

NEW LEADER

MODEL L3030G4/MULTAPPLIER

UNIT SERIAL NUMBER _____

MANUAL NUMBER: 305021-E

EFFECTIVE 2/2008

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BUILDING THE BEST SINCE 1939

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INSERT CURRENT NEW LEADER WARRANTY



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

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Page Rev. A

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. 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 Cedar Rapids, Iowa, Product Support Department at (319) 363-8281.

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 Cedar Rapids Product Support Department if you find the unit is not operating properly, or if you are having trouble with repairs, installation, or removal of this machine.

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 !!!**

SAFETY



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,” “NOTICE” and “IMPORTANT” 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.

IMPORTANT!

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.

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.



Please Give Part No., Description and Unit Serial No. 305021-E

SAFETY**AVOID ACCIDENTS**

Most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason, most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT. THE COMPLETE OBSERVANCE OF ONE SIMPLE RULE WOULD PREVENT MANY THOUSAND SERIOUS INJURIES EACH YEAR. THAT RULE IS:

NEVER ATTEMPT TO CLEAN, OIL OR ADJUST A MACHINE WHILE IT IS IN MOTION.

NATIONAL SAFETY COUNCIL

**CAUTION**

Check with your chemical supplier regarding DOT (Department of Transportation) requirements before spreader is used to transport chemicals.



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

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Page Rev. A

SAFETY DECALS**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.

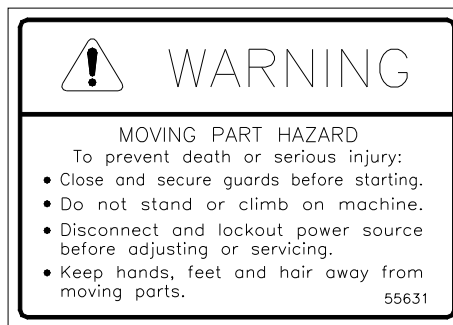
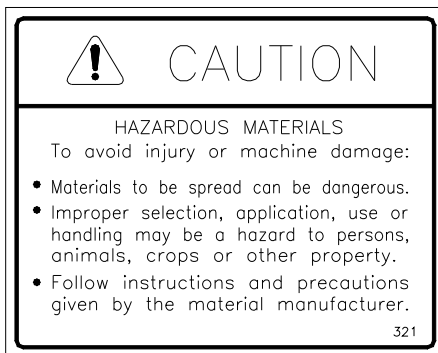
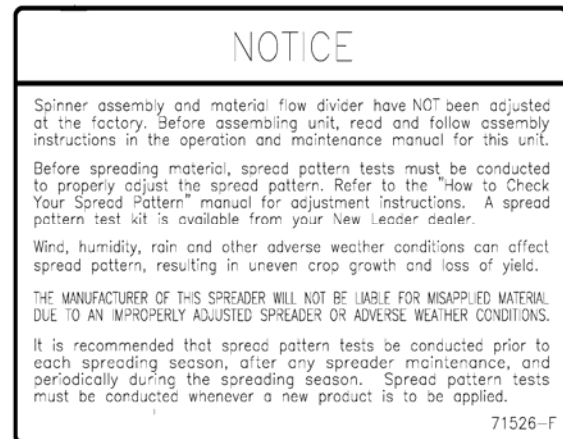
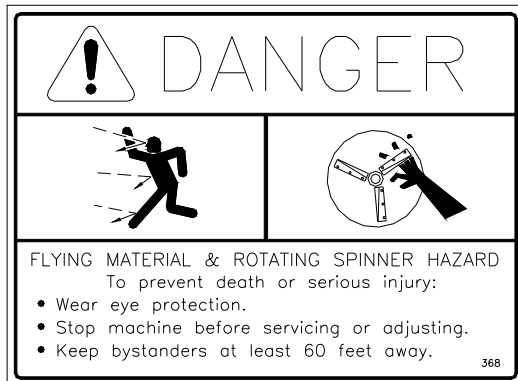
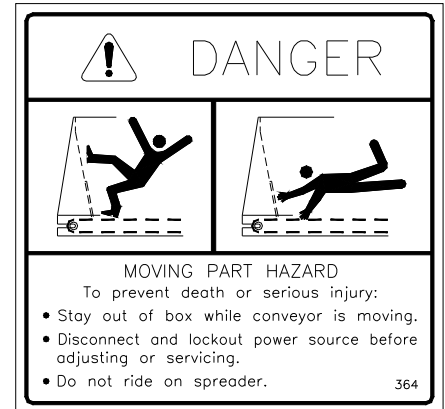
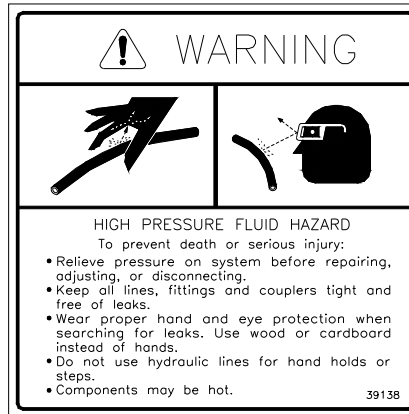
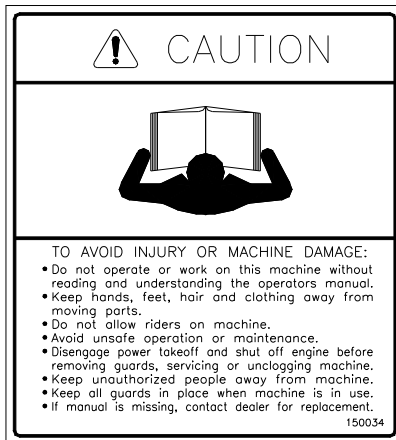
INSTALLATION INSTRUCTIONS

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 CONTINUED

NOTE: Decals "Important" and "Notice" are interchangeable.



GENERAL SAFETY RULES

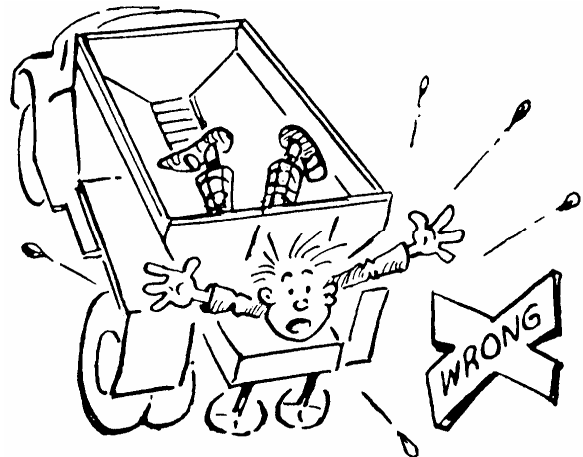
Operation Section

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 body while conveyor is operating. If it is necessary to get into the body for any reason, be sure all power is shut off, vehicle brakes are set, and the engine starting switch is locked and keys removed. All controls should be tagged to prohibit operation and tags should be placed and later removed only by the person who was working in the body.



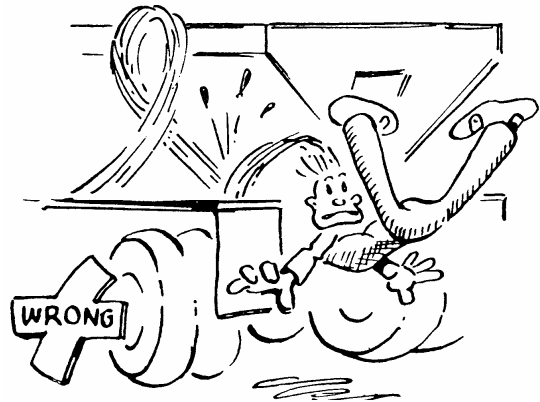
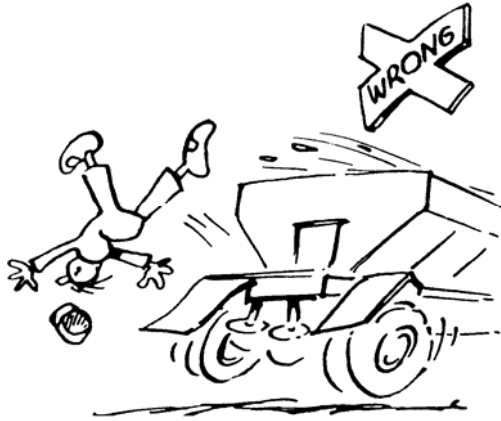
5. Guards and covers are provided to help avoid injury. Stop all machinery before removing them. Replace guards and covers before starting spreader operation.
6. Stay clear of any moving members, such as shafts, couplings and universal joints. Make adjustments in small steps, shutting down all motions for each adjustment.
7. Before starting unit, be sure everyone is clear and out of the way.



GENERAL SAFETY RULES

Operation Section

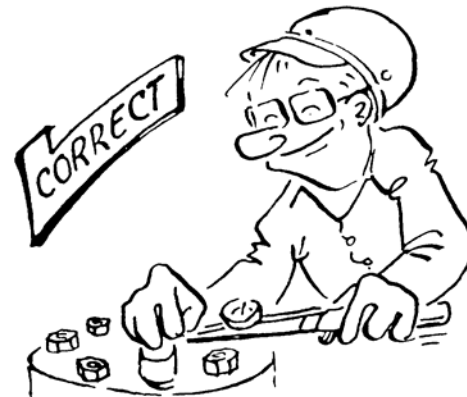
8. Be careful in getting on and off this unit, especially in wet, icy, snowy or muddy conditions. Clean mud, snow or ice from steps and footwear.
9. Do not allow anyone to ride on any part of unit for any reason.



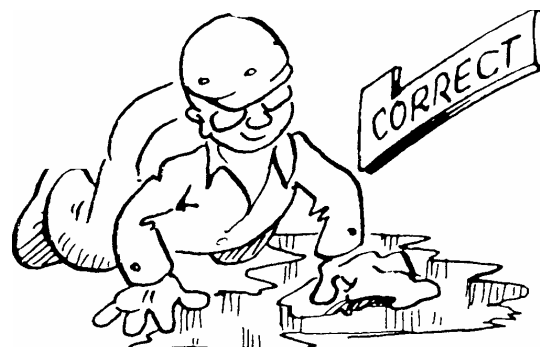
10. Keep away from spinners while they are turning:
 - a. Serious injury can occur if spinners touch you.
 - b. Rocks, scrap metal or other material can be thrown off the spinner violently. Stay out of discharge area.



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!

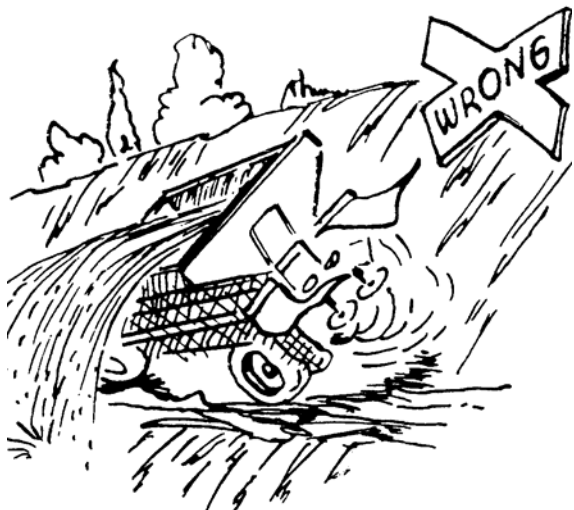
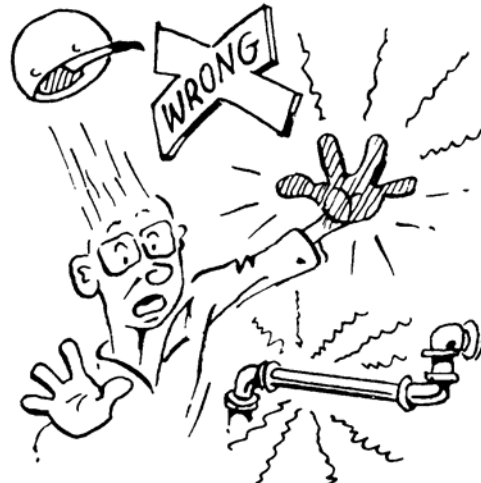
GENERAL SAFETY RULES

Operation Section

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.
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.



GENERAL SAFETY RULES

Operation Section

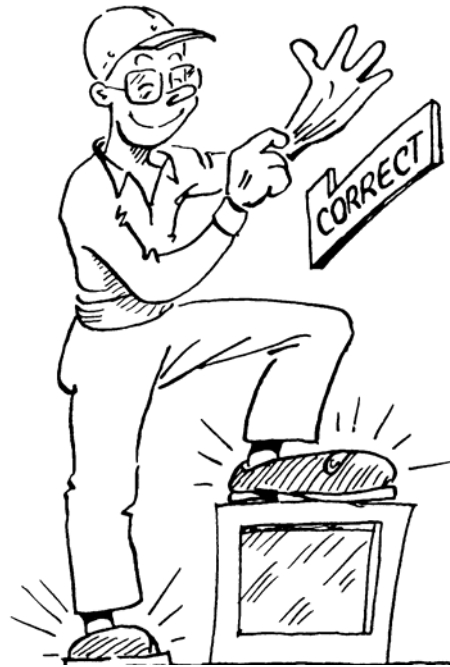
21. When using metering device, shut off spinner before placing box on hook or when removing it. Handle box with care to avoid injury.
22. Read and understand the precautionary decals on the spreader. Replace any that become defaced, damaged, lost or painted over. Replacement decals can be ordered from your equipment dealer or from Highway Equipment Company by calling (319) 363-8281.



GENERAL SAFETY RULES

Maintenance Section

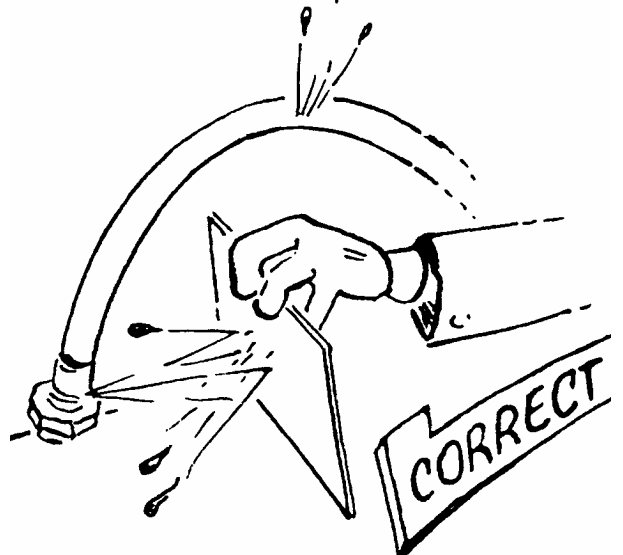
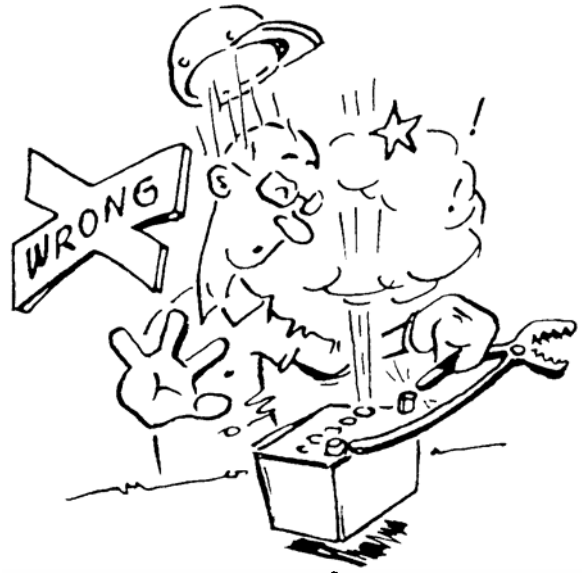
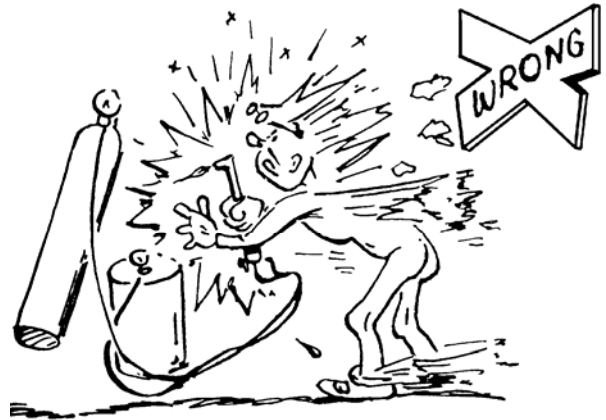
1. Maintenance includes all lubrication, inspection, adjustments (other than operational control adjustments such as feedgate openings, conveyor speed, etc.) part replacement, repairs and such upkeep tasks as cleaning and painting.
2. When performing any maintenance work, wear proper protective equipment—always 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.**



GENERAL SAFETY RULES

Maintenance Section

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**.

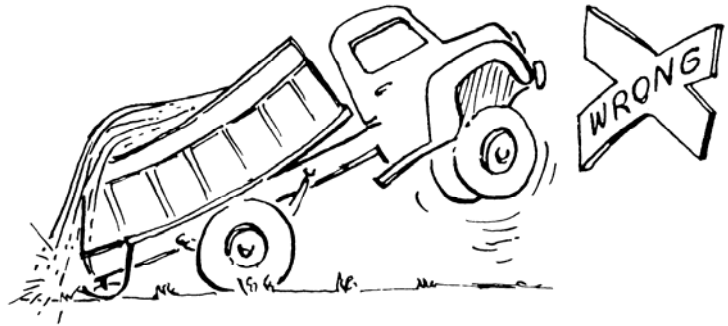
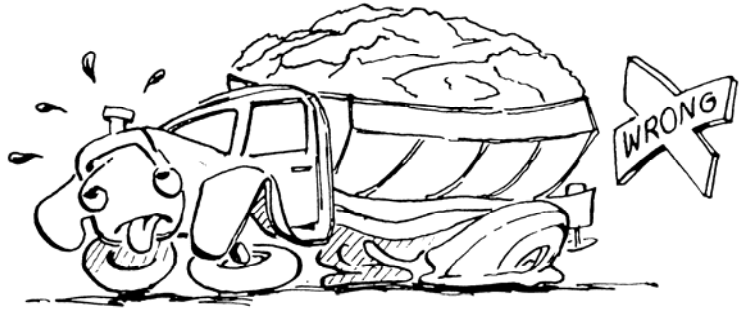


GENERAL SAFETY RULES

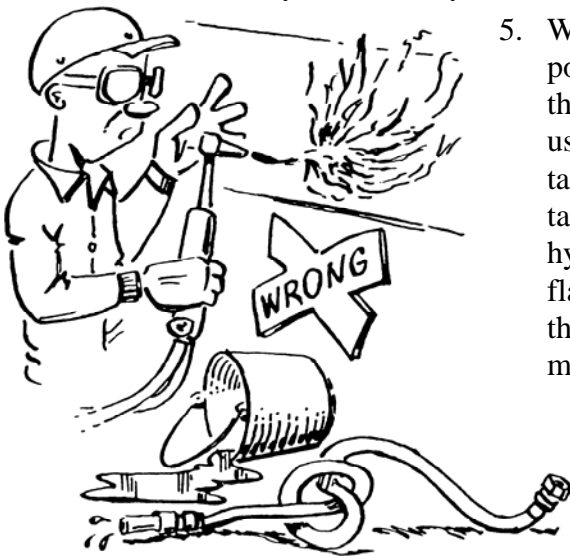
Installation Section

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 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 the Truck-PTO-Pump Match Graph indicates 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.



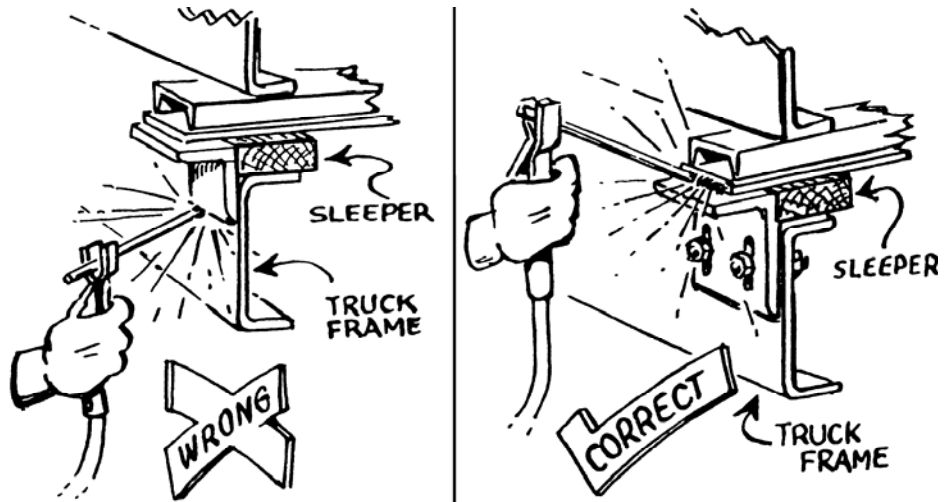
5. When truck frame must be shortened, cut off only the portion that extends behind rear shackle in accordance with the truck manufacturer's recommendations. If a torch is used to make the cut, all necessary precautions should be taken to prevent fire. Cuts should not be made near fuel tanks and hydraulic 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.



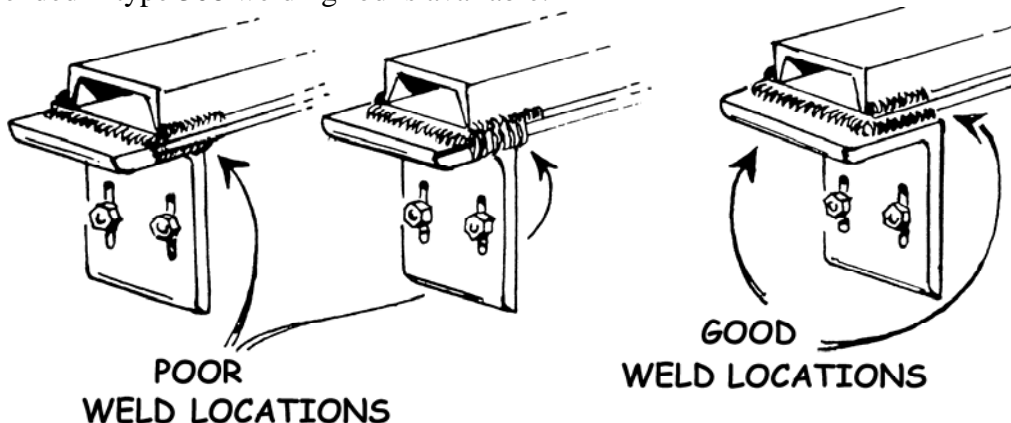
GENERAL SAFETY RULES

Installation Section

5. 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.



6. 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 dry, E6013 or E7018 rod for normal steels. On stainless steel bodies use SAE grade 5 bolts—welding is recommended if type 308 welding rod is available.



7. 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.
8. Check for vehicle visibility, especially toward the rear. Reposition or add mirrors so that adequate rearward visibility is maintained.
9. Add Caution, Warning, Danger and Instruction decals as required. Peel off any label masking which has not been removed.
10. Install all guards as required.
11. Check installation completely to be sure all fasteners are secure and that nothing has been left undone.

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GENERAL DESCRIPTION

The Model L3030G4 is a hopper type spreader intended for spreading free flowing granular agricultural materials, such as chemical fertilizers, agricultural limestone and gypsum. The MULTAPPLIER allows you to spread two different materials individually or combined. It is intended for truck chassis or flotation 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.

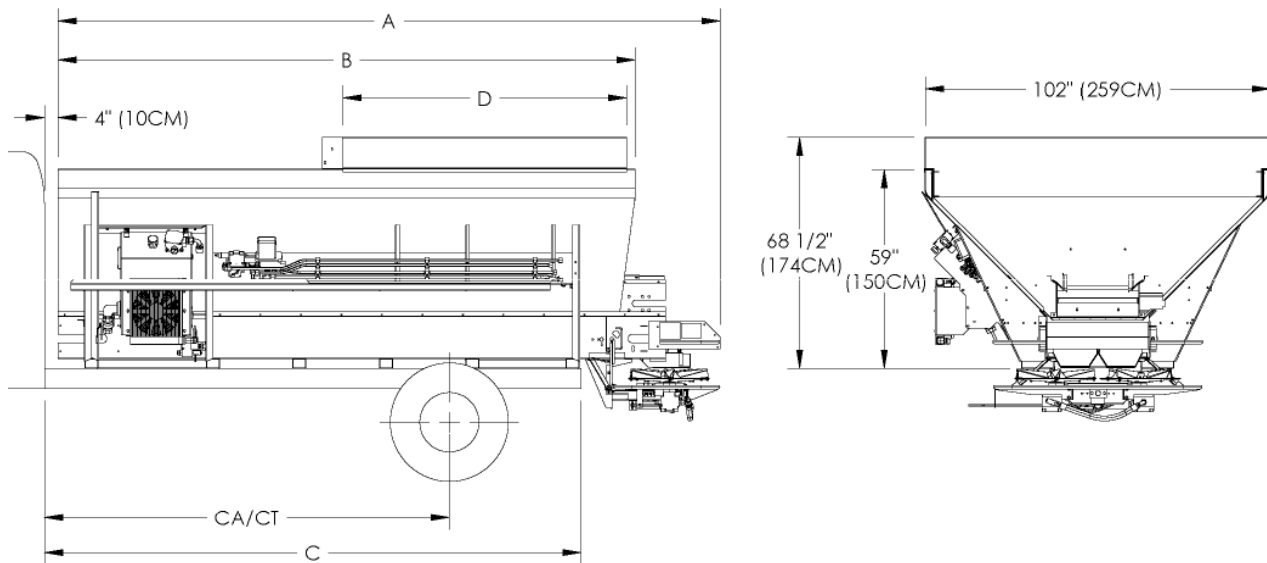
The dual conveyors deliver material to the spinners through an adjustable metering gate at the rear of the hopper body. An orbital type hydraulic motor mounted to 6 to 1 ratio spur gear case on the L3030G4. The L3030G4 has a belt conveyor. The MULTAPPLIER has a belt-over-chain conveyor with parallel strands of pintle type chain joined by cross bars every other link.

The distributor spinner assembly has two 24-inch (61cm) 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.

This product is intended for commercial use only.



DIMENSIONS & CAPACITIES



L3030G4				
Body Length B	Overall A	Frame C	Cab to Axle or Cab to Tandem – CA/CT	Struck Capacity Cu Yd (Cu M) Cu Ft
11' (3.36m)	160" (406cm)	123" (312cm)	84" (213cm) CA	8.6 (6.6) 232.1

L3030G4	With 5' MULTAPPLIER	With 7' MULTAPPLIER
Body Length B	Struck Capacity Cu Yd (Cu M) Cu Ft	Struck Capacity Cu Yd (Cu M) Cu Ft
11' (3.36m)	4.72 (3.61) 127	316 (2.42) 85
12' (3.66m)	5.51 (4.21) 149	3.94 (3.01) 106
13' (3.96m)	6.34 (4.85) 171	4.72 (3.61) 127
14' (4.27m)	7.18 (5.49) 161	5.51 (4.21) 149

MULTAPPLIER	
Length D	Struck Capacity Cu Yd (Cu M) Cu Ft
5' (1.52m)	4.25 (Cu M) Cu Ft
7' (2.13m)	5.95 (4.55) 161

INSTALLATION INSTRUCTIONS

Recommended sequence of installation is:

1. Mounting of PTO and pump drive.
2. Installation of radar (if applicable)
3. Mounting of spreader.
4. Installation of controller and encoder (if applicable)
5. Installation of hydraulic hose and electrical wiring.
6. Installation of optional parts.
7. Filling of hydraulic tanks and lubrication.
8. Checking for leaks and proper functioning.

NOTICE!

Pump and truck requirements must be determined prior to installation of the L3030G4.

PUMP AND PTO REQUIREMENTS:

Hydraulic Requirements

Maximum Pressure: 3100 PSI
3.19 CID Pump Flow: 30 GPM (Gallons per Minute) – L3030G4
.93 CID Pump Flow: 9 GPM – MULTAPPLIER (1500 PSI)

Sizing Data Required:

Since the amount of material per acre to be spread depends upon the match between pump size, pump speed (which depends upon engine speed and PTO percent), conveyor delivery rate and feedgate opening, it is essential that a correct match between these factors be made. This matching is called “sizing.”

1. Correct sizing requires accurate and complete information.
 - A. Engine governed operating speed.
 - B. Transmission make and model.
 - C. PTO Data
 1. Make and Model of PTO.
 2. PTO percentage of Engine RPM.
 3. Direction of PTO Rotation (Engine Direction or Opposite of Engine Direction).

NOTICE!

Excessive engine speed will cause more hydraulic oil to be pumped than is required to drive spinners and conveyor and may result in overheating the oil. Too low an engine speed may not provide sufficient hydraulic oil flow to maintain spread width or to keep the conveyor running at the speed required to deliver the desired quantity of material being spread.

NOTE: It may be necessary to select a higher percentage PTO or a larger pump than standard with lower speed engines, such as diesels and heavy duty gasoline engines. Consult your dealer in such cases. It is desirable to install a tachometer in order to maintain proper engine speeds.



INSTALLATION INSTRUCTIONS CONTINUED**2. PTO Pump Selection**

The following chart shows pumps available through Highway Equipment Company (HECO):

HECO Pump Part Numbers	Pump CID	Theoretical Pump GPM (100% efficiency)	Pump RPM
* 304428 (Front section)	3.19	28.7	2172
* 304425 (Rear section)	.93	8.4	2172

* - 304428 and 304425 are both required for L3030G4 operation with MULTAPPLIER.

To determine PTO (Power Take-Off) percentage:

$$(\text{PTO RPM} \div \text{OPTIMAL TRUCK ENGINE RPM}) \times 100 = \text{PTO}\%$$

To determine Engine RPM:

$$\text{PTO RPM} \div (\text{PTO}\% \div 100) = \text{Engine RPM}$$

NOTICE!

Do not select a PTO % and an engine RPM resulting in more than 3000 PTO RPM. Driving the pumps (referenced above) at speeds greater than 3000 RPM will result in premature failure of the pump and other hydraulic components.

TRUCK REQUIREMENTS

In mounting the L3030G4 spreader on a truck, the following major questions must be considered:

1. Is the CA (Cab to Axle) dimension of the truck correct for the length of the spreader?

The Dimensions charts on page 20 will assist in matching spreader to truck.

2. Is the truck's GAWR (Gross Axle Weight Rating) and the GVWR (Gross Vehicle Weight Rating) adequate to carry the fully loaded spreader?

Refer to your New Leader dealer to find the GAWR and GVWR for most trucks, and how to calculate the weight distribution on each axle and total loaded vehicle weight.

HYDRAULIC PUMP INSTALLATION

The HECO pumps are direct mount. See "Pump Hydraulics" parts list for assembly instructions.

RADAR & CONTROLLER INSTALLATION**CAUTION**

All holes in the truck cab walls, floor and firewall for control wires, hoses and cables are to be grommeted, plugged and sealed to prevent entrance of engine fumes, dust, dirt, water and noise.

See control manual for installation instructions of radar, control box and cable routing.



Please Give Part No., Description and Unit Serial No. 305021-E

INSTALLATION INSTRUCTIONS CONTINUED

MOUNTING OF SPREADER BODY

Truck Frame Length

The length from the rear of the cab to the rear end of the frame should be approximately as shown on *Dimensions and Capacities* chart under “C”. Shorten truck frame as necessary, making sure to follow truck manufacturer’s specifications so as not to void truck warranty.

Filler Strips

NOTICE!	Do not weld to truck frame; it may void truck warranty.
----------------	---

A level top surface is necessary for mounting. Add steel shim bars or strips the same thickness as fish plates or other obstructions and as wide as the truck frame channel top flange. Shims must be drilled to clear any rivet or bolt heads.

Units with rubber mounting pads do not require wood filler strips—continue to *Positioning Body* on next page. Rubber mounting pads may be ordered or follow instructions below if not so equipped.

Hardwood filler strips (not supplied) 1” x 3” (2.54cm x 7.62cm) must be installed the full length of the truck frame. Cut filler strips to length and place on truck frame rails. If frame has rivets in top flange, mark position of rivets on filler strips, remove and counterbore for rivet head clearance. Secure filler strips and steel shims (if applicable) to frame top flange by bending anchor clips around them as shown in Figure 1. Attach three anchor clips per steel shim and per wood filler strip. Locate anchor clips between spreader body cross tubes. Attach anchor clips by driving a 1/4” sheet metal screw through clip into wood filler strip as shown in Figure 1.

