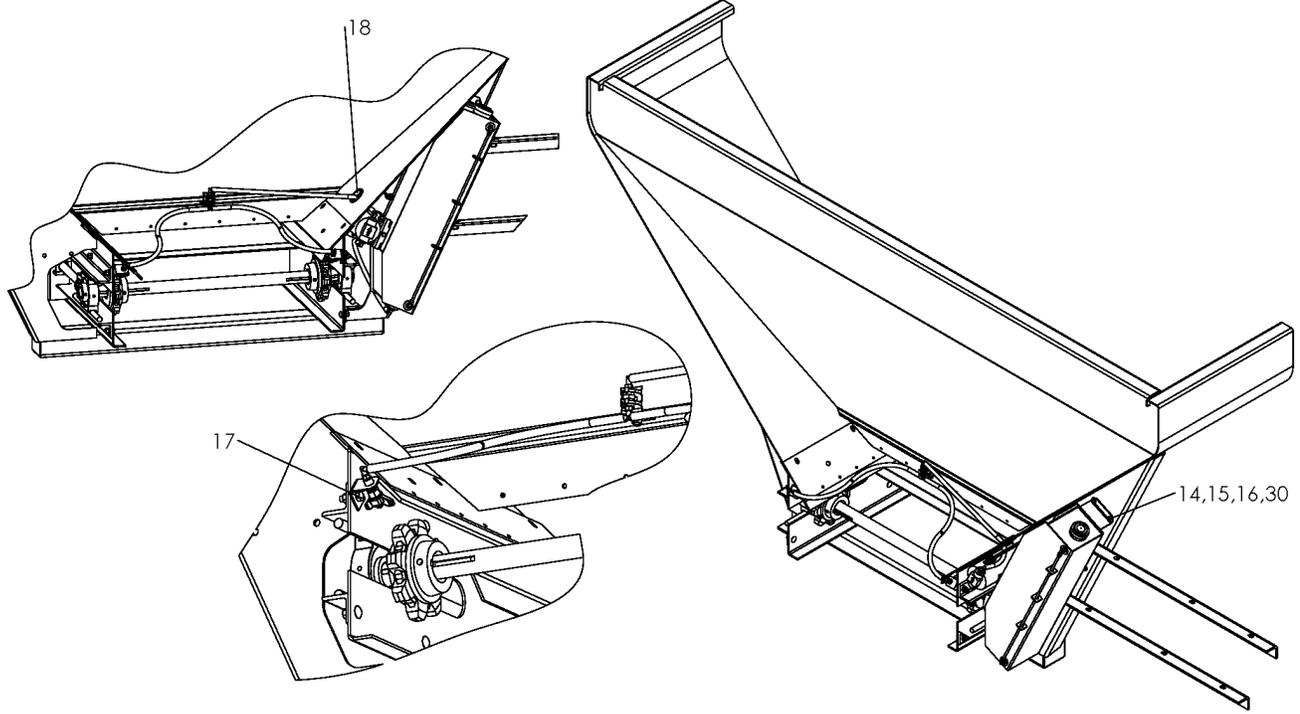
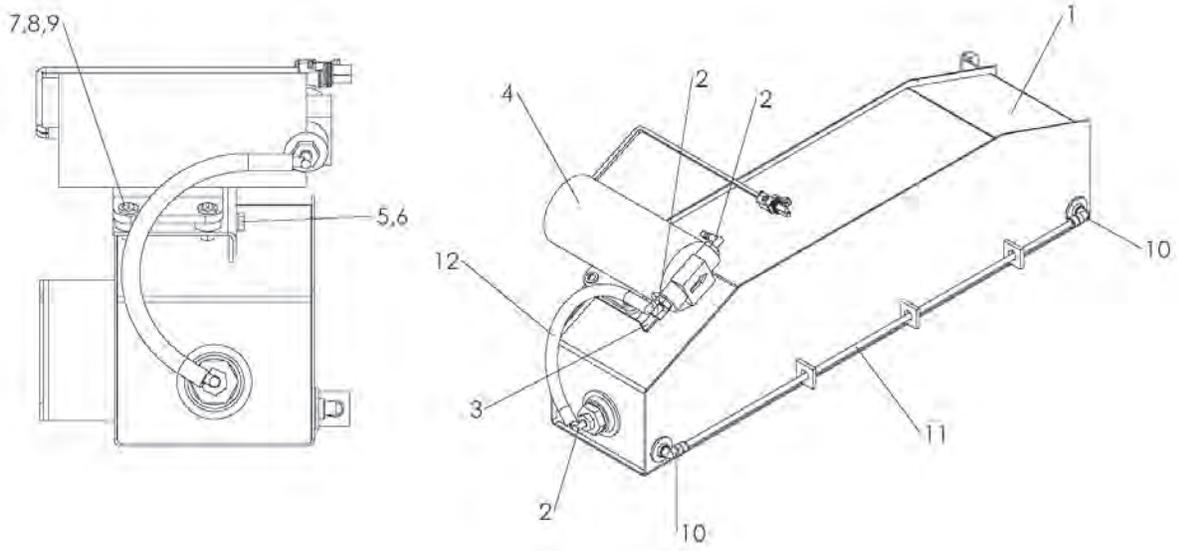
PARTS LIST

COVER - CONVEYOR

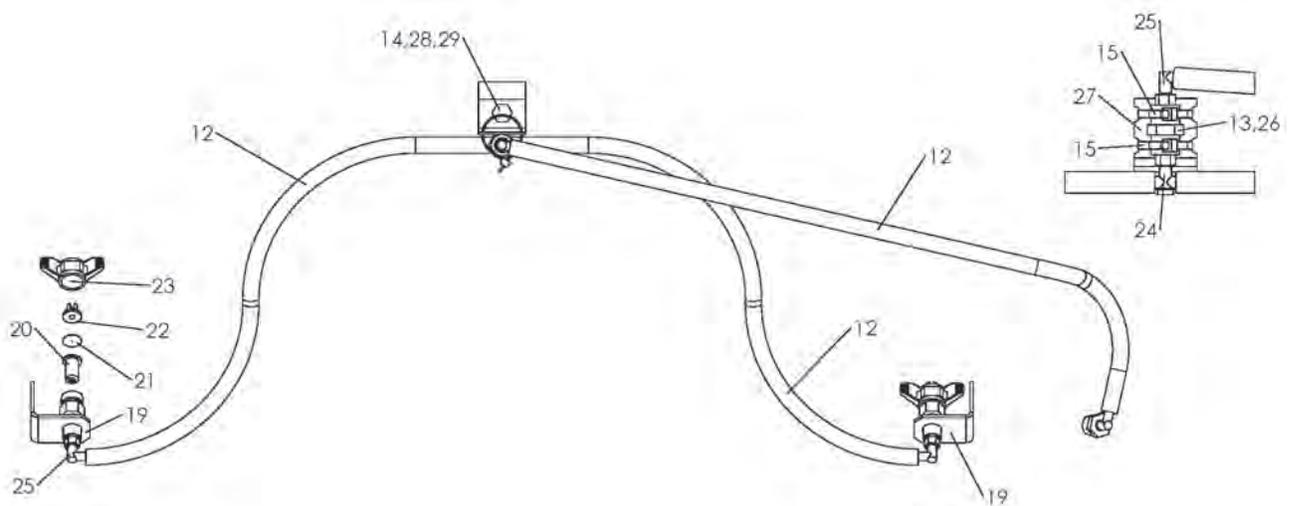


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	98560	Cover – Assy Rear	
1	98562	Cover – Wldmt Rear Conveyor	1
2	98555	Hold-down – Cover Rear	1
3	36429	Pin – Hair 2.562 x .148	2
4	36408	Bolt – Carriage 3/8 x 1	6
5	36425	Washer – Flat 3/8	6
6	36420	Washer – Lock 3/8	6
7	36414	Nut – Hex 3/8	6

CONVEYOR CHAIN OILER



PARTS LIST

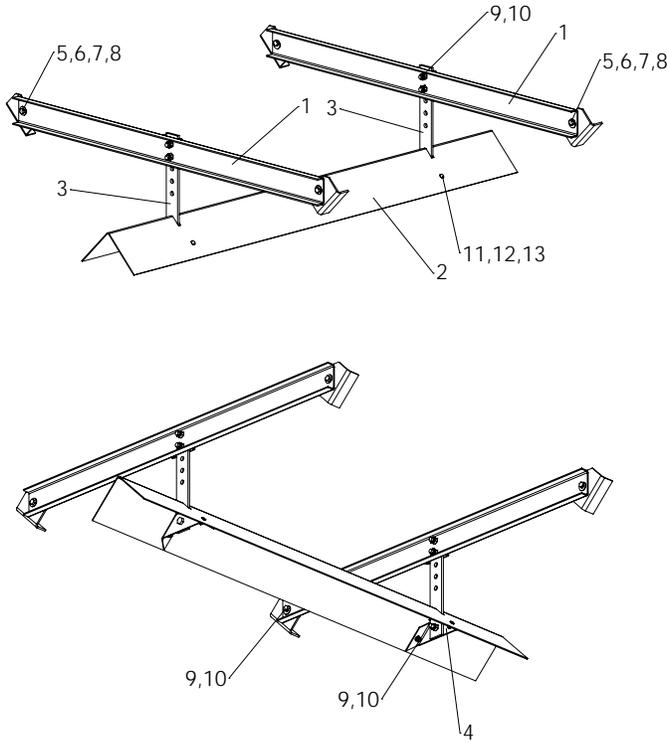


ITEM	PART NO.	DESCRIPTION	QTY
	306061	Oiler - Chain Assy, Includes 1-30	
	306063	Tank – Assy, Includes 1-13	
	306658	Nozzle & Hose - Assy, Includes 12,13,19-29	
1	304398	Tank – Wldmt	1
2	306657	Elbow	3
3	304409	Mount – Pump	1
4	304390	Pump – Assy with Connector	1
	304834	Pump – Diagram 1.1 GPM 30 PSI	1
	303730-AB	Connector – FEM Socket Sealed	1
	303730-CC	Terminal – FEM Sealed (Sleeve)	2
	303730-EB	Seal – Cable Lt Gray	2
5	36393	Cap Screw – 1/4 x 3/4 SS	5
6	36418	Washer – Lock 1/4 SS	5
7	44454	Screw - Socket #10-24 NC x 1 SS	4
8	171052	Washer – Flat #10 SS	8
9	56355	Nut - Hex Lock #10-24 NC SS	4
10	301337	Fitting – 90 Male 1/8 NPT	2
11	306437	Tubing – Clear	Feet 1.167
12	26544	Hose – Low Pressure 1/4” ID x 8”	Feet 5.5
13	*306670	Tape – Thread Seal w/PTFE Yellow Gas Line	AR
14	36414	Nut – Hex 3/8 SS	1
15	304391	Panel – Assy Oiler Control	1
	99676	Fuse – 10AMP Fast Acting	1
16	36412	Nut – Hex 1/4 SS	4

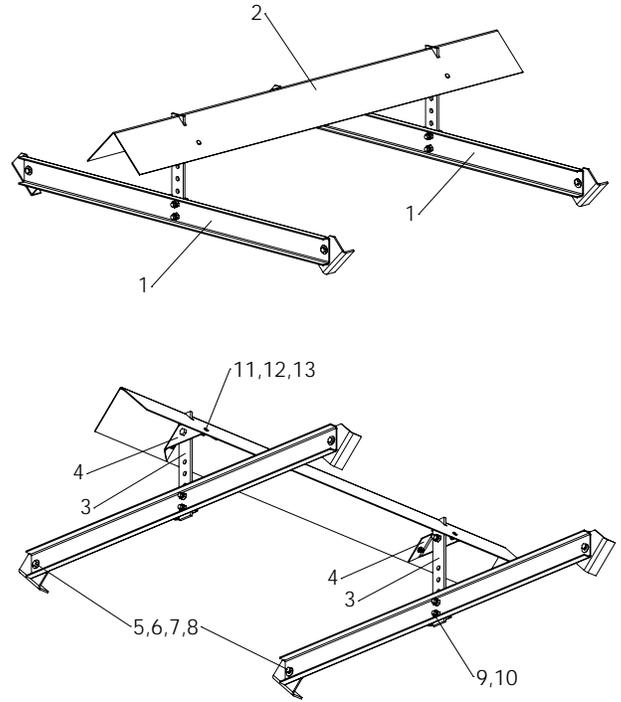
CONVEYOR CHAIN OILER CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
17	36399	Cap Screw – 3/8 x 1-1/4 SS	2
18	34129	Grommet – Rubber	1
19	306649	Nozzle – Mount Assy	2
	304839	Angle – Wldmt Nozzle Mount	1
	306650	Body – Male Nozzle Brass	1
20	306651	Strainer – Check Valve	2
21	306652	Plate – Orifice SS	2
22	306654	Nozzle – Even Flat Spray SS	2
23	306653	Cap – Nozzle	2
24	306655	Tee – Black	1
25	306656	Elbow – Black	3
26	306678	Coupling – Polypropylene	1
27	306804	Bracket – Coupling	1
28	36293	Cap Screw – 3/8 x 3/4 SS	1
29	36420	Washer – Lock 3/8 SS	1
30	36423	Washer – Flat 1/4 SS	4

* - Not Shown AR – As Required



STANDARD (LOWER) ASSY

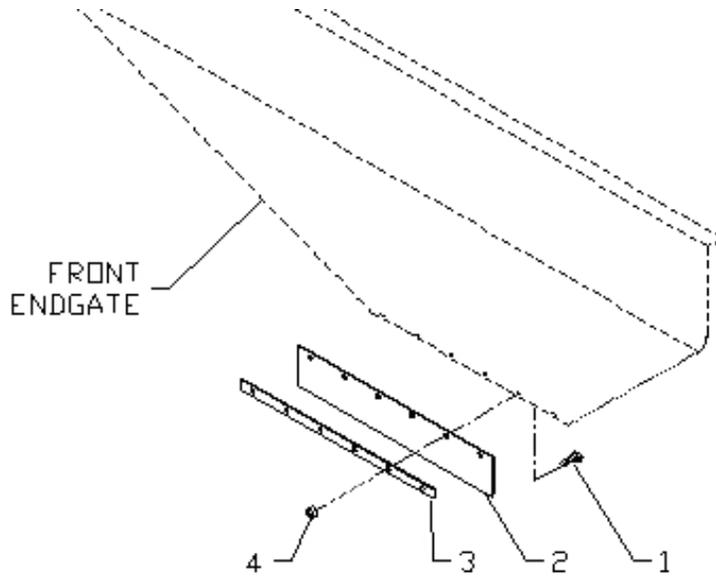


HIGH YIELD ASSY

ITEM	PART NO.		DESCRIPTION	QTY
	409 SS	304 SS		
1	81262	81263	Hanger – V Wldmt	3
2	82619	82623	Inverted V – 9’ (13’ - 14’ Units)	1
3	302369	302369	Bar – Adjusting	3
4	302371	302371	Bracket – V Bolt-on	3
5	36402	36402	Cap Screw – 1/2 x 1 1/4	6
6	36426	36426	Washer – Flat 1/2	6
7	36422	36422	Washer – Lock 1/2	6
8	36416	36416	Nut – Hex 1/2	6
9	58800	58800	Cap Screw – 5/8 x 1 3/4	9
10	41762	41762	Nut – Lock 5/8	9
11	42639	42639	Bolt – Carriage 5/16 x 1	6
12	36424	36424	Washer – Flat 5/16	6
13	42221	42221	Nut – Lock 5/16	6

Please Give Part No., Description
& Unit Serial No.

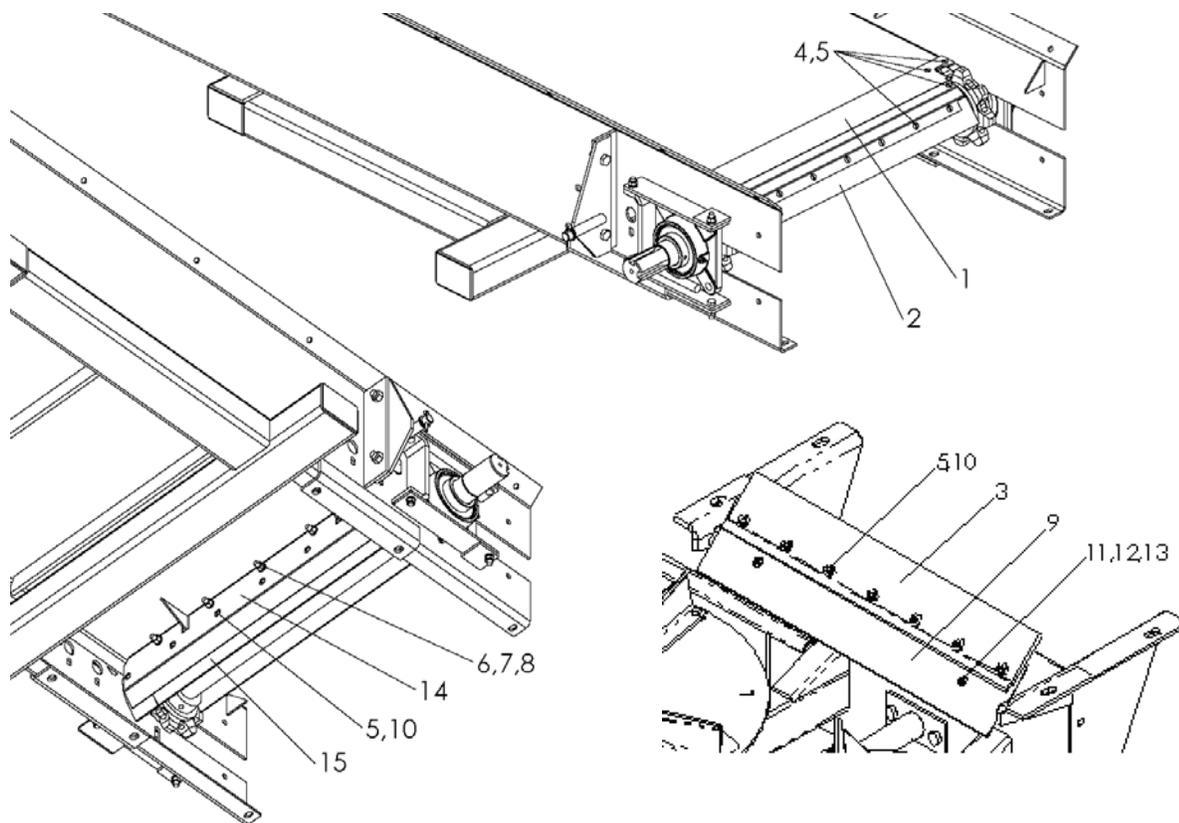
WIPER FRONT



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	32446	Screw – TR HD 1/4 x 3/4	6
2	14743	Wiper – Belt, L3220G4	1
3	71656	Retainer – Belt, L3220G4	1
4	36412	Nut – Hex 1/4	19

