



MODEL TGC-18

UNIT SERIAL NUMBER _____

MANUAL NUMBER: 74338-G

EFFECTIVE 10/30/2013



Highway Equipment Company

Building the best since 1939.

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Insert Current Hi-Way Warranty

PREFACE**PLEASE ! ALWAYS THINK SAFETY FIRST !!**

The purpose of this manual is to familiarize the person (or persons) using this unit with the information necessary to properly install, operate, and maintain this system. The safety instructions indicated by the safety alert symbol in the following pages supersede the general safety rules. These instructions cannot replace the following: the fundamental knowledge that must be possessed by the installer or operator, the knowledge of a qualified person, or the clear thinking necessary to install and operate this equipment. Since the life of any machine depends largely upon the care it is given, we suggest that this manual be read thoroughly and referred to frequently. If for any reason you do not understand the instructions, please call your authorized dealer or our Product Sales and Support Department at (319) 363-8281 or 1-800-363-8006.

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

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

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

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

ACCIDENTS HURT !!!

ACCIDENTS COST !!!

ACCIDENTS CAN BE AVOIDED !!!



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

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



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.



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.



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.



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

NOTE:

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

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

The following guidelines are intended to cover general usage and to assist you in avoiding accidents. There will be times when you will run into situations that are not covered in this section. At those times the best standard to use is common sense. If, at any time, you have a question concerning these guidelines, please call your authorized dealer or our factory at (319) 363-8281 or 1-800-363-8006.

MAINTENANCE INSTRUCTIONS

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

INSTALLATION INSTRUCTIONS

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

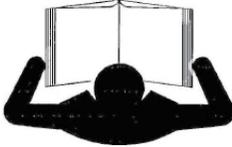
 **CAUTION**

HAZARDOUS MATERIALS
To avoid injury or machine damage:

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

321-C

 **CAUTION**



TO AVOID INJURY OR MACHINE DAMAGE:

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

150034-C

 **DANGER**

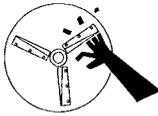
 

MOVING PART HAZARD
To prevent death or serious injury:

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

364-C

 **DANGER**

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

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

368-C

 **WARNING**

MOVING PART HAZARD
To prevent death or serious injury:

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

55631-C

SAFETY DECALS CONTINUED

<h2>NOTICE</h2>
<ul style="list-style-type: none"> • This unit is equipped with an oil and heat resistant belt. • It has a temperature range of -10°f to 350°f. • Operating outside of this range will cause the outer skin to crack prematurely. <p style="text-align: right; margin-top: 0;">79985-D</p>

<h2>NOTICE</h2>
<ul style="list-style-type: none"> • Use SAE 15W-40 for hydraulic fluid. • Extreme operating temperatures may require a different viscosity oil range. • Consult dealer for recommendation. <p style="text-align: right; margin-top: 0;">8665-D</p>

<h2>NOTICE</h2>
<ul style="list-style-type: none"> • Conveyor chain life will be noticeably extended by periodic lubrication. • Use a 75% diesel fuel and 25% number 10 oil mixture on the links and rollers. • Failure to keep the chain links loose and free running can result in severe damage to the conveyor chain, drag shaft, gear case, body structure, and is cause for voiding the warranty. <p style="text-align: right; margin-top: 0;">21476-D</p>

<h2>NOTICE</h2>
<p style="text-align: center;">Keep valve open while pump is running.</p> <p style="text-align: center;">↓</p> <p style="text-align: right; margin-top: 0;">8664-D</p>

<h2>NOTICE</h2>
<p style="text-align: center;">Change filter element.</p> <p style="text-align: center;">After the first 50 hrs. and every 250 hrs. Thereafter</p> <p style="text-align: right; margin-top: 0;">39378-F</p>

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



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

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

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

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



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

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



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

8. Be careful in getting on and off the 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!



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. DO NOT work on system that is hot. Wait until oil has cooled. If an accident occurs, seek immediate medical assistance.



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.

	<p>CAUTION</p> <p>If spreader is used to transport chemicals, check with your chemical supplier regarding DOT (Department of Transportation) requirements.</p>
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19. Cover all loads that can spill or blow away. Do not spread dusty materials where dust may create pollution or a traffic visibility problem.



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

21. 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 dealer's parts department or from Highway Equipment Company by calling (319) 363-8281 or 1-800-363-8006.

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



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

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



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

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



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



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

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



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

13. Hydraulic fluid under high pressure leaking from a pin hole are dangerous as they can penetrate the skin as though injected with a hypodermic needle. Such liquids have a poisonous effect and can cause serious wounds. To avoid hazard, relieve pressure before disconnecting hydraulic lines or performing work on system. Any fluid injected into the skin must be treated within a few hours as gangrene may result. Get medical assistance immediately if such a wound occurs. To check for such leaks, use a piece of cardboard or wood instead of your hand. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to system. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

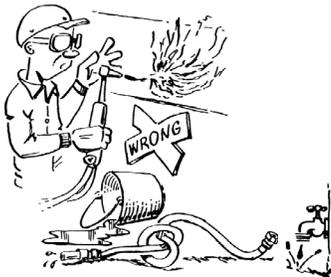


14. The fine spray from a small hydraulic oil leak can be highly explosive—**DO NOT SMOKE**—**STAY AWAY FROM FLAME OR SPARKS**.

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



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

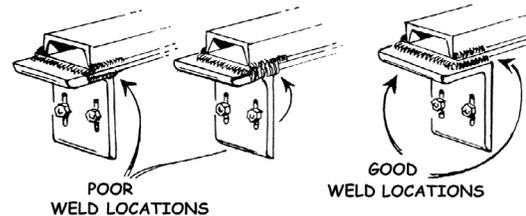


5. When truck frame must be shortened, cut off only the portion that extends behind rear shackle in accordance with the truck manufacturer's recommendations. If a torch is used to make

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

6. Do not weld on vehicle frame as such welding can lead to fatigue cracking and must be avoided. When drilling holes in frame member, drill only through the vertical web portions do not put holes in top or bottom flanges. Refer to truck manufacturer's recommendations.

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



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

The TGC-18 is an under tailgate type conveyor/spreader designed for conveying material along the edge or shoulder of a roadway. The TGC-18 has a reversible conveyor allowing it to discharge material from either side for applications along left hand or right hand shoulders. The unit is equipped with a lever operated feedgate and swinging endgate at each end. The swinging endgate is used for high volume output. Standard equipped, without the optional spinner attachment, the TGC-18 is ideally suited for centerline spreading of deicing materials.

The standard unit is equipped with a High Temperature Oil Resistant (HI-TEMP) belt-over-chain conveyor. The HI-TEMP belt has an operating temperature range from -10° F to +350° F and is required if conveying petroleum based materials, such as asphalt. For applications of materials below -10° F, the optional Non-HI-TEMP belt-over-chain conveyor should be used. However, the Non-HI-TEMP belt is not recommended for use with petroleum based products.

The unit can also be easily converted to a broadcast spreader when equipped with the optional spinner attachment. With the spinner installed, the unit can be used for spreading chemicals or abrasives for ice and snow control as well as sand and gravel for roadwork.

The unit mounts to the sides of a dump truck body on pivots. It is positioned below the floor of the dump box. Linkages between the spreader and the truck frame keep the spreader level as the dump box is raised to discharge material.

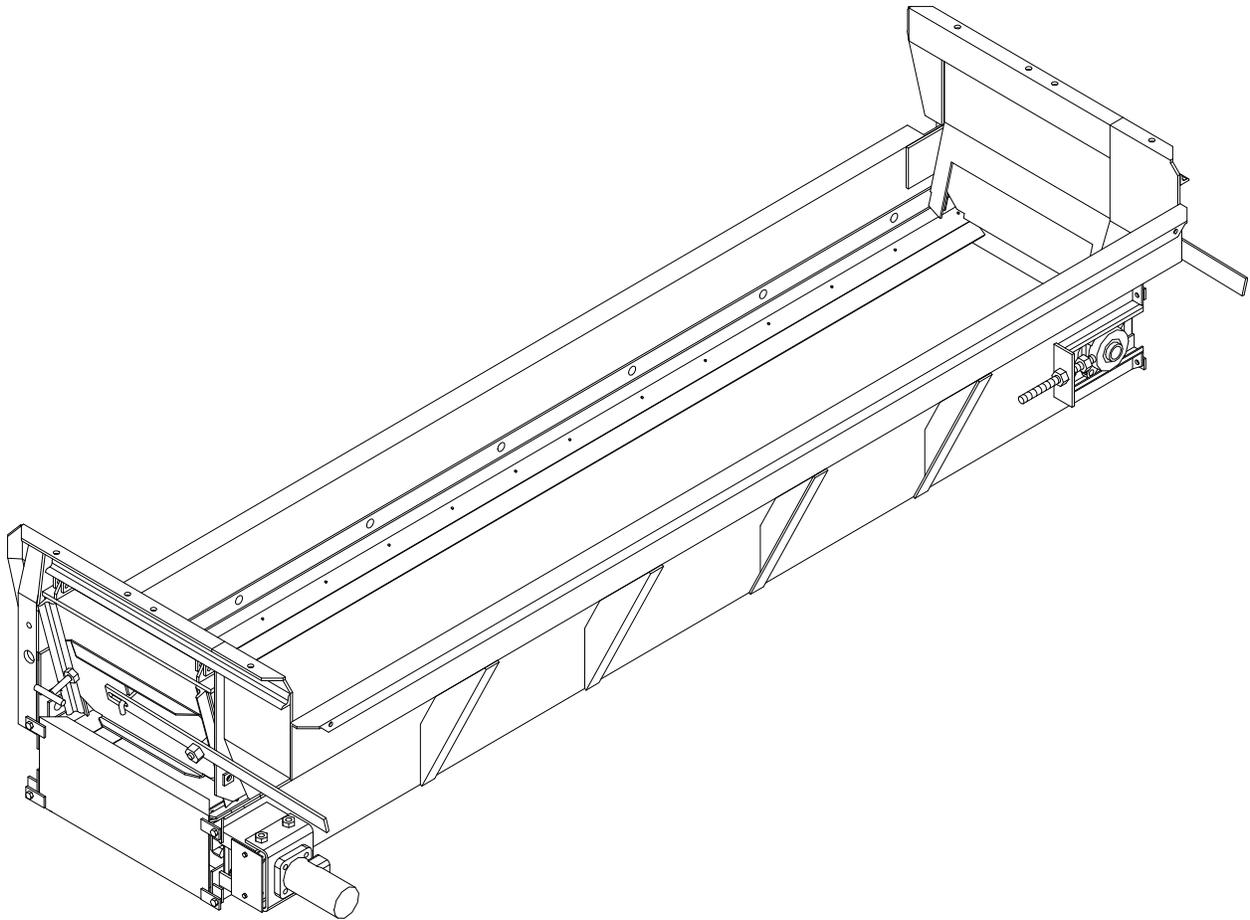
A gear type hydraulic pump provides power to operate the unit. Available pump drives are:

- 1.) Transmission PTO drive.
- 2.) Electric clutch engaged "V" belt drive from crankshaft pulley.

The standard control system is a manual hydraulic system. It provides variable speed control for the conveyor and the optional spinner attachment.

A hydraulic motor direct drives the conveyor. A second hydraulic motor provides power to the optional spinner through a chain and sprockets reduction drive.

This product is intended for commercial use only.



<u>DIMENSIONS</u>			
	<u>HEIGHT</u> inches (cm)	<u>WIDTH</u> inches (cm)	<u>LENGTH</u> inches (cm)
With Spinner	34-1/2 (88)	42-1/2 (108)	108 (274)
Without Spinner	24-1/2 (62)	31 (79)	102 (259)

DIMENSIONS & CAPACITIES

Refer to www.highwayequipment.com for installation instructions. Once on the website, Customer Support, Other Hi-Way Manuals & Instructions, then Tailgate Spreader Installation Instructions.

Check over entire unit to be sure all fasteners are in place and properly tightened per *Torque Chart* in this manual. Disengage PTO driving pump. Be sure "On-Off" control is in the "Off" position.

NOTE: Stand clear of moving machinery. Do not load spreader with material.

1. Check to see that no other person(s) is in the vicinity of the truck or spreader.
2. Check to see that no loose parts are in the body, on the conveyor or on the spinner.
3. Open the feedgate until it is completely clear of the conveyor.
4. Fill the hydraulic reservoir with oil. Refer to the *Lubricant Specifications* section of this manual for proper oil.
5. Start engine. Engage PTO or actuate electric clutch switch (if applicable). Let the engine run at approximately 1000 RPM for a few minutes allowing the oil to circulate through pump and back to reservoir. In cold weather, increase warm-up time.
6. Place the cab "On - Off" control in the "On" position and open the spinner control approximately 1/4 (Position #3). Let the unit run until air is expelled from the circuit and the spinner is running smoothly. The spinner should rotate counter-clockwise when viewed from the top. Turn the spinner knob the "Off" position.
7. Open conveyor knob approximately 1/4 (Position #3) on the valve. Let the unit run a few minutes until the conveyor is running smoothly.
8. Move the spinner and conveyor knob to Position #5 and allow both spinner and conveyor to run. Shut down the system.



DANGER Stay clear of moving machinery.

9. Check all connections in the hydraulic system to make sure that there are no leaks.



WARNING

DO NOT check leaks with hands while system is operating as high pressure oil leaks can be dangerous! If skin is pierced with hydraulic fluid at high pressure seek immediate medical attention as fluid injected into the skin could cause gangrene if left untreated. Relieve pressure before disconnecting hydraulic lines or working system. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.



WARNING

DO NOT check for leaks adjacent to moving parts while system is operating as there may be danger of entanglement!