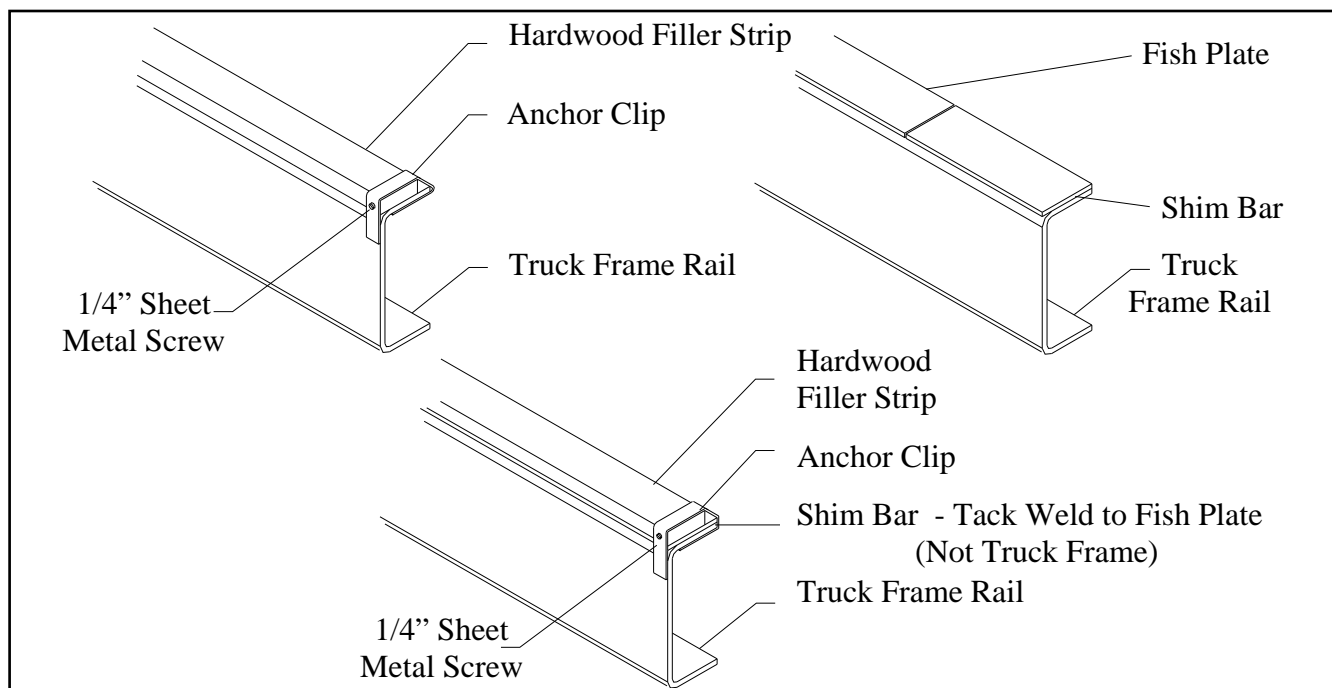


Figure 1 – Wood Filler Strips & Anchor Clips

INSTALLATION INSTRUCTIONS CONTINUED

Positioning Body



WARNING

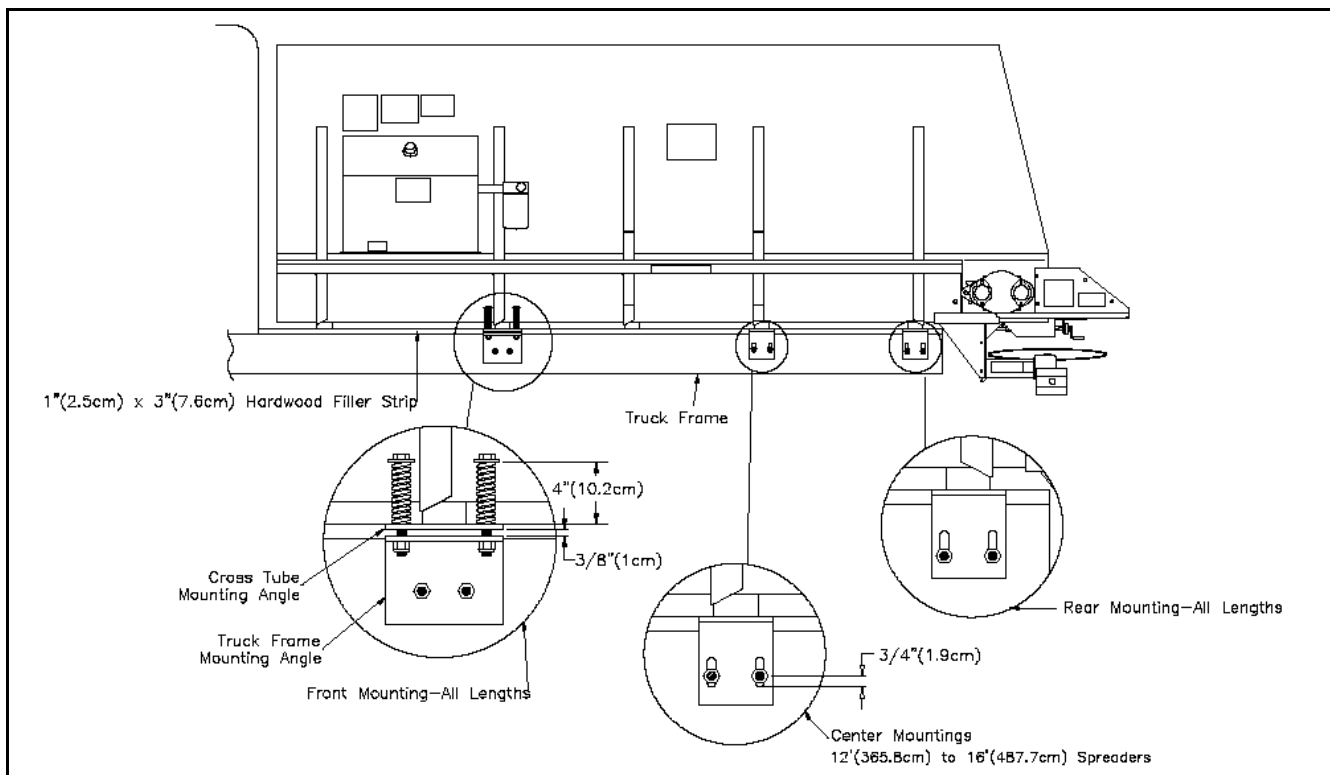
Use only lifting devices that meet or exceed OSHA standard 1910.184. Never exceed work load limits or lift equipment over people. Empty spreader before lifting. Loads may shift or fall if improperly supported, causing injury.



WARNING

Keep unit supported until mounting is complete. Unit could slip off chassis, causing injury or damage to unit.

Using a suitable lifting device, lift empty spreader onto truck frame. Position body centrally with respect to truck frame rails and approximately 4" (10.16cm) from rear of cab. Check position of spreader at rear to insure rear mounting angle can be installed on truck frame and centered on rear cross tube.



Installing Front Mounting Angles



CAUTION

Make sure drill will not puncture gas tank or harm any other obstruction before drilling holes.

NOTICE!

DO NOT PUT HOLES INTO TOP OR BOTTOM FLANGES—to do so may void truck manufacturer's warranty. When drilling holes in frame member, drill only through vertical web portions.



Please Give Part No., Description and Unit Serial No. 305021-E

INSTALLATION INSTRUCTIONS CONTINUED**NOTICE!**

DO NOT WELD ON VEHICLE FRAME! Such welding can lead to fatigue cracking and must be avoided.

NOTICE!

Connect welders ground directly to one of the items being welded anytime an arc welder is used on the vehicle or anything connected to the vehicle. Disconnect power cable from control box! Failure to do so can result in damage to components on both the vehicle and/or spreader, in which case the warranty will be null and void by manufacturer.

Assemble two front mounting angle springs and hardware. Use a 3/8" (.95cm) shim between cross tube mounting plate and truck frame mounting angle. Position assembly under second cross tube from front and against truck frame, make sure springs do not contact cross tube. Mark position of mounting angle holes on truck frame. Drill 9/16" (1.43cm) holes where marked and install mounting assembly using 1/2" (1.27cm) hardware supplied. Weld mounting plate to bottom of cross tube on three sides, and remove 3/8" (.95cm) shim (Figure 3). Tighten spring assembly until spring compressed height is 4" (10.16cm). There should be a 3/8" (.95cm) space between cross tube mounting plate and truck frame mounting angle (Figure 2). Repeat this procedure on other side of truck frame, on same cross tube.

NOTE: It may be necessary to mount front mounting angle springs on first cross tube on some vehicles due to obstructions such as spring shackles, etc.

Installing Center Mounting Angles

Position center mounting angles at a convenient cross tube near center of body with slotted faces against truck frame and mark location of slots on truck frame. Drill 9/16" (1.43cm) diameter holes through truck frame, approximately 3/4" (1.91cm) from bottom of slots (Figure 2). Weld mounting angle to bottom of cross tube on three sides (Figure 3). Install hardware and tighten to recommended torque.

NOTE: Position of center mounting angles will vary due to obstructions such as spring shackles, etc.

Installing Rear Mounting Angles

Position rear mounting angles with the slotted faces against the side of the truck frame and centered on rear cross sill. Mark slot locations on truck frame. Drill 9/16" (1.43cm) diameter holes through truck frame at bottom end of slots (Figure 2). Weld mounting angle to bottom of cross tube on three sides (Figure 3). Install hardware and tighten to recommended torque.



INSTALLATION INSTRUCTIONS CONTINUED

Securing Spreader Body to Frame Install mounting angles and tighten mounting bolts to recommended torque. Weld mounting angles to spreader cross tubes by welding on front, outer and rear sides (Figure 3). Make sure welds between mounting angles and spreader cross tubes are sound full fillet welds. Center mounting angles so good fillet welds can be made on three sides, an edge bead weld is not a satisfactory weld for this service. Use dry E6013 or E7018 rod for mild steel spreaders and type 308 welding rod on stainless steel.

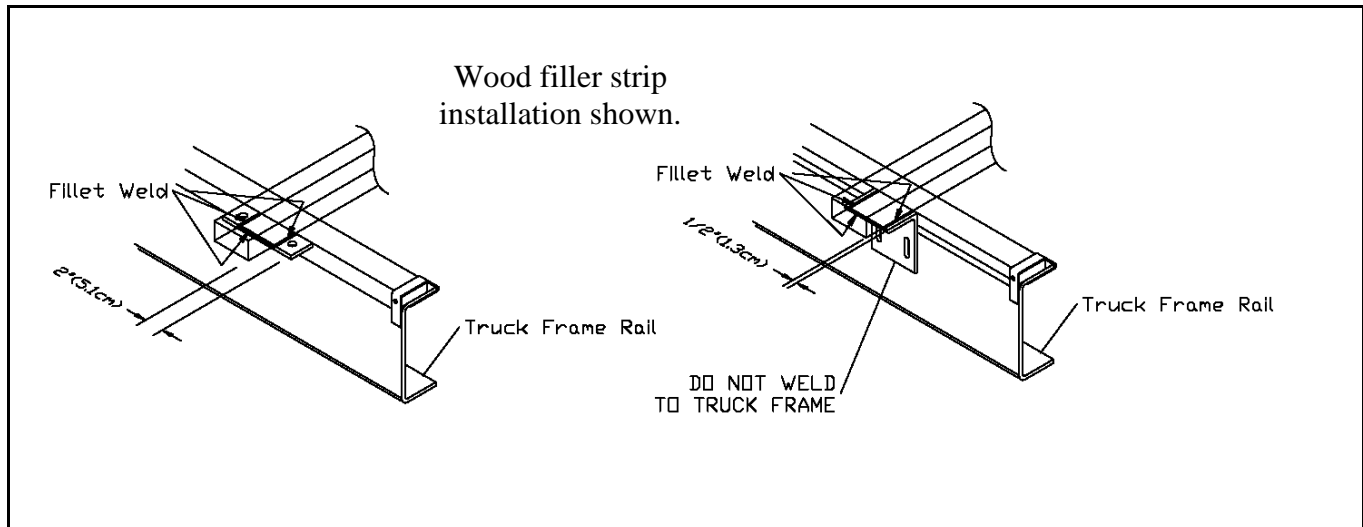


Figure 3 – Welding Instructions

SIDE BOARD INSTALLATION

See “Side Board” or “Side Board Mount (Wood)” parts list for illustration..

INVERTED V INSTALLATION

See “Inverted V” parts list in the back of this manual for illustrations of both typical and high yield installations

INSTALLATION INSTRUCTIONS CONTINUED

FENDER INSTALLATION

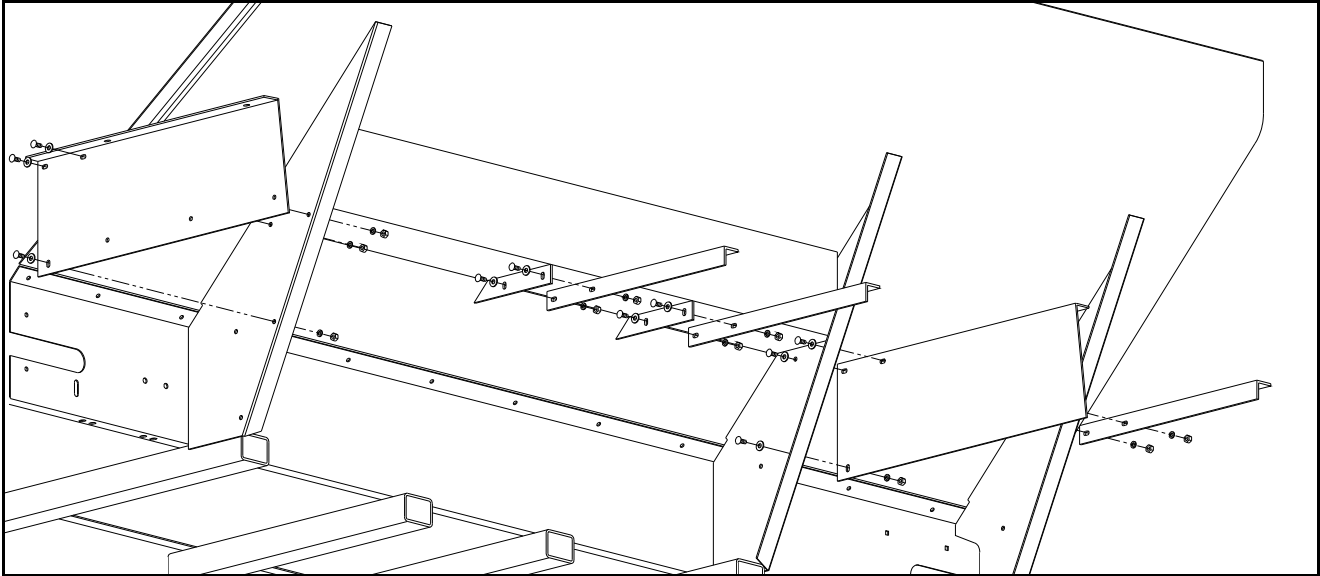


Figure 4 – Fender Angle Installation

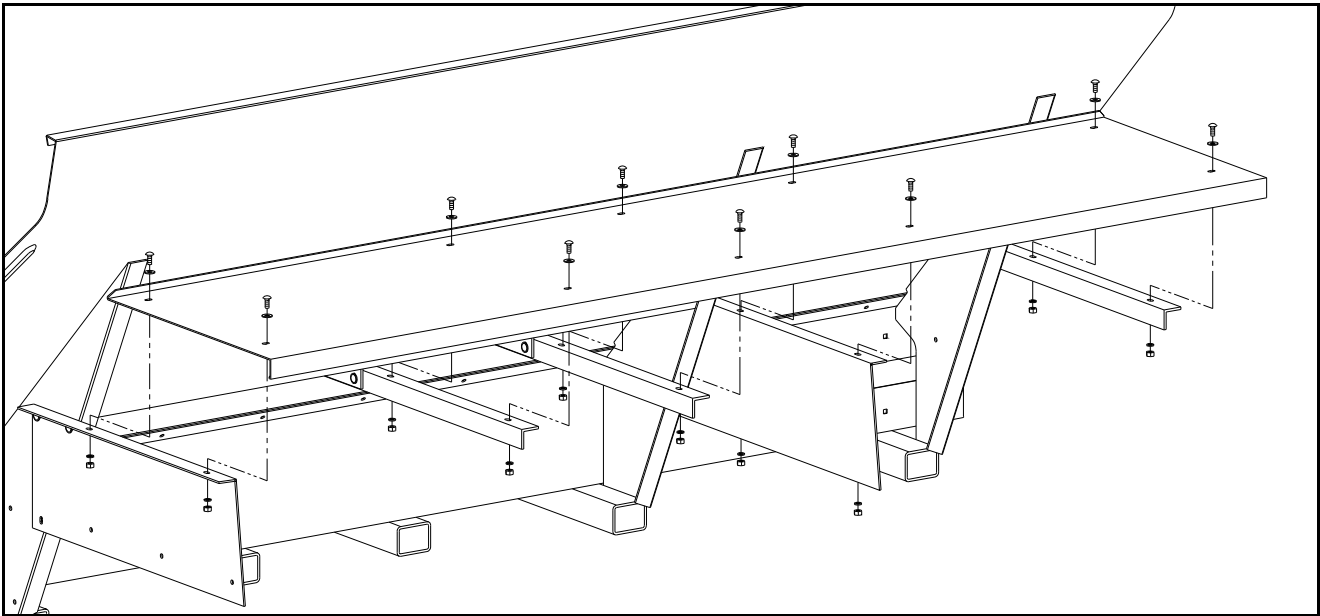


Figure 5 – Fender Installation

Attach fender angles and panels to upper set of holes on spreader body stakes as shown in Figure 4. Do not tighten hardware at this time.

Attach fenders on top of angles/panels as shown in Figure 5. Tighten all hardware.

INSTALLATION INSTRUCTIONS CONTINUED

HYDRAULIC HOSE INSTALLATION



CAUTION

All holes in the truck cab walls, floor and firewall for control wires, hoses and cables are to be grommeted, plugged and sealed to prevent entrance of engine fumes, dust, dirt, water and noise.



CAUTION

If a threaded connection is tightened too tightly, the fitting or housing into which the fitting is placed could be distorted and an unstoppable leak could occur.

Determine pressure port of pump. Install pressure hose into this port as shown in Figure 6. Connect suction hose to opposite port and to tank outlet on reservoir. Use plastic tie straps as necessary to support hoses so they will not catch on field obstructions or contact hot or moving parts.

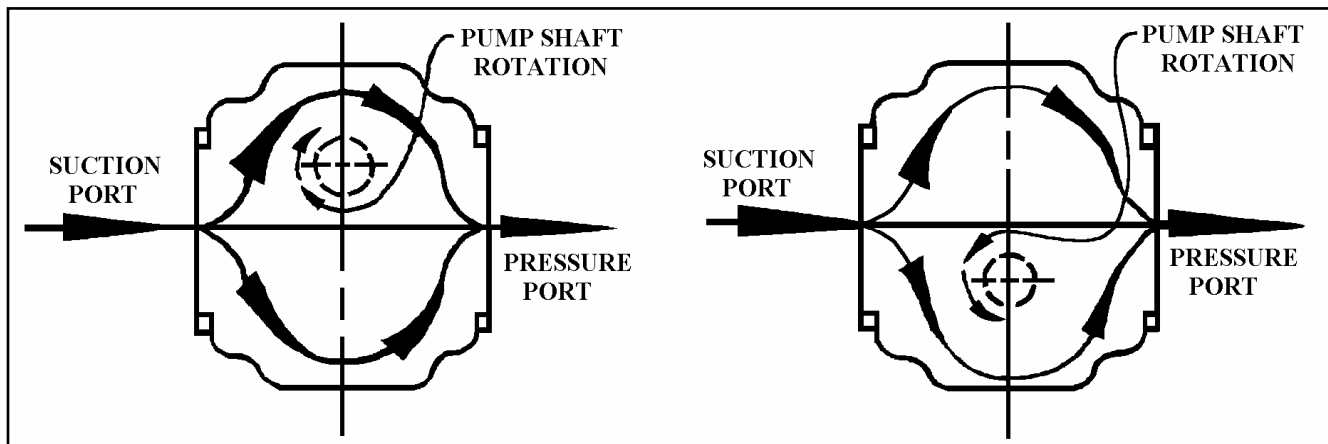


Figure 6 – Hydraulic Pump Installation

Use thread sealer on all fittings, except "O" ring and JIC adapters, "O" ring valves and motors, etc. When using thread sealer, do not put it on the first three threads of the fitting. Too much on the fitting or on the first three threads will force it into the oil stream where it could damage the system.

Assemble system as shown in "Hydraulics" parts list. Place hose clamps as needed to keep hoses away from hot or moving parts. Do not let hoses hang so low as to be snagged. Do not stretch hoses tight.

The hydraulic hoses supplied are as follows:

Pressure Line: Four wire braid hose, one end fitting crimped on, other end fitting to be field installed after cutting hose to length. See assembly instructions on the following page.

Suction Line: Single spiral wire reinforced to be cut to length. Fittings to be assembled with double hose clamps.

All Return Lines: Double cotton braid with crimped end fittings.



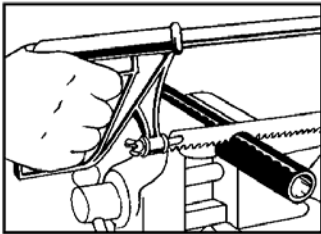
INSTALLATION INSTRUCTIONS CONTINUED



WARNING

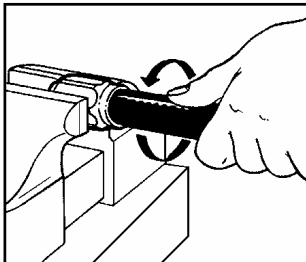
Do not use one manufacturer's hose with another manufacturer's fittings! Such will void any warranty and may cause premature burst or leak of hydraulic fluids! Severe injury and/or fire could result!

Reusable Non-Skive Type Ends



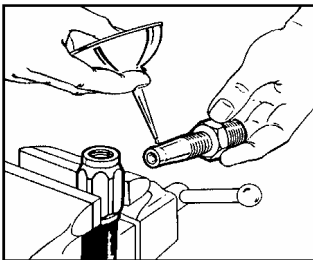
Step 1

Cut hose to length required using a fine tooth hacksaw or cut-off machine.
Clean hose bore.



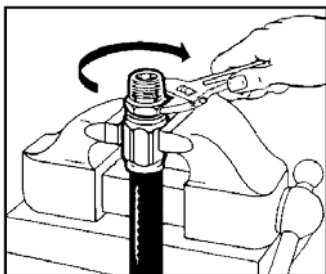
Step 2

Liberalily lubricate hose cover with hose assembly lube.
Place socket in vise and turn hose into socket counterclockwise until it bottoms.
When assembling long lengths of hose, it may be preferred to put hose in the vise just tight enough to prevent from turning, and screw socket onto the hose counterclockwise until it bottoms.



Step 3

Liberalily lubricate nipple threads and inside of hose.
Use heavy weight oil.



Step 4

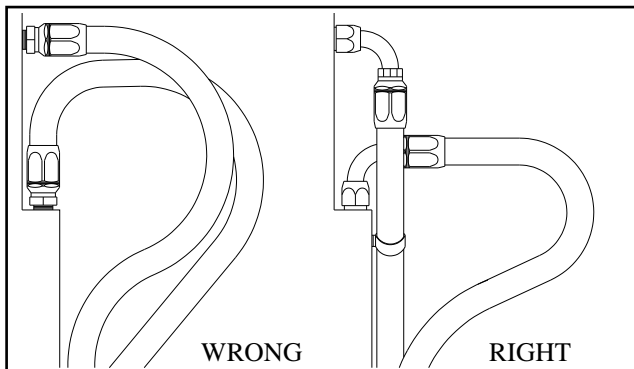
Screw nipple clockwise into socket and hose.
Leave 1/32" (.08cm) to 1/16" (.16cm) clearance between nipple hex and socket.

Disassemble in reverse order.

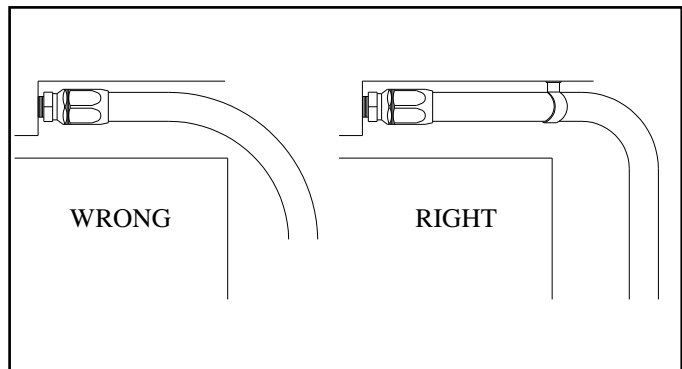
Used with permission of the Aeroquip Company

INSTALLATION INSTRUCTIONS CONTINUED

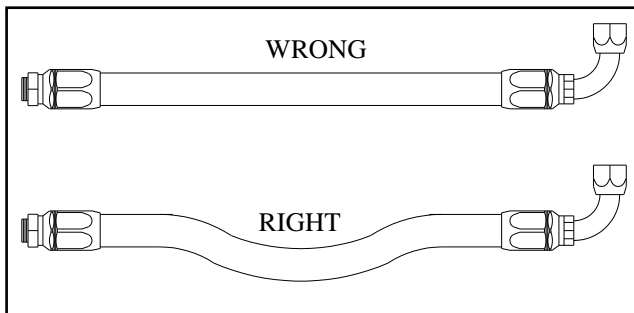
Installation Guide



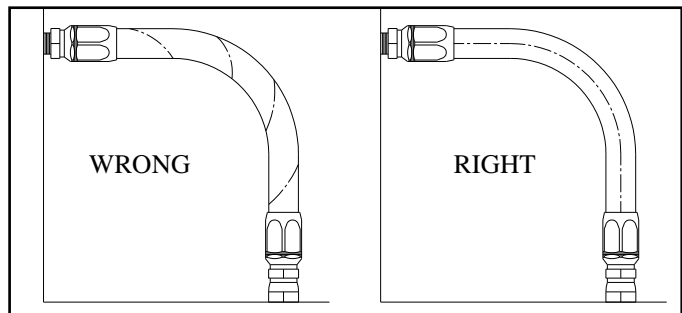
1. Use elbows and adapters in the installation to relieve strain on the assembly, and to provide easier and neater installations that are accessible for inspection and maintenance. Remember that metal end fittings cannot be considered as part of the flexible portion of the assembly.



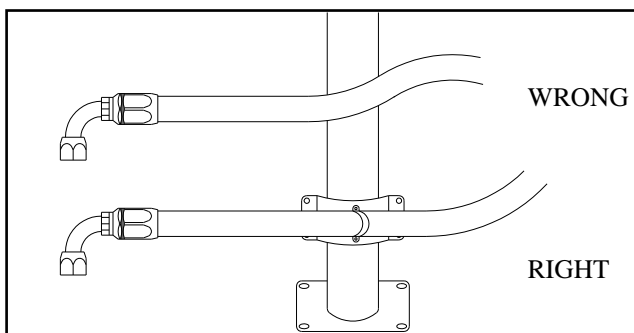
2. Install hose runs to avoid rubbing or abrasion. Clamps are often needed to support long runs of hose or to keep hose away from moving parts. It is important that the clamps be of the correct size. A clamp that is too large will allow the hose to move in the clamp causing abrasion at this point.



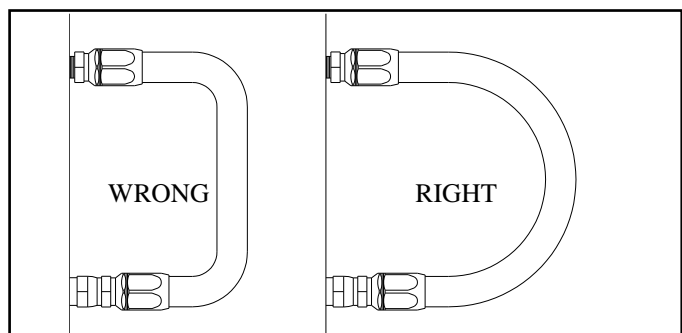
3. In straight hose installations allow enough slack in the hose line to provide for changes in length that will occur when pressure is applied. This change in length can be from +2% to -4%.



4. Do not twist hose during installation. This can be determined by the printed layline on the hose. Pressure applied to a twisted hose can cause hose failure or loosening of the connections.



5. Keep hose away from hot parts. High ambient temperature will shorten hose life. If you cannot route it away from the heat source, insulate it.



6. Keep the bend radii of the hose as large as possible to avoid hose collapsing and restriction of flow. Follow catalog specs on minimum bend radii.

(Used with the permission of The Weatherhead Company.)

INSTALLATION INSTRUCTIONS CONTINUED

Hydraulic Drain Lines

See “Reservoir Hydraulics” and “Pump Hydraulics” parts lists for illustrations:

1. Route drain line from left-hand spinner motor to hydraulic reservoir. If optional PWM valve is installed, route drain line from left-hand spinner motor, to PWM valve, then to hydraulic reservoir.
2. Route pump drain line from pump to tank.

ELECTRIC DUMP VALVE CONTROL

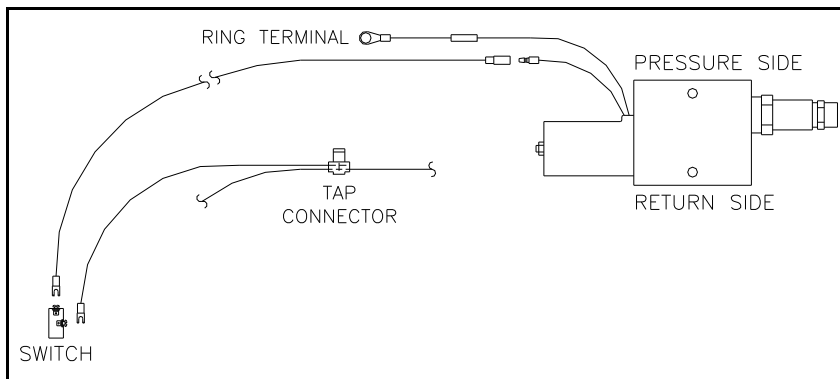


Figure 7 – Electric Dump Valve Control

Manual hydraulics only:

Splice wire from switch into wire with two amp to four amp fuse using tap connector. (See location of tap connector in Figure 7.) Ground ring terminal to chain shield hardware. Mount switch in dash or control panel in a location that is easily accessible while operating vehicle.

COOLER CONNECTIONS

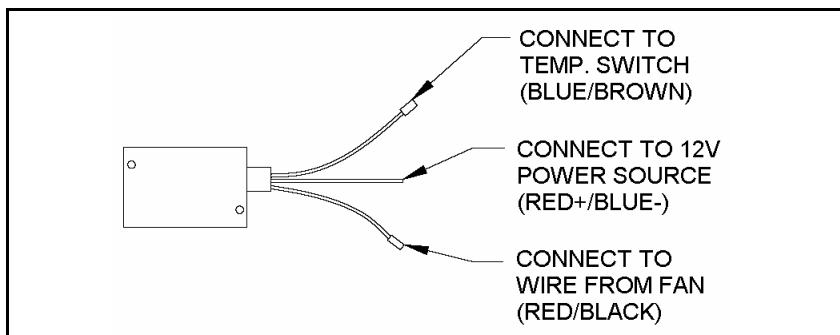


Figure 8 – Cooler Relay

The cooler fan requires 12-volt power to operate. Attach power cable (Figure 8) to battery. Connect red wire to battery positive and blue wire to ground.

ELECTRICAL CONNECTIONS

Connect all electrical control circuits. The supply conductor should be connected to the accessory terminal of the truck ignition switch through the fifteen amp circuit breaker provided in the control panel.

All wiring should be approved automotive insulated wire, supported adequately with insulating ties or straps, and located where it will not interfere with any control or access. Make sure wiring does not contact any moving parts or sharp edge and is kept away from any hydraulic line or any heated part.

INSTALLATION INSTRUCTIONS CONTINUED

LIGHT INSTALLATION

**CAUTION**

All holes in truck cab walls, floor and firewall are to be grommeted, plugged and sealed to prevent entrance of engine fumes, dust, dirt, water and noise.

Light installation must comply with all applicable requirements prescribed by FMVSS/CMVSS 108, state and local regulations. See “Lights” parts list and instructions below for example of installation.

Use two belt reflector mounts to attach rear red reflectors if mudflaps are not installed. Mount three lamp cluster to rear endgate (on both L3030G4 and MULTAPPLIER). Mount red lamps on back of fenders facing rearward and amber lamps at the opposite end of fenders facing forward.

SPINNER SENSOR

The spinner sensor must be mounted under the right-hand spinner disc in holes provided. Rotate disc so one of the cap screws is directly above the sensor. Position sensor 1/8” (.32cm) or less below cap screw and tighten sensor hardware. If the distance between the sensor and spinner cap screw is more than 1/8” (.32cm), the sensor may not get a good RPM reading. See “Spinner Sensor” parts list for illustration.

FILLING HYDRAULIC SYSTEM

NOTICE!

DO NOT attempt to run pump without first filling hydraulic oil reservoir and opening suction line gate valve, or pump may be ruined.

Fill reservoir with hydraulic oil as specified in the “Lubricant & Hydraulic Oil Specifications” section of this manual. Be sure oil is clean, free from dirt, water and other contaminants.

Lubricate all points requiring lubrication per “Lubrication Chart” in this manual.

CHECKING INSTALLATION

See “Initial Start-Up” procedure.



MULTAPPLIER INSTALLATION



WARNING

Use only lifting devices that meet or exceed OSHA standard 1910.184. Never exceed work load limits or lift equipment over people. Empty spreader before lifting. Loads may shift or fall if improperly supported, causing injury.



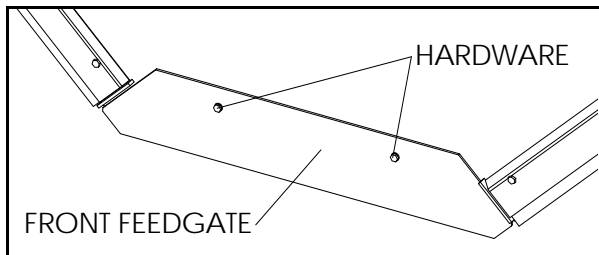
WARNING

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.

Before installing the MULTAPPLIER, remove the Inverted V and Hillside Flow Divider, if so equipped. Disconnect sensors and remote grease lines. Support endgate by attaching a hoist to the lift hooks. Remove hardware from both sides of the endgate and hoist from the spreader.