PARTS LIST

REAR WIPER - #2 & #3 CONVEYORS

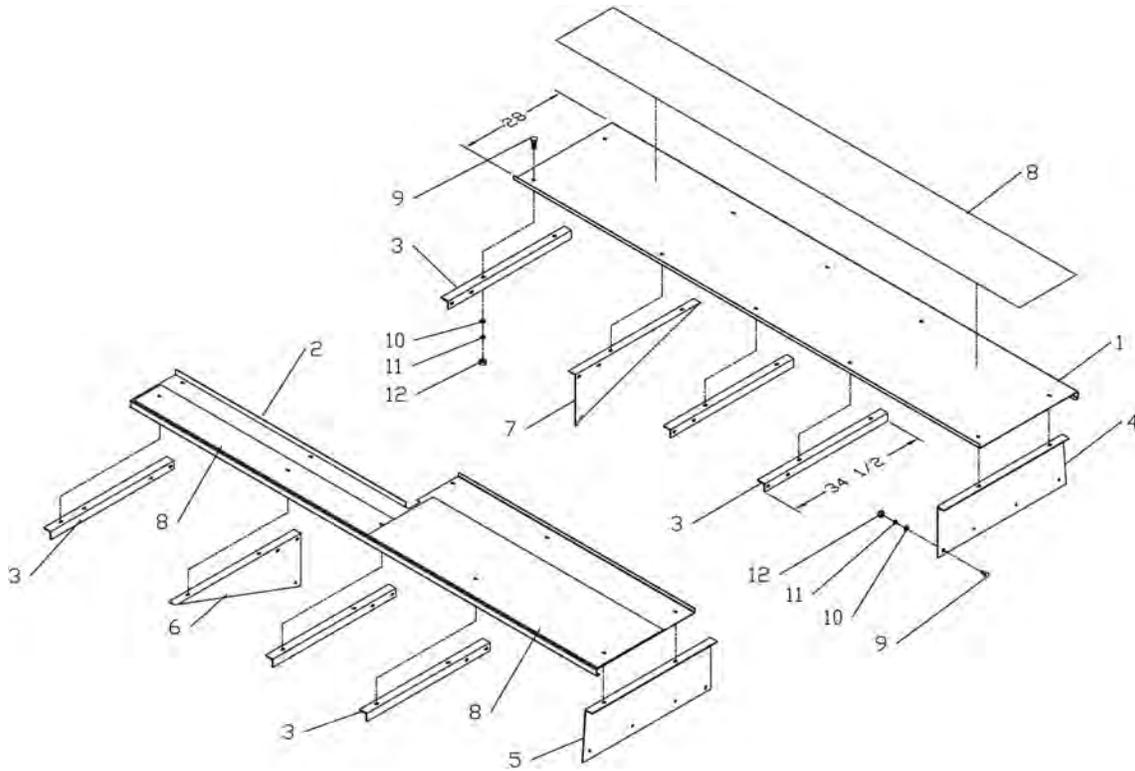


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	98086	Lip - Group Rear, Includes 1,2,4-10,14,15	
	98068	Lip - Assy Rear, Includes 1,2,4-5	
	304416	Wiper - Assy Rear 5,10,14,15	
	96744	Wiper - Spinner/Conveyor Assy, Includes 3,5,9-13	
1	98030	Lip - Wldmt Rear	1
2	305331	Wiper - 30" Rear Lip	1
3	304418	Belt - Rear Wiper	1
4	56400	Screw - Flat Head 1/4 x 1/2	13
5	88931	Nut - Tee 1/4	27
6	36399	Cap Screw - 3/8 x 1	5
7	36420	Washer - Lock 3/8	5
8	36414	Nut - Hex 3/8	5
9	96746	Plate - Wiper Belt	1
10	56258	Screw - Truss Head 1/4 x 1/2	14
11	32446	Screw - Truss Head 1/4 x 3/4	2
12	36418	Washer - Lock 1/4	2
13	36412	Nut - Hex 1/4	2
14	304422	Mount - 30" Internal Wiper	1
15	304423	Rubber - 30" Internal Wiper	1

Please Give Part No., Description
& Unit Serial No.

NEW LEADER

FENDERS - FULL FLOATATION TIRES



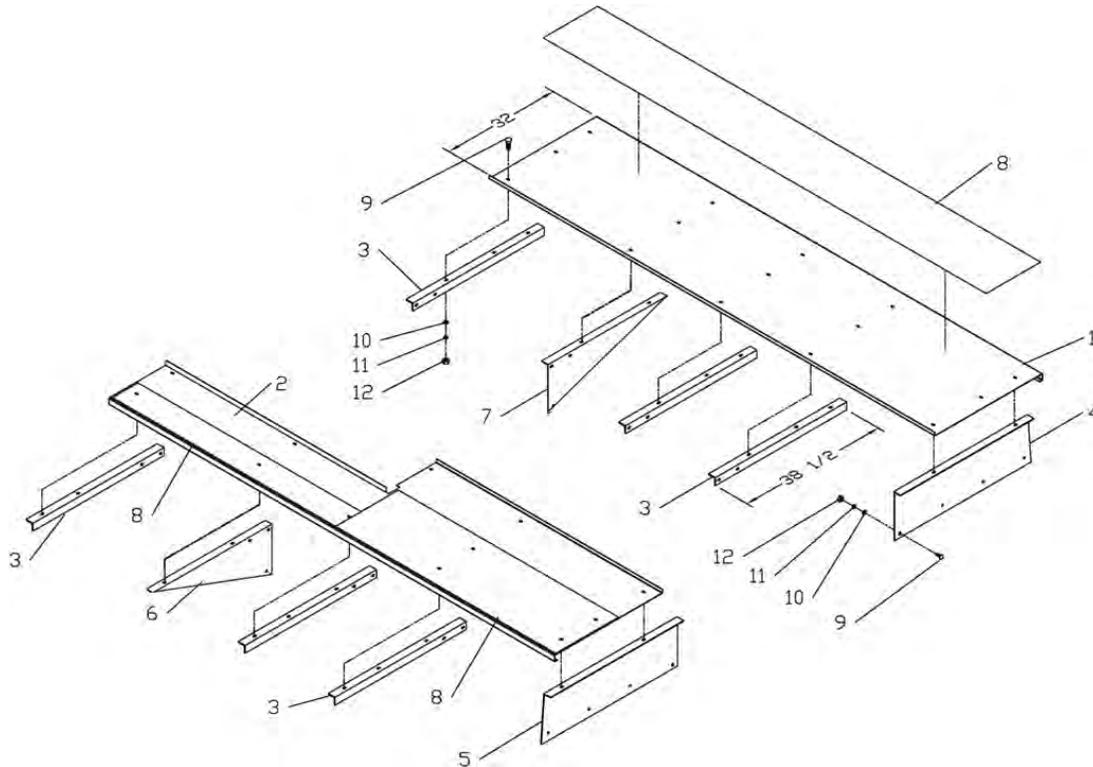
ITEM	PART NO.	DESCRIPTION	QTY
	409 SS 304 SS		
1	86614-X1 305097	Fender - RH, 13' Unit	1
	305090 305584	Fender - RH, 14' Unit	1
2	83051-X2 305096	Fender - LH, 13' Unit (with Tank Cutout & Light Mounting Holes)	1
	305091 305585	Fender - LH, 14' Unit (with Tank Cutout & Light Mounting Holes)	1
3	83021 96969	Angle - Fender	AR
4	83019 96967	Support - RH Rear	AR
5	83020 96968	Support - LH Rear	AR
6	83018 96966	Support - RH Front (without mudflaps)	1
7	83017 96965	Support - LH Front (without mudflaps)	1
8	83124 83124	Material - Non-Skid, 16" Wide	Inches
	21699 21699	Material - Non-Skid, 8" Wide	Inches
9	20318 36408	Bolt - Carriage 3/8 x 1	AR
10	20693 36425	Washer - Flat 3/8	AR
11	20712 36420	Washer - Lock 3/8	AR
12	20644 36414	Nut - Hex 3/8	AR
13	*304245 *304245	Mudflap - Midguard 1/2 x 44 x 36	2

AR - As Required

* - Not Shown

PARTS LIST

FENDERS - SUPER FLOATATION TIRES



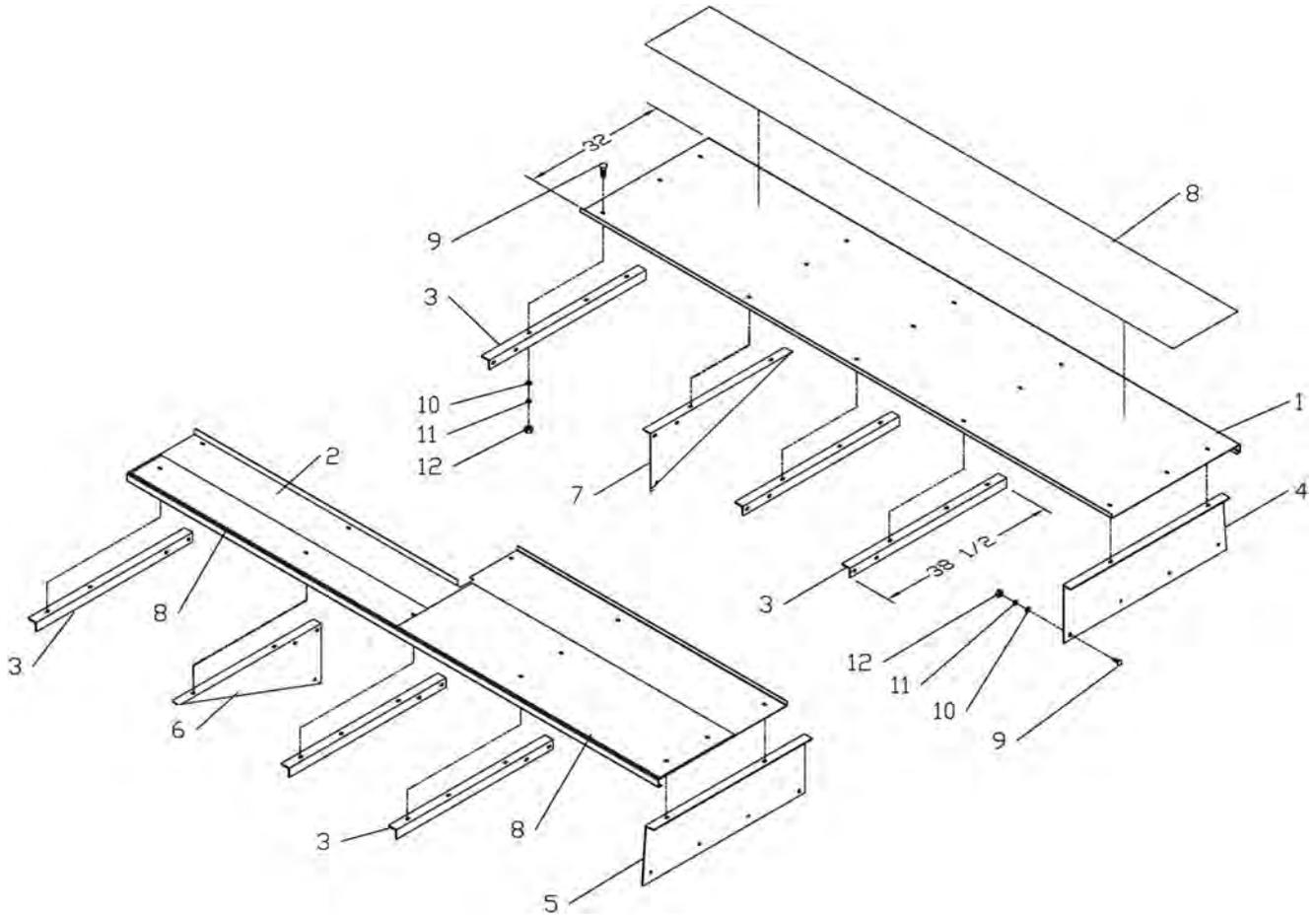
ITEM	PART NO.		DESCRIPTION	QTY
	409 SS	304 SS		
1	86614	86544	Fender - RH, 13' Unit	1
	86604	86620	Fender - RH, 14' Unit	1
2	83286-X1	83302-X1	Fender - LH, 13' Unit (with Tank Cutout & Light Mounting Holes)	1
	83316-X1	83322-X2	Fender - LH, 14' Unit (with Tank Cutout & Light Mounting Holes)	1
3	83256	96972	Angle - Fender	AR
4	83254	83254-X10	Support - RH Rear	AR
5	83255	83255-X10	Support - LH Rear	AR
6	83253	96971	Support - LH Front (without mudflaps)	1
7	83252	96970	Support - RH Front (without mudflaps)	1
8	83124	83124	Material - Non-Skid, 16" Wide	Inches
	21699	21699	Material - Non-Skid, 8" Wide	Inches
9	20318	36408	Bolt - Carriage 3/8 x 1	AR
10	20693	36425	Washer - Flat 3/8	AR
11	20712	36420	Washer - Lock 3/8	AR
12	20644	36414	Nut - Hex 3/8	AR
13	*304245	*304245	Mudflap - Midguard 1/2 x 44 x 36	2

AR - As Required

* - Not Shown

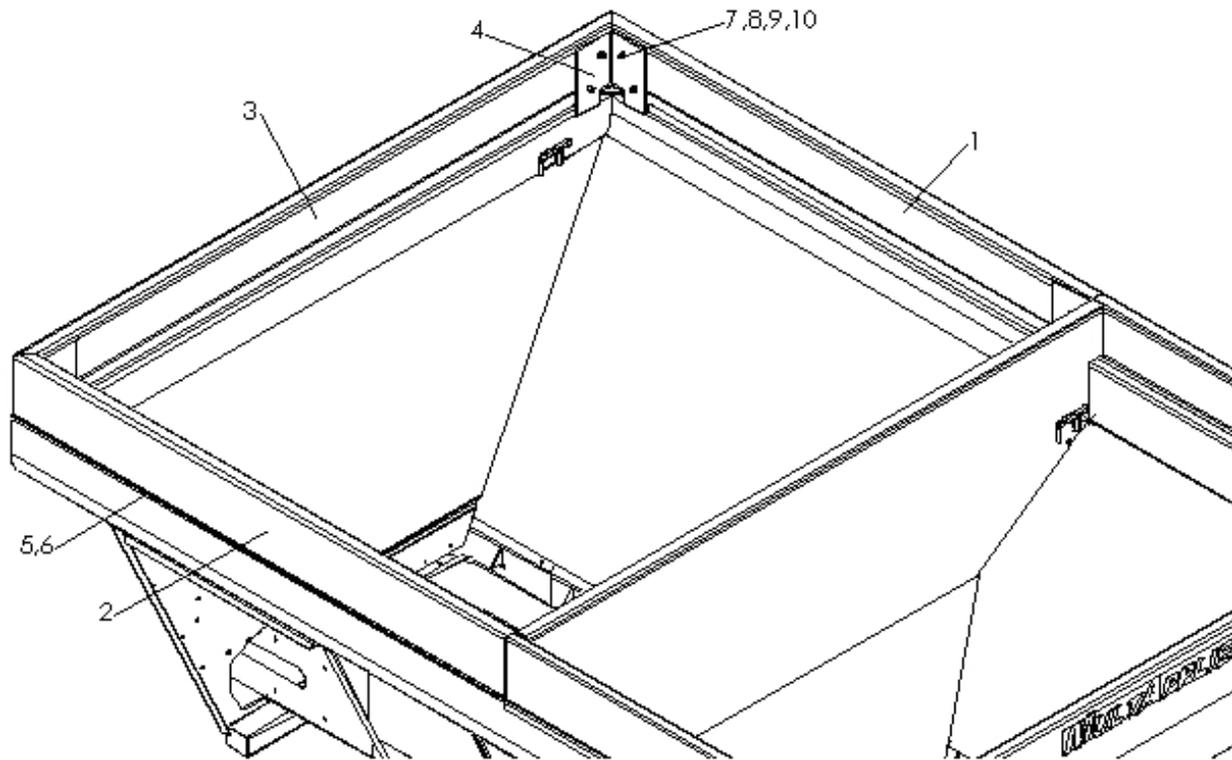
Please Give Part No., Description & Unit Serial No.