10. Check hydraulic oil reservoir and refill as necessary. Unit is now ready for road testing.

Before taking the unit out to use, make a walk around inspection to assure that the spreader is not damaged, that all essential parts are in place, that all fasteners are tight, and all guards are in place. Check controls to be sure they are operating satisfactory.

Open the feedgate the desired amount. Tighten the "T" screw to hold the feedgate in position.

Adjust the dump body's tailgate chains to hold the tailgate open only enough to keep the material freely flowing to the conveyor. This adjustment is by trial and error and depends on the flow characteristics of the material being spread. The maximum length of chain (dimension "A" Figure 1) or tailgate opening must provide a minimum of 3/4" (1.91cm) clearance from the bottom of the tailgate to the inside of the spreader hopper when raised to 50° elevation. If the tailgate is not chained properly, the tailgate could cause damage to the hopper as the dump body is raised.

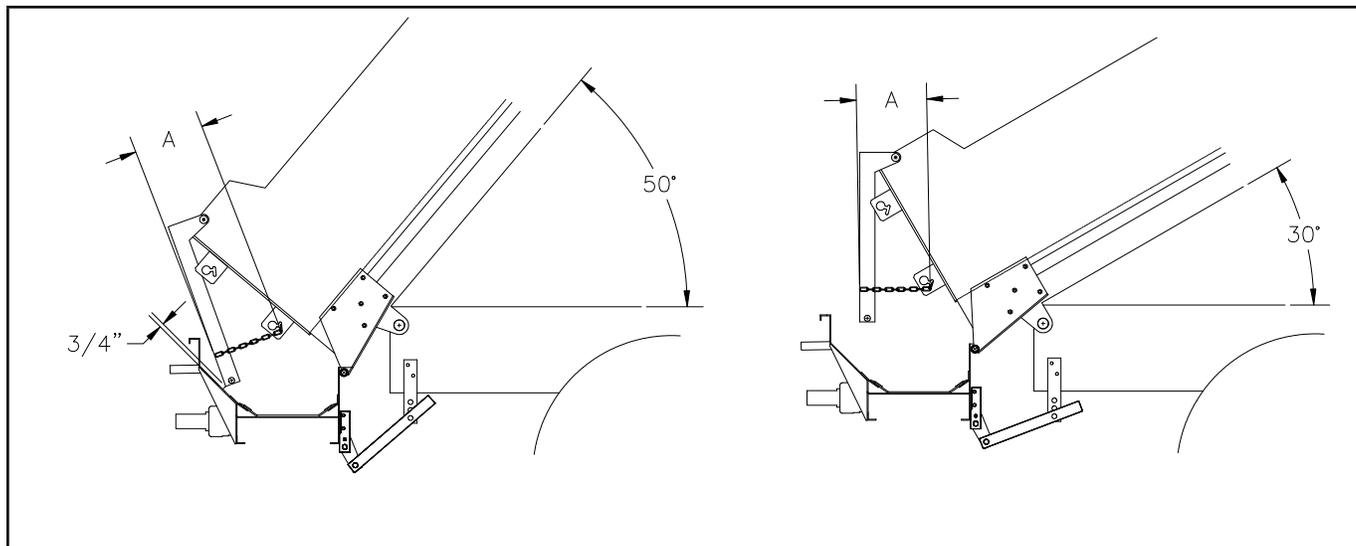


Figure 1 - Tailgate Opening

If the material to be spread is not already in the dump body, have the unit loaded. With the TGC-18 manual dual hydraulic valve's On-Off lever in the "Off" position, engage pump drive and allow oil to circulate until it is warm. This may be done while traveling to loading area or starting point. The colder the weather, the more important this "warm-up" becomes.

Set the variable speed control knob for the conveyor, on the manual dual hydraulic valve, to the desired rate of material delivery. Since delivery will be affected by feedgate opening, conveyor speed, as well as material size, density, and moisture content, the proper setting will be gained by trial and experience.

To convert the unit for LH delivery, reverse the hose connections on the conveyor motor. Remove the conveyor guard and install on RH end of machine. Close the RH feedgate and adjust the LH feedgate as necessary.

Adjust conveyor mirror so driver can see the conveyor from his seat.

Set variable speed control knob for the spinner (if installed) to obtain desired spread width. Since spinner speed and position, as well as material granule size, density and moisture content affect spread width; proper settings are gained by trial and experience.

Spinner speed selected should be the lowest required to obtain the desired spread width with the material being spread. Use of higher spinner speeds will increase wear and tear on parts, and can create excessive damage to vehicle finish through uncontrolled throwing and bounce of materials. It also wastes material and can be a safety hazard.

NOTICE! When spreading is complete or before transporting to another location, lower truck dump body, close tailgate and secure, convey all material out of spreader hopper. Failure to remove material from the spreader hopper will result in shearing of the leveling link shear pins and possible damage to the spreader

NOTE: Disengage PTO when spreader is not in use for long periods of time or when moving to and from the job after initial warm-up.

NOTICE! Always have conveyor running when raising the dump body. If the dump body is raised without the conveyor running, the shear pins on the leveling link could shear due to the load placed on the conveyor. (Figure 2) ALWAYS USE SHEAR PINS TO AVOID SEVERE DAMAGE to the conveyor hopper. No substitutions can be made.

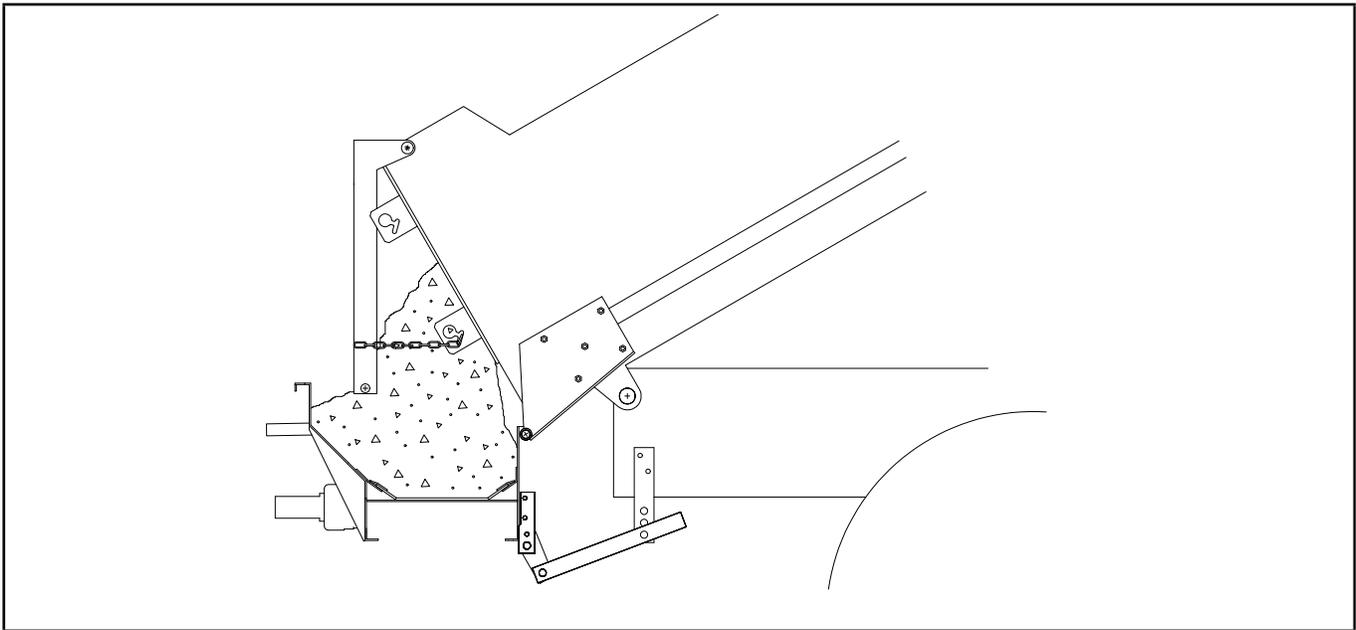


Figure 2 - Keep Conveyor Running When Raising Dump Body

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 provide longer life, more satisfactory performance and more economical use.

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

The use of 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 the hydraulic oil in original closed containers, clean top of container before opening and pouring, and handle in extremely clean measures and funnels.

Service Schedule

1. Check the hydraulic oil daily. Add oil if required. Frequently inspect the hoses and fittings for leaks.

**WARNING**

DO NOT check leaks with hands while system is operating as high pressure oil leaks can be dangerous! If skin is pierced with hydraulic fluid at high pressure seek immediate medical attention as fluid injected into the skin could cause gangrene if left untreated. Relieve pressure before disconnecting hydraulic lines or working system. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

**WARNING**

DO NOT check for leaks adjacent to moving parts while system is operating as there may be danger of entanglement!

NOTICE!

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

2. After first filter change, replace filter when indicator reaches Red Zone.
3. The reservoir should be drained through drain plug (not through suction outlet), flushed, and refilled and the filter element should be changed annually, or the oil and filter should be changed if oil shows any sign of breaking down under continued high-pressure operation. Discoloration of oil is one sign of breakdown.

Hydraulic Lubricant Specifications

The recommended lubricant is an automotive engine oil SAE 15W-40 for diesel engine service. The normal system operating temperature range, with 15W-40 oil, is between 140° and 180° F. Extreme operating temperatures may require a different viscosity oil range. If the temperature rises above 180°, there may be defective components in the system causing excessive heat. Consult your authorized dealer for additional information or the Product Support Department at Highway Equipment Company.

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

CHAIN

Conveyor

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!

Shut down spinner and run conveyor slowly to lubricate chain. Spray oil mixture between links of chain.

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 3). Make sure chain is tensioned equally on both sides. This adjustment is made on each side of the unit at the idler bearings.

Conveyor chains that are too tight will tend to stretch, causing excess sprocket wear and eventually breakage.

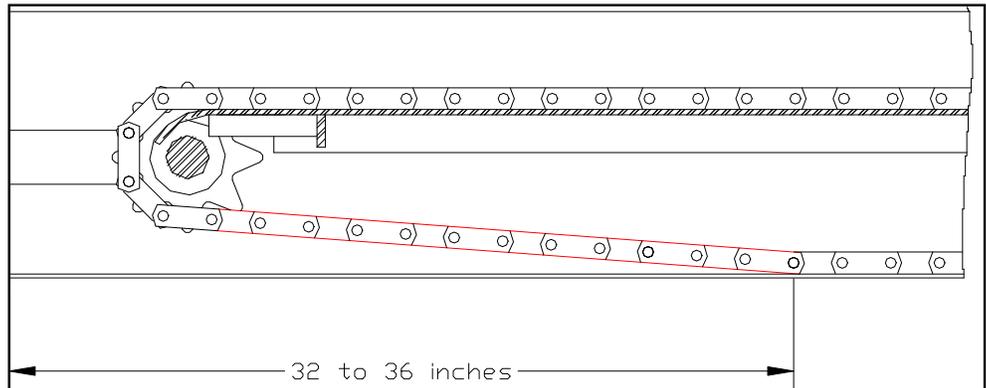


Figure 3 - Adjusting Conveyor Chain Tension

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.

Spinner

Twice a year remove spinner drive chain. Soak the chain in solvent to remove all old or contaminated oil. Check the chain at this time for any frozen links. Soak the chain in SAE 10 oil. Soak the chain until, when flexed, no bubbles appear on the chain. Reinstall the chains. Chain should be tensioned enough to prevent whipping at operating speed. Over-tensioning of chain will create excessive heat that may freeze the chain or cause damage to other parts of the drive system.

To adjust the spinner chain, loosen the cap screws in the motor mount. Use a pry bar to move the motor mount and tighten the chain. Tighten mounting cap screws to maintain chain adjustment.

Chain Lubricant Specifications

Lubricate chain at least once a week and after each washing. Allow to dry before lubricating. Use a mixture of 75% No.1 or No.2 fuel oil and 25% SAE 10 oil in a pressurized hand spray gun.

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.

PRESSURE 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.

CLEAN UP

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.

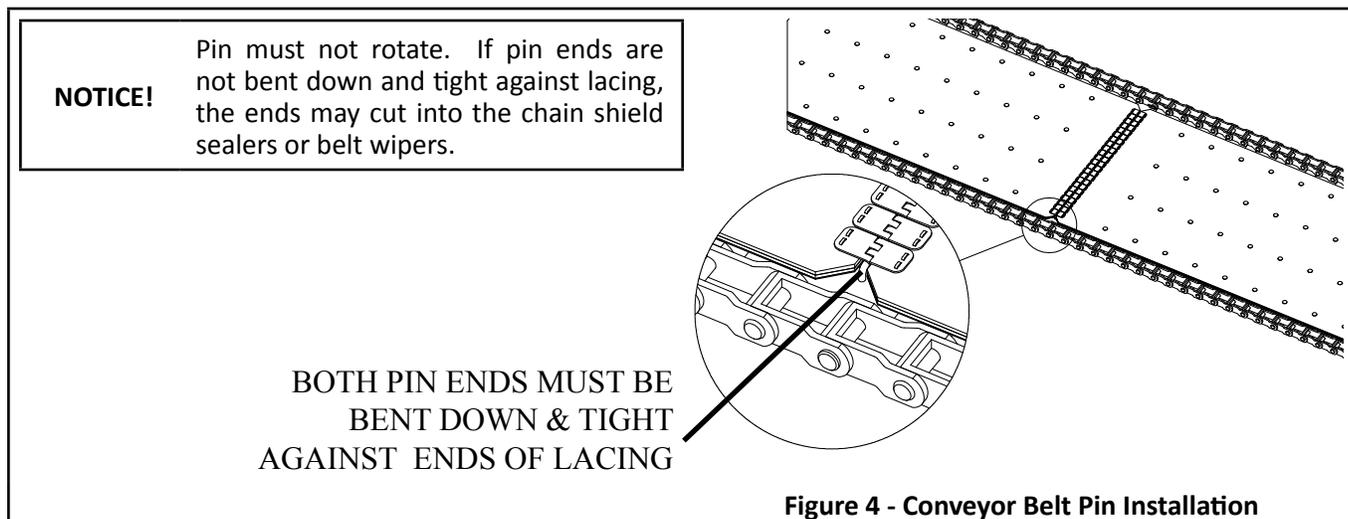
FASTENERS

Tighten all screw 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.