To adjust MULTAPPLIER feedgate: pull hairpins and move feedgate. Measure from conveyor to bottom of feedgate to determine opening—holes are at 1/2-inch intervals. Replace hairpins.

The MULTAPPLIER's front feedgate can be adjusted to a one and a half-inch, two inch (3.81cm – 5.08cm) (Figure 9) or three-inch (7.62cm) (Figure 10) opening to control the L3030G4's flow. Both feedgates are installed for shipping. Turn feedgate over for three inch opening.



**Figure 9 – 1 1/2" (3.8 cm) or 2" (5 cm)
Opening**

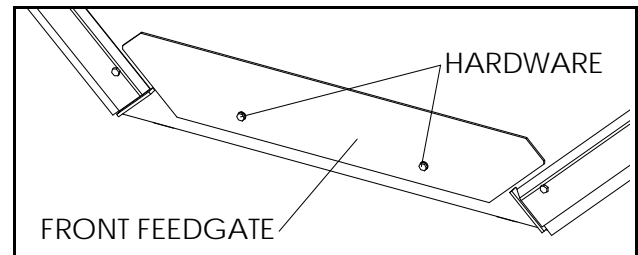


Figure 10 – 3" (7.6 cm) Opening

MULTAPPLIER INSTALLATION CONTINUED

NOTICE!

Before placing the insert in the hopper spray a light silicone film on the hopper side sheets where the insert seals will set.



Figure 11 – Four-Point Lift

Parts needed:

Description

Qty

MULTAPPLIER	1
Cap Screw – 1/2 x 1 1/4 Grade 8	8
Flat Washer – 1/2 Grade 8	16
Lock Washer – 1/2 Grade 8	8
Hex Nut – 1/2 Grade 8	8

Fasten a 4-point lifting device to lift hooks. Hoist empty MULTAPPLIER into spreader as shown in Figure 11. Use a large drift punch or equivalent to align slots and attach hardware. Tighten to recommended torque.

Make sure there is a complete seal covering the gap between the MULTAPPLIER and the side sheets of the L3030G4 as shown in Figure 12. Tighten hardware.



Figure 12 – Front Sealer Belts

NOTICE!

Leakage of material may occur if the sealer belts are not set properly on the front of the MULTAPPLIER. Highway Equipment Company is not liable for lost material due to improperly installed sealer belts.

See *General Operating Procedures* for feedgate adjustment instructions.

MULTAPPLIER INSTALLATION CONTINUED

HYDRAULICS

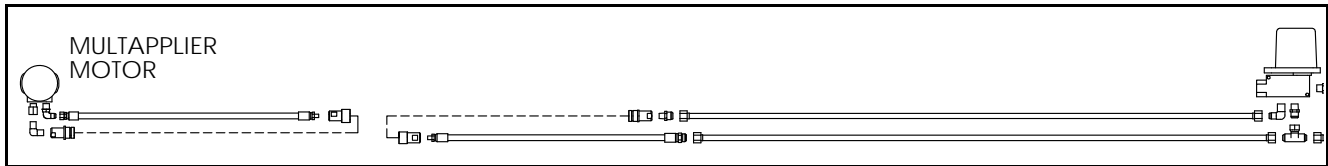


Figure 13 – Detach Quick Disconnects

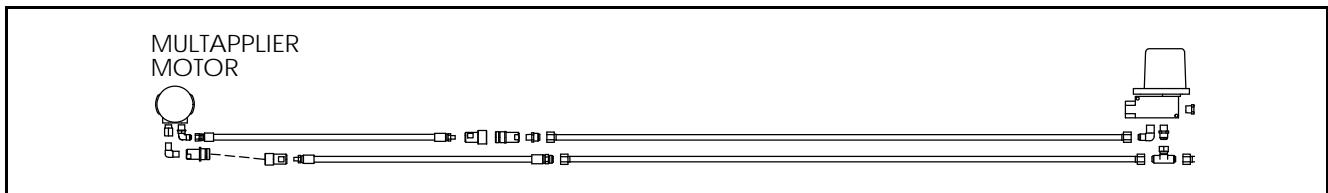


Figure 14 – MULTAPPLIER Operation

Detach quick disconnects on the L3030G4 and the MULTAPPLIER as shown in Figure 13. Attach MULTAPPLIER disconnects to L3030G4 disconnects as shown in Figure 14. Plug in rate sensor.

HILLSIDE DIVIDER

NOTICE!

Highway Equipment Company will not be liable for misapplied material due to an improperly adjusted divider, spreader or both.



Figure 15 – Hillside Divider

Hillside
Divider

Material
Divider

Remove hardware from rear two holes of chain shield on both sides and set aside. Install MULTAPPLIER Hillside Divider over conveyors and attach using chain shield hardware. Adjust Hillside Divider so that the middle divider is centered over both conveyors and the spinner Material Divider as shown in Figure 15. Tighten hardware to recommended torque. Remove rear plate of material divider.

MULTAPPLIER INSTALLATION CONTINUED

DUAL CONVEYOR COVER

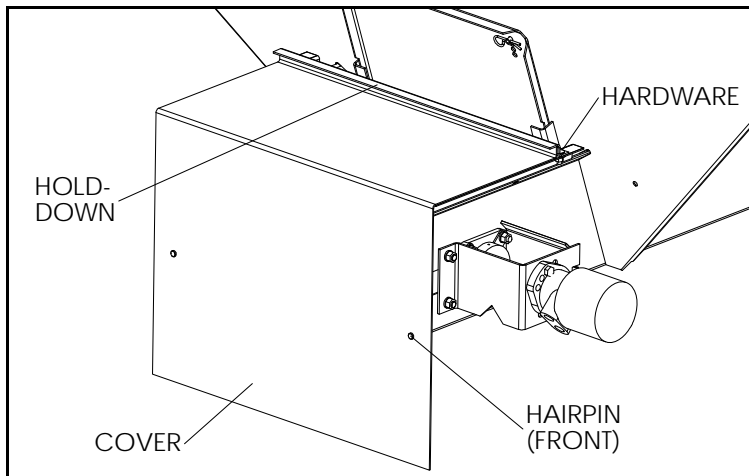


Figure 16 – Dual Conveyor Cover

Parts needed:

<u>Description</u>	<u>Qty</u>
Cover	1
Hold-down	1
Hair Pin	2
Cap Screw – 3/8 x 1	6
Flat Washer – 3/8	6
Lock Washer – 3/8	6
Hex Nut – 3/8	6

Place Cover on MULTAPPLIER sills as shown in Figure 16 and insert Hair pins through cover pins. Position Hold-down over cover and attach with hardware.

MULTAPPLIER REMOVAL / ENDGATE INSTALLATION

Remove MULTAPPLIER and reinstall endgate, Inverted V, single conveyor Hillside Divider, etc. by following installation instructions in reverse order. Make sure the MULTAPPLIER hydraulics are disconnected from the L3030G4 before removal. See “Inverted V” under *Installation Instructions*.

INITIAL START-UP



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 “Fastener Torque Chart” 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 “FULL” mark on sight gauge.
Unit is now ready for field testing.



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.



GENERAL OPERATING PROCEDURES

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 L3030G4 feedgate opening.



WARNING

Stay out of the spreader while conveyor is operating. Turn off all power, set vehicle brakes, lock engine starting switch and remove keys before getting into the spreader. Tag all controls to prohibit operation. Tags should be placed, and later removed, only by the person working in the spreader.

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 a lower gear to allow adequate hydraulic oil delivery from pump so engine speed can be maintained.

NOTICE!

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



LUBRICATION AND MAINTENANCE

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!

1. Check hydraulic oil daily by means of sight gauge on reservoir. Add oil if required. Periodically inspect hoses and fittings for leaks.

NOTICE!

2. Change hydraulic oil filter after first week (or not more than 50 hours) of operation on a unit.

3. After first filter change, replace filter when indicator reaches Red Zone.
4. 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. Refill gear case with one and a half (1-1/2) pints (.71 liters) of recommended 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.



LUBRICATION AND MAINTENANCE CONTINUED

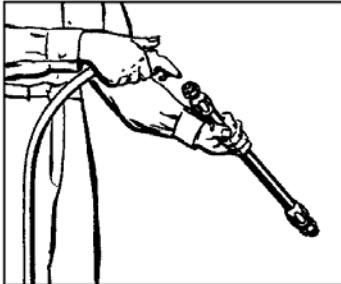
HYDRAULIC HOSE

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.



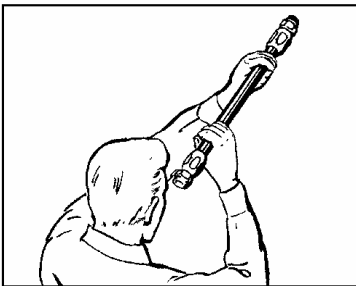
WARNING

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



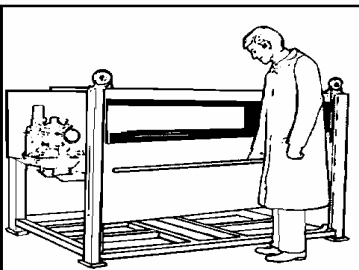
Clean

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 degrees F 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.

LUBRICATION & MAINTENANCE CONTINUED

#5 CONVEYOR BELT

Maintenance

The conveyor belt should be checked daily for proper tension and tracking. See *Adjustment* section.

Do not be alarmed as sides of belt wear unless belt is out of track. The belt will continue to operate satisfactorily with up to 1" (2.54cm) total worn from the sides. Inspect belt lacing frequently for wear or "raveling" of belt grip area and loosening hardware. Retighten loose nuts andpeen end of lacing screw into slot of nut as required.

Adjustment

1. TENSION

Belt tension should be just tight enough to prevent slippage—no tighter. If the "flats" on the conveyor drive pulley are visible through the belt, tension is high enough.

2. TRACKING

Empty spreader to check tracking by doing the following:

- A. Make sure truck engine is shut off and move spinner control valve to "0" position. Start truck engine and engage pump drive PTO. Spinners should not turn. If they do, correct the problem before proceeding.



WARNING

Do not work near rotating spinners. Severe injury can result from contact with moving parts.

- B. Run truck engine, place controller in manual mode (see control manufacturer's manual) and run conveyor at slow speed. Gradually increase speed until tracking is visual.



CAUTION

Use great care to avoid entanglement with any moving parts.

A properly adjusted belt will either remain in a steady position centered on the pulley or more often will "wander" back and forth 1/4 (.64cm) to 1/2 (1.27cm) inch across the pulley, but remain generally centered. The conveyor belt sides should not curl or scuff.



LUBRICATION & MAINTENANCE CONTINUED

Improper tracking is usually due to three basic causes. These problems and their respective solutions follow:

PROBLEM 1: (Figure 17)

Belt tracks to one side, contacts side of conveyor. Contact is more severe at the front and may not quite touch at the rear.

SOLUTION:

Tighten idler bearing at side in contact with belt. Make this adjustment one turn at a time. Operate conveyor 10 to 15 minutes at a high speed to allow belt to react to the adjustment. Repeat if necessary.

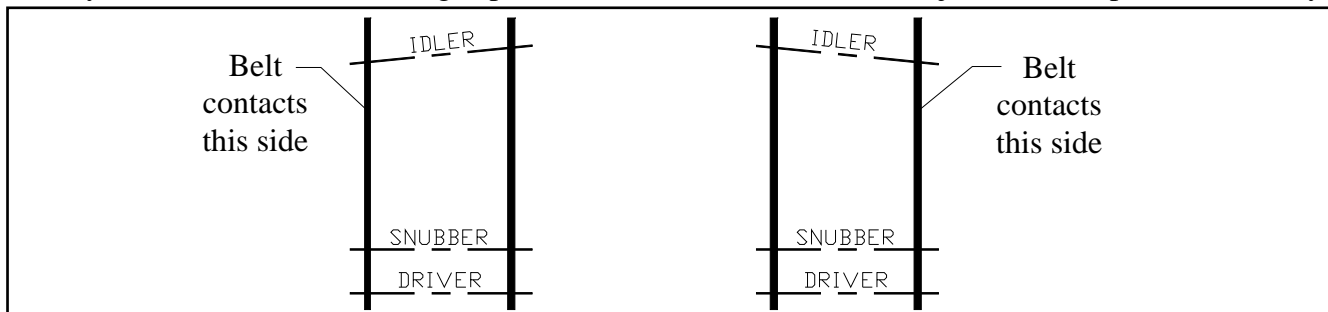


Figure 17

PROBLEM 2: (Figure 18)

Belt contacts one side at front and contacts other side at rear.

SOLUTION:

If adjusting as in Problem 1 does not remedy the situation, adjustment of the drive pulley is necessary. Mark the position of the adjustment screw (RH side) on the side of the unit. Determine which illustration shows the problem to figure out which direction the drive shaft should be moved. Loosen the adjustment screw to move the shaft forward; tighten the screw to move the shaft rearward.

NOTE: The illustration is exaggerated. Only move the adjustment screw 1/4 (.64cm) turn at a time after loosening the bolts holding the bearing. Usually, 1/64 (.04cm) to 1/32 (.08cm) inch adjustment is all that is necessary. Retighten bearing. Operate conveyor for 10 to 15 minutes at a high speed to allow belt to react to adjustment. The problem should change to Problem 1. Adjust as in Problem 1 to track belt properly.

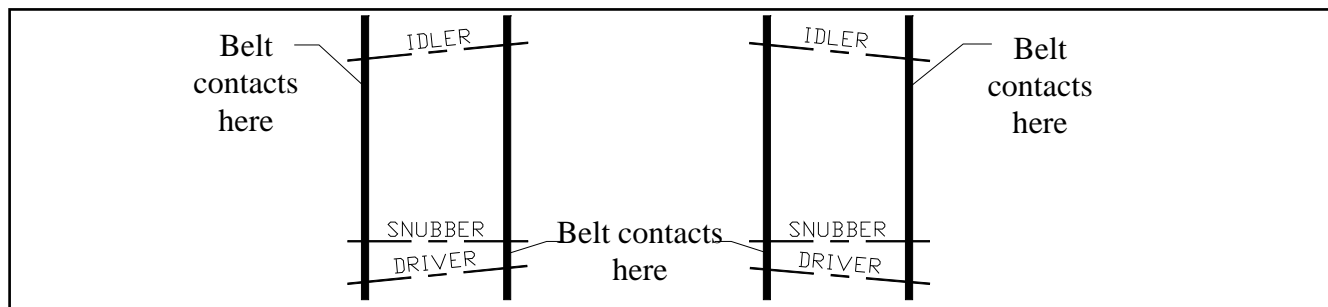


Figure 18

LUBRICATION & MAINTENANCE CONTINUED**PROBLEM 3: (Figure 19)**

Belt contacts side as in Problem 1, but contacts more heavily at a point approximately three feet from rear.

SOLUTION:

Realign snubber pulley. Note the point or side of contact from the illustration. This side of the snubber is too low. **NOTE: This pulley moves up and down ONLY.**

Loosen belt and raise or lower as necessary. Loosen the two bolts holding the snubber bearing on the side to be adjusted after marking the old position. Move approximately 1/16 (.16cm) inch at a time and retighten. Retighten belt the exact number of turns previously loosened. Operate conveyor 10 to 15 minutes to allow belt to react to adjustment. Refer to Problem 1 and readjust. If readjustment does not compensate, repeat.

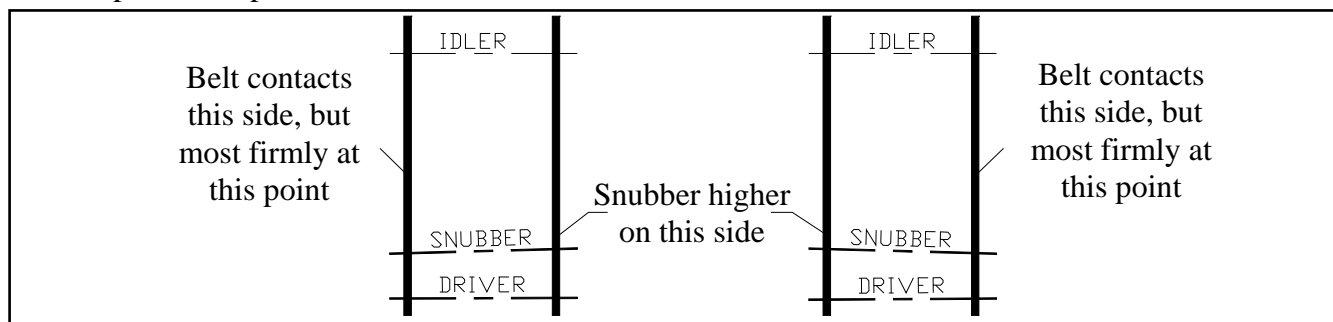


Figure 19

If, after continued adjustment, the belt does not track properly, check the following:

1. Check for twisted spreader body. Shims must be placed between spreader cross tubes and the mounting surface to eliminate any twist in the body structure.
2. Check for crowned Idler Pulley by placing a straight edge on the pulley. If properly crowned, the straight edge will contact the center pulley leaving 1/16 (.16cm) inch gap between the straight edge and both pulley ends. Replace the pulley if crown is not present.
3. Check for lacing squareness by removing the belt. This should be done as a last resort. If the lacing is not square to the belt ends, contact your dealer for service.
4. Sight down the body under the belt shields. The only point which should come close to or slightly contact the belt, is the lowest point on the shield. If the belt contacts the shield firmly at any other point, tracking will be impossible and you should see your dealer immediately. Only your dealer can correct the situation.

LUBRICATION & MAINTENANCE CONTINUED

Shield

The belt shields along each side of the belt inside the unit should be just contacting the belt when the belt is properly adjusted and the unit is empty (Figure 20). If a shield has clearance along its length, it can be moved down until it just contacts the belt by loosening the fastener bolts, allowing the shield to slide downward and tightening the bolts. If the shield is tending to cut into the belt along its full length, loosening the bolts and raising the shield until it just contacts the belt will correct the problem.

If the shield cuts the belt at one or more points or if it gaps at one or more points, it should be replaced.

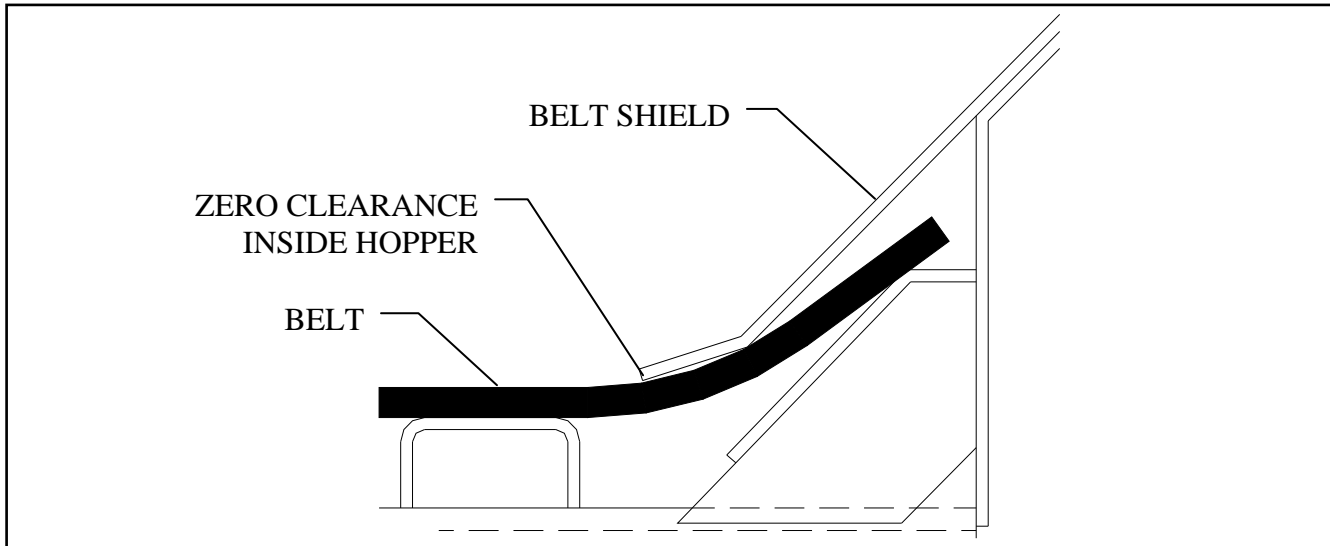


Figure 20 – #5 Bottom

NOTICE!

Don't lubricate the #5 belt. Use of lubricants will cause the belt to deteriorate and fail prematurely.

LUBRICATION & MAINTENANCE CONTINUED

Removal & Replacement

Tools and Equipment Required:

1. 1 1/2" Hex Wrench
2. 25 to 30 Feet (762cm to 914.4cm) of 1/4" (.64cm) to 3/8" (.95cm) Rope.
3. 3 or 4 Pieces of 2 x 4 (5.08cm x 10.16cm) Lumber about 3 Feet (91.44cm) Long.
4. 10 Feet (304.8cm) of 14 or 16 Gauge Soft Iron Wire.

NOTE: Two people MUST be used for this procedure.

Parts Required: See Parts Pages.

Procedure:

1. Set spinner control valve at "0" position to stop spinners.
2. Remove both belt shields, clean thoroughly and repaint.
3. Adjust processor to Manual operation. Select a slow Manual Speed so tracking is visual.
4. Move the front idler adjustment bolts to extreme rear position.
5. Shut down spreader. Pull out splice pin to separate belt splice.
6. Insert pin into one side of belt splice. Attach a winch to the belt splice and remove belt.
NOTE: If the splice pin cannot be removed, cut belt and remove belt by hand.
7. Using any suitable tool, remove any caked material from the drive pulley, snubber pulley, idler pulley and from inside the frame channels. Clean and repaint as required.
8. Thread OLD splice pin through one end of new belt splice. Connect wire to pin about 1/4" in from each side of the belt, forming a loop.
9. Thread the rope along the top of the belt channel, around the front idler pulley, over the snubber pulley, and under the drive pulley.



CAUTION Make sure power is shut off before performing threading operation.

10. Tie end of rope under drive pulley to wire loop. Wrap other end of rope once around drive pulley and out to rear.
11. Start conveyor drive so drive pulley turns slowly. One person should pull on rope while other feeds belt into unit from rear. Pull new belt under drive pulley, over snubber pulley, along frame channels, around front idler pulley and back to drive pulley.



CAUTION Use extreme care to avoid entanglement! Someone must stay at controls to stop conveyor instantly if required.



CAUTION Use extreme care to avoid entanglement! Stand well back from drive pulley.

12. Shut off all power and insert lumber under belt to support its weight as shown in Figure 21.



LUBRICATION & MAINTENANCE CONTINUED

13. Insert a plastic tube in each splice and across the full width of the belt and pull the two ends together at the center of the rear face of the drive pulley.
14. Insert the splice pin (flexible, plastic covered).
15. Snug the belt up by tightening the idler pulley.
16. Tighten the belt until the edge of the belt is approximately 2" (5.08cm) above the lower edge of the sill lower flange on each side. Remove lumber.
17. Adjust for proper tracking as outlined in the *Belt Conveyor Adjustment* section of this manual.

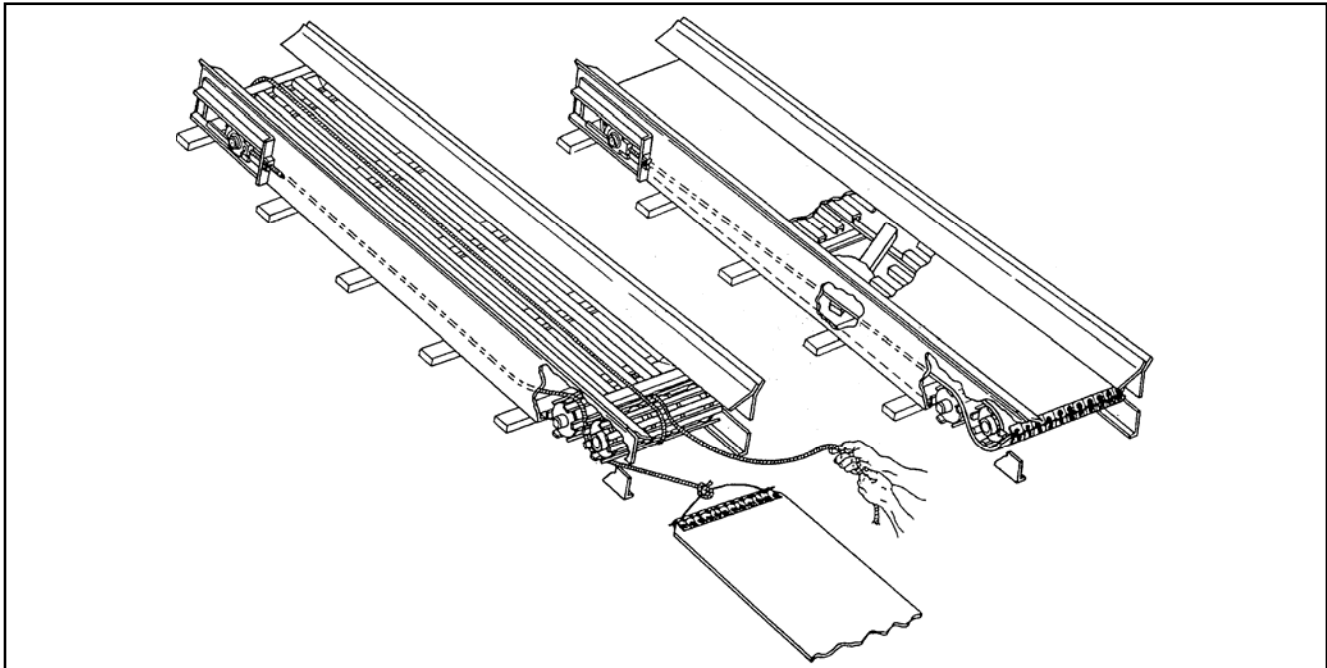


Figure 21 – #5 Belt Installation

LUBRICATION & MAINTENANCE CONTINUED

#4 CONVEYOR CHAIN

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!

Lubricate conveyor chain daily. Shut down spinner and run conveyor slowly to lubricate chain. Use a mixture of 75% fuel oil and 25% SAE 10 oil in a pressurized hand spray gun. Spray oil mixture between links of chain. After washing unit, allow to dry, then lubricate.



DANGER

Stay out of body when conveyor is running. Stay clear of all moving parts. Entanglement of clothes, any part of your body or anything you have in your hands can cause serious injury. Do not use a bar, rod or hammer on conveyor while it is moving—if it gets caught it could cause injury!

Proper chain tension is also a factor in chain and sprocket life (Figure 8). Make sure chain is tensioned equally on both sides. This adjustment is made on each side of the unit at the idler bearings.

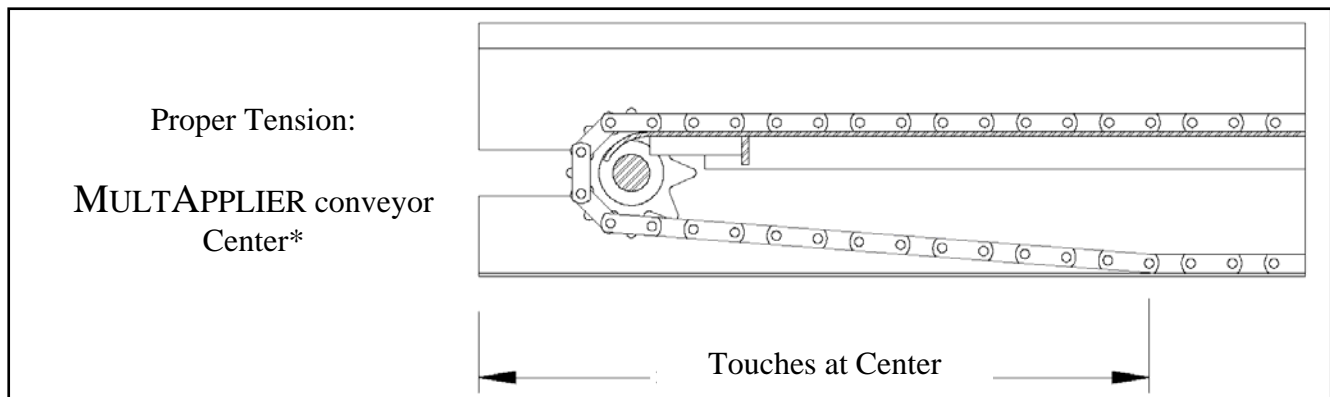


Figure 22 – Adjusting Chain Tension

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.

#4 Conveyor Belt Maintenance

The standard belt for the #4 conveyor has a nylon fabric that is impervious to moisture, weathering or normal action except oil. Inspect belt fastener occasionally for wear or “raveling” of belt grip area.



LUBRICATION & MAINTENANCE CONTINUED

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.

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.

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.

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.

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.



LUBRICANT AND HYDRAULIC OIL SPECIFICATIONS**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.

	No Cooler	With Cooler
Ideal Oil Operating Temperature	140 – 190° F	115 – 158° F
Recommended Premium Lubricant	Automotive Engine Oil	Multi-Purpose Agriculture Hydraulic & Transmission Oil
Lubricant Specifications: Viscosity Index Viscosity at 40°C, cst Viscosity at 100°C, cst	Greater than 130 Less than 115 Greater than 14	Greater than 130 Less than 68 Greater than 9
Acceptable Fluid Example	Valvoline All-Fleet Plus® SAE 15W-40	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 degrees F. Ambient temperatures below 40 degrees F. require an SAE 80 E.P. lubricant; above 100 degrees F. use an SAE 140 E.P. grade oil.

GREASE GUN LUBRICANT

Use a waterproof ball and roller bearing lithium base lubricant with a minimum melting point of 300° F. 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 OIL LUBRICANT

Use non-corrosive type SAE 90 (40° to 100° F.); SAE 80 (below 40° F.); SAE 140 (above 100° F.) E.P. (extreme pressure) multi-purpose gear lubricating oil.

NOTICE!

Don't lubricate the #5 belt. Use of lubricants will cause the belt to deteriorate and fail prematurely.



LUBRICATION AND MAINTENANCE CHART**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)	
#5 Conveyor			
Drive Pulley Bearings	2	Grease Gun	Weekly
Idler Turnkleen Bearings	2	Grease Gun	Weekly
Snubber Pulley Bearings	2	Grease Gun	Weekly
Idler Adjusting Screws	2	Hand Grease	Weekly
Gear Case	1	Gear Oil	Check Monthly; Change Annually
#4 Conveyor – MULTAPPLIER			
Drive Shaft Bearings	2	Grease Gun	Weekly
Idler Shaft Bearings	2	Grease Gun	Weekly
Idler Adjusting Screws	2	Hand Grease	Weekly
Chain	2 Strands	Spray Oil	Daily
Jack Assembly			
Gears	1	Grease Gun	Annually
Tube	1	Grease Gun	Weekly
Spinner			
Grease Zerks – Jack & Shaft	4	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.



TROUBLESHOOTING

- Symptom:** Spinner motors do not turn when spinner control valve is in running position or conveyor does not run when function knob is pulled out and manually rotated. 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. 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.

Reason:**Correction:**

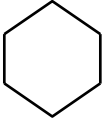
1. Hydraulic oil level low.	Add hydraulic oil to reservoir up to “Full” mark.
2. Shut-Off valve on oil reservoir not open.	Open valve fully by turning counter-clockwise until it stops.
3. Hydraulic Pump is not rotating.	1. PTO is disengaged. Shift into engagement. 2. Drive line has failed. Repair or 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.	In-Line relief valve pressure should be 3100 PSI. If unit is not equipped with pressure gauge, install one at main relief valve. Disconnect pressure line from main relief valve and reconnect to flow meter and lead 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. If this pressure cannot be reached, adjust relief valve until gauge reads 3100 PSI. CAUTION: Do not set pressure above 3100 PSI.



TROUBLESHOOTING CONTINUED**Reason:****Correction:**

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 1000 PSI. Flow rate should not decrease more than ten percent. If flow loss is greater, replace pump.
6. Relief valve open to return line.	Using relief valve testing adapter and flow meter, test valve for opening pressure. If not 2000 PSI, 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 50 GPM 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.

STANDARD TORQUES NATIONAL COARSE (NC) CAP SCREWS**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.

	TORQUE - FOOT-POUNDS					
CAP SCREW SIZE	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

INSTRUCTIONS FOR ORDERING PARTS



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.