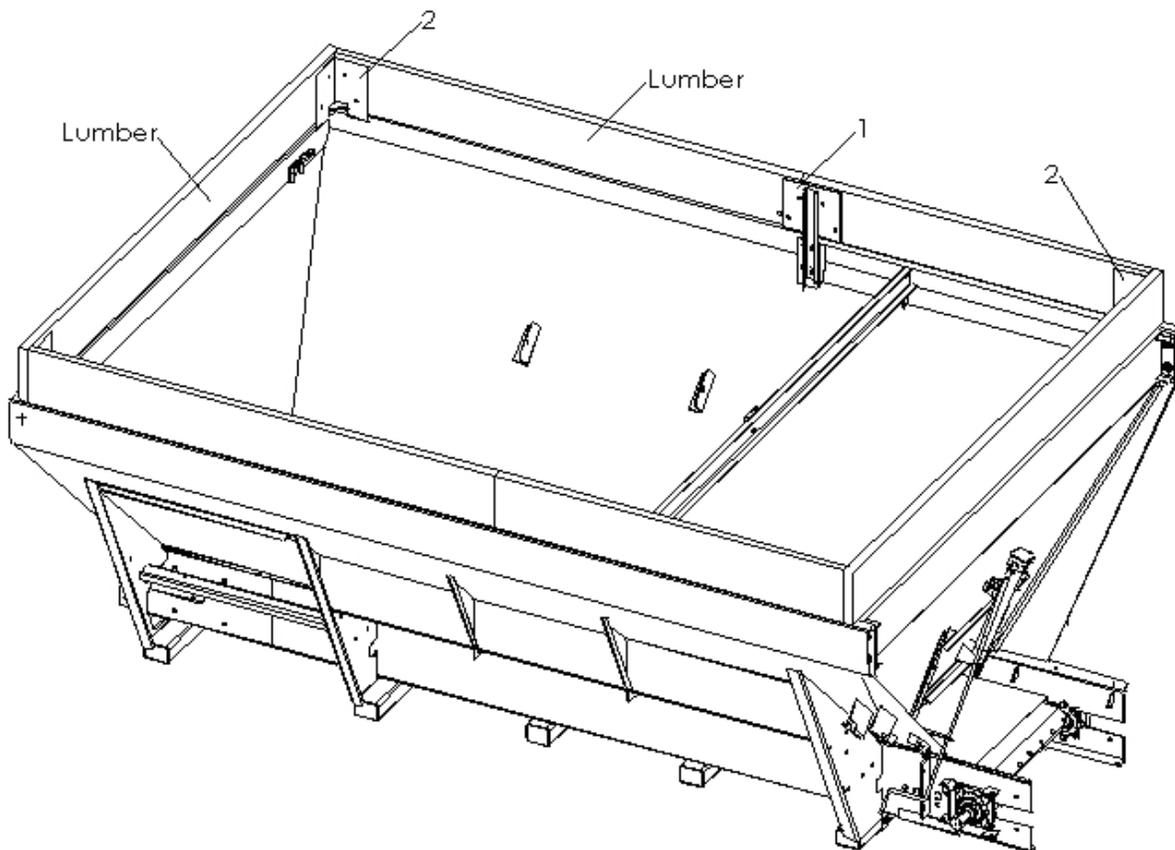
PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>		<u>DESCRIPTION</u>	<u>QTY</u>
	409 SS	304 SS		
1	86614-X2	-----	Fender - RH, 13' Unit	1
	86604-X1	-----	Fender - RH, 14' Unit	1
2	83286-X2	-----	Fender - LH, 13' Unit (with Tank Cutout)	1
	86605-X1	-----	Fender - LH, 14' Unit (with Tank Cutout)	1
3	83256-X3	96972-X1	Angle - Fender	AR
4	83254-X13	83254-X12	Support - RH Rear	AR
5	83255-X13	83255-X12	Support - LH Rear	AR
6	83253-X8	96971-X1	Support - LH Front (without mudflaps)	1
7	83252-X7	96970-X1	Support - RH Front (without mudflaps)	1
8	83124	83124	Material - Non-Skid, 16" Wide	Inches
	21699	21699	Material - Non-Skid, 8" Wide	Inches
9	20318	36408	Bolt - Carriage 3/8 x 1	AR
10	20693	36425	Washer - Flat 3/8	AR
11	20712	36420	Washer - Lock 3/8	AR
12	20644	36414	Nut - Hex 3/8	AR
13	*304245	*304245	Mudflap - Midguard 1/2 x 44 x 36	2
AR - As Required		* - Not Shown		



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	98744	Side Boards - Kit (Body w/Insert)	
1	98752	Side Board – RH Wldmt (Specify Unit Length)	1
2	98755	Side Board – LH Wldmt (Specify Unit Length)	1
3	98758	Side Board – Front Wldmt	1
4	86867	Pocket – Side Board	2
5	53950	Rubber – 1/4 x 2-1/4	AR
6	96254-AB	Adhesive – Blk Cyanoacrylate*	AR
7	36398	Cap Screw – 3/8 x 1	12
8	36425	Washer – Flat 3/8	12
9	36420	Washer – Lock 3/8	12
10	36414	Nut – Hex 3/8	12

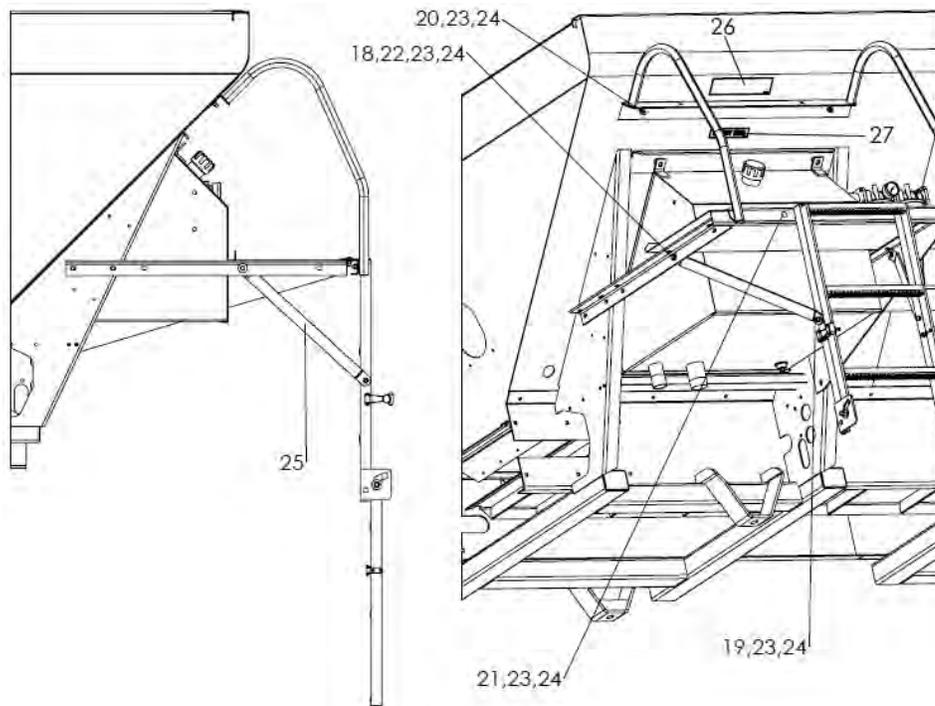
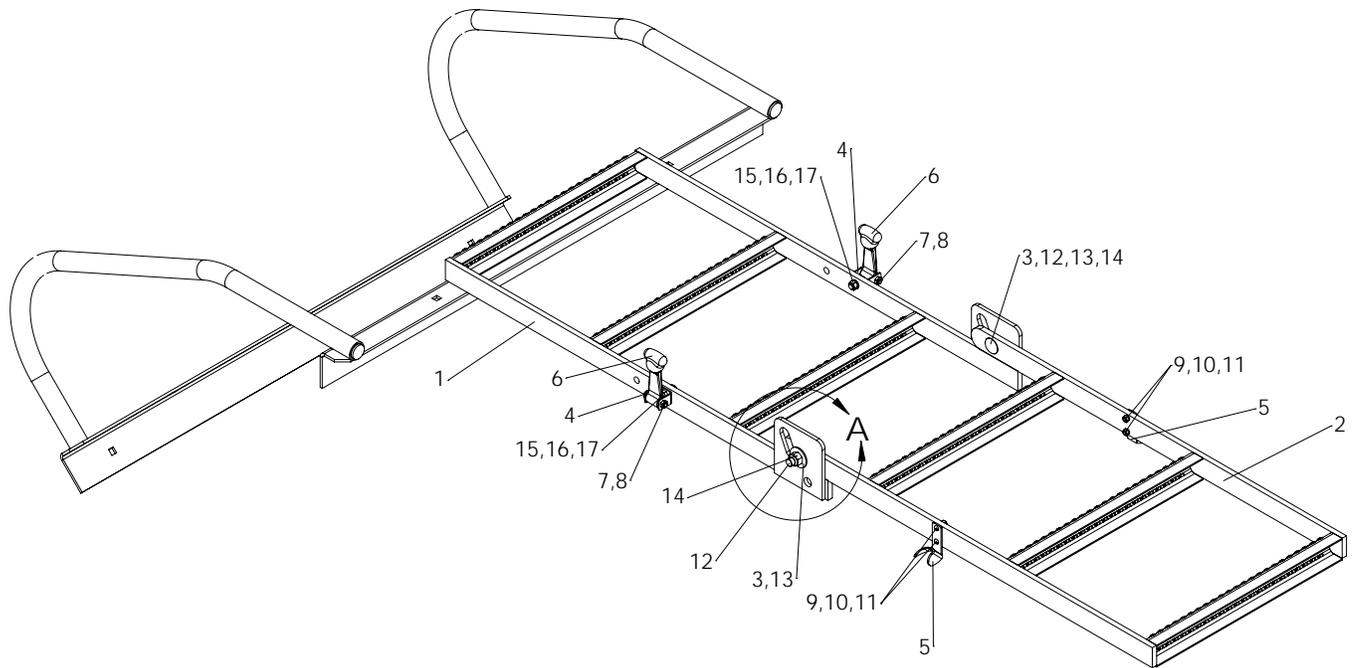
* - Use adhesive to attach rubber to bottom of side boards.



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	96283	Mount – Kit Side Board	
1	96285	Mount – Wldmt Side Board	2
2	86867	Pocket – Side Board	4
3	36401	Cap Screw – 1/2 x 1	4
4	36426	Washer – Flat 1/2	8
5	36422	Washer – Lock 1/2	4
6	36416	Nut – Hex 1/2	4

Note: Lumber not provided. Use 2 x 10 lumber cut to length for side boards. Attach to mounts with 3/8" carriage bolts (not provided).

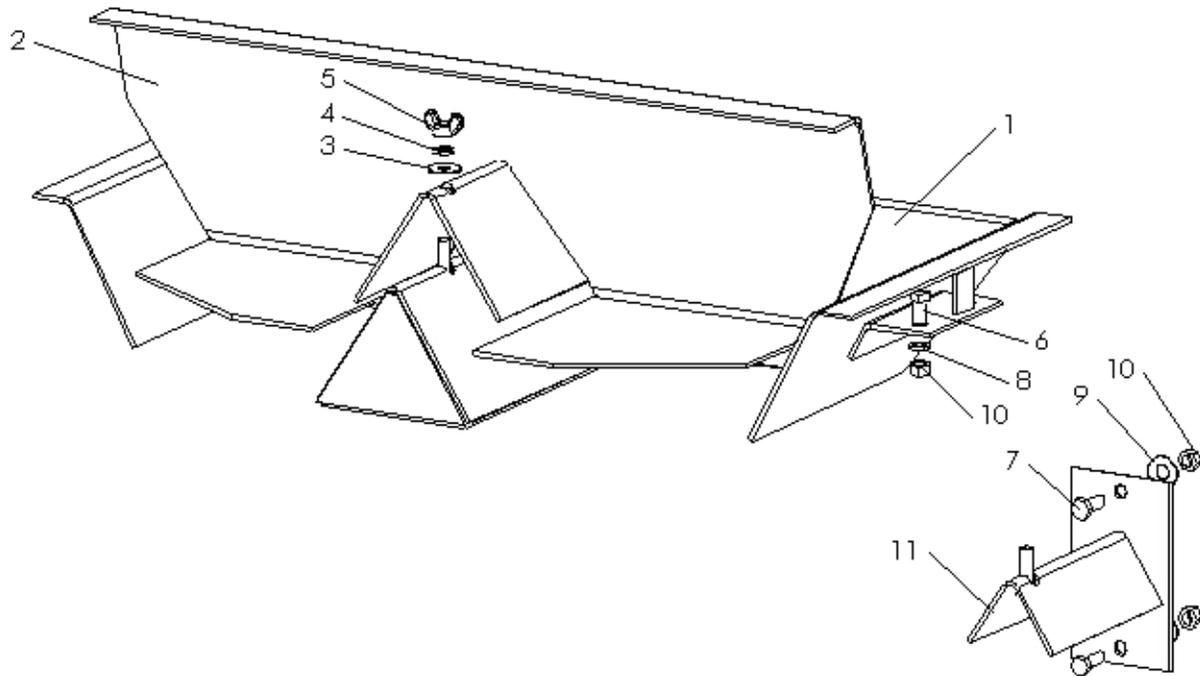
LADDER



LADDER CONTINUED

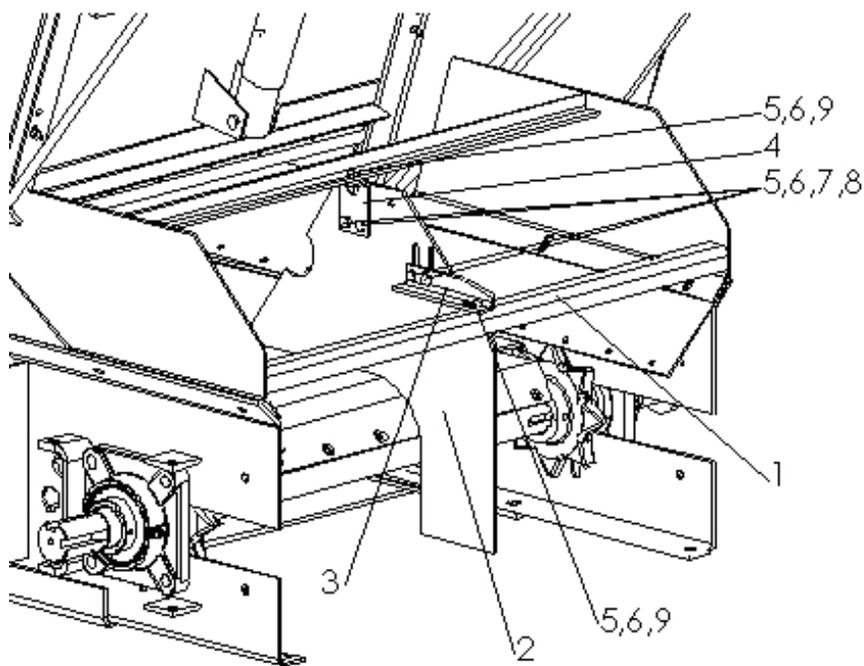
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	306113	Ladder - Assy Folding, Includes 1-17	
1	306115	Ladder - Wldmt Upper	1
2	89044	Ladder - Wldmt Lower	1
3	88638	Tube - 3/4" x 11GA x 3/8" SS	2
4	73344	Bracket - Anchor	2
5	150043	Bracket - Hood	2
6	73343	Hook - Rubber	2
7	20007	Cap Screw - 1/4-20 x 1-1/2	2
8	20676	Nut - Lock 1/4-20NC	2
9	20572	Screw - #10-24 x 3/4	4
10	20709	Washer - Lock 1/4-20NC	4
11	20641	Nut - Hex #10-20NC	4
12	20366	Bolt - Carriage 1/2-13 x 1-1/2	2
13	20695	Washer - Flat 1/2	2
14	20680	Nut - Lock 1/2-13NC	2
15	20035	Cap Screw - 5/16-18 x 7/8	2
16	20711	Washer - Lock 5/16	2
17	20643	Nut - Hex 5/16-18NC	2
18	20069	Cap Screw - 3/4 x 1-1/2	2
19	20068	Cap Screw - 3/8x 1-1/4	2
20	20067	Cap Screw - 3/8 x 1	2
21	20318	Bolt - Carriage 3/8 x 1	4
22	20693	Washer - Flat 3/8	2
23	20712	Washer - Lock 3/8	10
24	20644	Nut - Hex 3/8	10
25	305792	Strap - Support Ladder	2
26	306274	Decal - Warning, Falling Hazard	1
27	305272	Decal - Do Not Ride	1

MATERIAL DIVIDER



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	87108	Divider – Material Assy	
1	87054	Divider – Wldmt	1
2	87064	Deflector – Rear Wldmt	1
3	36425	Washer – Flat 3/8 SS	1
4	36420	Washer – Lock 3/8 SS	1
5	20673	Nut – Wing 3/8	1
6	36293	Cap Screw – 3/8 x 3/4	2
7	36398	Cap Screw – 3/8 x 1 SS	2
8	36420	Washer – Lock 3/8	2
9	36425	Washer – Flat 3/8 SS	2
10	36414	Nut – Hex 3/8 SS	4
11	87381	Mount – Divider Wldmt	1

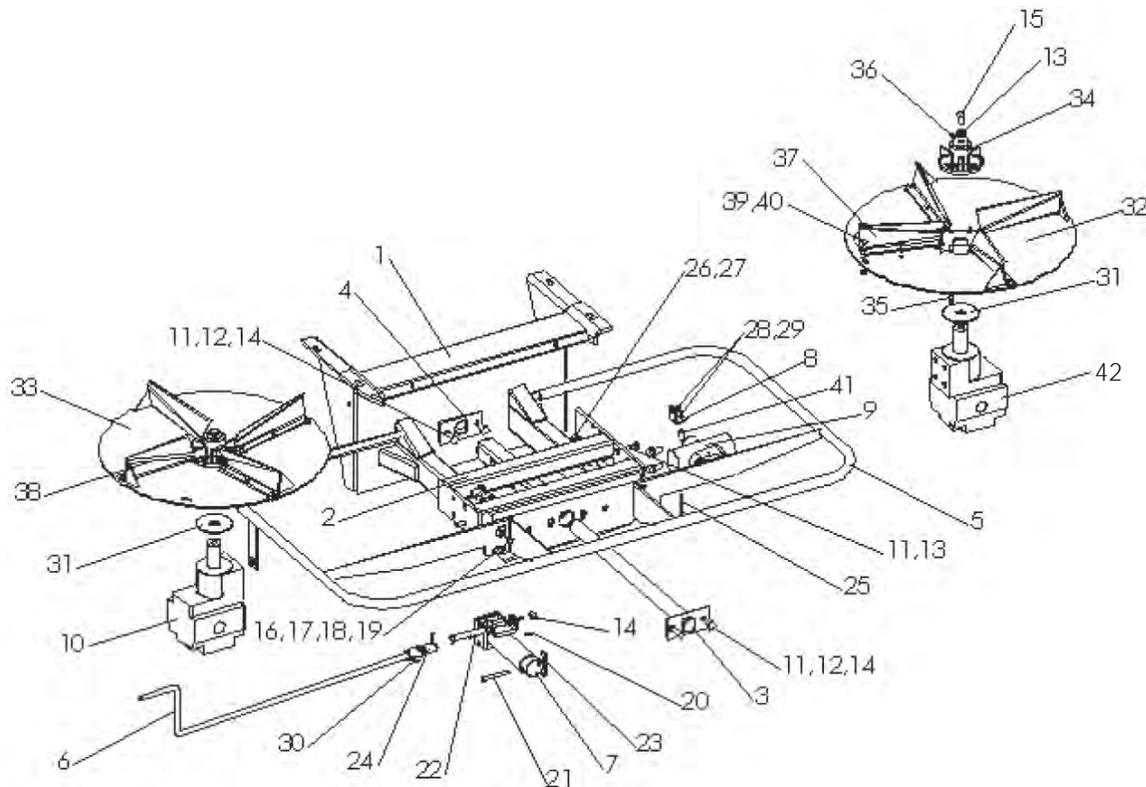
Mount Item 11 on truck to hold Item 2 when not in use.



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	86788	Bracket – Wldmt Support	1
2	82288	Panel – Hillside Divider	1
3	56879	Bracket – Clamp	1
4	56880	Angle – Clamp	1
5	34580	Cap Screw – 5/16 x 1	6
6	36424	Washer – Flat 5/16	8
7	36419	Washer – Lock 5/16	4
8	36413	Nut – Hex 5/16	4
9	42221	Nut – Lock 5/16	2

Note: Use chain shield hardware to attach Item 1 to sills.