CONVEYOR BELT MAINTENANCE

The standard HI-TEMP oil resistant belting is highly recommended where an asphalt mix is going to be run through the spreader. The optional Non-HI-TEMP belt for the 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.
- Make sure belt connecting pin is positioned correctly as shown in Figure 4.

**Hi-Temp Belt**

In order to achieve maximum life out of high-temperature belting, follow the recommendations below:

1. Keep belt clean and free from build up of asphalt or other material.
2. Spray the belt often with oil to assure flexibility of rubber and ease cleaning. Spray the under part of the conveyor also as dry heat is very detrimental to the life of the belt.
3. Keep asphalt temperature below 350° F and the belt running as much as possible when loaded. A hot sitting load is more detrimental since it does not allow a cooling cycle for the belt.
4. Allow belt to flex and warm up in cold weather before loading it with extremely hot product.
5. Do not operate the belt in temperatures below -10° F. Operating in temperatures below -10 F will cause the belt to crack prematurely.

A properly cared for belt, in normal use, will first experience cracking of the belt cover. This is normal for a belt of this type in an asphalt environment and does not indicate a failing belt. Eventually the belt cover will begin to harden and chunks of cover begin falling off, exposing the steel. When this happens, replace the belt.

Non-Hi-Temp Belt

In order to achieve maximum life out of the Non-HI-TEMP belt, the following recommendations should be followed:

1. Do not expose the belt to any petroleum based products such as oil, asphalt, etc.
2. Do not operate the belt in temperatures below -30° F. or above 180° F.

Location	Places	Method	Frequency
Hydraulic System			
Reservoir	1		Check daily; Change annually.
Filter	1		Check daily; Change when indicator is red.
Hex Valve Stem (Under hand knob)	2	Hand Grease	Annually
Conveyor			
Drag-shaft Bearings	2	Grease Gun	Weekly
Idler Shaft Bearings	2	Grease Gun	Weekly
Take-up Screws	2	Hand Grease	Weekly
Conveyor Chain	2	Spray Oil	Weekly
Spinner			
Bearings	2	Grease Gun	Weekly
Drive Chain	1	Spray Oil	Daily
Pump Drive			
Slip Joint	1	Grease Gun	Weekly
U-Joints	2	Grease Gun	Monthly

Hydraulic System Lubricant: Use an automotive engine oil SAE 15W-40 for diesel engine service.

Conveyor 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

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

Grease Gun Lubricant: Use lithium base lubricant with a minimum melting point of 300° F.

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

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

Reason:

Correction:

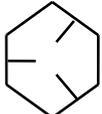
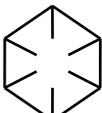
1. Symptom: Neither conveyor nor spinner will operate.	
A. Low reservoir oil level.	Check and fill as required.
B. PTO not engaged.	Engage PTO. Check for broken or disconnected control cable.
C. PTO malfunction.	Check PTO.
D. Electric clutch malfunction.	Check electric clutch.
E. Drive belts slipping or broken.	Check belts. Replace or adjust tension as required.
F. Pump driveshaft.	Check for broken or disconnected pump driveshaft.
G. Worn pump.	Check for broken key in pump. Also see C-F above.
H. Worn pump.	Check with flow meter.
I. Relief valve set too low.	Adjust relief valve setting.
J. Spinner pressure line quick disconnect not completely connected to return line quick disconnect.	Completely connect spinner pressure line to return line whenever spinner is removed.

2. Symptom: Conveyor operates but spinner does not.	
A. Jammed spinner	Turn spinner control "Off", then check for jam.
B. Motor not turning spinner	Check for broken key or failed motor. Repair or replace.
C. Pinched or crushed hoses or lines	Repair or replace as required.
D. Broken drive chain	Repair or replace as required.

3. Symptom: Spinner operates but conveyor does not.	
A. Jammed conveyor	Turn control "Off", then check for jams.
B. Frozen bearings	Turn conveyor control "Off", then check bearings. Replace as required.
C. Motor doesn't turn conveyor	Check for broken key or failed motor. Repair or replace as required.
D. Pinched or crushed hoses or lines	Repair or replace as required.

4. Symptom: Hydraulic oil overheats	
A. Low oil level	Check oil level; Add as necessary.
B. Check for proper pump/PTO matching	Install proper fixed pump.
C. Incorrect relief valve setting	Check setting. Adjust to proper setting of 1500 PSI (103.4 bar)
D. Pinched or crushed hoses and lines	Repair or replace as required.
E. Worn motor in system	Repair or replace as required.

CAP SCREW GRADE IDENTIFICATION - MARKINGS ON HEAD

- SAE GRADE 2  NO MARKINGS
- SAE GRADE 5  THREE MARKS - 120 DEGREES APART
- SAE GRADE 8  SIX MARKS - 60 DEGREES APART

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

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

TORQUES



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

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

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

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

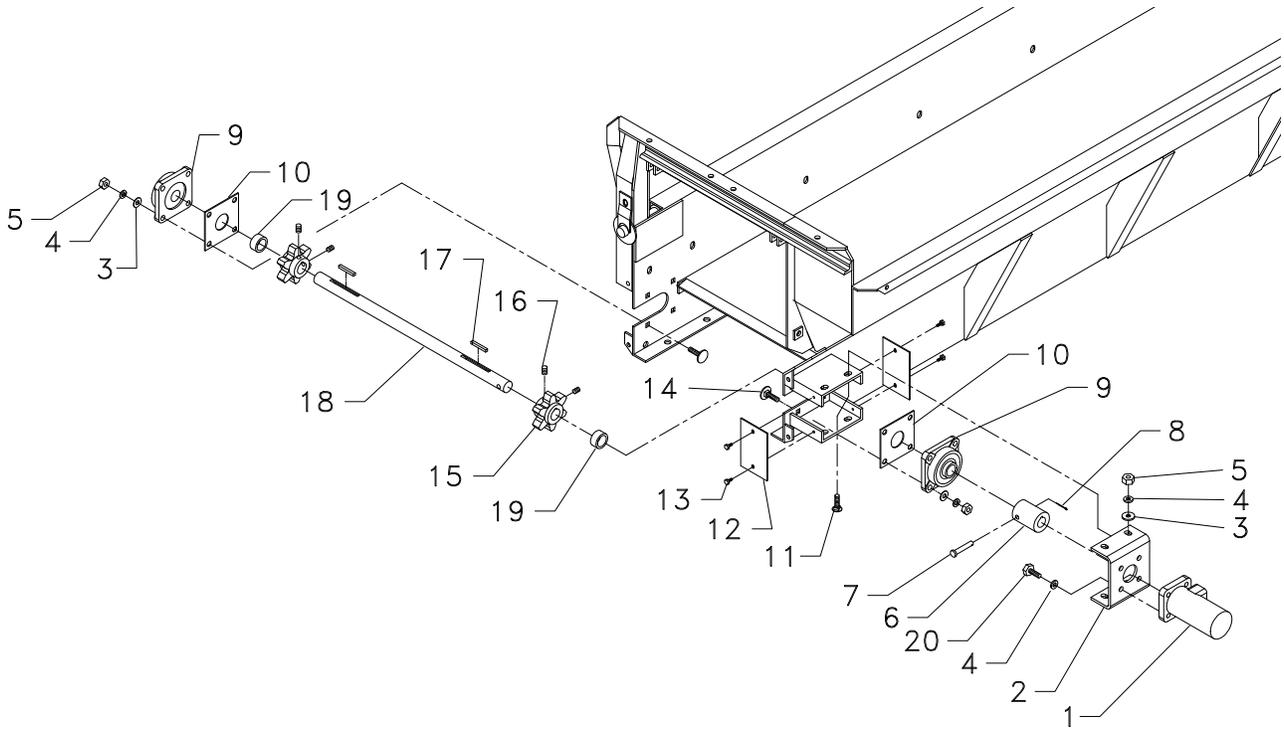
No responsibility is assumed for delay or damage to merchandise while in transit. Our responsibility ceases upon delivery of shipment to the transportation company from whom a receipt is received showing that shipment was in good condition when delivered to them, therefore, claims (if any) should be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

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

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

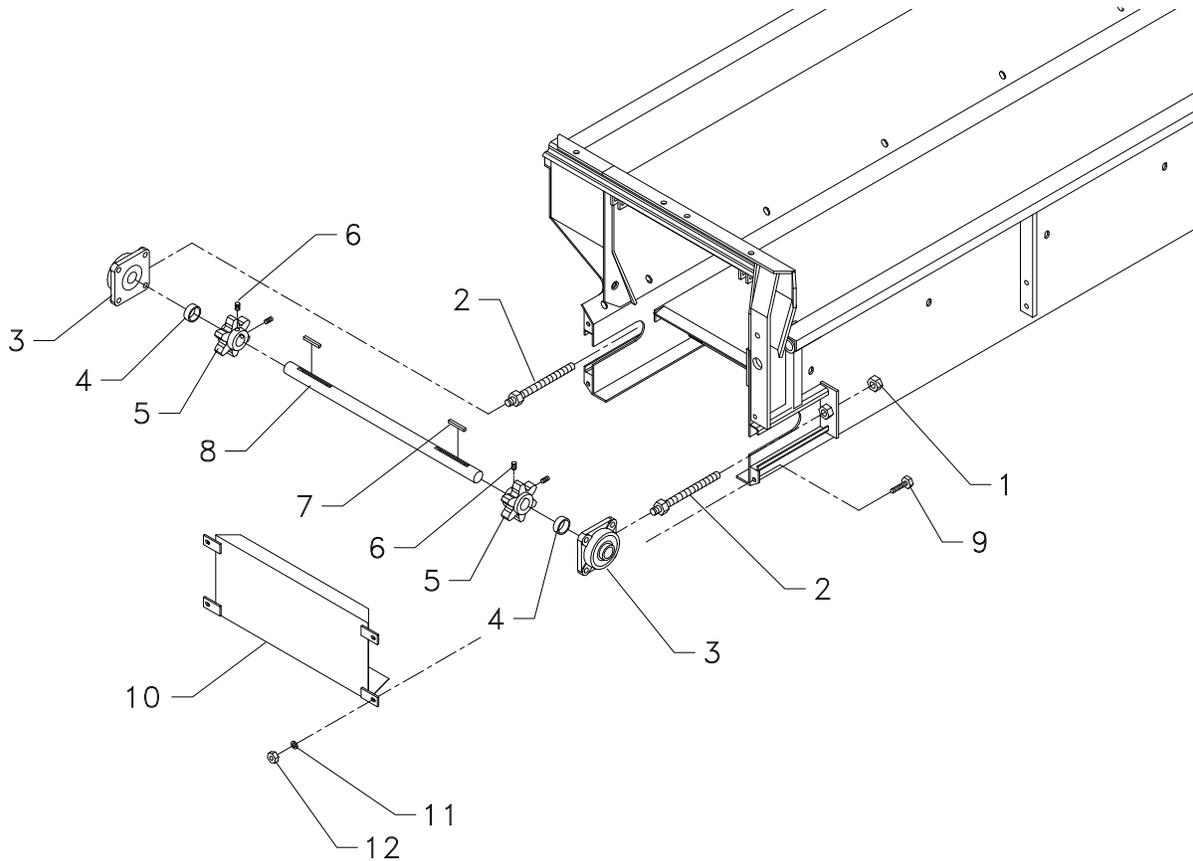
* - Not Shown
 AR – As Required
 CS – Carbon Steel
 SS – Stainless Steel

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

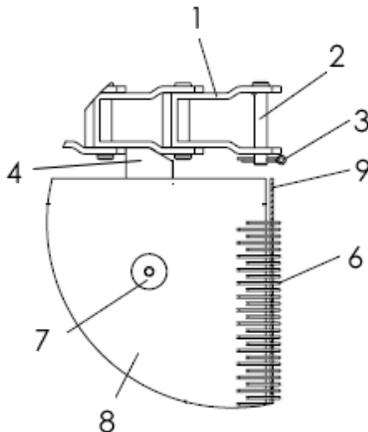


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	73399	Motor - Hydraulic	1
2	79710	Mount - Motor	1
3	20693	Washer - Flat, 3/8 SS	12
4	20712	Washer - Lock, 3/8 SS	16
5	20644	Nut - Hex, 3/8-16 SS	12
6	79709	Coupling - Drive	1
7	6123	Pin - Shear	1
8	20811	Pin - Cotter	1
9	942	Bearing	2
10	74319	Guard - Bearing	2
11	20318	Bolt - Carriage, 3/8-16 x 1	4
12	79758	Guard - Drive	2
13	72071	Screw - Self Tapping	4
14	20319	Bolt - Carriage, 3/8-16 x 1 1/4	8
15	26653	Sprocket	2
16	20735	Screw - Set	4
17	79856	Key - Square	2
18	79708	Shaft	1
19	73557	Spacer	2
20	20067	Screw - 3/8-16 x 1	4