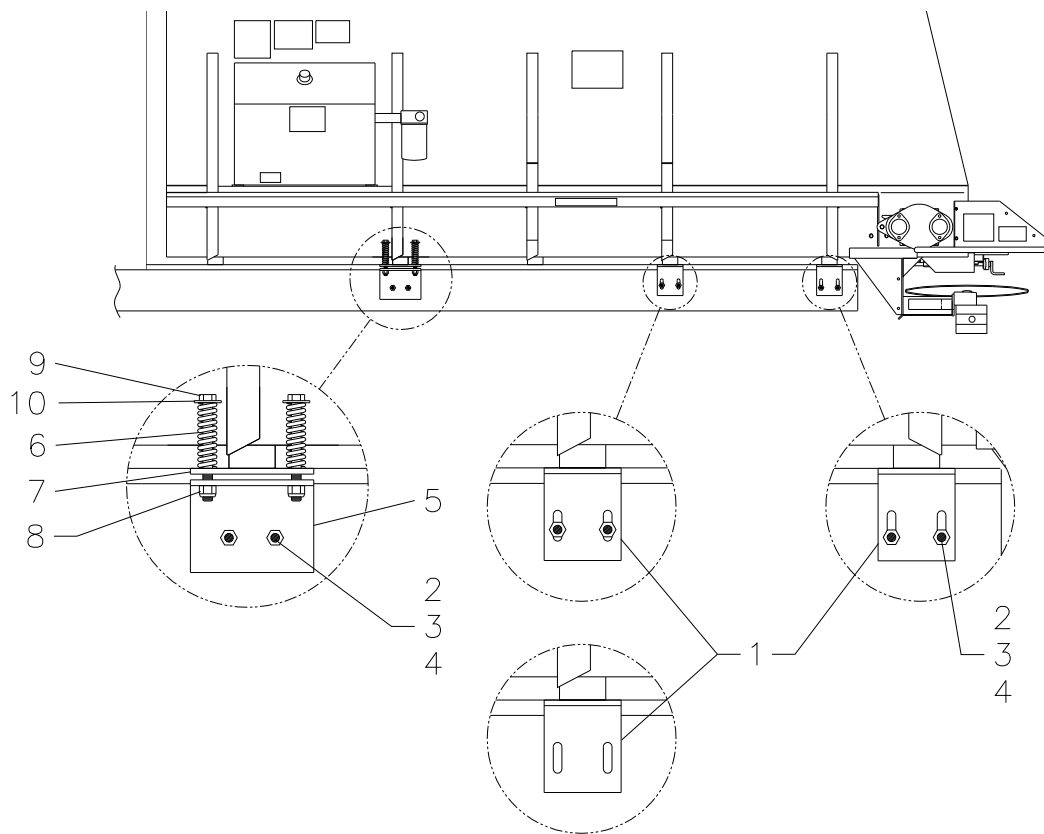
If your claims are not being handled (by the transportation company) to your satisfaction, please call the Parts Manager at Highway Equipment Company (319-363-8281) for assistance.

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

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

The parts listed are for a SS unit and do not necessarily mean the part is made of that type of steel.



MOUNTING ANGLE

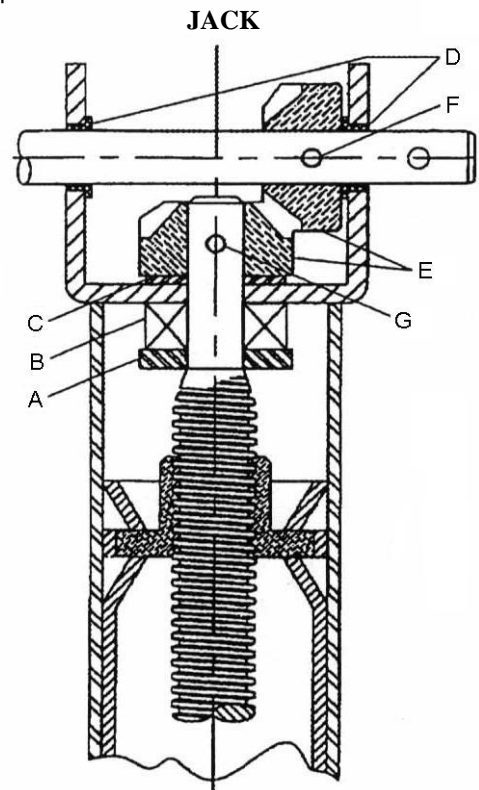
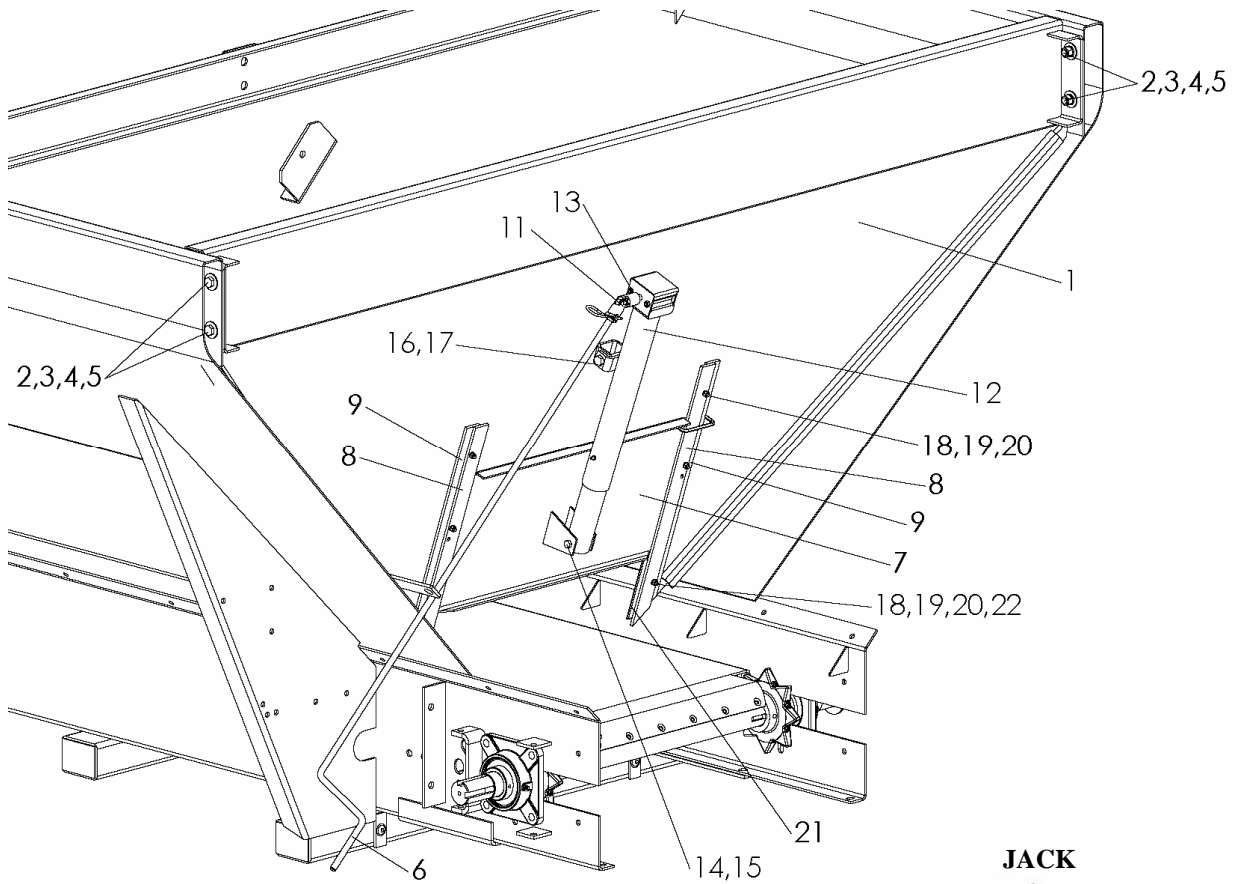
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	31856	Angle – Mounting	4
2	20131	Cap Screw – 1/2 x 2	12
3	20695	Washer – Flat 1/2	12
4	20680	Washer – Flat 1/2	12
5	81847	Angle – Mounting	2
6	81000	Spring	4
7	81848	Mounting – Bar	2
8	41762	Nut – Lock 5/8	4
9	20195	Cap Screw – 5/8 x 6-1/2	4
10	20697	Washer – Flat 5/8	4
11	* 39942	Strap – Retainer	8
12	* 72071	Screw – Self Tapping 1/4 x 3/4	8

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

REMOVABLE ENDGATE, FEEDGATE & JACK

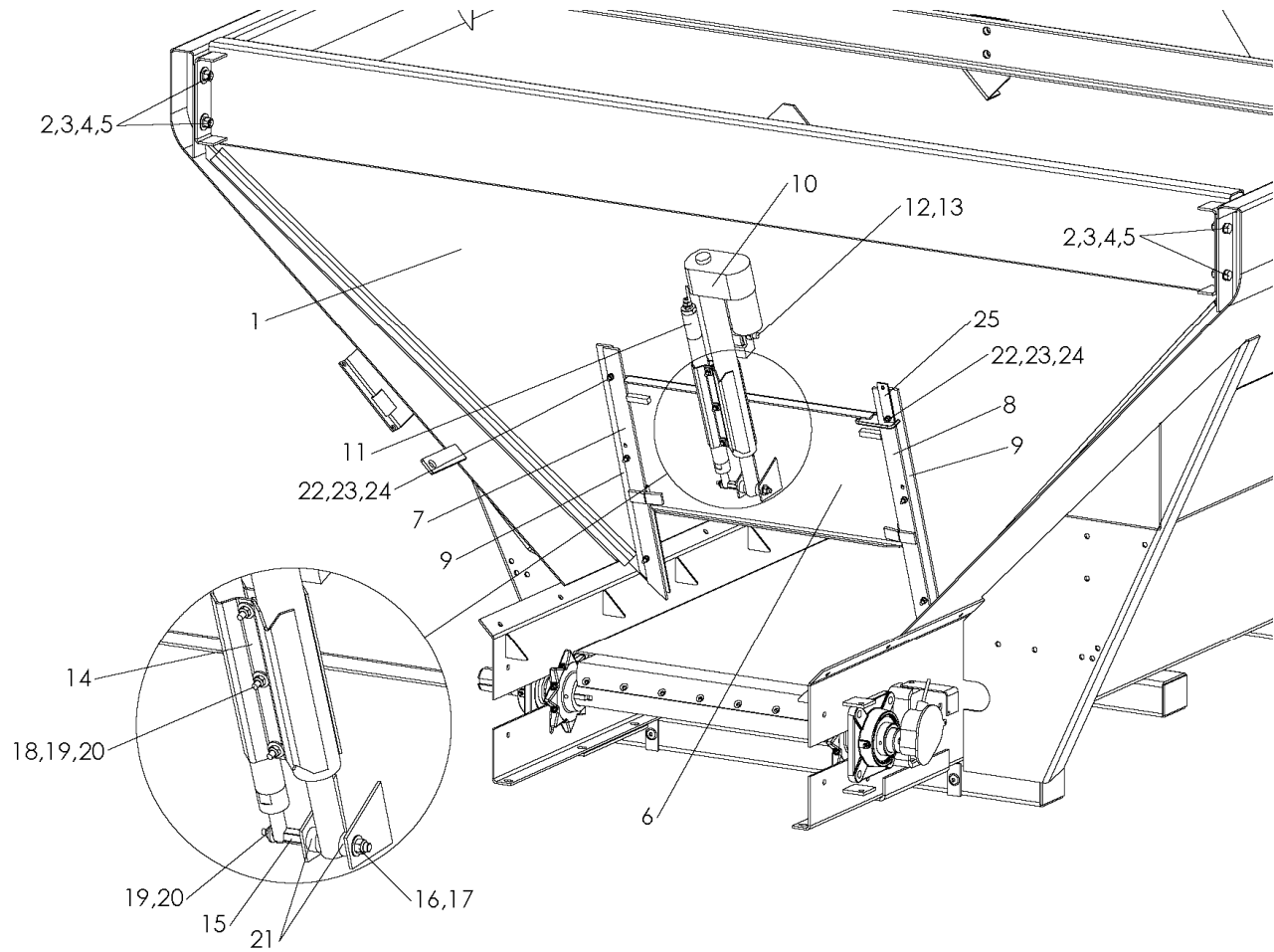


REMOVABLE ENDGATE, FEEDGATE & JACK CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	303944	Endgate – Assembly Removeable, Includes 1, 6-20	
	86951	Hardware – Kit, Includes 2-5	
1	86952	Endgate – Removable Weldment	1
2	20128-X1	Cap Screw – 1/2 x 1-1/4 Gr8	4
3	20695	Washer – Flat 1/2	8
4	20714	Washer – Lock 1/2	4
5	20646	Nut – Hex 1/2	4
6	72641	Handle	1
7	303937-AA	Feedgate – Weldment	1
8	36384	Slide – Feedgate RH	1
9	36385	Guide – Feedgate	
10	85002	U-Joint	1
11	20918	Pin – Roll	2
12	40704	Jack	1
A	84210	Washer – Thrust	1
B	84211	Bearing – Thrust	1
C	84212	Washer	1
D	84213	Bushing	2
E	84214	Gear – Miter	2
F	84215	Pin – Groove	1
G	84216	Pin – Roll	1
13	86878	Pin – Hair	1
14	80798	Cap Screw – 1/2 x 3-3/4 SS	1
15	39016	Nut – Hex 1/2 SS	1
16	36296	Cap Screw – 3/8 x 2-3/4 SS	1
17	72054	Nut – Lock 3/8 SS	1
18	40750	Cap Screw – 1/4 x 1-1/4 SS	6
19	36418	Washer – Lock 1/4 SS	6
20	36412	Nut – Hex 1/4 SS	6
21	305078	Sealer – Endgate Bolt-in (inside)	2
22	36423	Washer – Flat 1/4	2



REMOVABLE ENDGATE, FEEDGATE WITH ACTUATOR



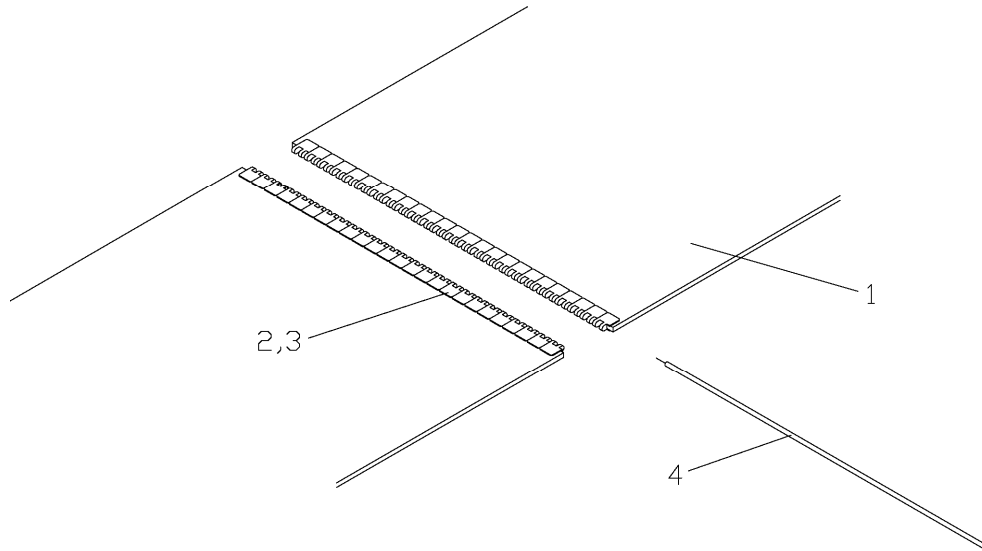
REMOVABLE ENDGATE, FEEDGATE WITH ACTUATOR CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	303935	Endgate – Assembly 30” with Actuator, Includes 1, 6-25	
	86951	Hardware – Kit, Includes 2-5	
1	304512	Endgate – Weldment Removeable	1
2	20128-X1	Cap Screw – 1/2 x 1-1/4 Gr8	4
3	20695	Washer – Flat 1/2	8
4	20714	Washer – Lock 1/2	4
5	20646	Nut – Hex 1/2	4
6	303937-AA	Feedgate – Weldment 30” with Actuator	1
7	302792-AA	Slide – Feedgate Stop LH	1
8	302792-AB	Slide – Feedgate Stop RH	1
9	36385	Bar – Feedgate Guide	2
10	302767	Actuator – Electric 14” Stroke	1
11	302791	Sensor – Assembly 10”	1
12	80798	Cap Screw – 1/2-13 x 3-3/4 SS	1
13	39016	Nut – Lock 1/2-13 SS	1
14	303940	Clamp – Long	2
15	302769	Pin – Feedgate Sensor	1
16	36425	Washer – Flat 3/8 SS	1
17	72054	Nut – Lock 3/8-16 SS	1
18	42448	Cap Screw – 1/4-20 x 1-1/2 SS	3
19	36423	Washer – Flat 1/4 SS	9
20	42034	Nut – Lock 1/4-20 SS	4
21	303941	Spacer – Actuator Mount	2
22	40750	Cap Screw – 1/4-20 x 1-1/4 SS	6
23	36418	Washer – Lock 1/4 SS	6
24	36412	Nut – Hex 1/4-20 SS	6
25	304512	Mount – Feedgate Cables	1
26	*305078	Sealer – Endgate Bolt-in	2

* - Not Shown



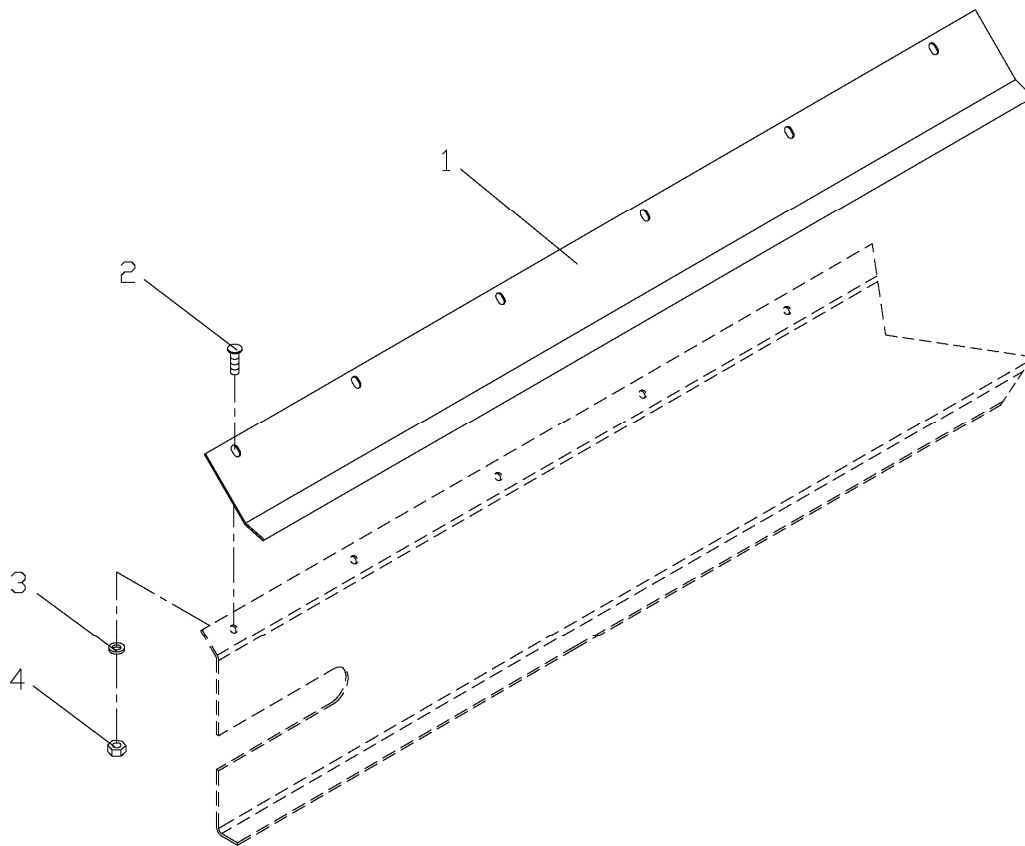
Please Give Part No., Description and Unit Serial No.

CONVEYOR

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	70946	Conveyor – Assembly #5 11' Unit	
	71267	Conveyor – Assembly #5 12' Unit	
	305016	Conveyor – Assembly #5 13' Unit	
	305017	Conveyor – Assembly #5 14' Unit	
1	71108	Belt – Conveyor 11' Unit	1
	71109	Belt – Conveyor 12' Unit	1
	71110	Belt – Conveyor 13' Unit	1
	71111	Belt – Conveyor 14' Unit	1
	33884	Tape – Belt (per foot)	AR
2	53992	Fastener – Assembly 1-Bolt	4
	53993	Fastener – Assembly 2-Bolt	2
	53994	Fastener – Assembly 3-Bolt	6
3	39604-29	Tube – Plastic	2
4	70950	Pin – Hinge	1

AR – As Required

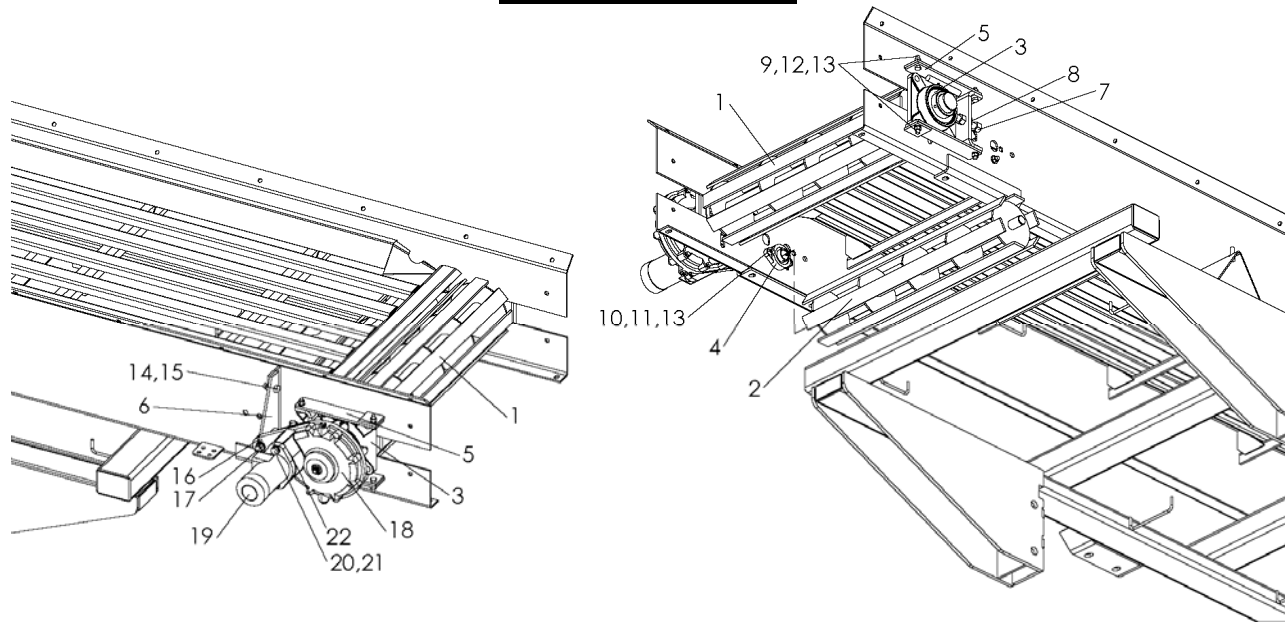
CHAIN SHIELDS



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	54111	Shield – Chain Group 11'	
	54112	Shield – Chain Group 12'	
	54113	Shield – Chain Group 13'	
	54114	Shield – Chain Group 14'	
1	54120	Shield – Chain 11'	2
	54121	Shield – Chain 12'	2
	54122	Shield – Chain 13'	2
	54123	Shield – Chain 14'	2
2	71829	Screw – Truss Head 3/8-16 x 1 SS	AR
3	36420	Washer – Lock 3/8 SS	AR
4	36414	Nut – Hex 3/8-16 SS	AR

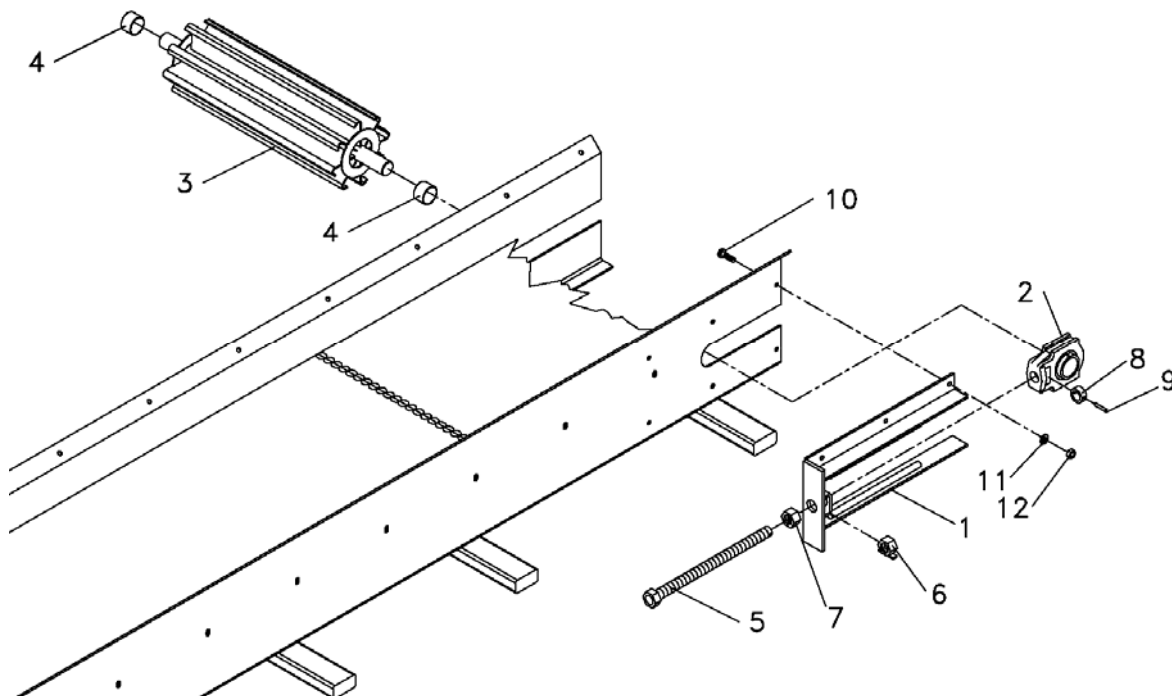
AR – As Required

CONVEYOR DRIVE



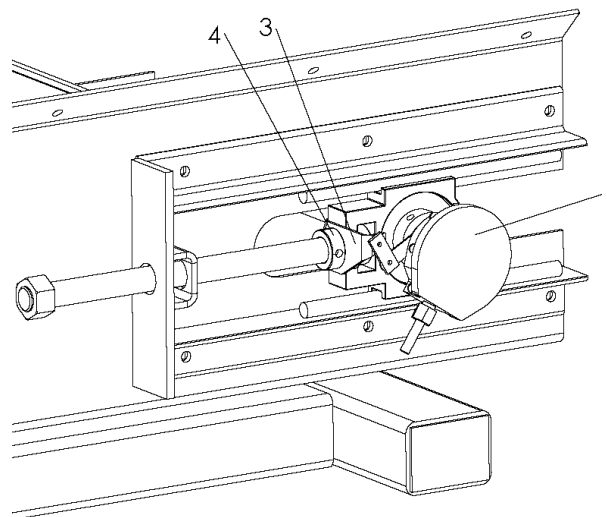
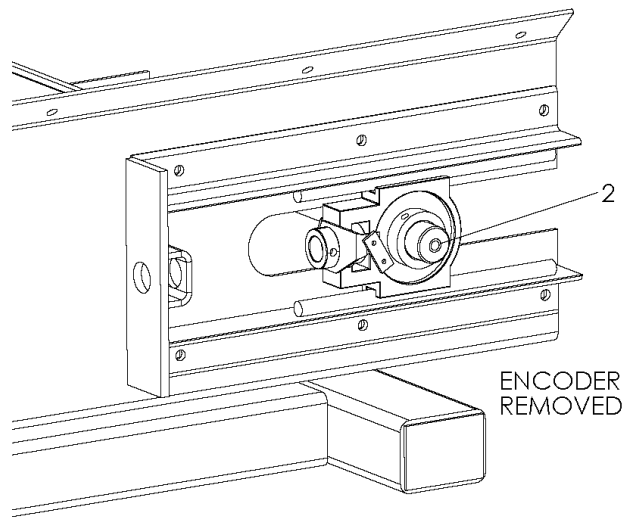
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	81356-X3	Drive – Assembly #5, Includes 1-17	
	57301	Gear Case – Assembly, Includes 18-21	1
1	71674	Drive – Weldment Pulley	1
2	71676	Snubber – Weldment Pulley	1
3	6465	Bearing	2
4	32468	Bearing – Assembly	2
	22563	Bearing	2
	34798	Fitting – Zerk	2
	6071	Zerk – Grease 1/8 NPT 90°	2
5	82885	Guide – Weldment Bearing	4
6	82552	Bracket – Torque Arm LH	1
7	81354	Screw – Weldment Set 5/8	1
8	36417	Nut – Hex 5/8 SS	1
9	36399	Cap Screw – 3/8-16 x 1-1/4 SS	8
10	71772	Screw – Button Head 3/8-16 x 1-1/4	4
11	36425	Washer – Flat 3/8 SS	4
12	36420	Washer – Lock 3/8 SS	8
13	36414	Nut – Hex 3/8 SS	12
14	20128	Cap Screw – 1/2-13 x 1-1/4	2
15	20680	Nut – Lock 1/2-13	2
16	20833	Pin – Cotter 1/4 x 1-1/2	1
17	2716	Washer – Machine 1 O.D. x 3/4 I.D.	2
18	36671	Gear Case – Single	1
19	38897	Motor – Hydraulic, 1-1/2"	1
20	20128	Cap Screw – 1/2 x 1-1/2	2
21	20714	Washer – Lock 1/2	2
22	74524	Gasket – Motor Flange	2

CONVEYOR IDLER



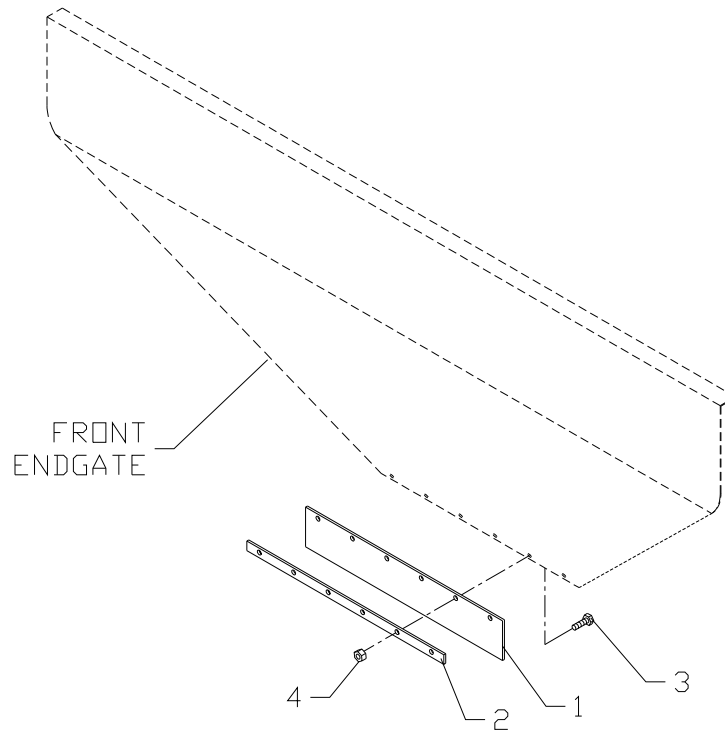
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	81347-X2	Idler – Group 30” #5	
1	7895	Take-up – Weldment	2
2	22511	Bearing – Take-up	2
3	81344-X1	Idler – Weldment Turnkleen 30”	1
4	81345	Spacer – Pipe Idler Pulley	2
5	36508	Tightener – Chain Weldment	2
6	39110	Nut Weldment	2
7	36509	Nut – Hex 1-8NC SS	2
8	30725	Collar – Set 1”	2
9	20925	Pin – Roll 1/4 x 1-1/2	2
10	36409	Bolt – Carriage 3/8 x 1-1/4 SS	12
11	36420	Washer – Lock 3/8 SS	12
12	36414	Nut – Hex 3/8 SS	12

ENCODER



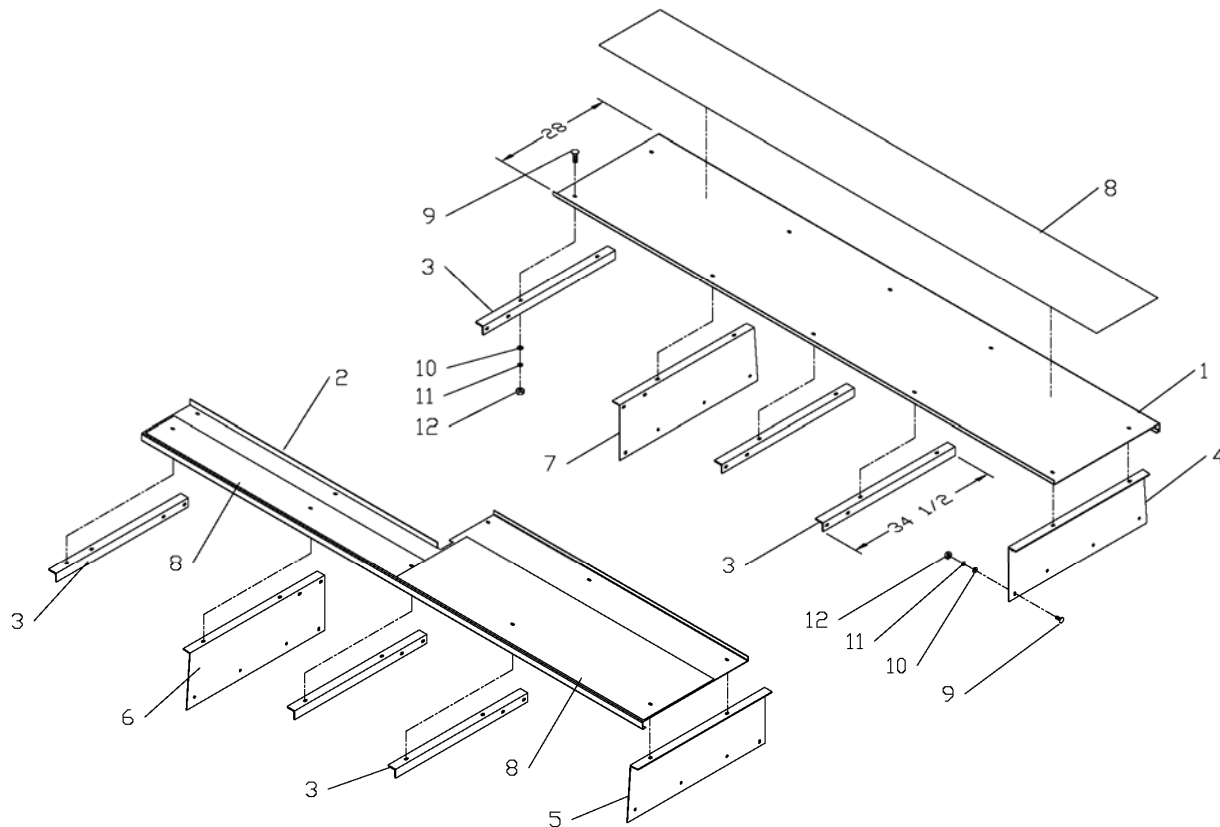
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	304787	Mount – Kit Encoder for #5, Includes 2-4	
1	303994	Encoder – 180 with Hardware	1
2	56263	Sleeve – Rate Sensor	1
3	81949	Bracket – Sensor, Idler Mount	1
4	2696	Collar – Set 1”	1