24" HYDRAULIC FANS



ITEM	PART NO.	DESCRIPTION	QTY
	305946	24" Hydraulic Fan Assy 1/4" Disc, Includes 1-45	
	305947	24" Hydraulic Fan Assy, Includes: 1-45	
	87105	Disc - Assy RH, Includes: 32,34-37, 39-40	
	87106	Disc - Assy LH, Includes: 33-36, 38-40	
	87105-X2	Disc - Assy RH 1/4", Includes: 32,34-37, 39-40	
	87106-X2	Disc - Assy LH 1/4", Includes: 33-36, 38-40	
1	87090	Plate – Back	1
2	87082	Mount – Motor Wldmt	1
3	87021	Shaft – Support Wldmt	1
4	87023	Plate – Shaft Mount	1
5	87032-X1	Guard – Spinner Wldmt	1
6	87024	Handle	1
7	87170	Jack – Coated Assy	1
8	87025	Angle – Valve Mount	1
9	71781	Valve – Flow Divider	1
10	305948	Motor – Assy LH Style II, see <i>Spinner Hydraulics</i> parts list	1
11	36402	Cap Screw - 1/2 x 1-1/4	12
12	36426	Washer – Flat 1/2	4
13	36422	Washer – Lock 1/2	10

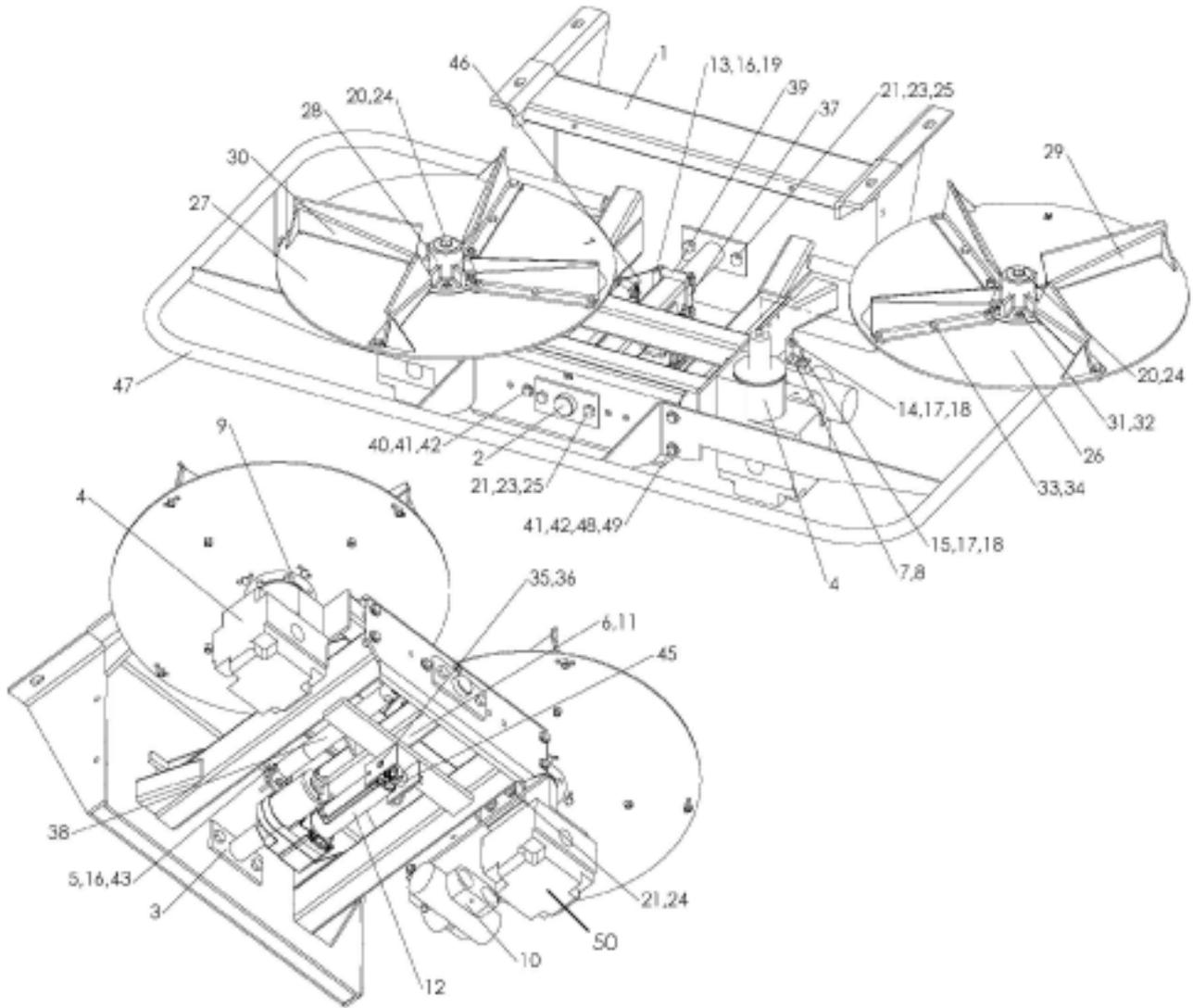
PARTS LIST



24" HYDRAULIC FANS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
14	39016	Nut – Lock 1/2	5
15	36401	Cap Screw - 1/2 x 1	2
16	36398	Cap Screw - 3/8 x 1	4
17	36425	Washer – Flat 3/8	4
18	36420	Washer – Lock 3/8	4
19	36414	Nut – Hex 3/8	4
20	6072	Zerk – Grease	2
21	6547	Pin – Clevis	1
22	80798	Cap Screw – 1/2 x 3-3/4	1
23	36429	Pin – Hair	1
24	85002	U-Joint	1
25	34865	Cap Screw – 1/4 x 2 1/4	1
26	36395	Cap Screw – 1/4 x 1	1
27	36423	Washer – Flat 1/4	1
28	36418	Washer – Lock 1/4	2
29	36412	Nut – Hex 1/4	2
30	20918	Pin – Roll	2
31	305571	Washer – Rubber	2
32	27056-X4	Disc – Distributor RH	1
	57830-X2	Disc – Distributor RH 1/4"	1
33	27056-X5	Disc – Distributor LH	1
	57830-X3	Disc – Distributor LH 1/4"	1
34	10877	Hub	2
35	20004	Cap Screw - 1/4 x 7/8	12
36	20676	Nut - Lock 1/4	12
37	25870	Fin - RH Wldmt	4
38	25871	Fin – LH Wldmt	4
39	20034	Cap Screw – 5/16 x 3/4	24
	20035	Cap Screw - 5/16 x 7/8 (1/4" disc)	24
40	20677	Nut – Lock 5/16	24
41	76825	Hinge - Pipe 1/4 x 1	1
42	305949	Motor - Assy RH Style II, see <i>Spinner Hydraulics</i> parts list	1
43	*36940	Bolt – Carriage 1/2 x 2	4
44	*36426	Washer – Flat 1/2	4
45	*36422	Washer – Lock 1/2	4
46	*36416	Nut – Hex 1/2	4
47	*56397-X1	Washer - 9/16 x 1-1/8 OD x 14GA	2

* - Not Shown – 43 through 46 used to attach spinner to sills.



PARTS LIST

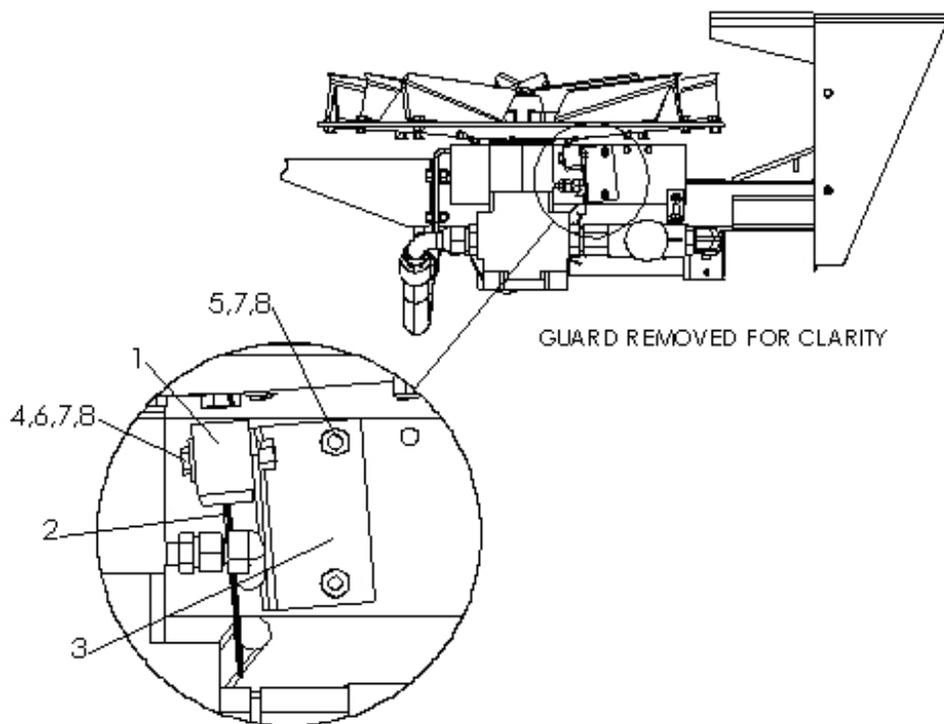
24" HYDRAULICS FANS W/ACTUATOR CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305595	24" Hydraulic Fan Assy, Includes 1-53	
	305596	24" Hydraulic Fan Assy 1/4" Disc, Includes 1-54	
	87106	Fan – LH Assy, Includes 27,28,30-34	1
	87105	Fan – RH Assy, Includes 26,28,29,31-34	1
	87106-X2	Fan - LH Assy, Includes 27,28,30-34	1
	87105-X2	Fan - RH Assy, Includes 26,28,29,31-34	1
1	87090	Plate – Back	1
2	87021	Shaft – Support Wldmt	1
3	87023	Plate – Shaft Mount	1
4	305948	Motor – Assy LH Style II, see <i>Spinner Hydraulics</i> parts list	1
5	41779	Pin – Hair 1-7/16 x .073	2
6	87082	Mount – Motor Wldmt	1
7	87025	Angle – Valve Mount	1
8	76825	Hinge - Pipe 1/4 x 1	1
9	305571	Washer – Rubber	2
10	71781	Valve – Flow Divider	1
11	6072	Zerk – Grease	2
12	302216	Actuator – Electric 5" Stroke	1
13	36396	Cap Screw – 1/4-20 x 3	2
14	36395	Cap Screw – 1/4 x 1	1
15	34865	Cap Screw – 1/4 x 2 1/4	1
16	36423	Washer – Flat 1/4	7
17	36418	Washer – Lock 1/4	2
18	36412	Nut – Hex 1/4	2
19	42034	Nut – Lock 1/4-20	2
20	36401	Cap Screw – 1/2 x 1	2
21	36402	Cap Screw – 1/2 x 1 1/4	12
22	* 80798	Cap Screw – 1/2 x 3-3/4	1
23	36426	Washer – Flat 1/2	4
24	36422	Washer – Lock 1/2	10
25	39016	Nut – Lock 1/2	5
26	27056-X4	Disc – Distributor RH	1
	57830-X2	Disc – Distributor RH 1/4"	1
27	27056-X5	Disc – Distributor LH	1
	57830-X3	Disc – Distributor LH 1/4"	1
28	10877	Hub	2
29	25870	Fin – RH Wldmt	4

24" HYDRAULICS FANS W/ACTUATOR CONTINUED

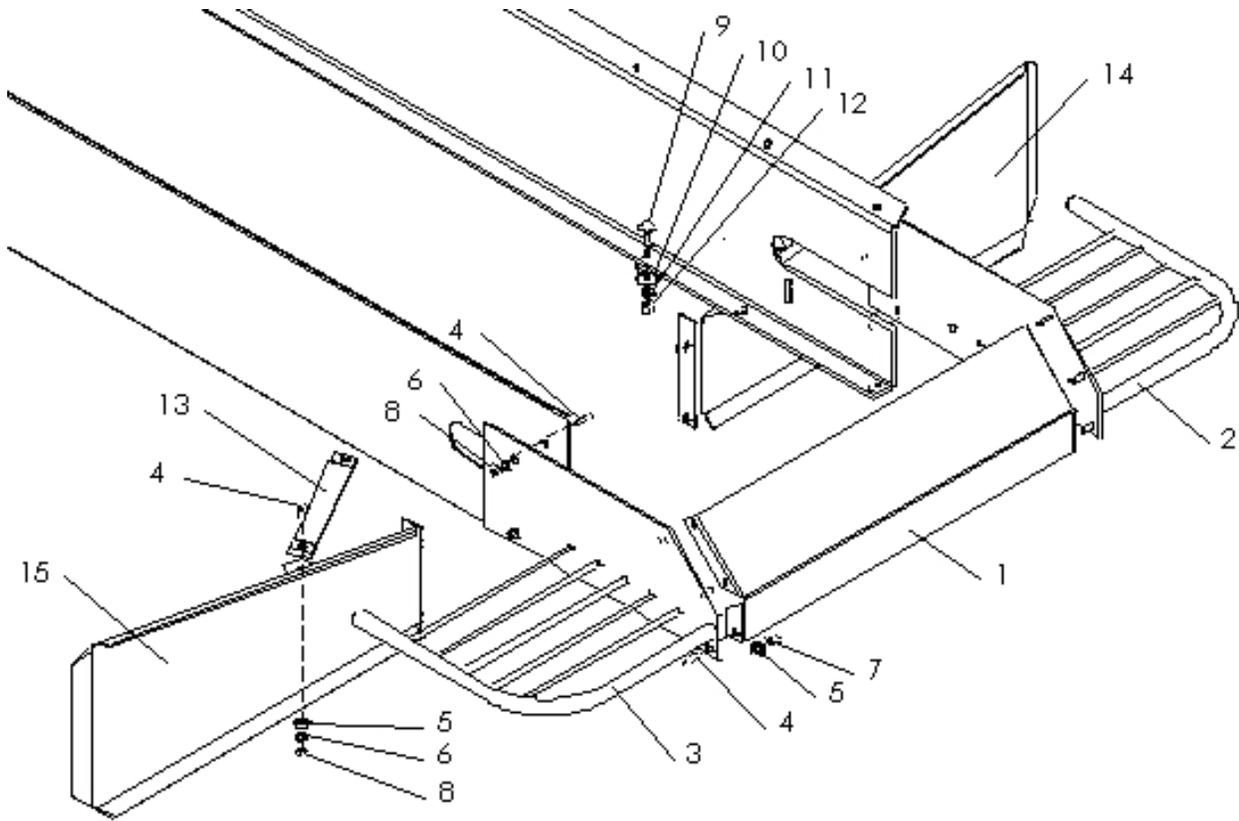
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
30	25871	Fin – LH Wldmt	4
31	20004	Cap Screw – 1/4 x 7/8	6
32	20676	Nut – Lock 1/4	6
33	20034	Cap Screw – 5/16-18 x 3/4	12
	20035	Cap Screw - 5/16 x 7/8 (1/4" disc)	12
34	20677	Nut – Lock 5/16	12
35	6547	Pin – Clevis 3/8 x 3	1
36	36429	Pin – Hair 2-9/16 x .148	1
37	302772	Plate – Washer	1
38	302751	Sensor – Assy 5"	1
39	302771	Pipe – 1/4 Sch80 x 2	2
40	302768	Mount – Sensor Rod	1
41	36398	Cap Screw – 3/8 x 1	5
42	36425	Washer – Flat 3/8	5
43	302778	Pin – Clevis 1/4 x 1-3/4	1
44	* 98476	Pin – Clevis 1/4 x 1-1/2	1
45	303941	Spacer – Actuator Mount	2
46	302775	Clevis – Wldmt Sensor Mount	1
47	87032-X1	Guard – Spinner Wldmt	1
48	36420	Washer – Lock 3/8	4
49	36414	Nut – Hex 3/8	4
50	305949	Motor - Assy RH Style II, see <i>Spinner Hydraulics</i> parts list	1
51	* 36940	Bolt – Carriage 1/2 x 2	4
52	* 36426	Washer – Flat 1/2	4
53	* 36422	Washer – Lock 1/2	4
54	* 36416	Nut – Hex 1/2	4
55	*56397-X1	Washer - 9/16 x 1-1/8 x 14GA	2

* - Not Shown – 51 through 54 used to attach spinner to sills.



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	97310	Sensor – Kit Spinner	
1	89011	Sensor – Assy	1
2	89009	Cable – Sensor Extension	1
3	86672	Bracket	1
4	42448	Cap Screw – 1/4 x 1-1/2 SS	2
5	36393	Cap Screw – 1/4 x 3/4 SS	2
6	36423	Washer – Flat 1/4 SS	3
7	36418	Washer – Lock 1/4 SS	6
8	36412	Nut – Hex 1/4 SS	6

SPINNER GUARD & SHIELDS



WARNING

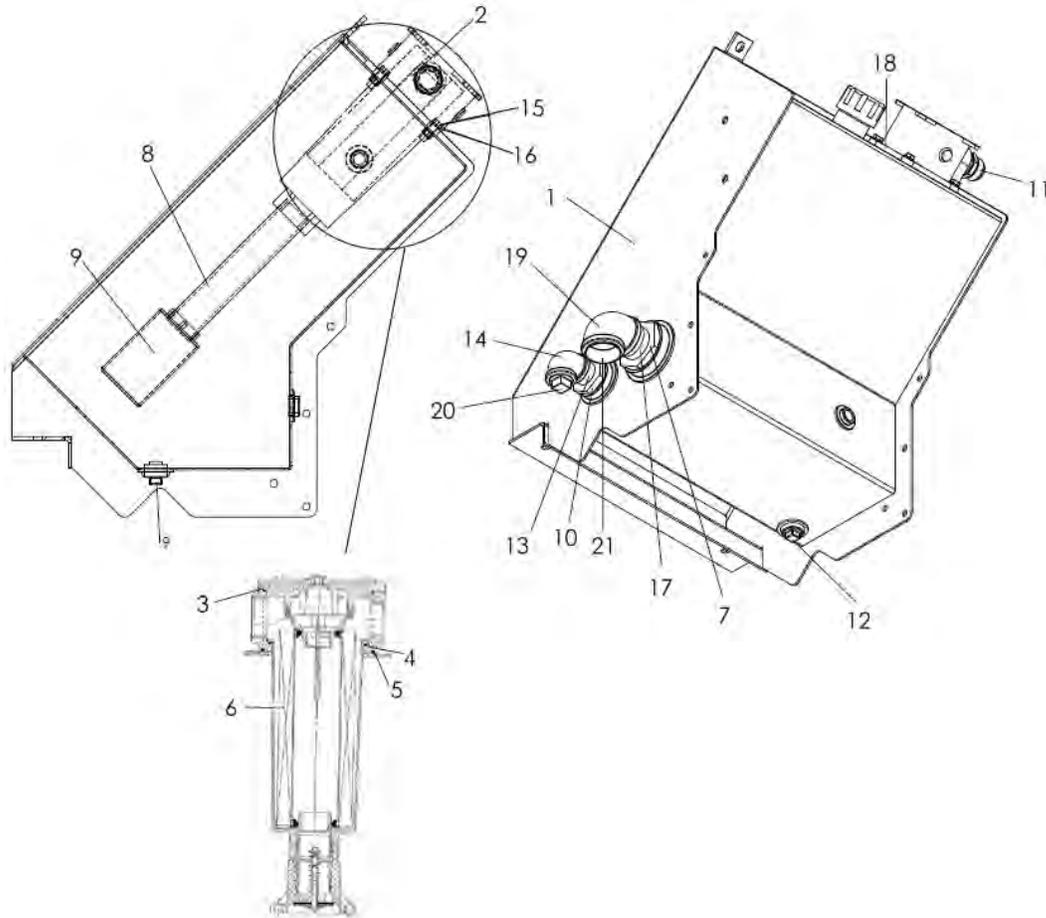
Guards are intended to reduce hazard of entanglement with machinery and injury. All guards must be installed per this drawing before spreader is put into operation.