PARTS LIST



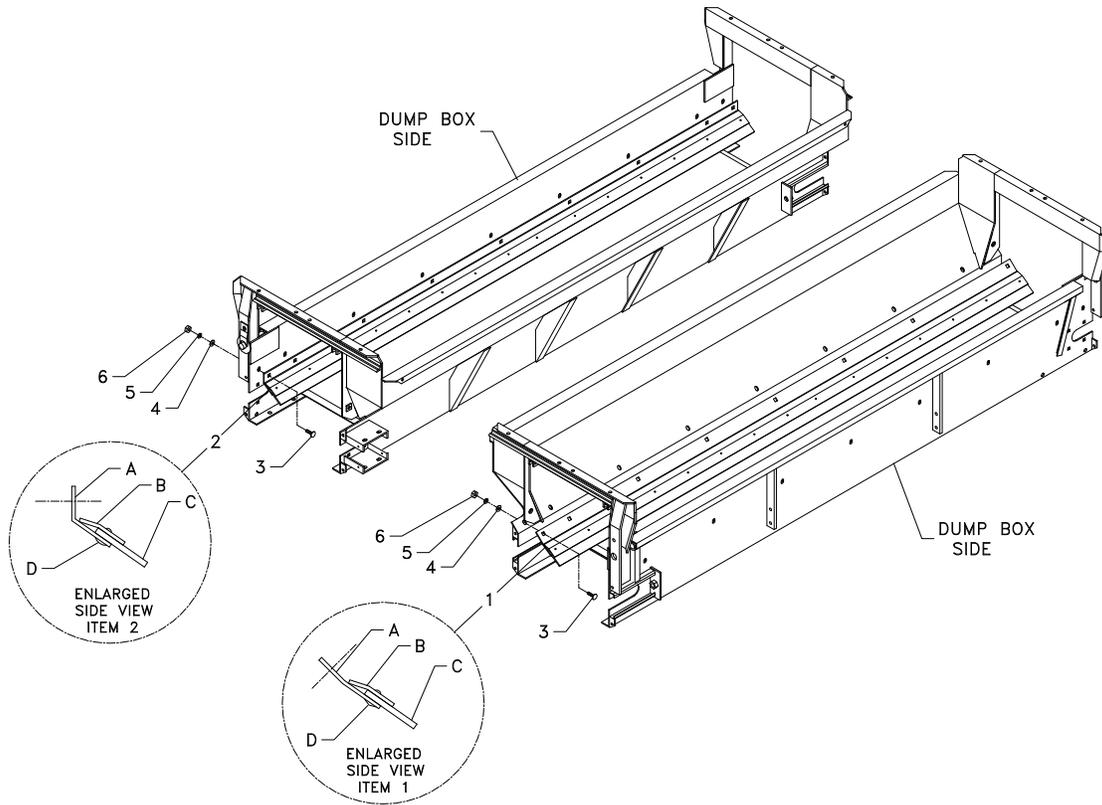
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	20648	Nut – Hex, 5/8	2
2	86246	Bolt – Take-up Wldmt	2
3	942	Bearing	2
4	73557	Spacer	2
5	26653	Sprocket	2
6	20735	Screw – Set, 1/4-20 x 1/4	4
7	79856	Key - Square	2
8	74323	Shaft	1
9	20005	Cap Screw – 1/4-20 x 1	4
10	79757	Guard – Conveyor, Wldmt	1
11	20710	Washer – Lock, 1/4	4
12	20642	Nut – Hex, 1/4-20	4



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	305619	Chain – Standard Belting Assy	
	305620	Chain – Hi-Temp Belting Assy	
1	305631	Chain – Conveyor Wldmt	1
2	26702	Pin - Chain	2
3	20811	Pin - Cotter	2
4	305645	Bar – Cross Wldmt	40
5	*26701	Link	AR
6	73559	Lacing	1
7	305646	Screw – #4 BOC	120
8	52540	Belting - Standard	17
	52541	Belting – Hi-Temp	1
9	73558-14	Pin - Notched	1

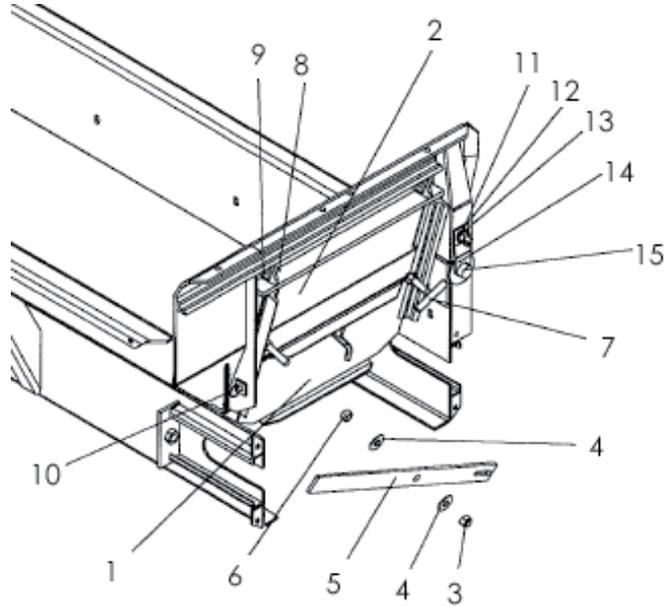
* - Not Shown AR - As Required

PARTS LIST



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	74464	Chain Shield Rear, Non Hi-Temp Belting	1
	74470	Chain Shield Rear, Hi-Temp Belting	1
A	74465	Chain Shield	1
B	74462	Belt - Retainer	1
C	74463	Belt - Sealer, Non Hi-Temp Belting	1
	74468	Belt - Sealer, Hi-Temp Belting	1
D	6245	Rivet	15
2	74460	Chain Shield Front, Non Hi-Temp Belting	1
	74467	Chain Shield Front, Hi-Temp Belting	1
A	74461	Chain Shield	1
B	74462	Belt - Retainer	1
C	74463	Belt - Sealer, Non Hi-Temp Belting	1
	74468	Belt - Sealer, Hi-Temp Belting	1
D	6245	Rivet	15
3	20318	Bolt - Carriage, 3/8-16 x 1	18
4	20693	Washer - Flat, 3/8	18
5	20712	Washer - Lock, 3/8	18
6	20644	Nut - Hex, 3/8-16	18

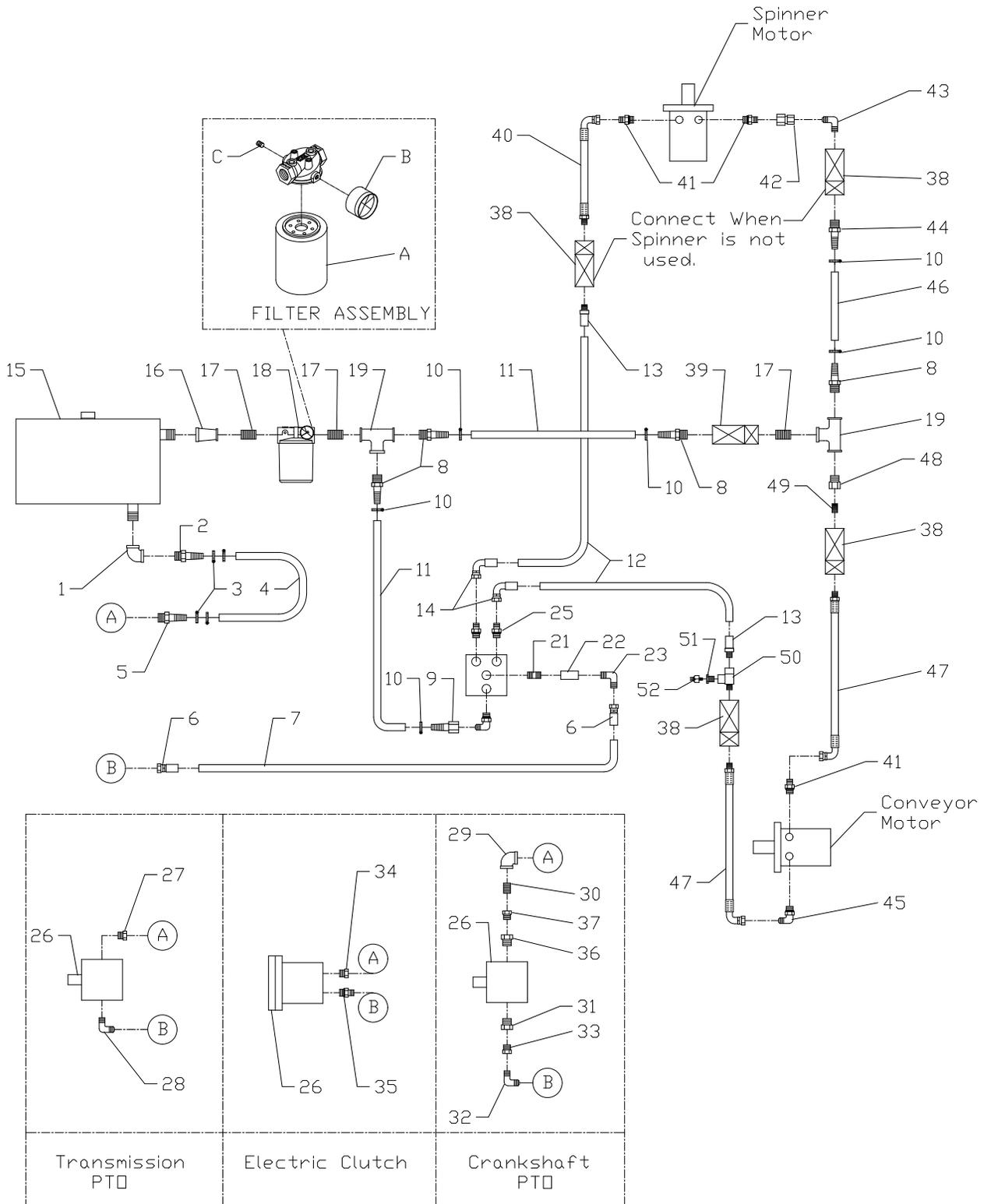
SWINGING ENDGATE ASSY



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	74552	Feedgate Wldmt	2
2	79743	Frame – Endgate, L.H. Wldmt	1
	* 79735	Frame – Endgate, R.H. Wldmt	1
3	20680	Nut – Hex, 1/2-13	2
4	20695	Washer – Flat, 1/2	4
5	74253	Lever	2
6	271642	Bushing	2
7	74471	T-Bolt Wldmt	2
8	20817	Pin - Cotter	4
9	74358	Pin - Clevis	4
10	70791	Pin	4
11	20673	Nut - Wing 3/8 SS	2
12	36425	Washer - Flat 3/8 SS	2
13	36420	Washer - Lock 3/8 Ss	2
14	79725	Bar - Pin Catch	2
15	79732	Pin - Mounting Wldmt	2

* - Not Shown NOTE: Quantities listed are for right and left endgate assemblies.

PARTS LIST

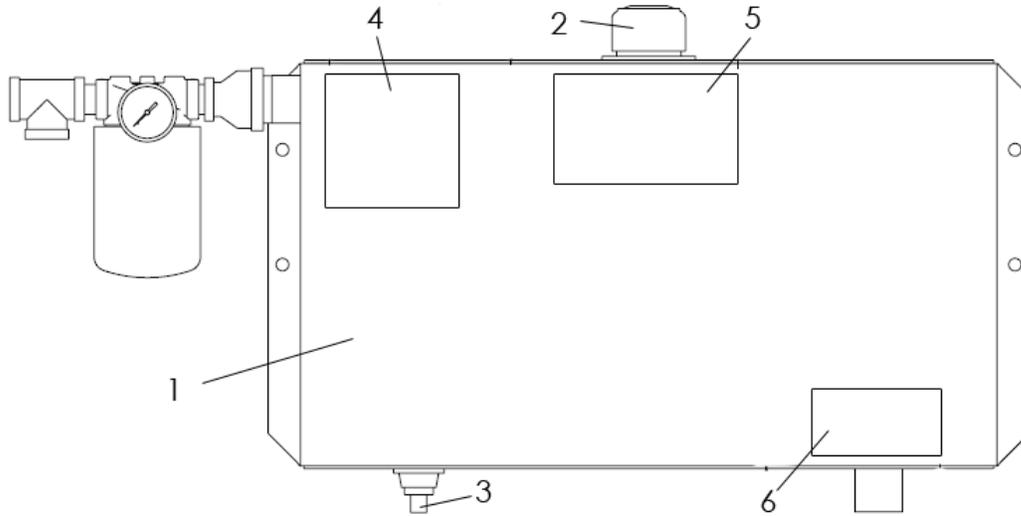


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	6011	Elbow - Pipe	1
2	16582	End - Hose	1
3	6335	Clamp - Hose	4
4	23184-72	Hose - Suction	1
5	16572	End - Hose	1
6	56508	End - Hose	2
7	56459-72	Hose - Hydraulic	1
8	22425	End - Hose	4
9	11424	End - Hose	1
10	22381	Clamp - Hose	6
11	16529-240	Hose - Return	1
12	56453-300	Hose - Hydraulic	1
13	31599	End - Hose	1
14	56485	End - Hose	2
16	8809	Coupling - Pipe	1
17	6026	Nipple - Close	3
18	30743	Filter – Oil Assy	1
A	39934	Filter Element	1
B	43534	Indicator	1
C	21835	Plug	1
19	6020	Tee - Pipe	2
20	310650	Valve - Control	1
21	16362	Nipple - Close	1
22	16276	Coupling - Pipe	1
23	29764	Adapter	2
24	29767	Adapter	1
25	29808	Adapter	1
26	37469	Pump – Hydraulic Assy (w/ Crankshaft PTO)	AR
	24516	Pump – Hydraulic Assy (w/ Trans. PTO)	AR
	34569	Pump – Hydraulic Assy (w/ Electric Clutch)	AR
27	22016	Adapter	1
28	29764	Adapter	1
29	6011	Elbow - Pipe	1
30	6028	Nipple - Close	1
31	21506	Adapter – Bushing	1
32	29764	Adapter	1
33	16277	Bushing - Pipe	1
34	22018	Adapter	1