WIPER BELT



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	90826	Wiper – Assembly Front	
1	14743	Wiper – Belt	1
2	71656	Retainer – Belt	1
3	32446	Screw – Truss Head 1/4 x 3/4	6
4	36412	Nut – Hex 1/4	6

FENDERS – FULL FLOATATION TIRES



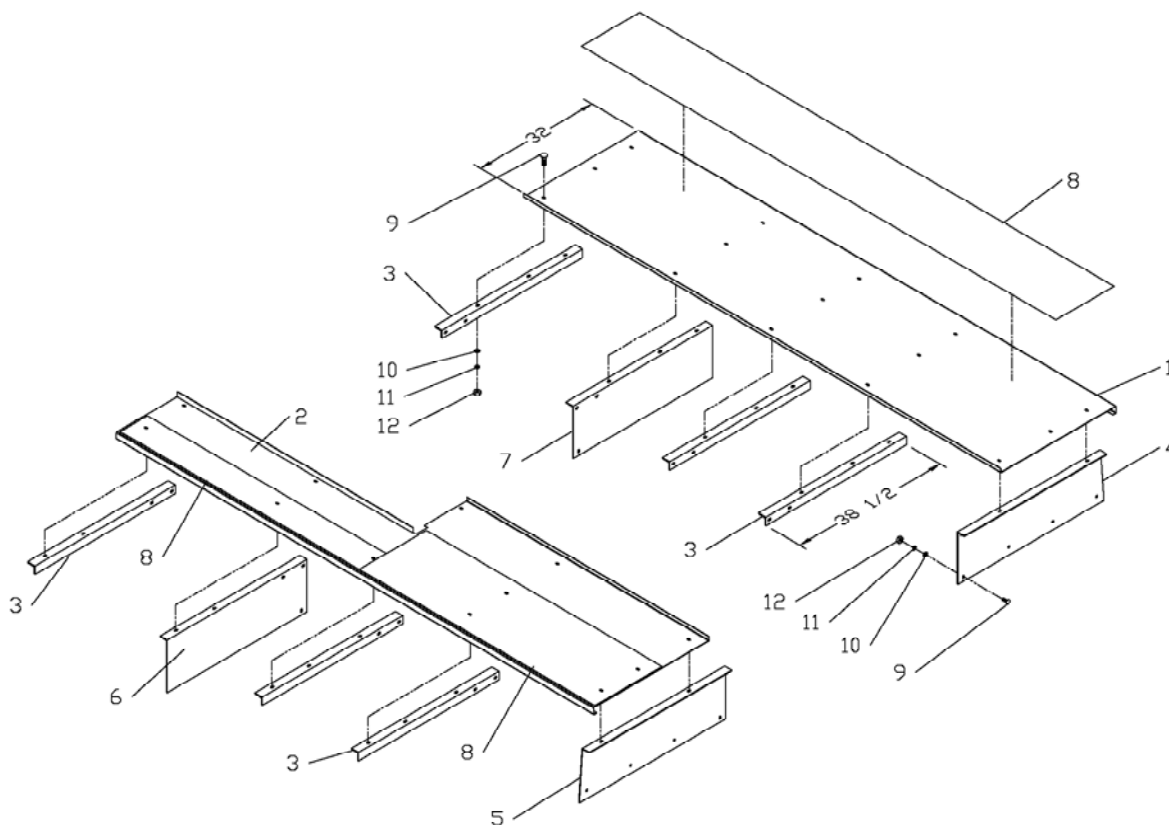
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	83057	Fender – RH, 11' Unit	1
	83058	Fender – RH, 12' Unit	1
	83059	Fender – RH, 13' Unit	1
	305097	Fender – RH, 13' Unit Light Mtg & Tank Cutout	1
	83084	Fender – RH, 14' Unit	1
	305584	Fender – RH, 13' Unit Light Mtg & Tank Cutout	1
	305585	Fender – RH, 13' Unit Light Mtg & Tank Cutout	1
2	83065	Fender – LH, 11' Unit	1
	83066	Fender – LH, 12' Unit	1
	83067	Fender – LH, 13' Unit	1
	305096	Fender – RH, 13' Unit Light Mtg & Tank Cutout	1
	83087	Fender – LH, 14' Unit	1
	305585	Fender – RH, 13' Unit Light Mtg & Tank Cutout	1
	305585	Fender – RH, 13' Unit Light Mtg & Tank Cutout	1
3	96969	Angle – Mounting	AR
4	96967	Support – Fender RH Mudflap	1
5	96968	Support – Fender LH Mudflap	1
6	96965	Support – Fender RH Front	1
	96967	Support – Fender RH Mudflap	1
7	96966	Support – Fender LH Front	1
	96968	Support – Fender LH Mudflap	1
8	21699	Material - Non-Skid, 8" Wide	Inches
9	36408	Bolt – Carriage 3/8 x 1 SS	AR
10	36425	Washer – Flat 3/8 SS	AR
11	36420	Washer – Lock 3/8 SS	AR
12	36414	Nut – Hex 3/8 SS	AR

AR – As Required



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

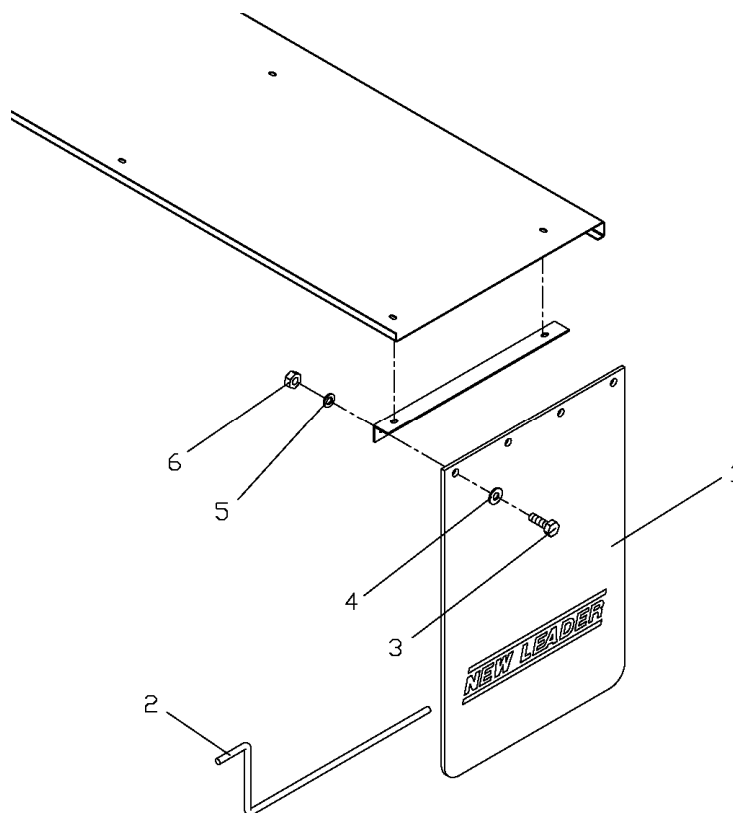
FENDERS – SUPER FLOATATION TIRES



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	83292	Fender – RH, 11' Unit	1
	83293	Fender – RH, 12' Unit	1
	83294	Fender – RH, 13' Unit	1
	83319	Fender – RH, 14' Unit	1
2	83300	Fender – LH, 12' Unit	1
	83301	Fender – LH, 12' Unit	1
	83302	Fender – LH, 13' Unit	1
	83322	Fender – LH, 14' Unit	1
3	96972	Angle – Mounting	AR
4	83254-X10	Support – Fender RH Mudflap	1
5	83255-X10	Support – Fender LH Mudflap	1
6	96970	Support – Fender RH Front	1
	83254-X10	Support – Fender RH Mudflap	1
7	96971	Support – Fender LH Front	1
	83255-X10	Support – Fender LH Mudflap	1
8	21699	Material - Non-Skid, 8" Wide	Inches
9	36408	Bolt – Carriage 3/8 x 1 SS	AR
10	36425	Washer – Flat 3/8 SS	AR
11	36420	Washer – Lock 3/8 SS	AR
12	36414	Nut – Hex 3/8 SS	AR

AR – As Required

MUDFLAPS



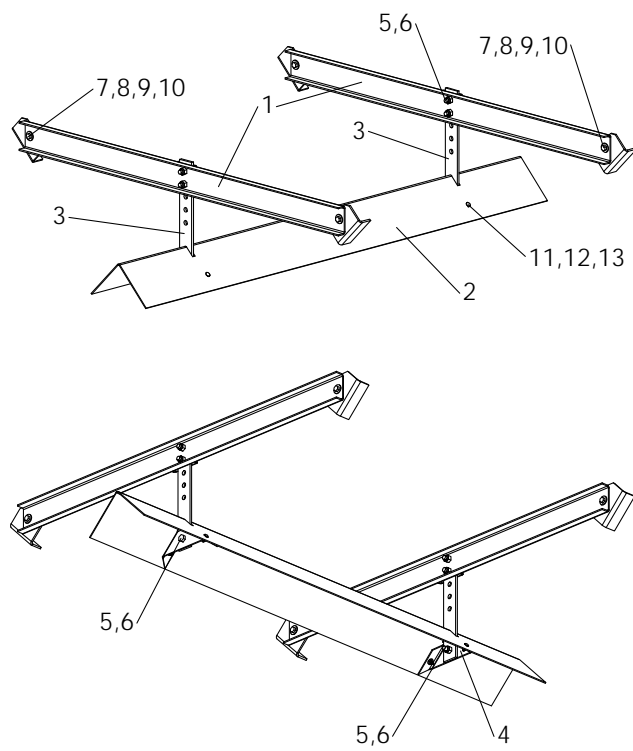
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	46564	Mudflap – Kit New Leader	
	55324	Mudflap – Kit (plain)	
	46474	Hardware – Kit, Includes 3-6	
1	7793	Mudflap – New Leader	2
	21770	Mudflap – Plain	2
	* 304245	Mudflap – Midguard	2
2	36844	Rod – Mudflap	2
3	20067	Cap Screw – 3/8-16 x 1	8
4	20693	Washer – Flat 3/8	8
5	20712	Washer – Lock 3/8	8
6	20644	Nut – Hex 3/8-16	8

* - Not Shown

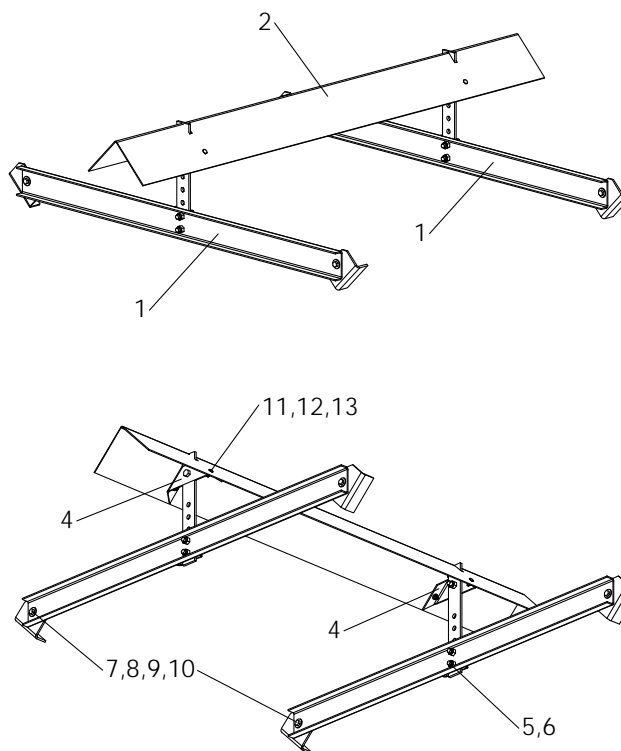


Please Give Part No., Description and Unit Serial No.

INVERTED "V"



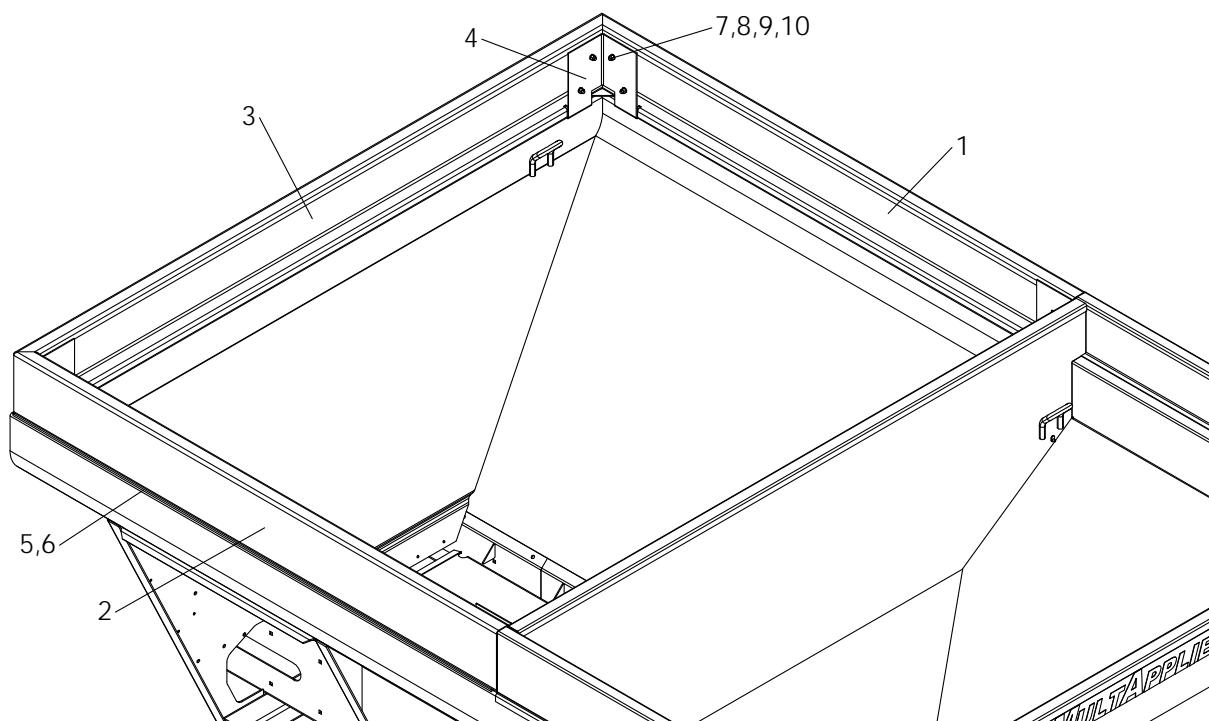
STANDARD ASSEMBLY



HIGH YIELD ASSEMBLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	81263	Hanger – V Weldment, Short	AR
2	82622	Inverted V – 7' (11' - 12' Units)	1
	82623	Inverted V – 9' (13' - 14' Units)	1
3	302369	Bar – Adjusting, Short	AR
4	302371	Bracket – V Bolt-on	AR
5	58800	Cap Screw – 5/8 x 1-3/4 SS	AR
6	41762	Nut – Lock 5/8 SS	AR
7	36402	Cap Screw – 1/2 x 1-1/4 SS	AR
8	36426	Washer – Flat 1/2 SS	AR
9	36422	Washer – Lock 1/2 SS	AR
10	36416	Nut – Hex 1/2 SS	AR
11	42639	Bolt – Carriage 5/16 x 1 SS	AR
12	36424	Washer – Flat 5/16 SS	AR
13	42221	Nut – Lock 5/16 SS	AR

AR – As Required

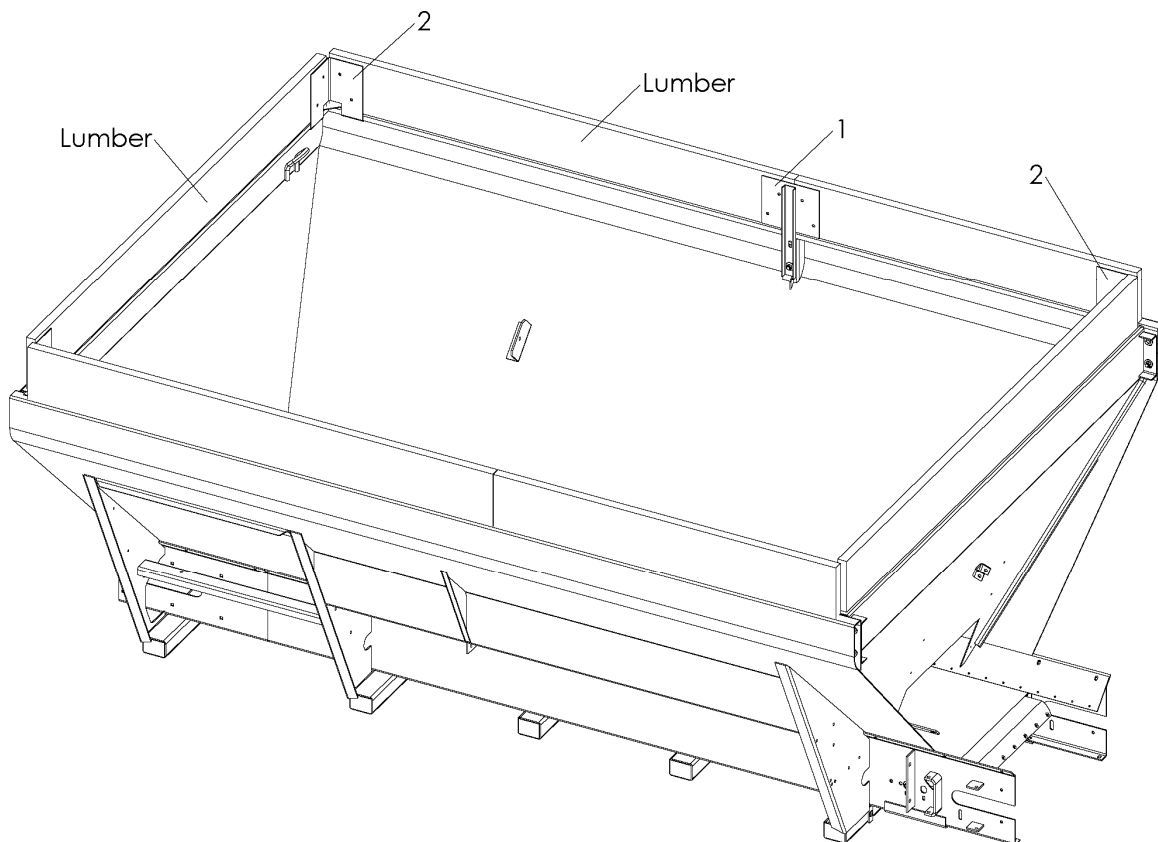
SIDE BOARDS

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	98744	Side Boards – Kit, Specify Unit/MULTAPPLIER Length	
	98746	Hardware – Kit, Includes 7-10	
1	98752-AE	Side Board – RH 11’/5’, 13’/7’ Weldment	1
	98752-AA	Side Board – RH 12’/5’, 14’/7’ Weldment	1
	98752-AF	Side Board – RH 12’/7’ Weldment	1
	98752-AB	Side Board – RH 13’/5’ Weldment	1
	98752-AC	Side Board – RH 14’/5’ Weldment	1
2	98755-AE	Side Board – LH 11’/5’, 13’/7’ Weldment	1
	98755-AA	Side Board – LH 12’/5’, 14’/7’ Weldment	1
	98755-AF	Side Board – LH 12’/7’ Weldment	1
	98755-AB	Side Board – LH 13’/5’ Weldment	1
	98755-AC	Side Board – LH 14’/5’ Weldment	1
3	98758	Side Board – Front Weldment	1
4	86867	Pocket – Side Board	2
5	53950	Rubber – 1/4 x 2-1/4	AR
6	87522	Adhesive – Loctite 454**	AR
7	36398	Cap Screw – 3/8 x 1 SS	12
8	36425	Washer – Flat 3/8 SS	12
9	36420	Washer – Lock 3/8 SS	12
10	36414	Nut – Hex 3/8 SS	12

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

SIDE BOARD MOUNTS (WOOD)

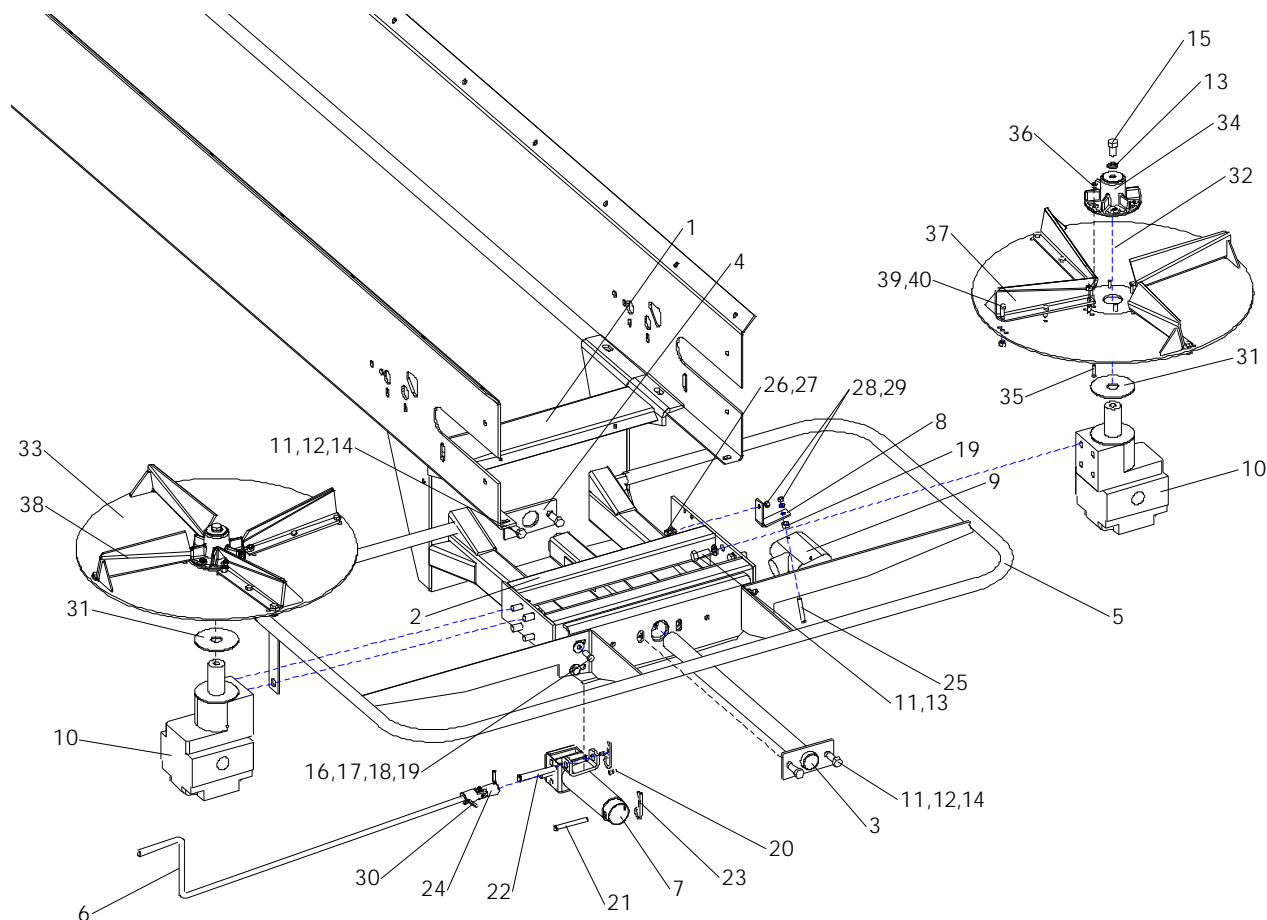
For use with fertilizer only



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	96283	Mount – Kit Side Board	
	96290	Hardware – Kit, Includes 3-6	
1	96285	Mount – Weldment Side Board	2
2	86867	Pocket – Side Board	4
3	36401	Cap Screw – 1/2 x 1 SS	4
4	36426	Washer – Flat 1/2 SS	8
5	36422	Washer – Lock 1/2 SS	4
6	36416	Nut – Hex 1/2 SS	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).

24" HYDRAULIC FANS



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86503	24" Hydraulic Fan Assembly	
	87106	Fan – LH Assembly, Includes Items 32 & 34-40	1
	87105	Fan – RH Assembly, Includes Items 33-40	1
	71871	Hardware – Kit, Includes 16-19	
1	87090	Plate – Back	1
2	87082	Mount – Motor Weldment	1
3	87021	Shaft – Support Weldment	1
4	87023	Plate – Shaft Mount	1
5	87032-X1	Guard – Spinner Weldment	1
6	87024	Handle	1
7	87170	Jack – Coated Assembly	1
8	87053	Angle – Valve Mount	1

24" HYDRAULIC FANS CONTINUED

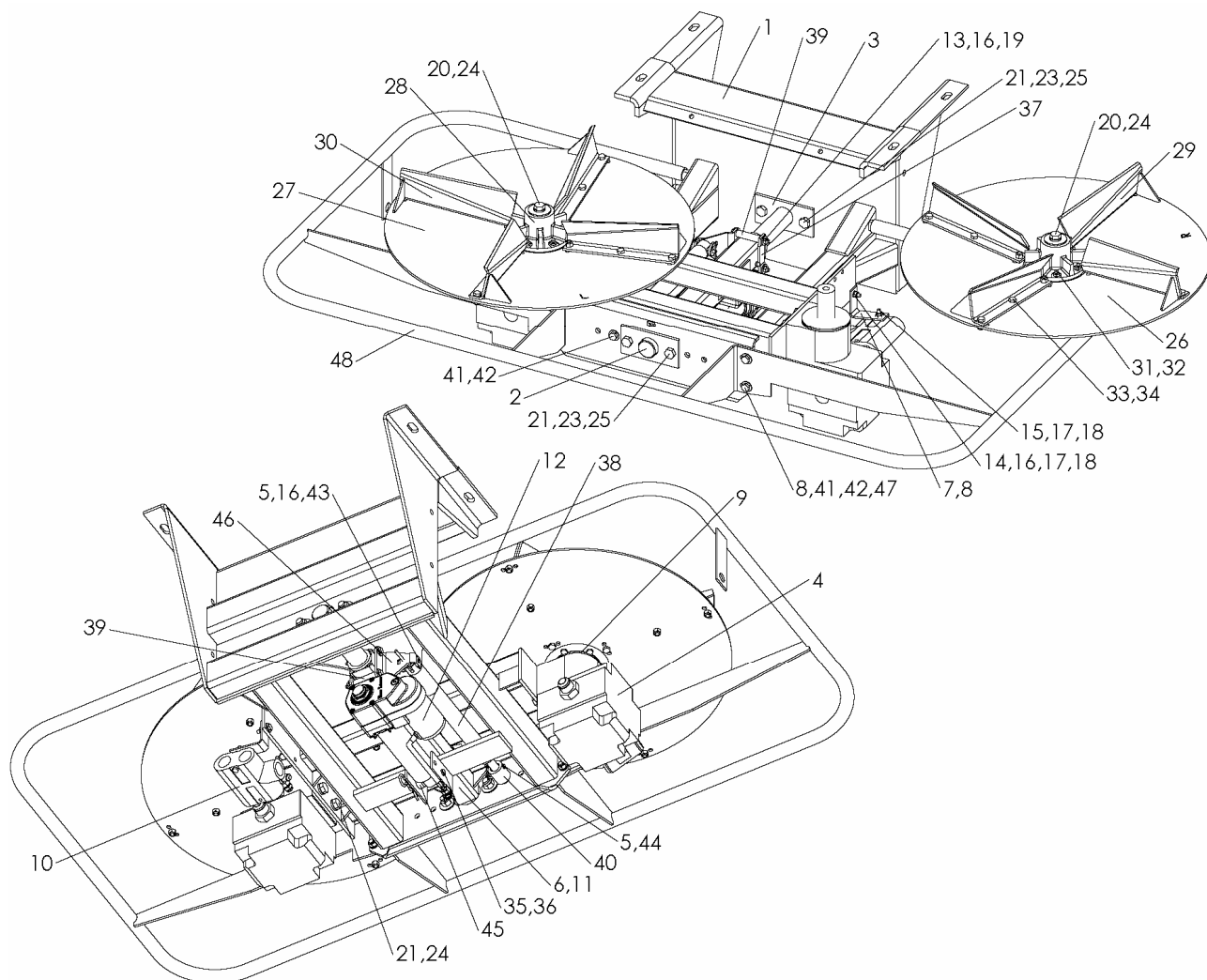
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
9	43510	Valve – Flow Divider	1
10	23800	Motor – Hydraulic	2
11	36402	Cap Screw – 1/2 x 1-1/4	12
12	36426	Washer – Flat 1/2	4
13	36422	Washer – Lock 1/2	10
14	39016	Nut – Lock 1/2	5
15	36401	Cap Screw – 1/2 x 1	2
16	36398	Cap Screw – 3/8 x 1	4
17	36425	Washer – Flat 3/8	4
18	36420	Washer – Lock 3/8	4
19	36414	Nut – Hex 3/8	5
20	6072	Zerk – Grease	4
21	6547	Pin – Clevis	1
22	80798	Cap Screw – 1/2 x 3-1/4	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	72294	Washer – Rubber	2
32	27056-X4	Disc – Distributor RH	1
33	27056-X5	Disc – Distributor LH	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 Weldment	4
38	25871	Fin – LH Weldment	4
39	20034	Cap Screw – 5/16 x 3/4	24
40	20677	Nut – Lock 5/16	24
41	* 36940	Bolt – Carriage 1/2 x 2	4
42	* 36426	Washer – Flat 1/2	4
43	* 36422	Washer – Lock 1/2	4
44	* 36416	Nut – Hex 1/2	4

* - Not Shown – Used to attach spinner to sills.



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

24" HYDRAULIC FANS WITH ACTUATOR



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
		24" Hydraulic Fan Assembly, Includes 1-46	
	87106	Fan – LH Assembly, Includes 27,28,30-34	1
	87105	Fan – RH Assembly, Includes 26,28,29,31-34	1
	71871	Hardware – Kit, Includes 8, 41,42,47	
1	87090	Plate – Back	1
2	87021	Shaft – Support Weldment	1
3	87023	Plate – Shaft Mount	1
4	23800	Motor – Hydraulic	2
5	41779	Pin – Hair 1-7/16 x .073	2
6	87082	Mount – Motor Weldment	1
7	87053	Angle – Valve Mount	1
8	36414	Nut – Hex 3/8	5
9	72294	Washer – Rubber	2
10	43510	Valve – Flow Divider	1

24" HYDRAULIC FANS WITH ACTUATOR

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
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
27	27056-X5	Disc – Distributor LH	1
28	10877	Hub	2
29	25870	Fin – RH Weldment	4
30	25871	Fin – LH Weldment	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
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 – Assembly 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 – Weldment Sensor Mount	1
47	36420	Washer – Lock 3/8	4
48	87032-X1	Guard – Spinner Weldment SS	1
49	* 36940	Bolt – Carriage 1/2 x 2	4
50	* 36426	Washer – Flat 1/2	4
51	* 36422	Washer – Lock 1/2	4
52	* 36416	Nut – Hex 1/2	4

* - Not Shown; 50-53 used to attach spinner to sills.