PARTS LIST

SPINNER GUARD & SHIELDS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	87066-X1	Guard – Center Section Wldmt	1
2	87027-X1	Guard – RH Wldmt	1
3	87031-X1	Guard – LH Wldmt	2
4	36398	Cap Screw - 3/8 x 1	18
5	36425	Washer – Flat 3/8	14
6	36420	Washer – Lock 3/8	14
7	72054	Nut – Lock 3/8	6
8	36414	Nut – Hex 3/8	14
9	36940	Bolt – Carriage 1/2 x 2	2
10	36426	Washer – Flat 1/2	2
11	36422	Washer – Lock 1/2	2
12	36416	Nut – Hex 1/2	2
13	87068	Bar – Stiffener	2
	305040	Bar – Stiffener Lower 304	2
14	305043	Shield – RH Wldmt 108"	1
	305075	Shield – RH Wldmt 126"	1
15	305044	Shield – LH Wldmt 108"	1
	305076	Shield – LH Wldmt 126"	1

RESERVOIR

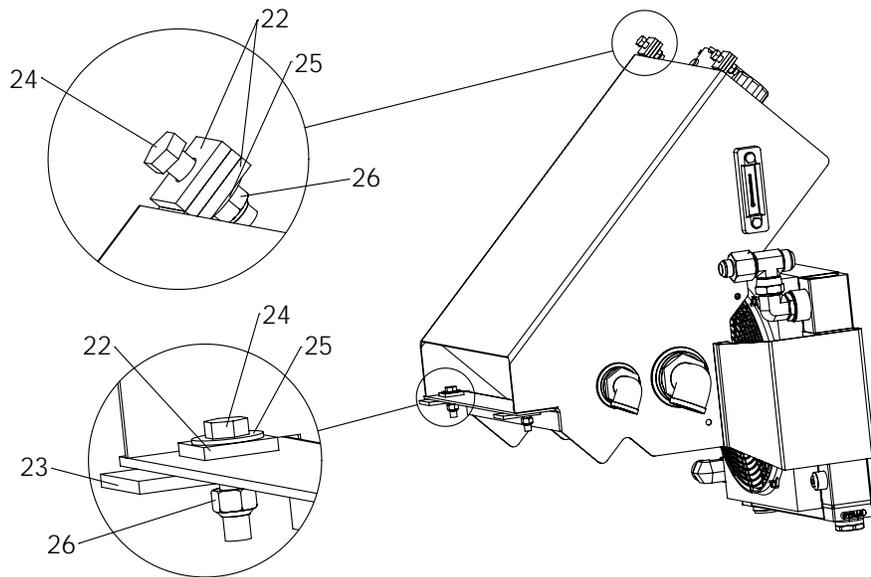
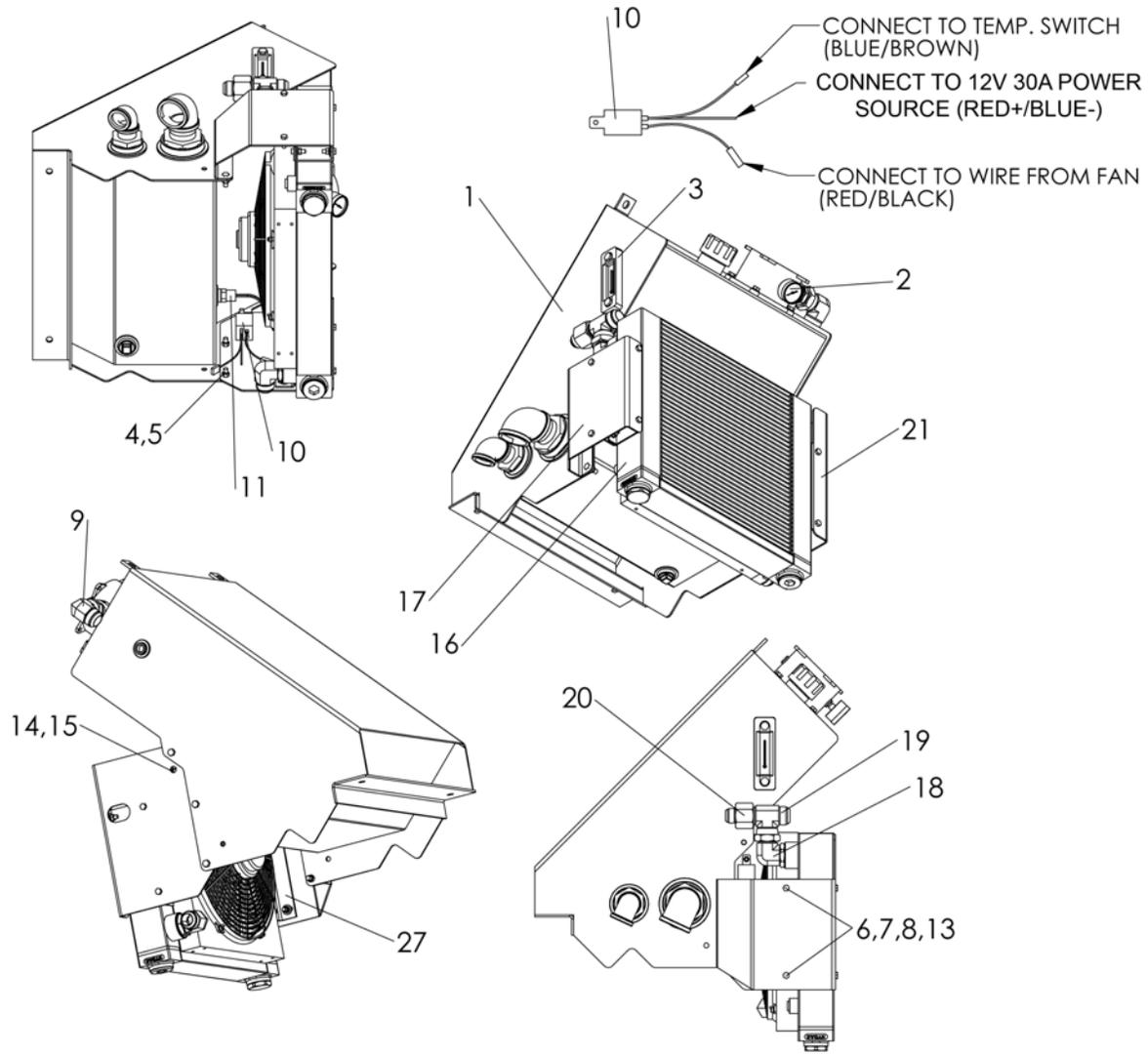


PARTS LIST

RESERVOIR CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305054	Hydraulic Tank Assy	
	306080	Hydraulic Tank Assy 304	
1	305050	Tank – Hydraulic Wldmt	1
	306074	Tank - Hydraulic Wldmt 304	1
2	88838	Filter – Return, Includes 3-6	1
3	306772	O-Ring - Cover Filter	1
4	306773	O - Ring - Housing Filter	1
5	306789	Seal - Filter Assy	1
6	305066	Element - Filter	1
7	305063	Strainer – 2 NPT	1
8	305058	Pipe – 1.5 SCH40 10	1
9	305057	Diffuser – Tank	1
10	305062	Strainer – 1-1/4 NPT	1
11	29768	Fitting – 20-20 070102	1
12	305061	Plug – Magnetic 1 NPT	1
13	6028	Nipple - Close 1-1/4 NPT	1
14	6011	Elbow 90° 2 NPT	1
15	20068	Cap Screw – 3/8-16 x 1-1/4	4
	36399	Cap Screw - 3/8-16 x 1-1/4 SS	4
16	20712	Washer – Lock 3/8	4
	36420	Washer - Lock 3/8 SS	4
17	22324	Nipple - Close 2 NPT STD	1
18	306186	Gasket Maker - Silicone	1
19	23703	Adapter - Elbow 90° 2 NPT	1
20	6035	Plug - Pipe 1-1/4 NPT	1
18	306301	Plug - Tapered 2 NPT	1

RESERVOIR W/COOLER



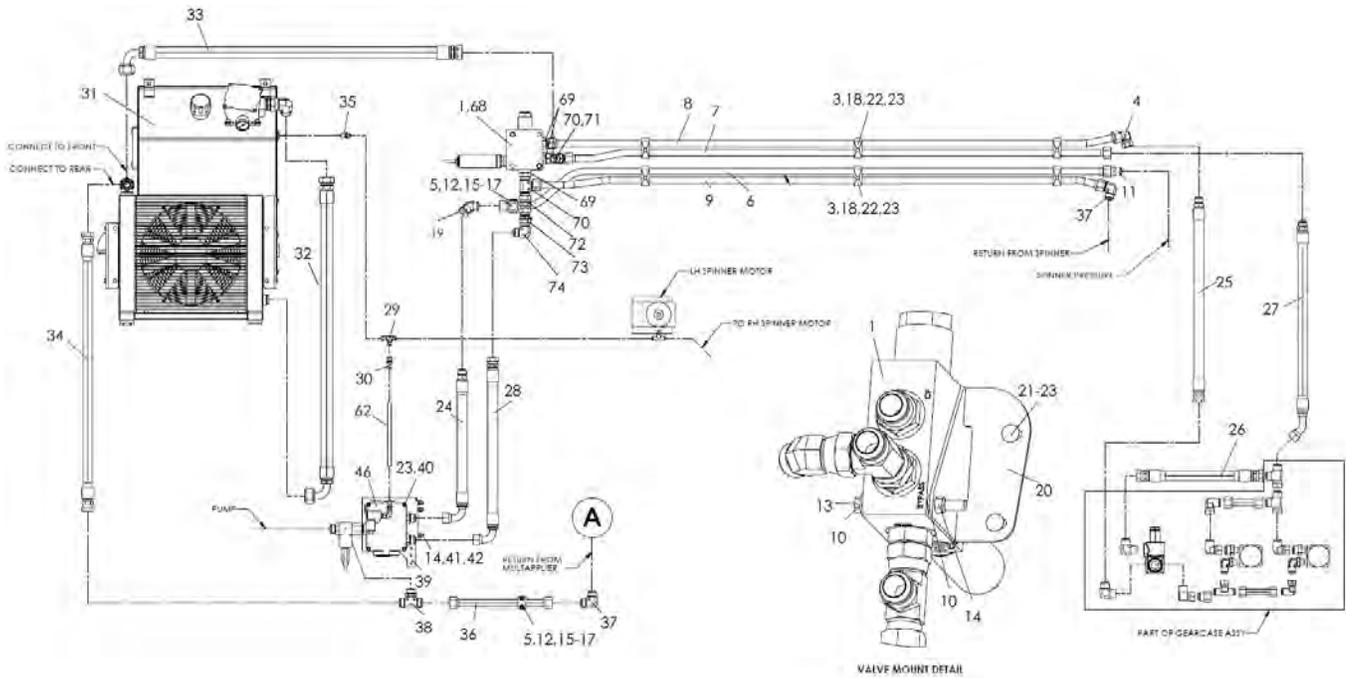
PARTS LIST

RESERVOIR W/COOLER CONTINUED

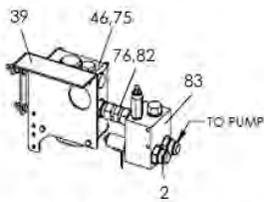
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305751	Reservoir – Mount Assy , Includes: 1-27	1
	306082	Reservoir – Mount Assy 304, Includes 1-27	1
	305533	Cooler Tank Assy, Includes 1-21,27	1
	306081	Cooler Tank Assy 304, Includes 1-21,27	1
1	305054	Hydraulic Tank Assy	1
	306080	Hydraulic Tank Assy 304	1
2	43534	Indicator – Service	1
3	38575	Gauge – Sight & Temperature	1
4	36398	Cap Screw – 3/8-16NC x 1 SS	5
5	72054	Nut – Lock 3/8 SS	5
6	36424	Washer – Flat 5/16	8
7	34580	Cap Screw - 5/16 x 1	8
8	36413	Nut – Hex 1/3-18NC SS	8
9	98568	Fitting – 20-20 070221	1
10	96750-X1	Relay – 12VDC 40A	1
11	305074	Switch – Temperature 114°	1
12	*98662	Hose – 1-1/4” 2CB x 48”	1
13	36419	Washer – Lock 5/16 SS	8
14	56258	Screw – Truss Head 1/4-20 x 1/2 SS	1
15	42034	Nut – Lock 1/4-20 SS	1
16	305767	Cooler – Assy	1
	*305767-AA	Core - Cooler	1
	*305767-AB	Fan - Assy Cooler	1
	*305767-AC	Housing - Cooler	1
17	305761	Bracket – Cooler LH	1
18	96916	Fitting – 20-20 070220	2
19	56267	Fitting – 20-20 070433	1
20	34819	Fitting – 20-16 070123	1
21	305760	Bracket – Cooler RH	1
22	39159	Belt – Spacer	6
23	39158	Belt – Flex Mount	2
24	36403	Cap Screw – 1/2-13 x 2 SS	4
25	36426	Washer – Flat 1/2 SS	6
26	39016	Nut – Lock 1/2-13NC SS	4
27	306447	Bracket - Cooler Mount	2

* - Not Shown

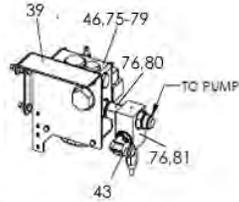
LEFT HAND HYDRAULICS



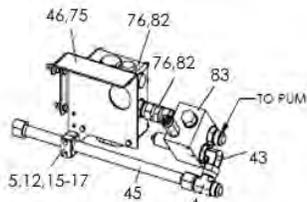
NOTE: Multiplier Complete with PWM Valve Shown



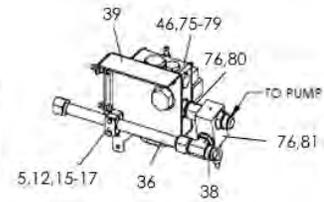
MANUAL SPINNER VALVE NO MULTAPPLIER



PWM SPINNER VALVE NO MULTAPPLIER

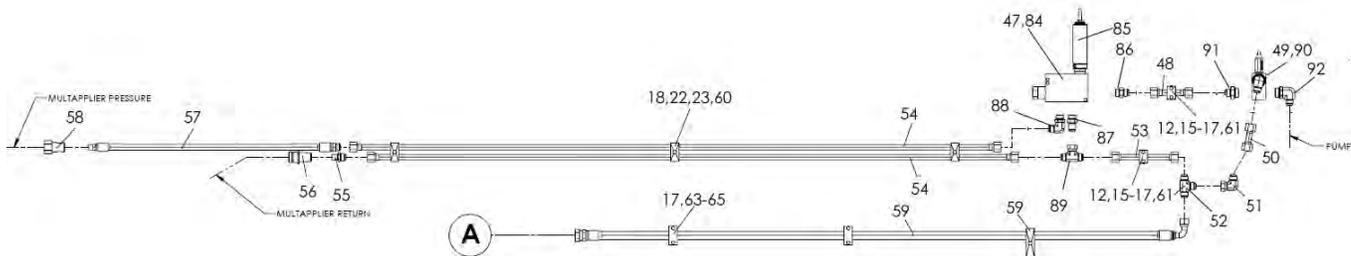


MANUAL SPINNER VALVE WITH MULTAPPLIER



PWM SPINNER VALVE WITH MULTAPPLIER

RIGHT HAND HYDRAULICS



PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	306290	Valve, Assy SFP 40 GPM, Includes 68-74	1
2	29803	Fitting - 16-16 070120	AR
3	300033	Clamp - Tubing Twin 1"	6
4	29807	Fitting - 16-16 070321	1
5	86557	Clamp - Tube 1"	AR
6	302424	Tube - 1" OD x 91" Assy 304 13' Unit	1
	302425	Tube - 1" OD x 103" Assy 304 14' Unit	1
7	302417	Tube - 1" OD x 81" Assy 304 13' Unit	1
	302418	Tube - 1" OD x 93" Assy 304 14' Unit	1
8	302410	Tube - 1" OD x 85" Assy 304 13' Unit	1
	302411	Tube - 1" OD x 97" Assy 304 14' Unit	1
9	302431	Tube - 1" OD x 85" Assy 304 13' Unit	1
	302432	Tube - 1" OD x 97" Assy 304 14' Unit	1
10	302099	Washer - Step	4
11	34719	Adapter - Union	1
12	86556	Plate - Cover Hydraulic Tube Clamp	AR
13	34860	Cap Screw - 3/8-16 x 4 SS	2
14	72054	Nut - Lock 3/8 SS	5
15	34865	Cap Screw - 1/4-20 NC x 2-1/4	AR
16	36423	Washer - Flat 1/4 SS	AR
17	42034	Nut - Lock 1/4-20NC SS	AR
18	71830	Cap Screw - 5/16-18NC x 2-1/2 SS	AR
19	29806	Adapter - Elbow, 45°	1
20	305914	Bracket - Wldmt Valve Mounting	1
21	42639	Bolt - Carriage 5/16 x 1 SS	1
22	36424	Washer - Flat 5/16	AR
23	42221	Nut - Lock 5/16-18 SS	AR
24	302345	Hose - Assy 1" x 22-1/2" 100 R12	1
25	302346	Hose - Assy 1" x 31" 100R2	1
26	82319	Hose - Assy 1" x 19" 2CB	1
27	42996	Hose - Assy 1" x 32-7/8" 2CB	1
28	56394	Hose - Assy 1" x 27-1/2" 100R2	1
29	98724	Fitting - Tee Run	1
30	34761	Fitting - Socketless	1
31	305050	Tank - Hydraulic Wldmt	1
	306080	Tank - Hydraulic Wldmt 304	1
32	98662	Hose 1-1/4" 2CB x 48"	1