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
35	29835	Adapter	1
36	29780	Adapter - Bushing	1
37	16505	Bushing - Pipe	1
38	40006	Quick Disconnect - Hydraulic	4
39	39904	Quick Disconnect - Hydraulic	1
40	74393	Hose Assy	1
41	29771	Adapter	3
42	34802	Adapter - Connector	1
43	34742	Adapter - Elbow	1
44	16574	End - Hose	1
45	29772	Adapter - Elbow	1
46	16529-48	Hose - Return	1
47	74393	Hose Assy	2
48	22203	Bushing - Pipe	1
49	6025	Nipple - Close	1
50	34840	Adapter - Tee	1
51	22211	Bushing - Pipe	1
52	37037	Switch - Pressure	1

* - Not Shown AR - As Required

HYDRAULIC RESERVOIR

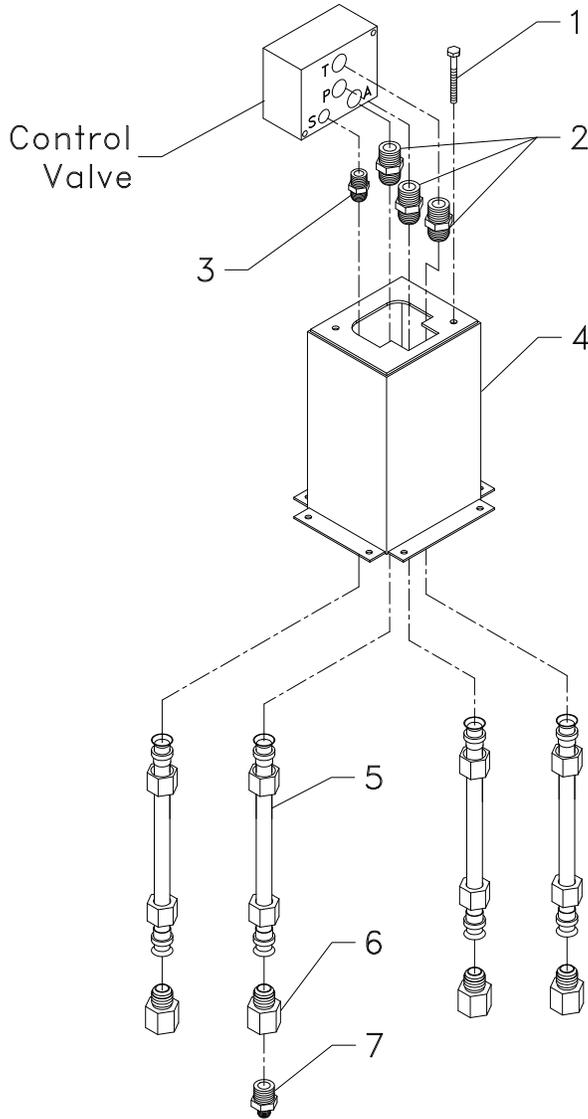


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	39796	Tank - Hydraulic Wldmt	1
2	39929	Cap - Filler Assy	1
3	6033	Pipe - Plug	1
4	8664	Decal - Important Keep Valve Open	1
5	8665	Decal - Important Hydraulic Oil Only	1
6	39378	Decal - Change Filter Element	1
7	*20069	Cap Screw - 3/8-16 x 1-1/2	4
8	*20712	Washer - Lock 3/8	4
9	*20644	Nut - Hex 3/8	4
10	*20693	Washer - Flat 3/8	4

* - Not Shown

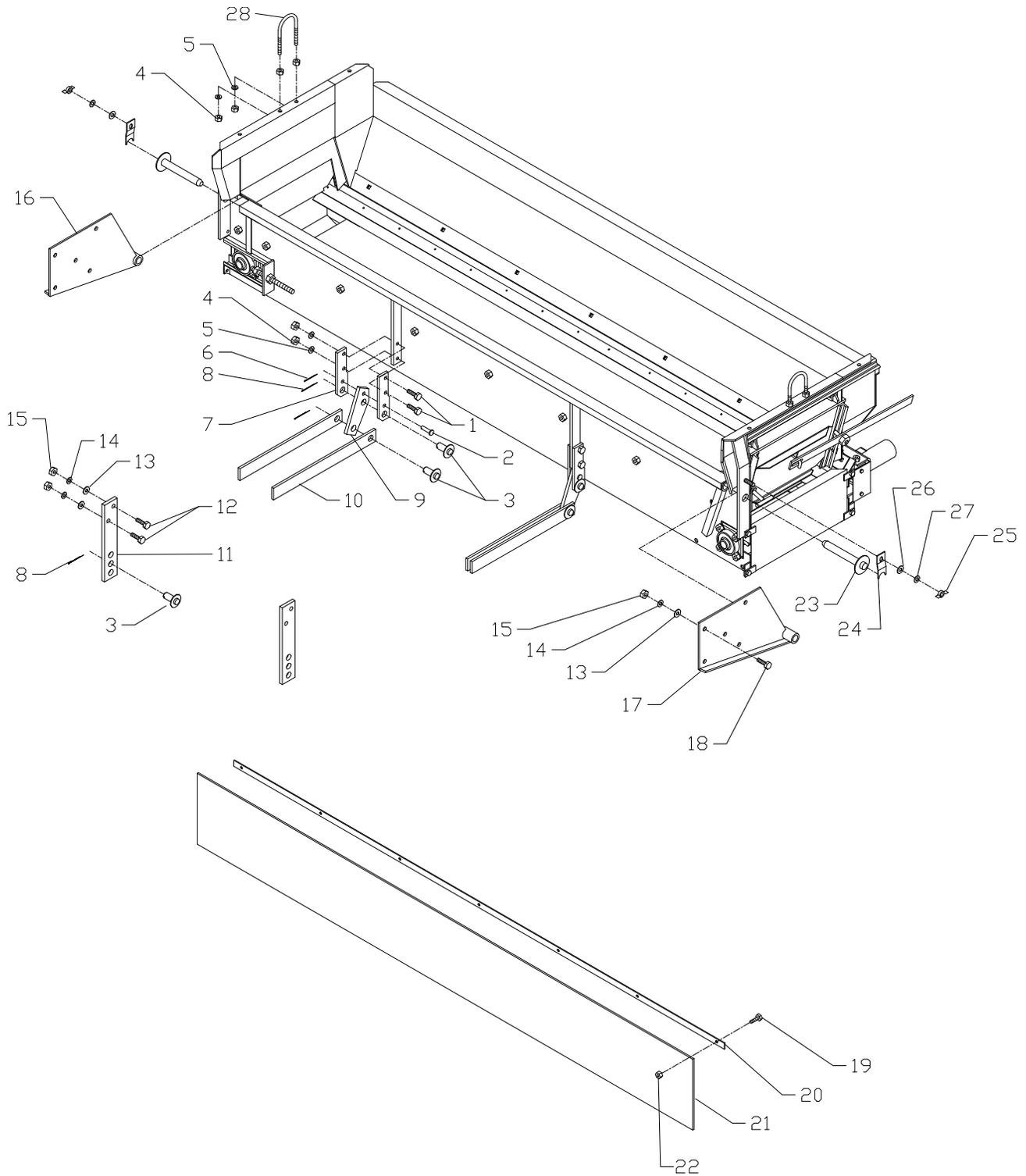
PARTS LIST





T - TANK
 P - PUMP PRESSURE
 S - SPINNER
 A - AUGER/CONVEYOR

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	20013	Cap Screw – 1/4-20 x 3	2
2	29752	Adapter	3
3	29784	Adapter	1
4	36803	Valve Support Wldmt	1
5	36800	Tube Assy	4
6	29799	Adapter - Connector	4
7	29808	Adapter	1

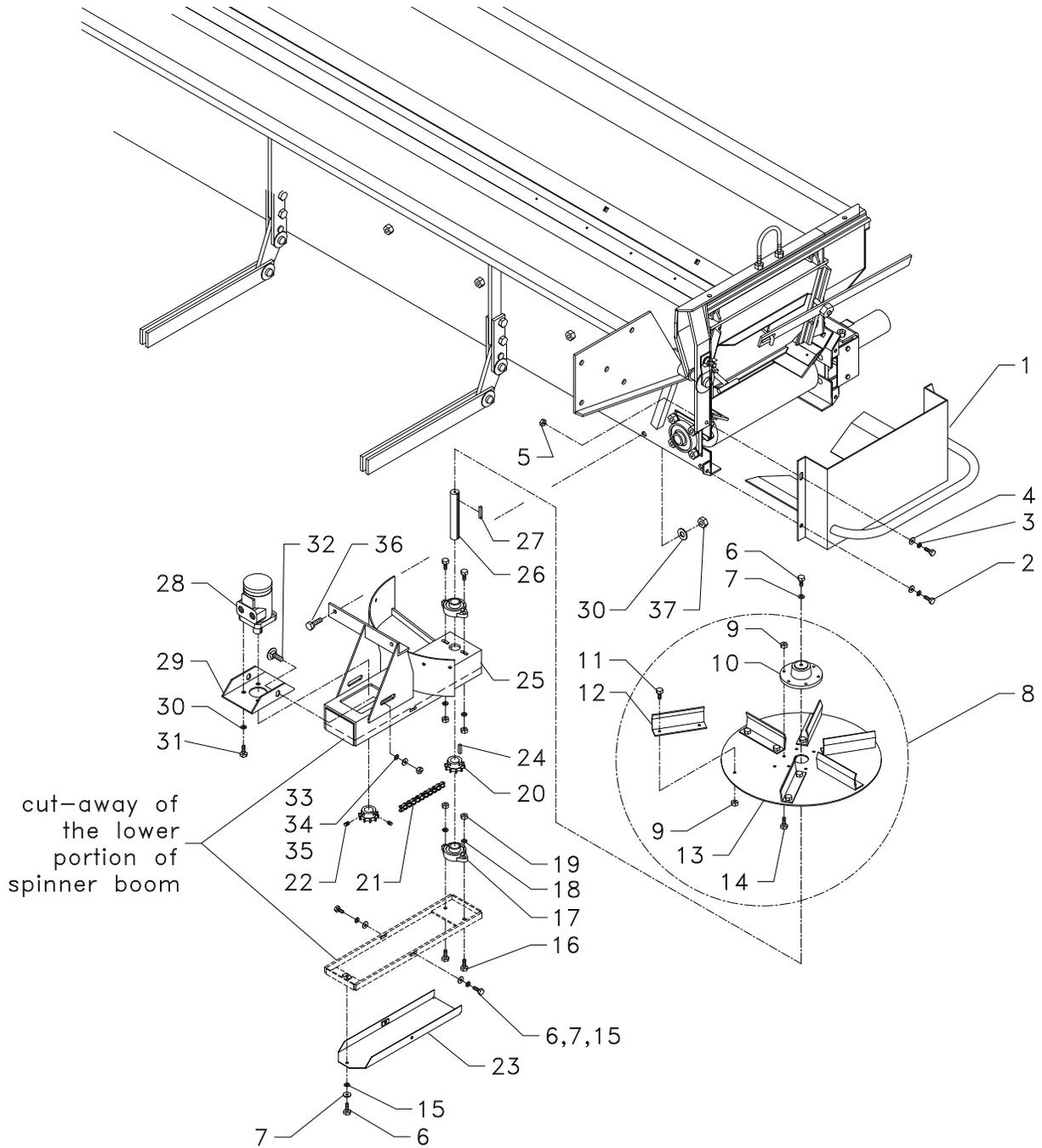


PARTS LIST



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	20070	Cap Screw – 3/8-16 x 1 3/4	4
2	6121	Pin - Shear	2
3	74266	Pin – Pivot Wldmt	6
4	20644	Nut – Hex, 3/8-16	8
5	20712	Washer – Lock, 3/8	4
6	20811	Pin – Cotter, 3/32 x 3/4	2
7	79749	Leveling Link – Bolting Tab	2
8	20823	Pin - Cotter	6
9	79750	Leveling Link	2
10	74265	Leveling Link - Bar	4
11	74264	Bar - Stabilizer	2
12	20131	Cap Screw – 1/2-13 x 2	4
13	20695	Washer – Flat, 1/2	14
14	20714	Washer – Lock, 1/2	14
15	20646	Nut – Hex, 1/2-13	14
16	79727	Hinge – R.H. Wldmt	1
17	79730	Hinge – L.H. Wldmt	1
18	20129	Cap Screw – 1/2-13 x 1 1/2	10
19	20007	Cap Screw – 1/4-20 x 1 1/2	7
20	74263	Retainer - Belt	1
21	74269	Belting – Spill Guard	1
22	20642	Nut – Hex, 1/4-20	7
23	79732	Pin – Mounting Wldmt	2
24	79725	Bar – Pin Catch	2
25	20673	Nut - Wing	2
26	36425	Washer – Flat, 3/8 S.S.	2
27	36420	Washer – Lock, 3/8 S.S.	2
28	79331	U-Bolt – Lifting, 3/8-16 x 3 1/8	2

SPINNER AND MATERIAL CHUTE ASSY



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	74386	Chute – Material Wldmt	1
2	20005	Cap Screw – 1/4-20 x 1	4
3	20691	Washer – Flat, 1/4	4
4	20710	Washer – Lock, 1/4	4