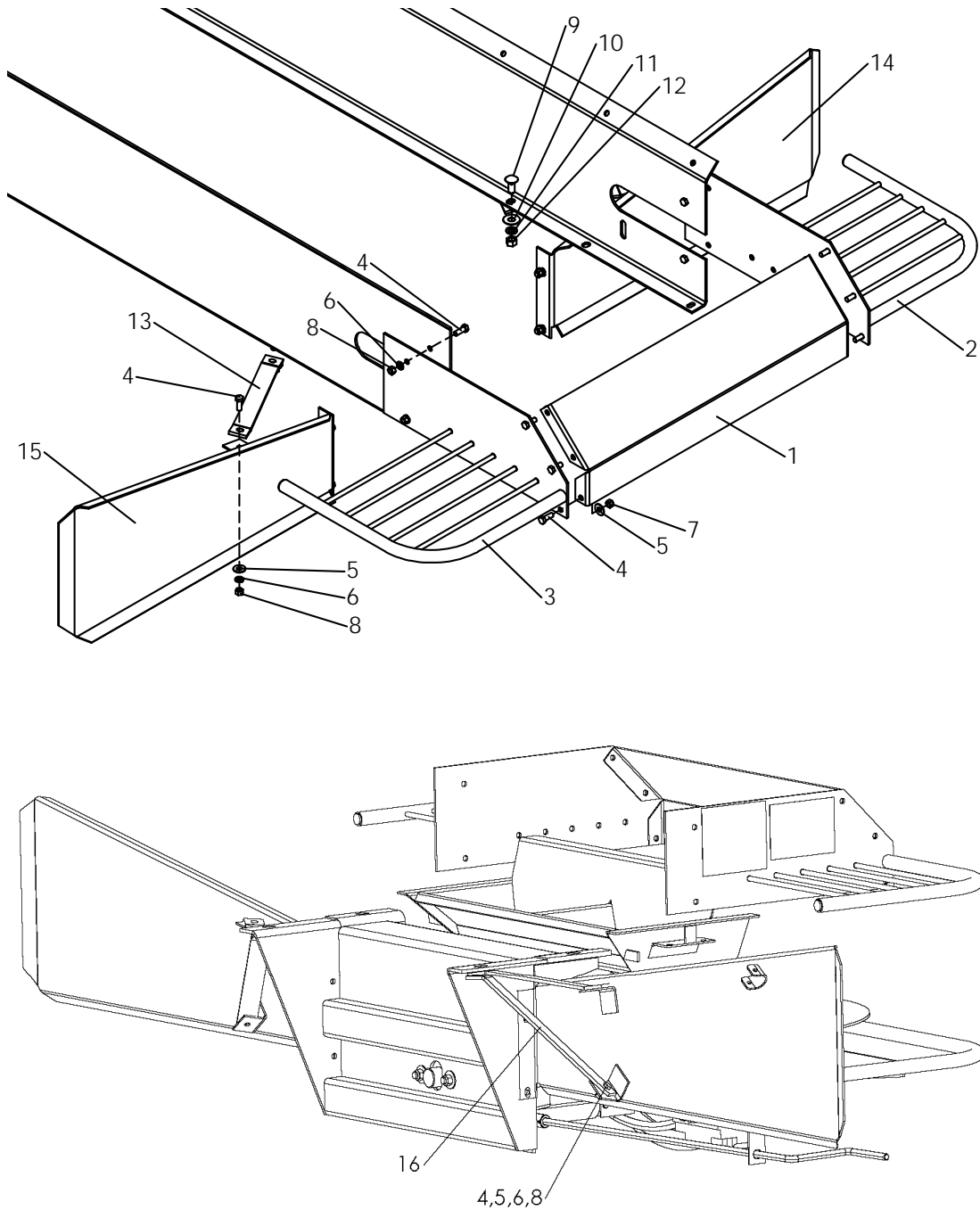
**Please Give Part No., Description and Unit Serial No.**

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.

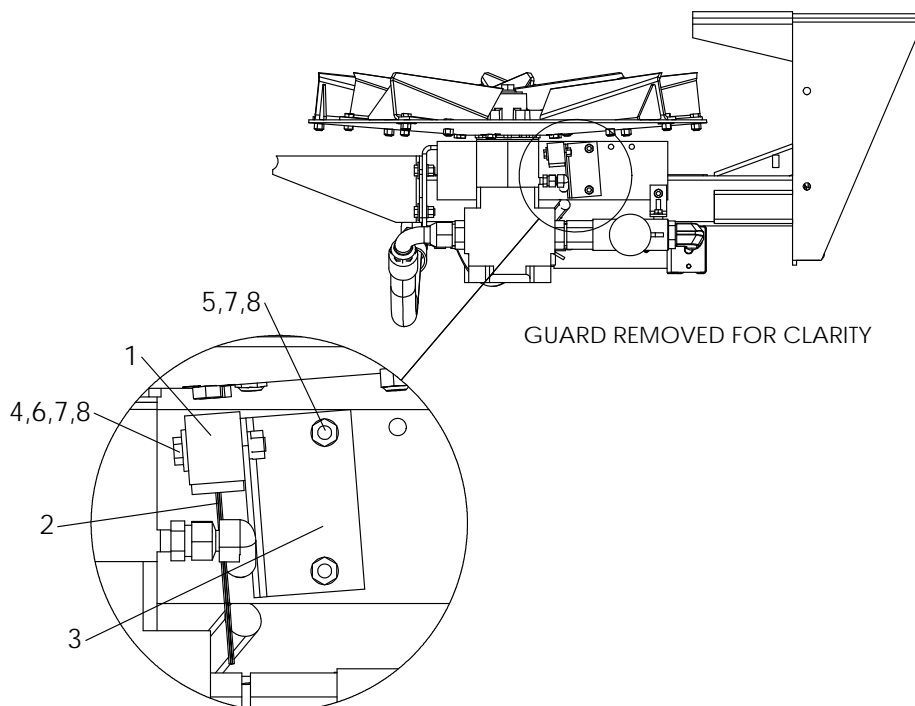


SPINNER GUARD & SHIELDS CONTINUED

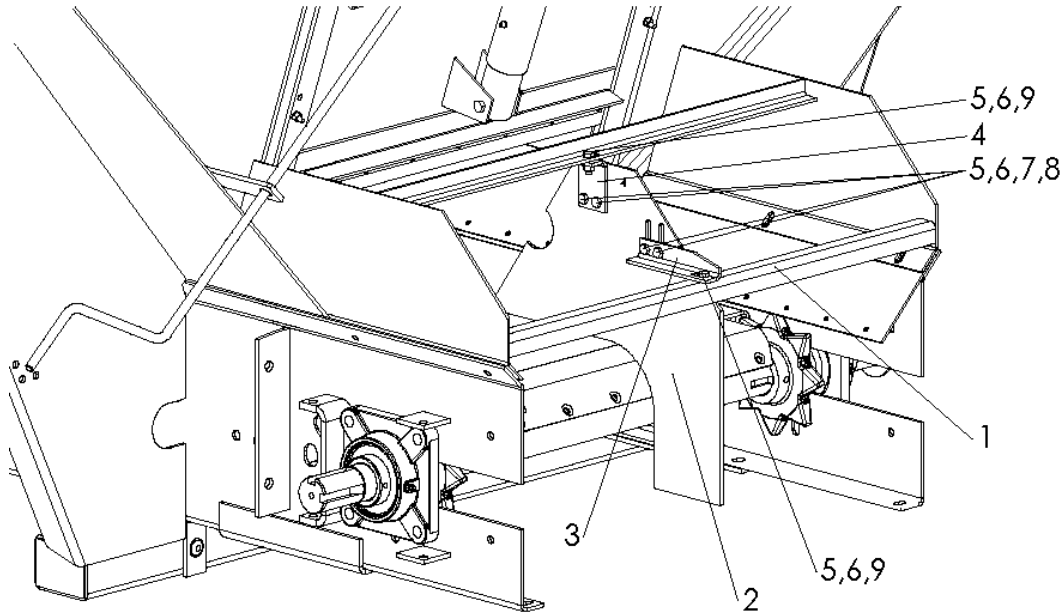
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	87103	Guard – Kit Shields & Divider	
	305042	Guard – Kit Shields & Divider 108”	
	305077	Guard – Kit Shields & Divider 126”	
	305041	Shield – Bracket Assembly, Includes 4-6,8,16	
	87118	Hardware – Kit Fan Frame, Guard & Divider	
1	87066-X1	Guard – Center Section Weldment	1
2	87027-X1	Guard – RH Weldment	1
3	87031-X1	Guard – LH Weldment	2
4	36398	Cap Screw – 3/8 x 1 SS	AR
5	36425	Washer – Flat 3/8 SS	AR
6	36420	Washer – Lock 3/8 SS	AR
7	72054	Nut – Lock 3/8 SS	6
8	36414	Nut – Hex 3/8 SS	AR
9	36940	Bolt – Carriage 1/2-13 x 2 SS	2
10	36426	Washer – Flat 1/2 SS	2
11	36422	Washer – Lock 1/2 SS	2
12	36416	Nut – Hex 1/2 SS	2
13	87068	Bar – Stiffener	2
14	82964	Shield – RH Weldment	1
	* 305043	Shield – RH Weldment 108”	1
	* 305075	Shield – RH Weldment 126”	1
15	82965	Shield – LH Weldment	1
	* 305044	Shield – LH Weldment 108”	1
	* 305076	Shield – LH Weldment 126”	1
16	305040	Bar – Stiffener Lower	2

* - Not Shown



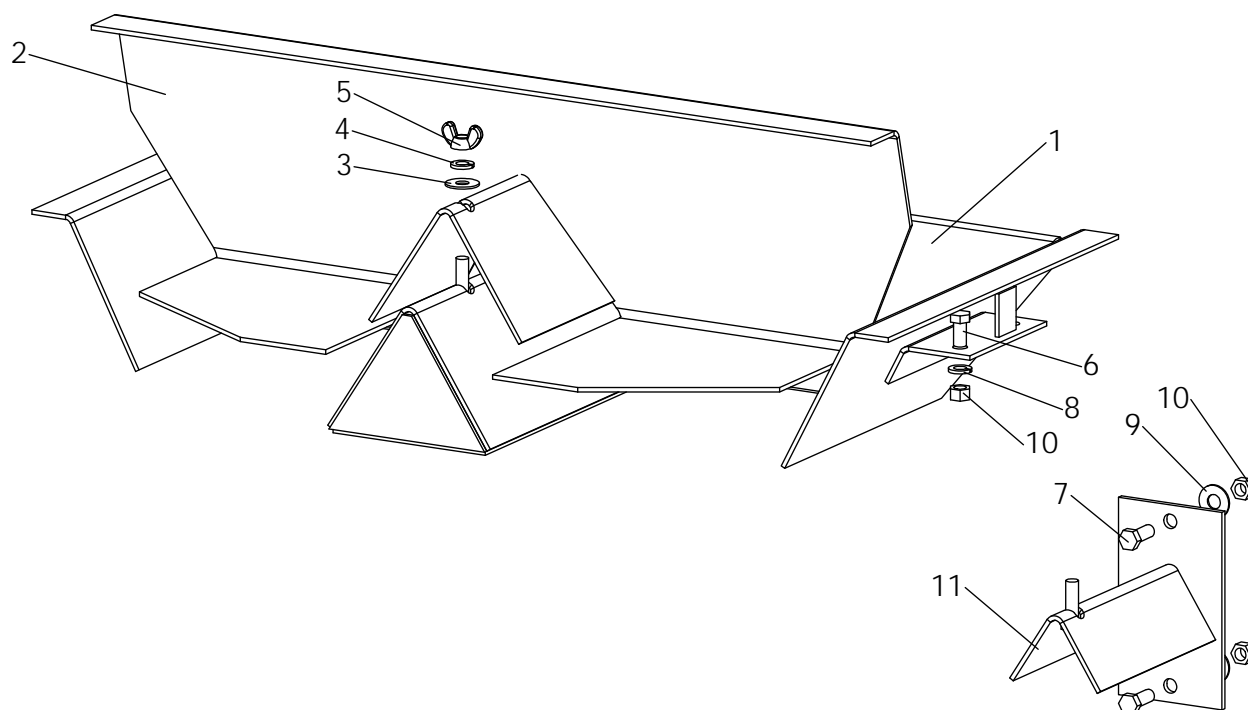
SPINNER SENSOR

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	97310	Sensor – Kit Spinner	
1	89011	Sensor – Assembly	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	2
7	36418	Washer – Lock 1/4 SS	4
8	36412	Nut – Hex 1/4 SS	4

HILLSIDE FLOW DIVIDER

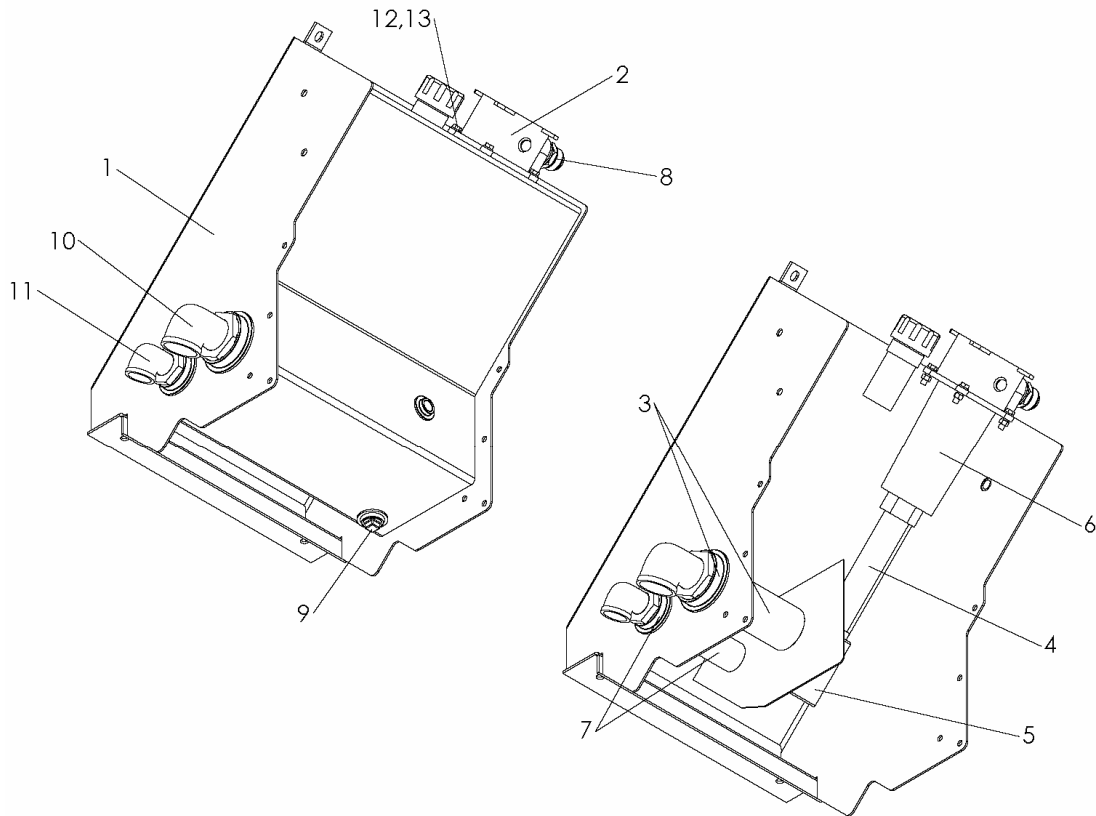
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305015	Divider – Kit Hillside	
	84792	Hardware – Kit	
1	86788	Bracket – Weldment Support	1
2	56878	Panel – Hillside Divider	1
3	56879	Bracket – Clamp	1
4	56880	Angle – Clamp	1
5	34580	Cap Screw – 5/16 x 1 SS	6
6	36424	Washer – Flat 5/16 SS	8
7	36419	Washer – Lock 5/16 SS	4
8	36413	Nut – Hex 5/16 SS	4
9	42221	Nut – Lock 5/16 SS	2

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

MATERIAL DIVIDER

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

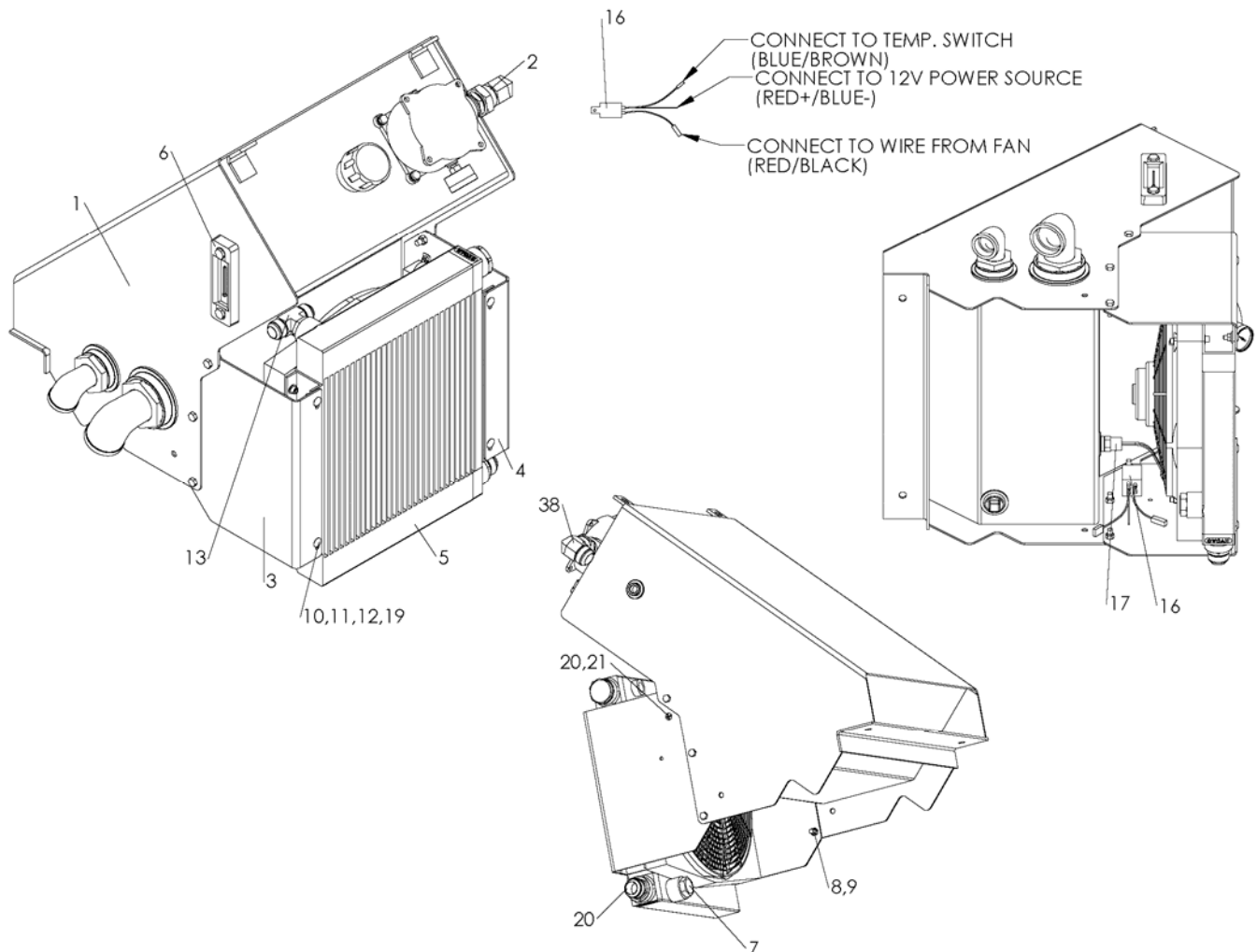
Note: Mount Item 11 on truck to hold Item 2 when not in use.

RESERVOIR

FRONT REMOVED FOR
VIEW OF ITEMS 4-6

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305054	Tank – Assembly Hydraulic	
1	305050	Tank – Weldment Hydraulic	1
2	88838	Filter – Return	1
3	305063	Strainer – 2” NPT	1
4	305058	Pipe – 1-1/2 Sch40 x 10”	1
5	305057	Diffuser – Tank	1
6	305066	Filter – Element	1
7	305062	Strainer – 1-1/4” NPT	1
8	29768	Fitting – 20-20 070102	1
9	305061	Plug – Magnetic 1” NPT	1
10	22244	Elbow – Street 2” NPT	1
11	6017	Elbow – Street 1-1/4” NPT	1
12	20068	Cap Screw – 3/8-16 x 1-1/4	4
13	20712	Washer – Lock 3/8	4

RESERVOIR & COOLER



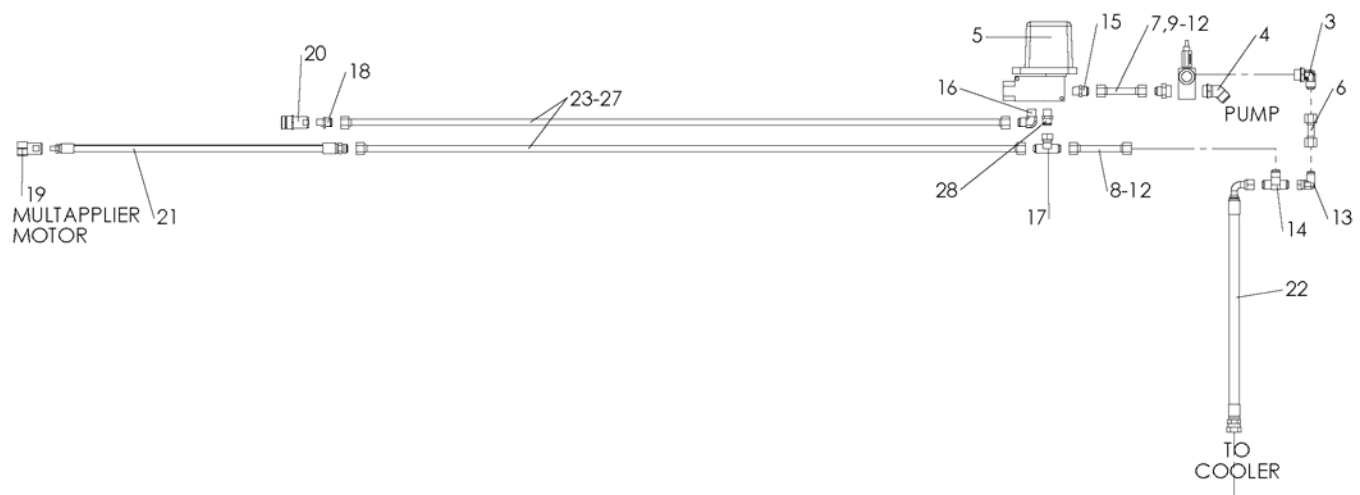
RESERVOIR & COOLER CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305031	Reservoir – Mount Assembly, Includes 1-25	
	305056	Cooler – Assembly Reservoir, Includes 1-20	
1	305054	Tank – Assembly Hydraulics	1
2	43534	Indicator – Service	1
3	305065-AA	Bracket – Cooler Mount LH	1
4	305065-AB	Bracket – Cooler Mount RH	1
5	305064	Cooler – Assembly	1
6	38575	Gauge – Sight & Temperature	1
7	56311	Fitting – 16 090109A	1
8	36398	Cap Screw – 3/8-16 x 1 SS	6
9	72054	Nut – Lock 3/8-16	6
10	36424	Washer – Flat 5/16	4
11	42639	Bolt – Carriage 5/16 x 1 SS	4
12	36413	Nut – Hex - 5/16-18	4
13	34750	Fitting – 16-16-16 070429	1
14	29768	Fitting – 20-20 070102	1
15	98568	Fitting – 20-20 070221	1
16	96750-X1	Relay – 12 VDC 40 Amp	1
17	305074	Switch – Temperature	1
*18	98662	Hose – 1-1/4 2 CB x 48	1
19	36419	Washer – Lock 5/16 SS	4
20	56258	Screw – Truss Head 1/4-20 x 1/2 SS	1
21	42034	Nut – Lock 1/4-20 SS	1

* - Not Shown



RIGHT-HAND SIDE HYDRAULICS



RIGHT-HAND SIDE HYDRAULICS

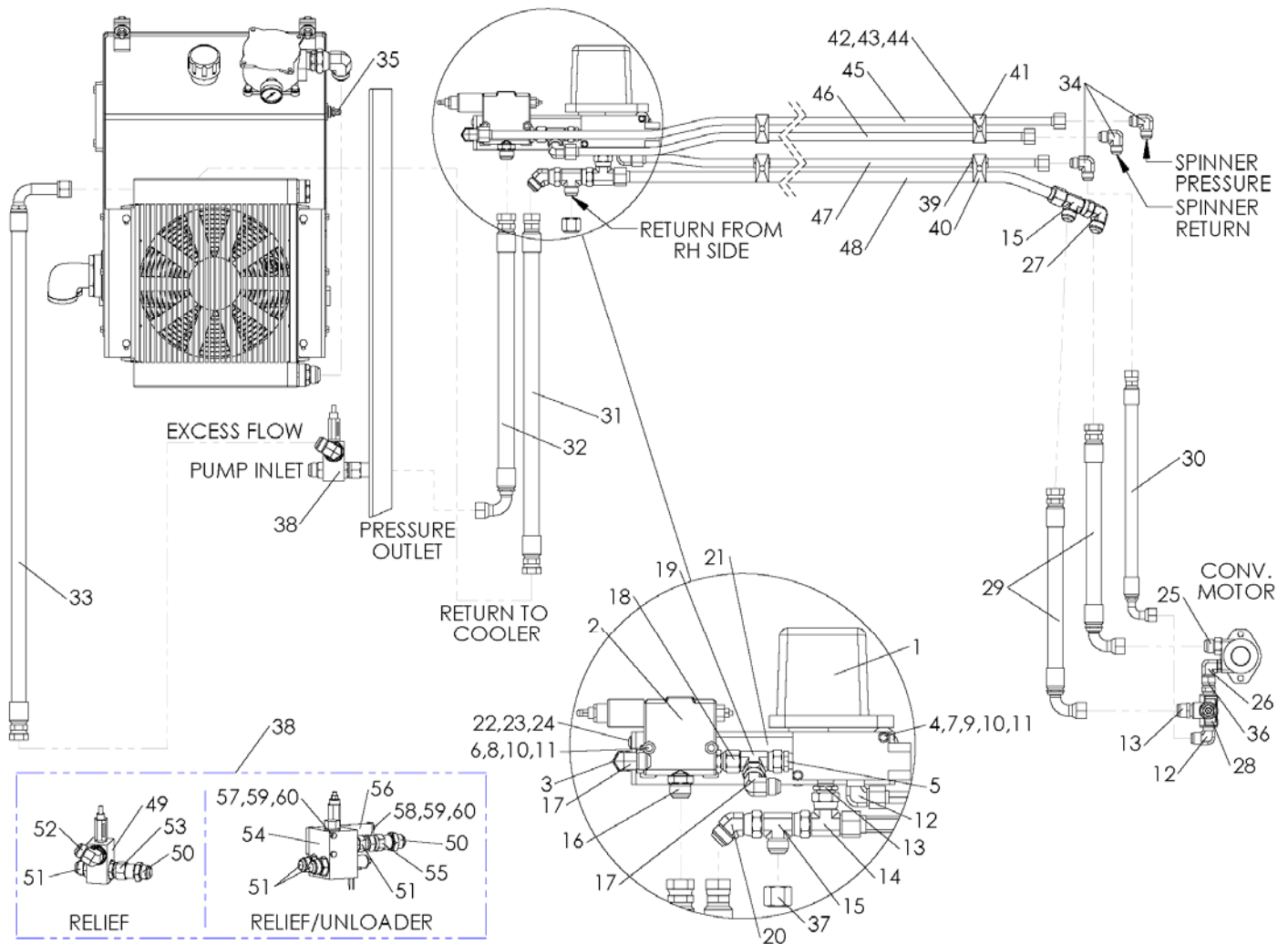
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305402	Hydraulics – Assembly RH, Includes 5-22,28	
	305067	Tube – Group RH 11', Includes 23-27	
	98651	Tube – Group RH 12', Includes 23-27	
	98652	Tube – Group RH 13', Includes 23-27	
	98653	Tube – Group RH 14', Includes 23-27	
	98650	Valve – Assembly, Includes 1-4	
1	77498	Valve – Relief 1500 PSI	1
2	29835	Fitting – 12-16 070120	1
3	29829	Fitting – 12-16 070220	1
4	56269	Fitting – 12-16 070320	1
5	86771-X2	Valve – Hydraulic 9 GPM Raven II	1
6	98643	Tube – Assembly 3/4 OD x 2-7/8	1
7	98644	Tube – Assembly 3/4 OD x 5	1
8	98645	Tube – Assembly 3/4 OD x 6-1/2	1
9	98649	Clamp – Pair 3/4	2
10	41669	Cap Screw – 1/4-20 x 1-3/4	4
11	36418	Washer – Lock 1/4	4
12	36412	Nut – Hex 1/4-20	4
13	34709	Fitting – 12-12 070221	1
14	29792	Fitting – 12-12-12 070401	1
15	29789	Fitting – 12-12 070120	1
16	29847	Fitting – 12-12 070220	1
17	29809	Fitting – 12-12-12 070433	1
18	29784	Fitting – 12-8 070102	1
19	96651	Disconnect – Quick Hex Nut	1
20	96652	Disconnect – Quick Nipple	1
21	98668	Hose – Assembly 1/2 100R1 x 36	1
22	305046	Hose – Assembly 3/4 2CB x 105	1
	* 96906	Sleeve – Abrasive	4
	* 96942	Tie – Wire	3
23	302851	Tube – Assembly 3/4 OD x 68	2
	98639	Tube – Assembly 3/4 OD x 80	2
	98640	Tube – Assembly 3/4 OD x 92	2
	98641	Tube – Assembly 3/4 OD x 104	2
24	75036	Clamp – Tubing Twin 3/4"	AR
25	71830	Cap Screw – 5/16-18 x 2-1/2	AR
26	36419	Washer – Lock 5/16	AR
27	36413	Nut – Hex 5/16-18	AR
28	303226	Fitting – 12-12 Special STR. JIC X SAE	1

* - Not Shown AR – As Required

**Please Give Part No., Description and Unit Serial No.**

305021-E

LEFT-HAND SIDE HYDRAULICS



LEFT-HAND SIDE HYDRAULICS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305403	Hydraulics – Group LH, Includes 1-35	
	305069-72	Tube – Group LH, Includes 39-48	
1	86771-X5	Valve – Control 25 GPM Raven II	1
2	32485-X1	Valve – PWM Hydraulic	1
	56290	Cartridge	1
	56289	Coil	1
	303922	Cable – Jumper	1
3	29847	Fitting – 12-12 070220	1
4	302098	Washer – Step 1/4-ID x 4/10-OD x 1/2	2
5	29789	Fitting – 12-12 070120	1
6	70341-X1	Pipe – Spacer 1/2	2
7	302097	Washer – Step 1/4-ID x 4/10-OD x 1/8	2
8	36423	Washer – Flat 1/4	10
9	36396	Cap Screw – 1/4-20 x 3	2
10	56396	Cap Screw – 1/4-20 3-1/4	2
11	42034	Nut – Lock 1/4-20	4
12	29847	Fitting – 12-12 070220	1
13	305407	Fitting – 16-12 Special STR. JIC X SAE	1
14	29836	Fitting – 16-16-16 070433	1
15	29850	Fitting – 16-16-16 070432	2
16	29775	Fitting – 16-12 070120	1
17	34709	Fitting – 12-12 070221	2
18	29788	Fitting – 12-12 S1040-30 NS	1
19	29781	Fitting – 12-12-12 070432	1
20	29806	Fitting – 16-16 070321	1
21	305022	Bracket – Valve	1
22	36408	Bolt – Carriage 3/8-16 x 1	4
23	36425	Washer – Flat 3/8	4
24	72054	Nut – Lock 3/8-16	4
25	29778	Fitting – 16-10 070120	1
26	29773	Fitting – 12-10 070220	1
27	29783	Fitting – 16-16 070201	1
28	87336	Valve – Assy Relief 2000 PSI	1
29	83013	Hose – Assembly 1 x 21 Return	2
30	29638	Hose – Assembly 3/4 100R2 x 23	1
31	79552	Hose – Assembly 1 x 34 Return	1
32	305047	Hose – Assembly 1 100R12 x 28	1
33	305045	Hose – Assembly 1 x 52 Return	1
34	29785	Fitting – 12-12 070201	3
35	29766	Fitting – 6-6 070102	1
36	34826	Fitting – 12-12 NS 37 Swivel x NPTF	1
37	29802	Cap – MR units only	1

LEFT-HAND SIDE HYDRAULICS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
38	305037	Relief – Group 3100 PSI, Includes 49-53	1
	305038	Relief – Group 3100 PSI Unloader, Includes 50,51,54-60	1
39	305073	Bushing – Rubber Hose	AR
40	300033	Clamp – Tubing Twin 1”	AR
41	75036	Clamp – Tubing Twin 3/4”	AR
42	71830	Cap Screw – 5/16-18 x 2-1/2	AR
43	36419	Washer – Lock 5/16	AR
44	36413	Nut – Hex 5/16-18	AR
45	305026-AA	Tube – Assembly 3/4” OD x 74	1
	305026-AB	Tube – Assembly 3/4” OD x 86	1
	305026-AC	Tube – Assembly 3/4” OD x 98	1
	305026-AD	Tube – Assembly 3/4” OD x 110	1
46	305028-AA	Tube – Assembly 3/4” OD x 63	1
	305028-AB	Tube – Assembly 3/4” OD x 75	1
	305028-AC	Tube – Assembly 3/4” OD x 87	1
	305028-AD	Tube – Assembly 3/4” OD x 99	1
47	305027-AA	Tube – Assembly 3/4” OD x 58	1
	305027-AB	Tube – Assembly 3/4” OD x 70	1
	305027-AC	Tube – Assembly 3/4” OD x 82	1
	305027-AD	Tube – Assembly 3/4” OD x 94	1
48	302407	Tube – Assembly 1 OD x 61	1
	302408	Tube – Assembly 1 OD x 73	1
	302410	Tube – Assembly 1 OD x 85	1
	302411	Tube – Assembly 1 OD x 97	1
49	98109	Valve – Relief 3100 PSI	1
50	34747	Fitting – 16-16 070601	1
51	29803	Fitting – 16-16 070120	AR
52	29840	Fitting – 16-16 070220	1
53	34810	Fitting – 16-16 S1040-30 NS	1
54	56291	Valve – Relief/Unloader 3100 PSI	1
	56291-AA	Coil – Dump Valve	
	56291-AB	Cartridge – Dump Valve	
	56291-AC	Cartridge – Relief Valve	
	56291-AD	Cartridge – Check Valve	
55	302449	Fitting – 16-16 NS Union JICF X JICF	1
56	305035	Bracket – Unloader Valve	1
57	84599	Cap Screw – 5/16-18 x 5	2
58	42639	Bolt – Carriage 5/16-18 x 1	2
59	36424	Washer – Flat 5/16	4
60	42221	Nut – Lock 5/16-18	2