STANDARD HYDRAULICS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
33	305917	Hose - Assy 1-1/4" x 50-1/2" 2CB	1
34	82599	Hose - Assy 1" x 42" 2CB Return	1
35	29766	Fitting - 6-6 070102	1
36	302436	Tube - Assy 1" OD x 14-3/8"	1
37	29783	Fitting - 6-6 070221	1
38	34750	Fitting - 16-16-16 070433	1
39	302397	Bracket - Valve Mount	1
40	42794	Cap Screw - 5/16-18NC x 3-3/4 SS	4
41	36398	Cap Screw - 3/8-16 NC x 1 SS	3
42	36425	Washer - Flat 3/8 SS	3
43	29840	Fitting - 16-16 070221	1
44	29836	Fitting - 16-16-16 070433	1
45	302435	Tube - Assy 1" OD x 19-3/4"	1
46	305910	Valve - Assy Control PWM, Includes 75-81	1
	305918	Valve - Assy Control Manual, Includes 75,76,82,83	1
47	306292	Valve - Assy SFP 9 GPM, Includes 84-89	1
48	98644	Tube - Assy 3/4" OD x 5" 304	1
49	98650	Valve - Relief Assy 1500 PSI, Includes 90-93	1
50	98643	Tube - Assy 3/4" OD x 2-7/8" 304	1
51	34709	Fitting - 12-12 070221	1
52	29792	Fitting - 12-12-12 070401	1
53	302720	Tube - Assy 3/4" OD x 8-1/2"	1
54	98640	Tube - Assy 3/4" OD x 92" 13' Unit	2
	98641	Tube - Assy 3/4" OD x 104" 14' Unit	2
55	29784	Fitting - 12-8 070102	1
56	96652	Disconnect - Quick Nipple	1
57	98668	Hose - Assy 1/2" 100R1 x 36"	1
58	96651	Disconnect - Quick Hex Nut	1
59	305919	Hose - Assy 3/4" x 87" 2CB	1
60	75036	Clamp - Tubing Twin 3/4"	3
61	98649	Clamp - Pair - 3/4" Tube	2
62	34195-48	Hose - 3/8" x 48"	1
63	96926	Clamp - Pair - 1-1/4" Tube	2
64	96925	Plate - Top 1-1/4" Tube SS	2
65	36396	Cap Screw - 1/4-20NC x 3 SS	4
66	305928	Clamp - Tubing Twin 1-1/4"	1
67	306030	Cap Screw - 5/16-18NC x 3-1/4 304	1
68	306270	Valve - Assy Control 40 GPM SFP	1

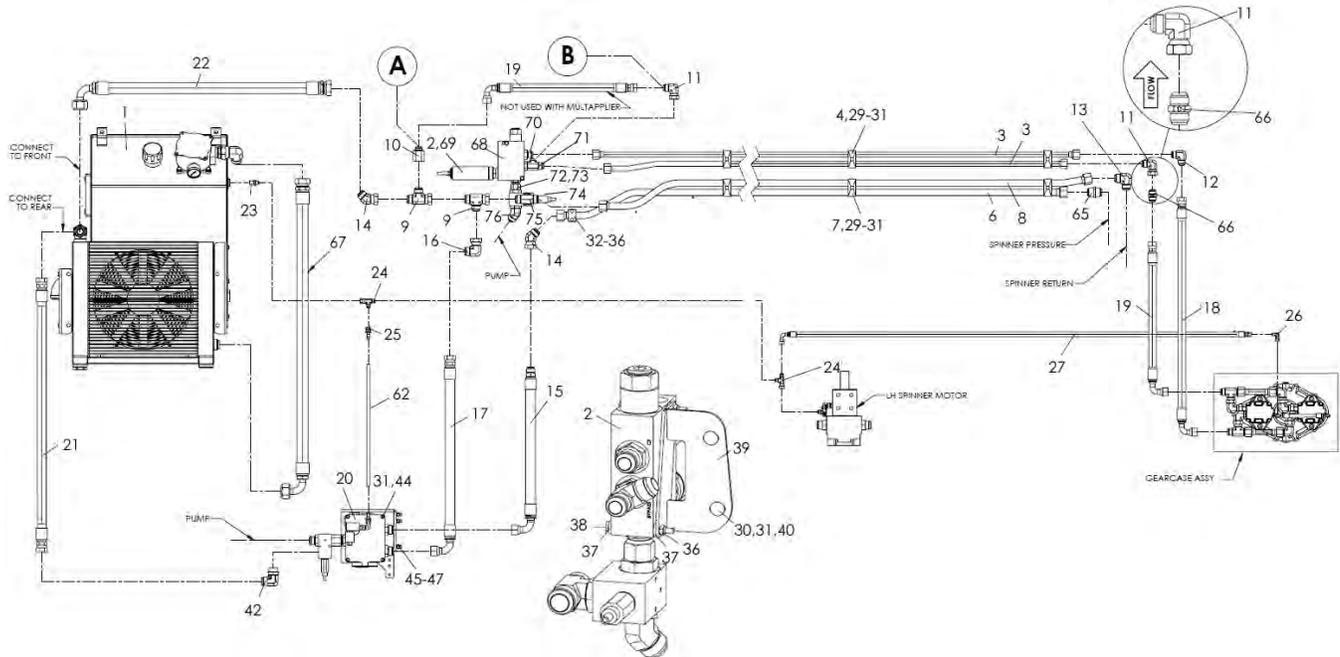
PARTS LIST

STANDARD HYDRAULICS CONTINUED

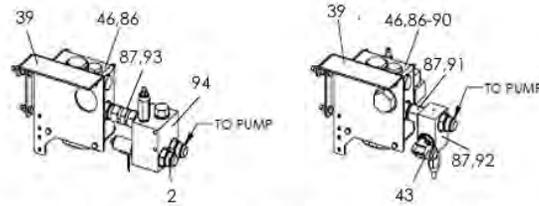
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
69	29803	Fitting - 16-16 070120	3
70	29850	Fitting - 16-16-16 070432	2
71	29806	Fitting - 16-16 070321	1
72	302449	Fitting - 16-16 Non Standard	1
73	302160-AB	Valve - Check 1"	1
74	29807	Fitting - 16-16 070221	1
75	38576-X4	Valve - Hydraulic Electric Actuated	1
	38576	Valve - Hydraulic	1
76	29803	Fitting - 16-16 070120	AR
77	34757	Adapter	1
78	34816	Elbow - Hydraulic Fitting	1
79	34761	Fitting - Socketless	1
80	34810	Adapter	1
81	98109	Valve - Relief Soft Start	1
82	302449	Fitting - 16-16 Non Standard	1
83	56291	Valve - Relief/Unloader 3100 PSI	1
84	306277	Valve - Flow Control 9 GPM	1
85	306274	Manifold - 5-25 GPM SFP	1
86	29789	Fitting - 12-12 070120	1
87	303226	Fitting - 12-12 Special	1
88	29809	Fitting - 12-12-12 070433 Branch Tee	1
89	29847	Fitting - 12-12 070220	1
90	77498	Valve - Relief 1500 PSI	1
91	29835	Adapter	1
92	29829	Adapter - Elbow 90°	2
93	*307399	Pigtail - 3-Pin Metripack to Flying Lead (optional)	AR

* - Not Shown AR – As Required

LEFT HAND HYDRAULICS

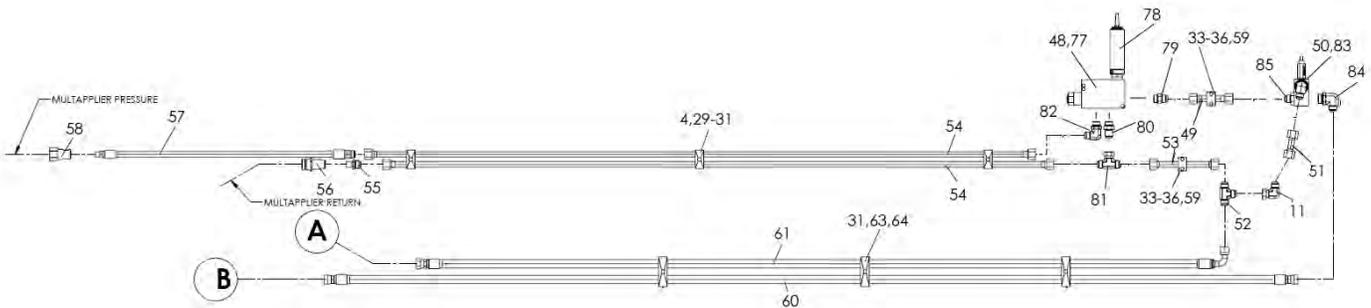


NOTE: Multiplier Ready with PWM Valve Shown



MANUAL SPINNER VALVE PWM SPINNER VALVE

RIGHT HAND HYDRAULICS



PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	305050	Tank - Hydraulic Wldmt	1
	306080	Tank - Hydraulic Wldmt 304	1
2	306291	Valve - Assy SFP 25 GPM, Includes 68-76	1
3	305900	Tube - 3/4" OD x 84-1/2" Assy 304 13' Unit	1
	305901	Tube - 3/4" OD x 96-1/2" Assy 304 14' Unit	1
4	75036	Clamp - Tubing Twin 3/4"	1
5	305902	Tube - 3/4" OD x 81" Assy 304 13' Unit	1
	305903	Tube - 3/4" OD x 93" Assy 304 14' Unit	1
6	305904	Tube - 1" OD x 88" Assy 304 13' Unit	1
	305905	Tube - 1" OD x 100" Assy 304 14' Unit	1
7	300033	Clamp - Tubing Twin 1"	3
8	305906	Tube - 1" OD x 85" Assy 304 13' Unit	1
	305907	Tube - 1" OD x 97" Assy 304 14' Unit	1
9	29850	Fitting - 16-16-16 070432	2
10	34849	Fitting - 16-12 070123	1
11	34709	Fitting - 12-12 070221	AR
12	29785	Fitting - 12-12 070201	1
13	29783	Fitting - 16-16 070201	1
14	29806	Fitting - 16-16 070321	2
15	56424	Hose - Assy 1" x 25" 100R2	1
16	29807	Fitting - 16-16 070221	1
17	29748	Hose - Assy 1" x 30" 100R2	1
18	305522	Hose - Assy 3/4" x 36" 100R12	1
19	29638	Hose - Assy 3/4" x 23"	AR
20	305910	Valve - Assy Control PWM, Includes 86-92	1
	305918	Valve - Assy Control Manual, Includes 86,87,93,94	1
21	82599	Hose - Assy 1" x 42" 2CB	1
22	305912	Hose - Assy 1-1/4" x 38-1/2" 2CB	1
23	29766	Fitting - 6-6 070102	1
24	98724	Fitting - 6-6-6 070432	2
25	34761	Fitting - Socketless 3/8" x 9/16"	1
26	34868	Fitting - 4-4 070221	1
27	306154	Hose - Assy 3/8" x 72" 100R1	1
28	*307399	Pigtail - 3-Pin Metripack to Flying Lead (optional)	AR
29	71830	Cap Screw - 5/16-18NC x 2-1/2 SS	AR
30	36424	Washer - Flat 5/16 SS	AR
31	42221	Nut - Lock 5/16-19 SS	AR
32	86557	Clamp - Tube 1"	1

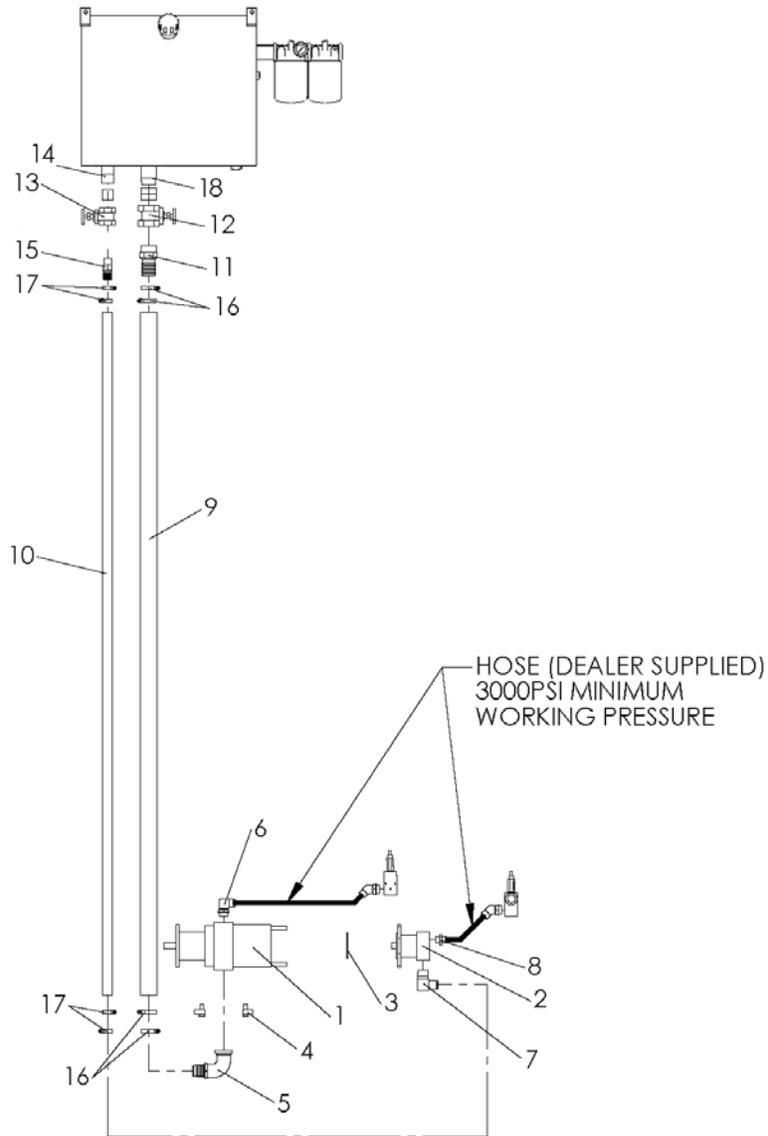
HI-PERFORMANCE HYDRAULICS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
33	86556	Plate - Cover Hyd Tube Clamp	AR
34	34865	Cap Screw - 1/4-20NC x 2-1/4 SS	AR
35	36423	Washer - Flat 1/4 SS	AR
36	42034	Nut - Lock 1/4-20 SS	AR
37	302097	Washer - Step	4
38	36396	Cap Screw - 1/4-20NC x 3 SS	2
39	306118	Bracket - Wldmt Valve Mount	1
40	42639	Bolt - Carriage 5/16 x 1 SS	2
41	29803	Fitting - 16-16 070120	1
42	29840	Fitting - 16-16 070220	1
43	302397	Bracket - Valve Mount	1
44	42794	Cap Screw - 5/16-18NC x 3-3/4 SS	4
45	36398	Cap Screw - 3/8-16NC x 1 SS	3
46	36425	Washer - Flat 3/8 SS	3
47	72054	Nut - Lock 3/8-16 SS	3
48	306292	Valve - Assy SFP 9 GPM, Includes 77-82	1
49	98644	Tube - Assy 3/4" OD x 5" 304	1
50	98650	Valve - Relief Assy 1500PSI, Includes 83-85	1
51	98643	Tube - Assy 3/4" OD x 2-7/8" 304	1
52	29792	Fitting - 12-12-12 070401	1
53	302720	Tube - Assy 3/4" OD x 8-1/2" 304	1
54	98640	Tube - Assy 3/4" OD x 92" 304	2
55	29784	Fitting - 12-8 070102	1
56	96652	Disconnect - Quick Nipple	1
57	98668	Hose - Assy 1/2" 100R1 x 36"	1
58	96651	Disconnect - Quick Hex Nut	1
59	98649	Clamp Pair - 3/4" Tube	2
60	305924	Hose - Assy 3/4" x 135" 100R2	1
61	305925	Hose - Assy 3/4" x 112 2CB	1
62	34195-48	Hose - 3/8" x 48"	1
63	305928	Clamp - Tubing Twin 1-1/4"	3
64	306030	Cap Screw - 5/16-18NC x 3/1-4 304	3
65	34719	Fitting - 16-16 070101	1
66	302160-AA	Check - Valve -12 PSI	1
67	98662	Hose 1-1/4" 2CB x 48"	1
68	306274	Manifold - 5-25 GPM SFP	1
69	306279	Valve - Flow Control 25 GPM	1
70	29789	Fitting - 12-12 070120	1

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
71	29791	Fitting - 12-12-12 070428	1
72	29788	Fitting - 12-12 Non Standard	1
73	29835	Fitting - 12-16 070120	1
74	98705	Valve - Relief Soft Start	1
75	34750	Fitting - 16-16-16 070429	1
76	56269	Fitting - 12-16 070320	1
75	29788	Fitting - 12-12 S1040-30 Non Standard	1
76	98705	Valve - Relief Soft Start 3400 PSI	1
77	306277	Valve - Flow Control 9 GPM	1
78	306274	Manifold - 5-25 GPM SFP	1
79	29789	Fitting - 12-12 070120	1
80	303226	Fitting - 12-12 Special	1
81	29809	Fitting - 12-12-12 070433 Branch Tee	1
82	29847	Fitting - 12-12 070220	1
83	77498	Valve - Relief 1500PSI	1
84	29835	Adapter	1
85	29829	Adapter - Elbow 90	2
86	38576-X4	Valve - Hydraulic Electric Actuated	1
	38576	Valve - Hydraulic	1
87	29803	Fitting - 16-16 070120	9
88	34757	Adapter - 7/16 x 9/16	1
89	34816	Elbow - Hydraulic Fitting	1
90	34761	Fitting - Socketless 3/4" x 9/16"	1
91	34810	Adapter - 1-5/16 x 1-5/16	1
92	98109	Valve - Relief Soft Start	1
93	302449	Fitting - 16-16 070120	1
94	56291	Valve - Relief/Unloader 3100PSI	1

* - Not Shown AR – As Required

PUMP HYDRAULICS

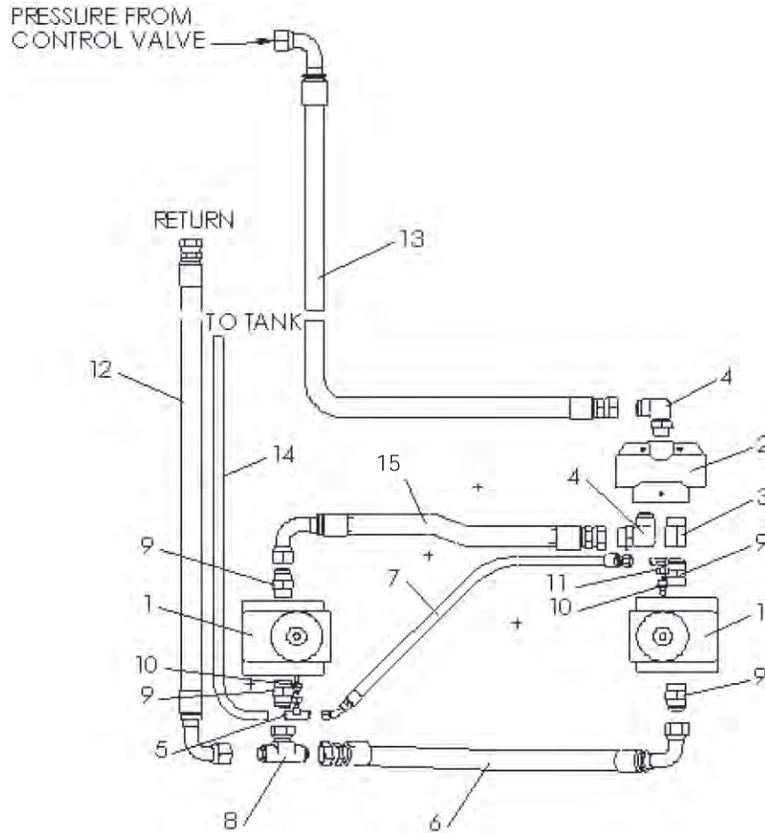


PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	86664	Pump - 3.85 CID Hydraulic Direct Mount	1
	86665	Pump - 4.38 CID Hydraulic Direct Mount	1
	304424	Pump – 4.46 CID (Front section)	1
	* 300493	Gasket – Paper Pump	1
	* 300492	Cover – Pump Rear	1
2	304425	Pump – .93 CID (Rear section)	1
	304426	Pump - 2.17 CID (Rear section)	
3	300669	O-Ring – 4” ID	1
4	41015	Kit – Flange Split -32	1
		Use with Pump: 4.46	
5	34806	Fitting – 32-32 12151-3-E90S-L	1
		Use with Pump: 4.46	
	29780	Fitting - Straight 1-7/8 x 1-1/2	1
		Use with Pump: 3.85 & 4.38	
6	29840	Adapter – Elbow 90°	1
		Use with Pump: 4.46	
	34845	Adapter - 1-5/8 x 1-5/16	1
		Use with Pump: 3.85 & 4.38	
7	304427	Fitting – 20-20 430260	1
8	29789	Fitting – 12-12 070120	1
9	32401-108	Hose – Suction 2” x 108”	1
10	23184-108	Hose – Suction 1-1/4”	1
11	29811	Fitting – Hose End	2
12	305060	Valve – Ball 2”	1
13	305059	Valve – Ball 1-1/2”	1
14	6028	Nipple - 1-1/4” NPT	1
15	16582	Fitting – Hose Barb	1
16	22380	Clamp – Hose	4
17	6335	Clamp – Hose	4
18	22324	Nipple - 2” NPT	1

* - Not Shown – Use when .93 CID & 2.17 CID pump add-on not installed.