PARTS LIST

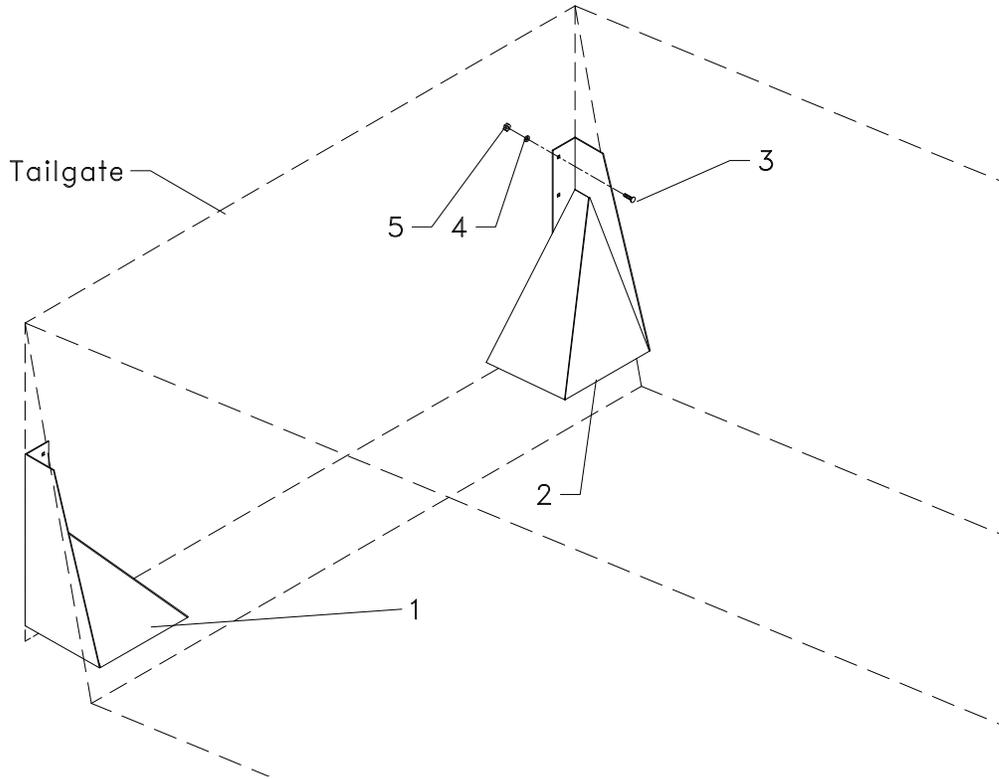


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
5	20642	Nut – Hex, 1/4-20	3
6	20002	Cap Screw – 1/4-20 x 5/8	4
7	20710	Washer – Lock, 1/4	4
8	74379	Spinner – 18" Assy, Includes Items 9-14	1
9	20676	Nut – Lock, 1/4-20	18
10	74381	Hub – Spinner Wldmt	1
11	20002	Cap Screw – 1/4-20 x 5/8	12
12	2240	Fin	6
13	2238	Disc - Spinner	1
14	20004	Cap Screw – 1/4-20 x 7/8	6
15	20691	Washer – Flat, 1/4	3
16	20037	Cap Screw – 5/16-18 x 1 1/4	4
17	22563	Bearing	2
18	20711	Washer – Lock, 5/16	4
19	20643	Nut – Hex, 5/16-18	4
20	73402	Sprocket	2
21	74378	Chain - Roller	1
	71160	Link - Connecting	1
22	20735	Screw – Set, 1/4-20 x 1/4	4
23	74383	Cover Wldmt	1
24	6137	Key – Square, 1/4 x 1	1
25	74368	Boom – Spinner Wldmt	1
26	74376	Shaft - Spinner	1
27	2212	Key – Square, 1/4 x 1 1/2	1
28	37336	Motor - Hydraulic	1
29	74377	Mount - Motor	1
30	20712	Washer – Lock, 3/8	8
31	20065	Cap Screw – 3/8-16 x 3/4	4
32	20365	Bolt – Carriage, 1/2-13 x 1 1/4	2
33	20695	Washer – Flat, 1/2	2
34	20714	Washer – Lock, 1/2	2
35	20646	Nut – Hex, 1/2-13	2
36	20068	Cap Screw – 3/8-16 x 1 1/4	4
37	20644	Nut – Hex, 3/8-16	3
38	*32996	Panel - Baffle Curved (mounts to back-side of fixed baffle)	1
39	*36395	Cap Screw - 1/4-20NC x 1 SS	2
40	*32445	Nut - Wing 1/4-20NC SS	2
41	*36423	Washer - Flat 1/4 SS	2

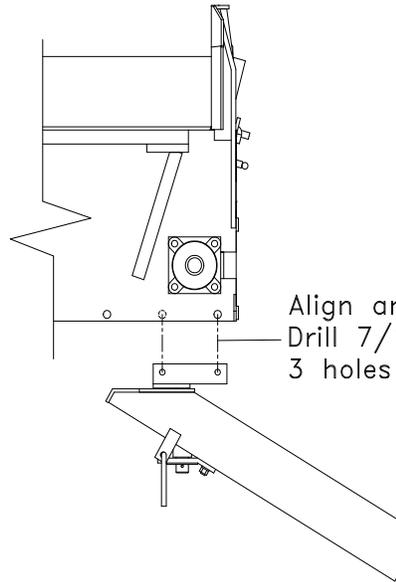
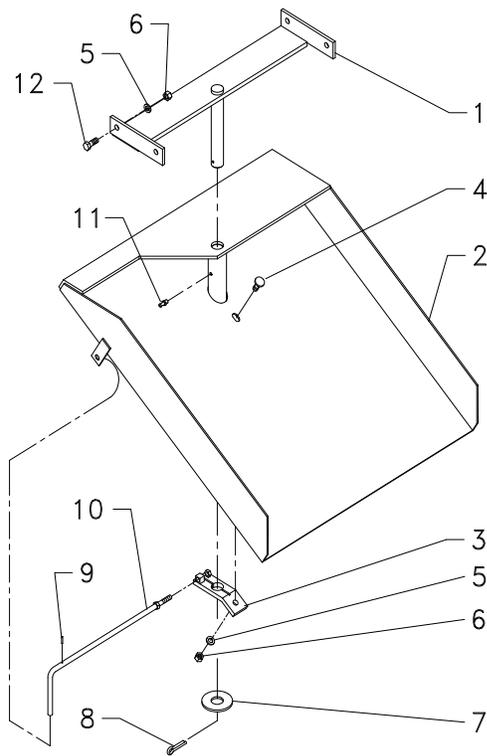
*Not Shown

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



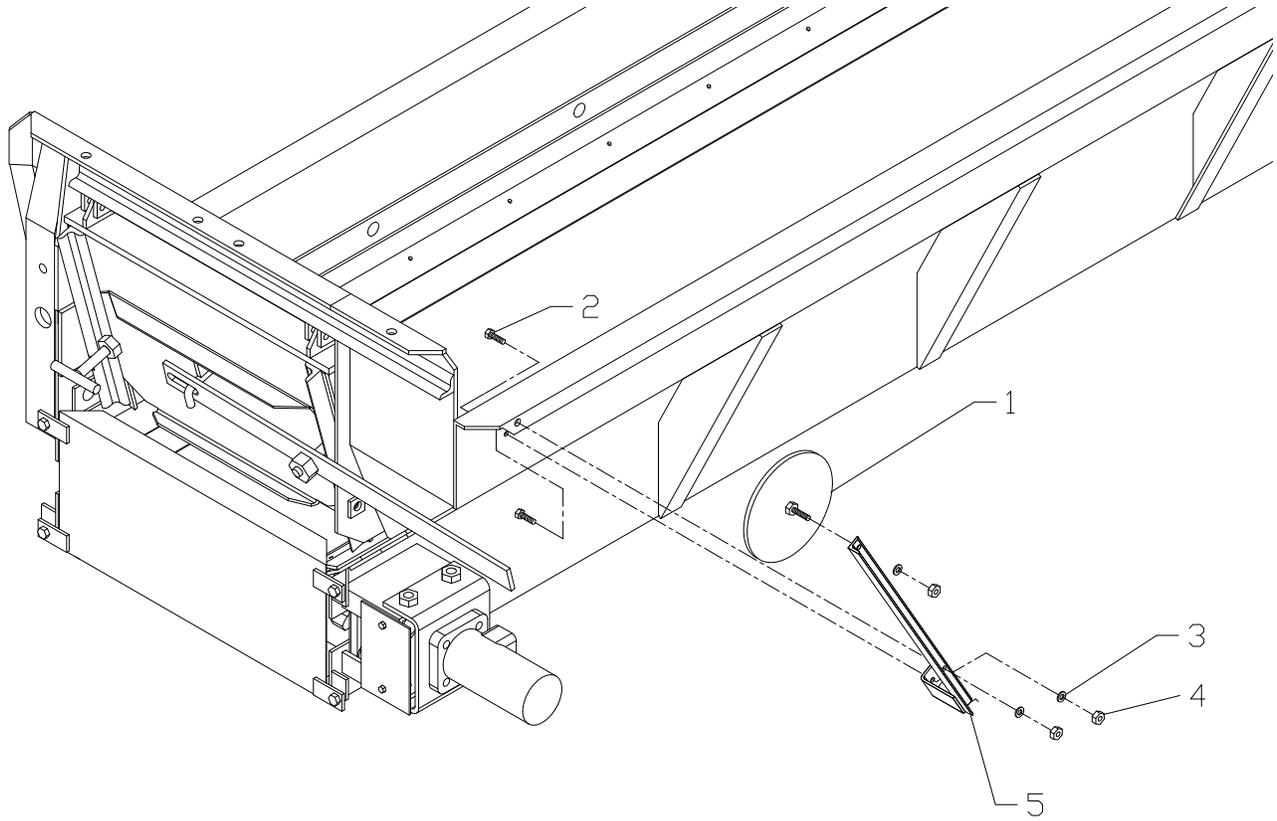


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	74296	Baffle – Tailgate, R.H. Wldmt	1
2	74559	Baffle – Tailgate, L.H. Wldmt	1
3	20317	Bolt – Carriage, 3/8-16 x 3/4	10
4	20712	Washer – Lock, 3/8	10
5	20644	Nut – Hex, 3/8-16	10



Side View

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	77548	Mount – Pivot Wldmt	1
2	77552	Chute Wldmt	1
3	77557	Clamp Wldmt	1
4	20318	Bolt – Carriage 3/8-16 x 1	1
5	20712	Washer – Lock 3/8	5
6	20644	Nut – Hex 3/8-16	5
7	21425	Washer – Flat 1	1
8	20828	Pin – Cotter 3/16 x 1-1/2	1
9	20914	Pin – Roll 3/32 x 5/8	1
10	77560	Handle – Clamp Wldmt	1
11	6072	Zerk - Grease	1
12	20067	Cap Screw - 3/8-16 x 1	4

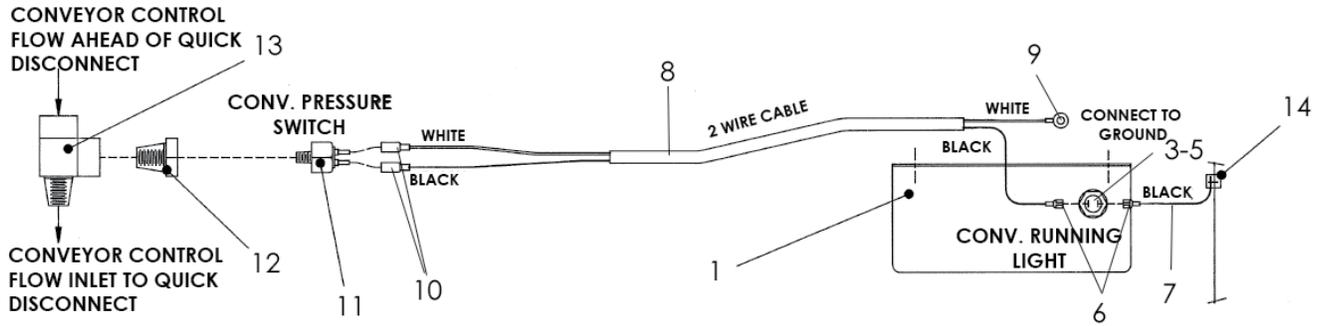


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	74365	Mirror	1
2	20003	Cap Screw – 1/4-20 x 3/4	2
3	20710	Washer – Lock, 1/4	3
4	20642	Nut – Hex, 1/4-20	3
5	74362	Mount – Mirror Wldmt	1