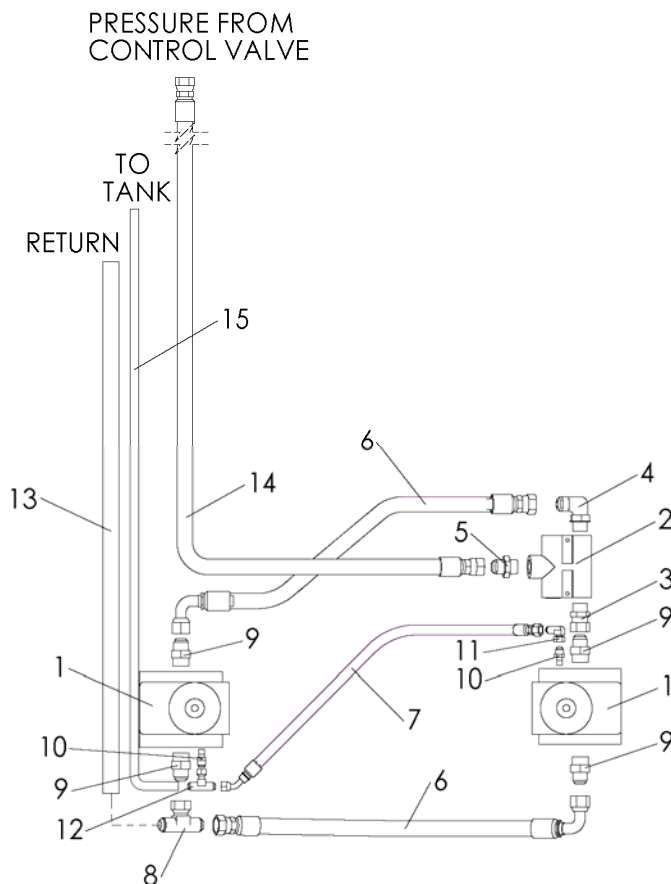
AR – As Required



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

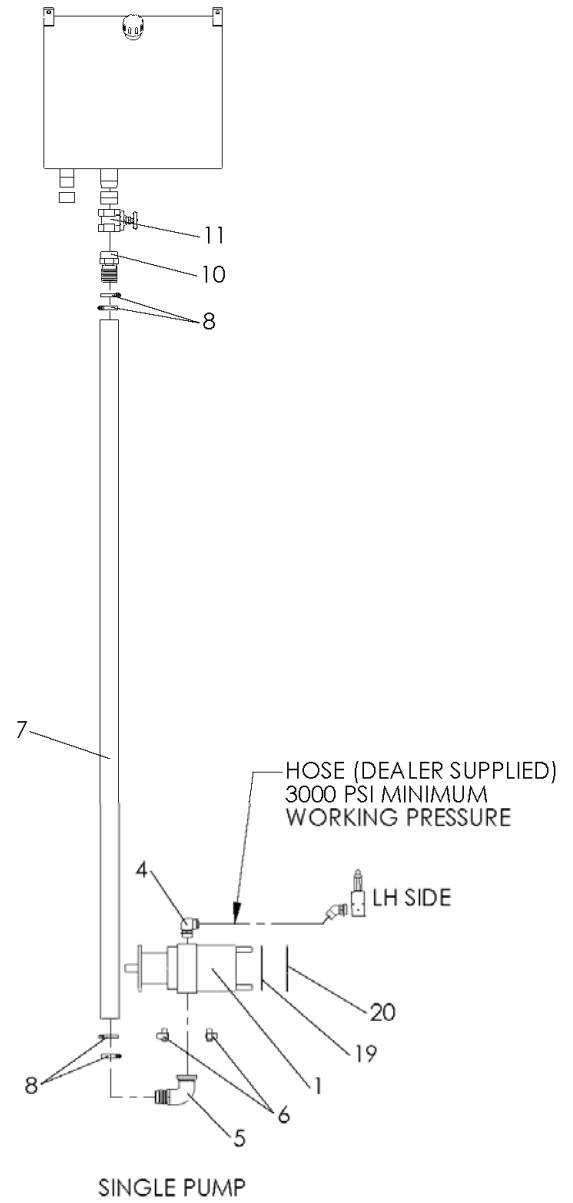
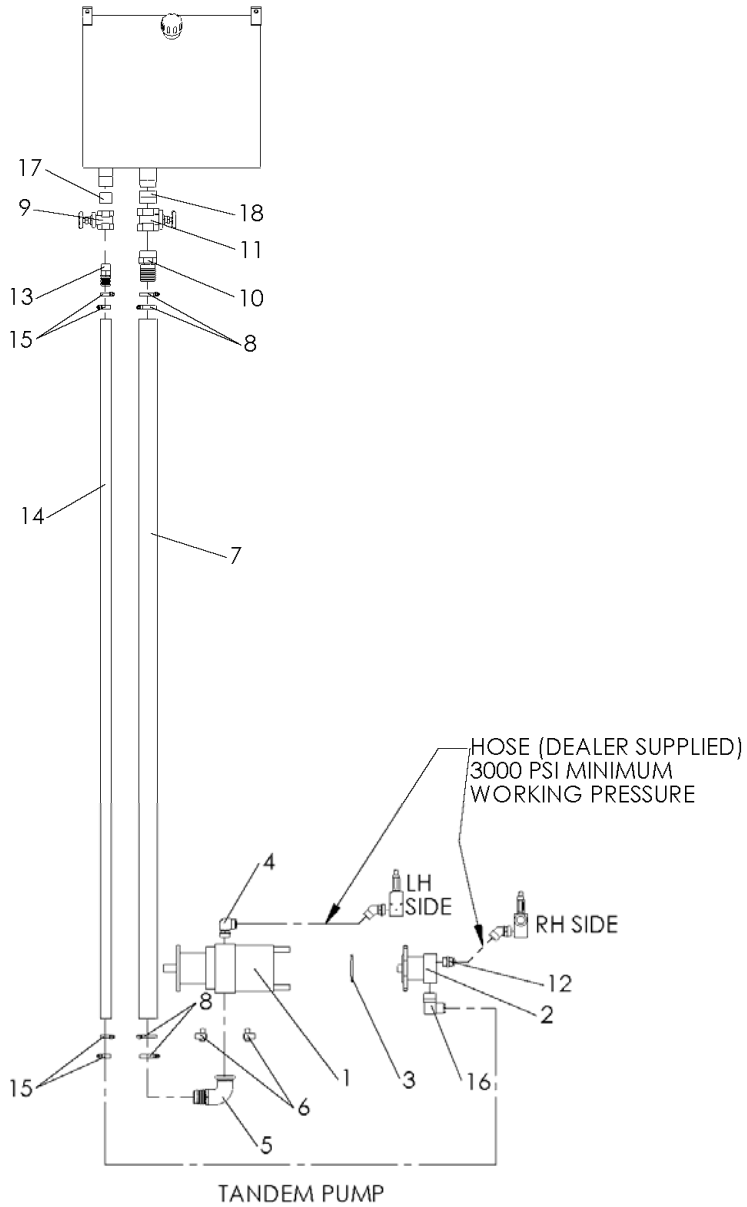
305021-E

TWIN SPINNER HYDRAULICS



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	305944	Motor – Spinner	2
2	43510	Valve – Flow Divider	1
3	29788	Adapter	1
4	29847	Adapter – 90° Elbow	1
5	29789	Adapter	1
6	87049	Hose Assembly	2
7	87112	Hose Assembly	1
8	29809	Adapter – Tee	1
9	34717	Adapter – Connector	4
10	34763	Adapter	2
11	34816	Adapter – 90° Elbow	1
12	29825	Adapter – Tee	1
13	54788	Hose – Return Assembly	1
14	98104	Hose – Pressure Assembly	1
15	83599	Hose – Drain Line, 11' Unit	1
	83600	Hose – Drain Line, 12' Unit	1
	83601	Hose – Drain Line, 13' Unit	1
	83602	Hose – Drain Line, 14' Unit	1

PUMP HYDRAULICS

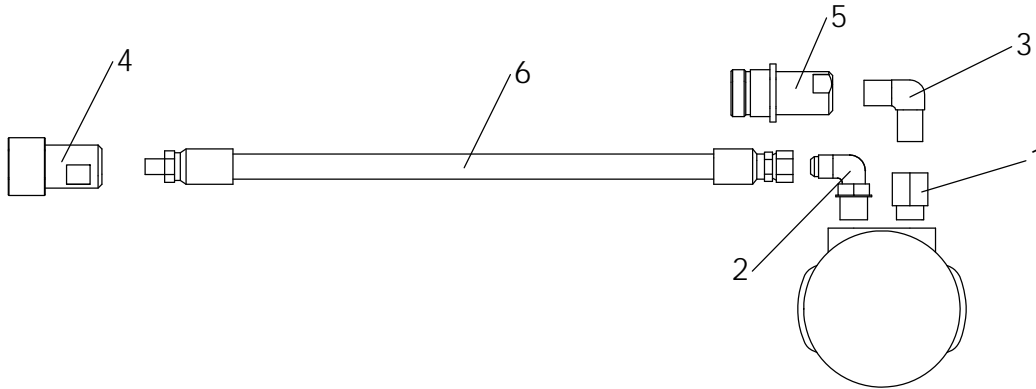


PUMP HYDRAULICS CONTINUED

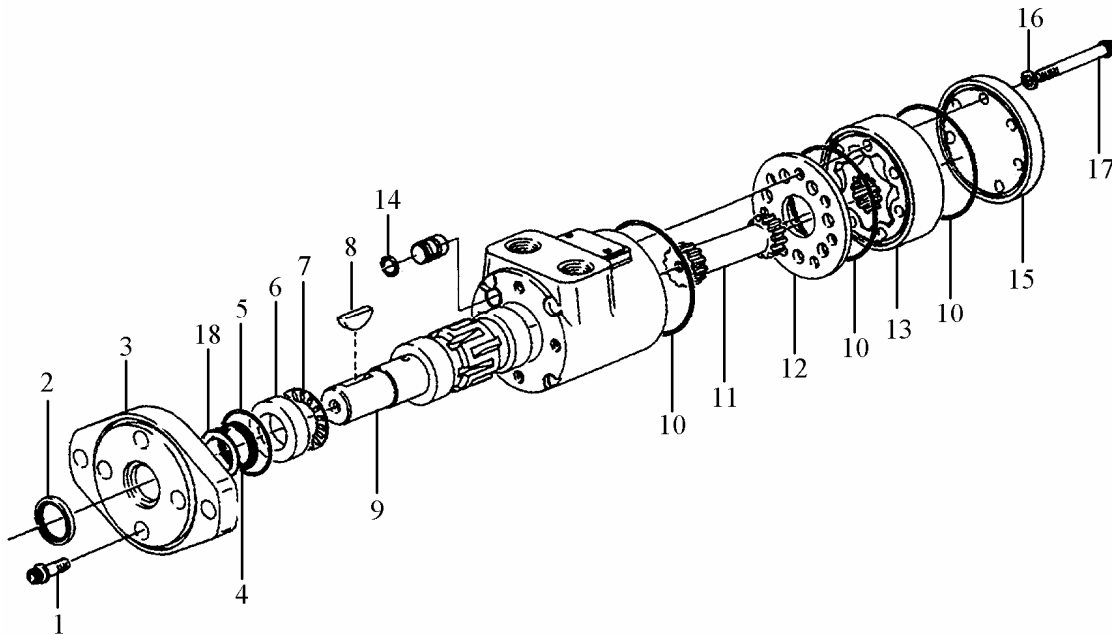
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	304428	Pump – 3.19 CID (Front section)	1
2	304425	Pump – .93 CID (Rear section)	1
3	300669	O-Ring – 4” ID	1
4	29840	Adapter – Elbow 90°	1
5	34806	Fitting – 32-32 12151-3-E90S -L	1
6	41015	Kit – Flange Split -32	1
7	32401-108	Hose – Suction 2 x 108	1
8	22380	Clamp – Hose	4
9	305059	Valve – Ball 1-1/4	1
10	29811	Fitting – Hose End 2 NPT x 2	1
11	305060	Valve – Ball 2” NPT	1
12	29789	Fitting – 12-12 070120	1
13	16582	Fitting – Hose Barb	1
14	23184-108	Hose – Suction 1-1/4	1
15	6335	Clamp – Hose	4
16	304427	Fitting – 20-20 430260	1
17	6028	Nipple – 1-1/4” NPT	1
18	22324	Nipple – 2” NPT	1
19	300493	Gasket – Paper Pump	1
20	300492	Cover – Pump Rear	1



MULTAPPLIER HYDRAULICS



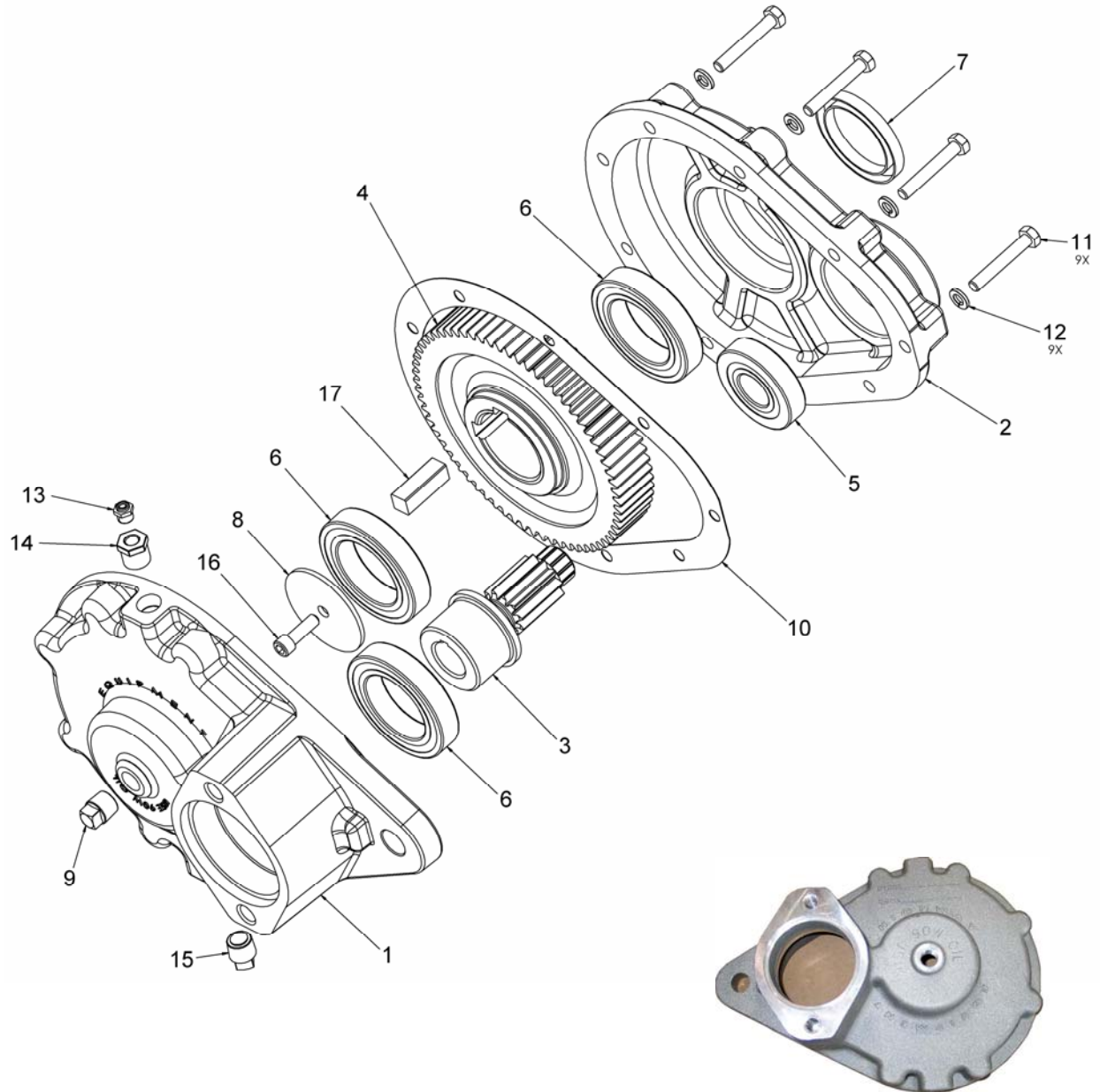
<u>TEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86893	Hydraulics – Group	
1	22020	Bushing	1
2	29772	Adapter – Elbow 90°	1
3	34742	Adapter – Elbow 90°	1
4	96651	Disconnect – Quick Female	1
5	96652	Disconnect – Quick Male	1
6	98667	Hose Assembly – 1/2 x 36	1

CONVEYOR MOTOR

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	38897	Motor – Hydraulic, 1-1/2" Standard	
1	30665	Cap Screw	4
2	73471	Seal	1
3	73555	Flange – Mounting	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	73553	Gerotor – 1-1/2"	1
14	22068	Seal – O-Ring	1
15	37400	Cap – End	1
16	37381	Washer - Seal	7
17	16937	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

GEAR CASE – SINGLE PINION



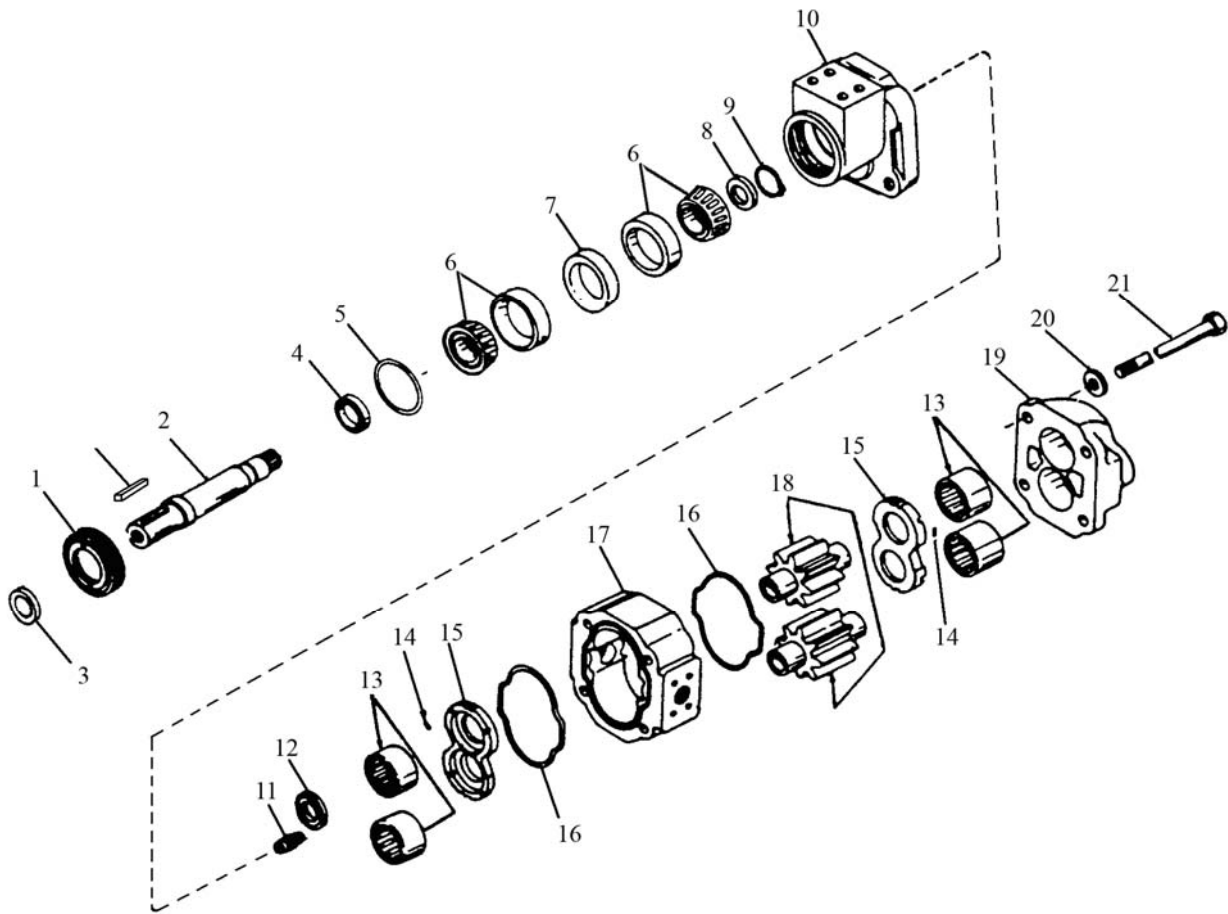
GEAR CASE – SINGLE PINION

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	36671	Gear Case – Assembly Single Pinion	
	304269-AB	Parts – Service, Includes 1–17	
1	304559	Housing – Outboard	1
2	304560	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	304563	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



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

SPINNER MOTOR



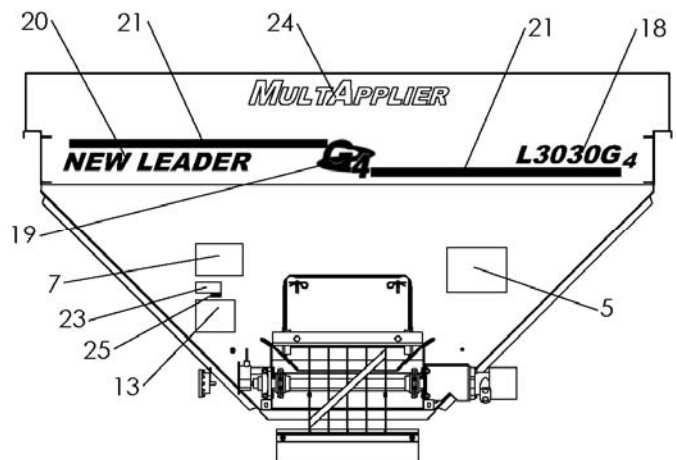
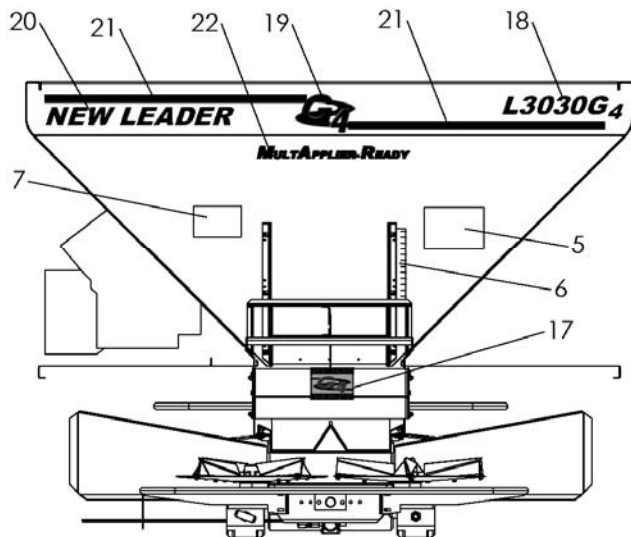
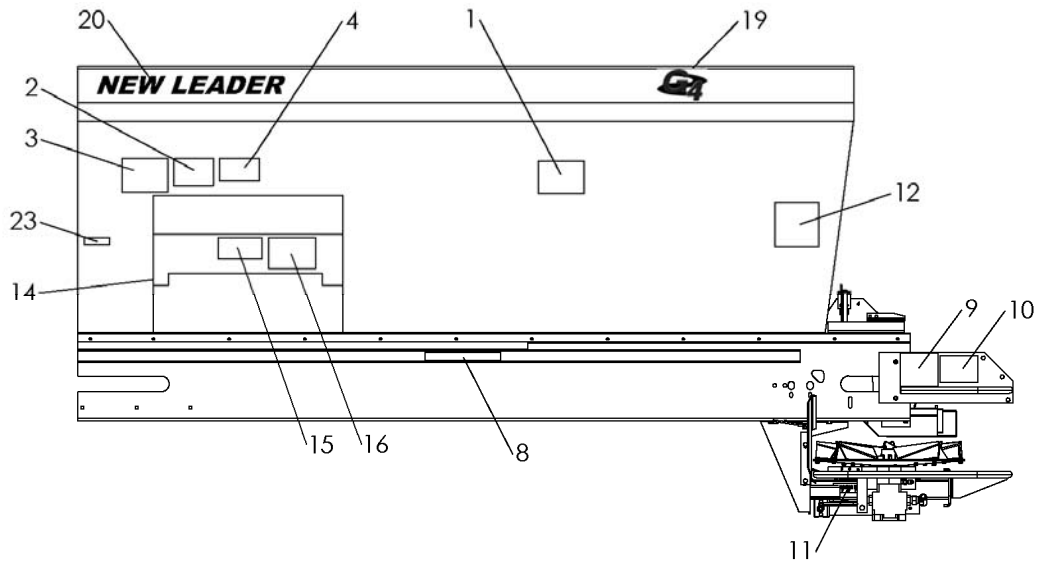
SPINNER MOTOR CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305944	Motor Assembly	
	72548	Kit – Seal, Includes Items 3-5	
	305824	Retainer – Assy w/Seals, Includes 1,3-5	
	306093	Shaft – Assy Output, Includes: 1-9, 22	
1	306091	Ring - Retainer	1
2	306088	Shaft	1
3	33809	Seal - Excluder	1
4	71980	Seal	1
	23940	Tool Seal Installation (Required to Install Item 4)	
5	28494	“O” Ring	1
6	28491	Bearing – Tapered Roller Assembly	2
7	28454	Spacer	1
8	306092	Washer - Lock	1
9	306089	Nut – lock	1
10	306087	Cover – Shaft End	1
11	58797	Plug	2
12	28495	Bushing	1
13	23806	Bearing	4
14	23819	Seals - Pocket (Makes 12 Seals)	1
15	23818	Plate	2
16	23820	Gasket	2
17	28498	Housing	1
18	23822	Set - Gear	1
19	23812	Cover - Port End	1
20		Washer	4
21	23833	Cap Screw	4
22	24458	Key	1
23	*30723	Tool – Wrench Spinner	1
24	*24536	Tool – Seal Driver	1
25	*23940	Tool – Seal Sleeve	1
26	*306090	Sleeve – Speedi	1
	72548	Kit – Seal, Includes Items 3-5	
	305824	Retainer – Assy w/Seals, Includes 1,3-5	

8 – Not Shown

**Please Give Part No., Description and Unit Serial No.**

DECALS

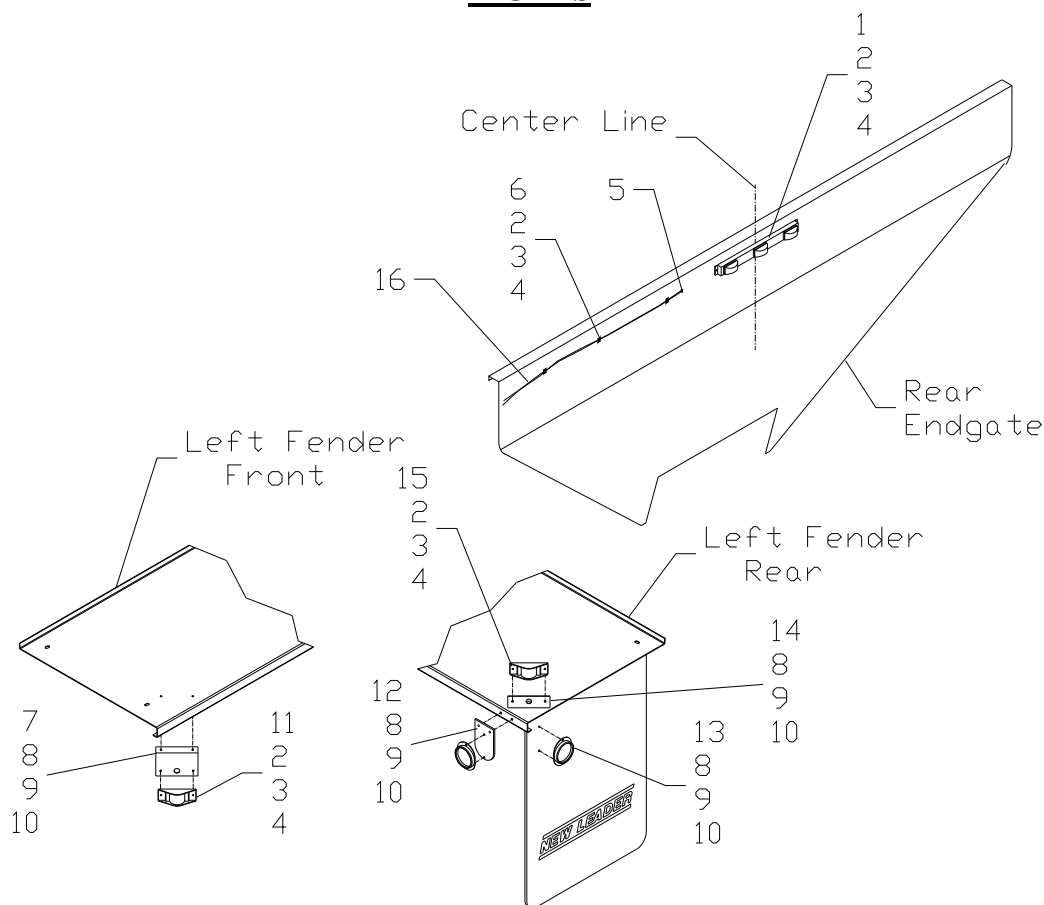


DECALS CONTINUED

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86974	Decal – Group Safety/Endgate, Includes 5-7	
	86976	Decal – Group Safety/Body, Includes 1-4	
	86889	Decal – Group Safety/MULTAPPLIER, Includes 5,7,13,23,25	
	305049	Decal – Group Safety/Tank, Includes 14-16	
	96415	Decal – Group Décor/Complete, Includes 19,20,23	
	305019	Decal – Group Décor/Endgate, Includes 18-22	
	305020	Decal – Group Décor/Body, Includes 18-23	
	305080	Decal – Group Décor/MULTAPPLIER, Includes 18-21,23-25	
1	39138	Decal – Warning, Hot Components	1
2	364	Decal – Warning, Stay Out of Box	2
3	150034	Decal – Caution, Improper Operation	1
4	321	Decal – Caution, Material to be Spread	1
5	368	Decal – Flying Material	1
6	23769	Decal – Feedgate Slide Scale	1
7	71526	Decal – Notice, Adjust Spinner	1
8	39200	Decal – Fender Capacity	2
9	55630	Decal – Warning, No Step	2
10	55631	Decal – Warning, Guard for Protection	2
11	87110	Decal – Scale Spinner	1
12	21477	Decal – Notice, Conveyor Life	1
13	21476	Decal – Notice, Conveyor Chain Life	1
14	8664	Decal – Caution, Keep Valve Open	1
15	304264	Decal – Notice, Cooler	1
16	39378	Decal – Change Filter	1
17	87109	Decal – G4	1
18	305018	Decal – L3030G4, Black	1
19	87122	Decal – G4 Black/Red	3
20	87164	Decal – New Leader, Black	3
21	87162	Decal – Striping Black (per foot)	AR
22	300403	Decal – MULTAPPLIER-Ready	1
23	302601	Decal – U.S. Patent Dual Bin	1
24	88245	Decal – MULTAPPLIER	1
25	97367	Decal – U.S. Patents Controller	1



LIGHTS



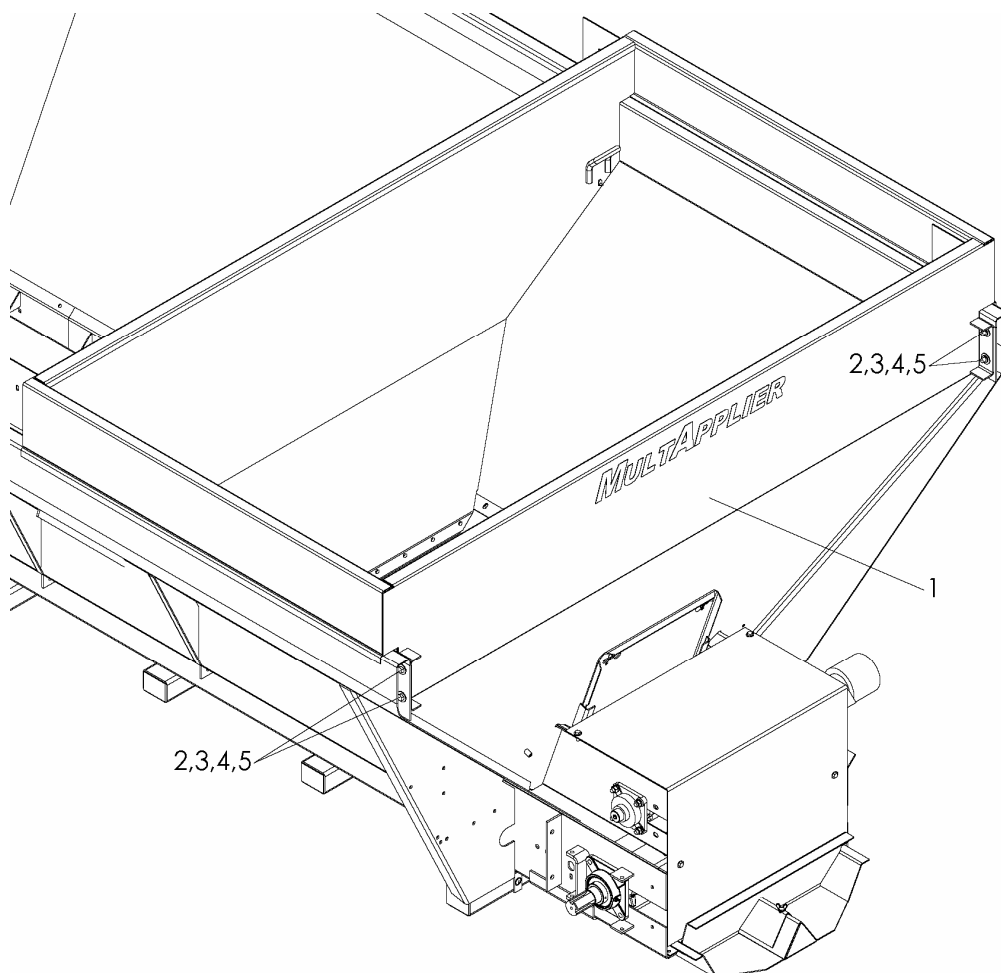
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	6114	Cluster - Light, Red	1
2	20572	Screw - Machine 3/16 x 3/4	33
3	20709	Washer - Lock 3/16	33
4	20641	Nut - Hex 3/16	33
5	21986	Grommet - Rubber	AR
6	6198	Clamp - Wire	AR
7	38611	Bracket - Front Light, Amber	2
8	20003	Cap Screw - 1/4 x 3/4	24
9	20691	Washer - Flat 1/4	24
10	20642	Nut - Hex 1/4	24
11	6108	Clearance Lamp - Amber	2
12	3824	Mount - Belt Reflector	4
13	6107	Reflector - Red	4
14	3775	Bracket - Rear Light, Red	2
15	6110	Clearance Lamp - Red	2
16	21580	Wire - 14 Gauge, Black	Inches AR