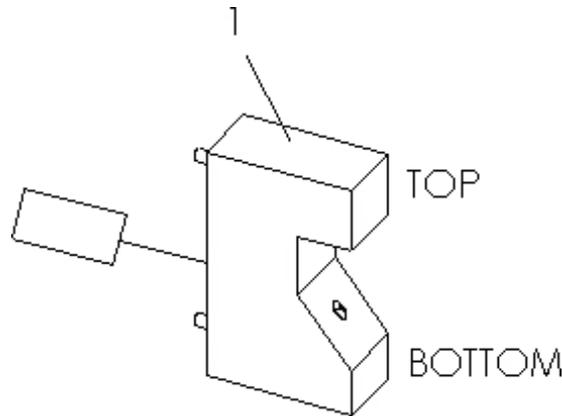
SPINNER HYDRAULICS



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	304948	Motor - Assy LH Style II, Includes 1,5,8-10	
	304949	Motor - Assy RH Style II, Includes 1,9-11	
1	305950	Motor – Spinner	2
2	71781	Valve – Flow Divider	1
3	34810	Adapter	1
4	29840	Adapter - 90°	2
5	29825	Tee – Swivel Nut	1
6	87111	Hose Assy	1
7	87112	Hose Assy	1
8	29836	Tee – Swivel Nut	1
9	29803	Adapter	4
10	34763	Adapter	2
11	34816	Adapter - 90° 1	1
12	87113	Hose – Return Assy	1
13	98102	Hose – Pressure Assy	1
14	83601	Hose – 13’ Unit Drain Line	1
	83602	Hose – 14’ Unit Drain Line	1
15	98101	Hose Assy	1

PARTS LIST

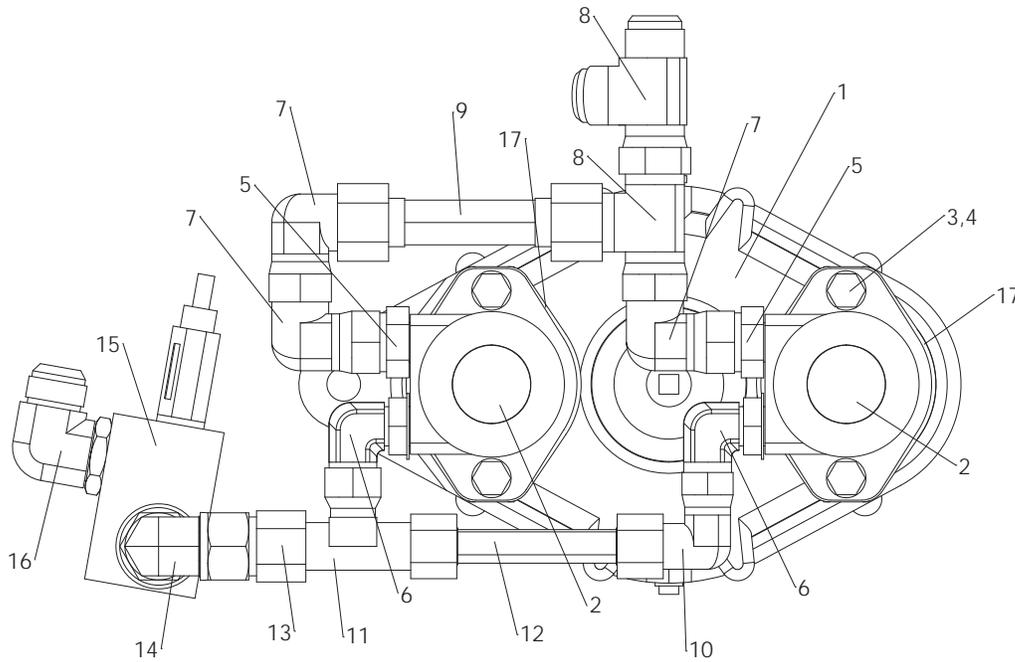
BIN SENSOR



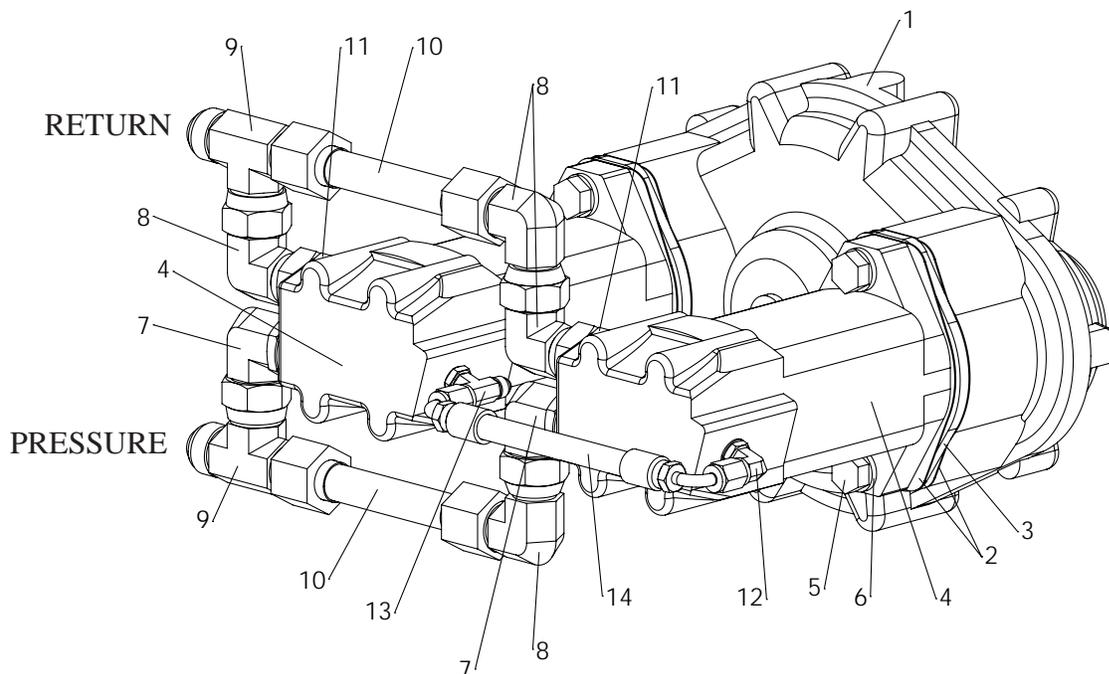
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	98788-AA	Sensor Kit - Bin Level Single, Includes 1 & 2	
	98788-AB	Sensor Kit - Bin Level Dual, Includes 1,2,4 & 5	
	304687-AB	Sensor Kit - Bin Level 102', Includes 1,3,4 & 5	
1	98787-AB	Lead - 18" Bin Level Sensor	AR
2	*98787-AD	Cable - 27' Bin Level Sensor	AR
3	*307130	Cable - Jumper 102"	AR
4	*307124	Mount - Sensor 304	AR
5	*36393	Cap Screw - 1/4-20NC x 3/4 SS	AR

* - Not Shown

GEAR CASE - DUAL PINION

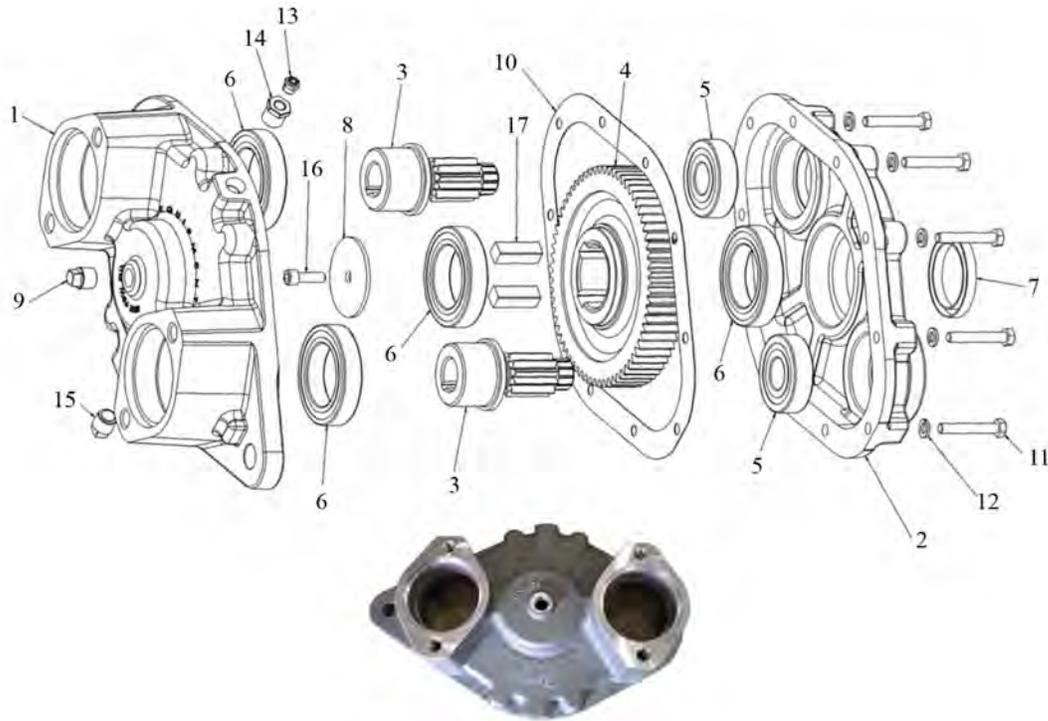


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	37985	Gearcase 6:1	1
2	82459	Motor - Hydraulic 14.1 CID	2
3	20129	Cap Screw - 1/2 x 1-1/4	4
4	20714	Washer - Lock 1/2	4
5	29778	Adapter - Reducing	2
6	29773	Adapter - Elbow	2
7	29807	Adapter - Elbow	3
8	29850	Tee - Swivel Nut	2
9	80888	Tube Assy - 1" OD x 2-15/16"	1
10	34709	Adapter - Elbow	1
11	29809	Adapter - Tee Branch	1
12	80886	Tube - 3/4" x 4-7/8"	1
13	34712	Adapter - Bushing	1
14	304819	Fitting - 16-16 Non Standard 90	1
15	304818	Valve - Dump relief 2050 PSI	1
16	29840	Fitting - 16-16 070220	2
17	74524	Gasket - SAE 101-2	2



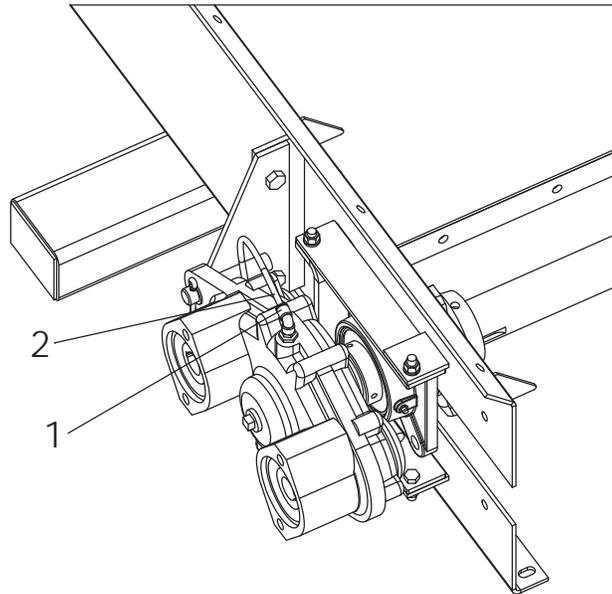
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	37985	Gearcase 6:1	1
2	74524	Gasket	4
3	34650	Spacer	2
4	56261	Motor- Hydraulic 2000 Series 6.2 CID	2
5	305098	Cap Screw Sockethead - 1/2 x 1-3/4	4
6	30227	Washer Sockethead - Lock 1/2	4
7	29773	Fitting - 12-12 070220	2
8	34709	Fitting - 12-12 070221	4
9	29809	Fitting - 12-12-12 070433	2
10	98707	Tube - 3/4" OD x 4-7/8"	2
11	29753	Fitting - 12-12 070120	2
12	29795	Fitting - 4-4 070220	1
13	34700	Fitting - 4-4-4 070429	1
14	98760	Hose - 1/4" x 7-13/16" Drain	1

GEAR CASE ASSY



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	37985	Gear Case – Assy Dual Pinion	
	304268-AB	Parts – Service, Includes 1–17	
1	304557	Housing – Outboard	1
2	304558	Housing – Inboard	1
3	304561	Gear – Pinion 11 Tooth	2
4	304562	Gear – Driven 67 Tooth	1
5	37007	Bearing	2
6	37008	Bearing	4
7	37006	Seal – Oil	1
8	38979	Washer – Flat 2-1/2 x 11/32	2
9	6031	Plug – Pipe	1
10	304564	Gasket – Housing	1
11	20040	Cap Screw – 5/16NC x 2	10
12	20711	Washer – Lock 5/16	10
13	2564	Cap – Breather	1
14	27465	Bushing – Pipe 1/8 x 3/8	1
15	21490	Plug – Pipe Magnetic	1
16	38980	Screw – Allen Head 5/16-18 x 1	1
17	37010	Key - 1/2 x 1/2 x 1-1/2	2

GEAR CASE BREATHER TUBE

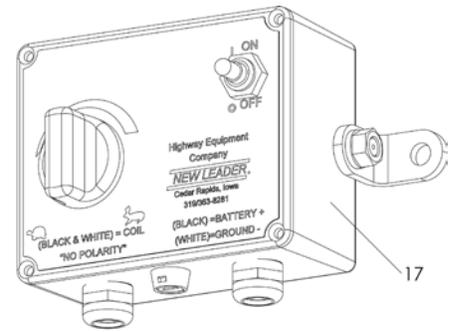
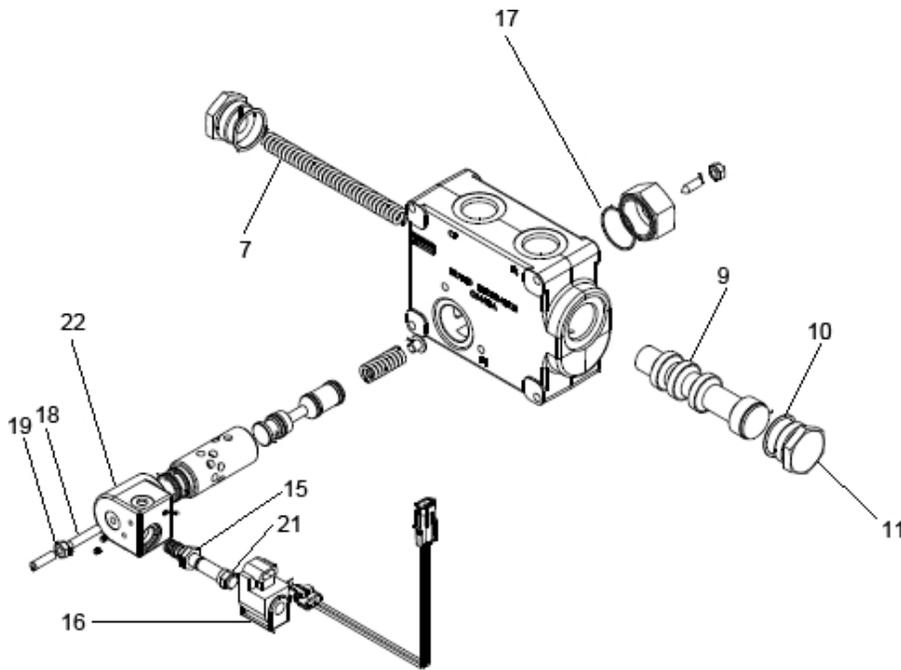


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	306890	Tube - Group Breather Gear Case	
1	306891	Fitting - 4-2 630202K	1
2	9005-0-7761	Tubing - 1/4" OD Air Brake Black	ft 1.5