PARTS LIST

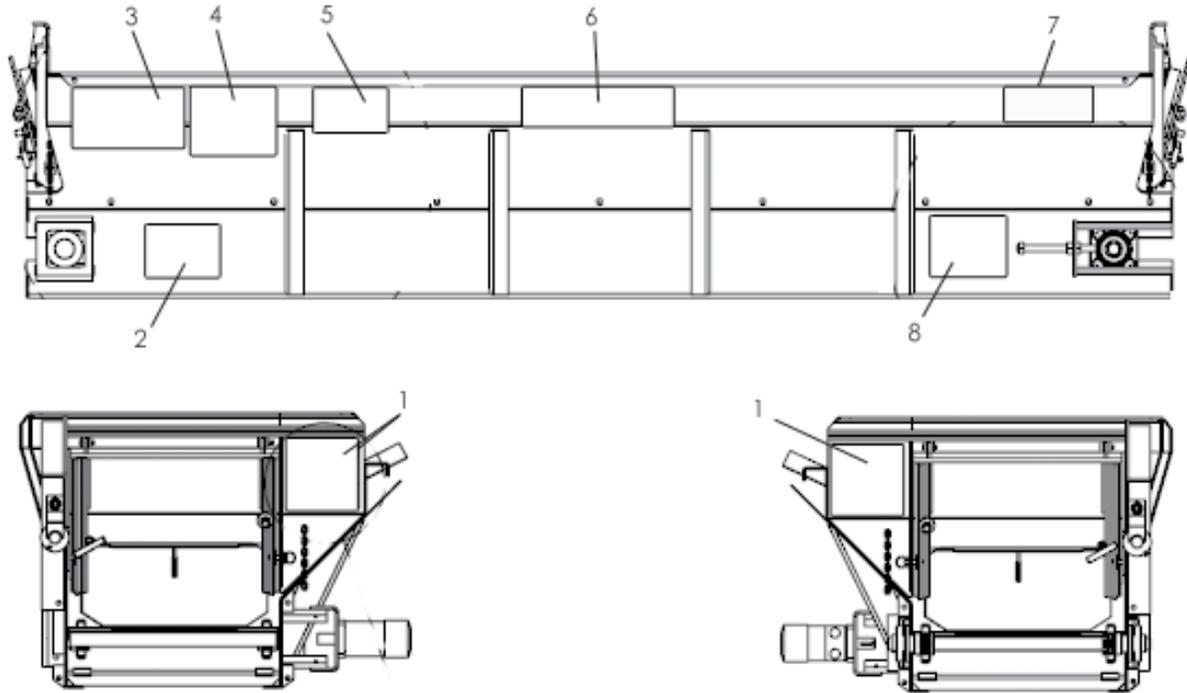


CONTROL PANEL



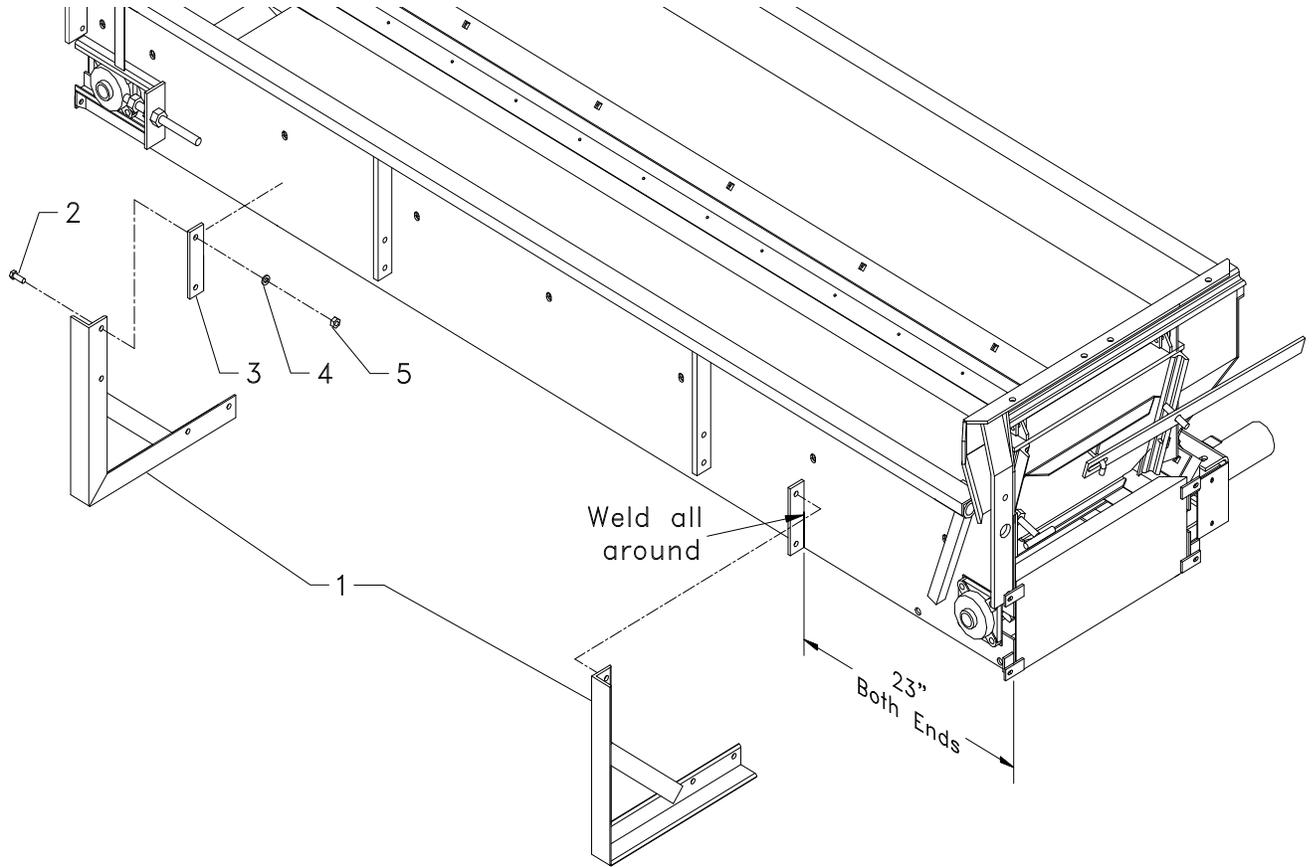
ITEM	PART NO.	DESCRIPTION	QTY
1	77438	Control Panel	1
2	* 77437	Decal – Caution	1
3	44523	Light – Indicator	1
4	44526	Lamp	1
5	44525	Lens – Amber	1
6	44527	Terminal – Push On	2
7	21960-36	Wire – Black	1
8	74493-240	Cable – Wire	1
9	12079	Terminal – Ring	1
10	39293	Plug – Connector	2
11	37037	Switch – Pressure	1
12	22211	Pipe Bushing	1
13	34840	Adapter – Tee	1
14	* 20005	Cap Screw – 1/4-20 x 01	2
15	* 20642	Nut – Hex, 1/4-20	2
16	* 20691	Washer – Flat, 1/4	2
17	* 20710	Washer – Lock, 1/4	2
18	* 22377	Clip – Rubber Covered	1

* - Not Shown

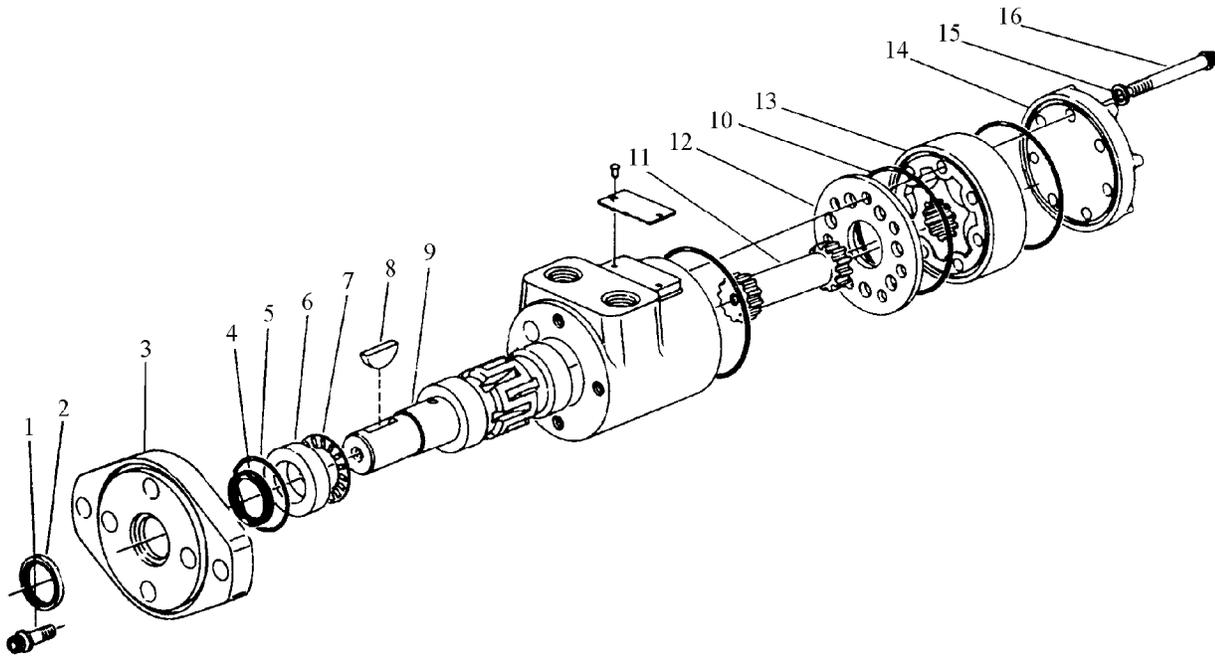


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	364	Decal – Danger “Moving Parts”	2
2	55631	Decal – Warning	1
3	368	Decal – Danger “Flying Material”	1
4	150034	Decal – Caution “Improper Operation”	1
5	321	Decal – Caution “Material to be Spread”	1
6	39870	Decal – “HI-WAY”	1
7	79985	Decal – Important “Heat Resistant Belt”	1
8	21476	Decal – Important “Conveyor Life”	1

See *Hydraulic Reservoir* page for more decals



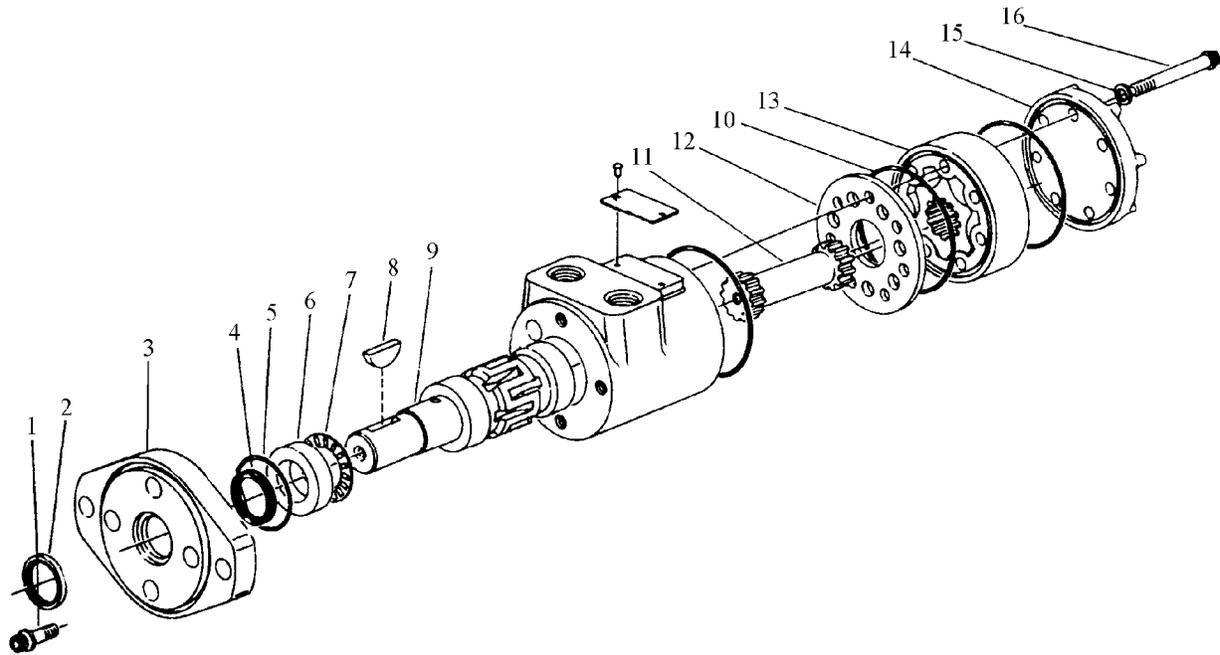
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	77441	Storage Leg Wldmt	2
2	20068	Cap Screw	4
3	77550	Mounting Bar	2
4	20712	Washer – Lock	4
5	20644	Nut – Hex	4



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	73399	Hydraulic Motor – 1 1/2	
1	30665	Cap Screw	4
2	NSS	Seal	1
3	73470	Flange – Mounting, 4-Bolt	1
4	73473	Seal	1
5	NSS	O-Ring Seal	1
6	37385	Race – Bearing	1
7	37401	Needle Bearing – Thrust	1
8	3065	Key – Woodruff	1
9	37386	Shaft – Output	1
10	NSS	O-Ring Seal	3
11	16946	Drive	1
12	37388	Plate – Spacer	1
13	NSS	Gerotor – 1 1/2	1
14	37400	Cap – End	1
15	37381	Washer – Seal	7
16	16937	Cap Screw	7
17	* 22068	O-Ring Seal	1
	39137	Seal Kit, Includes Items 2,4,5,10,15,17	

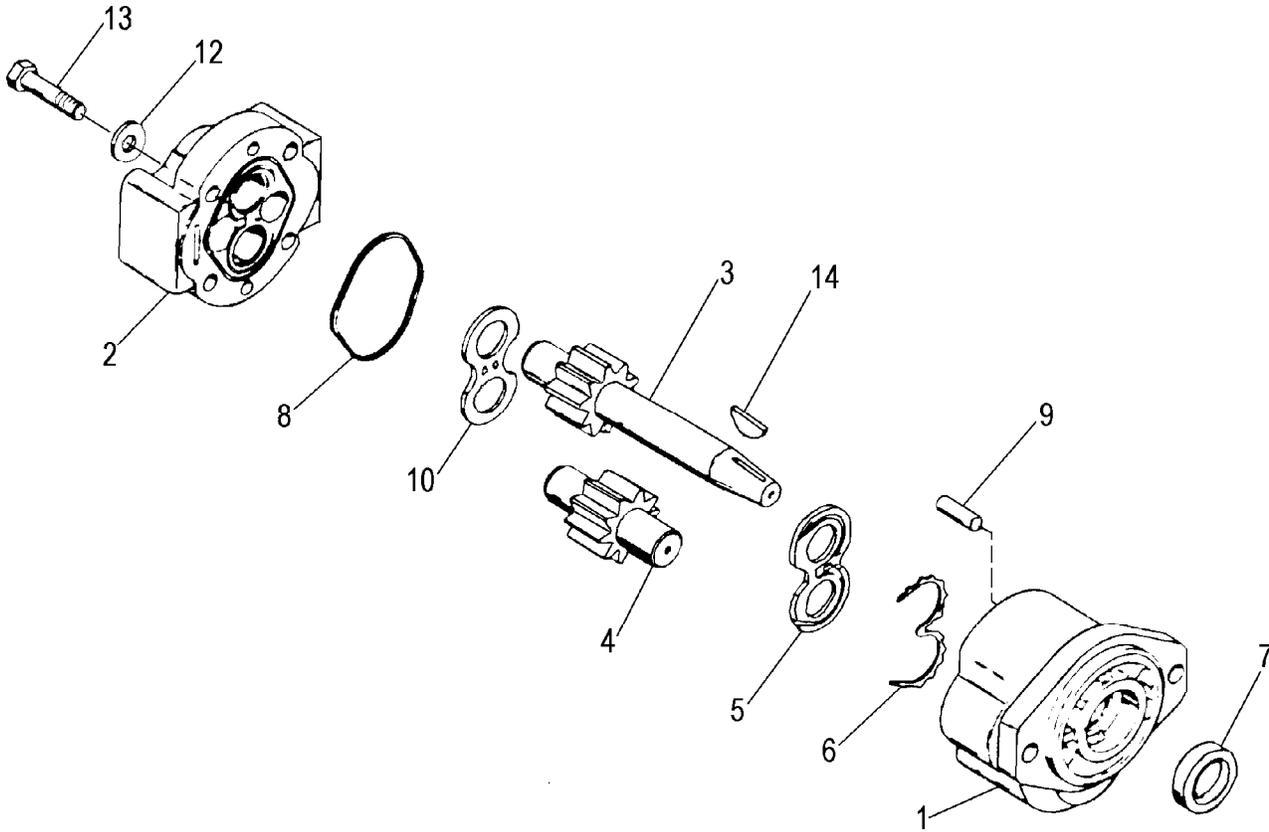
* - Not Shown NSS - Not Serviced Separately