AR - As Required



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

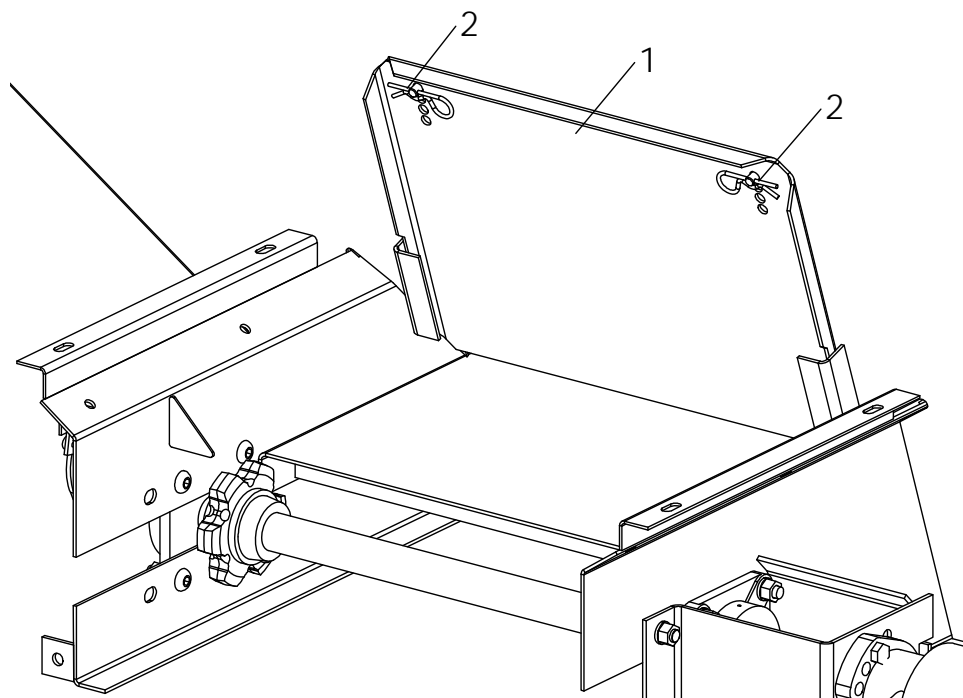
305021-E

MULTAPPLIER

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	86951	Hardware – Kit, Includes 2-5	
	98552	MULTAPPLIER – 5' Shell Insert	1
	303964	MULTAPPLIER – 7' Shell Insert	1
2	20128-X1	Cap Screw – 1/2 x 1 1/4 Grade 8	8
3	20695	Washer – Flat 1/2	16
4	20714	Washer – Lock 1/2	8
5	20646	Nut – Hex 1/2	8

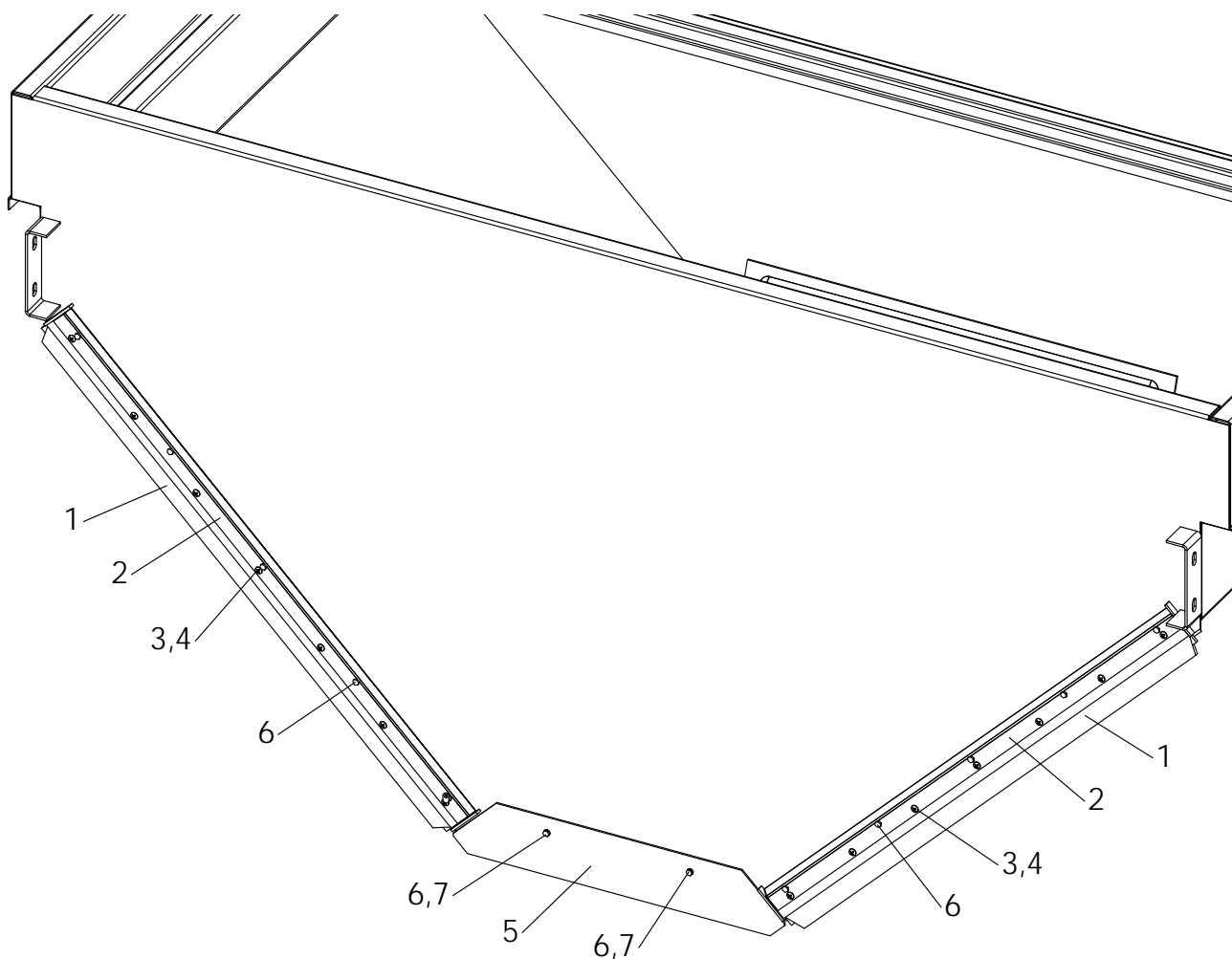
* - Not Shown – See “Decals” Parts List for locations.



MULTAPPLIER REAR FEEDGATE

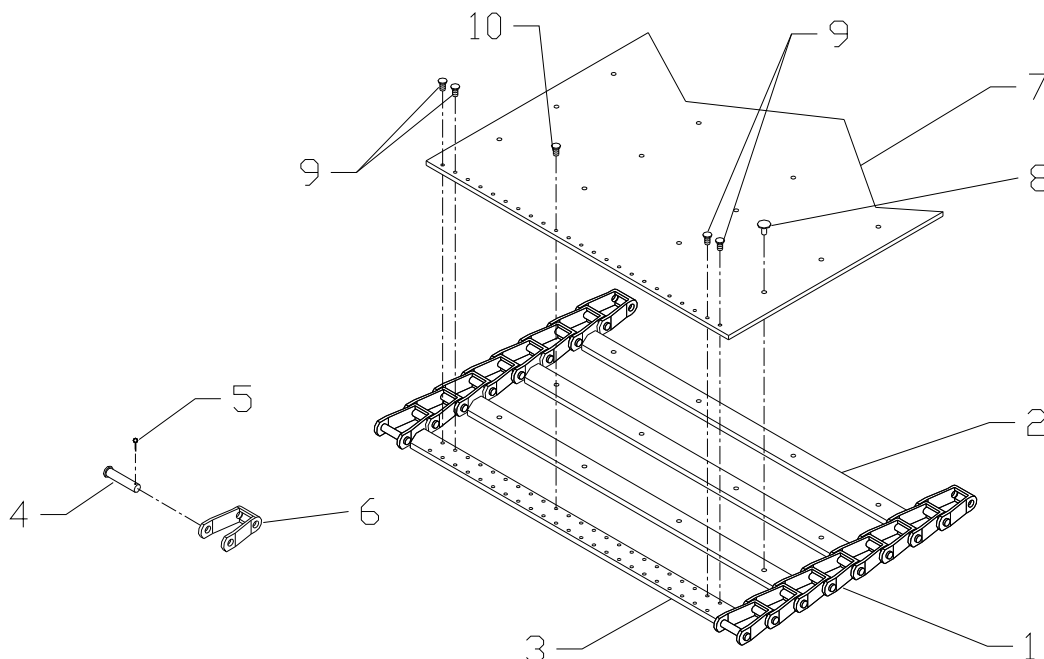
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86886	Feedgate – Assembly	
1	98557	Panel – Feedgate	1
2	36429	Pin – Hair 2.562 x .148	2

MULTAPPLIERS SEALER & FRONT FEEDGATE



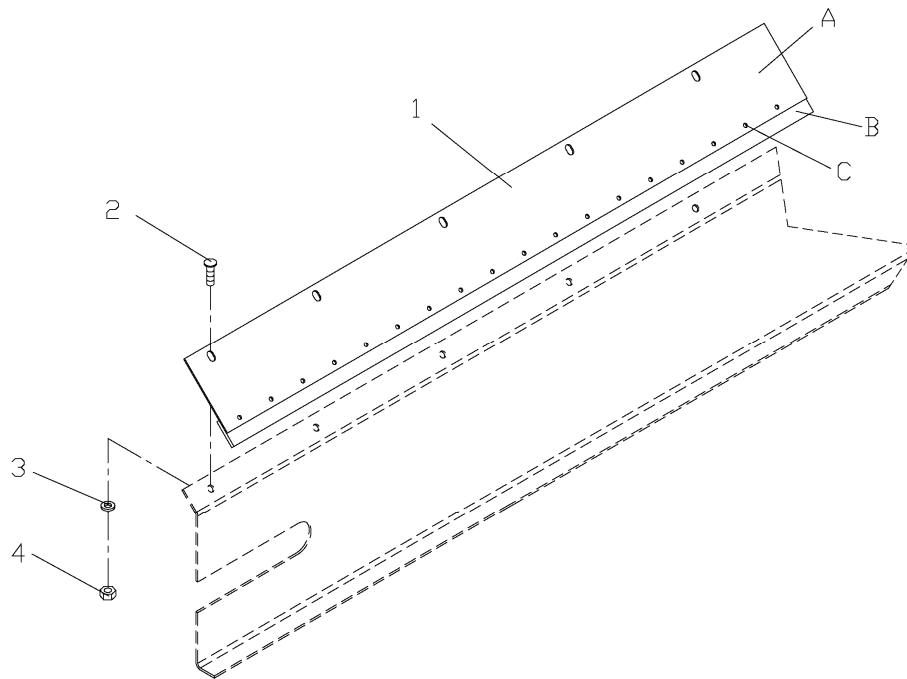
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	97967	Sealer – Assembly, Includes Half of 1-4	
	96284	Feedgate – Assembly Front, Includes 5-7	
1	97968	Sealer	2
2	97966	Retainer – Seal	2
3	20624	Screw – Truss Head 1/4-20 x 1/2	14
4	88931	Nut – Tee 1/4 x 1/4	14
5	86868	Feedgate – Panel 1.5"	1
	96984	Feedgate – Panel 2"	1
6	36398	Cap Screw – 3/8 x 1	12
7	36420	Washer – Lock 3/8	2



MULTAPPLIER #4 BELT-OVER-CHAIN CONVEYOR

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	86890	#4 BOC Assembly – 5' Unit	1
	303975	#4 BOC Assembly – 7' Unit	1
2	70756	Cross Bar with Rivet Holes Weldment	AR
3	70755	Bar – Splice Weldment	1
4	21118	Pin – Pintle Chain	AR
5	20817	Pin – Cotter	AR
6	21120	Link – Pintle Chain	AR
7	86760	Belt – Conveyor, Specify unit length	ft
8	6244	Rivet	AR
9	20617	Screw – Flat Head (Outside 2 Holes Only)	8
10	20624	Screw – Truss Head	28

* - Not Shown AR – As Required

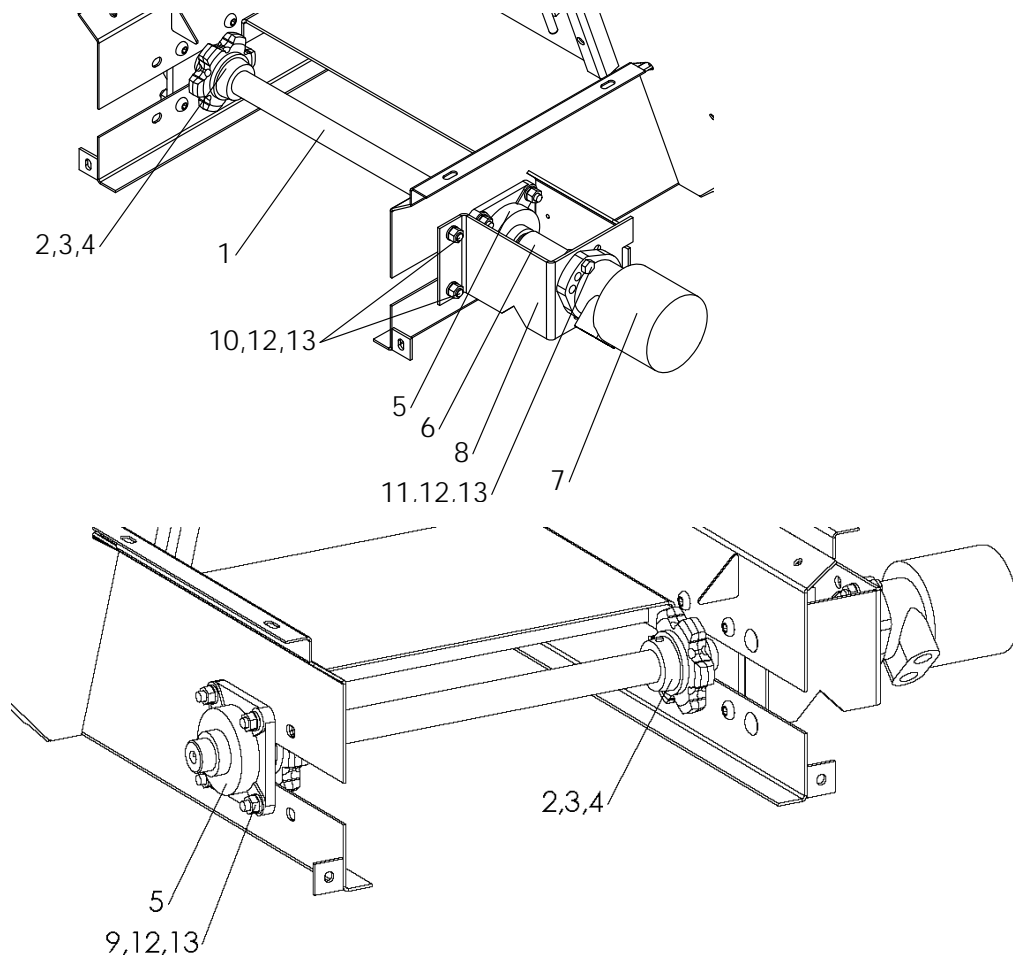
MULTAPPLIERS CHAIN SHIELDS

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86891	Shield – Assembly Chain 5'	
	303976	Shield – Assembly Chain 7'	
1	86876	Shield – Chain Assembly 5'	2
	303977	Shield – Chain Assembly 7'	2
A	86798	Shield – Chain 5'	2
	303978	Shield – Chain 7'	2
B	7687	Belting – Sealer, specify length	AR
C	6244	Rivet, 5' Units	AR
	56258	Screw – Truss Head 1/4-20 x 1/2, 7' Units	62
	88931	Nut – Tee 1/4 x 1/4, 7' Units	62
2	71829	Screw – Machine 3/8-16 x 1	AR
3	36420	Washer – Lock 3/8	AR
4	36414	Nut – Hex 3/8-16	AR

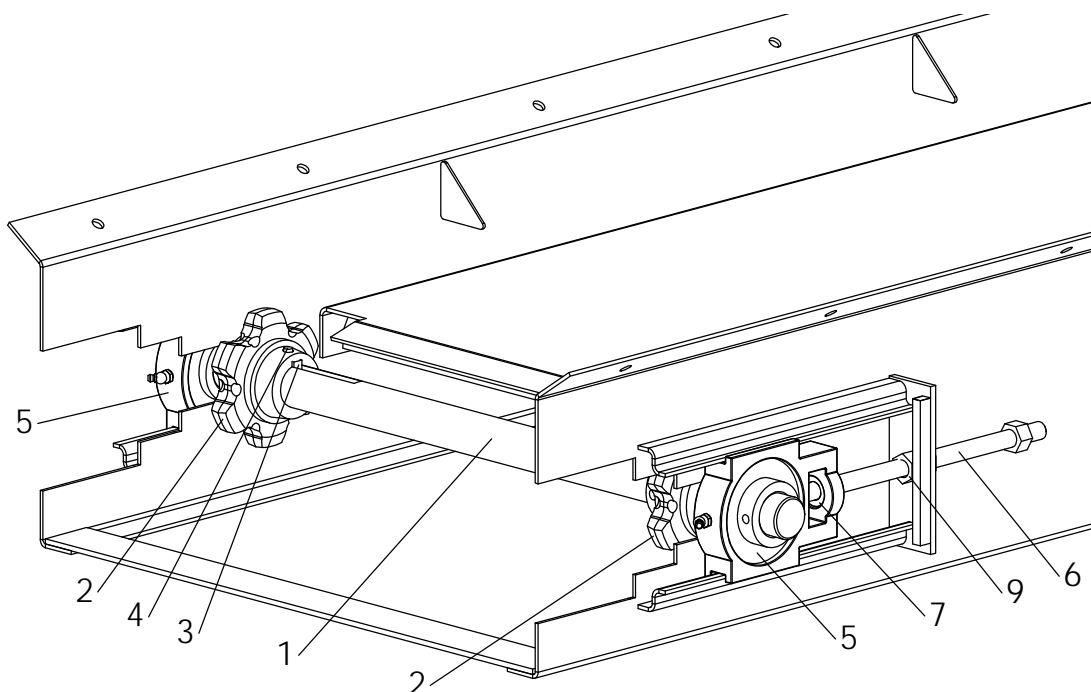
AR – As Required



Please Give Part No., Description and Unit Serial No. 305021-E

MULTAPPLIER CONVEYOR DRIVE

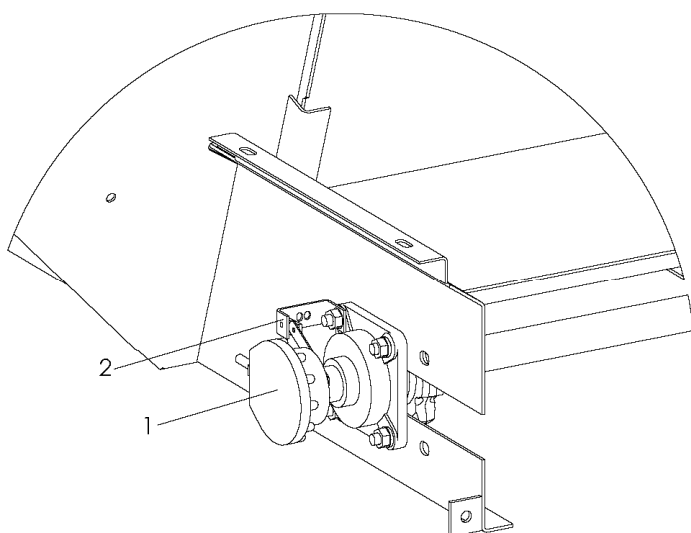
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86883	Drive – Group 24”, Includes 1-5,9,12&13	
	86884	Motor – Assembly, Includes 6-8 & 10-13	
1	86761-X2	Shaft – Drive 1-1/2 x 33	1
2	86757	Sprocket	2
3	6131	Key – Square 3/8 x 3/8 x 1-1/2	2
4	20743	Screw – Set	4
5	6697	Bearing	2
6	86762	Coupling	1
	4059	Key – Square 5/16 x 5/16 x 1-1/2	1
7	86765	Motor – Hydraulic	1
	56293	Seal Kit – Hydraulic Motor	1
8	86766	Mount – Motor	1
9	21101	Screw – Button Head 1/2 x 1 1/2	8
10	72056	Bolt – Carriage 1/2 x 1	2
11	36539	Cap Screw – 1/2 x 1 1/2	2
12	36422	Washer – Lock 1/2	12
13	36416	Nut – Hex 1/2	12

MULTAPPLIER CONVEYOR IDLER

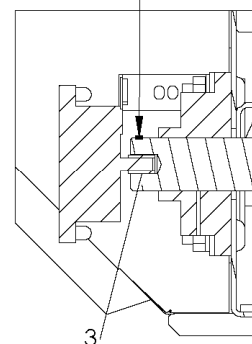
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86882	Idler – Group 24”	
1	89779	Shaft – Idler	1
2	86757	Sprocket	2
3	6131	Key - Square	2
4	20743	Screw – Set 5/16 x 3/8	4
5	22511	Bearing	2
6	87857	Bolt Weldment	2
7	17078	Collar – Set	2
8	* 36417	Nut – Hex 5/8	2
9	87856	Nut Weldment	2

* - Not Shown

MULTAPPLIER ENCODER



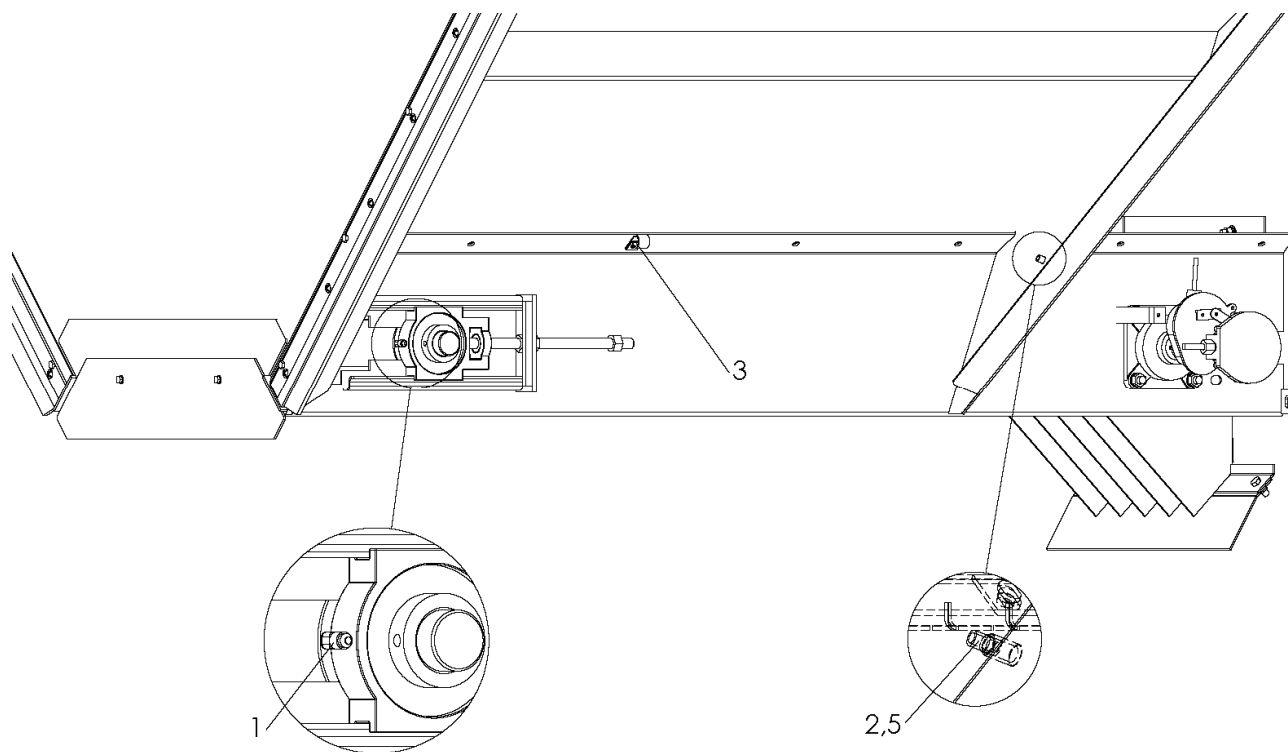
ADD BEAD OF SILICONE
OVER HOLE (DO NOT FILL)



SECTION VIEW

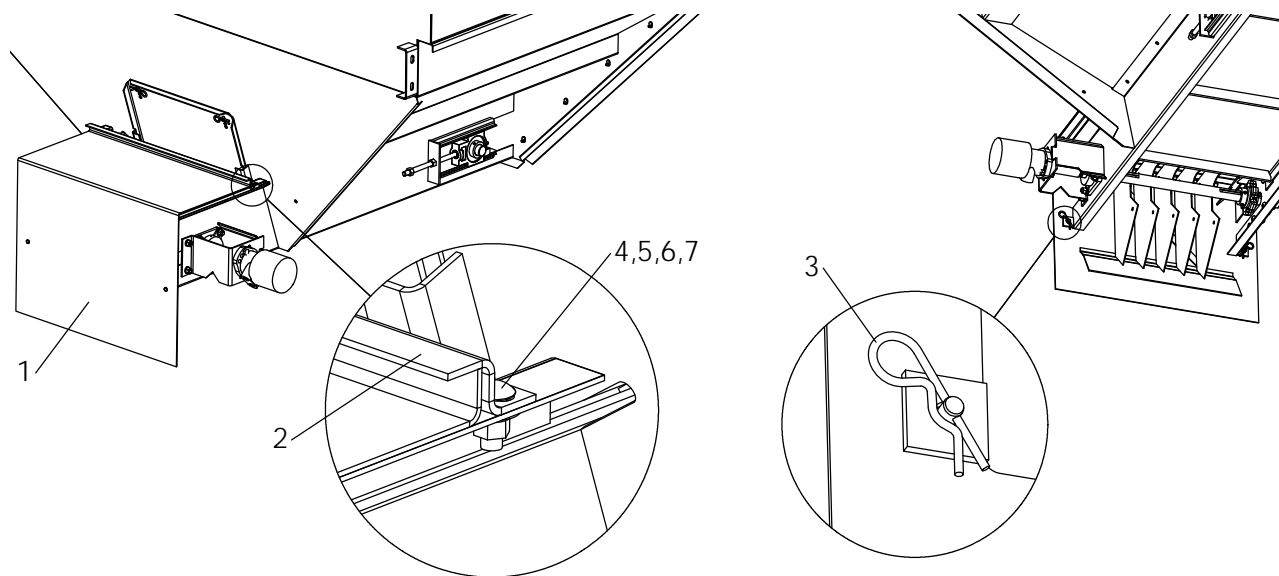
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	304957	Encoder – Group 180 Count	
1	303994	Encoder – 180 Count	1
2	304953-X1	Bracket – Encoder	1
3	56263	Sleeve – Rate Sensor	1

MULTAPPLIER REAR IDLER ZERKS

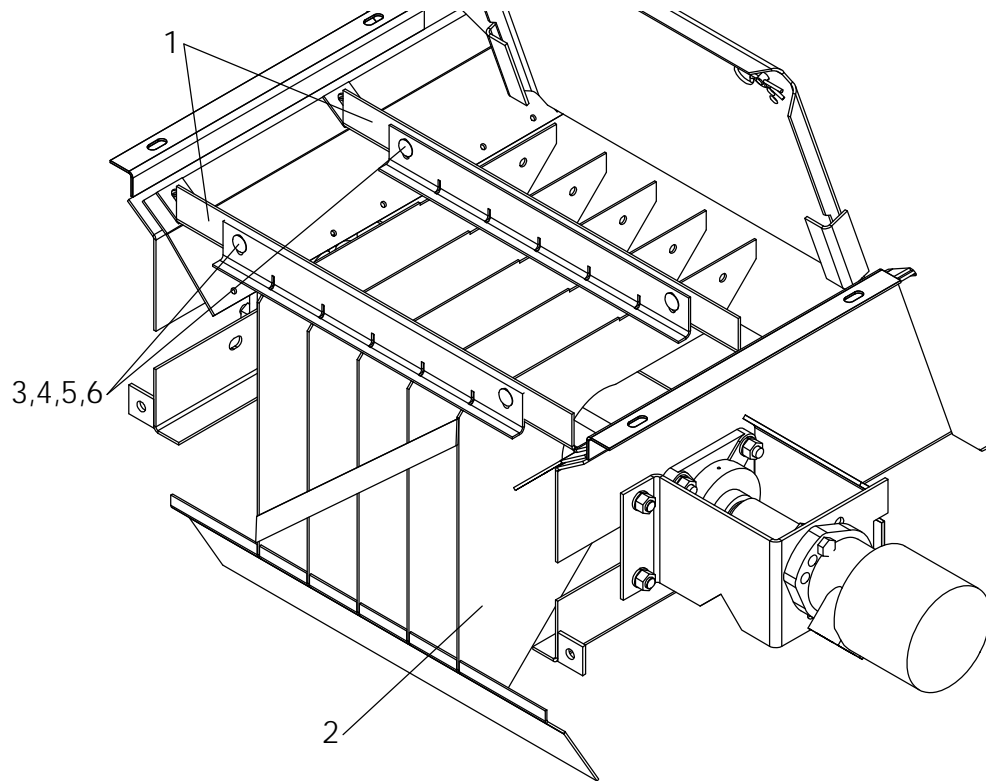


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86978	Zerk – Assembly Idler Rear 5’ Unit	
	304049	Zerk – Assembly Idler Rear 7’ Unit	
1	34374	Fitting – 90° Elbow Male	2
2	6000	Coupling – Pipe 1/8 NPT	4
3	89051	Clamp – Insulated	2
4	* 86977	Hose – Assembly 1/4 x 52, 5’ Unit	2
	304048	Hose – Assembly 1/4 x 74, 7’ Unit	2
5	6023	Nipple Close	2

* - Not Shown

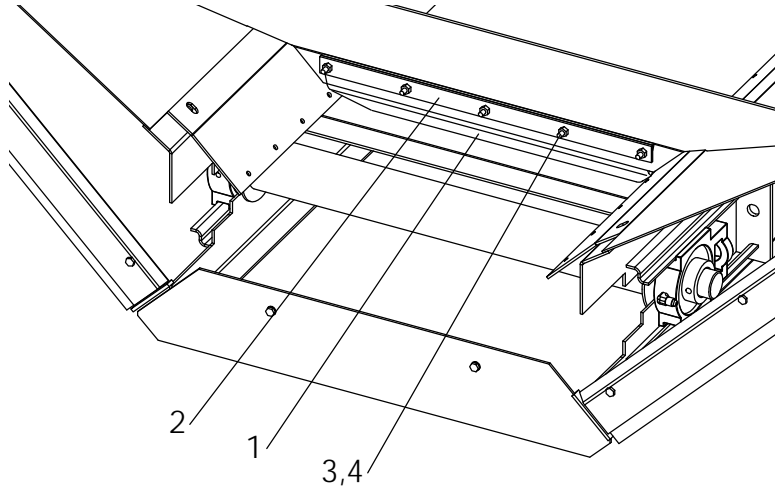
MULTAPPLIERS CONVEYOR COVER

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	98560	Cover – Assembly Rear	
1	98562	Cover – Weldment Rear Conveyor	1
2	98555	Hold-down – Cover Rear	1
3	36429	Pin – Hair 2.562 x .148	4
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

MULTAPPLIERS HILLSIDE FLOW DIVIDER

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86885	Hilside – Assembly	
1	86825	Support – Divider	2
2	98553	Divider – Weldment Hillside	1
3	36408	Bolt – Carriage 3/8 x 1	4
4	36425	Washer – Flat 3/8	4
5	36420	Washer – Lock 3/8	4
6	36414	Nut – Hex 3/8	4

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

MULTAPPLIER WIPER

Note: Front endgate removed for clarity.

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	86894	Sealer – Front Endgate	
1	39426	Wiper – Belt Front	1
2	54230	Retainer – Wiper	1
3	42033	Screw – Truss Head 1/4-20 x 1	5
4	36412	Nut – 1/4-20	5