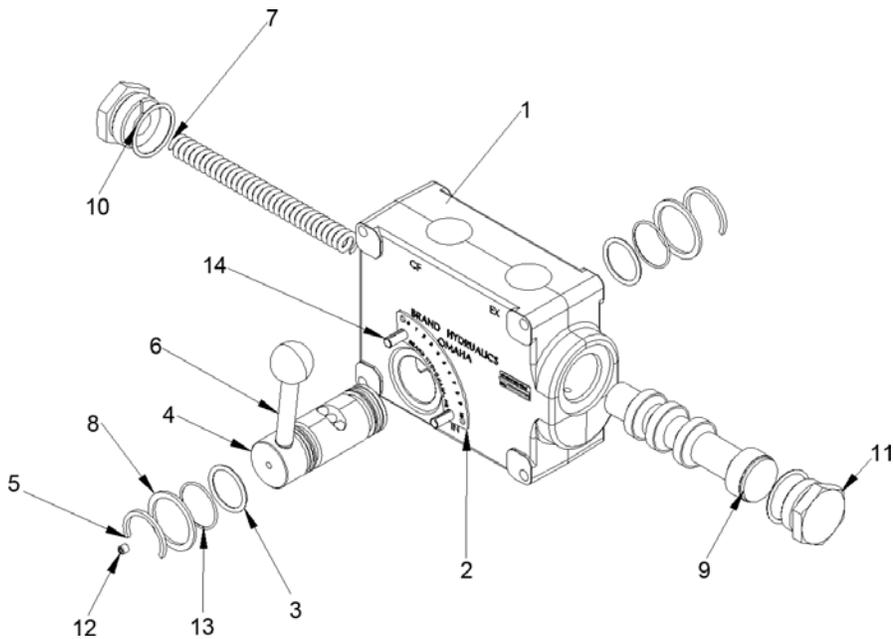
CONTROL VALVE

PWM VALVE

PWM CONTROL



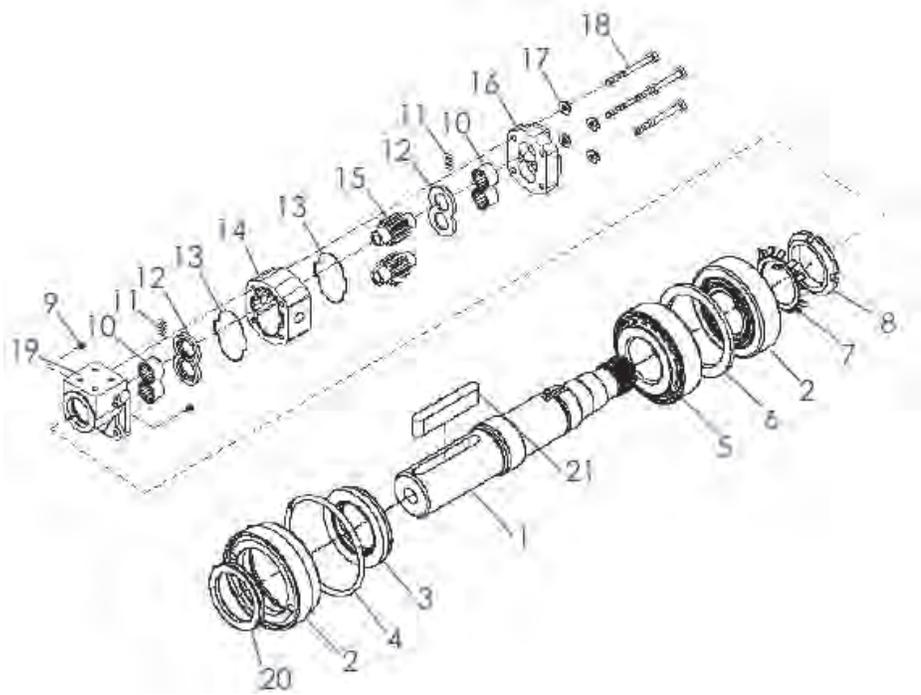
MANUAL VALVE



PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	38576	Valve - Flow Control, Includes: 2-14	1
	38576-X4	Valve - Flow Control Electric Actuated Includes: 7, 9-22	1
2	43116	Scale	1
3	29887	O-Ring	2
4	53962	Spool - Rotary	1
5	53963	Ring - Snap	2
6	53961	Handle - Spool	1
	45950	Knob - Lever	1
7	53960	Spring	1
8	90696	Shim	2
9	90697	Spool	1
10	90698	O-Ring	1
11	90699	Plug	2
12	--	Set Screw	1
13	--	O-Ring	2
14	--	Pin - Roll	2
15	38576-AA	Cartridge	1
16	38576-AB	Coil	1
17	38576-AC	O-Ring	1
18	38576-AD	Screw - Set	1
19	38576-AE	Nut - Jam	1
20	88260	Control Box - w/27' Cable	1
21	38576-AG	Nut	1
22	38576-AF	Block - Cartridge	1

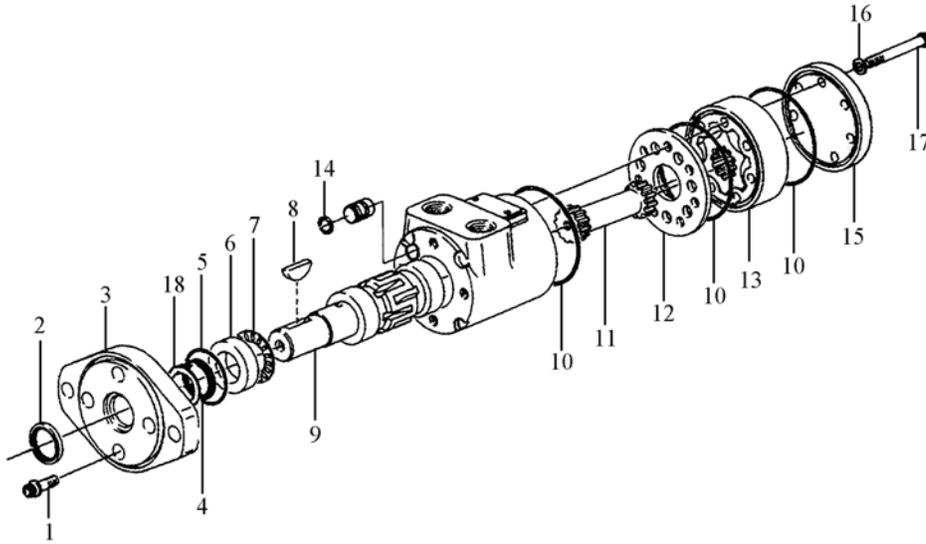
* - Not Shown



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	306093	Shaft Assy - Output Includes: 1-8, 20, 21	
	72548	Kit - Seal, Includes: 3, 4, 20 & 27	
	305950	Motor - Hydraulic	
1	306088	Shaft - Output	1
2	306091	Ring - Retainer	1
3	71980	Seal	1
4	28494	"O" Ring	1
5	28491	Bearing - Tapered Roller Assy	2
	41014	Cone - Bearing	1
	41013	Cup - Bearing	1
6	28454	Spacer	1
7	306092	Washer - Lock	1
8	306089	Nut - Lock	1
9	58797	Plug	1
10	23806	Bearing	4
11	23819	Seals - Pocket (Makes 12 Seals)	1
12	23818	Plate	2
13	23820	Gasket	2
14	41954	Housing	1
15	23824	Gear Set	1
16	23812	Cover - Port End	1
17	N/A	Washer	4
18	20190	Cap Screw	4
19	306087	Cover - Shaft End	1
20	33809	Seal - Excluder	1
21	24458	Key	1
22	*30723	Tool - Wrench Spinner	1
23	*24536	Tool - Seal Driver	1
24	*23940	Tool - Seal Sleeve	1
25	*306429	Tool - Speedi	1
26	*305824	Retainer - Assy w/Seals, Includes 2-4, 20 & 27	1
27	*306090	Sleeve - Speedi	1

* - Not Shown

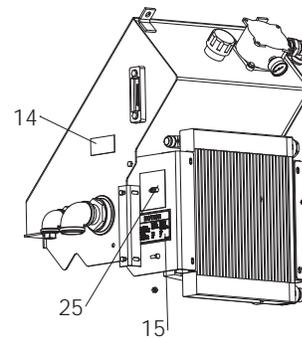
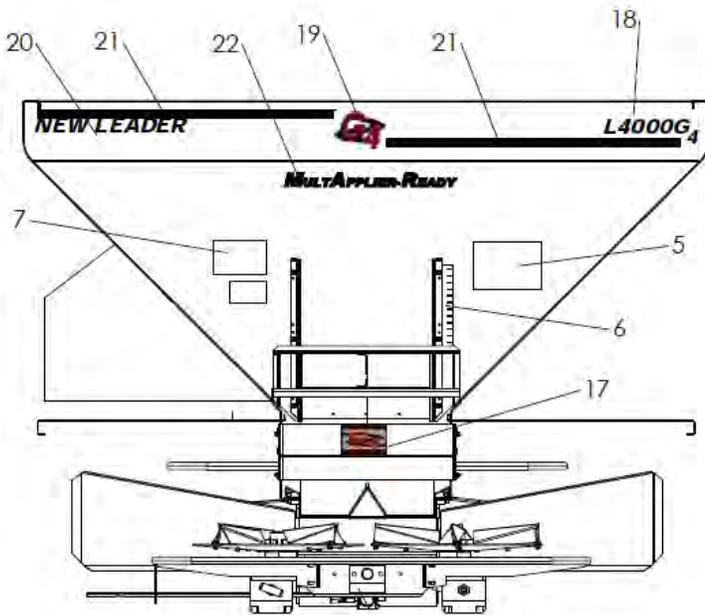
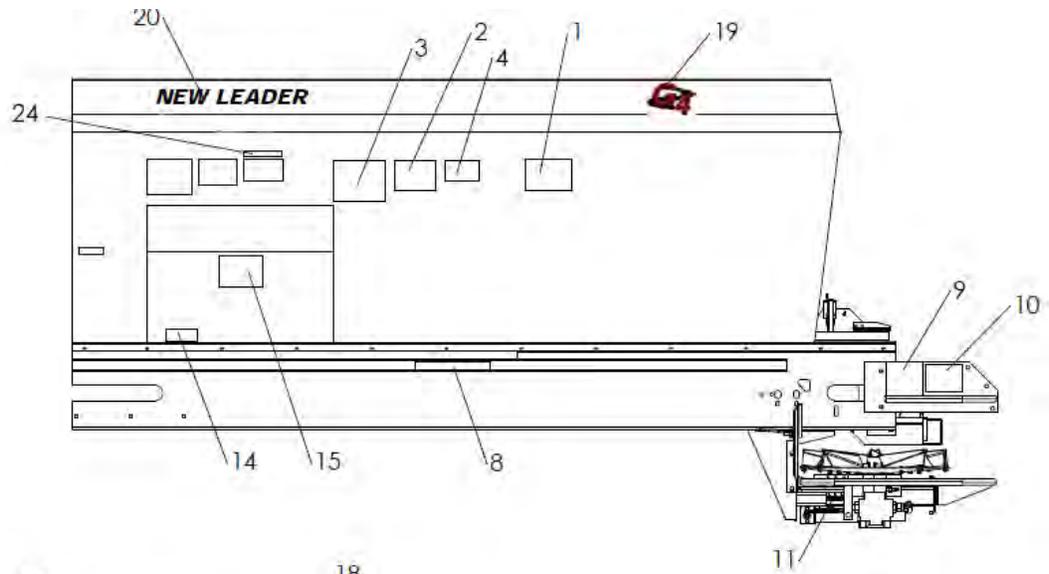
CONVEYOR MOTOR 1-1/4"



PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	82459	Motor - Hydraulic, 1 1/4" Standard	
1	30665	Cap Screw	4
2	73471	Seal	1
3	73555	Flange - Mounting (Used on 82459)	1
	73556	Flange - Mounting (Used on 82462)	1
4	73473	Seal	1
5	73474	Seal - "O" Ring	1
6	37385	Race - Bearing	1
7	37401	Bearing - Thrust Needle	1
8	3065	Key	1
9	37386	Shaft - Output Keyed	1
10	73480	Seal - "O" Ring	1
11	83014	Drive	1
12	37388	Plate - Spacer	1
13	83015	Gerotor - 1 1/4"	1
14	22068	Seal - "O" Ring	1
15	37400	Cap - End	1
16	37381	Washer - Seal	7
17	83016	Cap Screw	7
18	73472	Washer - Back-up	1
19	* 73477	Seal - "O" Ring	1
	39137	Kit - Seal, Includes Items 2,4,5,10,16,18 & 19	

* - Not Shown

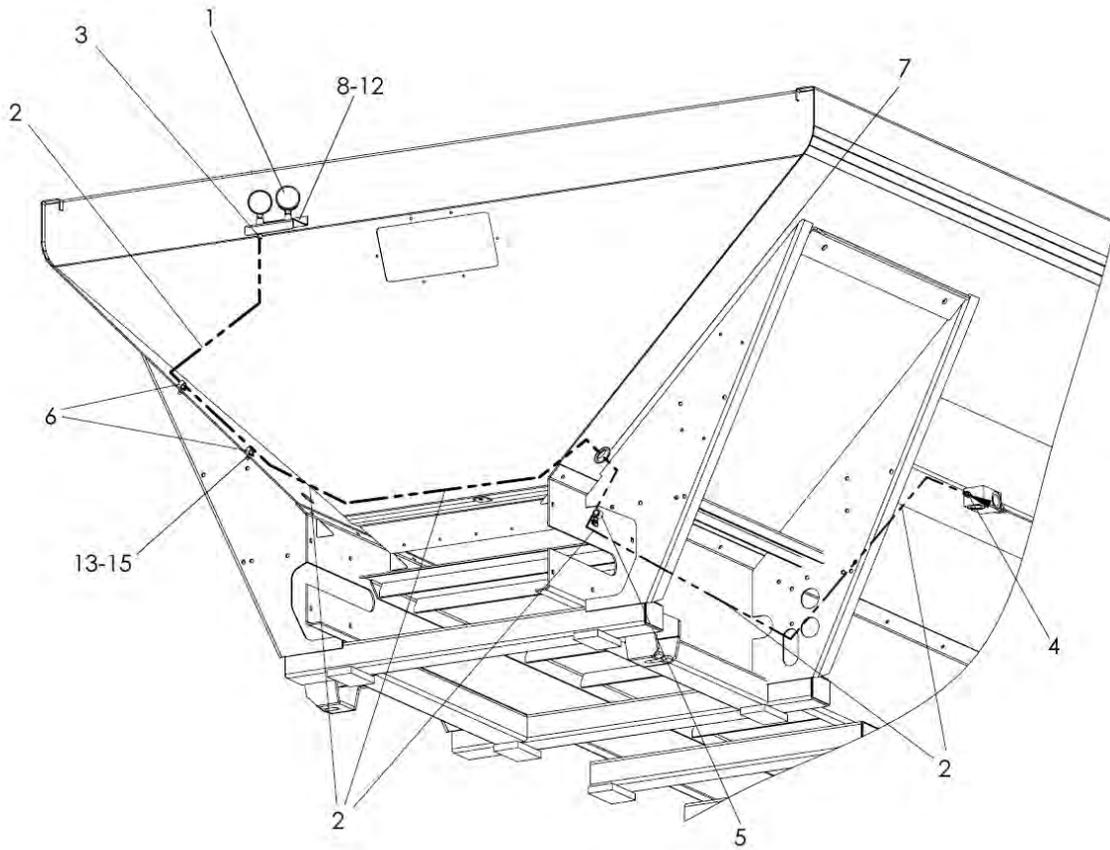


DECALS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86973	Decal – Group Safety/Endgate, Includes 5-7	
	86975	Decal – Group Safety/Body, Includes 1-4	
	305049	Decal – Group Safety/Tank, Includes 13-15	
	96415	Decal – Group Décor/Complete - Black/Red Includes 19,20,23	
	96416	Decal – Group Décor/Complete, - Black/White Includes 19,20,23	
1	39138	Decal – Warning, High Pressure Fluid	1
2	364	Decal - Danger, Moving Part	2
3	150034	Decal - Caution, Improper Operation	1
4	321	Decal - Caution, Hazardous Material	1
5	368	Decal - Danger, Flying Material	1
6	23769	Decal - Feedgate Slide Scale	1
7	71526	Decal - Important, Adjust Spinner	1
8	39200	Decal - Warning, Slipping Hazard (on fenders)	2
9	55630	Decal - Warning, No Step	2
10	55631	Decal - Warning, Guard for Protection	2
11	87110	Decal - Scale Spinner	1
12	*305274	Decal - Falling Hazard	1
13	305272	Decal - Do Not Ride	1
14	8664	Decal - Notice, Keep Valve Open	1
15	304264	Decal - Notice Cooler	1
	8665	Decal - Important Hyd. Oil (Cooler not installed)	1
16	* 31740	Paint - Touch Up, White	AR
17	87109	Decal - G4	1
18	306151	Decal - L4000G4, Black	1
19	87122	Decal - G4 Black/Red	3
	87129	Decal - G4 Black/White	3
20	87164	Decal - New Leader, Black	3
21	87162	Decal - Striping Black (per foot)	AR
22	300403	Decal - MULTAPPLIER-Ready	1
23	* 31736	Paint - Touch Up, New Leader Red	AR
24	39378	Decal - Important Keep Valve Open	1

* - Not Shown See *Ladders* parts list for more decals.

GAUGE KIT



*Note: 306797 Assy Shown

PARTS LIST

GAUGE KIT CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	306797	Gauge - Kit 5000 PSI Dual, Includes Items 1-6	
	304949	Gauge - Kit 5000 PSI Single, Includes Items 1-15	
	304950	Gauge - Kit 3000 PSI, Includes Items 1-7	
1	76044	Gauge - Hyd. 5000 PSI w/ Built in Snubber	1
	28389	Gauge - Hyd. 30000 PSI w/ Built in Snubber	1
2	306798	Hose - .35" dia. 100R2 x 160" Assy	1
	307509	Hose - .25" dia. 100R2 x 112" Assy	1
	304951	Hose - .25" dia. x 100" 100 R1 Assy	1
3	29765	Fitting - 404 070102	1
4	29849	Fitting - 4-4 070120	1
	29795	Fitting - 4-4 070220	1
5	89051	Clamp - Insulated Closed	AR
6	26562	Clamp - Tubing .5"	2
7	34129	Grommet - Rubber	1
8	304948	Bracket - Wldmt Gauge	1
9	34580	Cap Screw - .313-18NC x 1 SS	2
10	36424	Washer - Flat .313 SS	2
11	36413	Nut - Hex .313-18NC SS	2
12	36419	Washer - Lock .313 SS	2
13	36393	Cap Screw - .25-20NC x .75 SS	2
14	36418	Washer - Lock .25 SS	2
15	36412	Nut - Hex .25-20NC SS	2