PARTS LIST



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	37336	Hydraulic Motor – 1 1/4	
1	30665	Cap Screw	4
2	NSS	Seal	1
3	73470	Flange – Mounting, 4-Bolt	1
4	73473	Seal	1
5	NSS	O-Ring Seal	1
6	37385	Race – Bearing	1
7	37401	Needle Bearing – Thrust	1
8	3065	Key – Woodruff	1
9	37386	Shaft – Output	1
10	NSS	O-Ring Seal	3
11	16945	Drive	1
12	37388	Plate – Spacer	1
13	NSS	Gerotor – 1 1/2	1
14	37400	Cap – End	1
15	37381	Washer – Seal	7
16	16931	Cap Screw	7
17	* 22068	O-Ring Seal	1
	39137	Seal Kit, Includes Items 2,4,5,10,15,17	

* - Not Shown NSS - Not Serviced Separately

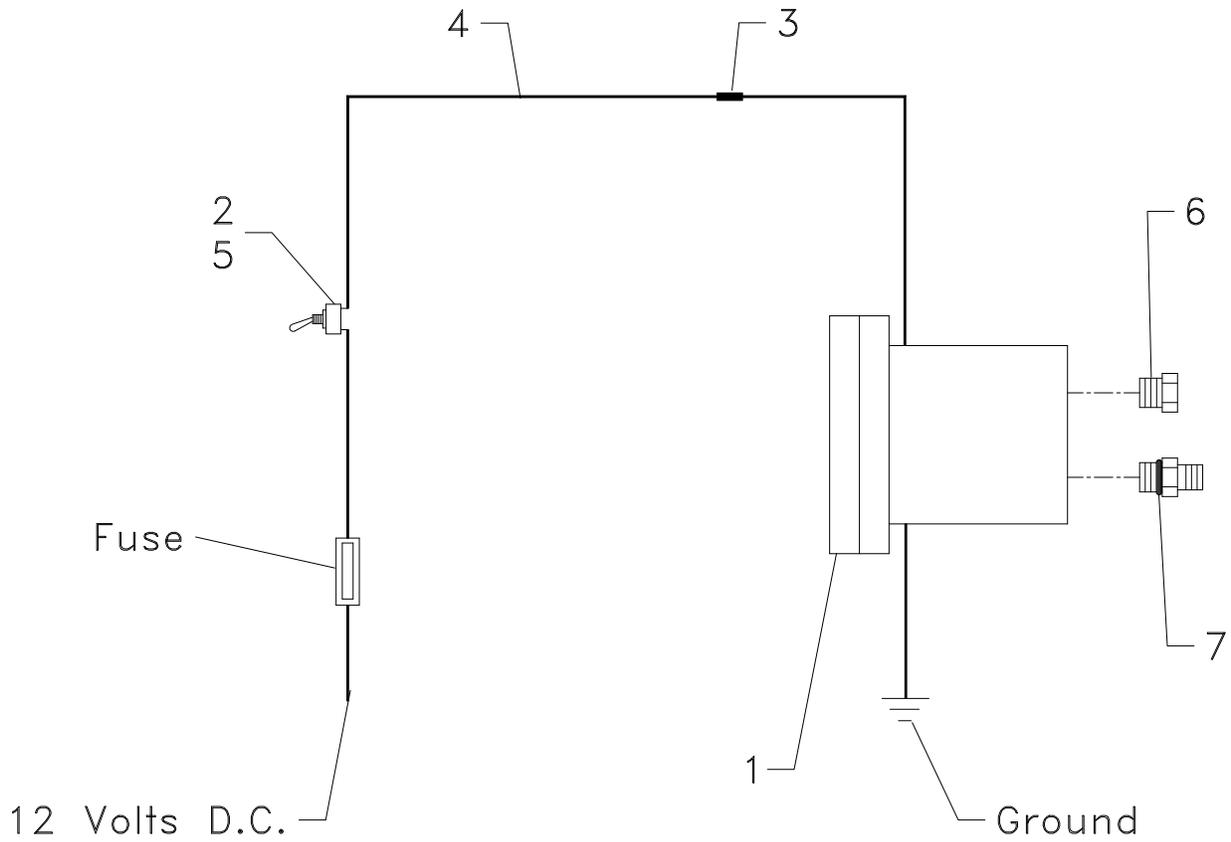


<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	34577	Pump Assy	
1	34546	Pump Body Assy	1
2	34549	Cover Assy	1
3	34564	Gear – Drive	1
4	34566	Gear – Driven	1
5	34554	Wear Plate	1
6	34555	Seal – Pressure Loading	1
7	34556	Seal – Shaft	1
8	34557	Ring – Square Cut	1
9	34558	Pin – Dowel	1
10	34559	Plate – Thrust	1
12	34560	Washer	4
13	34561	Cap Screw	4
14	34562	Key – Woodruff	1
	34563	Seal Kit, Includes Items 6-8	

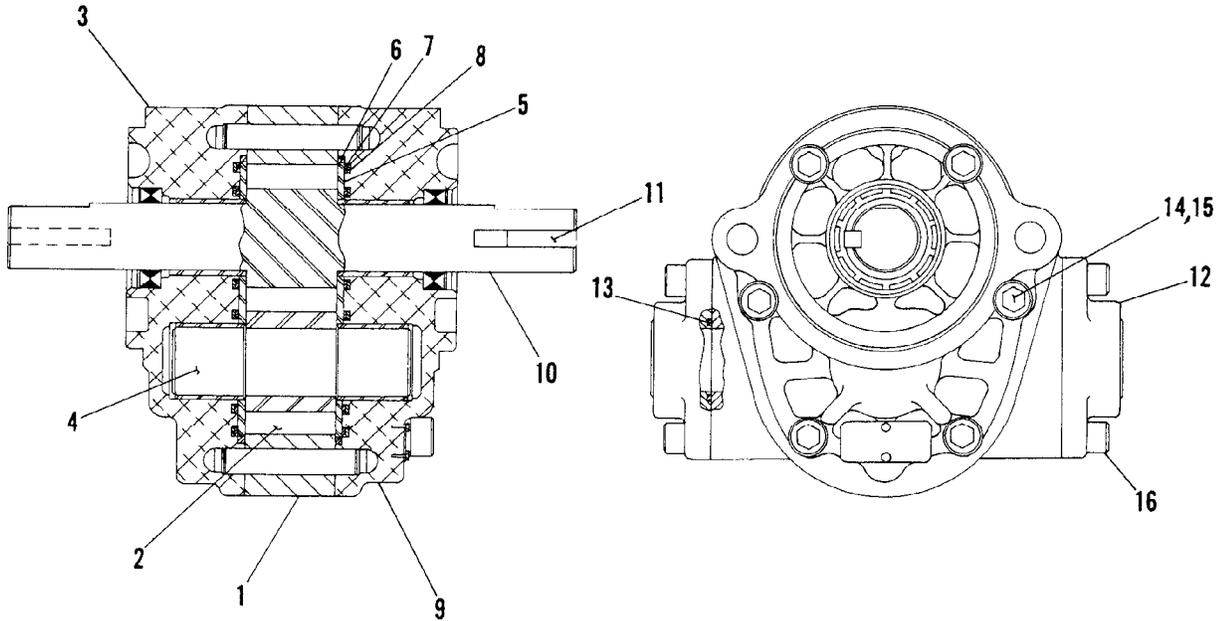
PARTS LIST



PUMP - HYDRAULIC WITH ELECTRIC CLUTCH



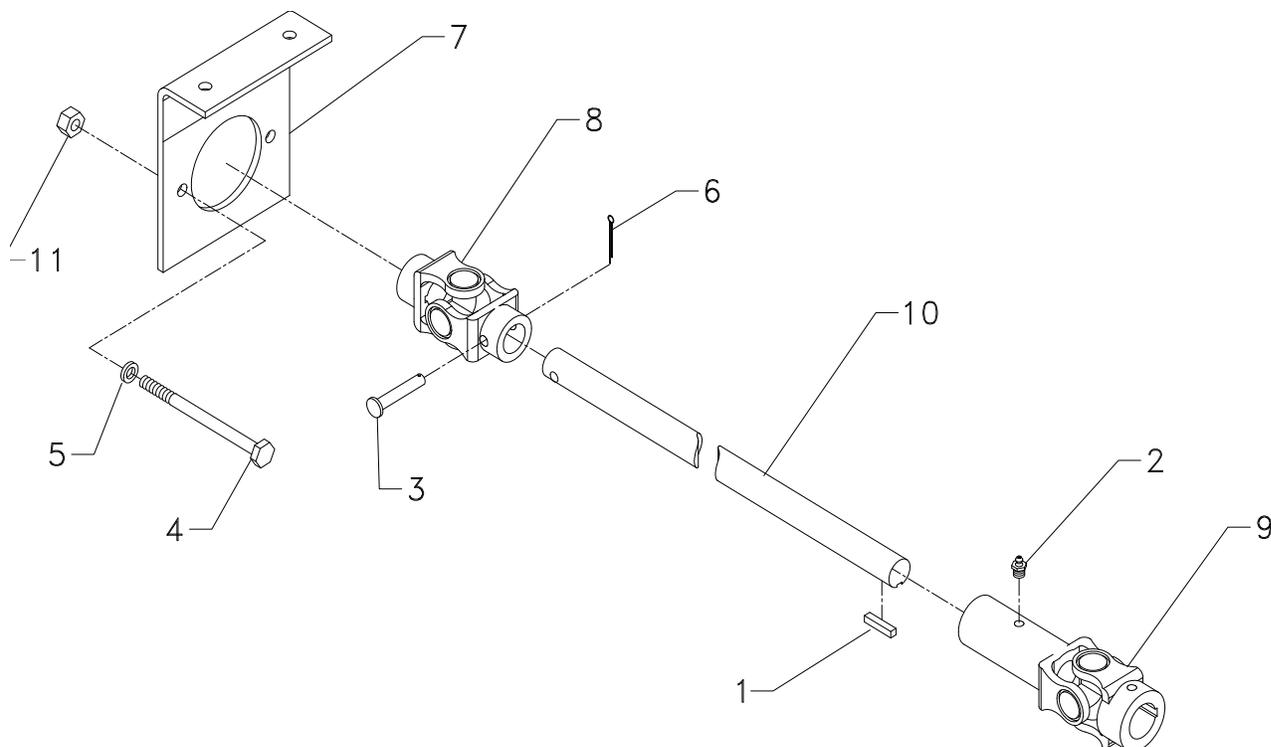
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	71196	Electric Clutch Shipping Kit	
1	34569	Pump – Hydraulic w/ Electric Clutch Assy	1
	34577	Pump – Hydraulic	1
	34570	Clutch – Electric	1
	34571	Bracket – Mounting	1
2	21679	Spade Terminal	1
3	6549	Connector	1
4	21580-120	Wire – Black, 14 Ga.	1
5	21681	Switch – Toggle	1
6	22018	Adapter	1
7	29835	Adapter	1



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	24516	Pump Assy	
	3904	Seal Kit, Includes Items 5-8,11,13	
1	5676	Gear – Housing	1
2	5680	Pin – Dowel	2
3	58621	Plate – End	1
4	58622	Idler Gear	1
5	5665	Wear Plate	2
6	5678	Seal – Ring	2
7	5666	Washer – Backup	2
8	5677	Seal – Pre-load	2
9	58623	Plate – End	1
10	5682	Shaft – Drive	1
11	6137	Key – Square	1
12	58624	Flange	2
13	5685	O-Ring	2
14	5683	Bolt – Socket Head	6
15	58625	Washer	6
16	58626	Bolt – Socket Head	4

PARTS LIST

MOUNT - TRANSMISSION PTO PUMP



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2211	Key – Square	1
2	6069	Zerk – Grease	1
3	6123	Pin – Shear	1
4	20085	Cap Screw – 3/8-16 x 5 1/2	2
5	20712	Washer – Lock, 3/8	2
6	20817	Pin – Cotter	1
7	22337	Bracket – Mounting Wldmt	1
8	22465	U-Joint	1
9	56745	U-Joint	1
10	17932	Shaft – Drive	1
11	20644	Nut – Hex, 3/8-16	2

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

